

**APPENDIX G**  
**Spatial Surrogate Assignments**

## Spatial Surrogate Assignments

The primary spatial surrogate for each EICSUM and the corresponding data source are listed in table below.

### Primary surrogate assignment at the EICSUM level, description, and data source

EICSUM	EICSUM Name	Primary Surrogate ID	Primary Surrogate Name	Data Source of Primary Surrogate
10	Electric Utilities	302	UCD Industrial	Longitudinal Employer-Household Dynamics (LEHD)
20	Cogeneration	302	UCD Industrial	Longitudinal Employer-Household Dynamics (LEHD)
30	Oil and Gas Production (Combustion)	211	Gas Well	California Department of Conservation, Division of Oil, Gas and Geothermal Resources
30	Oil and Gas Production (Combustion)	431	Oil well	Division of Oil, Gas, And Geothermal Resources
50	Manufacturing and Industrial	302	UCD Industrial	Longitudinal Employer-Household Dynamics (LEHD)
52	Food and Agricultural Processing	720	Farm Road Vehicle Miles Traveled	Department of Pesticide Regulation
60	Service and Commercial	621	UCD Service, Commercial, Employment	Metropolitan Planning Organization (MPO)/Council of Government (COG) Data /California Statewide Travel Demand Model (CSTDM) Data
99	Other (Fuel Combustion)	302	UCD Industrial	Longitudinal Employer-Household Dynamics (LEHD)
110	Sewage Treatment	470	Publicly Owned Treatment Works	State Water Resources Control Board
120	Landfills	341	Landfills	Calrecycle - Solid Waste Information System (Swis) Dataset
130	Incinerators	302	UCD Industrial	Longitudinal Employer-Household Dynamics (LEHD)
140	Soil Remediation	302	UCD Industrial	Longitudinal Employer-Household Dynamics (LEHD)
199	Other (Waste Disposal)	343	Compost	Calrecycle - Solid Waste Information System (SWIS) Dataset
199	Other (Waste Disposal)	390	Nonirrigated Pastureland	National Land Cover Database (NLCD)
199	Other (Waste Disposal)	470	Publicly Owned Treatment Works	State Water Resources Control Board
210	Laundering	150	Drycleaners	Dun & Bradstreet's Market Insight Database
220	Degreasing	120	Autobody Shops	Dun & Bradstreet's Market Insight Database
220	Degreasing	302	UCD Industrial	Longitudinal Employer-Household Dynamics (LEHD)
230	Coatings and Related Process Solvents	120	Autobody Shops	Dun & Bradstreet's Market Insight Database

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<b>EICSUM</b>	<b>EICSUM Name</b>	<b>Primary Surrogate ID</b>	<b>Primary Surrogate Name</b>	<b>Data Source of Primary Surrogate</b>
230	Coatings and Related Process Solvents	743	Wood Furniture	Dun & Bradstreet's Market Insight Database
230	Coatings and Related Process Solvents	302	UCD Industrial	Longitudinal Employer-Household Dynamics (LEHD)
240	Printing	731	Print	Dun & Bradstreet's Market Insight Database
250	Adhesives and Sealants	302	UCD Industrial	Longitudinal Employer-Household Dynamics (LEHD)
299	Other (Cleaning and Surface Coatings)	302	UCD Industrial	Longitudinal Employer-Household Dynamics (LEHD)
310	Oil and Gas Production	211	Gas well	California Department of Conservation, Division of Oil, Gas and Geothermal Resources
310	Oil and Gas Production	431	Oilwell	California Department of Conservation, Division of Oil, Gas and Geothermal Resources
330	Petroleum Marketing	460	Ports	(US DOT)/Bureau of Transportation Statistics' (BTS's) National Transportation Atlas Database (NTAD)
330	Petroleum Marketing	200	Gas Stations	Dun & Bradstreet's Market Insight Database
330	Petroleum Marketing	520	Refineries and Tank Farms	FEMA and the ARB CEIDAR Database
330	Petroleum Marketing	214	Gas Distribution	U.S. Energy Information Administration
399	Other (Petroleum Production and Marketing)	200	Gas Stations	Dun & Bradstreet's Market Insight Database
410	Chemical	741	Plastic	Dun & Bradstreet's Market Insight Database
420	Food and Agriculture	680	Wineries	Dun & Bradstreet's Market Insight Database
420	Food and Agriculture	320	Irrigated Cropland	National Land Cover Database (NLCD)
430	Mineral Processes	590	Sand and Gravel Mines	National Atlas
440	Metal Processes	738	Metal Parts	Dun & Bradstreet's Market Insight Database
450	Wood And Paper	732	Wood	Dun & Bradstreet's Market Insight Database
499	Other (Industrial Processes)	302	UCD Industrial	Longitudinal Employer-Household Dynamics (LEHD)
500	Solvent Evaporation Unspecified	441	UCD Population	Metropolitan Planning Organization (MPO)/Council of Government (COG) Data /California Statewide Travel Demand Model (CSTDM) Data

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<b>EICSUM</b>	<b>EICSUM Name</b>	<b>Primary Surrogate ID</b>	<b>Primary Surrogate Name</b>	<b>Data Source of Primary Surrogate</b>
510	Consumer Products	550	Residential and Nonresidential Change Industrial Employment	Council of Government (Cog) Housing and Employment
510	Consumer Products	252	UCD Total Housing	Metropolitan Planning Organization (MPO)/Council of Government (COG) Data /California Statewide Travel Demand Model (CSTDM) Data
510	Consumer Products	280	Housing and Restaurants	Combo: Metropolitan Planning Organization (MPO)/Council of Government (COG) Data /California Statewide Travel Demand Model (CSTDM) Data and Dun & Bradstreet Market Insight
510	Consumer Products	260	Housing and Autobody	Combo: Metropolitan Planning Organization (MPO)/Council of Government (COG) Data /California Statewide Travel Demand Model (CSTDM) Data and Dun & Bradstreet Market Insight
510	Consumer Products	120	Autobody Shops	Dun & Bradstreet's Market Insight Database
510	Consumer Products	739	Other Coatings	Dun & Bradstreet's Market Insight Database
510	Consumer Products	270	Housing and Commercial Employment	Metropolitan Planning Organization (MPO)/Council of Government (COG) Data /California Statewide Travel Demand Model (CSTDM) Data
510	Consumer Products	651	UCD Single Family Housing	Metropolitan Planning Organization (MPO)/Council of Government (COG) Data /California Statewide Travel Demand Model (CSTDM) Data
510	Consumer Products	450	Population, Commercial Employment and Hospitals	Metropolitan Planning Organization (MPO)/Council of Government (COG) Data /California Statewide Travel Demand Model (CSTDM) Data and ESRI
510	Consumer Products	672	Developed Land High Density	National Land Cover Database (NLCD)
520	Architectural Coatings and Related Process Solvents	230	HE Square Feet	Council of Government (COG) Housing and Employment
520	Architectural Coatings and Related Process Solvents	270	Housing and Commercial Employment	Metropolitan Planning Organization (MPO)/Council of Government (COG) Data /California Statewide Travel Demand Model (CSTDM) Data

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<b>EICSUM</b>	<b>EICSUM Name</b>	<b>Primary Surrogate ID</b>	<b>Primary Surrogate Name</b>	<b>Data Source of Primary Surrogate</b>
520	Architectural Coatings and Related Process Solvents	110	All Paved Roads	Tiger Geodatabases from U.S. Census Bureau
530	Pesticides/Fertilizers	230	HE Square Feet	Council of Government (COG) Housing and Employment
530	Pesticides/Fertilizers	512	Pesticides No Methyl Bromide	Department of Pesticide Regulation
530	Pesticides/Fertilizers	514	Pesticides Methyl Bromide	Department of Pesticide Regulation
530	Pesticides/Fertilizers	732	Wood	Dun & Bradstreet's Market Insight Database
540	Asphalt Paving / Roofing	588	UCD On-road Construction	Caltrans Highway Construction Projects Dataset (Line)
610	Residential Fuel Combustion	573	Fireplaces	Digital Map Products 2017 Parcel Data
610	Residential Fuel Combustion	572	Residential Liquid Petroleum Gas Heating	US Census American Community Survey (ACS)
620	Farming Operations	356	Horse Ranches	CARB Green House Gas Inventory Group
620	Farming Operations	320	Irrigated Cropland	National Land Cover Database (NLCD)
620	Farming Operations	690	Land Prep	Department of Pesticide Regulation
630	Construction and Demolition	588	UCD On-road Construction	Caltrans Highway Construction Projects Dataset (Line)
630	Construction and Demolition	587	UCD Offroad Construction	Storm Notice of Intent (NOI) Dataset
640	Paved Road Dust	590	Sand and Gravel Mines	National Atlas
640	Paved Road Dust	610	Secondary Paved Roads	Tiger Geodatabases from U.S. Census Bureau
645	Unpaved Road Dust	384	Military Tactical	Federal Aviation Administration / National Transportation Atlas Database (NTAD) And ESRI
645	Unpaved Road Dust	190	Forestland	National Land Cover Database (NLCD)
645	Unpaved Road Dust	720	Farm Road Vehicle Miles Traveled	Department of Pesticide Regulation
645	Unpaved Road Dust	660	Unpaved Roads	Tiger Geodatabases from U.S. Census Bureau
650	Fugitive Windblown Dust	391	Pasture	National Land Cover Database (NLCD)
650	Fugitive Windblown Dust	660	Unpaved Roads	Tiger Geodatabases from U.S. Census Bureau
650	Fugitive Windblown Dust	160	Dry Lake Beds	U.S. Geological Survey (USGS)

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<b>EICSUM</b>	<b>EICSUM Name</b>	<b>Primary Surrogate ID</b>	<b>Primary Surrogate Name</b>	<b>Data Source of Primary Surrogate</b>
660	Fires	441	UCD Population	Metropolitan Planning Organization (MPO)/Council of Government (COG) Data /California Statewide Travel Demand Model (CSTDM) Data
660	Fires	480	Primary Roads	Tiger Geodatabases from U.S. Census Bureau
670	Managed Burning and Disposal	674	Developed Land Low Density	National Land Cover Database (NLCD)
670	Managed Burning and Disposal	190	Forestland	National Land Cover Database (NLCD)
670	Managed Burning and Disposal	720	Farm Road Vehicle Miles Traveled	Department of Pesticide Regulation
680	Utility Equipment	651	UCD Single Family Housing	Metropolitan Planning Organization (MPO)/Council of Government (COG) Data /California Statewide Travel Demand Model (CSTDM) Data
690	Cooking	561	Charbroiling	SJV APCD & Dun and Bradstreet Insight Market
699	Other (Miscellaneous Processes)	441	UCD Population	Metropolitan Planning Organization (MPO)/Council of Government (COG) Data /California Statewide Travel Demand Model (CSTDM) Data
810	Aircraft	382	Military Aircraft	Federal Aviation Administration / National Transportation Atlas Database (NTAD) And ESRI
810	Aircraft	100	Airports	Federal Aviation Administration and ESRI
810	Aircraft	140	Commercial Airports	Federal Aviation Administration, National Transportation Atlas Database (NTAD)
810	Aircraft	320	Irrigated Cropland	National Land Cover Database (NLCD)
820	Trains	491	Linehaul	ARB In-House Rail Modeling
820	Trains	360	Metrolink Lines	Federal Railroad Administration / National Transportation Atlas Database (NTAD)
820	Trains	490	Rail Lines	Federal Railroad Administration / National Transportation Atlas Database (NTAD)
820	Trains	361	Passenger Rail	Offroad Diesel Analysis Section, AQPSD
820	Trains	501	Switcher Railyards	Off-Road Diesel Analysis Section, AQPSD: Union Pacific Railroad (Up) And Burlington Northern Santa Fe Railway (BNSF)

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<b>EICSUM</b>	<b>EICSUM Name</b>	<b>Primary Surrogate ID</b>	<b>Primary Surrogate Name</b>	<b>Data Source of Primary Surrogate</b>
830	Ships and Commercial Boats	460	Ports	(US DOT)/Bureau of Transportation Statistics' (BTS's) National Transportation Atlas Database (NTAD)
830	Ships and Commercial Boats	431	Oilwell	Division of Oil, Gas, And Geothermal Resources
830	Ships and Commercial Boats	640	Ship Lanes	Marine Cadastre Automatic Identification System
833	Ocean Going Vessels	460	Ports	(US DOT)/Bureau of Transportation Statistics' (BTS's) National Transportation Atlas Database (NTAD)
833	Ocean Going Vessels	383	Military Ships	Marine Cadastre - Military Vessel
833	Ocean Going Vessels	640	Ship Lanes	Marine Cadastre Automatic Identification System
833	Ocean Going Vessels	642	Tanker	Marine Cadastre Automatic Identification System
833	Ocean Going Vessels	643	Passenger	Marine Cadastre Automatic Identification System
835	Commercial Harbor Craft	460	Ports	(US DOT)/Bureau of Transportation Statistics' (BTS's) National Transportation Atlas Database (NTAD)
835	Commercial Harbor Craft	332	Ferries	Ferry Company Websites and Google Maps
835	Commercial Harbor Craft	383	Military Ships	Marine Cadastre - Military Vessel
835	Commercial Harbor Craft	641	Crew Supply	Marine Cadastre Automatic Identification System
835	Commercial Harbor Craft	339	Dredge	Marine Cadastre Coastal Maintained Channels
840	Recreational Boats	338	Ocean Recreation Boats	Marine Cadastre Automatic Identification System - Pleasure Craft
840	Recreational Boats	651	UCD Single Family Housing	Metropolitan Planning Organization (MPO)/Council of Government (COG) Data /California Statewide Travel Demand Model (CSTDM) Data
840	Recreational Boats	336	Ocean, Lakes and Recreation Boats	U.S. Geological Survey (USGS)
840	Recreational Boats	335	Lakes, Rivers, Recreation Boats	U.S. Geological Survey (USGS)
850	Off-Road Recreational Vehicles	220	Golf Courses	ESRI

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850	Off-Road Recreational Vehicles	651	UCD Single Family Housing	Metropolitan Planning Organization (MPO)/Council of Government (COG) Data /California Statewide Travel Demand Model (CSTDM) Data
850	Off-Road Recreational Vehicles	660	Unpaved Roads	Tiger Geodatabases from U.S. Census Bureau
850	Off-Road Recreational Vehicles	170	Elevation over 1500 m	U.S. Geological Survey (USGS)
860	Off-Road Equipment	580	Residential Nonresidential Change	Council of Government (COG) Housing and Employment
860	Off-Road Equipment	630	Service and Commercial Employment, Schools, Golf Courses and Cemeteries	Council of Government (COG) Service and Commercial Employment & Esri
860	Off-Road Equipment	460	Ports	(US DOT)/Bureau of Transportation Statistics' (BTS's) National Transportation Atlas Database (NTAD)
860	Off-Road Equipment	431	Oilwell	Division of Oil, Gas, And Geothermal Resources
860	Off-Road Equipment	384	Military Tactical	Federal Aviation Administration / National Transportation Atlas Database (NTAD) and ESRI
860	Off-Road Equipment	100	Airports	Federal Aviation Administration and Esri
860	Off-Road Equipment	500	Railyards	Federal Railroad Administration / National Transportation Atlas Database (NTAD)
860	Off-Road Equipment	485	TRU	Integrated Transportation Network and Caltrans Truck Network And Digital Map Products 2017 Parcel Data
860	Off-Road Equipment	302	UCD Industrial	Longitudinal Employer-Household Dynamics (LEHD)
860	Off-Road Equipment	339	Dredge	Marine Cadastre Coastal Maintained Channels
860	Off-Road Equipment	651	UCD Single Family Housing	Metropolitan Planning Organization (MPO)/Council of Government (COG) Data /California Statewide Travel Demand Model (CSTDM) Data
860	Off-Road Equipment	190	Forestland	National Land Cover Database (NLCD)
860	Off-Road Equipment	191	Forestland Roads	NLCD in conjunction with TIGER road network

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860	Off-Road Equipment	587	UCD Offroad Construction	Storm Notice of Intent (NOI) Dataset
870	Farm Equipment	720	Farm Road Vehicle Miles Traveled	Department of Pesticide Regulation
890	Fuel Storage And Handling	651	UCD Single Family Housing	Metropolitan Planning Organization (MPO)/Council of Government (COG) Data /California Statewide Travel Demand Model (CSTDM) Data
890	Fuel Storage and Handling	335	Lakes, Rivers, Recreation boats	U.S. Geological Survey (USGS)
910	Biogenic Sources	672	Developed Land High Density	National Land Cover Database (NLCD)
910	Biogenic Sources	190	Forestland	National Land Cover Database (NLCD)
920	Geogenic Sources	190	Forestland	National Land Cover Database (NLCD)
920	Geogenic Sources	212	Gas Seep	U.S. Geological Survey (USGS)
920	Geogenic Sources	432	Oil Seep	U.S. Geological Survey (USGS) – Pacific Coastal & Marine Science
930	Wildfires	190	Forestland	National Land Cover Database (NLCD)
930	Wildfires	391	Pasture	Sierra Research Agtool Contract
940	Windblown Dust	412	Fugitive Dust	National Land Cover Database (NLCD)