

California High-Speed Rail Authority Sustainability Implementation Plan Summary

* Indicates Operations focused commitments

April, 2019

Priority	Commitments	Key Performance Indicator	Metric	Implementation Strategies	Implementation Action	2019 Action Item
Energy & Emissions	Achieve net-zero greenhouse gas and criteria air pollutant emissions in construction	Tier 4 Fleet	%	Reduce production of onsite emissions by sourcing new, clean off road equipment; fuel swapping for on and offroad equipment; carbon sequestration offsets, and air quality offsets. Urban and rural tree planting to sequester carbon and provide cobenefits (shade, urban habitat; erosion protection, habitat)	Contract provisions	Confirm contract provisions for 2019 procurements
		Trees Planted	# MT CO2		Agreement with Calfire and grant awardees.	Oversight of grantee tree planting; calculate emissions savings
		Offsets purchased in Air Pollution Control Districts	Metric Tonnes		VERA agreement with air district	collate information on VERA emissions reductions to date for use in quarterly board reporting
		Limit VOC/PM ₁₀ /PM _{2.5} /NOx Emissions	Metric Tonnes			collate information on VERA emissions reductions to date for use in quarterly board reporting
		Renewable electricity consumed (site trailers)	%		Contract requirements to report energy use by type	Analyse the cost and benefit of requiring renewable energy use by contractors
		Renewable energy consumed (equipment)	%			
		Renewable fuels consumed	%			
		GHG emissions	mtCO ₂ e			
	Net-zero Energy, LEED Platinum Facilities*	Percentage of applicable Facilities (LEED Platinum stations which are also net-zero energy, and LEED Gold for all other facilities) which are LEED Certified	%	Design facilities and systems to be zero net energy ready, minimize energy demand through efficiency measures, source renewable energy	Design Criteria Manual	Confirm design criteria manual revisions & confirm contract provisions for any facilities in upcoming procurements
	Operate the system entirely on renewable energy*	Renewable energy produced on-site + Renewable energy produced off-site	% of energy total energy demand	Source cost-efficient renewable energy from third party providers, produced energy on site. Construct high-performance, low-energy buildings	Renewable energy RFP. Analyze on site generation opportunities. Set high performance low energy buildings performance requirements.	Continue review of onsite renewable energy generation opportunities, specifically on platform canopies. Review policy and statutory proposals for appropriate consideration of HSR
		Renewable fuels consumed	% of fuel consumption	Reduce energy use and emissions from construction through required efficiency measures and requirements for renewable fuels	Include requirement in construction packages; coordinate with state partners on renewable diesel implementation; educate stakeholders	Any new capital works procurement
	Reduce operational energy costs*	Dollars	\$/kWh	Procure energy for operation through wholesale agreements and multi-year contract terms; identify storage or other peak demand shaving techniques	Renewable Energy procurement	Review policy and statutory proposals for appropriate consideration of HSR
	Strengthen public health by improving air quality*	Limit VOC/PM ₁₀ /PM _{2.5} /NOx Emissions	Metric Tonnes	directly related to reducing vehicle miles travelled through ridership and mode shift		
Reduce vehicle miles traveled*	Mode shift from automobiles	Percent mode shift & number Vehicles Mile Traveled reduced	Reinforce first and last mile transit and transit connectivity to system. Complete SWOT analysis for access at station. Operate system according to Reliability, Availability, Maintainability and Safety (RAMS) to reinforce ridership.	Transit connectivity planning. Station and access planning.	Continue station area planning activities, specifically develop and adopt a station access policy	

Sustainable Infrastructure	Design and construct the system in conformance with Authority's "Principles for Sustainable Infrastructure"	Procurement documents with sustainability provisions per the Design Criteria Manual and Policy.	%	Include high-performance design and climate analysis requirements in design criteria manual and require relevant actions in construction contracts	Design Criteria Manual	Update DCM chapter
		Contracts with sustainability provisions per the Design Criteria Manual and Policy	%	Develop and implement contractor sustainability requirements in procurement documents	GP for construction packages.	Update sustainability requirements for 2019 procurements
	Develop sustainability goals and targets for operations			GP for operation requirements.	Update sustainability requirements for 2019 procurements	
	Consider climate change risks and vulnerabilities, and plan for them proactively by incorporating climate adaptation measures into system design	Procurement documents with climate adaptation provisions per the Design Criteria Manual & Climate Adaptation Plan	%	Develop climate adaptation planning as a core activity of the agency		Finalize Climate Adaptation Plan
		Contracts with climate adaptation provisions per the Design Criteria Manual & Climate Adaptation Plan	%			Finalize Design Criteria Manual updates
		Climate risk and vulnerability assessments performed for critical assets	%	Perform climate risk and vulnerability assessments for critical assets		
	Protect health and safety of workers and communities	Injury Rate	%	See Safety management plans		See Safety and Security
		Lost day rate	%			
		Fatalities	#			
		Number of Observations Performed	#			
		Number of Near Miss Incidents reported	#			
	Operate the system in conformance with Authority's "Principles for Sustainable Infrastructure"*	Sustainability goals and targets for operations in development	Y/N	Emphasize integrated design teams for facilities design	Sustainable Design Criteria Manual.	Update DCM and OPR
				Incorporate high performance design criteria to design criteria manual	Sustainable Design Criteria Manual.	Update DCM and OPR
				Assess sustainable design strategies using a life-cycle cost model and sustainability value model	life-cycle vetting model produced.	Review Autocase results
	Protect health and safety of workers, customers, and communities*	Injury rate	%	See Safety management plans		See Safety & Security
Lost day rate		%				
Fatalities		#				
Number of Observations Performed		#				
	Number of Near Miss Incidents reported	#				
Natural Resources	Conserve, maintain, and restore habitat and wildlife corridors through landscape scale mitigation.	Habitats Enhanced and Managed in Perpetuity	Acres	Complete mitigation activities and procure habitat parcels	RAMP process; permitting process.	Confirm additional purchases in 2019 for report
		Acres of Wetland Restored	Acres of Wetland restoration / Area of Wetland disturbed			
		Habitat connections created	# Dedicated Wildlife Crossings/ mile of track at grade through "natural areas"	Review of habitats and migration patterns against alignments & regional team design work	Wildlife crossings mitigation.	Review actions with Environmental Team
	Retain, protect and enhance the environmental quality and biodiversity of the project area	Biodiversity of project area	Biodiversity Metric TBD			
	Reduce the demand for virgin natural resources through the use of recycled materials.	Recycled content in permanent construction materials (by cost).	%	Specify recycled content in design criteria; require disclosure for major carbon intensive materials; adopt criteria that optimize the carbon intensity of key materials	Contract provisions and design criteria.	Update design criteria manual
	Carbon intensity of major materials	kg/kg of CO2e				

	Conserve agricultural land.	Land replaced in conservation easements	Acres/acres disrupted	Confirm and complete agricultural conservation easements	DOC Agreement.	Confirm acreage in permanent easements as of 2019
				Alignment planning to avoid bifurcation of parcels	Authority alignment planning	Revisit ROW processes to confirm policy
	Practice On-site Water Conservation	Rain Water Conserved on Site	L/ft2 capture area		Quarterly reporting to the air district.	Ongoing VERA reporting
	Work toward zero-net water operations*	Water efficiency (compared to LEED baseline)	% improvement			Revise design criteria and operations criteria
Station Communities & Ridership	Provide convenient station access and appropriate station interfaces to all HSR station areas	Percent of stations with station area plans.	%	Use station area planning funding agreements to enable station cities to complete necessary planning activities	Station area planning.	Continue planning work, including performing a multimodal access plan, and partnering (MOU, MOA, JPA, etc.) with station cities for district formations and investments.
		Station rating	Access metric (in development)	Station access facilities	Station area planning.	Finalize station access policy
	Design and construct stations and infrastructure that reinforce sustainable community strategies (SB375)	All stations have stations reflecting area planning process with local municipalities that reinforce SB 375 land use projects.	% of stations	Engage in station area planning with station communities	Station area planning.	Planning 2.0 with specific reference to district scale approaches leading to partnerships and investments.
		Parking supply is met at the district level	%	Use station area planning process to identify ways to reduce overall parking demand and to utilize available capacity (existing spaces and land)	Station area access plans.	Initiate access planning work in Central Valley.
	Implement livable development patterns through partnerships and reinforce quality of life through design of the built environment	Station city partnerships/engagements	%	Partner with station and surrounding communities to encourage supportive land use decision making. Update station area planning policy.	Station area planning.	Revise and adopt station development policy
		Station area planning policy updated	Y/N			
		Coordination with state programs & station areas	%			
		Parking - TBD	TBD			
	Reinforce affordable housing through station area planning partnerships and identify a mechanism to fund two-to-one replacement of low and moderate income housing stock	Housing Units compared to Housing Units Displaced	Housing Units Built	Identify mechanisms for implementation	Station area planning.	Review policy goal proposal with leadership team and confirm direction
		Dollar value spent on housing units	Construction cost per sqft			
	Connect local and regional transit to high-speed rail stations	Bus Stops with frequent service within 5 minute walk from platform	#	Develop connected communities inventories for each project segment	Station Area Planning / Connected Communities Strategy	Initiate Planning 2.0 with specific reference to coordination with local transit providers, leading to partnerships and investments.
		Rail service within 5 minute walk from platform	#			
		Access plan completed for station area	%			
	Implement active transportation facilities for station access (walking, biking, other)	Bike specific access points per station	#	Include bike facility at station sites and directly connect stations with sidewalks through design criteria	Station design.	Planning 2.0 with specific reference to district scale approaches leading to partnerships and investments. Also, refer to Design Criteria updates.
		Active station facilities supported by state funding	Space allocation related	Partner with local active transportation organizations to develop supportive policies and identify active transportation facilities for state funding	Access policy.	Planning 2.0 with specific reference to district scale approaches leading to partnerships and investments. Also, refer to Design Criteria updates.
Bike racks in station per rider		#/rider	Engage in planning with local and regional transit providers	Transit connectivity planning. Station and access planning.		
Direct side walk access to station		# pedestrian access points	Support local jurisdiction State and Federal grant applications	Station area planning.	Planning 2.0 with specific reference to district scale approaches leading to partnerships and investments.	
Eco	Improve the economic value to Californians from the system and maximize benefits to disadvantaged communities	Economic output attributed to the system	\$ and \$ in DAC	Regional engagement with communities on system alignment. Complete economic reporting on periodic basis.	Focusing system implementation to achieve ridership and revenue goals.	Economic analysis study results
		Jobs created	# and # in DAC			
		Job-years of employment	#			
		Labor income	\$			
		Small businesses working on the program	%			
		Training through Community Benefit Agreements (CBA)	Y/N			
		Apprenticeship program	Y/N			

Economic Development & Governance

Implement 30 percent overall small business participation for Authority contracts, including 10 percent Disadvantaged Business (DBE) participation and 3 percent Disabled Veteran Business Enterprises (DVBE)	Small business, DBE, DVBE	%	See Small Business Policy and Program Plan		See Small Business Program
Maximize opportunity for private investment and private sector construction	Private investment	\$	Implement and adhere to quality management program and Program Management Plan (PMP)	Annual progress report.	Revisit targets and implementation plan with relevant stakeholders
	Annual GRESB Infrastructure response	Y/N	Maintain quality data reporting from construction site and incorporate findings into program models	Sustainability Report.	Fill gaps based on 2018 GRESB report; Develop 2019 GRESB report
Govern transparently and accountably	Legislative Reports	# quarterly	Issue sustainability report annually using GRI standard	Sustainability Report.	Produce quarterly reports on AQ, GHG, Water, Reporting, and Recycling
	Business Plan and Project Update Reports	Y/N			
	Annual Sustainability Report published in accordance with GRI	Y/N		Sustainability Report.	Produce annual sustainability report updated with 2018/19 materiality assessment feedback
Continuously improve program delivery and management	Implement and adhere to program management plan	Y/N	Bring an early train operator on board; Complete an unsolicited proposal strategy/policy; Complete GRESB reporting annually to develop a track record of ESG reporting for potential investors.	Reinforce Authority capacity to engage in private sector.	Confer with commercial planning team on process
	NCR closeouts within 90 days	#			
Maximize opportunity for private investment and private sector operations*	Private investment	\$	ETO procurement		ETO input to operable segments
Achieve a self-sustaining financial structure*	Operational subsidy	\$	Identify and select operations strategies that enable self-sustaining financial structure	Business Plan.	Complete 2018 Business Plan

The sustainability plan summary provides a snapshot of activities across the program that progress the delivery of the system. This document is periodically updated.