



CALDECOTT TUNNEL

Project Fact Sheet

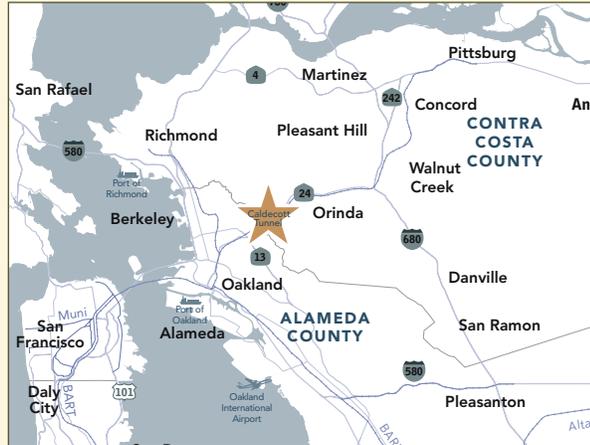
PROJECT GOALS

- Improve mobility for motorists and emergency crews along State Route 24 via the Caldecott tunnels
- Reduce delays and improve travel times
- Eliminate the need for daily tunnel lane reversals and merges
- Enhance safety for the traveling public and Caltrans maintenance workers

COST AND FUNDING

The estimated construction cost for the project is \$270 million. Federal, state and local funding have been secured for this fully-funded project.

Project Location



The existing three bores of the Caldecott tunnel are located on the border of Alameda and Contra Costa counties in the San Francisco Bay Area. It carries State Route 24 (SR-24) traffic through the Berkeley Hills, and serves as a major commuter access route.

Project Overview

The proposed project will construct a 2-lane fourth bore tunnel north of the existing three bores. The new tunnel clear width is 12.58 m (41.25 ft), and the total length is 1,033 m (3,389 ft). Seven cross-passages will be constructed to connect the third and fourth bores to serve as emergency exits.

In addition the project includes the following elements:

- Construction of retaining walls and temporary and permanent soundwalls.
- Various roadway improvements.
- Demolition of the existing maintenance building and construction of a new 2-story operations and maintenance building.
- Installation of operations, communications and emergency systems.



East Portal Simulation



West Portal Simulation (far left)

Project Schedule



MAKING PROGRESS THROUGH PARTNERSHIP

The Caldecott Improvement Project is progressing with extensive collaboration from the local transportation agencies. The Department of Transportation, the Contra Costa Transportation Authority and the Alameda Congestion Management Agency are working cooperatively to manage and deliver this regionally significant transportation project.

FOR MORE
INFORMATION,
VISIT
THE PROJECT
WEBSITE:

www.dot.ca.gov/dist4/caldecott

Construction Methodology

The Caldecott 4th Bore will be constructed using an approach known as the New Austrian Tunneling Method (NATM) or sequential excavation method. It involves the use of machines, known as roadheaders, to excavate a portion of the tunnel cross section and installing support for this portion of the tunnel prior to excavating the next portion of the tunnel. This sequential method approach is used until the entire tunnel section has been excavated.

It is anticipated that the majority of the excavation will be performed using roadheaders, which are large track-mounted machines with a rotating cutter head located at the end of a hydraulically controlled boom. The rotating cutter head excavates the ground as it is pushed against the tunnel face and is moved around and ahead of the tunnel face until the required section of the tunnel has been excavated. It is also anticipated that some tunnel excavation through harder rock sections will be performed using controlled blasting.

The ground support for the tunnel will primarily include rock bolts and shotcrete. Rock bolts consist of steel rods that are grouted into holes drilled in a radial pattern around the perimeter of the tunnel. Shotcrete consists of a special concrete mix that is sprayed into place on the roof and sidewalls of the tunnel.

Once the tunnel has been excavated, a waterproof membrane will be installed on the roof and sidewalls of the tunnel. Following installation of the waterproof membrane, the final cast-in-place concrete lining will be installed.



The majority of the tunnel excavation will be performed by a roadheader. These machines are electric powered and track mounted and have a rotating cutter head mounted on a boom at the front of the machine which sweeps across the tunnel face chipping off pieces of rock.