

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

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November 19, 2019

High-Speed Rail Maintenance Facilities Overview



PRESENTATION

- **Intro**
- **Types of High-Speed Rail Facilities**
 - » Maintenance of Way Facilities (MOWF)
 - » Operations Control Center (OCC)
 - » Heavy Maintenance Facility (HMF)
 - » Headquarters (HQ)
 - » Light Maintenance Facility (LMF)
- **Facility Descriptions**
- **Questions**



HIGH-SPEED RAIL FACILITIES

Facilities Descriptions

Facility Type	Contract Alignment	Contract NTP Date	# in Central Valley	# in Phase I
MOWF	Track and Systems	Sept 2020	1*	4*
OCC	Track and Systems	Sept 2020	1	1
HMF	Rolling Stock	Dec 2020	1	1
HQ	Train Operator	Jan 2024	1**	1**
LMF	Rolling Stock	Jan 2030	1***	3***

* A Maintenance of Way Facility is required in each region: Central Valley, Southern California and Northern California. The Central Valley MOWF includes a Central Warehouse and Training facility.

** HQ location can be collocated with OCC or separate facility leased by Operator.

*** A LMF is required near each terminal station. In the Central Valley, the LMF is combined with the HMF.

The Initial Operating Segment determination may alter facility locations.



MAINTENANCE OF WAY FACILITIES

➤ Overview/Role

- Used for Track and Systems Construction and Rail Infrastructure Maintenance
- Management center for system infrastructure inspection, maintenance and repair
- Training center for rail infrastructure inspection and maintenance personnel
- Spaced at 120-mile distance to ensure a 30-45 minute site travel time (Gilroy, CV, Lancaster, LA Basin)
- Near workforce population center
- Central warehouse for HSR systems inventory

➤ Requirements

- Approximately 30 acres in size; located on HSR Mainline
- Requires access to freight rail for delivery of material and parts
- Geographically centered in the Central Valley for rapid response to incidents and scheduled maintenance, inspection, and repair (5-hour window; 12:00 a.m. to 5:00 a.m.)



➤ Staffing

- Staffing: 105-110 (majority dispatched to the field on a daily basis)
- Typical job roles: Welders; Machinists; Signaling and communications technicians; Electricians/linemen for Overhead Catenary System (OCS); Electricians for traction power facilities; Inventory control/warehousing; Asset Management (data analysts, maintenance planning); Supervisory and support staff



OPERATIONS CONTROL CENTER

➤ Overview/Role

- Used for operations control and train dispatching
- Flexible location; one required for the entire system
- Coordinates train movements with Owner's control centers (Metrolink and Caltrain) in blended corridors
- Central control for high voltage power supply (coordinates with H.V. utility control centers)
- Monitors the status of the HSR alignment via telemetering and CCTV cameras
- Provides centralized access for all maintenance activities (dispatching, maintenance crews, etc.)
- Provides centralized contact with First Responders
- Close proximity to HSR station location and other facility sites
- Easy access to HSR communication lines
- May be co-located with the HQ



➤ Requirements

- Requires a secure communications link located near/adjacent to HSR alignment
- Requires a secure office environment

➤ Staffing

- Initial staffing: 40 (24/7 operations)



HEAVY MAINTENANCE FACILITY

➤ Overview/Role

- Shop environment
- Centrally located for Phase I System
- Receives and readies trains for service
 - Testing, commissioning, acceptance of trainsets
- Heavy Maintenance and Overhaul (periodic major inspection, major component replacement and overhaul)
- Initially a light maintenance facility for Central Valley service
- Provides simulator support for operator training (simulator location to be determined)



➤ Requirements

- Approximately 170 acres in size - Construction phased to meet operations requirements
- Requires access to freight rail for delivery of trainsets and large parts
- Requires access to HSR mainline guideway

➤ Staffing

- Initial staffing: 65-70 (includes 55 specialist technicians-machinists/electronic technicians/welders)
- Expected to grow to 300-400 for full Phase 1 operations



OPERATIONS HEADQUARTERS (HQ)

➤ Role

- Office environment
- Used for managing the operations business by the Train Operator
 - Train Operator's Management and Corporate Services
 - » Operations COO
 - » Operations CFO
 - » Operations Safety
 - » Operations Security
- Operations training center

➤ Requirements

- Ideally co-located with the OCC
- Requires a secure office environment

➤ Staffing

- Initial staffing: 80-90
 - Additional staff required for initial operations on-boarding (drivers/conductors/etc.)
 - Staffing also does not include non-sworn security officers



LIGHT MAINTENANCE FACILITIES

➤ Overview/Role

- Shop environment
- Provides for trainset light maintenance and overnight train storage not requiring HMF repairs
- Used for trainset daily inspections, cleaning, provisioning/catering, washing
- For Central Valley interim operations, may be co-located with HMF

➤ Requirements

- Access to freight rail for delivery of trainsets and parts
- Requires access to high-speed rail mainline
- Near terminal stations to minimize daily non-revenue operations

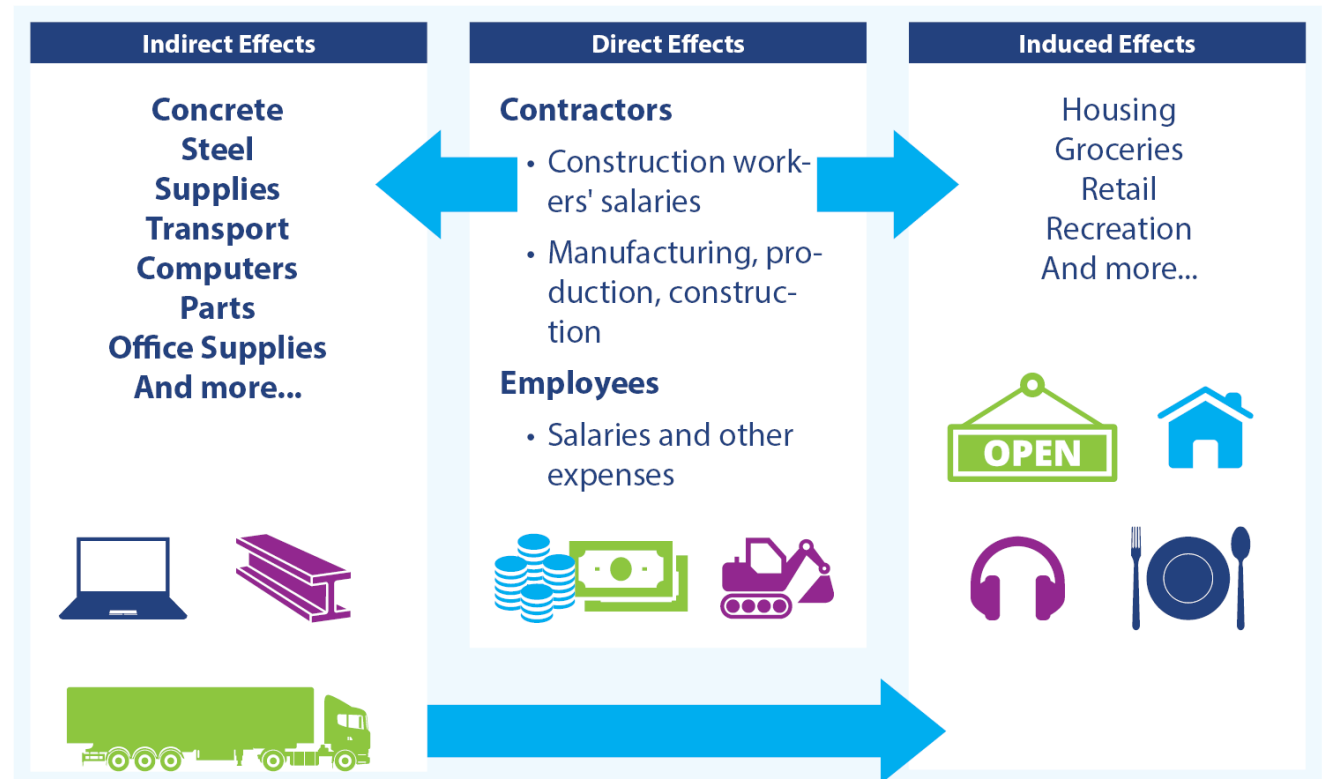
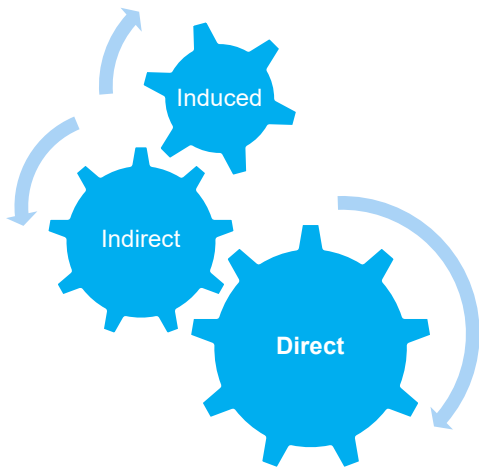
➤ Staffing

- Train operating crew reporting location based on phase of operation
- Initial staffing: Approximately 100 at each LMF Site (including mechanical technician, cleaners, inspectors)



ECONOMIC IMPACTS

How the Indicators are determined is a combination of Indirect, Direct and Induced Effects



ECONOMIC IMPACT OF FACILITIES

10 Year Staffing Economic Impact

Over a 10 year span of operation (2025-2034) the total Economic Impacts of the Staffing of the five maintenance facilities are:

Facility Type	Economic Output by Impact Type (\$ in millions)			
	Direct Effects	Indirect Effects	Induced Effects	Total
MOWF	\$284	\$129	\$97	\$510
OCC	\$118	\$54	\$39	\$211
HMF	\$192	\$88	\$60	\$339
HQ	\$201	\$92	\$87	\$379
LMF	\$103	\$47	\$32	\$182
Total	\$898	\$409	\$315	\$1,622



HIGH-SPEED RAIL FACILITIES

CALIFORNIA HIGH-SPEED RAIL



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