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SENATE TRANSPORTATION COMMITTEE OVERSIGHT HEARING REVIEW OF THE CALIFORNIA HIGH-SPEED RAIL AUTHORITY 2023 PROJECT UPDATE REPORT MARCH 28, 2023 BACKGROUND PAPER

Introduction

The purpose of the hearing is to review the California High-Speed Rail Authority's (Authority) 2023 Project Update Report (PUR) and assess the state of the project. Hearing panelists include representatives from the Authority, the Legislative Analyst's Office (LAO), the independent High-Speed Rail Peer Review Group (PRG), local transportation partners who may ultimately operate the first high-speed rail segment and the local communities preparing for future service.

The last year brought a renewed focus for the project and the 2023 PUR serves to highlight the growing challenges to success. As part of the 2022-2023 State Budget, the Legislature approved a \$10.8 billion transportation package, which included funding for transit, freight related infrastructure, active transportation and climate adaptation projects. The package also included an appropriation of the remaining \$4.2 billion Proposition 1A bonds for the high-speed rail project. Additionally, the Legislature approved SB 198 (Committee on Budget and Fiscal Review, Chapter 71, Statutes of 2022), which required the Authority to focus its resources on finishing a usable high-speed segment from Merced to Bakersfield, which is defined as 171-mile electrified dual-track segment with a new combined station in downtown Merced. SB 198 also created a High-Speed Rail Authority Office of the Inspector General (OIG) to not only oversee audits and investigations of the Authority and its contractors, but to provide independent fiscal estimates and reviews of the Authority's business plans and project updates. The Legislature is currently in the process of recruiting for this critical position.

The 2023 PUR provides updated estimates of costs, schedules, and ridership. The picture is not a good one. Due to many factors, including inflation, the costs of achieving a usable segment from Merced to Bakersfield has significantly increased, and the Authority does not have enough funding to complete it. The Authority is anticipating successfully competing for nearly \$8 billion in federal funding to help fill the gap. The high-speed rail project is the largest public works project in the country and has a major impact on the economy, especially in the Central Valley. As of March 2023, high-speed rail

investments have generated roughly 80,000 job-years of employment, with over \$6 billion in labor income, and \$16 billion in economic output.

Today's hearing is an opportunity for Legislators and the public to focus on and gain a better understanding of the current project being built in the Central Valley; the costs associated with delivering a usable segment; the existing and potential funding sources; and its value in meeting the state's infrastructure, environmental, and economic goals. Additionally, partners from the Central Valley will give an update on their respective roles in future operations of the system and the project's impact on Valley communities.

Background

The 2023 PUR provides updates to the previous two Business Plans

The Authority is statutorily required to provide a project update report to the Legislature by March 1st of every odd numbered year. The report is required to describe the status of the project with a summary describing overall progress, the baseline budget for all project phase costs, the current and projected budget, expenditures for all project phase costs, a summary of milestones achieved in the previous two years, any issues identified during the prior two year period, and a thorough discussion of risk.

Additionally, SB 198 added requirements for the 2023 PUR, including a set of specific delivery schedules for various components of the Central Valley project, updates to costs estimates with a stated probability level, an updated funding plan for Merced to Bakersfield, and any additional milestones required for the completion of the Merced to Bakersfield segment.

Overall, the 2023 PUR updates the estimates of costs, schedules, and ridership from the numbers included in both the 2020 and 2022 Business Plans. Due to the COVID-19 pandemic, the 2020 Business Plan was delayed and not finalized until April of 2021, a full year after its original due date. Therefore, the 2022 Business Plan served as an update on what occurred in the 10 months between plans that affected the program, but it did not include updated cost or ridership estimates.

History of High-Speed Rail in California

Development of high-speed rail in California began more than 25 years ago. SB 1420 (Kopp, Chapter 796, Statutes of 1996), created the Authority to direct development and implementation of intercity high-speed rail service that would be fully coordinated with other public transportation services. The Authority reports to the California State Transportation Agency and is governed by an eleven-member Board of Directors. The Governor appoints five members of the board, the Senate Rules Committee appoints two, and the Assembly Speaker appoints two. Additionally, the board includes two ex-officio, non-voting members, one member of the Assembly and one member of the Senate.

Assembly Bill 3034 (Galgiani), Chapter 267, Statutes of 2008, placed before the voters the Safe, Reliable High Speed Passenger Train Bond Act for the 21st Century (Proposition 1A) in November of 2008. California voters approved the initiative, which authorized \$9.9 billion in general obligation bonds for two distinct purposes: \$9 billion to develop and construct a high-speed rail system connecting San Francisco Transbay Terminal to Los Angeles Union Station and Anaheim; and \$950

million for connecting intercity and commuter rail systems that would enhance those systems' capacity, safety, or connectivity to the high-speed rail system.

Proposition 1A prescribes specific route and design requirements for the high-speed rail system including that it must be electrified, be capable of sustaining speeds of no less than 200 miles per hour, and have the capacity to achieve travel times between San Francisco and Los Angeles of 2 hours and 40 minutes. Additionally, Proposition 1A requires a one-to-one match of all bond funds from other sources and lays out specific requirements the Authority must meet in order to access and spend the bond funds, including submission of detailed funding plans to the Legislature and Department of Finance. Furthermore, Proposition 1A requires high-speed rail to operate without government subsidies. At the time of the passage of Proposition 1A, estimates for the cost of the system varied. The analysis by the LAO that accompanied the ballot measure referenced a 2006 estimate from the Authority that the total cost to develop and construct the entire high-speed rail system would be about \$45 billion.

In July 2012, the Legislature approved SB 1029 (Committee on Budget and Fiscal Review, Chapter 152, Statutes of 2012), that appropriated nearly \$8 billion in federal and state funds to begin the construction between Madera and Bakersfield. SB 1029 funded three components of the project, including \$5.8 billion (\$3.2 billion federal grants and \$2.6 billion Proposition 1A) to fund the construction of the high-speed rail "backbone" in the Central Valley; \$819 million of Proposition 1A bonds for "connectivity" projects on existing rail and transit systems throughout the state; and \$1.1 billion for the "bookends" projects in the Bay Area and Southern California (\$600 million for the electrification of Caltrain and \$500 million for projects in the Los Angeles Basin) to improve existing rail corridors for eventual use by the high-speed rail system.

Further, a 2014-15 state budget trailer bill SB 862 (Committee on Budget and Fiscal Review, Chapter 36, Statutes of 2014), continuously appropriated 25 percent of the revenues derived from the state's Cap-and-Trade program to the project. In July 2017, the Legislature extended the state's Cap-and-Trade program through 2030, with AB 398 (Garcia, Chapter 135, Statutes of 2017). The Authority estimates that this equates to a range of \$750 million to \$1 billion annually in funding for the program.

In 2015, the Authority broke ground on the first construction segment in the Central Valley, starting work on 119 miles from Madera to Poplar Avenue outside of Shafter. This work was reflected in the Authority's grant agreement with the Federal Railroad Administration (FRA) to spend the federal and state monies appropriated in SB 1029.

Evolution of the Project

Overall, the project is to be built in two phases, with Phase I covering roughly 500 miles from San Francisco to Los Angeles/Anaheim. Phase II would extend the system to Sacramento in the north and San Diego in the south. The delivery of the project was broken into segments, including an Initial Operating Segment (IOS), which over the years changed from a southern-focused route to Los Angeles, to a northern-focused route from San Francisco to Bakersfield, the so-called Silicon Valley to Central Valley Line (Valley to Valley).

Specifically, the 2016 Business Plan unveiled this new northern-focused route defining the Valley to Valley Line to run from 4th and King Streets in San Francisco south through the Silicon Valley turning east across the Pacheco Pass to Madera and then south to Bakersfield. At that time, the funding plan

for the Valley to Valley segment included existing sources of Proposition 1A bonds, federal funds, continued Cap-and-Trade pay-as-you-go funding and a Cap-and-Trade financing plan to 2050. In February 2019, Governor Newsom delivered his State of the State address and he appeared to signal a change in the project, shifting emphasis to completing a workable rail line in the Central Valley, but casting doubt over the completion of the full Phase I. Specifically, Newsom noted, “the project, as currently planned, would cost too much and take too long. There’s been too little oversight and not enough transparency.” He outlined a new Central Valley construction plan, including extending the current line north to Merced and south to Bakersfield, stating, “High-Speed Rail is much more than a train project. It’s about economic transformation and unlocking the enormous potential of the Valley.”

The statement caused serious confusion about the future of the project and created a public schism with the Trump Administration over the federal funding agreement and ongoing federal participation and commitment to the project. Specifically, the FRA moved to de-obligate \$929 million awarded to California stating that the Authority “failed” to comply with the terms of the agreement, and has failed to make reasonable progress on the project.” Additionally, the FRA stated that they would possibly attempt to claw back, the remaining \$2.6 billion in federal grants which had already been expended. Subsequently, the State of California sued the FRA over the de-obligation. The Biden Administration settled the court case with the state, and the Authority renegotiated the grant agreement with the FRA for the \$929 million. This new agreement extends the period of the grant and added electrification of the Central Valley segment to the required scope of work.

Newsom’s Valley Vision

Governor Newsom’s new focus on the Valley construction was detailed in the 2019 PUR and continues in the 2022 Business Plan and the 2023 PUR. The 2019 PUR committed the Authority to completing an initial “building block” of a high-speed system in the Central Valley. Specifically, the new Central Valley Line was a 171 mile high-speed rail line from Merced to Bakersfield, with stations planned for Merced, Madera, Fresno, Kings/Tulare, and Bakersfield F Street. The Central Valley Line included all of the current Central Valley construction (119 miles), with extensions to Merced and Bakersfield. In 2019, the Central Valley construction was estimated to cost \$12.4 billion and the complete new Central Valley Line was estimated to cost \$20.4 billion to be completed by 2028. At that time, the Central Valley Line scope included the extensions in the north and south, double track and systems, new high-speed trains, and several maintenance facilities. The new line would be operated by an interim passenger rail operator, likely a partnership with the existing San Joaquins service.

2023 PUR

The Legislature focuses in on the Central Valley

As noted, the 2023 PUR is informed by new, additional requirements approved by the Legislature as part of the funding package that appropriated the remaining \$4.2 billion in Proposition 1A bonds. The Legislature expressed its intent that the Authority prioritize use of its funds to complete the Merced to Bakersfield segment. As mentioned, the Merced to Bakersfield segment is defined as “the 171-mile electrified dual track segment that is usable for high-speed rail service in the Central Valley from Merced to Bakersfield, with a new combined station in downtown Merced, and connections to the Amtrak San Joaquins and the Altamont Corridor Express.”

Additionally, the Legislature put restrictions on what can be funded outside of the Merced to Bakersfield segment, including fulfilling requirements of the federal grant agreement such as the completion of statewide environmental clearances.

Costs continue to increase

Specifically, the 2023 PUR details the Central Valley Segment as 119 miles from Madera to Shafter with a double track, no stations, to begin train testing by 2028. The total cost is estimated at \$18.3 billion, up from \$14.5 billion in 2022 Business Plan. The full Central Valley Line is detailed as a 171 mile electrified high-speed rail line from Merced to Bakersfield, double tracked, stations (platforms) at Merced, Fresno, Kings/Tulare, and Bakersfield, maintenance and energy facilities, and the purchase of trainsets to be completed by the 2030 -2033. The Central Valley Line is estimated to cost \$32.9 billion, with an additional \$2.3 billion for bookends projects and Phase I costs or a total of \$35.3 billion. This is up from \$25.7 billion in 2022 Business Plan. These estimates reflect a so-called P65 level, meaning it reflects a 65 percent probability of delivering the project within the cost estimates, which aligns with guidance from the federal government for risk. However, the 2023 PUR does provide estimates at a P30 and P50 level as well, and the Authority has stated its desire to deliver the project at the P50 estimate.

The Authority cites numerous reasons for the increase in costs and schedules of both the 119 -mile segment and the full Central Valley Line. These include the impact of inflation; expanded scope, including full double tracking, fully built out stations and operating facilities; higher contingency reflecting the P65 level; and agreements with third parties, such as cities and counties.

Ridership estimates down

As mentioned, after the completion of the Central Valley Line, the Authority envisions an independent operator for the interim high-speed service. An approach they refer to as an “infrastructure owner” approach. This will likely be the San Joaquin Regional Rail Commission (SJRRC), which currently operates the San Joaquins intercity passenger rail (Amtrak) service in the Central Valley and the Altamont Corridor Express (ACE) to the Bay Area. It is unclear how this agreement would work in practice and how much it may cost the state. Proposition 1A requires “planned passenger train service to be provided by the Authority, or pursuant to its authority,” to operate without a subsidy. The Authority believes that by leasing the state rail asset to the SJRRC to provide service as a “universal operator” that they would not be in violation. However, SJRRC may need additional subsidies from the state if revenue from the farebox does not cover operating expenses. In November 2020, the Authority entered into a Memorandum of Understanding with the California State Transportation Agency and SJJPA for the “cooperation and coordination in the development of an interim service plan.”

The planned line would connect a new multi-modal station in downtown Merced with the existing San Joaquins and ACE service. In the south, the high-speed rail line would connect with Amtrak bus service to Southern California. There are also plans to increase transit connectivity between Kings/Tulare and Bakersfield stations to destinations such as Yosemite. The San Joaquins is one of the busiest Amtrak routes in the United States, connecting the Central Valley to Sacramento and Oakland, with bus connections south to Los Angeles. Prior to COVID-19, ACE connected nearly 1.5 million commuters per year to the Bay Area.

The Authority envisions the service running 18 trains per day providing two-way hourly service between Merced and Bakersfield, which would reduce passenger trip time by more than an hour and a

half. The 2023 PUR updated ridership estimates from the 2020 and 2022 Business Plans. As part of this work, a new forecasting model, the California Rail Ridership Model, was used. The new model incorporates revised population data and employment growth forecast. Specifically, 6.6 million annual trips are estimated to occur on the entire system (including connecting rail and intercity bus service) by 2030, with 2.3 million trips traveling on the high-speed segment. This represents a 25 percent decrease from the 2020 Business Plan. For all of Phase I, ridership estimates are down to 31.3 million riders by 2040 versus 38.6 million in the 2022 Business Plan.

Where will the money come from?

The Authority identifies numerous existing and planned sources of funding needed to complete the **Central Valley Line**.

Federal Funds:

- \$3.5 billion ARRA + FY 2010
- \$49 million RAISE Grants (*FY 21 and FY 22*)

State Funds:

- \$8.5 billion Proposition 1A (*including book-ends*)
- \$5.4 billion Cap-and-Trade received through November 2022
- \$6.0 — \$7.7 billion Cap-and-Trade future revenue through 2030 (*assumes \$750 million - \$1 billion estimate*)

\$23.5 — \$25.2 billion total funding available (including \$1.1 billion for book-ends)

\$33.8 -- \$35.3 billion estimated cost (including book-ends and Phase I support)

Approximately \$10 billion in additional funding needed to complete Central Valley Line

The 2023 PUR estimates the Authority's portion of Cap-and-Trade revenue at \$750 million to \$1 billion/annually. The assumptions are based upon a LAO estimate of Cap-and-Trade base revenue forecast. In the past, the LAO has expressed concerns over using this assumption of higher Cap-and-Trade revenue out to 2030. Additionally, the PRG remains concerned about whether the Authority will be able to complete the 119 miles as required by the federal grant. The 2023 PUR makes it clear that the Central Valley Line cannot be completed without additional funding. Depending on the range of estimates, it identified the funding gap could be between \$10 and \$12 billion. The Authority reiterates the benefits of the extension of the Cap-and-Trade to 2050, as they have since the 2016 Business Plan, noting that it could generate \$40 to \$80 billion in additional revenue for the Greenhouse Gas Reduction Fund, of which high-speed rail could receive an additional \$10 to \$20 billion.

Financing Cap-and-Trade continues to be a major source of possible revenue for the project. The Authority continues to request three things from the Legislature to make it successful: an extension of the Cap-and-Trade program through 2050, no-impairment of their current dedicated appropriation of 25 percent of Cap-and-Trade proceeds, and a minimum guarantee of funding. The Authority proposes that these factors would allow them to finance the future stream of revenues to receive up front funds to continue construction. Additionally, they would work to utilize federal financing mechanisms such

as the Transportation Infrastructure Finance and Innovation Act (TIFIA) and the Railroad Rehabilitation and Improvement Financing (RRIF).

More federal funding desperately needed

In 2021, Congress passed the Infrastructure Investment and Jobs Act (P.L. 117-58), otherwise known as the Bipartisan Infrastructure Law (BIL), which will provide over \$550 billion in funding for infrastructure including roads, bridges, transit, rail, water infrastructure, and broadband over the next five years. The Authority has identified over \$75 billion in the BIL for which the Authority could compete. The idea being to break down component parts of the project and apply for specific pots of federal funding.

In the 2023 PUR, the Authority sets a goal of \$8 billion of federal funds needed for the Merced to Bakersfield Line. This amount would bring the federal funding total to 35 percent of the project, with the state paying for 65 percent. However, as noted above, the actual gap between money the project has and money the project needs is approximately \$10 billion. Even if the Authority receives \$8 billion from the federal government, it is unclear where the additional \$2 billion would come from. The 2023 PUR outlines a Merced to Bakersfield passenger service phased approach for grant applications. This would prioritize the work that is underway and is critical to meeting the 2030 service goal. Other parts of the Central Valley Line would be completed as federal grants are awarded.

The 2023 PUR restates that the priority of the Authority, pursuant to the requirements of SB 198, is to apply for grants to complete the Merced to Bakersfield segment. However, the Authority also plans to apply for funds to advance design on the remaining project sections, specifically San Jose to Merced and Bakersfield to Palmdale. The 2023 PUR details numerous federal grants the Authority is targeting, the largest of which is the Federal-State Partnership for Intercity Passenger Rail Grants with \$12 billion available for projects outside of the Northeast Corridor. The Authority notes that they stand ready with state funds to match any federal grants, as both Proposition 1A bonds and Cap-and-Trade could be used.

The Next Big Step – Valley to Valley and Phase I

As noted, the 2023 PUR updates costs estimates for the Central Valley Line and the remainder of the system, however nothing outside the Central Valley can be estimated with the same level of confidence as only a small portion of the design work has been completed. As the Legislature has required the Authority to focus on completing the Central Valley Line prior to doing much work beyond the 171 miles, the Authority continues to plan for the next possible steps. The next big step would be the completion of the Valley to Valley Line connecting the Central Valley with Silicon Valley. In the 2016 Business Plan the project was estimated to cost \$20.7 billion and be completed by 2025. The Authority did not update cost estimates for Valley to Valley specifically, but did break out the costs for the remaining segments of Phase I, which could put Valley to Valley at between roughly \$59 billion (base) to \$68 billion (high). This an up from an estimated \$40 billion in the 2020 Business Plan.

As the Authority builds in the Central Valley, they continue to do work in planning, design, and environmental clearance throughout the entire San Francisco to Los Angeles, full Phase I system. When the Legislature took action on SB 1029 in 2012, Phase I was estimated to cost \$68 billion and be up and running by 2029. The 2022 Business Plan estimated the Phase I cost to be roughly \$92 billion and the 2023 PUR estimates are a range between \$106 billion (base) to \$127 billion (high).

To move forward with the next steps of the program, the Authority would need a large amount of additional, dedicated, stable funding. Options could include the possible financing of Cap-and-Trade revenues, which has been proposed repeatedly since 2016; additional state resources; or even more federal funding. The PRG has recommended numerous state funding options over the years, such as a state sales tax or gasoline tax, to provide stable funding for the project.

Bookends – Partners in Bay Area and LA

As previously described, the so-called bookends projects were defined and funding was appropriated by SB 1029 in 2012. Specifically, the Authority has committed a total of \$714 million to the Northern California project, the electrification of Caltrain, with \$600 million in Proposition 1A bond funds and the remainder in state Cap-and-Trade funds. The Caltrain electrification project, which is scheduled to be completed by 2024, will electrify and upgrade Caltrain's commuter rail service between San Francisco and San Jose. The total cost of the Caltrain project is estimated at \$2.44 billion. Additionally, the Authority contributed \$84 million of \$180 million total to the San Mateo Grade Separation project on the Caltrain corridor.

In Southern California, two projects have been identified for funding from the \$500 million in Proposition 1A bond funds appropriated in SB 1029. \$76.7 million was approved for the Rosecrans/Marquardt grade separation project, which is in Santa Fe Springs on the BNSF mainline tracks at the intersection of Rosecrans and Marquardt Avenues. The intersection is also on the Los Angeles/San Diego/San Luis Obispo (LOSSAN) corridor, which is utilized by Amtrak and Metrolink. The intersection sees more than 112 freight and passenger trains per day and has been rated by the California Public Utilities Commission (CPUC) as the most hazardous grade crossing in California. The project is expected to be completed by 2025.

The remainder of the Proposition 1A bonds funds for Southern California, \$423.3 million, is dedicated to Los Angeles Union Station (LAUS) for the Link Union Station (Link US) project in downtown Los Angeles. The Link US project will extend up to 10 rail tracks at LAUS to the south of the station over U.S. Highway 101, including platforms and tracks for use by future high-speed rail. The project allows trains at LAUS to "run through" the station rather than head in and back out through a single entrance. The project is planned for two phases of construction with the cost of Phase A, as of 2022, estimated at \$950.4 million, which is fully funded including Proposition 1A bond funds, to be completed in 2028, and the cost of Phase B estimated at \$2 billion but is not currently funded.

Conclusion

The Authority is charged with planning, designing, building, and operating the nation's first high-speed rail system. It is a daunting task. The sheer size of the program, coupled with inadequate, unstable funding; rigid design criteria; constant legal threats; environmental and geological concerns; and difficult engineering challenges make success seem impossible. Additionally, the project has been plagued with cost increases and project delays, internal restructuring and staffing issues, and for a time, a federal government not interested in being a full partner.

The 2023 PUR, informed by the recent actions of the Legislature, paint a difficult picture. The Legislature recommitted the Authority to delivering a usable segment in the Central Valley before moving to other areas of the state. The Merced to Bakersfield segment, which is defined as 171-mile

electrified dual-track segment with a new combined station in downtown Merced, cannot be completed with the funding the Authority currently has. The Authority is anticipating successfully competing for nearly \$8 billion in federal funding to help fill the gap. Even if this \$8 billion goal is realized, there is still a nearly \$2 billion shortfall.

Additionally, there is no funding plan beyond Merced to Bakersfield to complete either Valley to Valley or Phase I. Concerns remain about cost escalation of the existing work in the Central Valley and the continued schedule slip.

For the hearing, the Legislature may want to consider:

- Does the proposed project serve the transportation needs of the state? At what point will the state see the benefits of the project?
- Can the Central Valley Line be built at the current cost and schedule? If not, what will the state need to commit to provide to complete the work?
- Can the Authority deliver the 119-mile segment to fulfill the federal grant agreement?
- What does the Authority need to complete a usable segment? How can the state be sure the project creates value at each stage of completion?
- Will the Authority be successful in hitting their \$8 billion goal of new federal funding?
- Will the new IOG provide the oversight of the Authority the Legislature is looking for?

Today's witnesses will share their expertise and insights on these and other questions.