APPENDIX A: Detailed analysis requested under SB125 1.E, Sections 1-7, 10-11

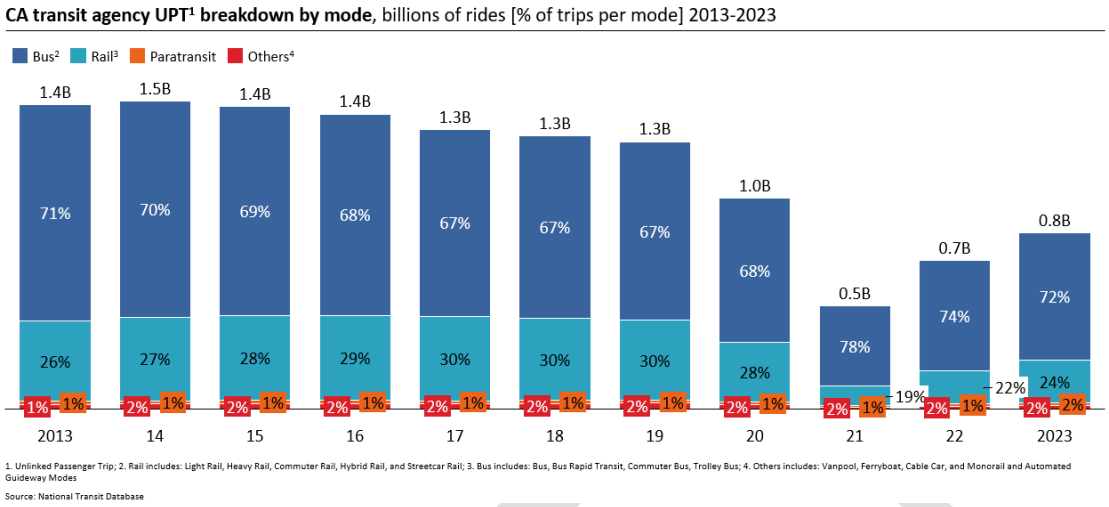
1. *The services provided by transit agencies and the demographics of transit ridership, with detail on services provided, including persons with disabilities, or specific populations like low-income individuals and students (SB125 1.E.1)*

Overall services and ridership

There are over 200 public transit agencies in California that provide a variety of services, including buses, light/heavy rail, paratransit, ferries and more.[1] As shown in the exhibit below, pre-COVID-19 pandemic, state transit agencies provided an average of around 1.3-1.5 billion unlinked passenger trips across all modes of transit per year.[2] Unlinked Passenger Trips (UPT), however, is an imperfect metric. Projects such as LA Metro's Regional Connector, for example, eliminated 2 transfers for rail riders in the heart of Downtown LA, resulting in a single trip going from 3 unlinked passenger trips to 1. Thus, "trips" are down but the passenger experience is vastly improved.

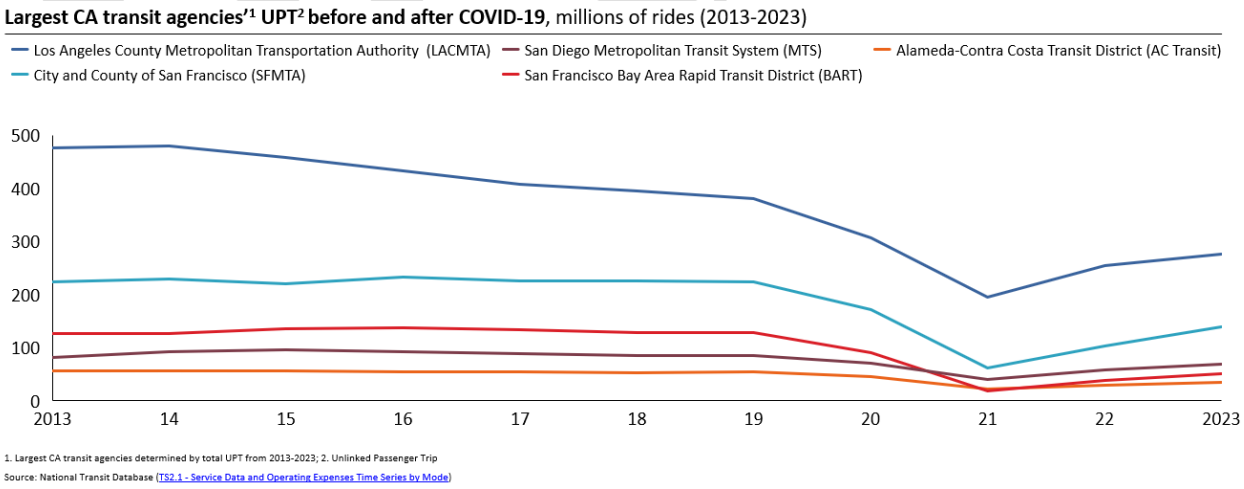
Exhibit: Unlinked Passenger Trip (UPT) breakdown by mode 2013-2023[3]

[1] California transit agencies also provide services using trolleybuses, commuter rail, vanpools, bus rapid transit, commuter buses, ferryboats, streetcar rail, hybrid rail, cable cars, and monorail/automated guideway modes
[2] National Transit Database (TS2.1 - Service Data and Operating Expenses Time Series by Mode)
[3] National Tr
ansit Database (TS2.1 - Service Data and Operating Expenses Time Series by Mode)



Since the pandemic, transit agencies have begun to rebound, providing over 800 million unlinked passenger trips in 2023.[4] However, the extent to which ridership has returned to pre-pandemic levels has been mixed, with some of the largest transit agencies in the state seeing ridership more fully rebound (such as San Diego Metropolitan Transit System), while others (such as Bay Area Rapid Transit) have rebounded more slowly.[5]

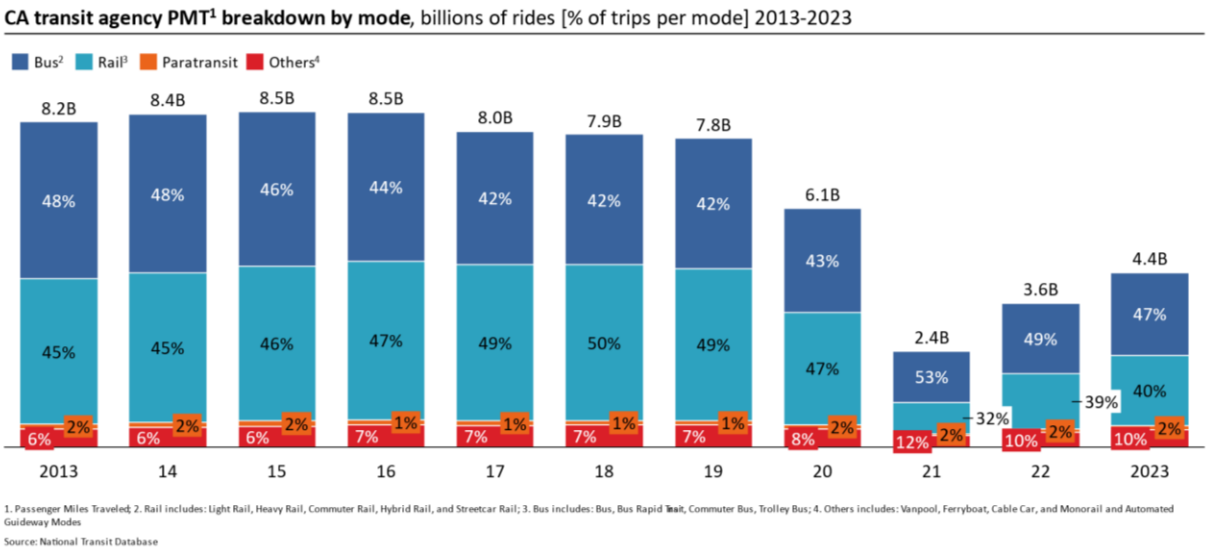
Exhibit: Largest CA transit agencies' UPT before and after COVID-19[6]



[4] National Transit Database (TS2.1 - Service Data and Operating Expenses Time Series by Mode)
[5] National Transit Database (TS2.1 - Service Data and Operating Expenses Time Series by Mode)
[6] National Transit Database (TS2.1 - Service Data and Operating Expenses Time Series by Mode)

Passenger Miles Traveled (PMT) show a similar trajectory to UPT, but a different modal breakdown. Like UPT, PMT in aggregate have been in a slow decline from 2015 – 2019, and then suffered a large downturn associated with the COVID-19 pandemic, before beginning a partial recovery in the years that followed. Because rail trips, on average, are longer than bus trips, rail trips are nearly half of total passenger miles traveled in most years, despite being only 25-30% of unliked passenger trips.

Exhibit: Passenger Miles Traveled (PMT) breakdown by mode 2013-2023[7]



In comparison to UPT, service levels as measured by both Vehicle Revenue Miles (VRM) and Vehicle Revenue Hours (VRH) are closer to pre-pandemic levels. VRM in 2023 was about 631 million miles vs. 696 million in 2023, and VRH was 41k hours in 2023 vs. 46k hours in 2019. Between modes, bus VRH and VRM have been slower to recover than rail equivalents. While these metrics provide a useful measure of how overall service levels are changing, they do not provide a full picture for the state and

[7] National Transit Database (TS2.1 - Service Data and Operating Expenses Time Series by Mode)

alternative metrics, like the share of population that can access destinations via public transit, may better capture how well public transit is serving its riders.

Exhibit: VRM[8] across CA transit agencies by mode from 2013 to 2023 (millions of miles)[9]

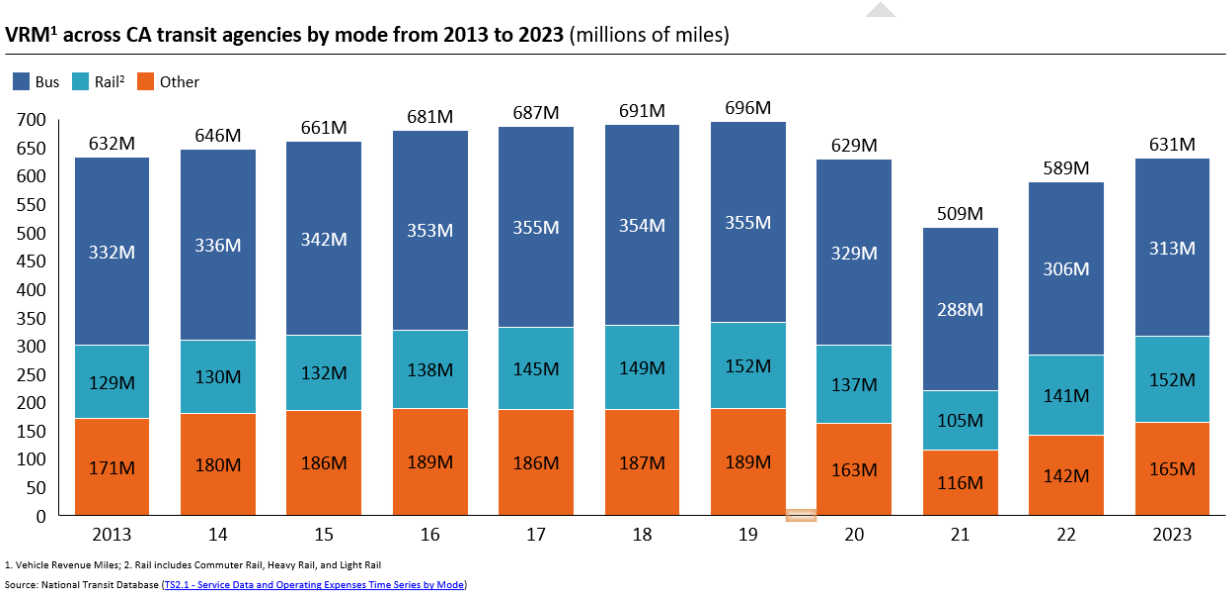
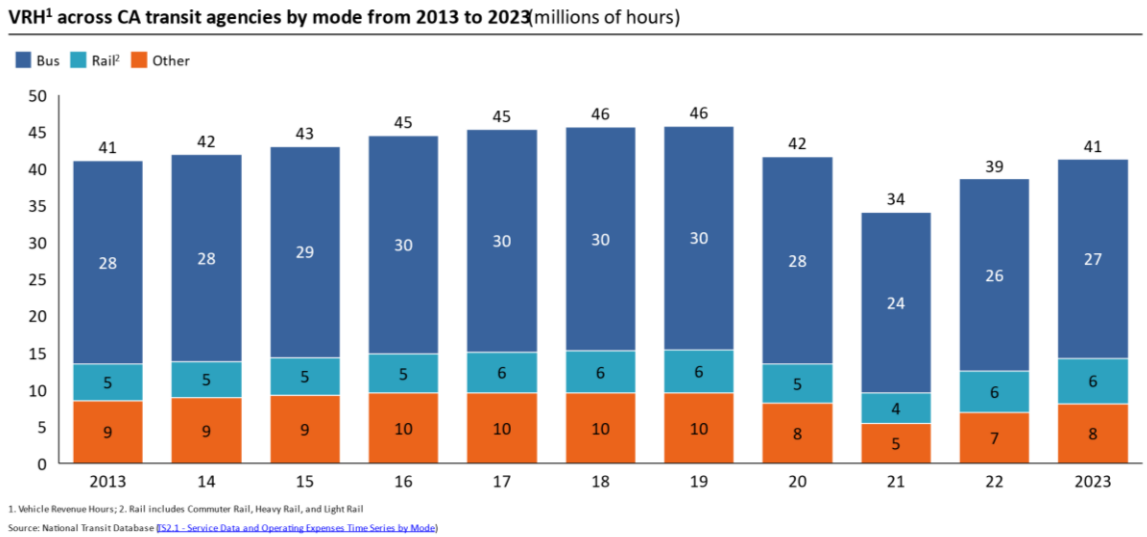


Exhibit: VRH[10] across CA transit agencies by mode from 2013 to 2023 (thousands of hours)[11]



[8] National Transit Database (TS2.1 - Service Data and Operating Expenses Time Series by Mode)
[9] National Transit Database (TS2.1 - Service Data and Operating Expenses Time Series by Mode)
[10] Vehicle Revenue Hours
[11] National Transit Database (TS2.1 - Service Data and Operating Expenses Time Series by Mode)

More than half of transit route miles and number of routes are in two Metropolitan Planning Organizations (MPOs): the Southern California Association of Governments (SCAG) and the Metropolitan Transportation Commission (MTC) in the Bay Area. These two regions also have the largest number of square miles near a high-quality transit corridor or a major stop. The largest 5 regions make up more than 75% of route miles and 85% of routes.

Exhibit: Overview of routes by Metropolitan Planning Organization, 2025[12]

MPO	Total route miles	# Routes	Square miles near high-quality transit or major transit stop
Southern California Association of Governments	46,020	1226	753
Metropolitan Transportation Commission	22,363	769	352
Santa Barbara County Association of Governments	13,425	156	10
Sacramento Area Council of Governments	11,721	280	69
San Diego Association of Governments	7,556	357	169
San Luis Obispo Council of Governments	5,181	39	2
Association of Monterey Bay Area Governments	4,941	71	24
Shasta Regional Transportation Agency	4,233	18	1
Butte County Association of Governments	4,020	23	1
Kern Council of Governments	2,372	38	0
San Joaquin Council of Governments	1,967	79	3
Fresno Council of Governments	1,412	33	31
Merced County Association of Governments	1,238	31	6
Tulare County Association of Governments	1,113	39	4
Stanislaus Council of Governments	1,093	37	8
Kings County Association of Governments	662	15	0
Madera County Transportation Commission	575	11	0
Tahoe Regional Planning Agency	275	9	3

Demographics of ridership

Although there is no comprehensive statewide survey of the demographics of ridership, reviewing a sample of transit agency surveys can reveal details on the demographics of transit ridership, including on persons with disabilities, or specific populations like low-income individuals and students. Other sources of data are incomplete. For example, the American Community Survey, only surveys commuters

[12] GTFS

and has gaps in information on transit trips, and the National Household Travel Survey was last completed in 2022 and lacks a large enough sample size among transit riders in California for reliable reporting.

Reviewing the results of the 2023-2024 Metropolitan Transportation Commission (MTC) Snapshot Survey of the Bay Area transit services, LA Metro's 2022 Customer Experience Survey, and Monterey-Salinas Transit (MST) 2023 Onboard Survey, can show point-in-time demographics in both Northern and Southern California, as well as in both larger and smaller agencies. Demographic information from those surveys show:

MTC 2023-2024 Transit Snapshot Survey[13]:

- Larger shares of riders are low-income compared to pre-pandemic, with 44% of riders having a household income below $50,000
- 8% of riders have a disability that limits ability to travel
- There has been a decline in work related travel as work trips are still 50% of total trips and 17% of trips are to school, likely trips done by students

LA Metro 2022 Metro Customer Experience Survey[14]

- 89% of bus riders and 72% of rail riders make a household income less than $50,000

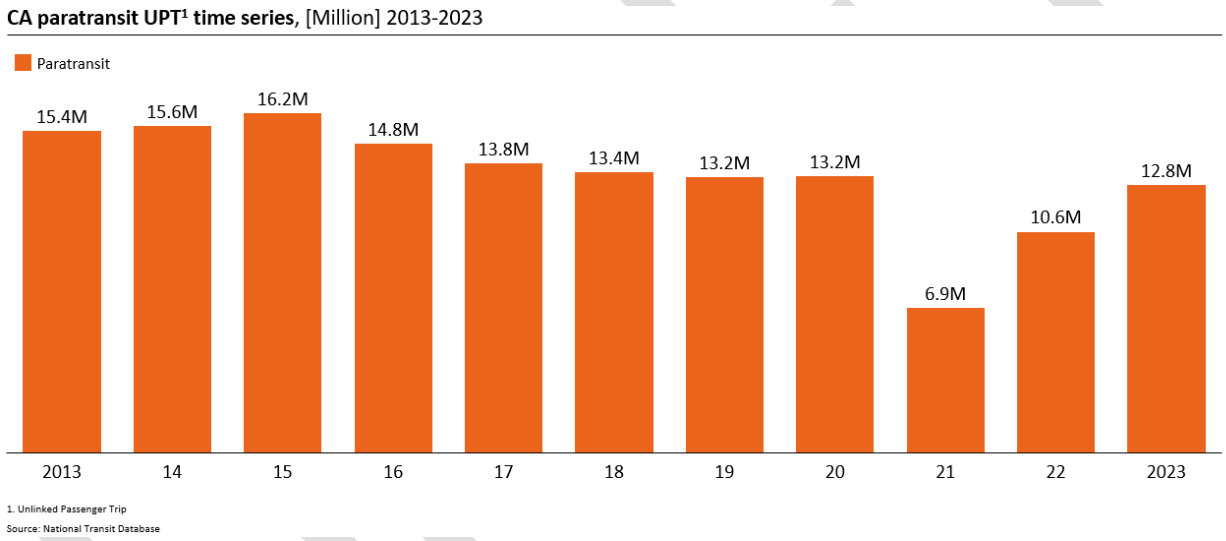
MST 2023 Onboard Survey[15]

- ~ 20% of riders that provided disability information, identified themselves as having a physical disability that causes them to be dependent on others for transportation
- ~75% of riders that provided income information have household incomes under $40,000 and almost ~90% have annual household income under $60,000
- 13% of riders use MST to get to/from school (college/university) and another 13% use MST to get to/from school (K-12); 18% of riders describe their employment status as being students

[13] MTC (MTC 2023-2024 Transit Snapshot Survey)
[14] LA Metro (LA Metro 2022 Metro Customer Experience Survey)
[15] MST (2023 Onboard Survey)

California transit agencies provide paratransit services for persons with disabilities (and older persons) who are unable to use fixed route bus services and whose destinations and trip origins are within ¾ of a mile of a bus route (minimum requirement), however, many agencies choose to offer service within their entire service area. Paratransit ridership fell during COVID-19, but has since rebounded to nearly 13 million riders per year.[16] This is closer to pre-pandemic levels than ridership on fixed route services.

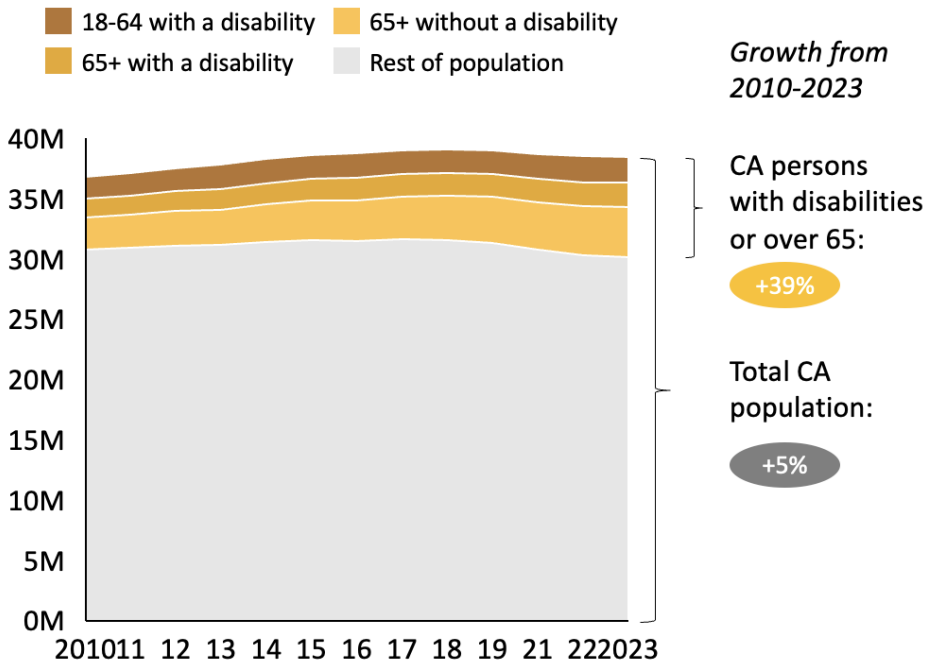
Exhibit: Paratransit Unlinked Passenger Trips (UPT), 2013-2023[17]



The segment of the California population that uses these paratransit services has grown faster than the population at large. Additionally, the number of Californians with disabilities or over 65 increased 39% between 2010 and 2023, compared to an average of 5% across the California total population at large.

Exhibit: California population by age and disability status, million

[16] National Transit Database (TS2.1 - Service Data and Operating Expenses Time Series by Mode)
[17] National Transit Database (TS2.1 - Service Data and Operating Expenses Time Series by Mode)



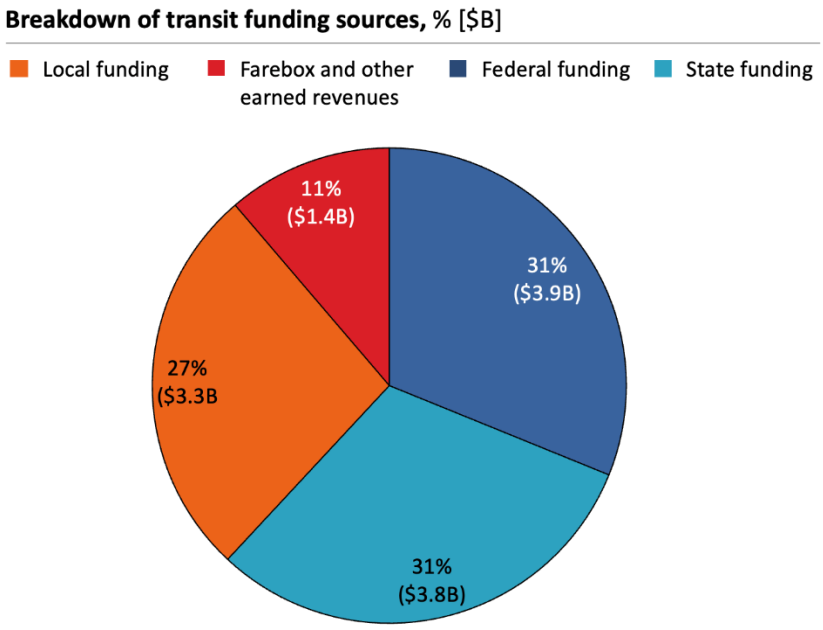
2. Existing funding sources for transit with a breakdown of funding available for capital and operations, including any constitutional and statutory limitations on these existing funding sources (SB125 1.E.2)

In FY2022-23, transit agencies in California had approximately $12.5 billion in revenues across a diverse array of funding sources to run, maintain, and expand transit systems.[18] These revenues grew by about 5% per year from 2013 to 2023.[19] California transit dollars are primarily split across federal (~$3.9B), state (~$3.8B), local (~$3.3B), and farebox revenue (~$1.4B).[20] Some of the largest sources of funding for transit are detailed below. Although much of the federal funding (e.g. Capital Investment Grants), and some of the local tax measures listed are predominantly spent on capital uses, most of the other funding sources are generally used for both capital or operating purposes (e.g., Urbanized Area Formula Grants at the Federal level, and large State sources such as Local Transportation Fund (LTF) and State Transit Assistance (STA)).

[18] State Controller's Office, USDOT / Federal Transit Administration, National Transit Database (farebox revenue)
[19] National Transit Database growth in total funding from 2013 to 2023
[20] State Controller's Office, USDOT / Federal Transit Administration, National Transit Database (farebox revenue)

Additionally, local and state monies are often used to serve as local match for federal requirements, which makes reallocating those funds away from Capital and towards operating challenges as they jeopardize federal funding. For the purposes of this analysis, the Local Transportation Fund is classified as a state source, as it was enabled by state law, however, all funds are raised and returned to source by county.

Exhibit: Breakdown of transit funding sources in California: FY22-23, % [$B][21]

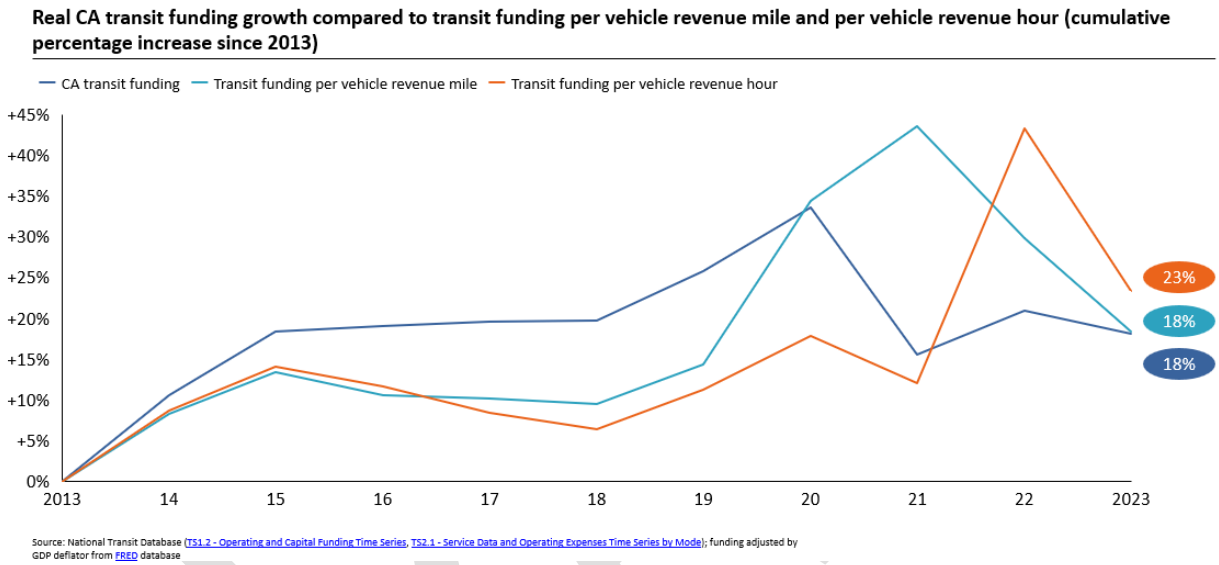


Over the past decade, total transit agency revenues as measured by the National Transit Database (NTD) have increased around 20% in inflation adjusted terms but with a high level of variability around COVID-19, with large changes in fare revenues and relief funds.[22] Some of the highest growth in cost items have included operator wages, purchased transportation and utilities.[23] The exhibit below shows the percentage increase in funding over the period across a number of metrics including total funding, funding per vehicle revenue mile, and funding per vehicle revenue hour

[21] State Controller's Office, USDOT / Federal Transit Administration, National Transit Database (farebox revenue)
[22] National Transit Database (TS1.2 - Operating and Capital Funding Time Series, TS2.1 - Service Data and Operating Expenses Time Series by Mode); funding adjusted by GDP deflator from FRED database
[23] National Transit Database 2023

(all inflation adjusted). All metrics have increased by at about the same rate when compared to service levels, given service levels have remained relatively flat over the period.[24]

Exhibit: CA transit funding growth compared to transit funding per VRM[25] and VRH[26,27]

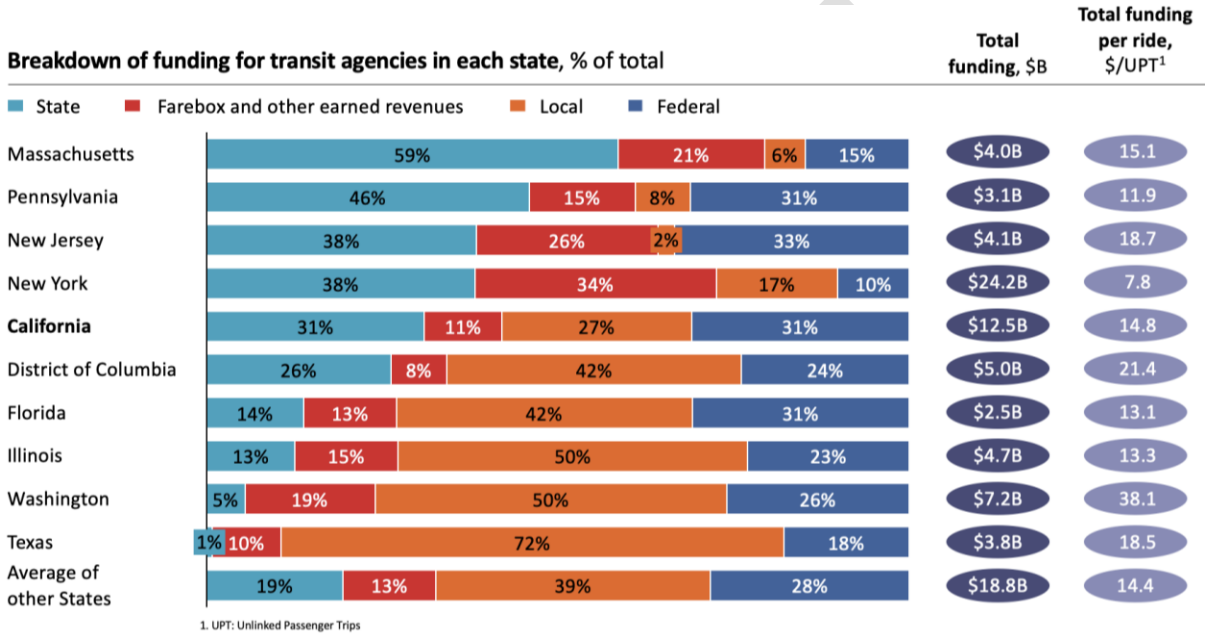


Transit agencies in California receive a significant share of their funding from State sources. Approximately $3.8B or 31% of the funding is from State programs, most of which comes through the Local Transportation Fund (~$1.2B), State Transit Assistance and State of Good Repair (~1.1B) and Transit and Intercity Rail Capital Program (~$0.7B).[28] State programs are funded through three main mechanisms: Transportation Development Act (from sales taxes, diesel taxes), Senate Bill 1 (from gas taxes, vehicle registration fees) and the Greenhouse Gas Reduction Fund (from cap-and-trade auction fees).[29] Among large transit agencies in the US, California has the 5th highest

[24] National Transit Database (TS1.2 - Operating and Capital Funding Time Series, TS2.1 - Service Data and Operating Expenses Time Series by Mode); funding adjusted by GDP deflator from FRED database
[25] Vehicle Revenue Mile
[26] Vehicle Revenue Hour
[27] National Transit Database (TS1.2 - Operating and Capital Funding Time Series, TS2.1 - Service Data and Operating Expenses Time Series by Mode); funding adjusted by GDP deflator from FRED database
[28] See Exhibit: Breakdown of transit funding sources in California: FY22-23, % [$B]
[29] Road Repair and Accountability Act (SB 1), Transportation Development Act (TDA), California Air Resources Board

share of State funding in total funding (12th when compared to across all States and Territories).[30]

Exhibit: Transit funding source breakdown across largest 10 states by total revenue[31]



There are also some additional Federal and State funds for infrastructure, that today are largely used for roads, that may also be eligible to be used for transit. Some of the largest include the Federal Surface Transportation Block Grants (STBG)($1.2B to CA per annum), the Federal Congestion Mitigation and Air Quality Improvement Program (CMAQ) ($0.5B) and State Transportation Improvement Program (STIP) ($0.5B).[3] Currently, some of these funds are spent on transit projects, at the discretion of the allocating agency (either the State of CA or regional entities). The total amount of funding inside the Infrastructure, Investment and Jobs Act (IIJA) Federal Highway Administration (FHWA) formula programs to California is ~$5.5B a year.

[30] California data is based on State Controller's Office, USDOT / Federal Transit Administration, National Transit Database (farebox revenue). National Transit Database is used for all other States
[31] California data is based on State Controller's Office, USDOT / Federal Transit Administration, National Transit Database (farebox revenue). National Transit Database is used for all other States

Exhibit: Largest 10 individual government funding programs (excl. fares and other revenues)[4]

Largest California transit government funding sources

Local funding | Federal funding | State funding

PRELIMINARY

Type	Funding source	Amount of funding, $B*	Primary source of funds	Funding decision-making entity	Enabling mechanism
Federal	5309 - FTA Capital Program Funds	1.6	Federal general revenues	Federal	Infrastructure Investment and Jobs Act (IIJA)
Local	Local tax measures in addition to the Local Transportation Fund	1.5	Sales tax	Regions	Transportation Development Act (TDA)
State	Local Transportation Fund (LTF)	1.2	Sales tax	Regions	TDA
Federal	5307+5340 - Urbanized Area Formula Program	1.2	Federal general revenues	Regions	IIJA
State	State Transit Assistance + State of Good Repair	1.1	Diesel tax and transportation improvement fee	Regions	TDA (STA), SB1 (SOGR)
Local	Taxes raised directly by transit agencies	0.8	Sales taxes, highway tolls, vehicle licensing fees	Regions	Agency-specific legislation
State	Transit and Intercity Rail Capital Program (TIRCP)	0.7	Gas/diesel taxes and vehicle registration fees	California State	GGRF, Senate Bill 1
Federal	5337 - State of Good Repair Grants (SOGR)	0.6	Federal general revenues	Regions	IIJA
Local	Local funds from bridges, tunnels, tolls	0.3	Bridge and tunnel tolls	Regions	Region-specific legislation
State	Affordable Housing and Sustainable Communities Program (e.g. Transit-Oriented Development)	0.2	Cap-and-trade proceeds	California State	GGRF

* Only 10 largest programs listed, which comprise $9.2B in total; other Federal, State and Local sources total $1.9B, with farebox revenue accounting for the remaining $1.4B

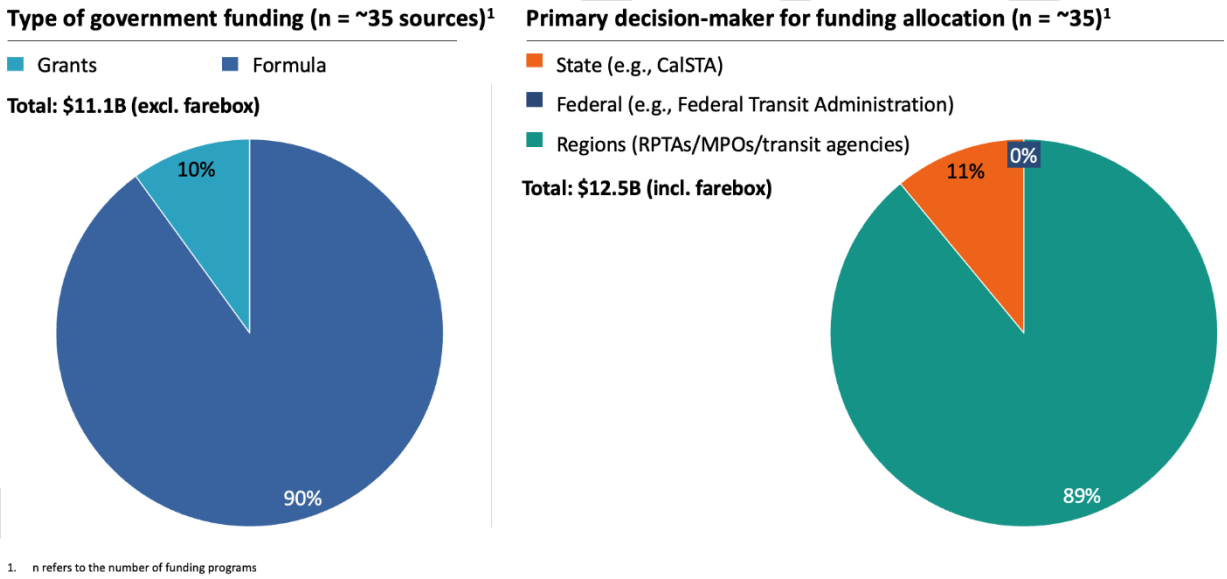
Transit agencies in California, receive 90% of government funding through formula programs.[32] Some of the largest sources include State funding under the Transportation Development Act (e.g., Local Transportation Fund, State Transit Assistance) and Federal 5307 Urbanized Area and State of Good Repair Programs. These are distributed based on metrics such as population and transit service levels. The remaining 10% of funds are discretionary grants that require transit agencies, Caltrans and/or their Metropolitan Planning Organizations (MPOs)/Regional Transportation Planning Agencies (RTPAs) to apply. Examples include the Transit and Intercity Rail Capital Program (TIRCP) at the state level and Strengthening Mobility and Revolutionizing Transportation (SMART) at the federal level.

Approximately 90% of funds are primarily allocated by RTPAs and MPOs together with transit agencies.[33] This includes most of the formula funding (e.g. Federal 5307

[32] State Controller's Office, USDOT / Federal Transit Administration, National Transit Database (farebox revenue). Program definitions taken from government funding program websites
[33] State Controller's Office, USDOT / Federal Transit Administration, National Transit Database (farebox revenue). Primary decision-maker is the entity with the largest amount of discretion in how funds are allocated

Urban Area Program Funds, State Transit Assistance, Local Transportation Funds, Low Carbon Transit Operations Program) as well as revenues raised directly by transit agencies through fares, sales taxes or property taxes. Federal funds for transportation in California are allocated by a mix of the State and regions. For example, 60% of FHWA Formula funds are allocated by the State with the other 40% allocated by the regions, which may in some cases go to transit, including a recent flex action from the MTC.

Exhibit: California transit funding from all government sources (Local, State, Federal) across funding type and primary decision-making entity[34]



Some of these funding sources may face headwinds in the medium term**.** Due to the rising sales of zero emission vehicles and increasing fuel efficiency, fuel tax funding is expected to decrease, with the Legislative Analyst's Office[35] indicating State Transit Assistance (STA) program funding could decline by up to ~$300 million, roughly a third of total STA funding,[36] by 2035. Gas taxes are also a source of SB1 funded programs.[37] The Technical Working Group also noted that the cyclicality of funding from other

[34] State Controller's Office, USDOT / Federal Transit Administration, National Transit Database (farebox revenue)
[35] Decrease relative to 2023 revenue; scenario assumes emissions reduction goals following the California Air Resources Board Scoping Plan
[36] State Transit Assistance (STA) provides discretionary funding that are apportioned to transit agencies considering their population and revenue
[37] Road Repair and Accountability Act (SB 1)

sources such as sales taxes and cap-and-trade auction proceeds also makes it difficult to predict funding availability in the medium term.[38]

Constitutional, Statutory and other limitations on how funds are used

Article XIX of the California Constitution, along with its companion articles XIX A and XIX B, establish how revenues from specific taxes like fuel excise and sales taxes as well as vehicle fees are used for transportation. For example, fuel excise and sales taxes can be used for planning and construction of fixed public transit guideways, but not for their maintenance or general public transit operations (California Constitution Article XIX, Section 2 and Article XIX B, Section 1).

Transit operators must therefore use alternative sources of revenue for operations like Transportation Development Act (TDA), Local Transportation (LTF) funds, or State Transit Assistance (STA) funds. These funding sources also have some requirements and limitations:

- **Claimant order:** The TDA creates a specific 'claimant order' for how LTF funds are allocated. Funds must be allocated within the following order (Public Utilities Code (PUC) 99230-99251)

Claim	**Amount**
Transportation Planning and Programming Purposes (PUC 99233.2)	3%, some variation in SCAG region to account for CTC structure.
Counties and Cities for Bike and Ped (PUC 99233.3)	2% unless finding made showing that the money could be better used for public transportation or local streets and roads.

[38] Summary of discussion at Technical Working Group Meeting #7 on January 14, 2025

Passenger Rail service operations and capital improvements (PUC 99233.4)	Funds needed pursuant to PUC Section 99234.5 (Metrolink Service between San Bernadino, LA), 99234.7 (Caltrain), or 99234.9 (Passenger Rail in general).
Transit Development Board and Transportation Planning Agency Administration, Planning, Construction, Acquisitions (PUC 99233.5)	Up to 10%
Cities, counties, and operators for consolidated transportation service agencies (PUC 99233.7)	Up to 5%
Transit Operators for support of public transit systems, aid to public transportation R&D Projects, Grade Separations (PUC Article 4 – 99260)	Remainder
Cities, Counties and transit districts for a wider array of purposes, including local streets and roads, paratransit services, passenger rail, vanpool, and more (PUC Article 8 – 99400)	Remainder after Article 4 claims exhausted

- **Unmet transit needs process:** Before LTF funds can be allocated towards streets and roads, the RTPA must conduct a public 'unmet needs process' to determine if there are any "reasonable to meet' transit needs. Funds can be spent on streets and roads only if no reasonable transit needs are identified.
- **Farebox recovery ratios (FRR):** Transit operators must meet a minimum FRR to use LTF funds for operations. The thresholds are set differently for urbanized areas (20% minimum FRR) and non-urbanized areas (10% minimum FRR). If these standards are not met for consecutive years, and the agency does not receive an exemption, funding is reduced equal to the revenue shortfall needed to meet the required FRR.

- **Efficiency standards:** To use STA funds for operations, an agency must meet operating cost-efficiency tests (e.g., cost growth not exceeding CPI over a three-year period) unless the increase is due to service expansion, or the agency qualifies for an exemption (PUC §99314.6)
- **Audits:** Transit agencies must undergo regular fiscal and compliance audits and report to the State Controller

3. The use of moneys from local transportation funds established pursuant to Section 29530 for other modes, such as streets and roads (SB125 1.E.3)

Individual Regional Transportation Planning Agencies (RTPAs) are required under the Transportation Development Act to hold at least one public hearing for the purpose of soliciting comments on the unmet transit needs that may exist within the jurisdiction and that might be reasonable to meet by establishing or contracting for new public transportation or specialized transportation services or by expanding existing services.[39] The outcome of the unmet needs determination is generally available in RTPA Board or Audit reports, but not the actual amount of funding that was allocated to streets and roads.

Transit agencies that wish to use moneys for local streets and roads, are required under the Transportation Development Act to document to the Department of Transportation the resolution of findings from the unmet needs process. However, there is no explicit requirement for this documentation to include the amount of money being allocated to local streets and roads.[40] The State Controller's Office also confirmed that they do not separately receive this data.

Generally, only counties with a population under 500,000 (according to the 1970 federal census) may also use parts of the Local Transportation Fund (LTF) element of the

[39] Caltrans Overview of the Transportation Development Act
[40] California PUC § 99401.6 – Unmet Transit Needs Finding Documentation

TDA for purposes other than transit (e.g., local streets and roads, construction and maintenance)[41]. However, if it is determined that no unmet needs are found that are reasonable to meet, entities can allocate LTF under Article 8 for local streets and roads, as well, even in a county with over 500,000 in population (according to the 1970 census). This has been done in non-transit operating cities of larger counties, for streets and roads, after working through the unmet needs process.[42]

CalSTA staff analyzed approximately half of the RTPA audit and board reports for FY23 and reviewed the resolutions they made for the unmet needs process. Of the 23 regions reviewed:

- 11 resolved that there were unmet transit needs. This included large jurisdictions such as the Sacramento Area Council of Governments, the Merced County Association of Governments, and the Santa Cruz County Regional Transportation Commission. These agencies therefore spent 100% of their TDA funding on transit[43]
- 12 of the regions resolved that there were no unmet transit needs. At least 6 of the 12 resolutions explicitly approved funds for streets and roads, while the others were unclear if funds were finally allocated to these purposes.[44]

The majority of the 12 cases had a resolution of no unmet transit needs; however, the public did submit suggestions for improvements to transit, but they were further resolved to be 'unreasonable to meet'.[45] Some of the common reasons cited included infrastructure gaps (e.g., no safe pedestrian access), operational constraints (e.g., lack of bus drivers or no service providers), or insufficient ridership or funding levels to maintain a service.[46]

[41] Caltrans, Transportation Development Act
[42] Caltrans, DOTP
[43] SACOG: Board of Directors Meeting Minutes; MCAG: FY 2023-24 Unmet Transit Needs SCCRTC: 2023 Unmet Transit and Paratransit Needs List
[44] See Exhibit: Analysis of RTPA board and audit reports on unmet transit needs footnotes
[45] See Exhibit: Analysis of RTPA board and audit reports on unmet transit needs footnotes
[46] See Exhibit: Analysis of RTPA board and audit reports on unmet transit needs footnotes

Exhibit: Analysis of RTPA board and audit reports on unmet transit needs[47]

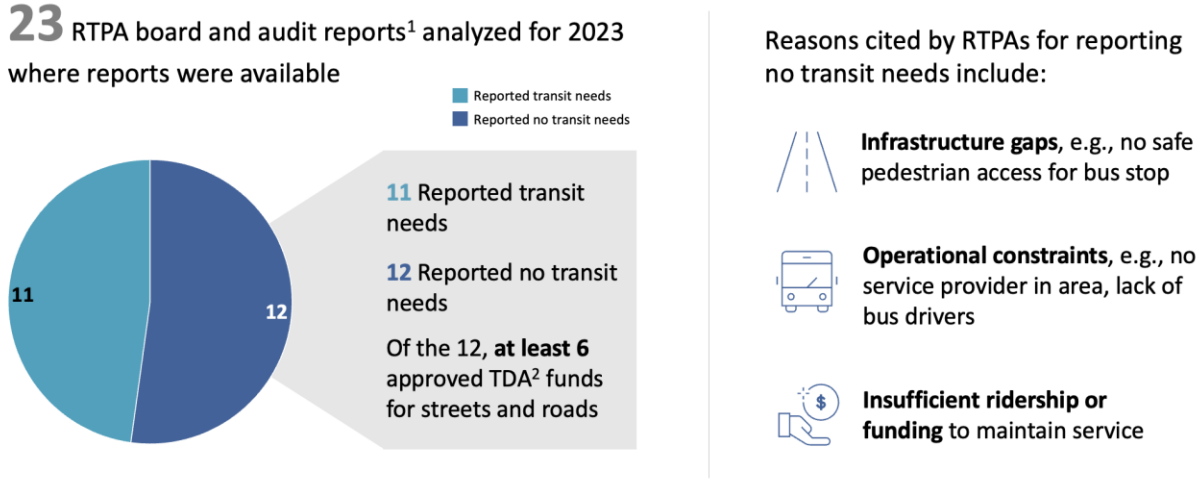


Exhibit: Unmet needs determinations across RTPAs[46]

Unmet needs determination in 2023-24	**RTPA**
Transit needs identified	• Amador County Transportation Commission • Council of San Benito County Governments • Del Norte Local Transportation Commission • Humboldt County Association of Governments • Inyo County Local Transportation Commission • Mendocino Council of Governments • Merced County Association of Governments • Modoc County Transportation Commission • Sacramento Area Council of Governments • Santa Cruz County Regional Transportation Commission • Tahoe Regional Planning Agency
No unmet transit needs that are	• Butte County Association of Governments • Calaveras Council of Governments • Fresno Council of Governments

[47] 1. Regional Transportation Planning Agencies (RTPA) analyzed include Kern COG, Mendocino COG , Modoc County Transportation Commission, Placer County Transportation Planning Agency, Sacramento Area COG, San Joaquin COG, San Luis Obispo COG, Santa Cruz County Regional Transportation Commission, Tahoe Regional Planning Agency, Transportation Agency for Monterey County, Inyo County Local Transportation Commission, Humboldt County Association of Governments , Amador County Transportation Commission, Butte County Association of Governments, Calaveras COG, Council of San Benito County Governments, Del Norte Local Transportation Commission, Fresno COG, Glenn County Transportation Commission, Madera County Transportation Commission, Merced County Association of Governments, Stanislaus COG, Tulare County Association of Governments 2. Transportation Development Act

reasonable to meet	• Glenn County Transportation Commission • Kern Council of Governments • Madera County Transportation Commission • Placer County Transportation Planning Agency • San Joaquin Council of Governments • San Luis Obispo Council of Governments • Stanislaus Council of Governments • Transportation Agency for Monterey County • Tulare County Association of Governments
RTPA's not reviewed	• Alpine County Local Transportation Commission • Colusa County Transportation Commission • El Dorado County Transportation Commission • Kings County Association of Governments • Lake County/City Area Planning Council • Lassen County Transportation Commission • Mariposa County Local Transportation Commission • Metropolitan Transportation Commission • Mono County Local Transportation Commission • Nevada County Transportation Commission • Plumas County Transportation Commission • San Diego Association of Governments • Shasta Regional Transportation Agency • Sierra County Local Transportation Commission • Siskiyou County Local Transportation Commission • Southern California Association of Governments • Tehama County Transportation Commission • Trinity County Transportation Commission • Tuolumne County Transportation Council

4. The cost to operate, maintain, and provide for the future growth of transit systems for the next 10 years (SB125 1.E.4)

At present, certain transit agencies in California face near-term funding challenges. Bay Area Rapid Transit (BART), Metrolink, and Caltrain, had a higher farebox recovery ratio pre-COVID, and now face funding gaps due to a reduction in post-pandemic ridership. In 2024, BART, for example, had only 47% of pre-pandemic ridership.[48] These and other transit agencies received short-term Federal funding relief under the CARES[49] Act and CRRSA[50] to address this shortfall, but these funds have already been exhausted or may soon be exhausted, depending on the transit agency.

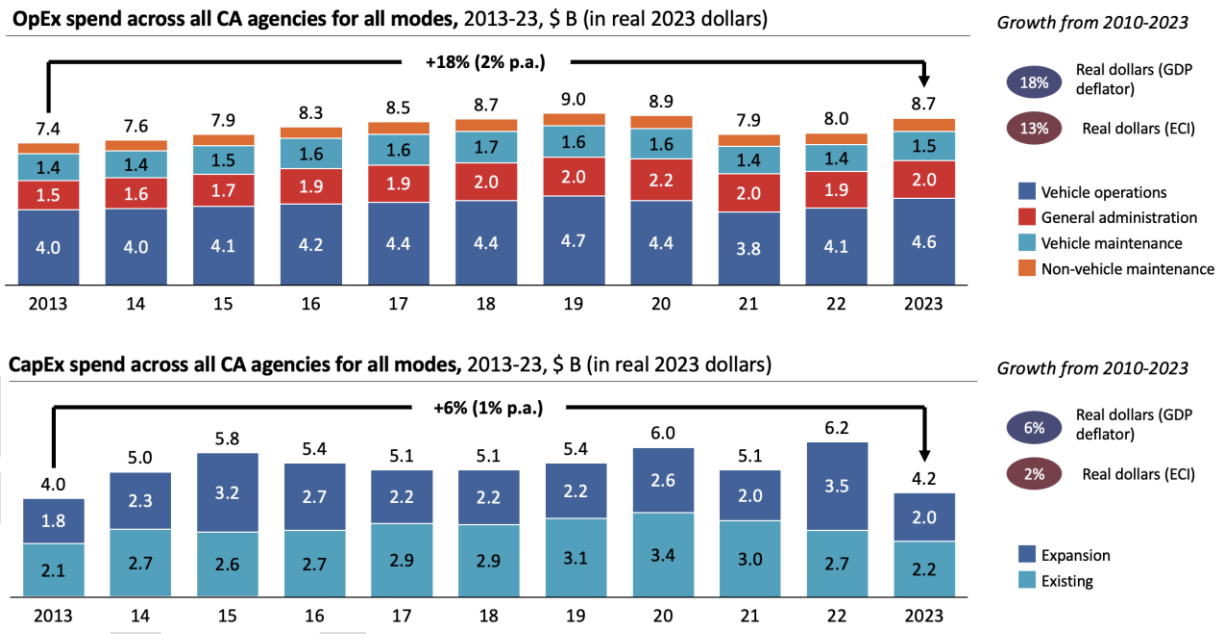
The San Francisco Municipal Transportation Agency (SFMTA) faces funding gaps due to low parking revenue relative to pre-pandemic levels.[2051] The SFMTA is projected to be in a $15 million deficit in FY2025-2026, which could increase to over $320 million in FY2026-2027.[52] While SF MUNI ridership has only slightly declined, parking revenues are roughly 30% lower compared to pre-COVID levels.[53] The situation is further complicated by the non-passage of Proposition L in last November's election, leaving limited options for addressing the funding gap.[54]

Looking over the longer-term, while farebox revenues have fallen for some transit agencies, costs have increased faster than inflation over the past decade. Operating expenses have grown about 13-18% above inflation in the last ten years and capital costs have increased 2-6% above inflation, as measured by the Employment Cost Index (ECI). Given the uneven timing of spend, the choice of starting and ending year can also impact these growth rate estimates.[55] In the future, transit agencies could also have to contend with the costs of replacing increasingly aging systems, that can create

[48] Bay Area Ridership Data
[49] Coronavirus Aid, Relief, and Economic Security
[50] Coronavirus Response and Relief Supplemental Appropriations
[51] BART Financial Crisis; SF Muni's Impending Fiscal Cliff ; Metrolink: Tracking Ridership, Revenue, And Cares Act Funding
[52] San Francisco transit: Muni is in a furious race to save itself; SFMTA, San Francisco Controller's Office create Muni Funding Working Group
[53] San Francisco transit: Muni is in a furious race to save itself
[54] San Francisco transit: Muni is in a furious race to save itself
[55] National Transit Database data on operating expenditures and capital costs

a steep change in costs when technology or other components become obsolete. Additional uncertainty in longer term revenue exists with gas tax funded fuel sources, which may decline by 30% by 2030 per the Legislative Analyst's Office (LAO). The lack of a long-term replacement and model for gas tax funding creates significant revenue uncertainty for transit agencies, making it hard to plan for investment and growth. More stable sources would result in substantially less uncertainty for operators, allowing consistent investment.

Exhibit 1: CA transit operating and capital expenditure growth over the past decade[56]



Given current trends, operating expenditures could increase up to twice today's levels by 2035 (i.e., from ~$9 billion today up to $19 billion in 2035). A range of potential outcomes are shown in Exhibit 2 based on analysis of NTD data and assumptions around service levels and cost efficiency. The higher end of this range (see A below)

[56] Source: National Transit Database, U.S. Bureau of Economic Analysis

assumes transit agencies invest in improved service levels to achieve VMT[57] reduction goals and costs continue to increase in line with recent trends.[58] For example, in the 2010s, transit agencies in Canada and Australia (e.g., TransLink, Transport for NSW) made significant increases to service levels, that saw ridership increase by roughly double the increases in Vehicle Revenue Miles that the agencies delivered.

On the other hand, costs could remain flat (see B3 below) if service levels remain at similar levels and transit agencies invest in measures to improve cost efficiency over time to keep costs from increasing. For example, agencies could invest further in predictive maintenance regimes, increase the speed of buses through transit prioritization and road improvement projects, and increase fuel efficiency of fleets. Since speed improvements have a direct relationship to Vehicle Revenue Miles delivered per Vehicle Revenue Hour, a given increase in speed should reduce costs that scale per hour of service by a similar amount.

An example of how agencies can invest in ways that increase cost efficiency, is SFMTAs buildout of the Van Ness BRT project. By increasing the speed of buses, SFMTA can meet more frequent headways, with fewer buses, and lower costs.[59]

Exhibit 2: As congestion increases in areas where transit does not have traffic priority measures, transit service becomes slower and more expensive to provide.

[57] Vehicle Miles Traveled
[58] Analysis from the National Transit Database data on revenues, operating expenditures and capital costs assuming cost trends continue into the future
[59] SF MTA, Transit Transformation Task Force Meeting #4

EXAMPLE: Cost to Provide 10-Minute Bus Frequency, 6 AM – 12 AM, daily

Travel time and cost increase together

Travel Time	Buses Required	Annual Cost
30 minutes		$4 million
45		$6 million
60		$8 million
75		$10 million

Assumes operating cost of $200/hour per vehicle for example purposes only. Actual costs vary by mode.

Over the past 25 years, we've seen a noted decline in average speeds among agencies. This is a significant driver in increased costs to the State and local agencies, as well as a driver of the decline in ridership.

Exhibit 3: Average US and CA Bus Speeds

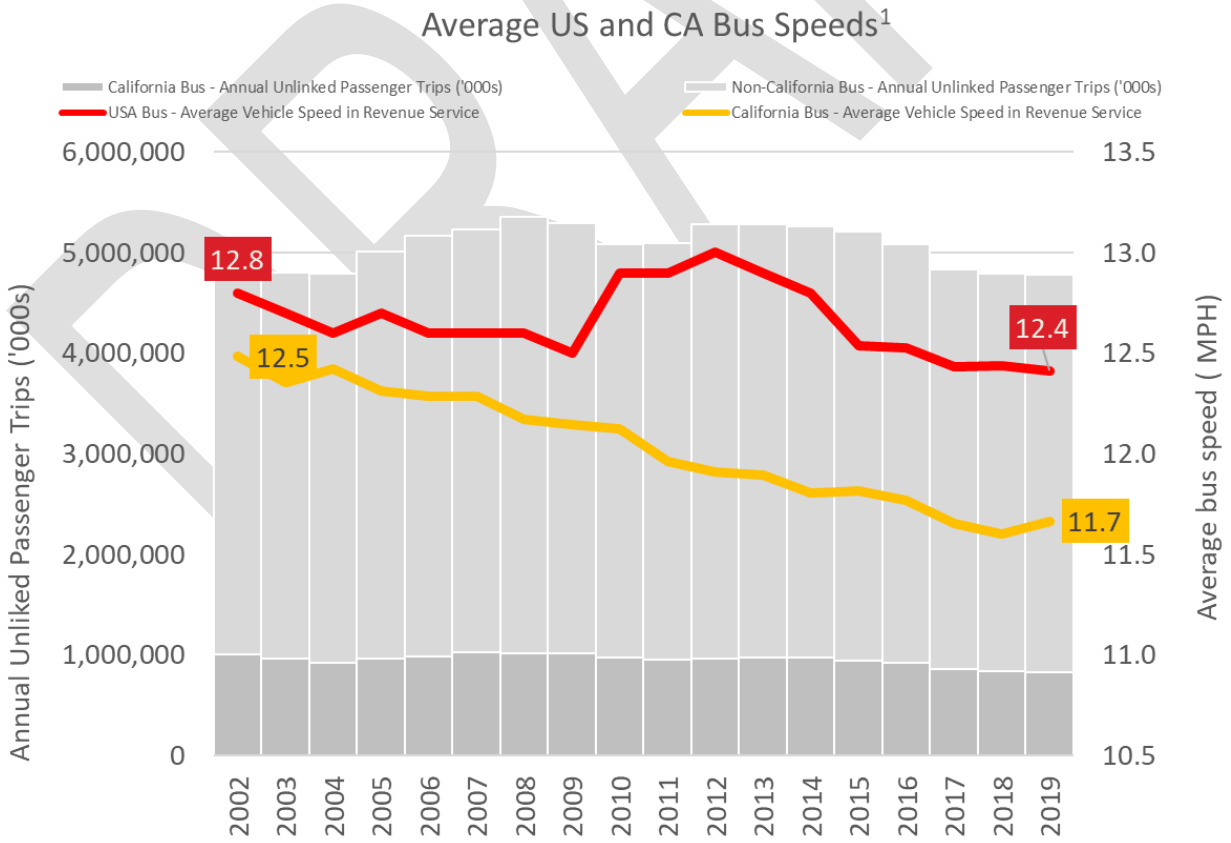
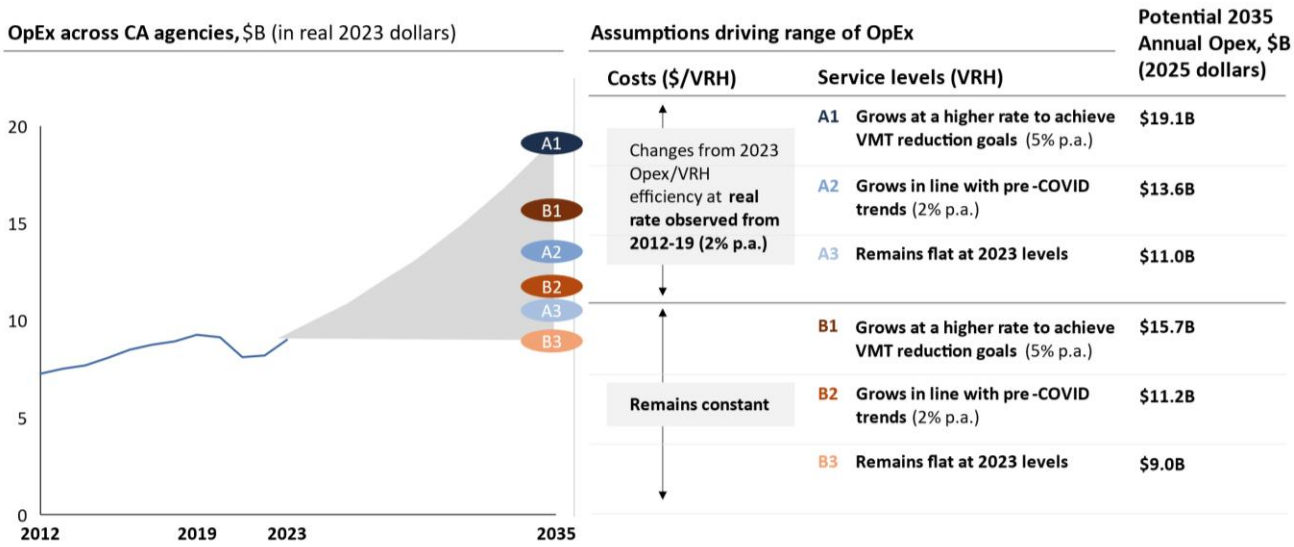


Exhibit 4: Potential operating expenditures across California transit agencies to 2035[60]



Capital costs tend to be more variable, and highly dependent on how much funding is available, but could also double if recent trends continue (i.e. from ~$5 billion to ~$12 billion).[61] Over the past five years, capital expenditures have grown 2 to 11 percent, depending on the transit mode (and 4.3% across all modes), for both expansion projects and state of good repair projects. This has been partly driven by a growth in the number of new projects, as well as rising per project costs, particularly for heavy and commuter rail.[62] In the future transit agencies could also have to contend with the costs of replacing increasingly aging systems, that can create a step change in costs when technology or other components become obsolete.

Exhibit 5 shows an analysis of how capital costs could evolve based on NTD data and assumptions around the levels of capex activity, unit costs and the potential costs of implementing Innovative Clean Transit plans. The high end of the estimated range

[60] Includes 261 transit agencies in CA with reported data to the National Transit Database; Scenario A is based on the assumption that ridership increases by 5X from 2019 – 2045 (from TTTF 2 analysis) to achieve 30% reduction in vehicle miles traveled and service level will change at half the rate based on ridership trends observed in Vancouver from 2015 – 2019 (link) and New South Wales from 2010 – 2016 (link); 25% improvement in cost efficiency is based on estimates provided by Center for Urban Transportation Research, University of South Florida (link) | Source: Discussions with CalSTA in Nov. 24 on scenarios and assumptions for funding needs analysis, National Transit Database, U.S. Bureau of Economic Analysis

[61] Analysis from the National Transit Database data on revenues, operating expenditures and capital costs assuming cost trends continue into the future

[62] Analysis from the National Transit Database data on revenues, operating expenditures and capital costs assuming cost trends continue into the future

(see B1 below) assumes transit agencies increase capex activity to support service expansion to achieve VMT reduction goals and unit costs continue to increase in line with recent trends.[63] However, costs could remain relatively flat (see A3 below) if improvements are made to agencies' portfolios, project delivery is expedited and the cost of procuring zero-emission buses (ZEBs) reaches parity with existing fleets.

Exhibit 5: Potential capital expenditures across California transit agencies to 2035[64]

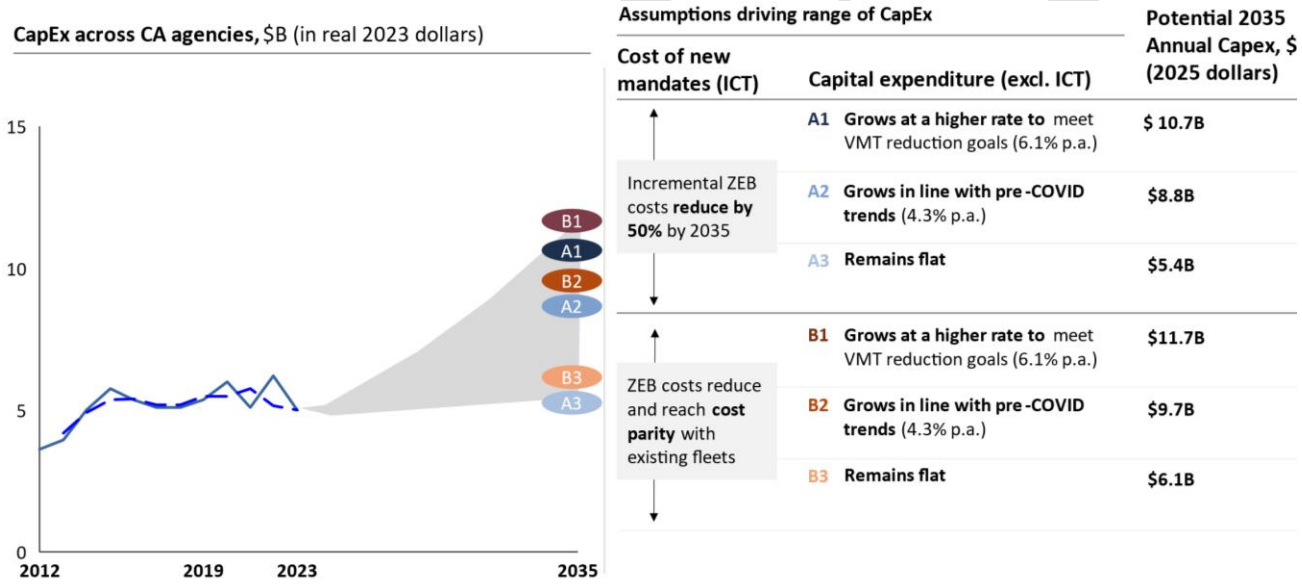
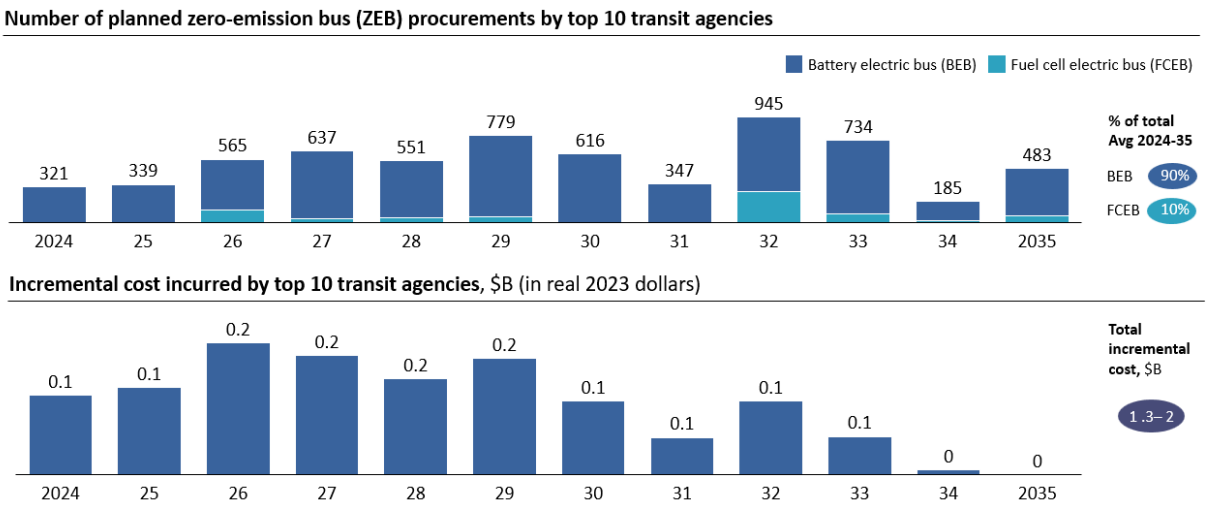


Exhibit 6: Zero emission bus procurements and associated costs[65]

[63] Analysis from the National Transit Database data on revenues, operating expenditures and capital costs assuming cost trends continue into the future
[64] Includes 261 transit agencies in CA with reported data to the National Transit Database; ICT: Innovative Clean Transit; CapEx to service miles relationship based on historical trends observed in Vancouver from 2016 (link) to 2018 (link); Decrease in capital expenditures based on estimates provided by Center for Urban Transportation Research, University of South Florida (link); ZEB: Zero-emission bus | Source: Discussions with CalSTA in Nov. 24 on scenarios and assumptions for funding needs analysis, National Transit Database, U.S. Bureau of Economic Analysis
[65] Top 10 agencies account for 57% of total bus count in CA based on size of bus fleets reported to the National Transit Database in 2023 and they are AC Transit, LA Metro, MTS, SFMTA, OCTA, LADOT, SacRT, VTA, Foothill Transit and SamTrans. ZEB for VTA is assumed to be BEB as agency indicated TBC in roll out plan; FCEB: Fuel cell electric bus, BEB: battery electric bus | Source: Comprehensive Review of California's Innovative Clean Transit Regulation: Phase I Summary Report (NREL), ICT roll out plans of LA Metro (link), SFMTA (link), MTS (link), AC Transit (link), LADOT (link), OCTA (link), SacRT (link), VTA (link), Foothill Transit (link) and SamTrans (link)



The increase in CapEx above associated with rolling out Innovative Clean Transit was estimated through analysis of transit agency rollout plans. The total incremental procurement cost for the 10 largest agencies in California could be between $1.3 and $2 billion based on how incremental costs for ZEBs evolve over time.[66] At present, each ZEB costs between $410,000 to $730,000 more than purchasing an internal combustion engine alternative.[67] Changes in the number of ZEVs needed to replace existing services could substantially change this number.

If operating and capital costs continue to rise, a funding gap may emerge unless new revenue sources are identified, or agencies cut spending by improving service and capital project efficiency or by scaling back expansion and maintenance plans. These topics will be particularly important to address as California develops its rail network as recently announced in the California State Rail Plan.[68]

According to the National Transit Database and Legislative Analyst's Office, funding sources have grown for transit in California from ~$9 billion in 2013 to ~$14 billion in 2022. Depending on the scenario, the current level of funding may be close to

[66] Capital costs in ICT roll out plans of LA Metro (link), SFMTA (link), MTS (link), AC Transit (link), LADOT (link), OCTA (link), SacRT (link), VTA (link), Foothill Transit (link) and SamTrans (link); subtracting average cost of internal combustion engine buses
[67] ICT roll out plans of LA Metro (link), SFMTA (link), MTS (link), AC Transit (link), LADOT (link), OCTA (link), SacRT (link), VTA (link), Foothill Transit (link) and SamTrans (link)
[68] California State Rail Plan 2024 Fact Sheet

adequate (as in scenario B3), or instead need to grow, at either historical, or above historical rates, to meet potential total costs in the other scenarios.

Scenario	Potential 2035 **Opex,** $B	Potential 2035 **Capex,** $B	Potential 2035 **Total,** $B
A1	19.1	10.7	29.9
A2	13.6	8.8	22.4
A3	11.0	5.4	16.4
B1	15.7	11.7	27.4
B2	11.2	9.7	20.8
B3	9.0	6.1	15.1

Additionally, potential future year capital Investment could increase or decrease based on allocations and revenue to programs, such additional or less GGRF revenue, or changes in federal investment decisions via the Capital Investment Grants (CIG) program. In short, more money will result in more projects, less money will result in fewer projects. The fiscally constrained RTPs contain some key projects for investment purposes, but not all.

Finally, there are substantial investments needed in the capital sector that may result in a rise in total. For example, currently there is $33,707,732,314 in total project costs in the active and (partially) committed projects in the TIRCP program including the Southeast Gateway Line, Gold Line Extension to Montclair, BART to Silicon Valley, Metrolink SCORE, Valley Rail, Transbay Corridor Core Capacity Program, DTX Downtown Rail Extension, LOSSAN Rail Corridor Improvements and more.

5. The costs and operational impacts associated with federal, state, and local mandates, including, but not limited to, the Americans with Disabilities Act of 1990 (42

U.S.C. Sec. 12132) and the State Air Resources Board's Innovative Clean Transit regulations (Article 4.3 (commencing with Section 2023) of Chapter 1 of Division 3 of Title 13 of the California Code of Regulations), to the extent feasible. (SB125 1.E.5)

Americans with Disabilities Act

Under the Americans with Disabilities Act of 1990, the government must provide ADA complementary paratransit services.[69] To qualify, users must demonstrate that they are unable to use fixed-route buses. Additionally, both the trip origin and destination must be within ¾ of a mile of an existing bus route (minimum requirement).[70]

Since 2010, paratransit ride costs have increased by at least ~50%, while the number of persons with a disability or over the age of 65 has increased by ~40%.[71] These cost increases have been driven by:

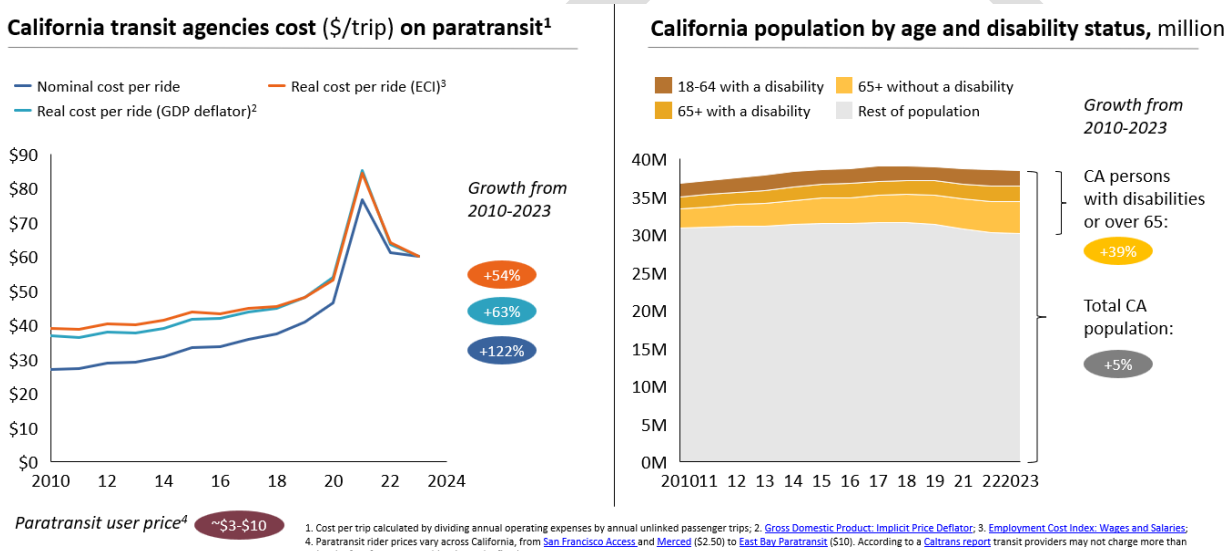
- **Limited supply of paratransit drivers**: Unlike traditional on-demand ride services, many operators require paratransit drivers to be credentialed through training programs and may expect drivers to be certificated in CPR and first aid as well as help clients into vehicles.[72] In addition, training requirements vary by location, limiting the ability of drivers to serve a trip across multiple locations in a contiguous region.[73]
- **Vehicle insurance:** Paratransit vehicles are often required to be highly insured, making services costly to provide.[74] In addition, insurance policies may differ across regions paratransit operators serve, which can limit operators' coverage and supply of vehicles in each region.[75]
- **Low vehicle utilization:** Unlike fixed routes where many passengers can be picked up along a single route, paratransit often involves picking up only one passenger at a time from different locations, leading to many empty seats on each trip.[76] Over the last ten years, passengers per vehicle revenue mile has decreased 12%, suggesting

[69] U.S. Equal Employment Opportunity Commission
[70] Department of Transportation
[71] National Transit Database (TS2.1 - Service Data and Operating Expenses Time Series by Mode); funding adjusted by GDP deflator from FRED database, U.S. Bureau of Economic Analysis and by Employment Cost Index (ECI) from FRED database US Census (Sex by Age by Disability Status)
[72] CalSTA interviews on accessible services from December 2024- January 2025; Paratransit Rider's Guide
[73] CalSTA interviews on accessible services from December 2024- January 2025
[74] CalSTA interviews on accessible services from December 2024- January 2025
[75] CalSTA interviews on accessible services from December 2024- January 2025
[76] Okeenea

fewer passengers are being transported for each mile a paratransit vehicle operates in revenue service.[77]

- **Inefficient scheduling and coordination:** As paratransit demand has risen, existing software and scheduling tools may not have been adequate, potentially leading to longer wait times for customers and less efficient vehicle routing.[78] In addition, paratransit services may not have arrangements to operate across different service boundaries, causing trips to be more expensive due to transfers.[79]

Exhibit: California transit agencies cost per paratransit trip and California population by age and disability status[80]



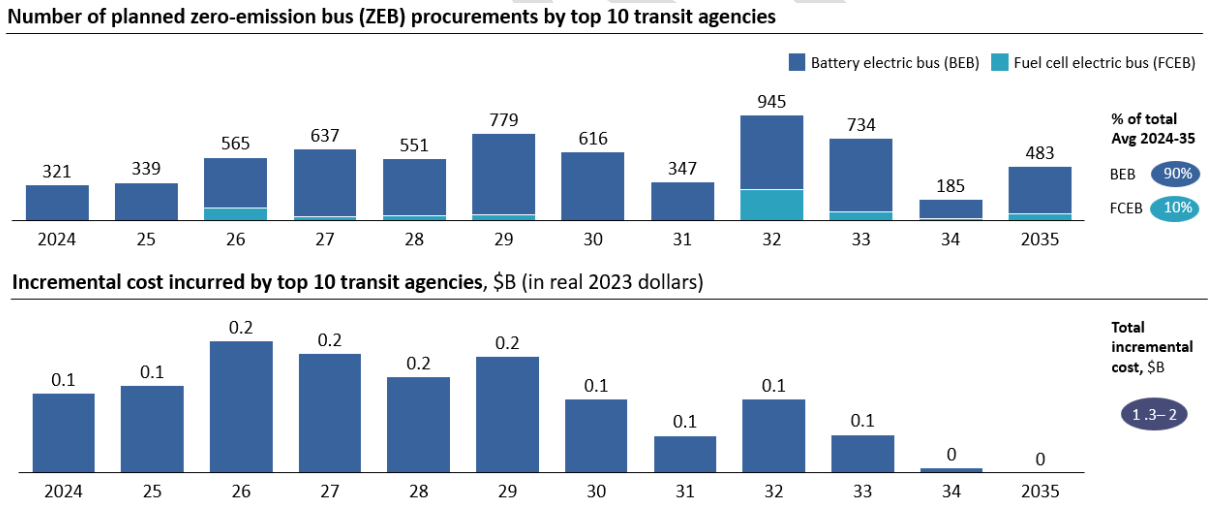
Innovative Clean Transit regulations

The increase in CapEx described in the previous analysis associated with rolling out Innovative Clean Transit was estimated through analysis of transit agency rollout plans. The total incremental procurement cost for the largest 10 agencies in California could be between $1.3 and $2 billion based on how incremental costs for Zero Emission Buses (ZEB) evolve over time.[81] At present, each ZEB costs between $410,000 to $730,000

[77] National Transit Database (TS2.1 - Service Data and Operating Expenses Time Series by Mode)
[78] CalSTA interviews on accessible services from December 2024- January 2025; 3.Paratransit Fleet Configurations
[79] CalSTA interviews on accessible services from December 2024- January 2025
[80] National Transit Database (TS2.1 - Service Data and Operating Expenses Time Series by Mode); funding adjusted by GDP deflator from FRED database, U.S. Bureau of Economic Analysis and by Employment Cost Index (ECI) from FRED database US Census (Sex by Age by Disability Status)
[81] Capital costs in ICT roll out plans of LA Metro (link), SFMTA (link), MTS (link), AC Transit (link), LADOT (link), OCTA (link), SacRT (link), VTA (link), Foothill Transit (link) and SamTrans (link); subtracting average cost of internal combustion engine buses

more than purchasing an internal combustion engine alternative.[82] In addition to higher costs, the TTTF identified other issues in ZEB conversion, including difficulties procuring ZEBs (e.g., limited number of suppliers eligible for federal funds), that ZEBs require operational changes that may increase operating costs (e.g., routing, facilities, maintenance) and that agencies may need technical, staff and other support to successfully implement the ZEB transition.[83] Currently, CalSTA is engaged with CARB, Go-Biz, and other groups on a new ICT Working Group, which expects to make more detail recommendations and findings.

Exhibit: Zero emission bus procurements and associated costs[84]

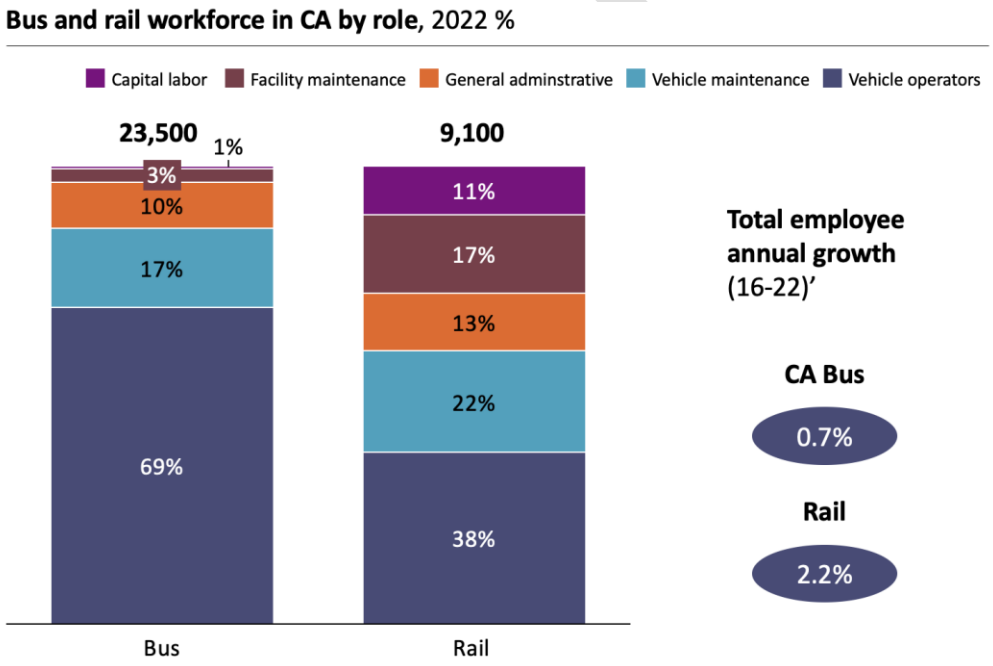


6. Workforce recruitment, retention, and development challenges, impacting transit service (SB125 1.E.6)

[82] ICT roll out plans of LA Metro (link), SFMTA (link), MTS (link), AC Transit (link), LADOT (link), OCTA (link), SacRT (link), VTA (link), Foothill Transit (link) and SamTrans (link)
[83] TTTF #7
[84] Top 10 agencies account for 57% of total bus count in CA based on size of bus fleets reported to the National Transit Database in 2023 and they are AC Transit, LA Metro, MTS, SFMTA, OCTA, LADOT, SacRT, VTA, Foothill Transit and SamTrans. ZEB for VTA is assumed to be BEB as agency indicated TBC in roll out plan; FCEB: Fuel cell electric bus, BEB: battery electric bus | Source: Comprehensive Review of California's Innovative Clean Transit Regulation: Phase I Summary Report (NREL), ICT roll out plans of LA Metro (link), SFMTA (link), MTS (link), AC Transit (link), LADOT (link), OCTA (link), SacRT (link), VTA (link), Foothill Transit (link) and SamTrans (link)

California transit agencies employ approximately ~32,600 people, as of 2022, across bus and rail, and has been growing.[85] Total employee count grew by 0.7% for bus and 2.2% for rail across NTD reporting California transit agencies each year from 2016-22.[86] Approximately 70% of roles for buses are related to vehicle operations in positions operations.[87] Roles across rail are more evenly split across vehicle operations, maintenance, administration, and capital projects.[88]

Exhibit: Bus and rail workforce in California by role[89]

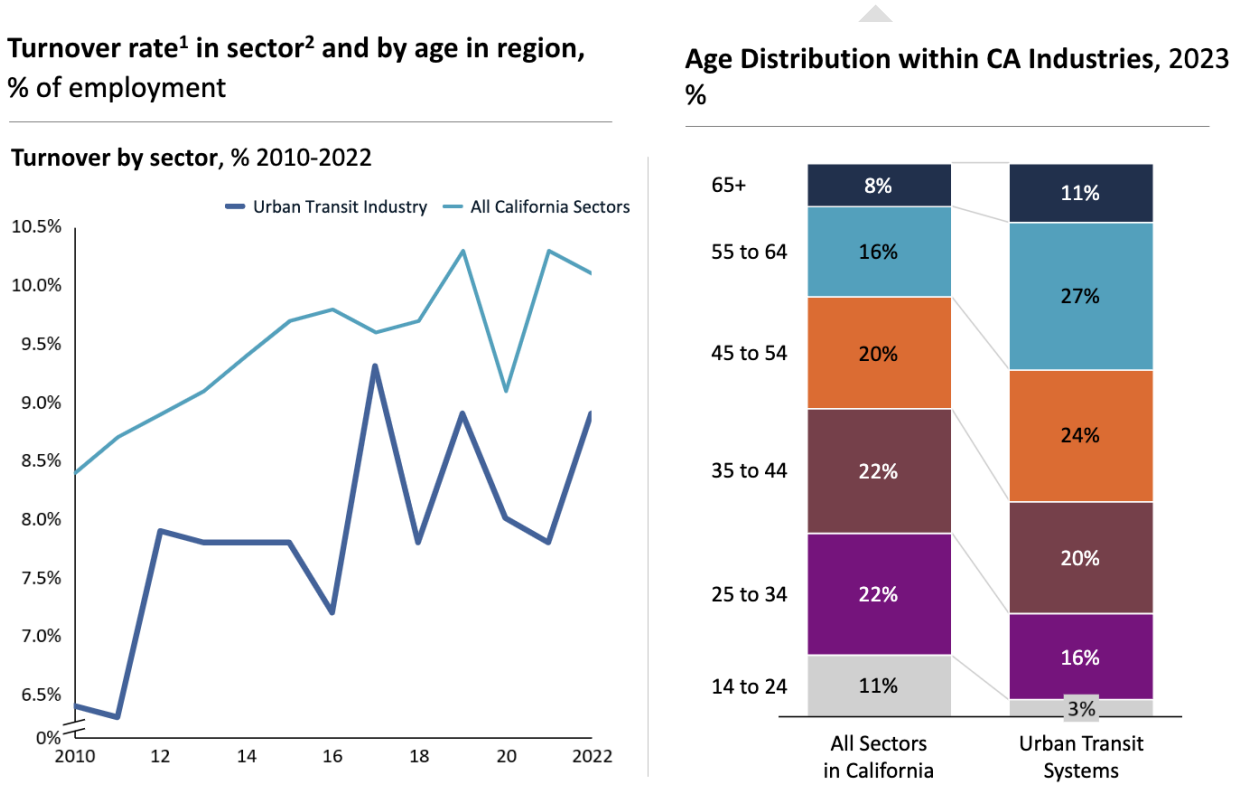


The turnover rate has been increasing in California transit, however, this is in line with trends experienced across other sectors of the economy and is not specific to the transit agencies.[90] It has increased from approximately 6.5% in 2010 to 8.5% in 2022, although there is a degree of year-to-year variability.[91] An aging workforce may

[85] TTTF Meeting #5, which took place on 08/29/2024
[86] TTTF Meeting #5, which took place on 08/29/2024; National Transit Database (Annual Database Transit Agency Employees)
[87] TTTF Meeting #5, which took place on 08/29/2024
[88] TTTF Meeting #5, which took place on 08/29/2024
[89] US Department of Transportation – Federal Transit Administration, National Transit Database, Employees for reporting entities
[90] TTTF Meeting #5, which took place on 08/29/2024 (Census QWI)
[91] TTTF Meeting #5, which took place on 08/29/2024 (Census QWI)

continue to put pressure on attrition rates in the future, as a comparatively older transit workforce begins to retire.

Exhibit: Turnover and age distribution of transit workers in California[92]



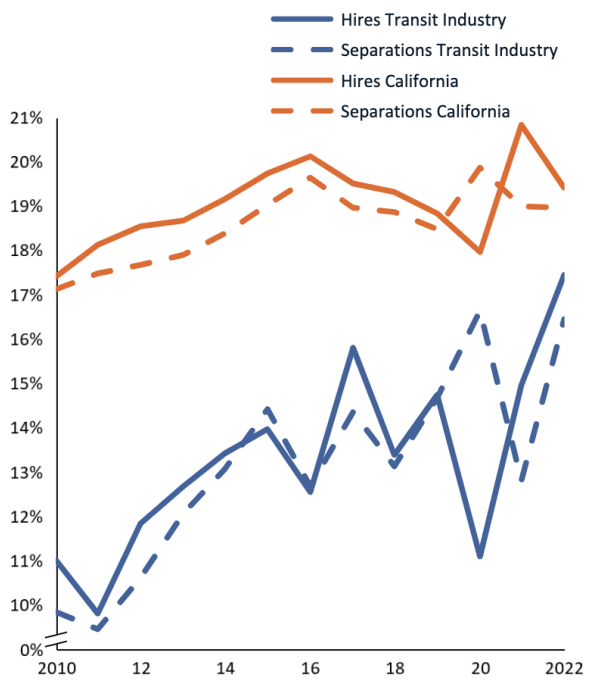
Analysis of separation rates (i.e., the percentage of employees that left during the reporting period) shows that separation rates are 2-3x higher for workers 18-34 compared to workers 35 and above.[93] They are also slightly higher for African Americans.[94] There is no difference in separation rates across different education levels.

Exhibit: Separation rates across different demographics of transit workers[95]

[92] TTTF Meeting #5, which took place on 08/29/2024 (Census QWI)
[93] TTTF Meeting #5, which took place on 08/29/2024 (Census QWI)
[94] TTTF Meeting #5, which took place on 08/29/2024 (Census QWI)
[95] TTTF Meeting #5, which took place on 08/29/2024 (Census QWI)

PRELIMINARY

Annual hires and separations[1] rate in sector[2] in region, % of employment, 2010-2022



Recent Separation Rates for Urban Transit Agencies in California, % of employment 2022

			Percentage point difference, 2022-2019
Race	White	13%	1.9%
	African American	21%	3.9%
	American Indian	14%	-1.2%
	Asian	14%	-3.4%
	Native Hawaiian	19%	-3.3%
	Two or more	14%	4.1%
Age Groups	19-21	34%	0.9%
	22-24	28%	11.2%
	25-34	21%	4.4%
	35-44	16%	1.4%
	45-54	12%	3.5%
	55-64	11%	0.0%
	65+	14%	-0.3%
Education	<High School	14%	1.5%
	High School Graduate	14%	1.8%
	Associate Degree	14%	2.1%
	>Bachelor degree	15%	0.7%

1. Separation Rate measures the percentage of employees who left the organization during the reporting period. These are the average of four quarters of payroll separations divided by the average quarterly employment. The data is focused on workers who were employed for 3 consecutive quarters (so have a longer-term relationship with employer).
2. The Urban Transit Systems industry was the one taken into consideration and was broken down to 6-digit NAICS codes defined by the Bureau of Labor Statistics

In discussion, the Technical Working Group and TTTF identified several possible drivers of workforce challenges across the hiring lifecycle (recruitment, retention, and development):[96]

Recruitment:

- Mismatch between job characteristics and preferences of current pool of job seekers (e.g., inflexible schedules, skills required)
- High barriers to entry (e.g., licensing, drug testing requirements)
- Compensation packages do not cover housing in high cost of living locations, resulting in long commutes – results in workers selecting higher paying jobs or jobs closer to where they live

Retention:

[96] TTTF Meeting #5, which took place on 08/29/2024

- Poor on-the-job experience (e.g., perceived or actual safety issues, lack of critical amenities such as bathrooms in layover locations)
- High cost of living (e.g., for childcare, affordable housing) relative to pay
- Roles are not tailored to different demographics (e.g., younger drivers may desire flexibility, older drivers may want for more hours or higher pay)
- **Development:**
- Training programs for new workers are well-developed, but are costly and not standardized
- Lack of mentorship for workers on long-term career pathways
- Changing workforce needs in response to emerging technological trends (e.g., transition to zero-emission vehicles, connected vehicles)

7. Existing policies on state and local metrics to measure transit performance (SB125 1.E.7)

Transportation Development Act (TDA)

As public transit transitioned from private to public ownership in the 1970s, California passed the Transportation Development Act (TDA) to provide operating funds to run new, publicly funded transit services.[97] After the TDA was passed, concerns arose over publicly owned transit agencies' "financial discipline," prompting the State to implement farebox recovery ratios (FRR), mandating transit agencies to cover a portion of their operating expenses through passenger fares to encourage financial responsibility to receive TDA-related funding among other restriction.[98]

Today, the Transportation Development Act (TDA) is the main way the state funds transit, providing 18% of all transit operators' revenues, and comprises of two funds:[99]

[97] UCLA Institute of Transportation Studies: An Assessment of Performance Measures in the Transportation Development Act
[98] UCLA Institute of Transportation Studies: An Assessment of Performance Measures in the Transportation Development Act
[99] UCLA Institute of Transportation Studies: An Assessment of Performance Measures in the Transportation Development Act

- Local Transportation Fund (LTF) - $1.3B revenue generated in FY2023 (13% of total transit operator revenue from all sources)[100]
- State Transit Assistance (STA) - $0.4B revenue generated in FY2023 (4% of total transit operator revenue from all sources)[101]

For LTF funding, transit operators' farebox recovery ratio (FRR) (fare revenue to operating cost) must be:

- > 20% if the agency is in an urbanized area[102]
- > 15% if the agency is in a low population county with urbanized areas[103]
- > 10% if the agency is outside an urbanized area[104]

In addition, to qualify for STA funds, total operating cost per revenue vehicle revenue hour (VRH) must be less than or equal to that of the previous year.[105] Failure to comply with these standards may result in reduced allocations.

"True" Farebox recovery ration (FRR) is a measure that blends two concepts – cost effectiveness and service effectiveness. It is therefore possible to meet FRR goals by reducing service or not expanding service.[106] Further it does not give agencies credit for increases in non-farebox revenues (e.g., real estate, advertising, concessions) that may be important as part of a comprehensive growth strategy. Additionally, California has made many changes to the definition of farebox revenue, including items such as local option sales taxes, certain partnership programs that makes the definition of FRR different from just revenue received at the farebox.

California could consider alternative performance goals to maximizing cost effectiveness through measuring FRR. For example, a UCLA Institute of Transportation

[100] State Controller's Office Transit By the Numbers 2023
[101] State Controller's Office Transit By the Numbers 2023
[102] UCLA Institute of Transportation Studies: An Assessment of Performance Measures in the Transportation Development Act
[103] UCLA Institute of Transportation Studies: An Assessment of Performance Measures in the Transportation Development Act
[104] UCLA Institute of Transportation Studies: An Assessment of Performance Measures in the Transportation Development Act
[105] UCLA Institute of Transportation Studies: An Assessment of Performance Measures in the Transportation Development Act
[106] UCLA Institute of Transportation Studies: An Assessment of Performance Measures in the Transportation Development Act

Studies report provides several alternative performance goals, including maximizing cost efficiency, increasing service, increasing accessibility, increasing access to destinations, improving reliability, and maximizing ridership, as shown in the exhibit below.[107]

Exhibit: Example types of performance metrics from UCLA Institute of Public Transportation Studies White Paper

Metric type	Metric example	Implicit Goal(s)	Advantages	Limitations
Cost-efficiency	Operating cost per revenue hour	Reduce costs*	Useful in both financial and service planning	Favors high labor productivity in dense, congested areas; does not track use
	Operating cost per revenue mile			
	Operating cost per vehicle trip			
Service-effectiveness	Passengers per revenue-vehicle hour	Increase ridership; reduce poorly patronized service	Useful for service planning; emphasizes what matters to riders	Favors high ridership; does not track costs
	Passengers per revenue-vehicle mile	Increase ridership; reduce low-ridership route miles/segments	Useful for service planning	Favors high ridership and fast vehicle speeds; does not track costs
Cost-effectiveness	Farebox recovery ratio	Reduce costs; increase fares; increase ridership	Commonly used; easy to calculate	Combines both cost-efficiency and service-effectiveness into a single measure; difficult to deconstruct and interpret

Requirements from other transit funding programs (e.g., TIRCP)

[107] UCLA Institute of Transportation Studies: An Assessment of Performance Measures in the Transportation Development Act

Other transit funding programs outside of the TDA also have specific reporting requirements attached to funding to track performance against the stated goals of the project. For example, the TIRCP program carries reporting requirements on:[108]

- **Project progress:** with percent completion for the overall project and each phase of each project component
- **Performance outcomes:** based on the original targeted outcomes of the project application which could relate to ridership/service levels, GHG emissions reductions, benefits to disadvantaged communities, other co-benefits etc.
- **Changes in scope, timetables, or costs** that are actual or anticipated

Examples of data that must be reported on an ongoing basis for 36 months after project completion include:

Project type	**Metrics**
Capital Improvements that Result in New or Expanded Transit Service or Increase Mode Share on Existing Transit Service	• Days of operation per year • Average daily ridership
New Vehicle(s) for Existing Transit Service	• Fuel/energy consumption or vehicle miles traveled • Range in fuel/energy consumption or annual vehicle miles traveled

The Low Carbon Transit Operations Program (LCTOP) provides funding for operating and capital assistance for transit agencies to reduce GHG emissions and improve mobility, with a priority on serving disadvantaged communities. Major reporting requirements for LCTOP recipients include:

- Project Activity Reporting (PAR) including project status (e.g., progress against scope, schedule, cost)

[108] TIRCP Cycle 7 Guidelines

- Jobs Reporting, or tracking jobs created, particularly those for priority populations
- Project Outcome Reporting of "operational" project outcomes including program successes in facilitating the achievement of GHG reductions and maximizing economic, environmental, and public health benefits to the State

Intercity Rail Uniform Performance Standards (UPS)

The Intercity Passenger Rail Act required CalSTA to establish a set of uniform performance standards for all corridors and operators to measure and monitor performance of state-supported intercity passenger rail service. These do not apply to other transit operations, like light rail or bus, but are examples of other metrics that could be explored. Metrics cover three categories (usage, cost efficiency, and service quality.)

Exhibit: Intercity Rail Uniform Performance Standards Adopted Metrics

Category	Metrics
Usage	• **Passenger miles** relative to growth in total corridor population and year-over-year • **Ridership** relative to growth in total corridor population and year-over-year
Cost efficiency	• **Farebox recovery** i.e., total revenue / total operating expense • **Total operating cost per passenger mile** i.e., corridor passenger miles / total operating expense
Service quality	• **Endpoint on-time performance** i.e., % of trains that arrive at their final destination within a specified time frame of scheduled arrival • **All-station on-time performance** i.e., % of train times (departure from origin station and arrivals at all other stations) within 15 minutes of schedule • **Operator responsible delays per 10,000 train miles** i.e., average minutes trains are delayed due to causes attributed to the operator (e.g., mechanical issues, crew availability, operational decisions) for every 10,000 miles traveled

Source: Intercity Passenger Rail Act of 2012 Establishment of Uniform Performance Standards (2014)

10. Information on how transit agencies modified their services in response to the COVID-19 pandemic and resulting drop in ridership and revenue (SB125 1.E.10)

After the COVID-19 pandemic, service, as measured by vehicle revenue miles (VRM) for rail and vehicle revenue hours (VRH) for bus, varied depending on the transit agency, as shown in the exhibit below.[109] For some agencies, like San Diego Metropolitan Transit System (MTS), rail VRM grew throughout the pandemic into 2023.[110] However, most agencies experienced a downturn in rail VRM and bus VRH in 2021, followed by rebounds across agencies, though most large agencies were delivering less service in 2023, than they were in 2019.[111]

Exhibit: Share of 2019 service levels across largest agency bus and rail modes[112]

Rail: Share of 2019 VRM across 10 largest CA rail agencies by vehicle revenue miles (as measured by 2019 VRM) before and after COVID-19 (% of 2019 VRM)

Agency	2019	2020	2021	2022	2023
San Francisco Bay Area Rapid Transit District (BART)	100%	90%	63%	99%	107%
Los Angeles County Metropolitan Transportation Authority (LACMTA)	100%	91%	76%	79%	84%
Southern California Regional Rail Authority (Metrolink)	100%	96%	80%	79%	82%
San Diego Metropolitan Transit System (MTS)	100%	104%	114%	132%	144%
Peninsula Corridor Joint Powers Board (PCJPB)	100%	90%	78%	96%	94%
City and County of San Francisco (SFMTA)	100%	82%	14%	74%	83%
Sacramento Regional Transit District	100%	83%	82%	83%	83%
Santa Clara Valley Transportation Authority (VTA)	100%	82%	80%	45%	90%
North County Transit District (NCTD)	100%	93%	79%	120%	115%
Altamont Corridor Express (ACE)	100%	90%	43%	77%	88%
Sonoma-Marin Area Rail Transit District (SMART)	100%	89%	43%	74%	106%

Bus: Share of 2019 VRH across 10 largest CA bus agencies by bus vehicle hours traveled (as measured by 2019 VRH) before and after COVID-19 (% of 2019 VRH)

[109] National Transit Database (TS2.1 - Service Data and Operating Expenses Time Series by Mode)
[110] National Transit Database (TS2.1 - Service Data and Operating Expenses Time Series by Mode)
[111] National Transit Database (TS2.1 - Service Data and Operating Expenses Time Series by Mode)
[112] National Transit Database (TS2.1 - Service Data and Operating Expenses Time Series by Mode)

Agency	2019	2020	2021	2022	2023
Los Angeles County Metropolitan Transportation Authority (LACMTA)	100%	91%	77%	88%	94%
City and County of San Francisco (SFMTA) - Transit Division	100%	94%	83%	89%	97%
Alameda-Contra Costa Transit District	100%	91%	82%	80%	84%
San Diego Metropolitan Transit System (MTS)	100%	98%	101%	100%	93%
Orange County Transportation Authority (OCTA)	100%	89%	74%	85%	89%
Santa Clara Valley Transportation Authority (VTA)	100%	91%	77%	88%	94%
Foothill Transit	100%	99%	98%	93%	91%
Long Beach Transit (LBT)	100%	86%	69%	81%	89%
City of Los Angeles (LADOT) - City of Los Angeles Department of Transportat	100%	102%	101%	101%	102%
Riverside Transit Agency (RTA)	100%	94%	68%	69%	72%

In terms of ridership and fare revenues, the COVID-19 pandemic caused ridership to decrease for all agencies by an average of 20% from 2019 to 2020, and a further 50% decrease (on average) from 2020 to 2021.[113] However, in 2021, ridership began to rebound, growing, on average, 54% from 2021 to 2022. As of 2023, no large agencies have reached pre-pandemic levels of ridership.[114] The recovery has also been uneven with some agencies, like OCTA and San Diego MTS, at nearly 80% of pre-COVID ridership in 2023, while agencies like BART are at only ~40% of 2019 ridership.

Exhibit: Share of 2019 UPT across largest CA transit agencies (as measured by 2019 UPT) before and after COVID-19, (% of 2019 UPT)[115]

Agency	2019	2020	2021	2022	2023
Los Angeles County Metropolitan Transportation Authority (LACMTA)	100%	81%	51%	67%	73%
City and County of San Francisco (SFMTA) - Transit Division	100%	76%	28%	46%	62%
San Francisco Bay Area Rapid Transit District (BART)	100%	71%	14%	30%	40%
San Diego Metropolitan Transit System (MTS)	100%	83%	46%	68%	80%
Alameda-Contra Costa Transit District	100%	84%	40%	54%	65%
Orange County Transportation Authority (OCTA)	100%	81%	51%	68%	80%
Santa Clara Valley Transportation Authority (VTA)	100%	79%	33%	49%	65%
Long Beach Transit (LBT)	100%	79%	61%	75%	72%
Sacramento Regional Transit District	100%	88%	40%	57%	72%
City of Los Angeles (LADOT) - City of Los Angeles Department of Transportation	100%	74%	49%	70%	80%

Over the course of the pandemic and through the recovery period, fare revenues fell and then recovered, mirroring trends in ridership, though for many

[113] National Transit Database (TS2.1 - Service Data and Operating Expenses Time Series by Mode)
[114] National Transit Database (TS2.1 - Service Data and Operating Expenses Time Series by Mode)
[115] National Transit Database (TS2.1 - Service Data and Operating Expenses Time Series by Mode)

agencies (e.g., LA Metro), farebox revenue has recovered more slowly than ridership. Many of the higher farebox agencies pre-COVID (e.g., BART, Metrolink) have also had slower recoveries.[116] In general, ridership was ~65% of 2019 ridership in 2023, while fare revenues were only ~50% of 2019 fare revenues in 2019.

Exhibit: Share of 2019 revenue across 10 largest CA transit agencies (as defined by 2019 revenue) before and after COVID-19, (% of 2019 revenue)[117]

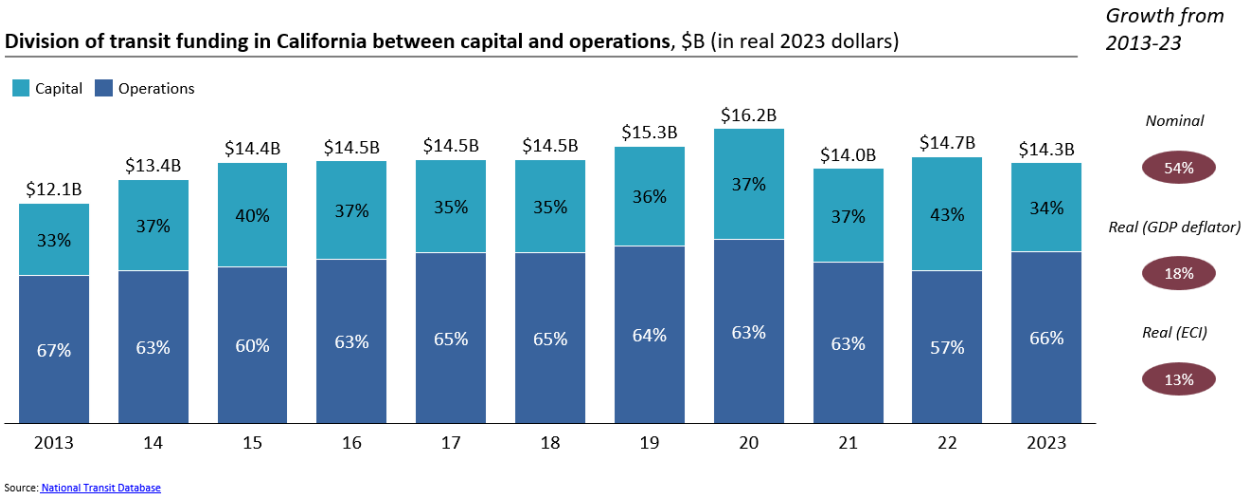
Agency	2019	2020	2021	2022	2023
San Francisco Bay Area Rapid Transit District (BART)	100%	71%	13%	28%	39%
Los Angeles County Metropolitan Transportation Authority (LACMTA)	100%	71%	11%	26%	45%
City and County of San Francisco (SFMTA)	100%	78%	9%	31%	45%
Peninsula Corridor Joint Powers Board (PCJPB)	100%	74%	32%	32%	42%
San Diego Metropolitan Transit System (MTS)	100%	85%	52%	61%	73%
Southern California Regional Rail Authority (Metrolink)	100%	77%	20%	34%	42%
Alameda-Contra Costa Transit District (AC Transit)	100%	91%	34%	49%	59%
Orange County Transportation Authority (OCTA)	100%	78%	30%	50%	58%
Santa Clara Valley Transportation Authority (VTA)	100%	76%	36%	58%	72%
Golden Gate Bridge, Highway and Transportation District (GGBHTD)	100%	75%	14%	39%	52%

11. The division of transit funding between capital and operations (SB125 1.E.11)

According to the National Transit Database, between 2013 and 2023, transit funding from the state of California was, on average, allocated as 37% for capital projects and 63% for operations.[118] From 2013 to 2023, the ratio of funds allocated to capital and operations stayed relatively consistent (within 10% margin), even as funding fluctuated over the decade.[119]

Exhibit: Division of transit funding applied to capital and operations[120]

[116] National Transit Database (TS2.1 - Service Data and Operating Expenses Time Series by Mode, TS1.2 - Operating and Capital Funding Time Series)
[117] National Transit Database (TS2.1 - Service Data and Operating Expenses Time Series by Mode, TS1.2 - Operating and Capital Funding Time Series)
[118] National Transit Database (TS1.2 - Operating and Capital Funding Time Series, TS2.1 - Service Data and Operating Expenses Time Series by Mode)
[119] National Transit Database (TS1.2 - Operating and Capital Funding Time Series, TS2.1 - Service Data and Operating Expenses Time Series by Mode)
[120] National Transit Database (TS1.2 - Operating and Capital Funding Time Series, TS2.1 - Service Data and Operating Expenses Time Series by Mode); funding adjusted by GDP deflator from FRED database and by Employment Cost Index (ECI) from FRED database



Source: National Transit Database

Examining the division of funding between capital and operations in FY2022-23 across the ten largest sources of funding ($9.2 billion), funding allocated to capital expenses accounts for $4.2 billion (46% of ten largest funding sources), while the remaining $5 billion is allocated to both capital and operations expenses (see exhibit below).[121]

Between 2013 and 2023, 62% of transit funds were applied to operations, while the remaining 38% were applied to capital projects.[122] Of the capital funds, 20% were applied toward existing operations (such as EG EG), and 18% were used for capital expansion.[123] Transit agencies in other states applied more funding to operations on average over the past 10 years, than California (71% in other States, as compared to 62% in California due to the number of large capital investments being made to grow transit in the State).[124]

[121] Fact Sheet: Capital Investment Grants Program, SCO: Transit Operator Financial Transactions Report Instructions, 5307 and 5340 Urbanized Area Formula Appropriations, FY 2023 Section 5337 State of Good Repair; Institute for Local Government; Urbanized Area Formula Grants – 5307; STA and State of Good Repair; TIRCP
[122] TTTF Meeting #7, which took place on 12/10/2024
[123] TTTF Meeting #7, which took place on 12/10/2024
[124] National Transit Database Funding Applied to Capital and Operations

The largest source of funding (5309 - FTA Capital Program Funds) was allocated to capital purposes, while the next three largest funding sources (local tax measures in addition to LTF,[125] LTF, and 5307+5340 - Urbanized Area Formula Program) were allocated to both capital and operations expenses.[126]

Exhibit: Largest California transit government funding sources[127]

Largest California transit government funding sources

Local funding Federal funding State funding

PRELIMINARY

Type	Funding source	Amount of funding, $B*	Primary source of funds	Funding decision-making entity	Enabling mechanism
Federal	5309 - FTA Capital Program Funds	1.6	Federal general revenues	Federal	Infrastructure Investment and Jobs Act (IIJA)
Local	Local tax measures in addition to the Local Transportation Fund	1.5	Sales tax	Regions	Transportation Development Act (TDA)
State	Local Transportation Fund (LTF)	1.2	Sales tax	Regions	TDA
Federal	5307+5340 - Urbanized Area Formula Program	1.2	Federal general revenues	Regions	IIJA
State	State Transit Assistance + State of Good Repair	1.1	Diesel tax and transportation improvement fee	Regions	TDA (STA), SB1 (SOGR)
Local	Taxes raised directly by transit agencies	0.8	Sales taxes, highway tolls, vehicle licensing fees	Regions	Agency-specific legislation
State	Transit and Intercity Rail Capital Program (TIRCP)	0.7	Gas/diesel taxes and vehicle registration fees	California State	GGRF, Senate Bill 1
Federal	5337 - State of Good Repair Grants (SOGR)	0.6	Federal general revenues	Regions	IIJA
Local	Local funds from bridges, tunnels, tolls	0.3	Bridge and tunnel tolls	Regions	Region-specific legislation
State	Affordable Housing and Sustainable Communities Program (e.g. Transit-Oriented Development)	0.2	Cap-and-trade proceeds	California State	GGRF

* Only 10 largest programs listed, which comprise $9.2B in total; other Federal, State and Local sources total $1.9B, with farebox revenue accounting for the remaining $1.4B

[125] Local Transportation Fund

[126] Fact Sheet: Capital Investment Grants Program, SCO: Transit Operator Financial Transactions Report Instructions, 5307 and 5340 Urbanized Area Formula Appropriations, FY 2023 Section 5337 State of Good Repair; Institute for Local Government; Urbanized Area Formula Grants – 5307; STA and State of Good Repair; TIRCP

[127] Fact Sheet: Capital Investment Grants Program, SCO: Transit Operator Financial Transactions Report Instructions, 5307 and 5340 Urbanized Area Formula Appropriations, FY 2023 Section 5337 State of Good Repair; Institute for Local Government; Urbanized Area Formula Grants – 5307; STA and State of Good Repair; TIRCP