

**DOCKETED**

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<b>Project Title:</b>	Transportation
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<b>Document Title:</b>	Scoping Matrix Heavy Duty
<b>Description:</b>	Matrix - AB 2127 Data Requirements and Sources for Road & Hwy Heavy Duty Vehicles
<b>Filer:</b>	Denise Costa
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# Assembly Bill 2127 Data Requirements and Sources

## Assessment Objectives

## Road & Highway - Heavy Duty Vehicles

	<u>Data Requirements</u>	Is the required data <u>available</u> ? Y: List sources / N: Means to collect	<u>Questions</u> : What are the distinct parameters that may be used as inputs for an analysis?	<u>Analytical considerations</u> : What data may be subject to limited information, high uncertainty, site-specificity, or "off-model" analysis?
	<b>Chargers</b>	Regulations affecting demand for new electric vehicles		
Baseline Vehicle populations, by type				
Travel schedule (time-resolved origins and destinations)				Identify relation to travel demand-specific regulations
Time-resolved energy consumption (EV or conventional)				Identify efficiency improvements
Electric Vehicle Populations			Battery Electric Vehicles Plug-In Hybrid Electric Vehicles Plug-In Fuel Cell Electric Vehicles	Account for relative production costs and operational costs
Electric Vehicle battery ranges, by type			Battery Electric Vehicles Plug-In Hybrid Electric Vehicles Plug-In Fuel Cell Electric Vehicles	Account for vehicle classes
Charging Capacity (conductive)			Level 1 Level 2 DC Fast Charging	
Charging Capacity (non-conductive)			Inductive Dynamic Pantograph	
Existing charging infrastructure				
Manufacturer production capacity			Automotive Electric Vehicle Service Equipment	
Regulations affecting rate of installation			Permitting Certification	
<b>Make-Ready Electrical Equipment</b>	Regulations affecting demand for existing building MREE.		Retrofit standards	
	Regulations affecting demand for new building construction and MREE		Building Standards	
	Datasets of existing state of electrical, by geography.		Parcel information Parking inventory Utility interconnection Aerial survey	Are surveys of code design requirements accurate? How to account for load growth and site specific conditions?
	Component cost trends for MREE			
	Customer preferences for MREE design		Site disturbance Easements Parking reassignment	Related to travel schedule and time-resolved energy consumption.
	Timeframe between Design to Commissioning			Possibility of normalizing by capacity?
	Component cost trends for alternative capacity enablers		Grid-based storage Off-grid DER Alternative Pathways	
	MREE production capacity and inventories (transformers, switchgear, energy storage)			

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Hardware and Software	Regulations affecting equipment design.		Open Access Metrology Optimized charging Parking regulations	Consider how traffic management could be implicated
	Hardware design objectives		Electrical Safety Weatherization Physical compatibility Ergonomic/Accessibility Payment	
	Software design requirements		Use Cases	
	Number of vehicle models planned for hardware + software elements		Conductive Wireless Authentication Optimized Charging Controls Automated connection or charge initiation	
	Metrology		Accuracy requirements	
	Component costs		Conduit Power electronics Network Communications Metrology Enclosure	
	Operational costs		Data rates Station loads and efficiency	
Other	Low-Income Community-specific variances to the above Data Requirements			
	County-specific EV Energy Equity Indicators (SB 1000)		Vehicle adoption Charger Installations	
	Number of independent charging companies			
	Number of unique EVSE models available for purchase		Residential Commercial	
	Direct Investment in California charging companies			
	Utilities with ratepayer-funded charging infrastructure incentives			
	Utilities with time-variant rates, separate meter rates, or submetering rates			
	CAISO ancillary services products eligible for EV chargers			
	Average cost per kWh, public Level 2			
	Average cost per kWh, public DCFC			