Fixing Our Broken Transit Planning Process

Project 2337
August 2023

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The cost of capital transit projects across the United States continues to increase to unaffordable levels, requiring many projects to face delay and uncertainty or be reduced in scope. There has been increasing attention on trying to understand the underlying reasons why the United States can't seem to build at a pace or a cost comparable to other countries.[1] At the same time, the promise of federal, and in some cases, state, and local dollars, to build transit infrastructure has never seemed more plentiful. Numerous analyses of this critical topic have focused on the high cost of construction. Often overlooked are the inefficiencies and shortcomings inherent in the transportation planning process, which extend far beyond cost, to the quality of the projects, outcomes for the public, and benefits to the region. Rather than propose sweeping, but politically unfeasible, policy changes to address these issues, we focused on more attainable steps that agencies can take right now to improve the process and get to better outcomes.

Promise Outcomes Not Projects

The first misstep often occurs before the official planning process even starts. In the U.S. we often begin the process of building a Project[2] by raising money for it. The Project will get an earmark, either in legislation or in a ballot measure, and this enables it to move forward. Based on how elections and politics go, to receive that earmark, the Project must appeal to a broad constituency. For example, in Los Angeles County, every project in Measure M, the ballot measure for a half cent sales tax that passed in 2016, was suggested by the Los Angeles County subregions, or Councils of Governments (COG).[3]

The flaw in this process is that what can be sold as an exciting Project in a plan, and what is most feasible and cost-effective to accomplish mobility goals, can be two different things. For example, in the fall of 2015, the Gateway Cities COG provided Metro a list of transportation projects for

1. Several researchers have examined this important issue. See https://transitcosts.com/transit-costs-study-final-report/; https://projectdelivery.enotrans.org/; https://www.law.berkeley.edu/research/clee/research/climate/transportation/analyzing-transit-project-costs-and-delays/
2. We are capitalizing "Project" here to make a point that the practice of transit planning and the industry too heavily organize and function around discrete projects.
3. In 2014, the Metro Board approved a "holistic countywide approach" in which each Council of Government (COG) was tasked with developing a subregional matrix to identify and evaluate potential transportation corridor improvements, which would serve as a basis for updating Metro's Long Range Transportation Plan and serve as a planning inventory or "resource document" for the November 2016 ballot measure known as Measure M. See http://media.metro.net/board/Items/2015/04_april/20150415p&pitem16.pdf

consideration for Measure M funding.[4] This included the West Santa Ana Branch[5] (WSAB) Transit Corridor. Preliminary cost estimates based on 5% design indicated an alignment from downtown Los Angeles to City of Artesia to cost over $4 billion in 2015 dollars.[6] A $1.4 billion line item was included in the Measure M Expenditure Plan, with an assumption of receiving an additional $2.6 billion in "Local, State, Federal, Other Funding" that was not guaranteed, to show the total cost estimate of $4 billion.[7] The Measure M Expenditure Plan was adopted by the Board in June 2016 and approved by taxpayers in November of 2016.[8] The $4 billion WSAB funding amount included the promise of light rail technology, despite the fact that the Metro Board had not yet approved the Project definition to initiate the draft environmental process, which did not happen until April 2017.[9]

The WSAB Project has not yet made it through the environmental process, but the cost is now estimated to be at least $9.1 billion.[10] When WSAB was approved by LA County voters, there was an implicit expectation in the cost estimates that LA Metro would be able to negotiate with the railroad that owns the right-of-way they planned to use (Union Pacific) which is how costs could be kept down. There has been no agreement with Union Pacific yet, no federal funds received[11], and project cost estimates continue to rise.[12] Furthermore, in 2021, the Metro Board approved a locally preferred alternative (LPA) that breaks the project delivery into phases, with an initial segment projected to carry approximately 30,715[13] daily riders, and does not reach Downtown Los

4. Page 12-182 Gateway Cities Strategic Transportation Plan, March 2016, accessed at https://www.gatewaycog.org/media/userfiles/subsite_9/files/rl/StrategicTransportationPlan/STP_Final_Report_Document_03_18_2016.pdf
5. The West Santa Ana Branch (WSAB) was first included in the 2008 Measure R Expenditure Plan as "West Santa Ana Branch Right of Way (ROW) Corridor" with a "TBD" cost estimate and $240 million identified from new sales tax, plus $7 million in local funding. Metro's 2009 Long Range Transportation Plan included "West Santa Ana Branch ROW Corridor" as a "Recommended Project" that was considered a "Funded Transit Project" and updated to cost $649 million in the year of expenditure (YOE). The mode was not yet identified. In 2010, Southern California Area Governments (SCAG) initiated a Pacific Electric ROW/WSAB Alternatives Analysis Study evaluating transit connections and modes for the 34-mile corridor from Union Station in downtown Los Angeles to the City of Santa Ana in Orange County. Two light rail alternatives were recommended for further study in February 2013. The modes considered included low speed magnetic levitation (maglev), heavy rail, light rail, streetcar, and bus rapid transit. Metro conducted a technical refinement study in 2015 and analyzed six alignment options, all of which only considered light rail technology. See https://metro.legistar.com/View.ashx?M=F&ID=4009278&GUID=957FF362-2944-4958-84CC-43D9A129F55D
6. This cost was developed from a West Santa Ana Brant (WSAB) Transit Corridor Technical Refinement Study published in July 2015. See page 77, accessed at https://scag.ca.gov/sites/main/files/file-attachments/technical_refinement_study.pdf?1604987945
7. A total of $1.435 billion in 2015$ in Measure M Funding across 3 line items was included for West Santa Ana Branch, along with estimates of $2.565 billion in 2015$ of Local, State, and Federal Funding for a total of $4 billion in 2015 $. See https://libraryarchives.metro.net/dpgtl/MeasureM/201609-proposed-ordinance-16-01-county-traffic%20improvement-plan.pdf
8. https://metro.legistar.com/ViewReport.ashx?M=R&N=TextL5&GID=557&ID=3114&GUID=LATEST&Title=Board+Report and https://metro.legistar.com/View.ashx?M=F&ID=4617014&GUID=46D9456E-A3D9-4C41-B961-F5ED95FCEBAE
9. https://metro.legistar.com/ViewReport.ashx?M=R&N=TextL5&GID=557&ID=3962&GUID=LATEST&Title=Board+Report
10. https://elpueblo.lacity.gov/sites/g/files/wph1641/files/2022-07/WSAB%20LAUS%20Study_SWG%20Meeting%201-El%20Pueblo_DRAFT%20220721.pdf
11. In 2022, the FTA approved Metro's request for entry into the Project Development Phase of the Capital Investment Grants Program, which is a key step towards making the project potentially eligible for federal funding.
12. http://metro.legistar1.com/metro/attachments/24a99dba-50ff-4351-949a-43786eae4545.pdf
13. This is the estimated daily ridership for Alternative 3 in 2042 horizon year. See Appendix D, page 5-39, at https://www.dropbox.com/sh/fdye88uzotgmkmt/AAAft1j4V-4jLBtFEjeKL0F-a?dl=0&preview=Appendix+D_Transportation+Impact+Report.pdf

Angeles.[14] The first segment is slated to open in 2035. The remaining 4.5-mile segment, which would connect to Union Station, proved too costly based on aerial and underground routing, and so an additional study is being conducted to determine a more cost-competitive plan.[15]

It is worth considering whether there might be other ways the money set aside for this project could be used to address mobility challenges in the region. LA Metro has devoted millions to this project and is currently obligated to put forward billions more because of Measure M. In the meantime, the goals for the Gateway Cities COG through WSAB—such as economic development, reduced congestion, better transit—are not being achieved.[16] Perhaps that money could have gone towards exclusive bus lanes, express bus services, or microtransit. Instead, it is going towards a project that may never be built, and when it is built, may not accomplish any of those things.

This all could have been avoided, or expectations could have been better managed, by promising voters a specific amount of money for projects (lowercase P), and the specific outcomes desired, rather than packaging financial commitments as definitive "Projects." For example, the same region could have been promised the set aside of $4 billion for mode-agnostic mobility solutions that "carried x riders per day" or "reduced emissions by x%" or "reduced travel time by x minutes" or whatever combination of outcomes that was desired by the COG and its constituents. The Gateway COG's Strategic Transportation Plan from 2016 describes mobility, accessibility, sustainability, and safety as "specific goals." Pushing the COG and the elected officials to focus on outcomes around these goals rather than just Projects makes it more likely those outcomes will be achieved since there is now a more realistic level of flexibility for what the money can be used for.

Research on why Measure M had a resounding victory found people voted for it because it was marketed as a massive investment in boosting the economy and easing traffic.[17] There is little evidence that the public voted based on specific projects. Thus, we surmise that public support would not necessarily be jeopardized by selling a ballot measure on outcomes rather than Projects, and elected officials could still take credit for it. "I helped reduce travel times by 40 minutes" "I made your commute less stressful" "I helped move 60,000 riders a day…" can be compelling campaign points.[18] If we promise outcomes, perhaps we will get the best outcome desired for the money that is available. As of now, there is little hope that WSAB will be complete anytime soon. When we promise Projects, we get Projects no matter the cost or benefit.

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14. If ridership is a prioritized metric, for comparison, the planned Sepulveda Transit Corridor has daily ridership projected in 2042 to range between 122,000-137,000. In 2019, the Metro Red/Purple line had an average daily ridership of close to 120,000. The Expo Line had an average daily ridership of over 54,200.
15. https://elpueblo.lacity.gov/sites/g/files/wph1641/files/2022-07/WSAB%20LAUS%20Study_SWG%20Meeting%201-El%20Pueblo_DRAFT%20220721.pdf
16. The earliest documentation describing purpose and need, a potential stand in for goals and desired outcomes, for WSAB that we could find was in the February 2010 Pacific Electric ROW/West Santa Ana Branch Corridor Alternatives Analysis Report, which stated the purpose was "to explore opportunities for connecting Los Angeles and Orange County through the reuse of the Pacific Electric Right of Way from Union Station in the north to the Santa Ana Regional Transportation Center in the south." More recently, the Gateway COG's Strategic Transportation Plan from 2016 describes mobility, accessibility, sustainability, and safety as "specific goals."
17. Manville, Michael. "Measure M and the Potential Transformation of Mobility in Los Angeles," UCLA Institute of Transportation Studies. January 2019.
18. For example, Councilmember Lincoln Restler for the 33rd district in New York recently held a photo op and press conference celebrating the implementation of more frequent train service and a rollout of subway service enhancements for the MTA. See https://twitter.com/LincolnRestler/status/1677320580511457281

Separate the Planning and Environmental Processes

For many of us who work in transit, it might seem like the planning and environmental processes are the same. Most transit agencies combine these processes, and therefore, the staff, to produce an Environmental Impact Statement (EIS) before proceeding to construction. However, this is by no means the only way to "plan" projects. Even if a transit project needs to be environmentally cleared at the federal level (thankfully they no longer do at the state level in California[19]), this can be a separate process from planning, as is often done by departments of transportation.

By using the EIS process as a planning process, transit agencies are effectively incentivizing planners to focus on "clearing" a project rather than planning. Their goal becomes getting a project across the EIS finish line and proactively guarding against future lawsuits. Unfortunately, when planning departments are set up around the environmental process, it means that they are planning without a net—they have little incentive to keep costs within the affordability envelope or to exercise leadership to manage community and political expectations. They are not rewarded for this. This is why we often see projects environmentally cleared that are unaffordable.

While at LA Metro, where Joshua served as Chief Innovation Officer and led the Public-Private-Partnership (P3) group for the agency, we attempted to address this issue by separating these processes and developing a Predevelopment Agreement (PDA) structure for the Sepulveda Transit Corridor. Under a PDA process, a private consortium (in the case of Sepulveda there are two of them) conduct the planning for the project. They have a strong incentive to plan a project that is affordable, and if they do so successfully, they will have the right to build (and possibly finance, operate, and maintain) that project. Whatever project they plan, LA Metro will need to clear environmentally in a separate process. The theory is that this will lead to a more financially feasible project based on the performance outcomes specified by the agency. We don't yet know whether this will work, but so far, the project structure has been maintained.

This same concept could be applied even without a PDA. If transit agencies separate the planning and environmental process, it would free each process to focus on the appropriate objectives. The planning process could focus on getting the best project possible based on the outcomes desired given available funding, and the environmental process would focus on clearing that project. This more specific focus would likely lead to projects targeting more specific outcomes, but with lower costs.

This does not mean a planning process devoid of public input. Quite the opposite—rather than conducting a mandated environmental review process in which public input is often treated as a box-checking exercise to protect from litigation, a separate planning process would free planners to incorporate public input more authentically. Planning agencies often design public outreach processes around a set of requirements. If instead they were designed around soliciting critical feedback, the entire process might feel more valuable for everyone involved.

19. https://www.prnewswire.com/news-releases/governor-newsom-signs-new-legislation-into-law-that-will-expand-ceqa-exemptions-and-expedite-sustainable-transportation-projects-301638351.html

Integrate Planning, Construction, and Operations Up Front

There is a joke about transit agencies that goes as follows: planners plan a project that can't be built, engineers engineer a project that can't be operated, and operators operate a project very different from what was planned. Unfortunately, this isn't that far from the truth. In our experience both as consultants and within government, the silos at transit agencies are very real, and seemingly persist across multiple geographies and agency formats. These challenges undoubtedly contribute to inefficiencies and higher costs.

As described above, Planning is typically incentivized to clear a project and pass it on to construction. While they might try to keep costs down, they have little reason to push back against community or city demands that increase costs. Public input has value and can improve a project. But conversely, when a community wants an additional cost added, it is often easier to say yes regardless of the public value of that increase, and then let Construction worry about the cost. Meanwhile, Construction can value-engineer the project to bring costs down, but they might do so by making changes that will require a different operating plan, or do not fully consider the customer's experience. By the time the project is built, Operations may find that it is challenging to operate as intended, or that the costs of operations are much higher than planned. Worse, the funding envelope for the project often fails to include the cost of operations and maintenance for the lifecycle of the asset.

It doesn't have to be this way. The problem of departments operating in silos is nothing new, but it often goes unaddressed because getting departments to work with one another is not easy. However, it can be done. One strategy that has been effective is the use of a Project Charter wherein all parties agree before a project begins exactly what their role is in the project, and how decisions will be made. The charter can be updated throughout the process, but, at a minimum, it sets the expectation for how the project will unfold and assigns responsibilities to each department. Another more ambitious strategy is to move from an organization structured around function to one structured around products, projects, or outcomes, with interdisciplinary teams that are cross-functional.

A third strategy is the use of project delivery mechanisms that fold operations and maintenance into the construction contract. This will typically require private financing, and thus a public-private partnership (P3), which can create other challenges for agencies that are not used to them. But the benefit of a P3 with Operations and Maintenance is that it forces the agency to estimate and plan for the operations and maintenance costs of the asset upfront. Time and time again, transit agencies have failed to adequately maintain their assets in a state of good repair, leading to deteriorating service and rising costs. Recent examples include the A Line (Blue Line) overhaul in Los Angeles, the Red Line reconstruction in Chicago, and the New York City subway system for the last decade.

Transit agencies will likely continue to choose to defer maintenance unless there is a mechanism that compels them to maintain their assets properly. A construction contract that includes operations and maintenance is one method that provides appropriate incentives. P3 consortia with a financing investment will bear the cost burden of deferred maintenance and thus choose to avoid it. Admittedly, P3 may not work everywhere and has struggled to become an effective tool for project delivery of transit in the U.S. Some states do not allow P3, agencies often resist the change it requires, and it can be a lightning rod for controversy. But whatever delivery model is used, transit agencies should take pains to ensure that the project will be properly operated and maintained indefinitely.

Conclusion

We are in a period of substantial investment in public transit infrastructure in the U.S., thanks in large part to significant federal, state, and local funds. Unfortunately, we do not have a good track record for delivering this infrastructure quickly and efficiently. We cannot continue to deliver projects the same way and expect different results. While fixing our planning processes is not a silver bullet, it can go a long way towards potentially reducing costs and timelines.

A greater focus on outcomes over projects is long overdue. From the very beginning of the existing planning process, we commit ourselves to defining characteristics of a Project, even if that Project may prove unfeasible. Instead, we must turn the focus to what that project can accomplish. Our planning and environmental processes have become intertwined, but they have different purposes. Separating them can improve and speed both. Finally, silos at agencies are very harmful to project delivery. Leaders will need to take bold steps to break these down, build bridges, and integrate all aspects of project delivery if we are to meet the challenges ahead.

Acknowledgement

The authors thank Lisa Rose, for editorial services, as well as MTI staff, including Executive Director Karen Philbrick, PhD; Deputy Executive Director Hilary Nixon, PhD; Director of Operations Alverina Eka Weinardy; and Graphic Design Assistant Minhvy Tran.

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This report can be accessed at
transweb.sjsu.edu/research/2337

MTI is a University Transportation Center sponsored by the U.S. Department of Transportation's Office of the Assistant Secretary for Research and Technology and by Caltrans. The Institute is located within San José State University's Lucas Graduate School of Business.