

# 2020 Sustainability Report

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# CLIMATE MITIGATION AND ADAPTATION

California high-speed rail system plays a key role.



*“Build high-speed rail to provide reliable access to urban centers across the state with increased public transit and active transportation opportunities around stations”*



Safeguarding California Plan 2018 Update

## **Prop 1A Expressed Californian’s Goal for Sustainable Development:**

Fostering Mobility and Economic Development without Sacrificing the Environment, or Bequeathing Future Generations With Debt



## 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 affect the planning, siting, designing, construction, mitigation, operation, and maintenance of the high-speed rail system.”

*From #HSRA 19-02 Revised Sustainability Policy*



# STRONG BOARD AND EXECUTIVE LEADERSHIP HAS INSPIRED GROUNDBREAKING COMMITMENTS FOR OVER A DECADE

- **2008 – Board Adopts 100-percent renewable energy for operations**
- **2011 – Incorporated in California Air Resources Board (ARB) Scoping Plan for AB32**
- **2012**
  - » Net-Zero direct greenhouse gas emissions (GHG) for construction
  - » Net-Zero air quality emissions for construction
  - » Proactive construction requirements, including requiring **Tier 4 vehicles and 100-percent recycling requirements**
- **2013 – CEO Signs Sustainability Policy**
- **2014**
  - » First infrastructure project to require disclosure on major materials, informed AB 262 Buy Clean California Act
  - » EMMA developed to track and monitor program and contractor progress
- **2016 – Board Adopts Sustainability Policy**
- **2017 – Incorporated in ARB Scoping Plan Update**
- **2019**
  - » Required **performance targets** for embodied energy (concrete and steel)
  - » Zero emissions fleet vehicles (25 percent of on road fleet) for contractors
  - » Direct GHG emissions target set for construction tied to a bonus/penalty



# CALIFORNIA SETS THE SUSTAINABILITY STANDARD

How high-speed rail uses California policy to set a new direction for delivery



**225,000 MT  
Carbon Sequestered  
and Avoided**



**4,439  
Jobs Created**



**\$2,400,000,000  
Disadvantaged  
Communities Benefited**



**140,000 lbs.  
Criteria Air Pollution  
Avoided**



**560  
Small Businesses  
Engaged**



**\$1B = 24K Jobs  
Economic Investment  
Multiplier**



# ANNUAL SUSTAINABILITY REPORT

Important transparency for the project



# AUTHORITY SUSTAINABILITY PRIORITIES

Five key areas organize our sustainability approach



## **Economic Development And Governance**

Refers to responsible leadership and management, transparency practices, and sound business planning.



## **Energy And Emissions**

Refers to the conservation and type of energy resources used to construct and operate the rail systems, and to the tracking and minimization of emissions (both greenhouse gas and criteria air pollutant emissions) associated with both construction and operation.



## **Natural Resources**

Refers to the environment and its resources, addressed in and within ecological systems.



## **Sustainable Infrastructure**

Refers to the set of principles and actions in planning, siting, design, construction, mitigation, operation, maintenance, and management of infrastructure that reflect a balance of social, environmental, and economic concerns.



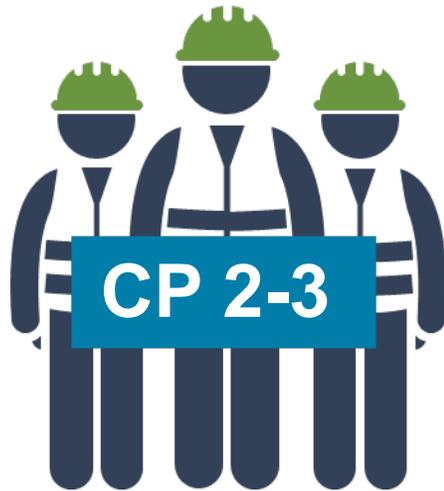
## **Station Communities And Ridership**

Refers to collaborative planning activities that promote transit-oriented development and sustainable land use decisions that will help bring riders into the system, encourage and promote proximity co-location for education, health and business institutions, and ancillary consumer concession services.



## 4,439 Construction Workers

1,561



2,048



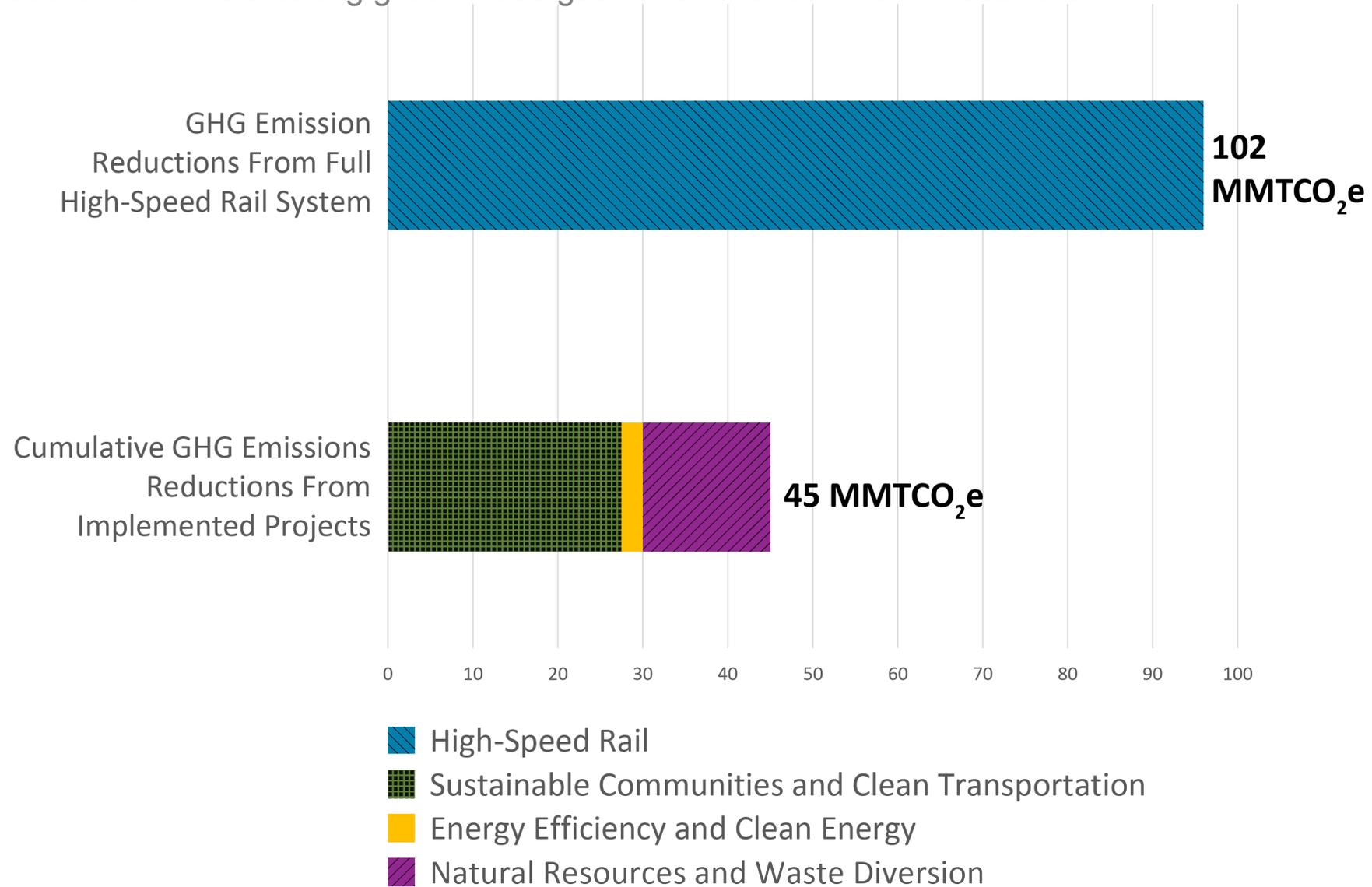
830



Dispatched Workers

# ENERGY AND EMISSIONS

High-speed rail delivers a strong greenhouse gas emissions return on investment



# ENERGY AND EMISSIONS

Delivering journeys in half the time and using renewable energy

## Technology of the future

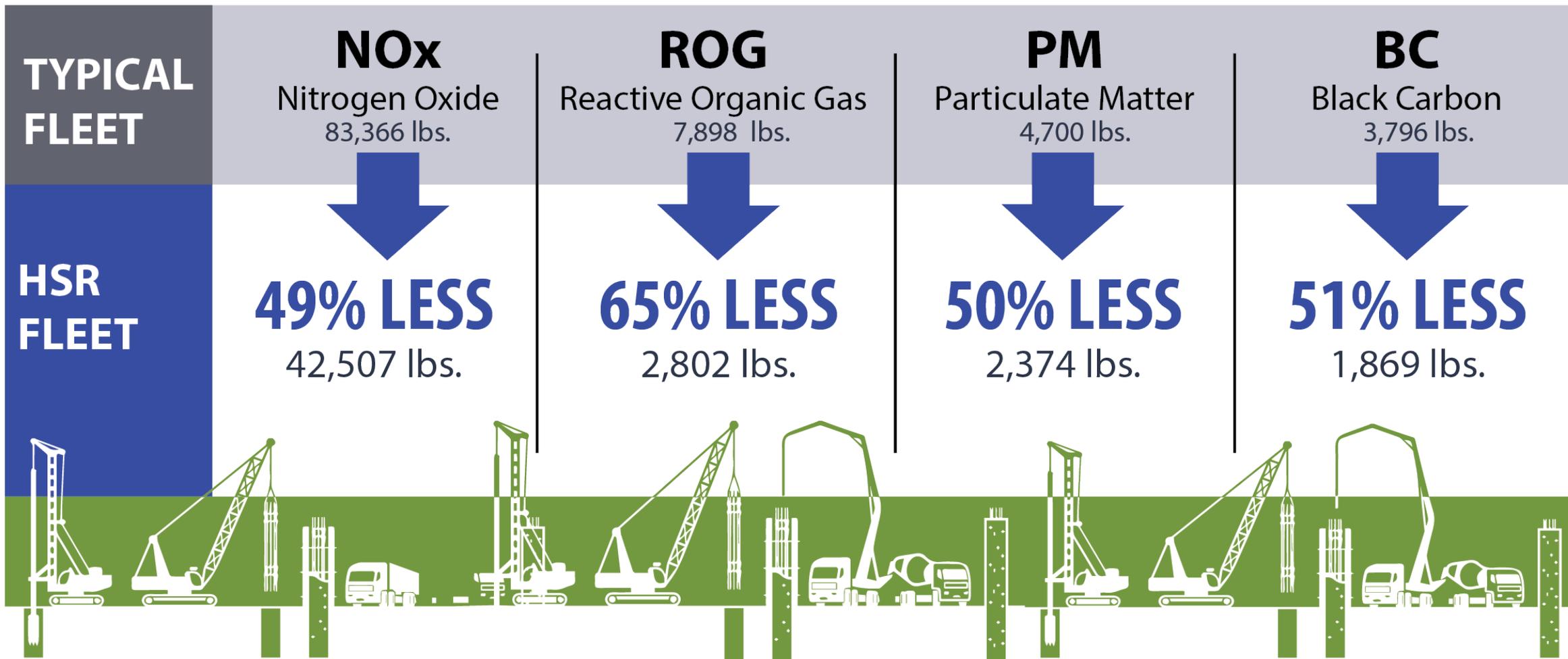
- HSR travel times deliver reduced vehicle miles and plane trips
- Congestion, air quality, and greenhouse gas emissions benefit.
- Renewable energy generated on-site and linked with battery storage is a means of reducing electricity cost and increasing system resilience.

Running 100 percent on renewable electricity means truly zero emissions transportation.



# PROTECTING COMMUNITIES IN CONSTRUCTION

Reducing and offsetting criteria air pollutants



# NATURAL RESOURCES

Working with state partners to deliver on mitigation promises

## Habitat and agricultural land preservation

**3,750 acres**

Habitat Preserved  
and Restored

**1,250 acres**

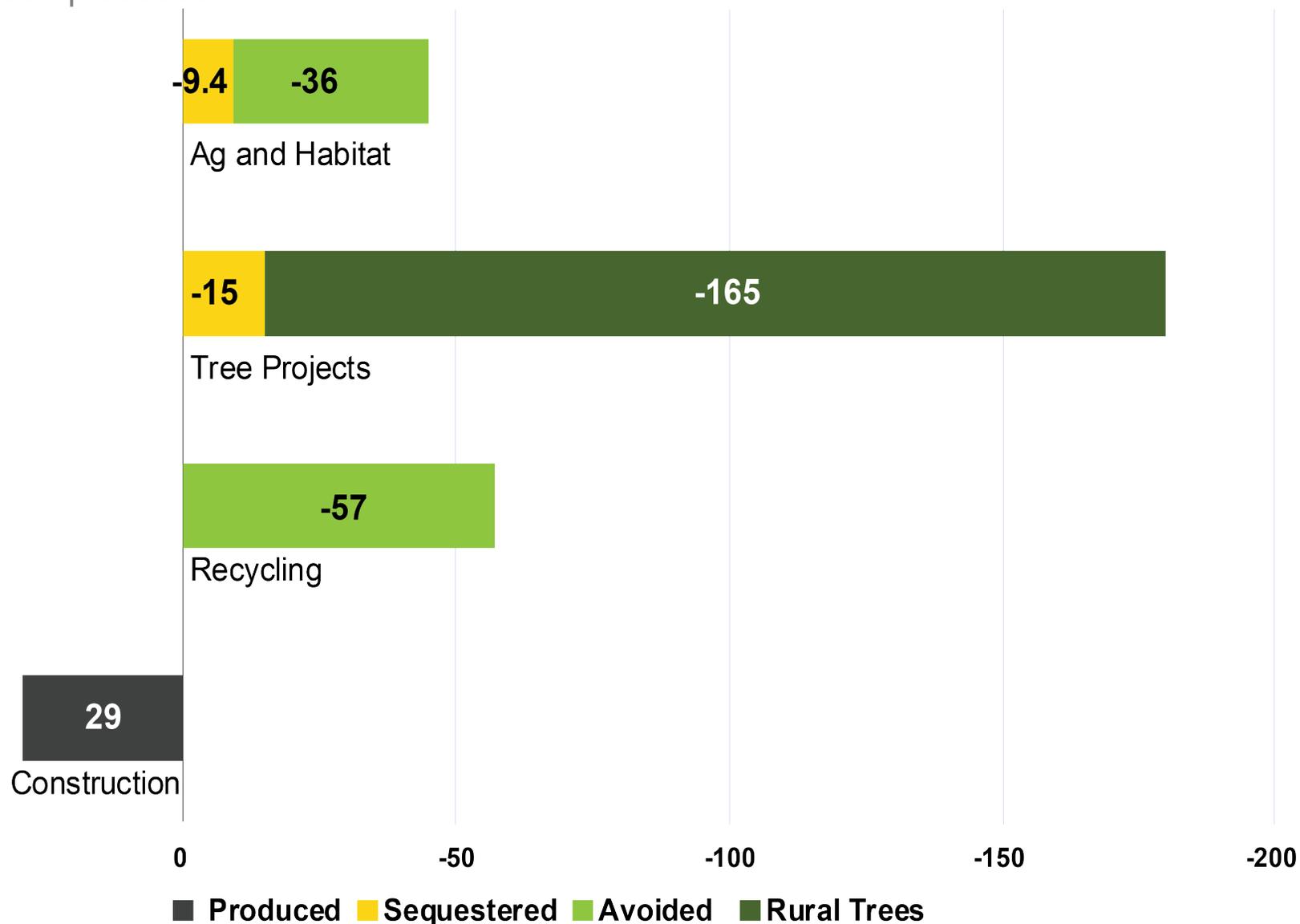
Agricultural Land  
Secured



# SUSTAINABLE INFRASTRUCTURE

Delivered projects balance carbon produced

ACTUAL  
CARBON  
DIOXIDE  
THROUGH 2020  
(THOUSAND METRIC  
TONS CARBON DIOXIDE  
EQUIVALENT)



# SUSTAINABLE INFRASTRUCTURE

Protecting workers and looking to the future

## Comprehensive look at sustainable infrastructure.

Injury Rate**	2019	State Benchmark*
Construction Package 1	1.78	-
Construction Package 2-3	1.00	-
Construction Package 4	1.47	-
Overall Weighted Average	1.38	4.5
Lost Days Rate		
Construction Package 1	0.30	-
Construction Package 2-3	0	-
Construction Package 4	0	-
Overall Weighted Average	0.11	2.8
Fatalities		
Total Fatalities	0	55***

\*California Heavy and Civil Construction Industry 2016

\*\* Reported as rate per 200,000 hours of work

\*\*\* Fatal occupational injuries by selected characteristics, by major event or exposure. California, U.S. Bureau of Labor Statistics, 2016

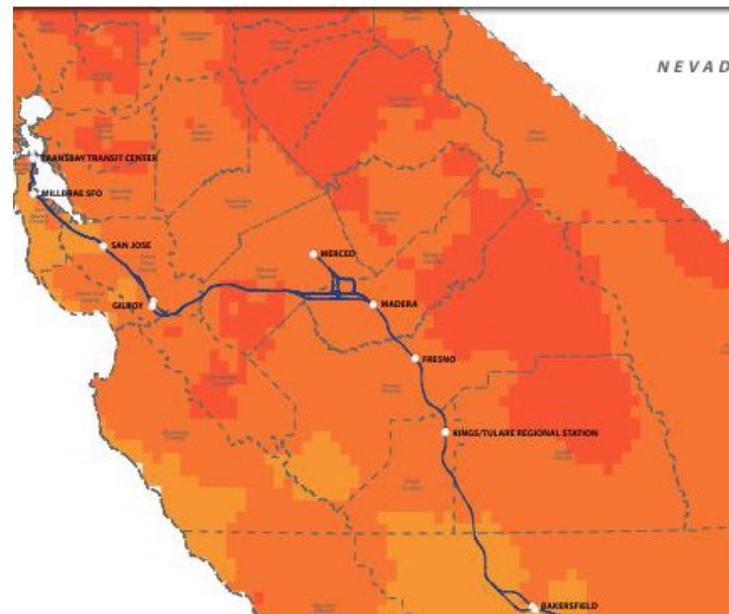
### Worker safety



 Total Recycled  
97% (183,290 Tons)

 Total Landfill  
3% (4,973 tons)

### Construction waste practices

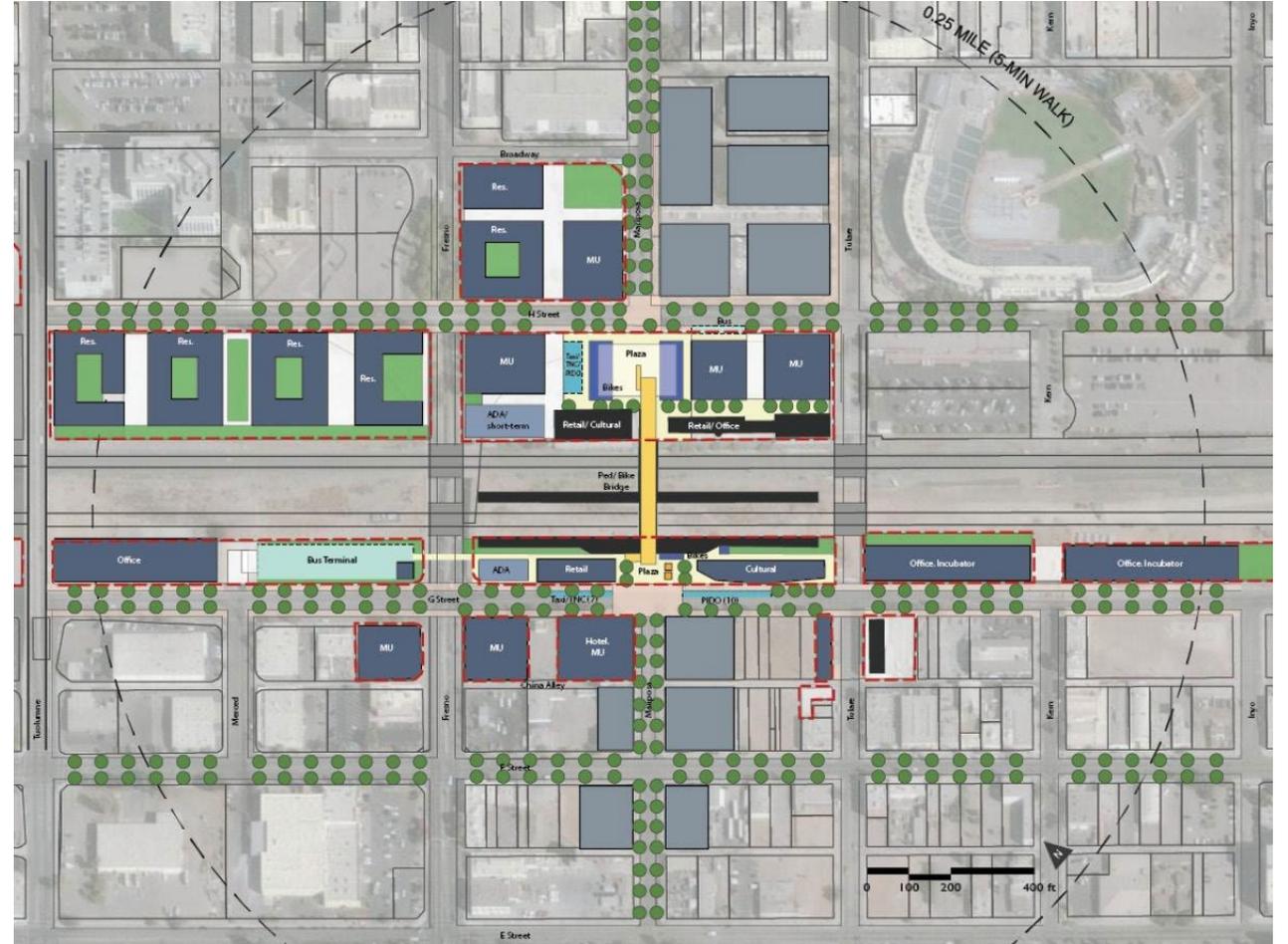


### Analyzing climate risk exposure



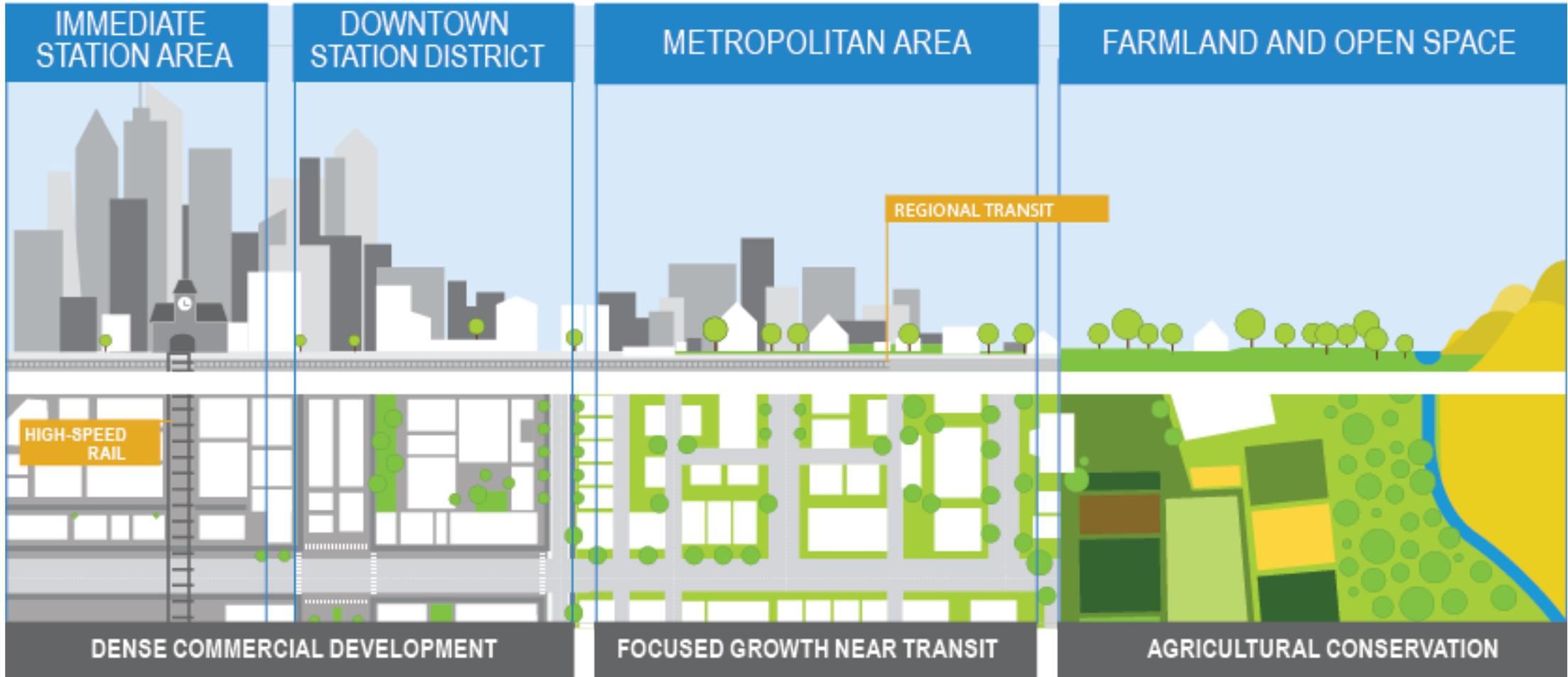
# STATION COMMUNITIES AND RIDERSHIP

California High-Speed Rail Authority



# CREATING COMMUNITY RESILIENCE

## Station Area Planning



High-speed rail is an organizing principle for regional growth.

# COMMUNITY RESILIENCE

High-speed rail bridges communities



# 2020 SUSTAINABILITY REPORT

California High-Speed Rail



Questions?

# 2020 SUSTAINABILITY REPORT

CALIFORNIA HIGH-SPEED RAIL



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