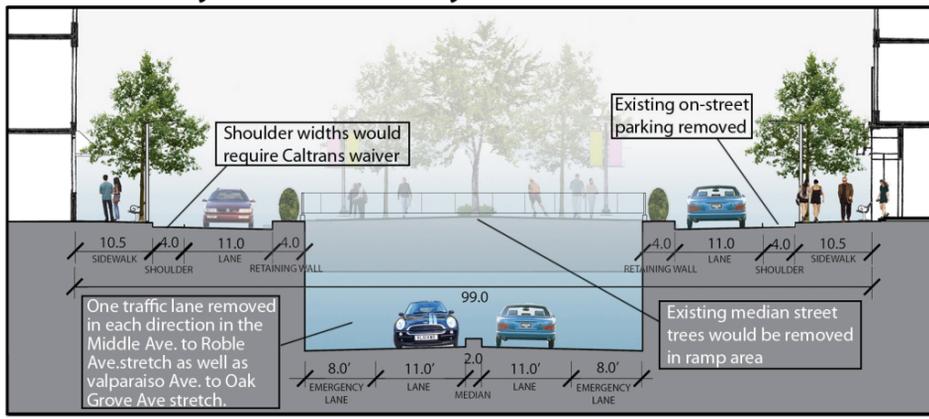
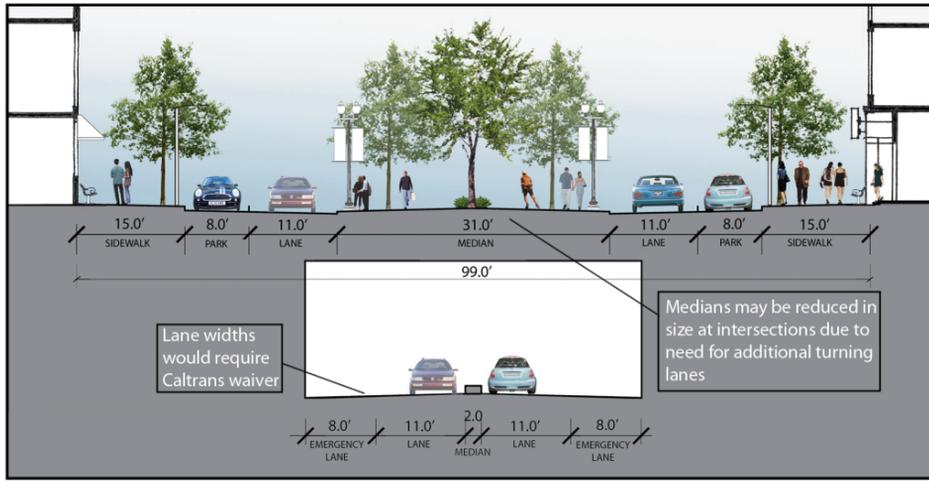


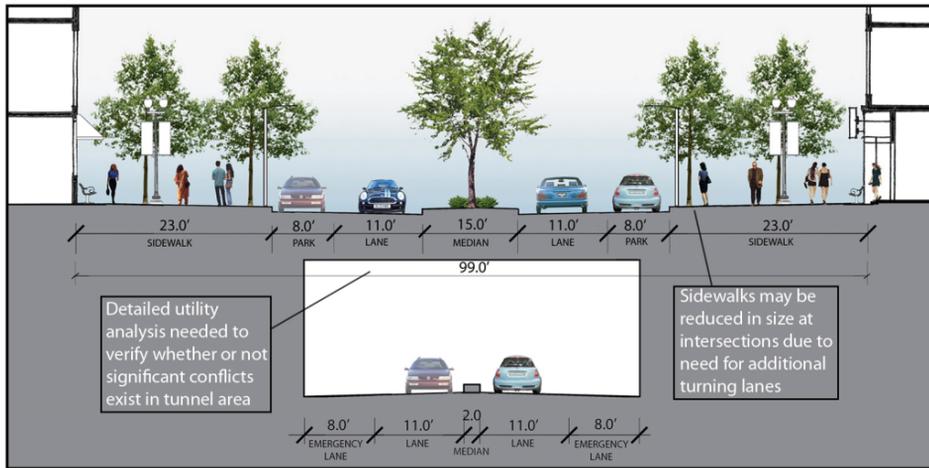
## Preliminary Tunnel Study - El Camino Real



A SECTION - RAMP CONDITION



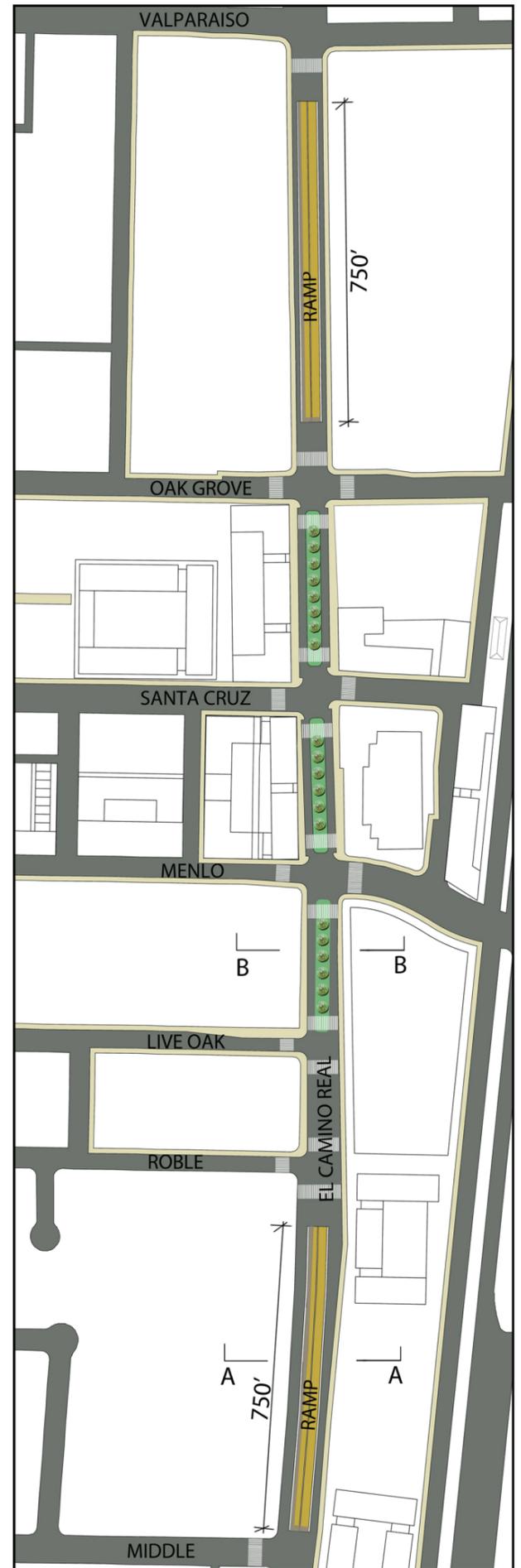
B SECTION ALTERNATIVE #1- TUNNEL CONDITION WITH WIDE MEDIAN ABOVE



B SECTION ALTERNATIVE #2- TUNNEL CONDITION WITH WIDE SIDEWALK ABOVE

### Preliminary Findings

- The existing El Camino Real right-of-way constrains the amount of space available for ramp infrastructure, travel lanes, parking lanes, and sidewalks, particularly where ramp conditions are proposed.
- The preliminary traffic analysis results indicate the concept may work technically, with through traffic (approximately 50% of traffic flow) and primary turning movements accommodated. However, a detailed traffic analysis would need to be conducted to understand the full impacts and it could result in the need for additional turn lanes and other improvements that minimize the potential aesthetic impacts discussed below.
- The primary benefits would be seen in the stretch between Roble and Oak Grove Avenues, where two lanes of through traffic (one in each direction) would be fully underground. In this area, significant aesthetic and pedestrian/bicycle connectivity improvements would be possible through widened sidewalks/medians and reduced automotive traffic.
- Between Middle and Roble Avenues and Oak Grove and Valparaiso Avenues, two 750-foot-long open ramps would present significant challenges with poor aesthetics, loss of existing street trees, removal of on-street parking, removal of two traffic lanes (in the stretch between Middle and Roble Avenues), and impacts to existing business with loss of access.
- Costs would clearly be significant, with no likely funding sources identified. There are still many unknowns at this point, including location and potential impediments from underground utilities and potential objections or concerns from Caltrans.
- Construction would require delays and/or rerouting over an extended period.



DOWNTOWN TUNNEL PLAN

- From a business perspective, the tunnel could send a message that Menlo Park is a market to be bypassed, with the gains from an improved visual character and pedestrian/bicycle connectivity in the central area offset by a loss of visibility and unclear access.

### Assumptions (based on typical Caltrans standards)

- Ramp slope: 5%
- Ramp length: 750 feet, inclusive of vertical approach
- Vertical clearance: 16.5 feet
- Tunnel cover: 6 feet
- Travel line widths: 11 feet (with require Caltrans waiver)
- Shoulder widths: 8 feet in tunnel and 4 feet at-grade (latter of which would require Caltrans waiver)

## Preliminary Study of Undergrounding of El Camino Real between Oak Grove Avenue and Roble Avenue

El Camino Real/Downtown Specific Plan  
City of Menlo Park

18 June 2009

PERKINS  
+ WILL

Fehr & Peers  
Strategic Economics  
BKF Engineers  
ESA  
HDR/The Hoyt Company