

Research Results

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Project Title: Best Practices in Project Delivery

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Best Practices in Project Delivery for Transit

This research performed in-depth case studies on three large scale transit projects in California, providing insights applicable to transit capital projects as well as other types of project delivery in Caltrans' local assistance program.

WHAT WAS THE NEED?

Recent research has shown that transit capital projects in the United States can cost as much as ten times more than similar projects in peer nations (Goldwyn et al., 2023). With projects taking longer and costing more, there is a need to drastically reduce project costs both as a matter of public fund stewardship and to preserve California's ability to meet future mobility demand in a more sustainable manner. While part of the cost of labor, procurement, and structures is determined by factors outside of an agency's control, a project's expected cost can also fluctuate based on the efficiency of project management. The California Department of Transportation (Caltrans) Division of Local Assistance (DLA) needs additional information on best practices in project management to determine whether new models of interaction between Caltrans and subrecipient agencies at a project level can produce a consistent benefit. Specifically, Caltrans needs more information on whether there are patterns of challenges that can be addressed by economies of scale, funding or delivery mechanisms from other project types that can be applied to transit, and whether there are governance changes that can ensure on-time and on-budget delivery of transit projects.

WHAT WAS OUR GOAL?

The desired outcome will be recommendations on broad changes in project delivery that can help solve the issue of rising transit capital project costs and delayed schedules. These best practices can help Caltrans better understand what parts of the transit project delivery process are most effective and efficient, as well as opportunities for improvement.



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WHAT DID WE DO?

Researchers collected project data to form detailed case study reports that highlighted information on cross-institutional strengths and weaknesses of specific projects as they progressed. Using insights gained from other transit project case studies and through identification of delays and changes to the originally-planned projects and timelines, the study produced recommendations based on key observed project difficulties. Selected projects included the Mid-Coast Trolley Extension in San Diego, Tempo Bus Rapid Transit (BRT) in Oakland, and the Peninsula Corridor Electrification Project (PCEP) in the San Francisco area.

WHAT WAS THE OUTCOME?

The study asserts some basic commonalities among transit projects. Firstly, different levels of agency authority and expertise can lead to dramatically increased project costs. Secondly, transit projects exist in a fragmented landscape. Permits, right of way acquisition, managing inter-agency dynamics, and managing different jurisdictions can lead to delay that is seldom included in project time estimates

This led to a few key observations from the case study projects:

- 1) Strengthen in-house capacity so lead agencies have the technical expertise and project experience to define project scopes, make decisions, and manage consultants when questions emerge.
- 2) Address issues promptly and completely with appropriate project partners to avoid recurring delays and duplicative negotiations.
- 3) Avoid consultant dependency so that project managers can effectively manage the scopes of work and agency staff can advocate for solutions that keep their best interest in mind.
- 4) Strengthen coordination within the agency, with partner jurisdictions, and with third parties to become more resilient to unexpected conditions

These observations led to recommendations from the project:

- 1) Assess an agency's capacity and readiness prior to awarding project funds.

Caltrans can potentially improve outcomes by providing additional technical assistance when needed.

- 2) The study suggests creating standardized third-party agreements process that has legally enforceable timelines for reviews and approvals in order to encourage third parties to be more responsive to agencies delivering public projects.

- 3) California could create a program to help cities and counties create and maintain utility mapping that transit agencies, utilities, and city agencies can access and update as they plan and build their projects.

- 4) Improve transparency and detailed record keeping to allow agencies to document and share valuable project-specific information that can help other agencies benchmark their projects against other projects and contextualize their projects rather than fall into the traps of uniqueness bias"

WHAT IS THE BENEFIT?

Caltrans may elect to pilot best practices on a set of transit capital projects, which can be piloted in an upcoming project portfolio. This will allow Caltrans to directly address the challenges identified in the research, presumably using existing resources directed toward project delivery in local assistance programs. This pilot can be applied as early as 2026 as transit capital projects come online for that fiscal year. If pilots prove to be successful, new governance structures, procurement practices, and standards can be implemented across the State and will reduce project costs and timelines, saving valuable resources.

LEARN MORE

Project Link: <https://dot.ca.gov/-/media/dot-media/programs/research-innovation-system-information/documents/final-reports/task-4488-clean-version-caltrans-transit-final-report-a11y-rev1.pdf>

IMAGES

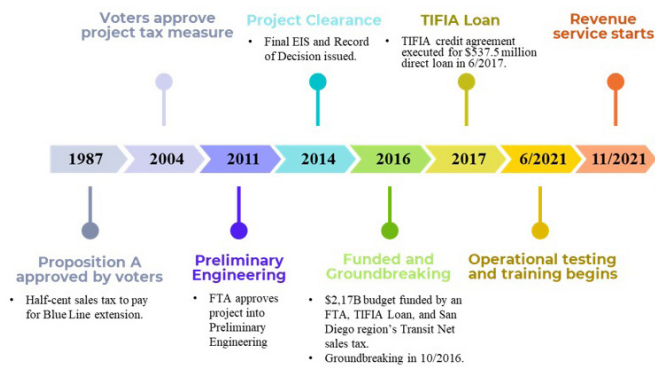


Image 1: Project timeline of the San Diego Mid-Coast Trolley (Narasimhan et. al, 2026)