



CALIFORNIA
High-Speed Rail Authority

2022 Sustainability Report

Margaret Cederoth

Director of Planning and Sustainability

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2022 Sustainability Report

This year's report focused on how the system is a part of California's policies that are accelerating toward a carbon neutral and resilient future.

Delivering sustainability at Authority depends on the actions and decisions of everyone involved in the program.



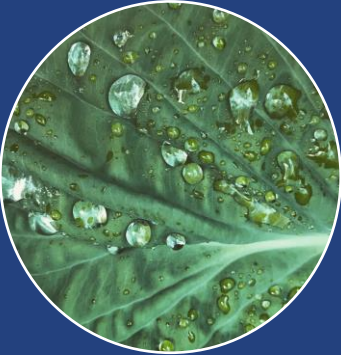
Sustainability Policy

The Authority will deliver a sustainable high-speed rail system for California **that serves as a model for sustainable rail infrastructure.** The Authority has developed and will continue to implement sustainability practices that inform and effect the planning, siting, designing, construction, mitigation, operation and maintenance of the high-speed rail system.

POLI-1007 – Sustainability Policy, 2020-04-02



The Sustainability Report reflects and consolidates environmental, social and governance (ESG) topics.



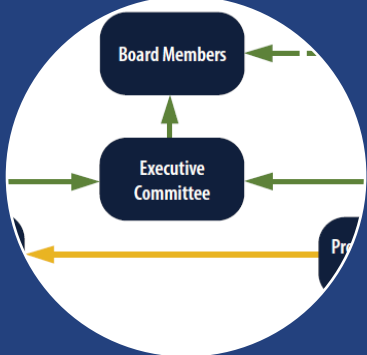
Environment

- Biodiversity and Ecosystem Preservation
- Requirements for environmental quality disclosure for concrete and steel
- Greenhouse Gas Emissions Reductions
- Resilience and Adaptation
- Renewable Energy
- Water conservation requirements
- Lifecycle Approach



Social

- Health and Safety
- Community Consultation, Engagement and Participation: required notice to local jurisdictions
- Diversity, Inclusion, & Equal Opportunity
- Development of skills and employment opportunities through apprenticeship training
- Creation of Transportation Hubs
- Enhancing Public Spaces
- Stakeholder Satisfaction

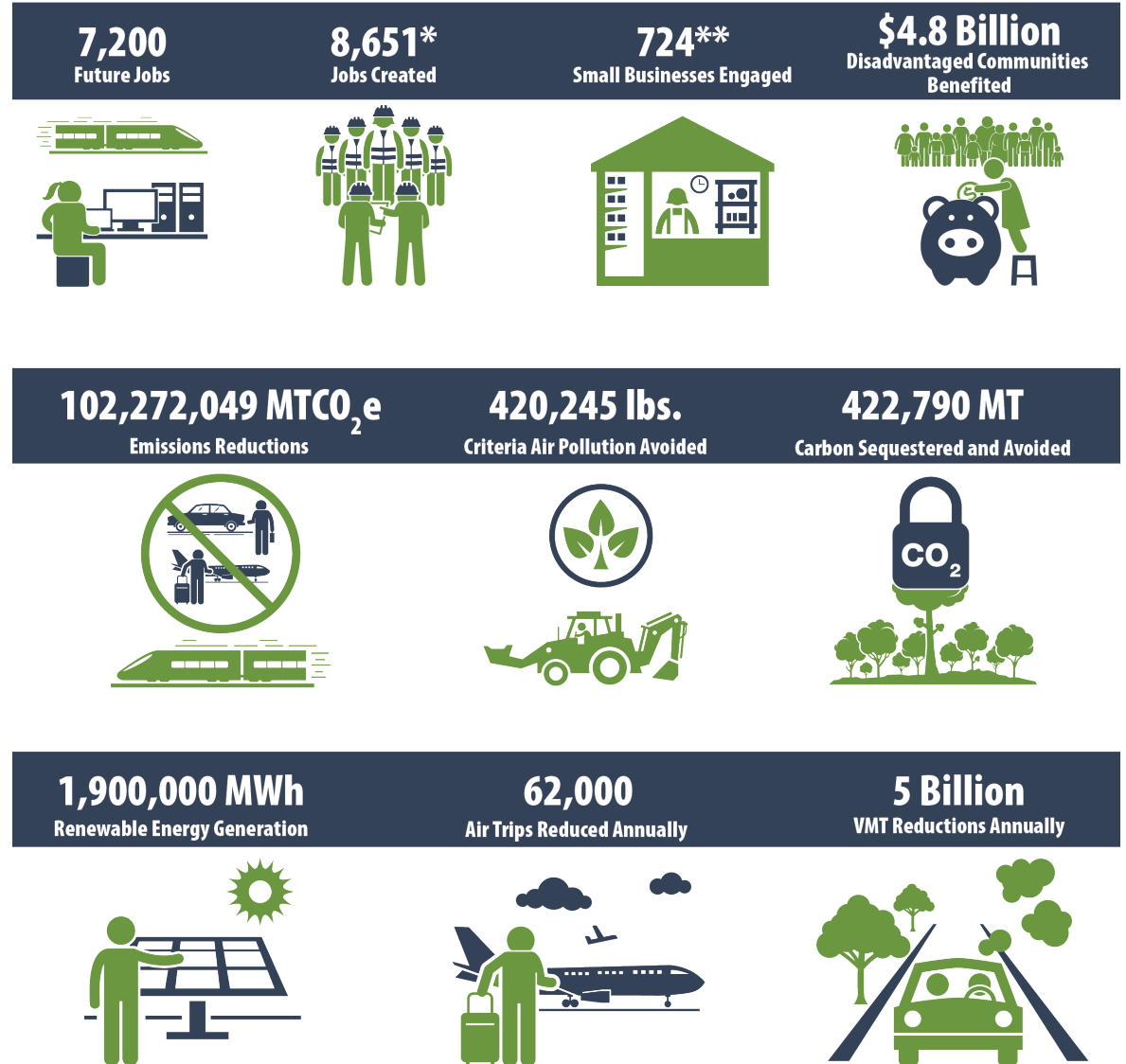


Governance

- ESG reports (corporate social governance, corporate sustainability policies, and other) and disclosure
- Economic Performance
- Monitoring and Maintenance
- Risk Management
- Transparency and Accountability
- Digitalization and Cybersecurity
- Third Party Assessments
- Sustainable Supply Chain
- Risk Management

California has ambitious goals that the system helps achieve.

- High-Speed Rail is the backbone of electrified interregional travel
- The system contributes to California's ambitious goal to have a carbon-neutral transportation system by 2035 and a carbon-neutral economy by 2045
- The system delivers extensive co-benefits, not just carbon reductions



We track the progress of the system toward state goals and our own progressive commitments.

	Indirect – Upstream		Direct-System	Indirect – Downstream and Avoided Emissions	
Construction	<p>SCOPE 3</p> <p>SUPPLY CHAIN</p> <p>Sustainable procurement requirements and baseline setting</p>	<p>SCOPE 3</p> <p>CONTRACTOR FLEET</p> <p>Actual mobile equipment emissions during rail construction: 61,000 MTCO₂e</p>	<p>SCOPE 1</p> <p>AUTHORITY RAIL DEVELOPMENT</p> <p>Net-zero direct emissions from rail construction</p>	<p>SCOPE 3</p> <p>DISPOSAL/ RECYCLING</p> <p>116,448 MTCO₂e avoided emissions through recycling and reuse to date</p>	<p>OFFSET/AVOIDED EMISSIONS</p> <p>TREE PLANTING</p> <p>143,000 MTCO₂e balancing fuel-based emissions from construction</p>
Operation	<p>SCOPE 3</p> <p>SUPPLY CHAIN</p> <p>Sustainable procurement of rolling stock and operations supply</p>	<p>SCOPE 2</p> <p>RENEWABLE POWER</p> <p>100% renewable power for train operations</p>	<p>SCOPE 1</p> <p>AUTHORITY RAIL OPERATIONS</p> <p>Zero emissions generated from electric-powered operations</p>	<p>OFFSET/AVOIDED EMISSIONS</p> <p>VMT + AIRTRIPS SAVED</p> <p>84,000,000-102,000,000 MTCO₂e avoided from vehicle and short-haul air trips</p>	<p>OFFSET/AVOIDED EMISSIONS</p> <p>ADDITIONAL SAVINGS</p> <p>Savings from compact land use</p>

Modeled and actual avoided emissions by scope across the project over the six initial decades



Environment

HIGHLIGHTS

Transitioning to Zero-Carbon Economy

- Progressing Uptake of Tier 4 Equipment
- Investigating All-Electric Construction
- Advancing State's GHG targets & Continuing Offsets

Preserving and Creating Habitat

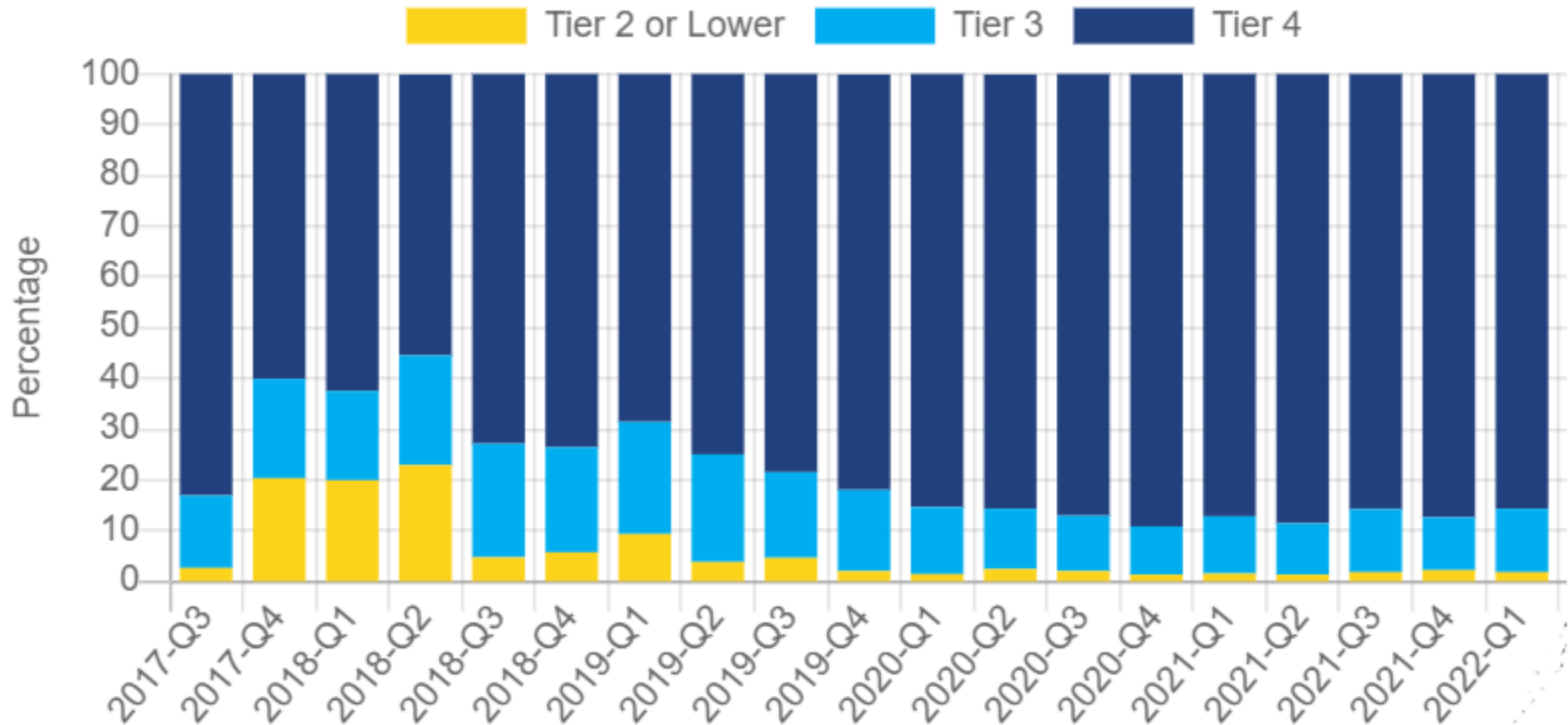
- Preserving Agricultural Land and Creating Habitat

Advancing Sustainable Infrastructure

- Continuing to Divert Waste from Landfill
- Advancing Climate Adaptation

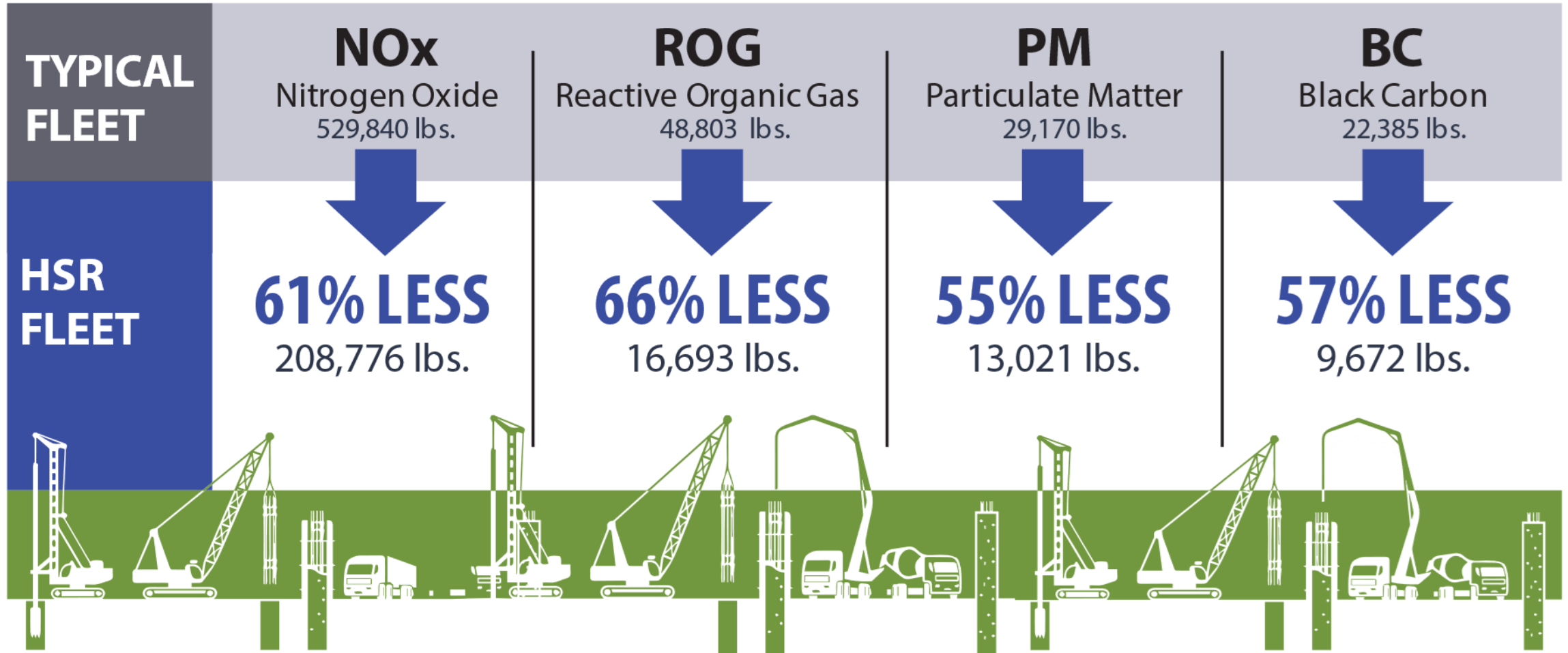
Progressing Uptake of Tier 4 Equipment

Since 2015, the use of Tier 4 equipment avoided nearly 200 tons of criteria pollutants.



Protecting Communities from Air Pollution

We avoided more than 85,000 pounds of criteria air pollutants just in 2021, and over 190 metric tons of pollutants since the start of construction.



Moving toward all-electric construction, where feasible.

Require Contractors to use Zero-Emission Vehicles (ZEVs) and Equipment:

- 100% ZEVs for on-road fleets in future contracts;
- Off Road Equipment:
 - » 100% Tier 4 Equipment all future contracts
 - » 10% electric by 2030
 - » 100% electric by 2035



Continuing Offset Activities

Achieve Net-Zero Tailpipe emissions in Construction through Carbon Sequestration

Explore additional partnerships and innovation

Total Lifetime VERA Offsets
1,358 tons

VERA Investment
\$13 million



VERA School Bus
1



VERA Engines
85



VERA Trucks
161



Preserving Land and Creating Habitat

2,900 acres of land protected of equal or greater **habitat** value:

- Adjacent to other conserved areas
- Supporting diverse species including threatened and endangered species

Approved more than **3,190 acres of agriculture land** with **2,400 acres** protected by conservation easements



Keeping materials out of landfills.

Since 2015:




Implementing actions to adapt the system.

- In 2021 the Authority published the Climate Adaptation Plan (CAP) which identified key Authority-led climate adaptation activities.

Progress includes:

- Continuing cross-functional consultation to build a sophistication with climate data within the Authority
- Contributing climate risk specifics to Authority plans
- Coordinating with asset management team to track weather and climate related impacts to the system
- Developing an Authority Climate Change Policy

CLIMATE ADAPTATION PLAN





Social

HIGHLIGHTS

Economic Development

Job Creation

Disadvantaged Communities Benefits

Community-Focused Station Area Planning

Applying equity lens to station area planning & design

Creating 15-minute communities

Advancing Community Outreach

Advancing Safety

Grade Separations

Economic Development: Contributing to California's economy and specifically to disadvantaged communities

6,825 Construction Jobs Created

2,662



CP 1

2,423



CP 2-3

1,740



CP 4

57%
Expenditures in
Disadvantaged Communities

8,651
Construction
Jobs
Dispatched²

724
Small Business
Enterprise Participants³

82
Disabled Veterans
Business
Enterprises³

482
Disadvantaged
Workers
Dispatched¹

99%
Investment In California Firms

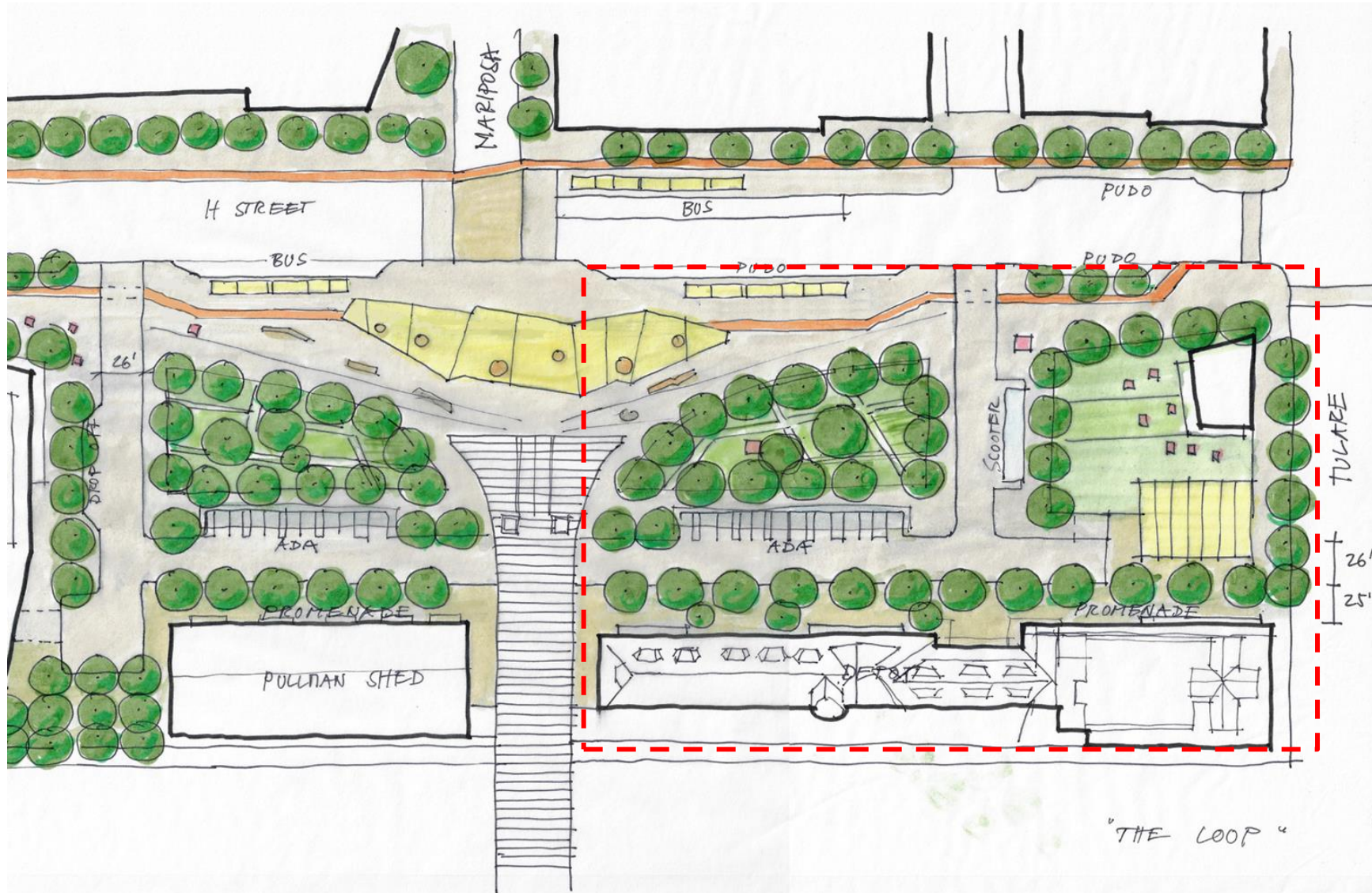
~100%
Local (US Based) Procurement

159
Small Businesses
Located in
Disadvantaged
Communities

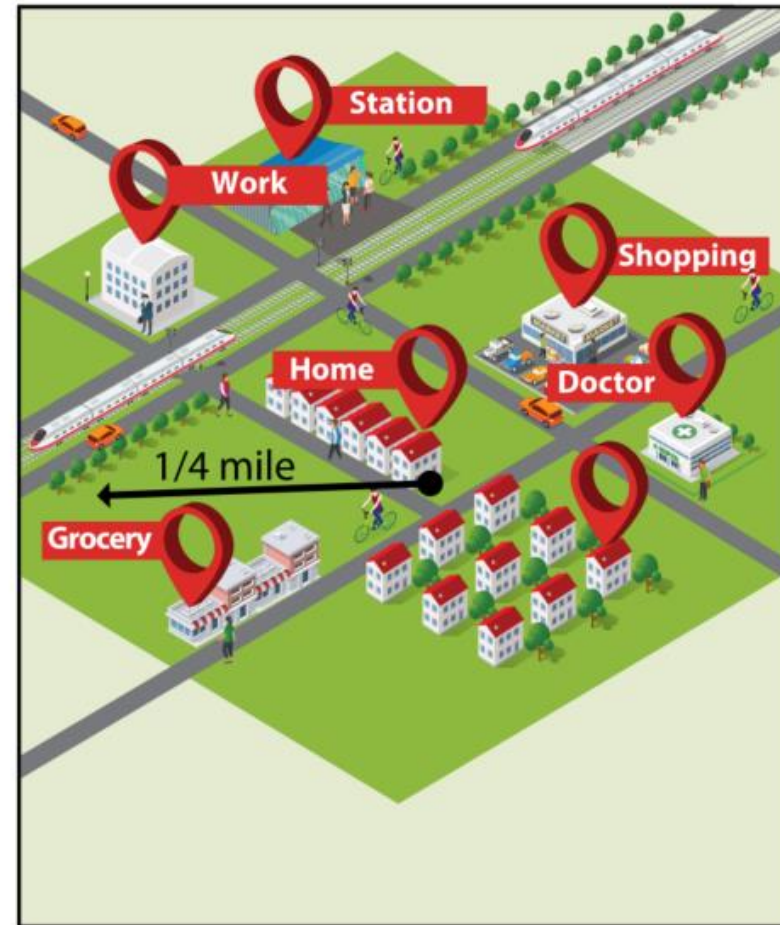
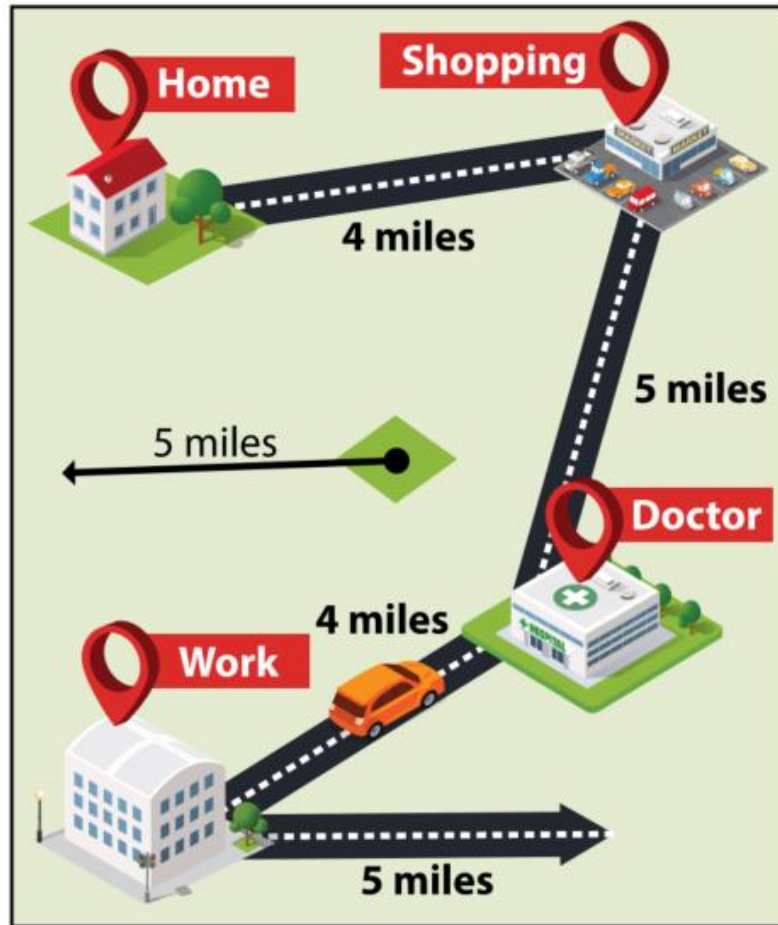
229
Disadvantaged Business Enterprises²

¹As of June 30, 2022; ²As of August 30, 2022; ³As of May 31, 2022; All others as of December 31, 2021

Engaging the community to identify site priorities.



Helping create 15-Minute communities around stations.



Our station area development plans focus offices, housing, education, health care facilities and shopping around high-speed rail stations, creating “15-minute” communities where daily needs are within walking or cycling distance.

Keeping the community engaged across the state.

2021 Progress



Focusing on how the system benefits California-defined disadvantaged communities.



57%

of project expenditures occurred in designated disadvantaged communities throughout California, spurring economic activity in these areas.



More than 2500 workers live in disadvantaged communities



Governance

HIGHLIGHTS

Continuously Improving Organization Capacity

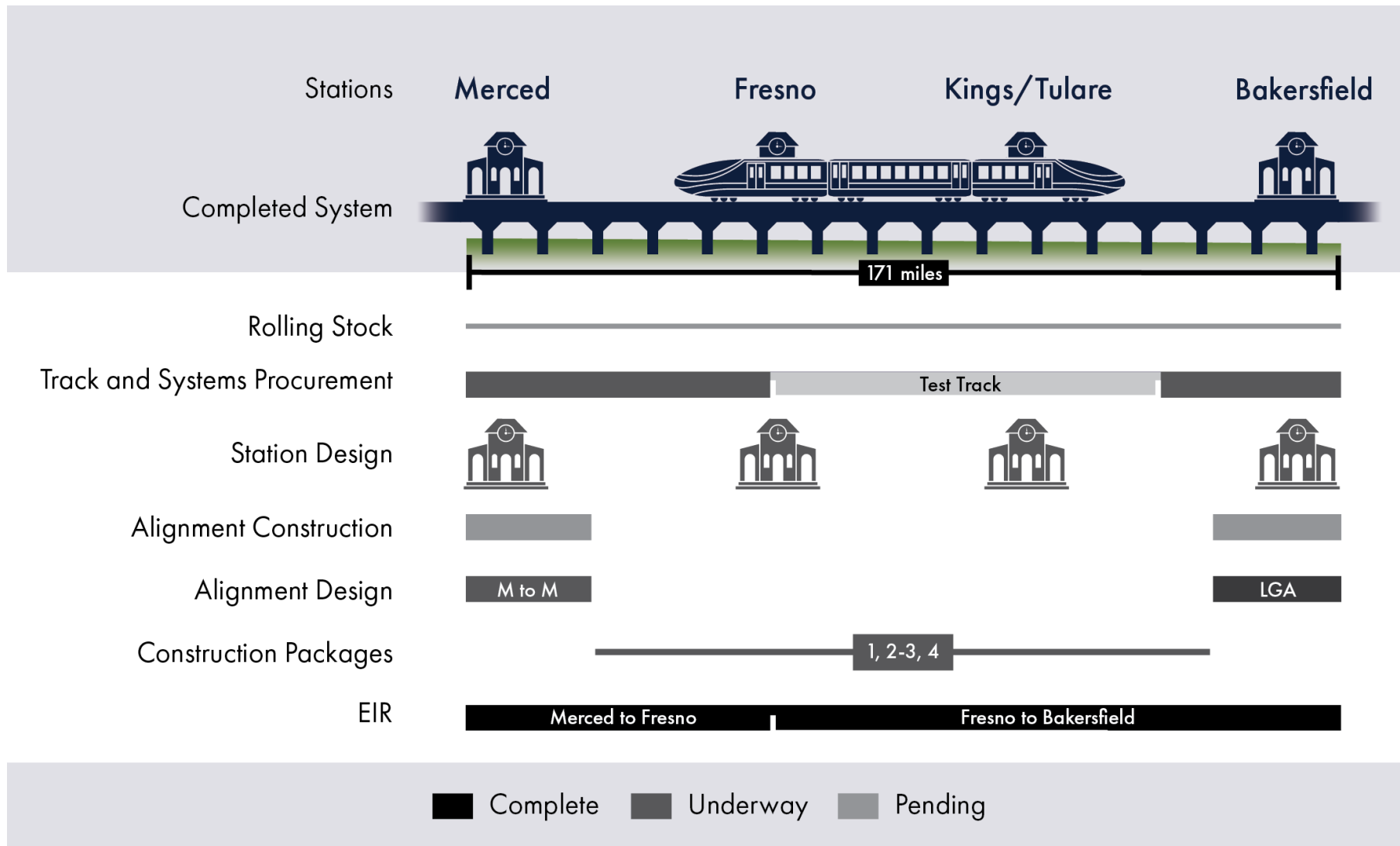
- Continuing Transparency
- Refining Policies

Advancing the First Operating Segment

Updating Materiality Assessment

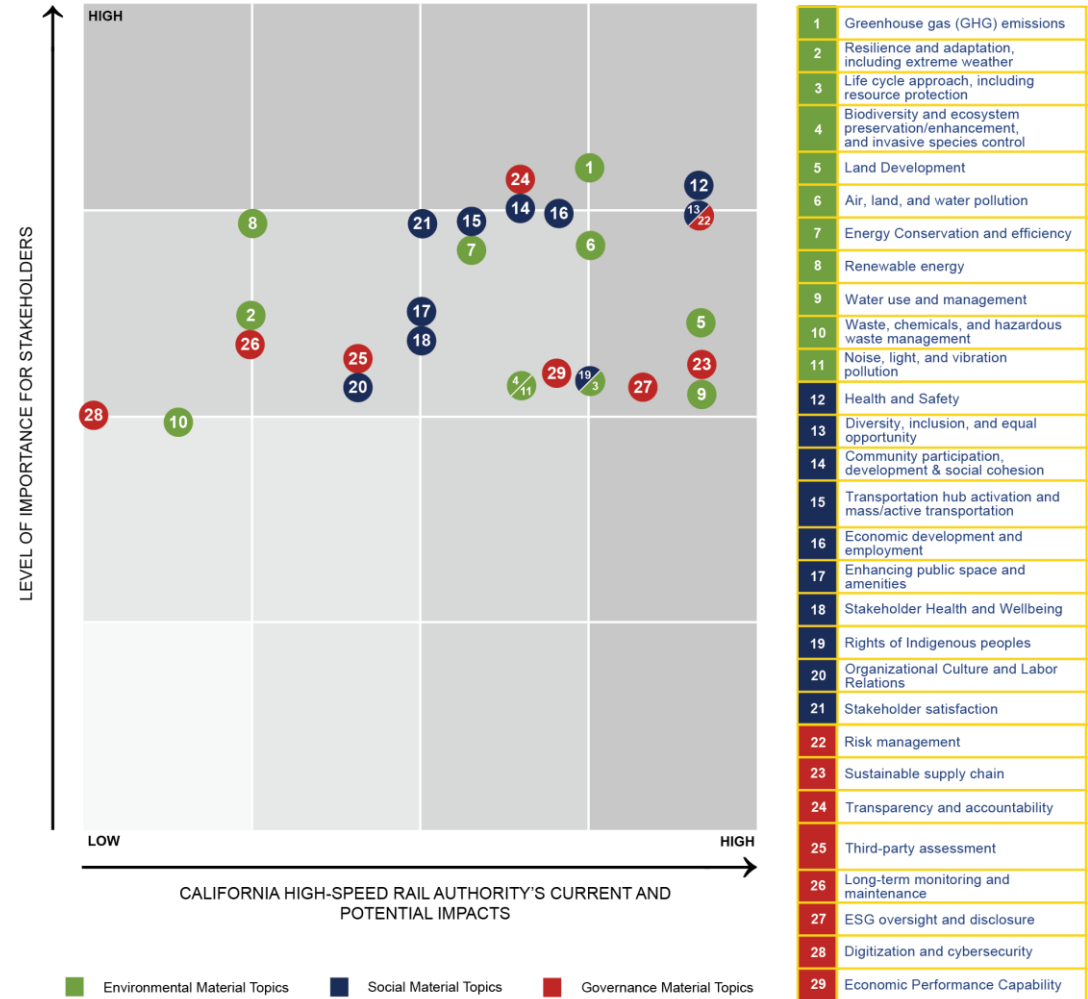
Continuing to embed sustainability in delivery as we advance the system.

- ✓ Focus on the goal to deliver an operating segment by the end of the decade
- ✓ Consider the opportunities for environmental, social, and governance issues to be advanced
- ✓ Focus on cross-functional engagement and delivery



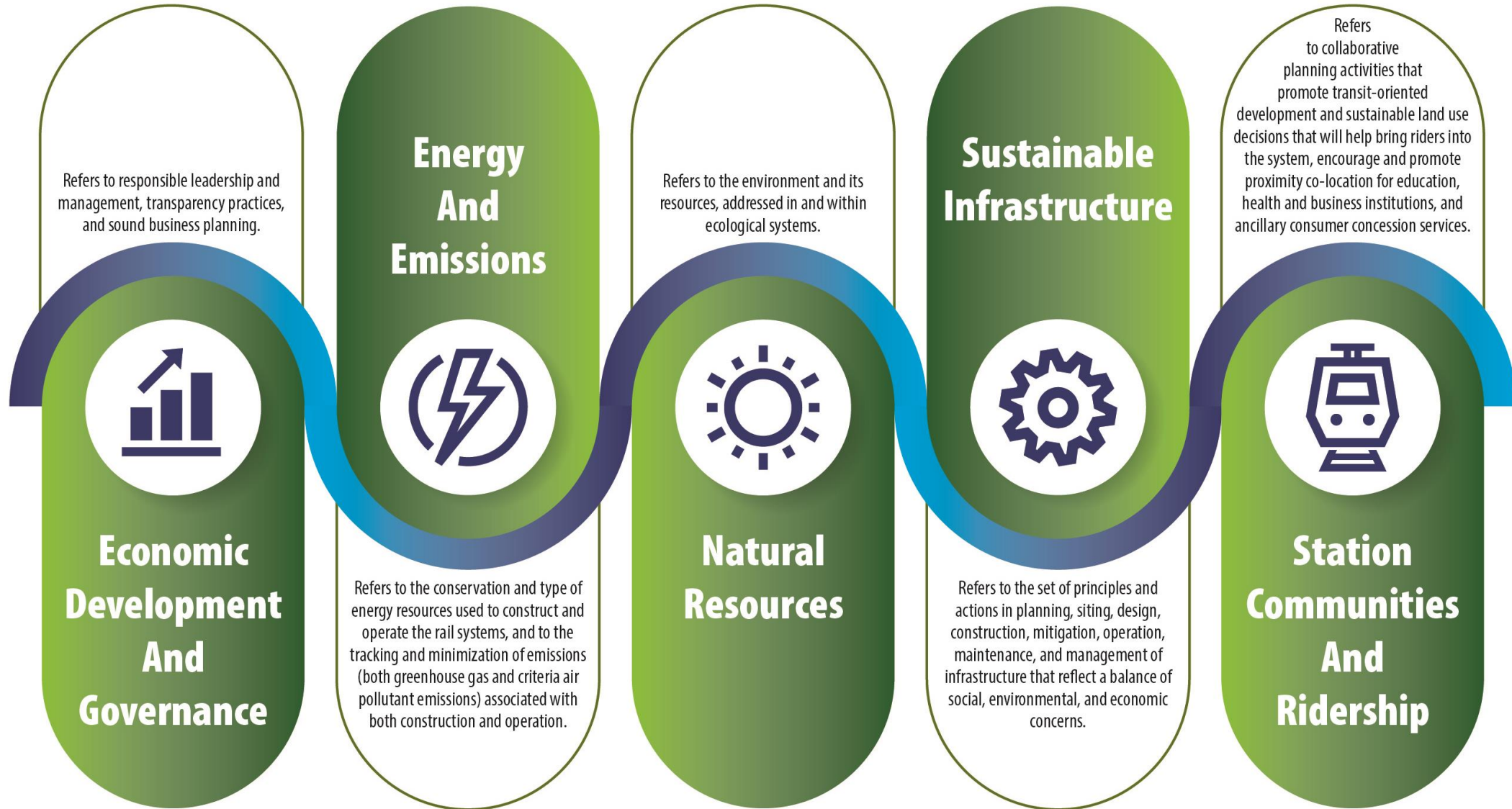
Informing and evolving our ESG focus by listening to stakeholders.

- **Definition:** ESG Materiality Assessment corresponds to the prioritization of ESG topics as it relates to the significance of its impacts on society and the environment and the perspective of stakeholders.
- **Objective:** The Authority last completed a Materiality Assessment with its key stakeholders in 2018. In 2022, the Authority re-engaged with key stakeholders to update and reaffirm its sustainability priorities for the next reporting cycle



Among environmental, social, and governance issues, which are most relevant to our organization?

Using a framework to keep our sustainability approach organized.





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High-Speed Rail Authority

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Headquarters

California High-Speed Rail Authority

770 L Street, Suite 800

Sacramento, CA 95814

www.hsr.ca.gov



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Questions?

