



March 7, 2025

SB 125 Transit Task Force

RE: Project Delivery Reform for Transit

Task Force Members,

In order to meet its climate, mobility, economic and social inclusion goals, California needs to improve and expand transit and rail service in California. Unfortunately, our existing processes and structures for network planning, project development, project selection, procurement, and construction management (collectively, Project Delivery) have left California in the position of having extremely high costs compared to global peers.¹ High costs for transit and rail infrastructure costs have plagued California for the past three decades. What drives these high costs is a critical question for California – unless we are able to identify and implement evidence-based reforms to Project Delivery, the already high costs for improving and expanding transit and rail service will mean less value for money under existing capital funding sources such as the Transit and Intercity Rail Capital Program (TIRCP). If California can deliver reforms to Project Delivery it stands to benefit from greater connectivity, more value for money, a higher rate of project delivery and world-class transit and rail service that befits the world's fifth-largest economy.

We provide the following comments on how to improve project delivery in California, along with specific recommendations starting on page twelve (12) of this letter.

Drivers of High Costs for Transit and Rail

Over the past five years comparative research on transit and rail costs around the globe has grown considerably. The research has identified a range of countries by cost for standard rail projects on a kilometer basis.² Unsurprisingly the United States, including California, is a high cost country. But by identifying the shared practices and systems for Project Delivery in low and medium cost countries researchers have been able to articulate areas ripe for reform.

The academic literature on low and medium cost countries for transit is clear on factors that do not drive total costs. Inputs of construction labor wages and safety rules are not responsible for

¹ Project Database, Transit Costs Project, NYU Marron School of Urban Management.
<https://transitcosts.com/projects/>.

² *Id.*

meaningful cost savings in low- and medium-cost countries.³ For example, France, Denmark and Italy have much higher levels of union density, including in construction trades, and strict safety regulations, yet still deliver projects at far lower costs than similar types of projects in California. While construction wages are higher in California than many other places around the globe, construction labor makes up a similar share of project costs as it does for global peers.

1. State Capacity

The first major finding of academic literature has identified processes in the white collar labor (aka professional services) portions of American transit and rail Project Delivery are much higher as a share of total costs relative to low and medium cost countries.⁴ Planners, engineers, lawyers and project managers' salaries are crucial for delivering projects, but the processes and policies require professionals to spend time generating paper rather than driving projects forward. This causes longer project delivery timelines that yield more complex and overengineered structures and systems than are often necessary. Of course we need professionals to help develop and manage projects, but it is clear that Project Delivery processes can be right-sized, located at or within higher levels of government, and brought forward in time in order to provide critical early input to guide decision making.

The second major finding of the literature is that low and medium cost countries almost universally have high levels of state capacity to deliver transit and rail projects.⁵ These are the planners, engineers, architects, contract managers, project managers and accountants that are necessary to drive project schedules and hold the lines on budgets. To be clear, consultants are used in many low and medium cost countries. But they are often retained for specialist skills and are given tightly defined scopes of works, budgets and schedules while being closely managed by civil servants. For example, design and engineering consultant contracts in many low and medium cost countries are "hard-bid" based on low price, rather than qualification and a "not-to-exceed" budget. This ensures consultants do not run up billable hours iterating unnecessary designs or engineering overly complex structures or systems.

By contrast, California transit and rail projects have traditionally relied heavily on program management, project management, and other consultants to plan, design, procure and oversee Project Delivery. Unfortunately, in California the practice is to have program management consultants overseeing other design, procurement, or construction management consultants.⁶ This system incentivizes overdesign, overengineering, proliferation of studies, and high levels of

³ Final Report, Transit Costs Project, NYU Marron School of Urban Management, p. 32.

https://transitcosts.com/wp-content/uploads/TCP_Final_Report.pdf.

⁴ New York Case Study, Transit Costs Project, 2023, p. 44.

https://transitcosts.com/wp-content/uploads/NewYork_Case_Study.pdf; see also Understanding the Drivers of Transit Construction Costs in Canada: A Comparative Study, University of Toronto, December 4, 2024, p. 14. https://stateofcitiessummit.ca/files/041224_Understanding-the-Drivers-of-Transit-Construction-Costs-in-Canada-A-Comparative-Study.pdf.

⁵ How to Improve Domestic High-Speed Rail Delivery, NYU Transit Costs Project, 2024, NYU Marron School of Urban Management, p. 29. https://transitcosts.com/wp-content/uploads/HSR_Final_Report.pdf.

⁶ California High-Speed Rail Authority, Report 2018-108, Chapter 2, California State Auditor, p. 37. <https://information.auditor.ca.gov/pdfs/reports/2018-108.pdf>.

billing for services with low value to the public. It also means that California transit and rail operators do not retain skills or knowledge from one project to the next. Instead they must pay the same consultant, or more often, new ones, for the same project delivery insights over and over again. Operators also lose out on developing their own risk management skills to help navigate informed decision making, leading to significant cost overruns from inexperience with unexpected hazards.

The financial appeal of consultants in California and elsewhere is that transit and rail operators or local governments do not have to retain Project Delivery civil servants as full-time employees, with their attendant pension and healthcare obligations, under their operating budget. Instead the professional services labor costs get capitalized into project budgets as consultants.

Fortunately there is an existing model for the State of California to provide program management, project management and engineering services to local and regional transportation projects. The 20,000 civil servants at the Department of Transportation (Caltrans) support road and bridge projects initiated by local governments on state highways. The Department of Transportation certainly can be improved, but they demonstrated capacity to deliver standard road and bridge projects across the state on budget and schedule. The procurement for BART's Fleet of the Future railcars, which were designed and engineered primarily in-house, with BART staff in the lead, demonstrated benefits of state capacity: they came in \$394 million under budget.⁷ A similar model of state or regional capacity could be used to support transit and rail Project Delivery.⁸ And in response to criticism for California High-Speed Rail Authority's early and detrimental overreliance on consultants, the California State Legislature has provided direction and budget resources to California High Speed-Rail Authority to increase in-house staffing levels to 70% and reduce use of consultants to conform "Form to Function."⁹ Alternatively, many low- and medium-cost countries have publicly-owned, private engineering firms that provide services to transit and rail projects (e.g. Systra, DB Engineering and Consulting, MTR). This organizational structure allows governments to provide competitive wages for engineering talent relative to private firms.

2. Network Planning and Project Development

Research on global transit costs shows that low- and medium-cost countries focus on network planning and project development prior to committing large sums and selecting projects for construction. For example, in Switzerland the national government provides planning resources to regions and local governments to create service network plans to improve connectivity based on quantifiable goals.¹⁰ Such a goal may be to reduce transit trip times across a city by ten (10)

⁷ Final car of the original Fleet of the Future contract ready for service, BART press release, July 23, 2024. <https://www.bart.gov/news/articles/2024/news20240723>.

⁸ More for Less: How to plan and deliver the Bay Area's major transit projects in less time, for less money and with better public value, September 2020, SPUR, p. 48. https://www.spur.org/sites/default/files/2021-05/SPUR_More_For_Less_Report_.pdf.

⁹ https://bcp.dof.ca.gov/2425/FY2425_ORG2665_BCP7284.pdf.

¹⁰ 2023 Study Delegation of San Francisco Bay Area Transit Professionals to Switzerland - Joint Final Report December 2023, p. 33.

minutes and increase on-time performance to 90%. Under network planning, that goal could be accomplished by a combination of coordinated schedules and fares, all-door boarding, signal prioritization, level boarding via platforms, or select priority lanes. The network plan becomes the basis for consideration for funding, and higher levels of government can choose to invest or not. Planning in this manner permits a combination of operational and capital changes to deliver service improvements, and can be implemented in stages. Such network planning and project development is also tied to quantifiable goals for service improvements that operators are held accountable to by funding partners and political representatives.

The timing of construction funding for transit projects has an outsized impact on project costs and delays. In places like Norway, Switzerland and Italy national and subnational funders wait until project scope is fully defined or nearly fully defined (60-100% construction drawings) before committing construction funding to the project. This allows funders, sponsors, contractors, designers, third parties and the public to fully understand the costs, scope, schedule and risks of the project. By committing late to construction funding, funders are able to enforce cost discipline on projects and avoid having to perpetually supplement funding pre-award or post-award through change orders as designs change.

By contrast, California focuses on project-based planning and commits significant money to projects early through grant funding. Project-based planning tends to 1) emphasize locally generated concepts with little to no reference to network coordination, resulting in silos and duplication; 2) focus on capital investment rather than holistic planning that looks at organizational and systems solutions prior to committing to expensive physical infrastructure; 3) reward large costly projects at the expense of less expensive alternatives. Project-based planning at the regional levels tends to result in balkanized regional transit plans where different political entities are each allocated a handful of projects that do not cohere as a whole – so-called “Staple Jobs”.

California operators and local and regional governments often commit local project development dollars early to these projects via ballot measures, thereby locking in political commitments before alternatives are fully analyzed and while costs, timelines, and risks are largely unknown. Project sponsors are thus incentivized to move projects forward no matter the costs or complexity. The focus shifts then to speeding through the environmental review process in order to secure Records of Decision/Notices of Decision so that the project can enter into competitive federal grant programs for advanced engineering. Finally, at this stage, projects often need to be re-engineered for constructability to mitigate construction impacts, tight budgets, land acquisition challenges, or regulatory approvals.

California routinely awards construction funding to projects based on 0% design when functionally nothing is known about geotechnical issues, civil structure depths, utility conflicts, ROW required and other drivers of scope and schedule. Inevitably these early awards are optimistic and must be further supplemented as design matures and new scope is added. The

https://mtc.ca.gov/sites/default/files/meetings/attachments/5915/4cii_Swiss_Study_Tour_Joint_Report_0.pdf.

early awards also in practice become the floor by which 3rd parties like local governments and utilities can bargain for exactions and expensive re-designs. Once these higher costs are known, there are further delays as sponsors must identify and secure additional funding which places additional escalation pressure on costs. This process of early award based on 0% design followed by cost increases and supplemental public funding also breeds cynicism in the public's ability to properly deliver programs – budgets are sometimes doubling or trebling before shovels hit the ground¹¹.

A more helpful approach would be for the state to provide more network planning¹² resources for metropolitan planning organizations (MPOs) and operators to create network plans and develop programs consisting of various projects coordinated to improve service through planning, engineering and business case development. The Metropolitan Transportation Commission's draft Connected Network Plan¹³ is a nascent movement toward a service-led planning model but needs additional methodological refinement.

All this should be done without committing the state or region to early construction funding for specific projects until alternatives, benefits, costs and risks are clearly identified. Full project funding would be evaluated based on its ability to deliver on quantifiable connectivity goals identified in regional network plans or the state rail plan. This would limit the ability of individual operators, transit modes, or sectional interests to oversubscribe regional or state funding for costly individual projects with low return on investment or siloed benefits that do not integrate into regional or state priorities for connectivity.

The good news is that CalSTA and the Department of Transportation have been embracing the service-led planning paradigm as evidenced by the 2024 State Rail Plan.¹⁴ The natural progression would be to align MPOs' transportation planning to service-led planning. State funding programs such as TIRCP, Solutions for Congested Corridors and others should be reassessed to shift eligibility towards funding programs and constitutive projects that conform to and deliver connectivity benefits identified within network plans and the State Rail Plan. Future state investment in transit and rail should shift to geographic formula distribution of transit and rail investment to those regions with approved network plans in order to implement said plans through programmatic (as opposed to project-based) delivery.

¹¹

<https://calelectricrail.org/project-delivery-reform-how-extortion-by-corporate-3rd-parties-and-poor-design-practices-hold-back-critical-capitol-corridor-improvements-in-sacramento/>

¹² <https://www.spur.org/news/2022-06-09/setting-regions-first-connected-network-plan-success>.

¹³

<https://www.seamlessbayarea.org/blog/2024/7/26/new-mtc-connected-network-plan-maps-show-transit-improvements-around-the-region>.

¹⁴ Caltrans' Service Led Strategic Planning Methodology and Process, Appendices 4-2, California State Rail Plan 2024, December 2024.

<https://dot.ca.gov/-/media/dot-media/programs/rail-mass-transportation/documents/california-state-rail-plan/20241203-appendices-a11y.pdf>.

California should also consider refraining from awarding grants or formula funding for transit capital projects until design reaches 60%. This provides flexibility for sponsors to pursue alternative delivery procurement models such as CMGC and Progressive Design Build as well as traditional Design Bid Build while also ensuring funders and the public fully understands the scope and schedule prior to commitment.

3. Environmental Review

The fourth finding of the academic literature is that the environmental review process should be focused on assessing the environmental review of a preferred alternative rather than studying all potential alternatives all the way to 15% design. Many low and medium cost countries have thorough environmental review processes.¹⁵ However, these processes focus on one or two alternatives. The public is engaged to help identify impacts and potential mitigations to bring impacts below thresholds of significance. Operators, however, have the discretion and are owed procedural deference to reject mitigations that may render projects operationally or financially infeasible. In addition, legal challengers of approved environmental review have limited standing and limited ability to block or fundamentally redesign projects.

In California many transit and rail projects undergo varying levels of review under the California Environmental Quality Act (CEQA). Agencies must disclose impacts and consider mitigations that may bring impacts below the thresholds of significance. If significant impacts exceed thresholds of significance then agencies may adopt statements of overriding considerations to approve the environmental document. Potential challengers may propose mitigations regardless of the impacts to project operability or financial feasibility, and current CEQA case law only allows agencies to reject such mitigations with substantial evidence that the discrete mitigation renders operations or funding infeasible.¹⁶ Such a rule may make sense for smaller private projects, but in the case of transit and rail it incentivizes potential litigants across long alignments to demand expensive mitigations for visual or aesthetic impacts that in the aggregate massively inflate project costs. No one mitigation is easily isolated as the proverbial straw that broke the camel's back, but cumulatively proposed mitigations of questionable environmental or parochial value swell project budgets 3x-6x beyond global benchmark costs or lead to cancelled projects altogether. Well-heeled and politically influential people and organizations are able to extract expensive mitigations with questionable to no environmental benefit under this system.¹⁷

There is broad standing to challenge environmental documents, and agencies' decision to adopt statements of overriding considerations are owed less deference in the face of legal challenges than globally. In response, agencies attempt to "bulletproof" environmental documents by studying many alternative (sometimes up to a dozen) designs, which requires 15% design

¹⁵ On the Right Track: Rail Project Delivery Around the World, Eno Center for Transportation, 2021, p.6. <https://projectdelivery.enotrans.org/wp-content/uploads/2022/09/On-the-Right-Track.pdf>.

¹⁶ *Uphold Our v. Town of Woodside*, 147 Cal.App.4th 587, 54 Cal. Rptr. 3d 366 (Cal. Ct. App. 2007)

¹⁷ Project Delivery Case Study: Los Angeles, Eno Center for Transportation, 2021. <https://projectdelivery.enotrans.org/case-studies/los-angeles/>.

documents and consequently significant design and engineering resources. Agencies are essentially spending millions of dollars on design and engineering resources to create alternatives they never intend to approve or construct in order to insulate agency decisions from CEQA challenge, delay and project cancellation.

While this may be a rational response by agencies seeking to move projects forward, it is clear evidence that our environmental review process imposes high costs and waste on sorely needed transit and rail projects. Significant improvements could be made by frontloading planning and early engineering alternative analysis and community input while also limiting the opportunity for iterative redesign in the environmental review phase. In addition, California should consider providing operators deference under CEQA to reject mitigations based on operational and financial infeasibility where such mitigations cumulatively exceed a certain percentage of project budget.

4. Design Standards

One best practice identified by academic literature on global transit costs is the adoption and prioritization of design standards for infrastructure and systems. Low- and medium-cost countries – using design and engineering civil servants or other public sector capacity – develop operator- or national-level design standards for regional transit or intercity rail infrastructure. These design standards draw on the operational, engineering, maintenance, safety, fiscal and other lifecycle needs of transit and intercity rail operators.¹⁸

Moreover, these design standards in many cases preempt the local design standards – especially in rural grade separations or more complex urban infrastructure such as viaducts or tunnels. A rural locality may desire for wide, multilane crossings, but such over-engineered structures are often very expensive to build and ruinously expensive for county governments to maintain and replace over infrastructure lifecycles. Standard designs allow operators, contractors, and asset owners (be it local governments or operators) to all benefit from the scale, repeatability, maintainability, reliability and cost effectiveness of standardization. In places with design standard preemption such as Spain, France, Germany, Italy, South Korea and Japan, local input is still sought in the planning stages, but local governments do not hold a unilateral veto.¹⁹ This is especially important for serial infrastructure projects such as rail lines.

By contrast, California transit and rail projects often have internal standards. Design criteria manuals, standard specifications and other written standards are often adopted by operators but due to the proliferation of consultants in program management these standards often diverge widely between operators – even of identical service and infrastructure type. This fractured design landscape reduces the ability of operators, contractors and owners to derive benefits from repeatability, scale, materials and workforce – benefits the Department of Transportation

¹⁸ Saving Time and Making Cents: A Blueprint for Building Transit Better, Eno Center for Transportation, 2021, p. 76.

<https://projectdelivery.enotrans.org/wp-content/uploads/2021/07/Saving-Time-and-Making-Cents-A-Blueprint-for-Building-Transit-Better.pdf>.

¹⁹ On the Right Track (2021); see also Project Delivery Case Study: Madrid, Eno Center for Transportation, 2021. <https://projectdelivery.enotrans.org/case-studies/madrid/>.

does enjoy for its road and bridge projects through its internal design standards and standard specifications.

In addition, transit and rail operators in California are not able to preempt local design standards – even when their own design standards are as safe or safer than the design standards of local governments. For example, LA Metro's Southeast Gateway Line project is in project development and poised to deliver riders through eleven different cities in LA County. The Metro Office of the Inspector General, cognizant of cost escalations and delays associated with prior multi-jurisdictional Metro Rail projects, commissioned a study of the design standards of the eleven cities compared against LA Metro's adopted design criteria manual. The resulting study indicated that LA Metro's design standards were 99.5% as stringent or more stringent than locally adopted design standards in the eleven cities.²⁰ Under the present system, LA Metro would be obligated to design its civil infrastructure and systems for this critical rail project under these eleven separate sets of local design standards and subject to local government interpretation of said design standards. In cases where disagreement may exist on the interpretation of design standards, local governments with little to no experience in rail infrastructure currently have the final say on critical design decisions that may drive cost escalations and delays.

In setting standards for design and engineering Californians deserve safe, useful and cost-effective infrastructure. Our current practice for serial transit and rail infrastructure projects is to defer design standards and thus final design to myriad local governments who lack the capacity, subject matter expertise and incentive structure to deliver cost effective and timely transit and rail projects. It may be in the parochial and short term interests of one local government to retain local discretion on this infrastructure so they can get wider roads or other amenities, but the rest of California suffers under this arrangement. California may consider allowing certain transit and rail operators to create preemptive design standards, which are subject to review and approval by state level planners and engineers to ensure the standards account for safety, accessibility, personal mobility and other goals. Local governments would still be afforded consultative input during the network and project planning portions of project delivery so that concerns could be addressed early in the process.

5. Asset Mapping

A key risk for Project Delivery is digging underground – where known and unknown utilities must be identified, relocated and/or protected in place to resolve utility conflicts. Sometimes known utility lines are found but in the wrong place, requiring extensive redesigns. In other instances unmarked utility lines are found and the project is placed on hold until its owner is identified and plans agreed upon to resolve the conflict. The cycle of utility strike, delay, redesign and remobilization is a significant cost driver in project risk through uncertain project schedules and budgets. In addition, where utility lines are struck by construction equipment there are direct costs to utility owners, ratepayers, communities and local governments.

²⁰ Report on MTA Rail Design Criteria – 11 SEGL Cities, Office of Inspector General, LA Metro. <https://boardagendas.metro.net/board-report/2024-0220>.

Low- and medium-cost countries, especially developed peer nations, have begun addressing this issue through underground asset digital mapping on a subnational or national level. These efforts typically involve voluntary coordination or government-mandated programs for utility owners to provide a single venue for secure publicly accessible underground asset digital maps for their respective underground assets based on as-builts, modifications, ground-penetrating radar and other methods. While digital mapping will not eliminate all underground risk, it does allow operators, utility owners and local governments far more certainty in maintaining, modifying, or relocating these assets.

Since 2014 France has had a digitized underground asset mapping system, *Déclaration d'intention de commencement de travaux* (DICT), based on a government mandate.²¹ Builders are required to submit online declarations of intent to dig underground in a specified area to a portal and within nine days utilities are obligated to provide digital utility maps for the affected area to the builder. Once a builder approaches the day of excavation they are required to submit detailed work plans and schedule to the portal and utility owners must notify them of any changes to their assets in the area since the submission of the declaration of intent to dig. Utilities then verify that the work plans conform with objective technical and safety requirements. Since the implementation of DICT utility strikes in France have fallen from 0.42% to 0.26% between 2013 and 2020, despite a 25% increase in construction in preparation for the 2024 Olympics and Paris Grand Express rail program. In response to the success of the French and other systems, the United Kingdom has launched an effort to create its own National Underground Asset Register to provide even faster and more detailed access to digital underground asset maps from utilities to builders.²²

In California we rely on the 811 Call Before You Dig call center system to provide information to builders about utility asset locations. Builders will call 811 to describe the location and nature of the proposed work to a call center worker. An electronic ticket will be generated from that call and circulated to utility owners with assets near the proposed work, who will then physically mark utility locations with spray paint, flags or other visual tools. Then builders will proceed to excavate. This system suffers from many fragilities: designers are unable to access utility maps and design relocations or improvements holistically, the relay of location and work type over the phone can be difficult, utilities are often slow to mark facilities or mark them inaccurately, builders proceed with designs and excavation without an updated utility map, builders may excavate without calling 811 in the first place. The present system yields high levels of utility strikes, project delays, redesigns, discoordination and suboptimal designs for transit, rail and other construction projects.

In response to these challenges in 2021 the national utility and excavator trade group Common Ground Alliance recommended a national, accessible GIS-based mapping system for

²¹ Reducing damage to underground utilities: the French DT DICT system, March 29, 2002, Between the Poles.

<https://geospatial.blogs.com/geospatial/2022/03/reducing-damage-to-underground-utilities-the-french-dt-dict-system.html>.

²² <https://www.gov.uk/guidance/national-underground-asset-register-nuar>.

underground utilities.²³ California should consider supporting such an accessible digital mapping system through a mandate or providing coordination among utility owners.

6. Procurement

The procurement of contractors to perform work is a critical component of Project Delivery for transit and rail. Based on case studies from low- and medium-cost countries, operators may use a variety of procurement methods, even within a single project, based on different risk profiles for different types of work. For example, an operator may use Design-Bid-Build²⁴ for straightforward civil engineering components such as viaduct or undercrossings, where risks are low and the operator is better suited to manage issues. The same operator may opt for alternative delivery methods such as Construction Manager/General Contractor or Progressive Design-Build for more complex items like signalling or electronic systems for the same project.²⁵

Low- and medium-cost countries, such as Italy, often also allow operators to insist that Design-Bid-Build bids are itemized by cost component rather than lump sum. Italy and other low cost countries also provide more technical scoring of Design-Bid-Build bids to prioritize bid scope completeness, which avoids strategic low bidding based on incomplete or vague scope definition and subsequent change order submissions after contract award. Together these procurement tools provide more transparency to operators as well as the ability to avoid unscrupulous contractors.²⁶

Low- and medium-cost countries tend to focus their procurement strategy on allocating risk – be it schedule, budget, design, 3rd party issues – to the party – be it operator/owner, designer or contractor – best suited to manage that risk. They are able to create informed procurement strategies, in part, because strategic delivery of design and procurement is managed by civil servants or other public sector staff who have experience and skill with prior programs and projects.

Given that most work is routine civil engineering structures, many procurement packages tend to be structured as a series of Design-Bid-Build packages with smaller overall scopes and estimated contract values. This practice broadens the bidding pool and insulates program delivery from too-big-to-fail contracts. It also requires more in-house program staff to procure, manage and integrate the various smaller contract packages, but this tends to work because the operator/owner is better positioned to manage these risks. For example, they can maintain a consistent staffing workload by planning and scheduling project delivery across their wide jurisdiction on a long-term rolling basis.

²³ Next Practices Initiative: Pathways to Improving U.S. Damage Prevention, October 12, 2021, Common Ground Alliance, https://commongroundalliance.com/Portals/0/Next%20practices%20Pathways%20Report%202021_FINAL4.pdf?ver=2021-10-12-180926-957.

²⁴ For background on different procurement types see Saving Time and Making Cents (2021), p.43.

²⁵ On the Right Track (2021), p. 18.

²⁶ The Italian Case Study Report, p. 43, 2023, Transit Costs Project, NYU Marron School of Urban Management, https://transitcosts.com/wp-content/uploads/Italian_Case_Study.pdf.

By contrast, California transit and rail operators tend to shift significant risk onto contractors – even for routine civil engineering structures – through alternative delivery procurements such as Design-Build, Construction Manager/General Contractor, and Progressive Design-Build.²⁷ Lacking civil servants or other public sector capacity to properly assess risk and create a procurement strategy, California operators rationally try to contract out that risk. But the uncertainty of design, timelines, land acquisition or 3rd party requirements means that contractors insert large premiums into their bids as compensation for said risk. Moreover, because California operators lack the project management staff to manage and integrate multiple contracts simultaneously, they often structure procurement as single massive construction procurements. The shifting of project integration to single or joint venture contractors also means that the operator loses out on risk management for integration between packages (e.g. there may be frictions or delays between the signalling and electronics scopes of work). The size and risk of these packages means that smaller contractors without adequate bonding cannot bid; this limited bidding pool further inflates ultimate project costs. Large, sophisticated engineering and construction firms are able to exploit the lack of in-house expertise by identifying missing or flawed scopes of work, underbidding projects, winning contracts and then submitting change orders to further inflate costs.

More effective procurement in California must start with investment in public sector capacity to develop procurement strategies, lead procurements, and manage and integrate disparate contracts. Operators should strive to structure smaller work packages as Design-Bid-Build procurements so they can benefit from competitive bidding pools for simpler heavy civil engineering works wherever possible and leave alternative project delivery methods for more unusual scopes of work. Finally, California should consider updating its Design-Bid-Build procurement processes to allow for more technical scoring and itemized price transparency in evaluating public bids.

7. Permitting

The permitting of transit and rail construction by local governments and utilities can be a key driver of delay and cost escalation unless there are objective and ministerial processes set by subnational or national governments. Many low and medium-cost countries allow transit and rail operators to self-permit for construction of public works and utility relocations. This decreases the amount of interface, review, redesign and delay associated with local government permitting and utility permit regimes. In countries like Germany, master permitting authority only becomes effective once environmental review is complete and the relevant decision-making body approves and funds the project. Thereafter, operators can move quickly to finalize design, self-permit and get to work.²⁸

²⁷ Getting Back on Track: Policy Solutions to Improve California Rail Transit Projects, University of California Institute for Transportation Studies/Center for Law, Energy and the Environment at UC Berkeley Law, January 2022, p. 35. <https://escholarship.org/uc/item/3xq7q69t>.

²⁸ Rail Transit Project Delivery in Germany, p. 7, September 2022, Eno Center for Transportation, <https://projectdelivery.enotrans.org/wp-content/uploads/2022/09/Germany-Case-Study.pdf>.

In California transit and rail operators must obtain permission from local governments for construction permits to build a grade separation, close a road, or wire systems. Local governments often lack subject matter expertise in evaluating large infrastructure projects like transit and rail projects, so they require operators to reimburse them to hire consultant plan checkers. The incentive structure of consultant plan checkers is to drive billable hours by generating comments on plans – even if the comments are preferential and not based on any objective written criteria or standards. This drives delays and opportunities for local governments or utilities to extract concessions for the release of discretionary permits. In turn operators must pay delay damages to their contractors for delayed permit issuance or redesigns based on the preference (rather than written standards) of permitting jurisdictions.

The Office of Inspector General for LA Metro, cognizant of the challenges with discretionary permitting for the Southeast Gateway Line project that goes through eleven cities, recommends LA Metro bargain with cities along the alignment to provide LA Metro with master permitting for that project.²⁹

In addition, oftentimes utilities insist on self-performing utility relocations where conflicts exist with transit and rail projects. These utilities may provide a schedule and budget for such work but there is no method for operators to hold utilities accountable for schedule delays and budget escalations. Instead operators must pay delay damages to contractors when utilities fail to meet their promises.

California must provide either master permitting or ministerial approval processes based on existing objective, written standards for local government and utility permits. There is an existing template for ministerial approval processes through the Permit Streamlining Act³⁰, which does not currently apply to transit and rail projects. In addition, California should consider requiring utilities to relocate their lines that conflict with transit and rail projects within one year or allow operators to take possession of the line to self-perform the relocation or protection-in-place necessary to accommodate the scope of work. Senator Scott Wiener's Senate Bill 445 is one approach to addressing this issue.

Recommendations

In summary, we recommend the Select Committee, the Legislature and Administration consider the following:

- 1. State/regional capacity: invest in operational staffing to plan, develop, procure, and manage project delivery at the state and regional level.**

²⁹ Office of the Inspector General Comparison of the Metro Rail Design Criteria to 11 Cities Along the Southeast Gateway Line, Board Report, Construction Committee, Metro Board of Directors, July 17, 2024, p. 3. <https://boardagendas.metro.net/board-report/2024-0220/>.

³⁰ Government Code § 65921, et seq.

2. **Network Planning:** require Regional Transportation Plans to conform with service-led and network planning principles and conform state funding sources to service and network planning on a programmatic (rather than project) basis.
3. **Project development:** fund program and project development while refraining from committing early to capital budgets while scope, schedule, budget and risks are still being identified.
4. **Project selection:** require projects that conform to Regional Transportation Plans and the State Rail Plans be funded based on business cases and ability to deliver quantifiable service goals.
5. **Environmental Review:** amend CEQA to provide deference to transit and rail agencies if they determine that alternatives or mitigations would significantly reduce operability and financial feasibility.
6. **Design:** invest in operator design standards and preempt local design standards for certain operators that meet CalSTA standards for accessibility, connectivity and cost effectiveness.
7. **Procurement:** provide operators with procurement and construction management support so they can create wider bidding pools for smaller contracts; amend procurement law to allow for more technical scoring and itemized prices in Design-Bid-Build procurements.
8. **Asset mapping:** prioritize digital mapping of underground assets through mandates or coordination between utilities.
9. **Permit streamlining for 3rd parties:** provide master permitting or ministerial approval processes for local governments evaluating construction permits; require utilities to relocate utilities in conflict with transit or rail projects within one year or award possession to operators to self-perform the work. Support SB 445.

Clearly there are many drivers of cost and delays in capital transit and rail projects in California. The good news is that by simply adopting global best practices the State of California can restructure the market and gain massive rewards in terms of savings, speed and value for money.

We look forward to working with the Select Committee, Legislature and Administration to take on this challenge and help deliver the infrastructure California deserves.

Sincerely,

Adriana Rizzo
Californians for Electric Rail