

Table 1. VMT vs. Safety Standards for Road Impact Analysis

Metric/Standard	Purpose	What It Measures	Applies To	Limitations	What It Should Be Used For in Poverty Flats
Vehicle Miles Traveled (VMT)	Climate/air quality	Greenhouse gas emissions from vehicle use	CEQA § 15064.3; OPR 2018 Technical Advisory	Not designed to evaluate safety, evacuation, or road geometry; 110 trips/day threshold applies only to GHG	Evaluate GHG impacts only (not safety or evacuation)
Caltrans Highway Design Manual (HDM)	Roadway safety	Width, grade, sight distance, curve radii, design vehicle standards	All state and local roads in California	None if applied correctly	Evaluate High Valley Road geometry against state standards
AASHTO "Green Book"	Roadway safety (national)	Geometric design of highways and streets	Adopted where HDM is silent or as supplemental guidance	More general; not wildfire-specific	Evaluate substandard curves and grades not covered in HDM
PRC § 4290 / Fire Safe Regulations	Fire safety & evacuation	Minimum road width, slope, curve radius, all-weather surface	All roads serving commercial/industrial use in fire-prone areas	Less detailed than HDM/AASHTO; focused on emergency access	Evaluate Poverty Flats access and High Valley Road for emergency ingress/egress compliance
Caltrans LDIGR Safety Review (2020)	Transportation safety review under CEQA	Access management, conflict points, multimodal safety	CEQA land development review	Interim guidance, awaiting final updates	Confirm that safety analysis is required in addition to VMT

Table 2. Comparison of Road Standards: Caltrans HDM / AASHTO vs. PRC § 4290

Metric	Caltrans HDM / AASHTO Green Book	PRC § 4290 (Fire Safe Regulations)	Key Takeaway
Road Width	HDM Ch. 300; AASHTO Green Book — Typically 11 ft. per lane (not including striping); minimum 22 ft. total for two-lane roads; wider if truck traffic is frequent.	14 CCR § 1273.01(a) — 10 ft. per lane; 20 ft. total may include striping.	4290 allows narrower lanes; HDM/AASHTO expect wider roads for truck and mixed traffic.
Grade (Slope)	HDM § 304.2; AASHTO Green Book Ch. 5 — Desirable maximum 8% ; absolute max 10% depending on truck traffic, terrain, and design speed.	14 CCR § 1273.03(a) — Maximum 16% slope.	4290 permits nearly double the slope HDM/AASHTO allow; many fire engines cannot safely ascend/descend at 16%.
Curve Radius	HDM § 302.1; AASHTO Ch. 3 — Based on design speed; typically ≥ 200 ft. radius for 25–30 mph, increasing with speed; also requires sight distance and super-elevation.	14 CCR § 1273.04(a) — Minimum 50 ft. inside radius ; no sight distance or super-elevation requirements.	4290 sets only a minimal curve radius; HDM/AASHTO integrate visibility, speed, and stopping distance.
Other Safety Features	Requires clear zones, striping, shoulders, sight distance, signage, and intersection visibility .	Silent on visibility, signage, or shoulders; focuses on minimum geometry only.	4290 is a minimum fire-access code ; HDM/AASHTO are full roadway safety design manuals.