Appendix B

Emission Inventory Tables

2015 Plan for the 1997 PM2.5 Standard
SJVUAPCD

This page intentionally blank.

Appendix B: Emissions Inventory

B.1 EMISSIONS INVENTORY TABLES

Table B-1 Directly Emitted PM2.5

SUMMARY CATEGORY NAME	PM2.5																	
	ANNUAL AVERAGE tons/day									WINTER AVERAGE tons/day								
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2012	2013	2014	2015	2016	2017	2018	2019	2020
STATIONARY SOURCES																		
FUEL COMBUSTION																		
ELECTRIC UTILITIES	1.3	1.3	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.3	1.3	1.2	1.2	1.2	1.2	1.2	1.2	1.2
COGENERATION	0.5	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.7	0.5	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.7
OIL AND GAS PRODUCTION (COMBUSTION)	1.7	1.7	1.6	1.6	1.6	1.5	1.5	1.5	1.4	1.7	1.7	1.6	1.6	1.6	1.5	1.5	1.5	1.4
PETROLEUM REFINING (COMBUSTION)	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
MANUFACTURING AND INDUSTRIAL	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
FOOD AND AGRICULTURAL PROCESSING	0.7	0.7	0.7	0.6	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.5	0.4	0.4	0.4	0.4	0.4
SERVICE AND COMMERCIAL	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
OTHER (FUEL COMBUSTION)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
*** TOTAL FUEL COMBUSTION**	**4.9**	**5.0**	**4.8**	**4.7**	**4.6**	**4.6**	**4.6**	**4.6**	**4.6**	**4.8**	**4.8**	**4.7**	**4.6**	**4.6**	**4.6**	**4.6**	**4.5**	**4.5**
WASTE DISPOSAL																		
SEWAGE TREATMENT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LANDFILLS	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
INCINERATORS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SOIL REMEDIATION	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER (WASTE DISPOSAL)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
*** TOTAL WASTE DISPOSAL**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.2**	**0.2**	**0.2**	**0.2**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.2**	**0.2**	**0.2**	**0.2**
CLEANING AND SURFACE COATINGS																		
LAUNDERING	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DEGREASING	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
COATINGS AND RELATED PROCESS SOLVENTS	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3
PRINTING	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ADHESIVES AND SEALANTS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER (CLEANING AND SURFACE COATINGS)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
*** TOTAL CLEANING AND SURFACE COATINGS**	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**

SUMMARY CATEGORY NAME	PM2.5								
	ANNUAL AVERAGE tons/day								
	2012	2013	2014	2015	2016	2017	2018	2019	2020
PETROLEUM PRODUCTION AND MARKETING									
OIL AND GAS PRODUCTION	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PETROLEUM REFINING	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
PETROLEUM MARKETING	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER (PETROLEUM PRODUCTION AND MARKETING)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
*** TOTAL PETROLEUM PRODUCTION AND MARKETING**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**
INDUSTRIAL PROCESSES									
CHEMICAL	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
FOOD AND AGRICULTURE	0.8	0.8	0.9	0.9	0.9	0.9	0.9	0.9	0.9
MINERAL PROCESSES	1.4	1.4	1.4	1.5	1.5	1.6	1.6	1.7	1.7
METAL PROCESSES	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
WOOD AND PAPER	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
GLASS AND RELATED PRODUCTS	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4
ELECTRONICS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER (INDUSTRIAL PROCESSES)	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3
*** TOTAL INDUSTRIAL PROCESSES**	**3.3**	**3.4**	**3.4**	**3.5**	**3.6**	**3.7**	**3.7**	**3.8**	**3.9**
**** TOTAL STATIONARY SOURCES**	**8.8**	**8.9**	**8.8**	**8.8**	**8.8**	**8.9**	**9.0**	**9.0**	**9.0**
AREA-WIDE SOURCES									
SOLVENT EVAPORATION									
CONSUMER PRODUCTS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ARCHITECTURAL COATINGS AND RELATED PROCESS SOLVENTS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PESTICIDES/FERTILIZERS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ASPHALT PAVING / ROOFING	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
*** TOTAL SOLVENT EVAPORATION**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
MISCELLANEOUS PROCESSES									
RESIDENTIAL FUEL COMBUSTION	5.0	4.9	4.8	4.8	4.8	4.8	4.8	4.8	4.8
FARMING OPERATIONS	13.9	13.9	13.8	13.8	13.8	13.8	13.8	13.7	13.7
CONSTRUCTION AND DEMOLITION	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
PAVED ROAD DUST	5.6	5.8	5.9	6.0	6.2	6.3	6.5	6.6	6.7
UNPAVED ROAD DUST	3.8	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
FUGITIVE WINDBLOWN DUST	7.6	7.5	7.5	7.5	7.4	7.4	7.4	7.3	7.3
FIRES	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
MANAGED BURNING AND DISPOSAL	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0

SUMMARY CATEGORY NAME	PM2.5								
	WINTER AVERAGE tons/day								
	2012	2013	2014	2015	2016	2017	2018	2019	2020
PETROLEUM PRODUCTION AND MARKETING									
OIL AND GAS PRODUCTION	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PETROLEUM REFINING	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
PETROLEUM MARKETING	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER (PETROLEUM PRODUCTION AND MARKETING)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
*** TOTAL PETROLEUM PRODUCTION AND MARKETING**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**
INDUSTRIAL PROCESSES									
CHEMICAL	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
FOOD AND AGRICULTURE	0.8	0.8	0.8	0.8	0.8	0.9	0.9	0.9	0.9
MINERAL PROCESSES	1.3	1.4	1.4	1.5	1.5	1.5	1.6	1.6	1.6
METAL PROCESSES	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
WOOD AND PAPER	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
GLASS AND RELATED PRODUCTS	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4
ELECTRONICS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER (INDUSTRIAL PROCESSES)	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
*** TOTAL INDUSTRIAL PROCESSES**	**3.2**	**3.3**	**3.3**	**3.4**	**3.5**	**3.5**	**3.6**	**3.7**	**3.7**
**** TOTAL STATIONARY SOURCES**	**8.5**	**8.6**	**8.6**	**8.5**	**8.6**	**8.7**	**8.8**	**8.8**	**8.8**
AREA-WIDE SOURCES									
SOLVENT EVAPORATION									
CONSUMER PRODUCTS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ARCHITECTURAL COATINGS AND RELATED PROCESS SOLVENTS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PESTICIDES/FERTILIZERS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ASPHALT PAVING / ROOFING	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
*** TOTAL SOLVENT EVAPORATION**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
MISCELLANEOUS PROCESSES									
RESIDENTIAL FUEL COMBUSTION	9.4	9.2	9.0	9.0	9.0	9.0	9.0	9.0	9.0
FARMING OPERATIONS	9.1	9.1	9.1	9.1	9.1	9.1	9.0	9.0	9.0
CONSTRUCTION AND DEMOLITION	1.3	1.3	1.4	1.4	1.4	1.4	1.4	1.4	1.4
PAVED ROAD DUST	5.3	5.4	5.6	5.7	5.8	6.0	6.1	6.2	6.4
UNPAVED ROAD DUST	2.7	2.7	2.7	2.7	2.7	2.6	2.6	2.6	2.6
FUGITIVE WINDBLOWN DUST	4.8	4.8	4.7	4.7	4.7	4.7	4.6	4.6	4.6
FIRES	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
MANAGED BURNING AND DISPOSAL	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3

SUMMARY CATEGORY NAME	PM2.5																		
	ANNUAL AVERAGE tons/day									WINTER AVERAGE tons/day									
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2012	2013	2014	2015	2016	2017	2018	2019	2020
COOKING	3.6	3.6	3.7	3.8	3.8	3.9	4.0	4.1	4.2	3.6	3.6	3.7	3.8	3.8	3.9	4.0	4.1	4.2
OTHER (MISCELLANEOUS PROCESSES)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
*** TOTAL MISCELLANEOUS PROCESSES**	**44.1**	**44.1**	**44.1**	**44.3**	**44.5**	**44.7**	**44.8**	**45.0**	**45.2**	**40.7**	**40.6**	**40.6**	**40.8**	**41.0**	**41.2**	**41.4**	**41.6**	**41.7**
**** TOTAL AREA-WIDE SOURCES**	**44.1**	**44.1**	**44.1**	**44.3**	**44.5**	**44.7**	**44.8**	**45.0**	**45.2**	**40.7**	**40.6**	**40.6**	**40.8**	**41.0**	**41.2**	**41.4**	**41.6**	**41.7**
MOBILE SOURCES																			
ON-ROAD MOTOR VEHICLES																			
LIGHT DUTY PASSENGER (LDA)	1.0	1.0	1.0	1.0	1.1	1.1	1.1	1.2	1.2	1.0	1.0	1.0	1.0	1.1	1.1	1.1	1.2	1.2
LIGHT DUTY TRUCKS - 1 (LDT1)	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
LIGHT DUTY TRUCKS - 2 (LDT2)	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
MEDIUM DUTY TRUCKS (MDV)	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3
LIGHT HEAVY DUTY GAS TRUCKS - 1 (LHDV1)	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0
LIGHT HEAVY DUTY GAS TRUCKS - 2 (LHDV2)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MEDIUM HEAVY DUTY GAS TRUCKS (MHDV)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HEAVY HEAVY DUTY GAS TRUCKS (HHDV)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LIGHT HEAVY DUTY DIESEL TRUCKS - 1 (LHDV1)	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1
LIGHT HEAVY DUTY DIESEL TRUCKS - 2 (LHDV2)	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MEDIUM HEAVY DUTY DIESEL TRUCKS (MHDV)	0.8	0.8	0.7	0.6	0.5	0.5	0.4	0.4	0.3	0.8	0.8	0.7	0.6	0.5	0.5	0.4	0.4	0.3
HEAVY HEAVY DUTY DIESEL TRUCKS (HHDV)	4.0	3.2	1.7	1.3	1.2	0.9	0.8	0.8	0.7	4.0	3.2	1.7	1.3	1.2	0.9	0.8	0.8	0.7
MOTORCYCLES (MCY)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HEAVY DUTY DIESEL URBAN BUSES (UB)	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
HEAVY DUTY GAS URBAN BUSES (UB)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SCHOOL BUSES (SB)	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER BUSES (OB)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MOTOR HOMES (MH)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
*** TOTAL ON-ROAD MOTOR VEHICLES**	**7.3**	**6.4**	**4.7**	**4.2**	**4.0**	**3.7**	**3.6**	**3.5**	**3.4**	**7.3**	**6.4**	**4.8**	**4.2**	**4.0**	**3.7**	**3.6**	**3.5**	**3.4**
OTHER MOBILE SOURCES																			
AIRCRAFT	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.7	1.7	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.7	1.7
TRAINS	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2
SHIPS AND COMMERCIAL BOATS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RECREATIONAL BOATS	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
OFF-ROAD RECREATIONAL VEHICLES	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OFF-ROAD EQUIPMENT	1.1	1.0	1.0	1.0	1.0	0.9	0.9	0.8	0.8	1.1	1.0	1.0	1.0	1.0	1.0	0.9	0.8	0.8

PM2.5																			
SUMMARY CATEGORY NAME	ANNUAL AVERAGE tons/day									WINTER AVERAGE tons/day									
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2012	2013	2014	2015	2016	2017	2018	2019	2020
FARM EQUIPMENT	2.9	2.8	2.7	2.6	2.5	2.4	2.3	2.2	2.1	1.8	1.7	1.7	1.6	1.5	1.5	1.4	1.4	1.3
FUEL STORAGE AND HANDLING	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
*** TOTAL OTHER MOBILE SOURCES**	**5.9**	**5.7**	**5.6**	**5.5**	**5.3**	**5.2**	**5.0**	**5.3**	**5.1**	**4.6**	**4.5**	**4.4**	**4.3**	**4.2**	**4.1**	**4.0**	**4.3**	**4.2**
**** TOTAL MOBILE SOURCES**	**13.2**	**12.2**	**10.4**	**9.7**	**9.4**	**8.9**	**8.6**	**8.8**	**8.5**	**11.8**	**10.9**	**9.1**	**8.5**	**8.3**	**7.8**	**7.5**	**7.8**	**7.6**
GRAND TOTAL FOR SAN JOAQUIN VALLEY	**66.0**	**65.2**	**63.3**	**62.8**	**62.6**	**62.5**	**62.4**	**62.9**	**62.8**	**61.0**	**60.2**	**58.3**	**57.9**	**57.8**	**57.7**	**57.7**	**58.2**	**58.1**

This section intentionally blank.

Table B-2 NOx

SUMMARY CATEGORY NAME	NOx																	
	ANNUAL AVERAGE tons/day									WINTER AVERAGE tons/day								
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2012	2013	2014	2015	2016	2017	2018	2019	2020
STATIONARY SOURCES																		
FUEL COMBUSTION																		
ELECTRIC UTILITIES	4.2	4.4	4.1	4.0	4.2	4.2	4.3	4.3	4.3	4.0	4.2	3.9	3.8	3.9	4.0	4.0	4.1	4.0
COGENERATION	1.6	1.6	1.7	1.7	1.8	1.9	1.9	2.0	2.0	1.4	1.5	1.5	1.6	1.7	1.7	1.8	1.9	1.9
OIL AND GAS PRODUCTION (COMBUSTION)	2.7	2.6	2.5	2.4	2.3	2.2	2.1	2.1	2.0	2.7	2.6	2.5	2.3	2.3	2.2	2.1	2.1	2.0
PETROLEUM REFINING (COMBUSTION)	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
MANUFACTURING AND INDUSTRIAL	5.3	5.3	5.3	5.3	5.3	5.3	5.2	5.2	5.2	5.3	5.4	5.4	5.3	5.3	5.3	5.3	5.3	5.3
FOOD AND AGRICULTURAL PROCESSING	11.8	11.6	11.3	8.1	6.1	5.7	5.4	5.2	5.0	8.2	8.0	7.8	5.7	4.4	4.1	3.9	3.8	3.6
SERVICE AND COMMERCIAL	4.6	4.7	4.7	4.6	4.6	4.7	4.7	4.7	4.8	5.0	5.1	5.0	5.0	5.0	5.1	5.1	5.1	5.2
OTHER (FUEL COMBUSTION)	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.4	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.4
*** TOTAL FUEL COMBUSTION**	**31.1**	**31.0**	**30.3**	**26.8**	**24.9**	**24.6**	**24.4**	**24.2**	**23.8**	**27.4**	**27.5**	**26.8**	**24.4**	**23.2**	**23.0**	**22.9**	**22.8**	**22.5**
WASTE DISPOSAL																		
SEWAGE TREATMENT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LANDFILLS	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
INCINERATORS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SOIL REMEDIATION	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER (WASTE DISPOSAL)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
*** TOTAL WASTE DISPOSAL**	**0.2**	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	**0.2**	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**
CLEANING AND SURFACE COATINGS																		
LAUNDERING	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DEGREASING	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
COATINGS AND RELATED PROCESS SOLVENTS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PRINTING	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ADHESIVES AND SEALANTS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER (CLEANING AND SURFACE COATINGS)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
*** TOTAL CLEANING AND SURFACE COATINGS**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
PETROLEUM PRODUCTION AND MARKETING																		
OIL AND GAS PRODUCTION	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
PETROLEUM REFINING	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PETROLEUM MARKETING	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

NOx																		
SUMMARY CATEGORY NAME	**ANNUAL AVERAGE tons/day**									**WINTER AVERAGE tons/day**								
	2012	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**
OTHER (PETROLEUM PRODUCTION AND MARKETING)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
*** TOTAL PETROLEUM PRODUCTION AND MARKETING**	**0.4**	**0.4**	**0.4**	**0.4**	**0.4**	**0.4**	**0.4**	**0.4**	**0.4**	**0.4**	**0.4**	**0.4**	**0.4**	**0.4**	**0.4**	**0.4**	**0.4**	**0.4**
INDUSTRIAL PROCESSES																		
CHEMICAL	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
FOOD AND AGRICULTURE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MINERAL PROCESSES	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
METAL PROCESSES	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WOOD AND PAPER	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GLASS AND RELATED PRODUCTS	6.0	6.2	4.0	4.1	4.2	4.3	4.3	4.3	4.4	6.0	6.2	4.0	4.1	4.2	4.3	4.3	4.3	4.4
ELECTRONICS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER (INDUSTRIAL PROCESSES)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
*** TOTAL INDUSTRIAL PROCESSES**	**6.5**	**6.7**	**4.5**	**4.6**	**4.7**	**4.8**	**4.9**	**4.9**	**5.0**	**6.5**	**6.7**	**4.5**	**4.6**	**4.7**	**4.8**	**4.8**	**4.9**	**4.9**
**** TOTAL STATIONARY SOURCES**	**38.3**	**38.4**	**35.4**	**32.1**	**30.3**	**30.1**	**29.9**	**29.8**	**29.4**	**34.6**	**34.8**	**31.9**	**29.7**	**28.6**	**28.5**	**28.4**	**28.3**	**28.1**
AREA-WIDE SOURCES																		
SOLVENT EVAPORATION																		
CONSUMER PRODUCTS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ARCHITECTURAL COATINGS AND RELATED PROCESS SOLVENTS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PESTICIDES/FERTILIZERS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ASPHALT PAVING / ROOFING	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
*** TOTAL SOLVENT EVAPORATION**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
MISCELLANEOUS PROCESSES																		
RESIDENTIAL FUEL COMBUSTION	6.5	6.5	6.5	6.5	6.6	6.6	6.6	6.6	6.7	9.1	9.1	9.1	9.1	9.1	9.2	9.2	9.2	9.3
FARMING OPERATIONS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CONSTRUCTION AND DEMOLITION	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PAVED ROAD DUST	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
UNPAVED ROAD DUST	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FUGITIVE WINDBLOWN DUST	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FIRES	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MANAGED BURNING AND DISPOSAL	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
COOKING	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER (MISCELLANEOUS PROCESSES)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
*** TOTAL MISCELLANEOUS PROCESSES**	**8.2**	**8.2**	**8.2**	**8.2**	**8.2**	**8.3**	**8.3**	**8.3**	**8.4**	**11.7**	**11.7**	**11.7**	**11.7**	**11.7**	**11.7**	**11.8**	**11.8**	**11.8**
**** TOTAL AREA-WIDE SOURCES**	**8.2**	**8.2**	**8.2**	**8.2**	**8.2**	**8.3**	**8.3**	**8.3**	**8.4**	**11.7**	**11.7**	**11.7**	**11.7**	**11.7**	**11.7**	**11.8**	**11.8**	**11.8**

SUMMARY CATEGORY NAME	NOx																	
	ANNUAL AVERAGE tons/day									WINTER AVERAGE tons/day								
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2012	2013	2014	2015	2016	2017	2018	2019	2020
MOBILE SOURCES																		
ON-ROAD MOTOR VEHICLES																		
LIGHT DUTY PASSENGER (LDA)	10.5	9.6	8.5	7.6	6.8	6.1	5.4	4.9	4.5	11.5	10.5	9.5	8.5	7.6	6.7	6.0	5.4	5.0
LIGHT DUTY TRUCKS - 1 (LDT1)	3.2	2.8	2.4	2.1	1.8	1.5	1.3	1.1	1.0	3.5	3.1	2.7	2.3	2.0	1.7	1.4	1.2	1.1
LIGHT DUTY TRUCKS - 2 (LDT2)	7.7	7.0	6.2	5.5	4.9	4.2	3.7	3.3	2.9	8.5	7.7	6.9	6.2	5.4	4.7	4.1	3.6	3.2
MEDIUM DUTY TRUCKS (MDV)	10.8	10.1	9.1	8.3	7.5	6.7	6.0	5.3	4.6	11.8	11.0	10.2	9.3	8.3	7.5	6.7	5.9	5.2
LIGHT HEAVY DUTY GAS TRUCKS - 1 (LHDV1)	3.1	3.0	2.7	2.5	2.3	2.1	1.9	1.8	1.6	3.3	3.2	2.9	2.7	2.5	2.3	2.1	1.9	1.8
LIGHT HEAVY DUTY GAS TRUCKS - 2 (LHDV2)	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.2	0.2	0.5	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.2
MEDIUM HEAVY DUTY GAS TRUCKS (MHDV)	0.9	0.8	0.7	0.6	0.5	0.4	0.4	0.3	0.3	0.9	0.8	0.7	0.6	0.6	0.5	0.4	0.4	0.3
HEAVY HEAVY DUTY GAS TRUCKS (HHDV)	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2
LIGHT HEAVY DUTY DIESEL TRUCKS - 1 (LHDV1)	11.7	11.0	10.2	9.4	8.7	8.0	7.3	6.6	6.0	11.9	11.2	10.5	9.8	9.0	8.3	7.6	6.9	6.2
LIGHT HEAVY DUTY DIESEL TRUCKS - 2 (LHDV2)	3.0	2.8	2.5	2.3	2.1	1.9	1.7	1.5	1.3	3.1	2.8	2.6	2.4	2.1	1.9	1.7	1.5	1.3
MEDIUM HEAVY DUTY DIESEL TRUCKS (MHDV)	18.1	18.1	16.4	14.0	13.0	11.7	11.0	10.2	8.2	18.4	18.5	16.6	14.2	13.2	11.9	11.2	10.3	8.4
HEAVY HEAVY DUTY DIESEL TRUCKS (HHDV)	120.5	109.8	89.4	81.8	76.6	69.9	65.7	64.1	61.3	122.4	111.8	90.7	83.0	77.6	70.8	66.5	64.9	62.1
MOTORCYCLES (MCY)	0.9	0.9	0.9	0.9	0.8	0.8	0.8	0.8	0.8	1.0	1.0	1.0	1.0	0.9	0.9	0.9	0.9	0.9
HEAVY DUTY DIESEL URBAN BUSES (UB)	3.7	3.4	3.0	2.8	2.5	2.3	2.1	1.8	1.6	3.8	3.5	3.1	2.8	2.6	2.3	2.1	1.9	1.7
HEAVY DUTY GAS URBAN BUSES (UB)	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2
SCHOOL BUSES (SB)	1.1	1.1	1.1	1.1	1.0	1.0	0.9	0.9	0.8	1.2	1.2	1.1	1.1	1.1	1.0	0.9	0.9	0.8
OTHER BUSES (OB)	1.3	1.2	1.1	0.9	0.9	0.8	0.7	0.7	0.7	1.3	1.2	1.1	1.0	0.9	0.8	0.7	0.7	0.7
MOTOR HOMES (MH)	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.2	0.2	0.5	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.2
*** TOTAL ON-ROAD MOTOR VEHICLES**	**198.0**	**183.3**	**156.1**	**141.5**	**130.9**	**118.9**	**110.2**	**104.4**	**96.8**	**204.1**	**188.9**	**161.0**	**145.9**	**134.8**	**122.4**	**113.4**	**107.3**	**99.4**
OTHER MOBILE SOURCES																		
AIRCRAFT	2.5	2.5	2.5	2.5	2.5	2.5	2.5	4.6	4.6	2.4	2.4	2.4	2.4	2.4	2.4	2.4	4.5	4.5
TRAINS	12.8	13.4	13.8	14.0	14.1	14.0	13.8	13.5	13.2	12.8	13.4	13.8	14.0	14.1	14.0	13.8	13.5	13.2
SHIPS AND COMMERCIAL BOATS	1.1	1.0	1.0	1.0	0.9	0.9	0.9	0.9	0.8	1.1	1.0	1.0	1.0	0.9	0.9	0.9	0.9	0.8
RECREATIONAL BOATS	1.6	1.5	1.5	1.5	1.4	1.4	1.4	1.3	1.3	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
OFF-ROAD RECREATIONAL VEHICLES	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2
OFF-ROAD EQUIPMENT	19.3	19.2	19.0	19.0	18.6	18.1	16.9	16.1	15.9	19.9	19.9	19.7	19.9	19.5	19.2	17.9	17.2	16.7
FARM EQUIPMENT	50.4	48.4	46.5	44.7	43.1	41.5	40.0	38.6	36.2	31.3	30.1	28.9	27.8	26.7	25.8	24.8	23.9	22.5
FUEL STORAGE AND HANDLING	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

NOx																		
SUMMARY CATEGORY NAME	ANNUAL AVERAGE tons/day									WINTER AVERAGE tons/day								
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2012	2013	2014	2015	2016	2017	2018	2019	2020
* TOTAL OTHER MOBILE SOURCES	87.7	86.2	84.4	82.7	80.7	78.5	75.5	75.1	72.2	68.0	67.5	66.5	65.7	64.4	62.9	60.4	60.6	58.4
** TOTAL MOBILE SOURCES	285.7	269.4	240.6	224.3	211.7	197.4	185.8	179.5	169.0	272.2	256.4	227.5	211.5	199.2	185.2	173.8	167.9	157.7
GRAND TOTAL FOR SAN JOAQUIN VALLEY	332.2	316.1	284.2	264.6	250.2	235.7	223.9	217.6	206.9	318.5	302.8	271.0	252.9	239.4	225.5	213.9	208.0	197.7

This section intentionally blank.

Table B-3 SOx

SUMMARY CATEGORY NAME	SOx																	
	ANNUAL AVERAGE tons/day									WINTER AVERAGE tons/day								
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2012	2013	2014	2015	2016	2017	2018	2019	2020
STATIONARY SOURCES																		
FUEL COMBUSTION																		
ELECTRIC UTILITIES	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
COGENERATION	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
OIL AND GAS PRODUCTION (COMBUSTION)	0.7	0.7	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.7	0.7	0.3	0.3	0.3	0.3	0.3	0.3	0.3
PETROLEUM REFINING (COMBUSTION)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MANUFACTURING AND INDUSTRIAL	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
FOOD AND AGRICULTURAL PROCESSING	0.3	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1
SERVICE AND COMMERCIAL	0.3	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3
OTHER (FUEL COMBUSTION)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
*** TOTAL FUEL COMBUSTION**	**3.0**	**3.0**	**2.4**	**2.3**	**2.4**	**2.4**	**2.4**	**2.4**	**2.4**	**2.9**	**2.9**	**2.3**	**2.3**	**2.3**	**2.4**	**2.4**	**2.4**	**2.4**
WASTE DISPOSAL																		
SEWAGE TREATMENT	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
LANDFILLS	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
INCINERATORS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SOIL REMEDIATION	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER (WASTE DISPOSAL)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
*** TOTAL WASTE DISPOSAL**	**0.1**	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	**0.1**	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**
CLEANING AND SURFACE COATINGS																		
LAUNDERING	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DEGREASING	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
COATINGS AND RELATED PROCESS SOLVENTS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PRINTING	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ADHESIVES AND SEALANTS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER (CLEANING AND SURFACE COATINGS)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
*** TOTAL CLEANING AND SURFACE COATINGS**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
PETROLEUM PRODUCTION AND MARKETING																		
OIL AND GAS PRODUCTION	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
PETROLEUM REFINING	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PETROLEUM MARKETING	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER (PETROLEUM PRODUCTION AND MARKETING)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

SOx																		
SUMMARY CATEGORY NAME	**ANNUAL AVERAGE tons/day**									**WINTER AVERAGE tons/day**								
	2012	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**
*** TOTAL PETROLEUM PRODUCTION AND MARKETING**	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**
INDUSTRIAL PROCESSES																		
CHEMICAL	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.9	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.9
FOOD AND AGRICULTURE	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
MINERAL PROCESSES	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
METAL PROCESSES	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WOOD AND PAPER	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GLASS AND RELATED PRODUCTS	2.0	2.0	1.8	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	1.8	1.9	1.9	1.9	1.9	2.0	2.0
ELECTRONICS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER (INDUSTRIAL PROCESSES)	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
*** TOTAL INDUSTRIAL PROCESSES**	**3.6**	**3.6**	**3.5**	**3.6**	**3.6**	**3.7**	**3.7**	**3.8**	**3.8**	**3.3**	**3.4**	**3.2**	**3.3**	**3.3**	**3.4**	**3.4**	**3.5**	**3.5**
**** TOTAL STATIONARY SOURCES**	**6.9**	**7.0**	**6.2**	**6.3**	**6.3**	**6.4**	**6.5**	**6.5**	**6.6**	**6.6**	**6.7**	**5.9**	**6.0**	**6.0**	**6.1**	**6.2**	**6.2**	**6.3**
AREA-WIDE SOURCES																		
SOLVENT EVAPORATION																		
CONSUMER PRODUCTS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ARCHITECTURAL COATINGS AND RELATED PROCESS SOLVENTS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PESTICIDES/FERTILIZERS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ASPHALT PAVING / ROOFING	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
*** TOTAL SOLVENT EVAPORATION**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
MISCELLANEOUS PROCESSES																		
RESIDENTIAL FUEL COMBUSTION	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
FARMING OPERATIONS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CONSTRUCTION AND DEMOLITION	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PAVED ROAD DUST	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
UNPAVED ROAD DUST	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FUGITIVE WINDBLOWN DUST	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FIRES	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MANAGED BURNING AND DISPOSAL	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
COOKING	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER (MISCELLANEOUS PROCESSES)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
*** TOTAL MISCELLANEOUS PROCESSES**	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**
**** TOTAL AREA-WIDE SOURCES**	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**
MOBILE SOURCES																		
ON-ROAD MOTOR VEHICLES																		

SOx																		
SUMMARY CATEGORY NAME	**ANNUAL AVERAGE tons/day**									**WINTER AVERAGE tons/day**								
	2012	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**
LIGHT DUTY PASSENGER (LDA)	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
LIGHT DUTY TRUCKS - 1 (LDT1)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LIGHT DUTY TRUCKS - 2 (LDT2)	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
MEDIUM DUTY TRUCKS (MDV)	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
LIGHT HEAVY DUTY GAS TRUCKS - 1 (LHDV1)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LIGHT HEAVY DUTY GAS TRUCKS - 2 (LHDV2)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MEDIUM HEAVY DUTY GAS TRUCKS (MHDV)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HEAVY HEAVY DUTY GAS TRUCKS (HHDV)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LIGHT HEAVY DUTY DIESEL TRUCKS - 1 (LHDV1)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LIGHT HEAVY DUTY DIESEL TRUCKS - 2 (LHDV2)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MEDIUM HEAVY DUTY DIESEL TRUCKS (MHDV)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HEAVY HEAVY DUTY DIESEL TRUCKS (HHDV)	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
MOTORCYCLES (MCY)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HEAVY DUTY DIESEL URBAN BUSES (UB)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HEAVY DUTY GAS URBAN BUSES (UB)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SCHOOL BUSES (SB)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER BUSES (OB)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MOTOR HOMES (MH)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
*** TOTAL ON-ROAD MOTOR VEHICLES**	**0.6**	**0.7**	**0.7**	**0.7**	**0.7**	**0.7**	**0.6**	**0.6**	**0.6**	**0.6**	**0.6**	**0.6**	**0.6**	**0.6**	**0.6**	**0.6**	**0.6**	**0.6**
OTHER MOBILE SOURCES																		
AIRCRAFT	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2
TRAINS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SHIPS AND COMMERCIAL BOATS	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.1
RECREATIONAL BOATS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OFF-ROAD RECREATIONAL VEHICLES	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OFF-ROAD EQUIPMENT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FARM EQUIPMENT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FUEL STORAGE AND HANDLING	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
*** TOTAL OTHER MOBILE SOURCES**	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	**0.3**	**0.3**	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	**0.3**	**0.3**
**** TOTAL MOBILE SOURCES**	**0.9**	**0.9**	**0.9**	**0.9**	**0.9**	**0.9**	**0.9**	**0.9**	**0.9**	**0.8**	**0.9**	**0.8**	**0.8**	**0.8**	**0.9**	**0.9**	**0.9**	**0.9**
GRAND TOTAL FOR SAN JOAQUIN VALLEY	**8.1**	**8.2**	**7.4**	**7.5**	**7.6**	**7.6**	**7.7**	**7.8**	**7.8**	**7.9**	**8.0**	**7.3**	**7.3**	**7.4**	**7.5**	**7.6**	**7.6**	**7.7**

Table B-4 VOC

SUMMARY CATEGORY NAME	VOC																	
	ANNUAL AVERAGE tons/day									WINTER AVERAGE tons/day								
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2012	2013	2014	2015	2016	2017	2018	2019	2020
STATIONARY SOURCES																		
FUEL COMBUSTION																		
ELECTRIC UTILITIES	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
COGENERATION	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.6
OIL AND GAS PRODUCTION (COMBUSTION)	1.2	1.1	1.1	1.1	1.1	1.0	1.0	1.0	1.0	1.2	1.1	1.1	1.1	1.1	1.0	1.0	1.0	1.0
PETROLEUM REFINING (COMBUSTION)	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
MANUFACTURING AND INDUSTRIAL	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
FOOD AND AGRICULTURAL PROCESSING	1.0	1.0	1.0	0.9	0.7	0.7	0.6	0.6	0.6	0.8	0.8	0.7	0.7	0.5	0.5	0.5	0.5	0.5
SERVICE AND COMMERCIAL	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.7
OTHER (FUEL COMBUSTION)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
*** TOTAL FUEL COMBUSTION**	**3.8**	**3.8**	**3.7**	**3.6**	**3.4**	**3.3**	**3.3**	**3.3**	**3.2**	**3.6**	**3.6**	**3.5**	**3.4**	**3.3**	**3.2**	**3.2**	**3.2**	**3.2**
WASTE DISPOSAL																		
SEWAGE TREATMENT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LANDFILLS	1.5	1.5	1.6	1.6	1.6	1.7	1.7	1.7	1.8	1.5	1.5	1.6	1.6	1.6	1.7	1.7	1.7	1.8
INCINERATORS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SOIL REMEDIATION	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
OTHER (WASTE DISPOSAL)	21.4	21.6	22.0	22.4	22.9	22.5	23.4	23.9	24.3	21.4	21.6	22.0	22.4	22.9	22.5	23.4	23.9	24.3
*** TOTAL WASTE DISPOSAL**	**23.0**	**23.2**	**23.7**	**24.1**	**24.6**	**24.4**	**25.3**	**25.8**	**26.3**	**23.0**	**23.2**	**23.7**	**24.1**	**24.6**	**24.3**	**25.3**	**25.8**	**26.3**
CLEANING AND SURFACE COATINGS																		
LAUNDERING	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
DEGREASING	1.5	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.6
COATINGS AND RELATED PROCESS SOLVENTS	7.8	8.1	8.3	8.4	8.6	8.8	9.0	9.1	9.2	7.8	8.1	8.2	8.4	8.6	8.7	9.0	9.1	9.2
PRINTING	4.8	4.9	5.0	5.1	5.2	5.3	5.4	5.5	5.6	4.8	4.9	5.0	5.1	5.2	5.3	5.4	5.5	5.6
ADHESIVES AND SEALANTS	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5
OTHER (CLEANING AND SURFACE COATINGS)	6.2	6.3	6.5	6.7	6.8	6.9	7.1	7.2	7.3	6.2	6.3	6.5	6.6	6.8	6.9	7.1	7.2	7.3
*** TOTAL CLEANING AND SURFACE COATINGS**	**21.0**	**21.5**	**22.0**	**22.4**	**22.8**	**23.2**	**23.7**	**24.1**	**24.4**	**21.0**	**21.5**	**22.0**	**22.4**	**22.8**	**23.2**	**23.6**	**24.0**	**24.4**
PETROLEUM PRODUCTION AND MARKETING																		
OIL AND GAS PRODUCTION	25.9	25.4	24.8	24.3	23.7	23.2	22.7	22.2	21.7	25.9	25.4	24.8	24.3	23.7	23.2	22.7	22.2	21.7
PETROLEUM REFINING	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
PETROLEUM MARKETING	7.7	7.3	7.4	7.6	7.7	7.8	8.0	8.2	8.3	7.7	7.3	7.4	7.6	7.7	7.8	8.0	8.1	8.3

VOC																		
SUMMARY CATEGORY NAME	ANNUAL AVERAGE tons/day									WINTER AVERAGE tons/day								
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2012	2013	2014	2015	2016	2017	2018	2019	2020
OTHER (PETROLEUM PRODUCTION AND MARKETING)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
*** TOTAL PETROLEUM PRODUCTION AND MARKETING**	**34.4**	**33.5**	**33.0**	**32.6**	**32.3**	**31.9**	**31.5**	**31.2**	**30.8**	**34.4**	**33.5**	**33.0**	**32.6**	**32.2**	**31.9**	**31.5**	**31.1**	**30.8**
INDUSTRIAL PROCESSES																		
CHEMICAL	4.8	4.9	4.9	5.0	5.1	5.1	5.2	5.3	5.4	4.8	4.9	4.9	5.0	5.0	5.1	5.2	5.3	5.4
FOOD AND AGRICULTURE	10.9	11.1	11.4	11.6	11.8	12.0	12.2	12.5	12.7	10.7	10.9	11.1	11.3	11.5	11.7	11.9	12.2	12.4
MINERAL PROCESSES	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3
METAL PROCESSES	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
WOOD AND PAPER	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GLASS AND RELATED PRODUCTS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ELECTRONICS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER (INDUSTRIAL PROCESSES)	0.8	0.8	0.8	0.9	0.9	0.9	0.9	0.9	0.9	0.8	0.8	0.9	0.9	0.9	0.9	0.9	1.0	1.0
*** TOTAL INDUSTRIAL PROCESSES**	**17.0**	**17.3**	**17.6**	**17.9**	**18.2**	**18.5**	**18.8**	**19.2**	**19.5**	**16.7**	**17.0**	**17.3**	**17.6**	**17.9**	**18.2**	**18.5**	**18.9**	**19.2**
**** TOTAL STATIONARY SOURCES**	**99.2**	**99.3**	**100.0**	**100.6**	**101.2**	**101.2**	**102.6**	**103.5**	**104.2**	**98.7**	**98.7**	**99.4**	**100.1**	**100.8**	**100.8**	**102.1**	**103.0**	**103.8**
AREA-WIDE SOURCES																		
SOLVENT EVAPORATION																		
CONSUMER PRODUCTS	22.2	21.3	21.6	21.9	22.3	22.8	23.3	23.7	24.2	22.2	21.3	21.6	21.9	22.3	22.8	23.3	23.7	24.2
ARCHITECTURAL COATINGS AND RELATED PROCESS SOLVENTS	9.0	9.0	9.2	9.3	9.5	9.7	9.9	10.1	10.3	7.7	7.8	7.9	8.1	8.2	8.4	8.6	8.7	8.9
PESTICIDES/FERTILIZERS	15.3	15.4	15.3	15.3	15.2	15.1	15.0	15.0	14.9	14.8	15.5	15.5	15.4	15.3	15.3	15.2	15.1	15.1
ASPHALT PAVING / ROOFING	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
*** TOTAL SOLVENT EVAPORATION**	**47.4**	**46.6**	**46.9**	**47.3**	**47.9**	**48.6**	**49.1**	**49.7**	**50.3**	**45.6**	**45.4**	**45.8**	**46.2**	**46.7**	**47.4**	**47.9**	**48.5**	**49.0**
MISCELLANEOUS PROCESSES																		
RESIDENTIAL FUEL COMBUSTION	5.6	5.4	5.3	5.3	5.3	5.3	5.3	5.3	5.3	10.6	10.4	10.1	10.1	10.1	10.1	10.1	10.1	10.1
FARMING OPERATIONS	96.0	97.0	98.1	99.2	100.2	101.3	102.4	103.5	104.5	95.9	97.0	98.1	99.1	100.2	101.3	102.3	103.4	104.5
CONSTRUCTION AND DEMOLITION	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PAVED ROAD DUST	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
UNPAVED ROAD DUST	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FUGITIVE WINDBLOWN DUST	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FIRES	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
MANAGED BURNING AND DISPOSAL	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.5	3.7	3.7	3.6	3.6	3.6	3.6	3.6	3.6	3.6
COOKING	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
OTHER (MISCELLANEOUS PROCESSES)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
*** TOTAL MISCELLANEOUS PROCESSES**	**104.8**	**105.7**	**106.6**	**107.7**	**108.8**	**109.9**	**111.0**	**112.1**	**113.2**	**110.9**	**111.7**	**112.5**	**113.6**	**114.7**	**115.8**	**116.8**	**117.9**	**119.0**
**** TOTAL AREA-WIDE SOURCES**	**152.1**	**152.2**	**153.6**	**155.1**	**156.7**	**158.5**	**160.1**	**161.8**	**163.4**	**156.5**	**157.1**	**158.3**	**159.8**	**161.4**	**163.1**	**164.7**	**166.4**	**168.0**
MOBILE SOURCES																		

VOC																		
SUMMARY CATEGORY NAME	ANNUAL AVERAGE tons/day									WINTER AVERAGE tons/day								
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2012	2013	2014	2015	2016	2017	2018	2019	2020
ON-ROAD MOTOR VEHICLES																		
LIGHT DUTY PASSENGER (LDA)	14.7	13.7	12.1	10.7	9.4	8.3	7.4	6.7	6.2	14.8	13.6	12.0	10.5	9.3	8.2	7.3	6.6	6.1
LIGHT DUTY TRUCKS - 1 (LDT1)	5.4	5.0	4.5	3.9	3.4	2.9	2.6	2.3	2.0	5.7	5.3	4.7	4.1	3.6	3.1	2.7	2.4	2.1
LIGHT DUTY TRUCKS - 2 (LDT2)	7.7	7.4	6.7	6.1	5.5	4.9	4.5	4.1	3.8	8.1	7.7	7.0	6.3	5.7	5.1	4.6	4.2	3.9
MEDIUM DUTY TRUCKS (MDV)	7.8	7.9	7.6	7.2	6.8	6.4	6.1	5.7	5.3	8.3	8.3	7.9	7.5	7.1	6.7	6.3	5.9	5.5
LIGHT HEAVY DUTY GAS TRUCKS - 1 (LHDV1)	2.4	2.3	2.1	2.0	1.8	1.7	1.6	1.5	1.4	2.5	2.5	2.3	2.1	2.0	1.8	1.7	1.6	1.5
LIGHT HEAVY DUTY GAS TRUCKS - 2 (LHDV2)	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.1	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.1
MEDIUM HEAVY DUTY GAS TRUCKS (MHDV)	0.8	0.6	0.5	0.4	0.3	0.3	0.2	0.2	0.2	0.9	0.7	0.5	0.4	0.3	0.3	0.2	0.2	0.2
HEAVY HEAVY DUTY GAS TRUCKS (HHDV)	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0
LIGHT HEAVY DUTY DIESEL TRUCKS - 1 (LHDV1)	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.3	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.3
LIGHT HEAVY DUTY DIESEL TRUCKS - 2 (LHDV2)	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
MEDIUM HEAVY DUTY DIESEL TRUCKS (MHDV)	1.5	1.5	1.3	1.0	0.9	0.7	0.7	0.6	0.4	1.5	1.5	1.3	1.0	0.9	0.8	0.7	0.6	0.4
HEAVY HEAVY DUTY DIESEL TRUCKS (HHDV)	8.5	6.8	3.8	3.2	2.9	2.3	2.1	2.0	2.0	8.6	6.8	3.8	3.2	2.9	2.3	2.1	2.1	2.0
MOTORCYCLES (MCY)	3.4	3.3	3.2	3.1	3.1	3.0	3.0	2.9	2.9	3.5	3.4	3.3	3.1	3.1	3.0	3.0	2.9	2.9
HEAVY DUTY DIESEL URBAN BUSES (UB)	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1
HEAVY DUTY GAS URBAN BUSES (UB)	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
SCHOOL BUSES (SB)	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0
OTHER BUSES (OB)	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
MOTOR HOMES (MH)	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
*** TOTAL ON-ROAD MOTOR VEHICLES**	**54.0**	**50.1**	**43.2**	**38.9**	**35.3**	**31.7**	**29.0**	**26.9**	**25.0**	**55.6**	**51.4**	**44.2**	**39.7**	**36.0**	**32.3**	**29.4**	**27.2**	**25.3**
OTHER MOBILE SOURCES																		
AIRCRAFT	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.9	3.9	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.9	3.9
TRAINS	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.6	0.6	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.6	0.6
SHIPS AND COMMERCIAL BOATS	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
RECREATIONAL BOATS	8.2	7.8	7.4	7.1	6.7	6.4	6.1	5.8	5.5	2.8	2.6	2.5	2.4	2.2	2.1	2.0	1.9	1.8
OFF-ROAD RECREATIONAL VEHICLES	2.7	2.6	2.5	2.4	2.4	2.4	2.3	2.3	2.2	2.6	2.5	2.4	2.4	2.3	2.3	2.3	2.2	2.2
OFF-ROAD EQUIPMENT	9.4	9.0	8.7	8.5	8.2	8.0	7.7	7.6	7.5	9.5	9.1	8.8	8.5	8.3	8.0	7.8	7.6	7.5
FARM EQUIPMENT	9.3	8.8	8.4	8.0	7.6	7.2	6.8	6.5	6.2	6.5	6.1	5.8	5.5	5.2	4.9	4.6	4.4	4.2
FUEL STORAGE AND HANDLING	1.8	1.7	1.7	1.6	1.5	1.5	1.4	1.4	1.4	1.7	1.6	1.5	1.4	1.4	1.3	1.3	1.3	1.2
*** TOTAL OTHER MOBILE SOURCES**	**35.3**	**33.8**	**32.5**	**31.3**	**30.2**	**29.1**	**28.1**	**28.1**	**27.3**	**26.8**	**25.7**	**24.7**	**23.9**	**23.1**	**22.4**	**21.7**	**22.0**	**21.4**
**** TOTAL MOBILE SOURCES**	**89.4**	**83.8**	**75.6**	**70.2**	**65.5**	**60.9**	**57.2**	**55.0**	**52.3**	**82.4**	**77.0**	**69.0**	**63.7**	**59.1**	**54.7**	**51.1**	**49.2**	**46.7**

VOC																		
SUMMARY CATEGORY NAME	ANNUAL AVERAGE tons/day									WINTER AVERAGE tons/day								
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2012	2013	2014	2015	2016	2017	2018	2019	2020
GRAND TOTAL FOR SAN JOAQUIN VALLEY	340.7	335.4	329.2	325.8	323.4	320.6	319.8	320.3	320.0	337.5	332.9	326.7	323.6	321.3	318.6	318.0	318.6	318.5

This section intentionally blank

.

Table B-5 Ammonia

SUMMARY CATEGORY NAME	AMMONIA																	
	ANNUAL AVERAGE tons/day									WINTER AVERAGE tons/day								
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2012	2013	2014	2015	2016	2017	2018	2019	2020
STATIONARY SOURCES																		
FUEL COMBUSTION																		
ELECTRIC UTILITIES	1.7	1.7	1.6	1.6	1.6	1.6	1.7	1.7	1.6	1.6	1.7	1.6	1.5	1.6	1.6	1.6	1.6	1.6
COGENERATION	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
OIL AND GAS PRODUCTION (COMBUSTION)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PETROLEUM REFINING (COMBUSTION)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MANUFACTURING AND INDUSTRIAL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FOOD AND AGRICULTURAL PROCESSING	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SERVICE AND COMMERCIAL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER (FUEL COMBUSTION)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
*** TOTAL FUEL COMBUSTION**	**2.1**	**2.2**	**2.1**	**2.0**	**2.1**	**2.1**	**2.1**	**2.2**	**2.1**	**2.1**	**2.2**	**2.0**	**2.0**	**2.0**	**2.1**	**2.1**	**2.1**	**2.1**
WASTE DISPOSAL																		
SEWAGE TREATMENT	0.6	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.6	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.7
LANDFILLS	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.8
INCINERATORS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SOIL REMEDIATION	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER (WASTE DISPOSAL)	8.5	8.6	8.8	9.0	9.2	9.4	9.7	9.9	10.1	8.5	8.6	8.8	9.0	9.2	9.4	9.6	9.9	10.1
*** TOTAL WASTE DISPOSAL**	**9.8**	**10.0**	**10.1**	**10.3**	**10.6**	**10.8**	**11.1**	**11.4**	**11.6**	**9.8**	**9.9**	**10.1**	**10.3**	**10.6**	**10.8**	**11.1**	**11.3**	**11.6**
CLEANING AND SURFACE COATINGS																		
LAUNDERING	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DEGREASING	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
COATINGS AND RELATED PROCESS SOLVENTS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PRINTING	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ADHESIVES AND SEALANTS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER (CLEANING AND SURFACE COATINGS)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
*** TOTAL CLEANING AND SURFACE COATINGS**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.1**	**0.1**	**0.1**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.1**	**0.1**	**0.1**
PETROLEUM PRODUCTION AND MARKETING																		
OIL AND GAS PRODUCTION	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PETROLEUM REFINING	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PETROLEUM MARKETING	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

OTHER (PETROLEUM PRODUCTION AND MARKETING)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
*** TOTAL PETROLEUM PRODUCTION AND MARKETING**	**0.1**	**0.1**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.1**	**0.1**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
INDUSTRIAL PROCESSES																		
CHEMICAL	1.1	1.1	1.1	1.2	1.2	1.2	1.2	1.2	1.3	1.1	1.1	1.2	1.2	1.2	1.2	1.2	1.2	1.3
FOOD AND AGRICULTURE	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
MINERAL PROCESSES	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
METAL PROCESSES	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WOOD AND PAPER	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GLASS AND RELATED PRODUCTS	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2
ELECTRONICS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER (INDUSTRIAL PROCESSES)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
*** TOTAL INDUSTRIAL PROCESSES**	**1.5**	**1.5**	**1.6**	**1.6**	**1.6**	**1.6**	**1.7**	**1.7**	**1.7**	**1.5**	**1.5**	**1.6**	**1.6**	**1.6**	**1.6**	**1.7**	**1.7**	**1.7**
**** TOTAL STATIONARY SOURCES**	**13.6**	**13.8**	**13.9**	**14.1**	**14.4**	**14.7**	**15.0**	**15.3**	**15.5**	**13.5**	**13.7**	**13.8**	**14.0**	**14.3**	**14.7**	**15.0**	**15.3**	**15.5**
AREA-WIDE SOURCES																		
SOLVENT EVAPORATION																		
CONSUMER PRODUCTS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ARCHITECTURAL COATINGS AND RELATED PROCESS SOLVENTS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PESTICIDES/FERTILIZERS	118.2	117.6	116.9	116.3	115.7	115.0	114.4	113.8	113.1	98.4	97.9	97.3	96.8	96.2	95.6	95.1	94.5	94.0
ASPHALT PAVING / ROOFING	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
*** TOTAL SOLVENT EVAPORATION**	**118.2**	**117.6**	**116.9**	**116.3**	**115.7**	**115.0**	**114.4**	**113.8**	**113.1**	**98.4**	**97.9**	**97.3**	**96.8**	**96.2**	**95.6**	**95.1**	**94.5**	**94.0**
MISCELLANEOUS PROCESSES																		
RESIDENTIAL FUEL COMBUSTION	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
FARMING OPERATIONS	186.4	190.2	194.1	198.0	201.9	205.8	209.7	213.6	217.5	186.3	190.1	194.0	197.9	201.8	205.7	209.6	213.5	217.4
CONSTRUCTION AND DEMOLITION	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PAVED ROAD DUST	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
UNPAVED ROAD DUST	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FUGITIVE WINDBLOWN DUST	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FIRES	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MANAGED BURNING AND DISPOSAL	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
COOKING	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER (MISCELLANEOUS PROCESSES)	6.1	6.1	6.2	6.4	6.5	6.7	6.8	6.9	7.1	6.1	6.1	6.2	6.4	6.5	6.7	6.8	6.9	7.1
*** TOTAL MISCELLANEOUS PROCESSES**	**193.0**	**197.0**	**201.0**	**205.0**	**209.0**	**213.0**	**217.1**	**221.1**	**225.1**	**193.4**	**197.3**	**201.3**	**205.3**	**209.3**	**213.4**	**217.4**	**221.4**	**225.5**
**** TOTAL AREA-WIDE SOURCES**	**311.2**	**314.5**	**317.9**	**321.3**	**324.7**	**328.1**	**331.4**	**334.9**	**338.2**	**291.8**	**295.2**	**298.6**	**302.1**	**305.5**	**309.0**	**312.5**	**316.0**	**319.4**
MOBILE SOURCES																		
ON-ROAD MOTOR VEHICLES																		
LIGHT DUTY PASSENGER (LDA)	1.5	1.4	1.4	1.3	1.3	1.3	1.3	1.2	1.2	1.5	1.4	1.4	1.3	1.3	1.3	1.3	1.2	1.2
LIGHT DUTY TRUCKS - 1 (LDT1)	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2

LIGHT DUTY TRUCKS - 2 (LDT2)	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.7
MEDIUM DUTY TRUCKS (MDV)	1.4	1.4	1.3	1.3	1.3	1.3	1.3	1.2	1.2	1.4	1.4	1.3	1.3	1.3	1.3	1.3	1.2	1.2
LIGHT HEAVY DUTY GAS TRUCKS - 1 (LHDV1)	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
LIGHT HEAVY DUTY GAS TRUCKS - 2 (LHDV2)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MEDIUM HEAVY DUTY GAS TRUCKS (MHDV)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HEAVY HEAVY DUTY GAS TRUCKS (HHDV)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LIGHT HEAVY DUTY DIESEL TRUCKS - 1 (LHDV1)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LIGHT HEAVY DUTY DIESEL TRUCKS - 2 (LHDV2)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MEDIUM HEAVY DUTY DIESEL TRUCKS (MHDV)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
HEAVY HEAVY DUTY DIESEL TRUCKS (HHDV)	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3
MOTORCYCLES (MCY)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HEAVY DUTY DIESEL URBAN BUSES (UB)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HEAVY DUTY GAS URBAN BUSES (UB)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SCHOOL BUSES (SB)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER BUSES (OB)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MOTOR HOMES (MH)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
*** TOTAL ON-ROAD MOTOR VEHICLES**	**4.7**	**4.5**	**4.4**	**4.3**	**4.3**	**4.2**	**4.2**	**4.2**	**4.2**	**4.7**	**4.5**	**4.4**	**4.3**	**4.3**	**4.2**	**4.2**	**4.2**	**4.2**
OTHER MOBILE SOURCES																		
AIRCRAFT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TRAINS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SHIPS AND COMMERCIAL BOATS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RECREATIONAL BOATS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OFF-ROAD RECREATIONAL VEHICLES	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OFF-ROAD EQUIPMENT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FARM EQUIPMENT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FUEL STORAGE AND HANDLING	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
*** TOTAL OTHER MOBILE SOURCES**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
**** TOTAL MOBILE SOURCES**	**4.7**	**4.6**	**4.5**	**4.4**	**4.3**	**4.3**	**4.2**	**4.2**	**4.2**	**4.7**	**4.6**	**4.5**	**4.4**	**4.3**	**4.3**	**4.2**	**4.2**	**4.2**
GRAND TOTAL FOR SAN JOAQUIN VALLEY	**329.5**	**332.9**	**336.2**	**339.7**	**343.3**	**347.0**	**350.7**	**354.4**	**358.0**	**310.0**	**313.5**	**316.9**	**320.4**	**324.1**	**327.9**	**331.6**	**335.4**	**339.1**

B.2 EMISSION INVENTORY SUMMARY AND METHODOLOGY (PROVIDED BY CALIFORNIA AIR RESOURCES BOARD)

B.2.1 Introduction

This document describes the emissions inventory included in the San Joaquin Valley Most Stringent Measures PM2.5 State Implementation Plan (SIP or Plan). It also summarizes the revisions and improvements made to the inventory as part of this Plan.

The Air Resources Board (ARB) works with the local air districts to collect information and conduct research to improve emissions inventories. Over the last several years, ARB and the San Joaquin Valley Air Pollution Control District (District) have allocated substantial resources to the improvement of these estimates. The most recent efforts include updates to support the development of the 24-hour PM2.5 SIPs in 2012, and most recently updating of the inventories for areas designated nonattainment for the 0.075 ppm 8-hour ozone standard. The San Joaquin Valley Most Stringent Measures PM2.5 SIP inventory incorporates all of these updates.

ARB and District staff have conducted a thorough review of the inventory to ensure that the emission estimates reflect accurate emission reports for point sources, and that estimates for mobile and area-wide sources are based on the most recent models and methodologies. Staff also reviewed the growth profiles for point and areawide source categories, and updated them as necessary to ensure that the emission projections are based on data that reflect historical trends, current conditions, and recent economic and demographic forecasts.

B.2.1.1 Emissions Inventory Overview

Emissions inventories are estimates of the amount and type of pollutants emitted into the atmosphere by industrial facilities, mobile sources, and areawide sources such as consumer products and paint. In simple terms, an emissions inventory is a systematic listing of the sources of air pollution along with the amount of pollution emitted from each source or category over a given time period. Emissions inventories are an estimate of the air pollution emissions that are actually released into the environment—they are not measurements of ambient concentrations.

Emissions inventories are fundamental components of an air quality plan, and serve critical functions such as:

1) the primary input to air quality modeling used in attainment demonstrations;
2) the emissions data used for developing control strategies; and
3) a means to track progress in meeting the emission reduction commitments.

The United States Environmental Protection Agency (U.S. EPA) establishes requirements pertaining to emissions information that must be included as part of the SIP submittal package. For the PM2.5 Plan, the regulations require that the emissions inventory

contain emissions data for directly emitted PM2.5 and PM2.5 precursors: NOx, VOC, SOx, and ammonia.

The following are examples of pollution sources by key sectors:

- Industrial or stationary point sources—power plants and oil refineries;
- Areawide sources—consumer products and residential fuel combustion;
- On-road sources—passenger vehicles and heavy-duty trucks;
- Off-road mobile sources—aircraft, trains, ships, recreational boats, construction equipment and farm equipment; and
- Nonanthropogenic (natural) sources—biogenic (or vegetation), geogenic (petroleum seeps), and wildfires.

B.2.1.2 Agency Responsibilities

ARB and District staff worked jointly to develop a comprehensive emissions inventory for the San Joaquin Valley PM2.5 Nonattainment Area. The District worked closely with operators of major stationary facilities in their jurisdiction to develop the point source emission estimates. ARB staff developed the emission inventory for mobile sources, both on-road and off-road. The District and ARB shared responsibility for developing estimates for the nonpoint (areawide) sources such as paved road dust and agricultural burning. ARB worked with several State and local agencies such as the Department of Transportation (Caltrans), the Department of Motor Vehicles (DMV), the Department of Pesticide Regulation (DPR), the California Energy Commission (CEC), and regional transportation agencies to assemble activity information necessary to develop the mobile and area-wide source emission estimates.

B.2.1.3 Base Year Inventory

The base year inventory is an essential element of the Plan that forms the basis for all future year projections and also establishes the emission levels against which progress in emission reductions will be measured. U.S. EPA regulations establish general guidelines for selecting an inventory base year. Based on those guidelines, ARB and the District selected 2012 as the base year for this Plan.

B.2.1.4 Emission Forecasts

In addition to a base year inventory, U.S. EPA regulations require future year inventory projections for specific milestone years. ARB develops emission forecasts for point and area-wide sources by applying growth and control profiles to the base year inventory to account for year-to-year changes resulting from anticipated trends in economic conditions and population growth, and the effects of adopted emission control rules.

Growth profiles for point and areawide sources are derived from surrogates such as economic activity, fuel usage, population, dwelling-units, etc., that best reflect the expected growth or decline rates for each specific source category. Growth forecasts

were obtained primarily from government entities with expertise in developing forecasts for specific sectors, or in some cases, from econometric models. Control profiles, which account for emission reductions resulting from adopted rules and regulations, are derived from data provided by the regulatory agencies responsible for the affected emission categories.

Forecasts for mobile source emissions are generated by models that employ sophisticated routines that predict vehicle fleet turnover by vehicle model year. As with stationary sources, the mobile source models include control algorithms that account for all adopted regulatory actions.

B.2.1.5 Annual and Seasonal Inventories

Annual and seasonal emissions inventories are often referred to as planning inventories. Annual emissions inventories represent the total emissions over an entire year (tons per year), or the daily emissions produced on an average day (tons per day). Seasonal inventories (summer and winter) account for temporal activity variations throughout the year, as determined by actual data from point source facilities or by temporal profiles developed for areawide and mobile sources. Summer inventories include emissions from May through October, and winter inventories encompass November through April. The PM2.5 Plan addresses both the annual and 24-hour standards, and since 24-hour PM2.5 concentrations in the San Joaquin Valley are at their highest during the winter months, the Plan includes annual and winter emission inventories.

B.2.1.6 Geographical Scope

Emissions inventories are developed at various levels of geographical resolution encompassing district, air basin, and county. The inventories presented in this Plan include emissions for the seven full counties (Fresno, Kings, Madera, Merced, San Joaquin, Stanislaus, and Tulare) and the portion of Kern County that comprise the San Joaquin Valley Air Basin.

B.2.1.7 Quality Assurance and Quality Control

ARB has established a quality assurance and quality control (QA/QC) process involving ARB and air district staff to ensure the integrity and accuracy of the emissions inventories used in the development of air quality plans. QA/QC occurs at the various stages of SIP emission inventory development. Base year emissions are assembled and maintained in the California Emission Inventory Development and Reporting System (CEIDARS). ARB inventory staff works with air districts, who are responsible for developing and reporting point source emission estimates, to verify these data are accurate. The locations of point sources, including stacks, are checked to ensure they are valid. Area-wide source emission estimates are developed by ARB staff as well as some air districts. The methodologies for estimating these are reviewed by ARB and district staff before their inclusion in the emission inventory. Additionally, CEIDARS is designed with automatic system checks to prevent errors such as double counting of emission sources. The

system also makes various reports available to assist staff in their efforts to identify and reconcile anomalous emissions.

Future year emissions are estimated using the California Emission Projection Analysis Model (CEPAM). Growth and control factors are reviewed for each category and year along with the resulting emission projections. Year to year trends are compared to similar and past datasets to ensure general consistency. Emissions for specific categories are checked to confirm they reflect the anticipated effects of applicable control measures. Mobile categories are verified with mobile source staff for consistency with the on-road and off-road emission models.

B.2.2 Emissions Inventory Documentation

A summary of the information supporting the Plan emissions inventory is presented below.

B.2.2.1 Stationary Source Emissions

The emissions inventory reflects actual emissions from stationary sources (industrial point sources) reported to the District by the facility operators for calendar year 2012. The growth surrogates used to forecast the emissions from these categories are presented in Table 1 below.

Table 1
Growth Surrogates for Stationary Sources

Source Category	Subcategory	Growth Surrogate
Electric Utilities	Natural Gas	CEC Natural gas consumption data, 2010
	Other Fuels	Annual Energy Outlook 2011(AEO 2011): Energy consumption forecasts
Cogeneration	Natural Gas	CEC Integrated Energy Policy Report (IEPR 2009)
	Other Fuels	AEO 2011
Oil and Gas Production (Combustion)	All	Division of Oil, Gas and Geothermal Resources (DOGGR): statewide total oil production (2.2% annual decline)
Petroleum Refining	All	No growth – facilities operating at capacity
Manufacturing & Industrial	Natural Gas	IEPR 2009
	Other Fuels	AEO 2011
Food & Agricultural Processing	Ag Irrigation Pumps	Farmland acreage
	Other	IEPR 2009 & AEO 2011
Service & Commercial	Natural Gas	IEPR 2009
	Other Fuels	AEO 2011
Other (Fuel Combustion)	I.C. Reciprocating Engines	Cal. Department of Finance (DOF) population projections
	Other	AEO 2011
Sewage Treatment	All	Regional Economic Models, Inc. (REMI) industry-specific outputs

Table 1
Growth Surrogates for Stationary Sources

Source Category	Subcategory	Growth Surrogate
Landfills	Stationary Aggregated (SA) Sources	DOF population projections
	Point Sources	REMI industry-specific outputs
Incinerators	All	REMI industry-specific outputs
Soil Remediation	All	REMI industry-specific outputs
Other (Waste Disposal)	SA Sources	DOF Population projections
	Point Sources	REMI industry-specific outputs
Laundering	SA Sources	DOF Population projections
	Point Sources	REMI industry-specific outputs
Degreasing	Cold Cleaning, Petroleum Naphtha	No growth post 2008 due to sharp decline in petroleum naphta use
	Other	REMI industry-specific outputs
Coatings & Related Process Solvents	All	REMI industry-specific outputs
Printing	All	REMI industry-specific outputs
Adhesives & Sealants	All	REMI industry-specific outputs
Other (Cleaning & Surface Coatings)	All	REMI industry-specific outputs
Oil & Gas Production	All	DOGGR statewide total oil production (2.2% annual decline)
Petroleum Marketing	Gasoline Dispensing Facilities	Gasoline consumption projections (EMFAC2011)
	Natural Gas Transmission Losses	DOGGR and CEC natural gas consumption
	Point Sources	REMI industry-specific outputs
Other (Petroleum Production & Marketing)	All	REMI industry-specific outputs
Chemical	All	REMI chemical manufacturing output
Food & Agriculture	All	REMI food manufacturing output
Mineral Processes	Cement Concrete Manufacturing & Fabrication	REMI cement and concrete products manufacturing output

Table 1
Growth Surrogates for Stationary Sources

Source Category	Subcategory	Growth Surrogate
	Cement (Portland & Others) Manufacturing	AEO 2011
	Other	REMI non-metallic mineral product manufacturing output
Metal Processes	All	REMI industry-specific outputs
Wood & Paper	All	REMI wood product and paper manufacturing output
Glass & Related Products	Flat Glass	Construction equipment curve, capped at pre-recession levels
	Container Glass	No growth
Other (Industrial Processes)	All	REMI manufacturing Output

B.2.2.2 Areawide Source Emissions

Areawide sources include categories associated with human activity where emissions take place over a wide geographic area. Consumer products and unpaved road dust are examples. Areawide sources also include smaller point sources or facilities, such as gasoline dispensing facilities and residential water heaters that are not inventoried individually, but are estimated as a group and reported as a single source category. The methodologies used to develop these estimates are described below.

Architectural Coatings

The architectural coatings category reflects emission estimates based on the comprehensive survey for the 2004 calendar year. The emission estimates include benefits of the 2003 and 2007 ARB Suggested Control Measures. These emissions are grown based on the growth in housing units. Additional information about ARB's architectural coatings program is available at: http://www.arb.ca.gov/coatings/arch/arch.htm

Asphalt Paving/Roofing

Asphalt paving and asphalt roofing emissions were estimated using methodologies developed by the District. VOC emissions are estimated based on tons of paving applied in 2008 or the amount of asphalt used for roofing in 2007, and a default emission factor for each type of asphalt operation. The growth profile for asphalt paving is based on construction employment from the REMI forecasting model. No growth is assumed for asphalt roofing, as the industry has been moving toward the use of more advanced

alternative materials. The inventory reflects the emission reductions from District Rule 4641. The District methodologies are available at:
http://www.valleyair.org/Air_Quality_Plans/EmissionsMethods/MethodForms/Current/AsphaltPaving2008.pdf,
and
http://www.valleyair.org/Air_Quality_Plans/EmissionsMethods/MethodForms/Current/AsphaltRoofing2007.pdf

Agricultural Land Preparation and Harvest Operations

ARB staff developed methodologies for agricultural land preparation and harvest operations based on 2007 farmland acreage estimates from the California Department of Conservation Farmland Mapping and Monitoring Program (FMMP). The growth profile for these categories is based on a linear regression analysis of the 2000-2009 FMMP data, which results in a slight decline of about 0.3 percent per year. The inventory also reflects the emission reductions from District Rule 4550. Additional information on these methodologies is available at:
http://www.arb.ca.gov/ei/areasrc/arbmiscprocresfarmop.htm

Commercial Cooking

The commercial cooking inventory is based on emissions data reported by the District for 2008. The emissions estimates were developed from the number of restaurants, the number and types of cooking equipment, the food type, and emission factors from U.S. EPA's 2002 National Emissions Inventory. The growth profile reflects the latest population projections provided by the California Department of Finance (DOF). The inventory also reflects the emission reductions from District Rule 4692. Additional information on the District's methodology is available at:
http://www.arb.ca.gov/ei/areasrc/districtmeth/sjvalley/CommercialCooking2006.pdf

Construction and Demolition

Dust emissions from building and road construction operations are based on methodologies developed by ARB. Both methodologies employ disturbed acreage as the activity data and apply emission factors developed by Midwest Research Institute. The emission estimates were grown to 2012 based on REMI forecasting models for construction activity and employment. Road construction growth also includes estimates of annual road lane-miles constructed, based on forecasts by local metropolitan planning agencies. The inventory reflects the emission reductions from District Regulation VIII. The methodologies are available at:
http://www.arb.ca.gov/ei/areasrc/arbmiscprocresconstdem.htm

Consumer Products

The consumer products category reflects the three most recent surveys conducted by ARB staff for the years 2003, 2006, and 2008. Together these surveys collected updated product information and ingredient information for approximately 350 product categories. Based on the survey data, ARB staff determined the total product sales and total VOC

emissions for the various product categories. The growth trend for most consumer product subcategories is based on the latest DOF human population growth projections, except for aerosol coatings. Staff determined that a no-growth profile would be more appropriate for aerosol coatings based on survey data that show relatively flat sales of these products over the last decade. Additional information on ARB's consumer products surveys is available at: http://www.arb.ca.gov/consprod/survey/survey.htm.

Fires

Emissions from structural and automobile fires were estimated using ARB's March 1999 methodology. Structural fire emissions estimates are based on rates of structural and content material loss per fire, average combustible content, and an emission factor per ton of material burned. Automobile fire emissions are based the number of vehicle fires per year and a composite emission factor from US EPA's AP-42 (April 1973). Structural fire emissions were grown based on the growth in occupied households, and automobile fire emissions were grown based on population projections from the California Department of Finance. ARB's methodology is available at: http://www.arb.ca.gov/ei/areasrc/arbmiscprocfires.htm

Fugitive Windblown Dust from Open Areas and Non-pasture Agriculture Lands

Fugitive windblown dust emissions were estimated using ARB's 1997 methodology. The methodology is based on 1993 harvested crop acreage and a wind erosion equation that incorporates climate, soil, and vegetative cover attributes. Emissions were grown based on a growth profile derived from a linear regression of the FMMP farmland acreage estimates from 2000 to 2009. The inventory reflects the emission reductions from District Regulation VIII. ARB's methodology is available at: http://www.arb.ca.gov/ei/areasrc/arbmiscprocfugwbdst.htm

Livestock Husbandry

The dairy, feedlot, and range cattle emission estimates reflect livestock population data from the U.S. Department of Agriculture's (USDA) 2012 Census of Agriculture, and emission factors for dairy support cattle provided by District staff. The emission estimates for other livestock categories are based on the USDA 2007 Census of Agriculture. Dairy emissions assume a 2.9 percent annual growth based on the historical trend. Other livestock categories reflect a no-growth assumption based on an earlier analysis that found no significant growth. The emissions reflect updated District control profiles to account for control requirements, including VOC controls from District Rule 4570. Additional information on ARB's methodology is available at: http://www.arb.ca.gov/ei/areasrc/arbmiscprocresfarmop.htm

Managed Burning & Disposal

The managed burning and disposal category is based on emissions data reported by District staff for 2012. Emissions are calculated using crop specific emission factors and fuel loadings. The agricultural burning emissions were grown based on linear regression analyses of the 2000-2009 farmland acreage. Staff used a no-growth assumption for

forest management emissions based on analyses of District reported data that don't show a discernible trend. No-growth was also used for weed abatement, as the emission levels for this category have been fairly stable since 2005. ARB's methodology for managed burning is available at: http://www.arb.ca.gov/ei/see/see.htm.

Paved Road Dust

The paved road dust emission estimates are based on an ARB methodology consistent with the current U.S. EPA AP-42 method (January 2011) for quantifying dust emissions. Revisions include California-specific reductions in silt loading values, updated vehicle miles traveled (VMT) data from EMFAC2011 for the year 2008, updated VMT distribution (travel fractions) for each road category for the year 2008, and incorporation of precipitation correction factors. Emissions were grown using VMT projections from EMFAC2011. The inventory also reflects the emission reductions from District Rules 803 and 805. Additional information on this methodology is available at: http://www.arb.ca.gov/ei/areasrc/arbmiscprocpaverddst.htm

Pesticides

The Department of Pesticide Regulation (DPR) develops month-specific emission estimates for agricultural and structural pesticides. Each calendar year, DPR updates the inventory based on the Pesticides Use Report, which provides updated information from 1990 to the most current data year available. The inventory includes estimates through the 2012 calendar year. Emission forecasts for years 2013 and beyond are based on the average of the most recent five years.

Residential Wood Combustion

The residential wood combustion methodology uses fuel consumption data from various surveys, including newer sales data for manufactured logs, and emission factors from U.S. EPA's National Emission Inventory. The fireplace wood consumption rate for 2008 and previous years is based on a 1997 firewood usage survey sponsored by the District. To reflect the episodic wood burning curtailment requirements in District Rule 4901 that became fully effective in 2009, the fireplace wood consumption rate for 2009 and subsequent years is based on the values suggested in a report by U.S. EPA staff and others entitled "A Recommended Procedure for Compiling Emission Inventory National, Regional and County Level Activity Data for the Residential Wood Combustion Source Category." Staff assumed no growth for this category because of limits in new construction and the stringency of the District's rule. Additional information on this methodology is available at: http://www.arb.ca.gov/ei/areasrc/arbmiscprocresfuelcom.htm

Residential Natural Gas Combustion

The inventory for residential natural gas combustion emissions is based on 2006 data provided by the District. Emissions are estimated based on the percentages of total natural gas consumed by various residential uses (space heating, water heating, cooking, other) obtained from the California Energy Commission (CEC), and U.S. EPA AP-42 emission factors. Emissions were grown from 2006 using CEC projections of natural gas

consumption. The water heating inventory reflects the emission reductions from District Rule 4902. The District's methodology is available at: http://www.valleyair.org/Air_Quality_Plans/EmissionsMethods/MethodForms/Current/ResidentialNG2006.pdf

Unpaved Road Dust – Farm Roads

The methodology for unpaved farm road rust is based on 2005 harvested acreage data from NASS, crop specific VMT factors, and an emission factor of 2.00 lbs PM10/VMT based on California test data. An updated particle-size profile (ARB PM profile #470) was used, which reduces the PM2.5 fraction by about 50 percent. Growth for this category is based on linear regression analyses of the 2000-2009 farmland acreage. In addition, the inventory reflects the emission reductions from District Rule 806. Additional information on this methodology is available at: http://www.arb.ca.gov/ei/areasrc/arbmiscprocunpaverddst.htm

Unpaved Road Dust – Nonfarm Roads

The unpaved nonfarm roads methodology reflects the same emission factor (2.00 lbs PM10/VMT) and revised particle size fraction (ARB PM profile #470) described above for farm roads, updated unpaved road mileage, data and the addition of a rainfall adjustment factor. Staff assumed no growth for this category based on the assumption that existing unpaved roads tend to get paved as vehicle traffic on them increases, which counteracts any additional emissions from new unpaved roads. The inventory reflects the emission reductions from District Rule 805. Additional information on this methodology is available at: http://www.arb.ca.gov/ei/areasrc/arbmiscprocunpaverddst.htm

Ammonia Emissions from Publicly Owned Treatment Works (POTWs), Landfills, Composting, Fertilizer Application, Domestic Activity, and Native Soils

ARB staff updated the ammonia emissions inventory methodology for publicly owned treatment works, landfills, composting, fertilizer application, domestic activity, and native soils based on activity data for the 2008 calendar year. Emissions for POTWs, landfills, composting, and domestic activity were grown by human population. The growth profile for fertilizer application is based on a linear regression analysis of the 2000-2009 FMMP data. The inventory assumes no growth for native soils.

Table 2 below presents a summary of the growth surrogates used to grow the areawide source categories.

Table 2
Growth Surrogates for Areawide Sources

Source Category	Subcategory	Growth Surrogate
Consumer Products	Consumer Products	Population projections
	Aerosol Coatings	No growth
Architectural Coatings & Thinners	All	Household projections
Pesticides & Fertilizers	Agricultural Pesticides	Farmland acreage
	Structural Pesticides	Housing expenditures
Asphalt Paving & Roofing	Asphalt Paving	Construction employment
	Asphalt Roofing	No growth
Residential Fuel Combustion	Wood Stoves & Fireplaces	No growth
	Others	Natural gas consumption
Farming Operations	Tilling or Harvest Dust	Farmland acreage
	Dairy Livestock	2.9% annual growth rate
	Other Livestock	No growth
Construction & Demolition	Building Construction Dust	Construction employment and output
	Road Construction Dust	TPA Road construction data
Paved Road Dust	All	Vehicle miles traveled (VMT)
Unpaved Road Dust	U.S. Forest & Park Roads	No growth
	Farm Roads	Farmland acreage
	City & County Roads	No growth
Fugitive Windblown Dust	Dust from Agricultural or Pasture Lands	Farmland acreage
	Dust from Unpaved Roads	No growth
Fires	Structural Fires	Household projections
	Automobile Fires	Population projections
Managed Burning & Disposal	Ag Burning - Prunings or Field Crops	Farm land acreage
	Forest Management	No Growth

Table 2
Growth Surrogates for Areawide Sources

Source Category	Subcategory	Growth Surrogate
	Weed Abatement	No Growth
Cooking	All	Population projections

B.2.2.3 Control Profiles

The emissions inventory reflects emission reductions from point and areawide sources subject to District rules. The local rules reflected in the inventory are listed below.

Table 3
District Rules Included in the SIP Inventory

Rule No.	Rule Title	Source Categories Impacted
4103	Open Burning	Agricultural burning
4204	Cotton Gins	Agricultural crop processing losses - Cotton ginning facilities
4305	Boilers, Process Heaters, and Steam Generators	Fuel combustion - Boilers, Process Heaters, and Steam Generators
4306	Boilers, Process Heaters, and Steam Generators	Fuel combustion - Boilers, Process Heaters, and Steam Generators
4307	Boilers, Process Heaters, and Steam Generators	Fuel combustion - Boilers, Process Heaters, and Steam Generators
4308	Boilers, Process Heaters, and Steam Generators	Fuel combustion - Boilers, Process Heaters, and Steam Generators
4309	Dryers, Dehydrators, and Ovens	Laundering; manufacturing & industrial; service & commercial
4320	Boilers, Process Heaters, and Steam Generators - Advanced Options for Emission Reduction	Fuel combustion - Boilers, Process Heaters, and Steam Generators
4352	Solid Fuel Fired Boilers, Steam Generators and Process Heaters	Fuel combustion - Boilers, Process Heaters, and Steam Generators
4354	Glass Melting Furnaces	Glass and related processes
4401	Steam-Enhanced Crude Oil Production Well Vents	Oil and gas production
4402	Crude Oil Production Sumps	Oil and gas production
4404	Heavy Oil Test Station - Kern County	Oil and gas production

Table 3
District Rules Included in the SIP Inventory

Rule No.	Rule Title	Source Categories Impacted
4408	Glycol Dehydration Systems	Oil and gas production
4409	Components at Gas/Oil Production Facilities	Oil and gas production
4453	Refinery Vacuum Producing Devices or Systems	Petroleum refining
4455	Components at Refineries & Chemical Plants	Petroleum refining
4550	Conservation Management Practices	Agricultural operations, dust, and managed burning
4565	Biosolids, Animal Manure, and Poultry Litter Operations	Composting operations
4566	Organic Material Composting Operations	Composting operations
4570	Confined Animal Facilities	Livestock operations
4601	Architectural Coatings	Architectural coatings
4602	Motor Vehicle and Mobile Equipment Coating Operations	Coating and related processes
4603	Surface Coating of Metal Parts and Products	Coating and related processes
4604	Can and Coil Coating Operations	Coating and related processes
4605	Aerospace Assembly and Component Coating Operations	Coating and related processes
4606	Wood Coating Operations	Coating and related processes
4607	Graphic Arts	Coating and related processes; printing
4610	Glass Coating Operations	Coating and related processes
4612	Automotive Coatings	Coating and related processes
4621	Gasoline Transfer into Stationary Storage Containers, Delivery Vessels, and Bulk Plants	Petroleum marketing
4622	Gas Transfer into Vehicle Storage Tanks	Petroleum marketing
4623	Storage of Organic Liquids	Oil and gas production; petroleum refining; petroleum marketing
4624	Organic Liquid Loading	Petroleum marketing
4625	Wastewater Separators	Petroleum refining - Wastewater treatment
4641	Cutback, Slow Cure, and Emulsified Asphalt Paving and Maintenance Operations	Asphalt paving & roofing

Table 3
District Rules Included in the SIP Inventory

Rule No.	Rule Title	Source Categories Impacted
4642	Solid Waste Disposal Sites	Landfills; waste disposal
4651	Volatile Organic Compound Emissions from Decontaminated Soil	Waste disposal - Soil remediation
4653	Adhesives and Sealants	Adhesives & sealants
4661	Organic Solvents	Coatings and related process solvents; cleaning and surface coatings
4662	Organic Solvent Degreasing Operations	Degreasing; thinning and cleanup solvent uses
4663	Organic Solvent Cleaning, Storage and Disposal	Degreasing; thinning and cleanup solvent uses; cleaning & surface coating
4672	Petroleum Solvent Dry Cleaners	Laundering
4681	Rubber Tire Manufacturing	Chemical - Rubber and rubber products manufacturing
4682	Polystyrene	Chemical - Plastic and plastic products manufacturing
4684	Polyester Resin Operations	Chemical - Plastic and plastic products manufacturing
4691	Vegetable Oil Processing Operations	Food and agriculture
4692	Commercial Charbroiling	Cooking
4693	Bakery Ovens	Food and agriculture
4701	Internal Combustion Engines (Phase 1)	Fuel combustion
4702	Internal Combustion Engines (Phase 2)	Fuel combustion
4703	Stationary Gas Turbines	Fuel combustion
4901	Wood Burning Fireplaces and Wood Burning Heaters	Residential wood combustion
4902	Residual Water Heaters	Residential fuel combustion - Water heating
REG VIII	Regulation VIII -- PM Control for Fugitive Dust	Construction and demolition; paved and unpaved road dust; fugitive windblown dust; mineral processes

B.2.2.4 Mobile Sources

ARB uses the EMFAC model to assess emissions from on-road vehicles. Off-road mobile source emissions are estimated using a new modular approach for different source

categories. On-road and off-road models account for the effects of various adopted regulations, technology types, and seasonal conditions on emissions.

B.2.2.5 On-Road Mobile Sources

Emissions from on-road mobile sources, which include passenger vehicles, buses, and trucks, were estimated using ARB's EMFAC2014 model. The on-road emissions were calculated by applying EMFAC2014 emission factors to the transportation activity data provided by the local SJV transportation agencies from their 2014 adopted Regional Transportation Plan.

EMFAC2014 includes data on California's car and truck fleets and travel activity. Light-duty motor vehicle fleet age, vehicle type, and vehicle population were updated based on 2012 California Department of Motor Vehicles data. The model also reflects the emissions benefits of ARB's recent rulemakings such as the Pavley Standards and Advanced Clean Cars Program, and includes the emissions benefits of ARB's Truck and Bus Rule and previously adopted rules for other on-road diesel fleets.

EMFAC2014 utilizes a socio-econometric regression modeling approach to forecast new vehicle sales and to estimate future fleet mix. Light-duty passenger vehicle population includes 2012 Department of Motor Vehicles (DMV) registration data along with updates to mileage accrual using Smog Check data. Updates to heavy-duty trucks include model year specific emission factors based on new test data, and population estimates using DMV data for in-state trucks and International Registration Plan (IRP) data for out-of-state trucks.

Additional information and documentation on the EMFAC2014 model is available at: http://www.arb.ca.gov/msei/categories.htm#emfac2014

B.2.2.6 Off-Road Mobile Sources

Emissions from off-road sources were estimated using either a newer suite of category-specific models or, where a new model was not available, the OFFROAD2007 model. Many of the newer models were developed to support recent regulations, including in-use off-road equipment, ocean-going vessels and others. The sections below summarize the updates made to specific off-road categories.

Oil and Gas Wells: Workover Rigs, Drill Rigs and Support Equipment Allocation

The allocation of drill and work-over rigs and support equipment (such as pumps) for oil and gas wells was updated within the SJV Air Basin to reflect the physical location of wells instead of the registration location. This allocation was done at the county level, where the number of wells within a county in the SJV Air Basin was used to determine that county's share of emissions from specified equipment. The physical location and

count of wells was updated using Division of Oil, Gas and Geothermal Resources (DOGGR) Well Finder data, from September, 2013, supplied to ARB by the District. (DOGGR data are available at: http://www.conservation.ca.gov/dog/Pages/Wellfinder.aspx)

Ocean-Going Vessels (OGV)

Staff updated the OGV activity growth rates and NOx emission calculations in September 2013. These updates reflect more recently available long-term economic forecasts and historical data from 2006 to 2012. ARB staff updated the long-term growth factors for container ships, auto ships, tankers, and cruise ships. Additional information is available at: http://www.arb.ca.gov/msei/categories.htm#offroad_motor_vehicles

Cargo Handling Equipment

The emissions inventory for the Cargo Handling Equipment category has been updated to reflect new information on equipment population, activity, recessionary impacts on growth, and engine load. The new information includes regulatory reporting data which provide an accounting of all the cargo handling equipment in the State including their model year, horsepower and activity. Additional information is available at: http://www.arb.ca.gov/msei/categories.htm#offroad_motor_vehicles

Pleasure Craft and Recreational Vehicles

A new model was developed in 2011 to estimate emissions from pleasure craft and recreational vehicles. In both cases, population, activity, and emission factors were re-assessed using new surveys, registration information, and emissions testing. Additional information is available at: http://www.arb.ca.gov/msei/categories.htm#offroad_motor_vehicles

In-Use Off-Road Equipment

ARB developed this model in 2010 to support the analysis for amendments to the In-Use Off-Road Diesel Fueled Fleets Regulation. Staff updated the underlying activity forecast to reflect more recent economic forecast data, which suggests a slower rate of recovery through 2024 than previously anticipated. Additional information is available at: http://www.arb.ca.gov/msei/categories.htm#offroad_motor_vehicles

Locomotives

In 2014, ARB developed a revised inventory for line-haul locomotive activity in California. The new model is based primarily on activity data reported to ARB by the major rail lines for calendar year 2011. To estimate emissions, ARB used duty cycle, fuel consumption and activity data reported by the rail lines. Activity is forecasted for individual train types and is consistent with ARB's ocean-going vessel and truck growth rates. Fuel efficiency improvements are projected to follow Federal Railroad Association projections and turnover assumptions are consistent with U.S. EPA projections. Additional information is available at: http://www.arb.ca.gov/msei/categories.htm#offroad_motor_vehicles

Transport Refrigeration Units (TRU)

This model reflects updates to activity, population, growth and turn-over data, and emission factors developed to support the 2011 amendments to the Airborne Toxic Control Measure for In-Use Diesel-Fueled Transport Refrigeration Units. Additional information is available at:
http://www.arb.ca.gov/msei/categories.htm#offroad_motor_vehicles

Fuel Storage and Handling

Emissions for fuel storage and handling were estimated using the OFFROAD2007 model. Additional information is available at:
http://www.arb.ca.gov/msei/categories.htm#offroad_motor_vehicles

Diesel Agricultural Equipment

The inventory for agricultural diesel equipment (such as tractors, harvesters, combines, sprayers and others) was revised based on a 2008 survey of thousands of farmers, custom operators, and first processors. The survey data, along with information from the 2007 USDA Farm Census, was used to revise almost every aspect of the agricultural inventory, including population, activity, age distribution, fuel use, and allocation. This updated inventory replaces general information on farm equipment in the United States with one specific to California farms and practices. The updated inventory was compared against other available data sources such as Board of Equalization fuel reports, USDA tractor populations and age, and Eastern Research Group tractor ages and activity, to ensure the results were reasonable and compared well against outside data sources. Agricultural growth rates through 2050 were developed through a contract with URS Corp and UC Davis, in cooperation with the SJV agricultural community. Additional information is available at: http://www.arb.ca.gov/msei/categories.htm#offroad_motor_vehicles

B.2.2.7 Mobile Source Forecasting

The table below summarizes the data and methods used to forecast future-year mobile source emissions by broad source category groupings.

Table 4
Growth Surrogates for Mobile Sources

Category	Growth Methodology
On-Road Sources	
All	Match Total VMT projections provided by Municipal Planning Organizations
Off-Road Gasoline Fueled Equipment	
Lawn & Garden	Household growth projection
Off-Road Equipment	Employment growth projection

Table 4
Growth Surrogates for Mobile Sources

Category	Growth Methodology
Recreational Boats	Housing starts (short-term) and human population growth (long-term)
Recreational Vehicles	Housing starts (short-term) and human population growth (long-term)
Off-Road Diesel-Fueled Equipment	
Commercial Harbor Craft	Growth rates provided by District, except for tugs and fishing vessels. Fishing fleet growth rates were adjusted to reflect a decline in fish landings. Assumed no growth for tugboats.
Construction and Mining	California construction employment data from U.S. Bureau of Labor Statistics
Farm Equipment	2011 study of forecasted growth by URS Corp, with SJV Advisory Committee funding.
Industrial Equipment	California construction employment data from Bureau of Labor Statistics
Oil Drilling	California oil and gas extraction gross domestic product from the U.S. Bureau of Economic analysis, oil company diesel fuel use published by the U.S. Energy Information Administration, California rotary rig counts from Baker Hughes, and California oil and gas extraction employment from the U.S. Bureau of Labor Statistics
Ocean-Going Vessels	Projected commodity tonnage in the Freight Analysis Framework (FAF) Model developed by the Federal Highway Administration
Trains (line haul)	International/premium train growth tied to OGV forecast; Domestic train growth tied truck growth
Transport Refrigeration Units	Projection of historical Truck/Trailer TRU sales from ACT Research, adjusted for recession.