



TUNNEL SYSTEMS FACT SHEET

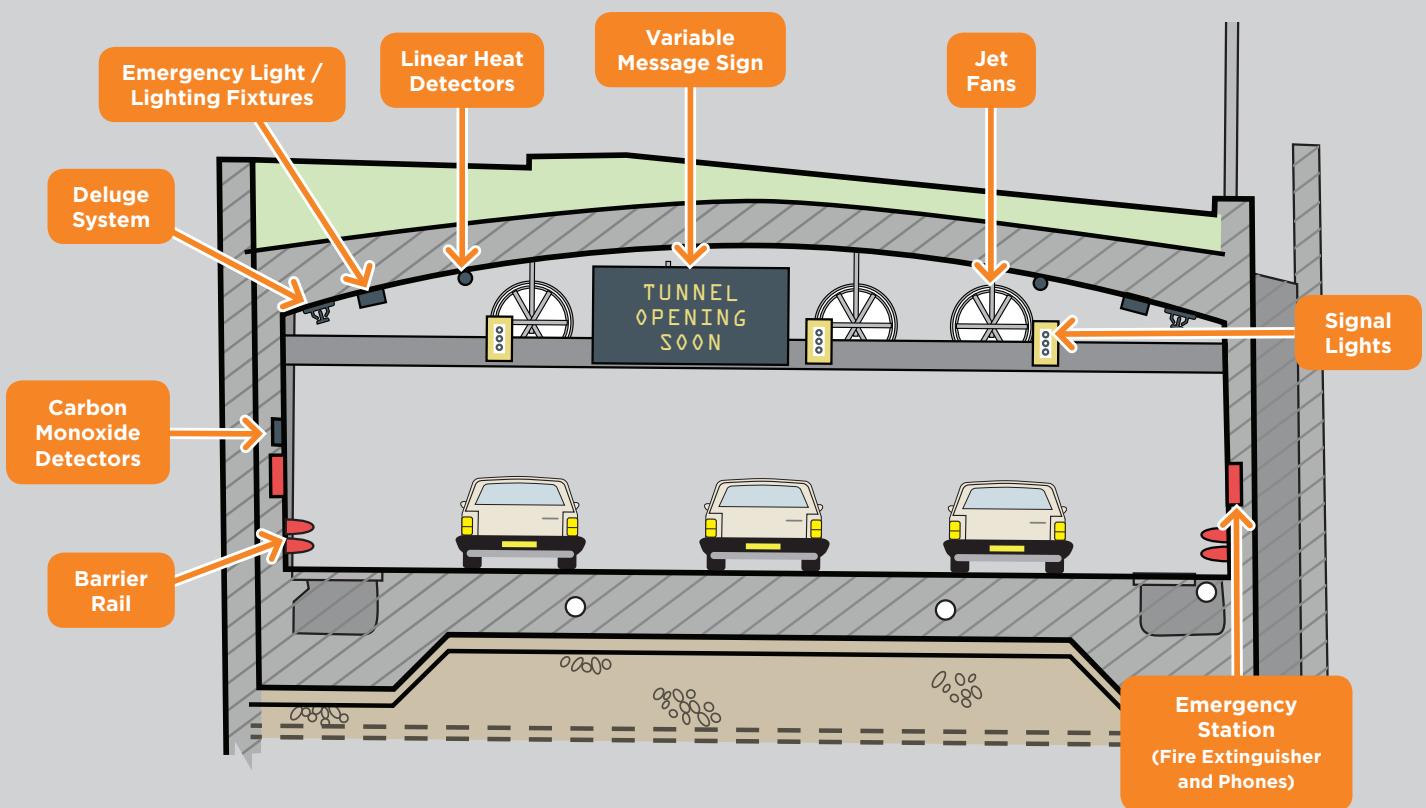
May 2015



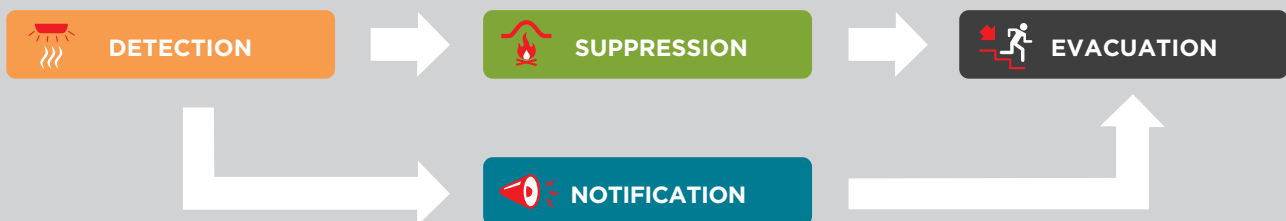
The Presidio Parkway design includes the new Main Post tunnels, which are 920 feet and 1030 feet in length, as well as the new Battery Tunnels, which are 790 feet and 750 feet in length.

Crews have finished installing the internal mechanical and electrical systems, including traffic operations, lighting, ventilation and emergency systems, such as heat detection monitors and a state-of-the-art water deluge system for fire protection. The project team and agencies are now testing the extensive systems that will run the tunnel fire-life-safety, traffic and communications functions. These systems are vital to ensuring the safety and efficiency of the tunnels and roadway system when they open to traffic.

TUNNEL SYSTEMS



INCIDENT DETECTION & RESPONSE (in the event of an emergency)



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Tunnel Jet Fans

JET FANS

The 150 horsepower jet fans in the tunnels can move air at a top speed of 22 miles per hour. The jet fans are activated in response to elevated carbon monoxide levels and smoke in the tunnels, and will ensure fresh air is brought in to replenish the air in the tunnels. In most instances the jet fans remain off, as traffic movement and wind keep air flowing in the tunnels.



Monitors in the OMC

TRAFFIC AND OPERATION OF THE TUNNEL SYSTEMS

The traffic control systems for the tunnels rely on traffic management operators in combination with safety systems. There is a set of pre-programmed responses, verified by an operator in the Operations and Maintenance Center (OMC). The OMC will be located near the Log Cabin in the Presidio and will be staffed 24 hours a day. Traffic signals, the radio override system and variable message signs, operated remotely, will communicate with motorists if any emergency action is required.

The tunnels include a voice evacuation system that can broadcast messages to motorists during an emergency and a video incident detection system to warn operators of various traffic problems.



Tunnel Construction

FIRE DETECTION AND SUPPRESSION SYSTEMS

The tunnels have linear heat detectors and smoke detectors to monitor temperature or smoke levels in the tunnel that would indicate a fire. If a fire is detected, video cameras focus on the area of the emergency and a water deluge system is activated to that specific zone to douse the fire with approximately 1500 gallons of water per minute.

TRAFFIC EMERGENCY RESPONSE

Transfield Services is responsible for tunnel operations and maintenance, and will coordinate with other agencies in the area in the event of an emergency. The San Francisco Fire Department and the California Highway Patrol are the first responders to any emergency.