

Figure 20: Risks and Mitigation Strategies

Event	Event Description	Response Strategy	Probable Cost/ Schedule Impact
PM-3 Additional community mitigation	Continuous bike path is planned for most of the alignment, but additional requirements by the community could affect design of overcrossing structures. Cost estimate includes an allowance of \$6M for neighborhood mitigation. There is a risk that additional costs may be realized, e.g., to improve neighborhood connectivity. Requirements could affect design of structures.	Public outreach to improve neighborhood connectivity. Continuously consider mitigation measures based on Cohesion Plan during design.	\$3,000,000 1.5 months delay
UT-3 Unquantified utility costs	The base estimate accounts for specific utility conflicts that have been currently identified during preliminary analyses. Based on past experience, it is common to overlook utility impacts and/or project-borne costs not related to direct conflict (e.g., casings or relocations within the clear zone based on policy, third-party cost allocations, conflicts with bridge or sign foundation locations, etc.).	Determine utility conflicts and complete utility coordination as early as possible. Identify design alternatives. This risk should be reduced significantly by the time advanced preliminary engineering is completed.	\$1,500,000 3 months delay
RD-1 Earthwork-fuel cost increase	Earthwork (import borrow and roadway excavation with offsite disposal) is sensitive to fuel costs. Trucking can represent up to 75% of borrow costs. A 40% increase in trucking costs could lead to a 30% increase in earthwork cost; however, some of this is addressed within the base uncertainty range.	Monitor appropriate cost performance indices and adjust estimates, as needed during design stages. Estimate is based on projects let in the last few years, \$50 to \$70/barrel oil.	\$1,250,000 Insignificant delay
RW-3 Loss of goodwill	General ROW goodwill on the Project. Impact to oil storage facility captured in UTL 6. This risk covers a large but unexpected goodwill impact to one or two businesses.	Complete utility coordination as early as possible. Identify design alternatives.	\$1,000,000 Insignificant delay
CN-1 Additional mitigation for construction impacts	Additional mitigations may be required, for example, due to vibration, noise, and dust/air quality. Dust and noise should be covered by standard specifications. Additional work restrictions (e.g., night work) may be involved. Vibration monitoring, damage not covered in the base estimate. Pile driving is assumed on most structures, including the structures through the neighborhood sections. The City conducts advance inspections for cracks, etc. prior to construction. Property owners may make claims against the contractor due to vibration damage.	Evaluate alternative construction methods (e.g., cast-in-drilled-hole piles, bentonite) that might reduce vibration impacts.	\$500,000 Insignificant delay
RW-2 Additional cost for commercial ROW	Appraisals have not yet been conducted, and current estimates for full takes of some unique commercial parcels impacted might be too low. Update: Early acquisition of commercial properties not as far advanced as residential, and properties are more varied.	Continue with early acquisition activities based on advanced preliminary engineering.	\$500,000 Insignificant delay
PM-2 Litigations	Litigation is possible for a variety of reasons, including neighborhood impacts and air quality concerns. The 150-day statute of limitations begins at publication of Final Environmental Document. Recent court decision (Sunnyvale) could result in additional traffic modeling, which could delay design completion (current standard is to study traffic with existing streets plus planned improvements; whereas, this decision could force additional modeling with just existing streets).	Continue early coordination with affected stakeholders.	\$250,000 0.5 month delay
E-3 Metropolitan Bakersfield Habitat Conservation Plan (Habitat Bank) expiration	The Metropolitan Bakersfield Habitat Conservation Plan (Habitat Bank) expired in 2014. Suitable habitat must be found in order to have an agreement to pre-pay after final EIR/EIS is approved. Kit fox habitat is the key issue. Additional cost of \$0.5M is possible, but minor.	Kern Water bank (\$10,000/acre) could be a fallback option. City currently working on off-site mitigation sites for kit fox habitat (sump), which has to be in place before construction. Only affects Kern River package.	\$12,500 Insignificant delay
RW-1 Right-of-way acquisition delays	Right-of-way acquisition delays (due to volume and complexity, etc.). Potential issues include: • Multiple appraisals (on commercial parcels). Caltrans has created an internal condemnation unit to streamline the process. Update: Caltrans condemnation unit will not be used on this project. • Although the Resolution of Necessity process can be used as a schedule management tool, acquisition and relocation of large commercial parcels might take longer than assumed in the base. • Court resources for Resolution of Necessity process are limited. • Caltrans resources for level 1/level 2 process are also limited (not handled by condemnation unit).	Complete utility coordination and subsurface studies as early as possible. Early acquisition has helped. Staff management: Caltrans has access to other districts and the City has access to consultants, so resources should not be a constraint.	\$1 million 1.5 months delay