Fiscal Year 2024-25	**Business Unit Number** 2660	**Department** Transportation

Hyperion Budget Request Name 2660-076-BCP-2024-GB	**Relevant Program or Subprogram** 1840019 – State and Federal Mass Transit 9900100 - Administration

Budget Request Title

Institutionalizing the California Integrated Travel Project (Cal-ITP) and Building a Data & Digital Services Division

Budget Request Summary

The California Department of Transportation requests seventy (70) permanent positions and $26,298,000 ($11,156,000 in Personal Services and $15,142,000 in Operating Expenses) for the California Integrated Mobility Program (CIM).

Requires Legislation (submit required legislation with the BCP) ☐ Trailer Bill Language ☐ Budget Bill Language ☒ N/A	**Code Section(s) to be Added/Amended/Repealed** Click or tap here to enter text.	
Does this BCP contain information technology (IT) components? ☒ Yes ☐ No *If yes, departmental Chief Information Officer must sign.*	**Department CIO** Marci Kahbody, Interim CIO	**Date** 6/16/2023

For IT requests, specify the project number, the most recent project approval document (FSR, SPR, S1BA, S2AA, S3SD, S4PRA), the approval date, and the total project cost.

Project No. Click or tap here to enter text.   **Project Approval Document:** Click or tap here to enter text.

Approval Date: Click or tap to enter a date. **Total Project Cost:** Click or tap here to enter text.

If proposal affects another department, does other department concur with proposal? ☐ Yes ☐ No

Attach comments of affected department, signed and dated by the department director or designee.

Prepared By GILLIAN GILLETT	**Date** Click or tap to enter a date.	**Reviewed By** KEITH DUNCAN	**Date** Click or tap to enter a date.
Department Director TONY TAVARES	**Date** Click or tap to enter a date.	**Agency Secretary** TOKS OMISHAKIN	**Date** Click or tap to enter a date.

Department of Finance Use Only

Additional Review: ☐ **Capital Outlay** ☐ **ITCU** ☐ **FSCU** ☐ **OSAE** ☐ **Dept. of Technology**

Principal Program Budget Analyst James Moore	**Date submitted to the Legislature** 1/12/2024

A. Problem Statement

The California Department of Transportation (Caltrans) requests seventy (70) permanent positions and $14,500,000 in consulting services, staggered over three years from the Public Transportation Account for the California Integrated Mobility Program (CIM) to institutionalize the California Integrated Travel Project (Cal-ITP) and to build a Data & Digital Services Division.

- In fiscal year (FY) 2024-25, Caltrans requests 24 permanent positions and $11,814,000 ($3,994,000 in Personal Services (PS), $220,000 in complementary Operating Expenses OE and $7,600,000 in OE for consulting services).

- In FY 2025-26, Caltrans requests an additional 22 permanent positions for a total of 46 positions $22,380,000 ($7,459,000 in PS, $421,000 in complementary OE, and $14,500,000 in OE for consulting services).

- In FY 2026-27 and beyond, Caltrans requests an additional 24 permanent positions for a total of 70 positions and $26,298,000 ($11,156,000 in PS, $642,000 in complementary OE, and $14,500,000 in OE for consulting services).

California has a large, disaggregated, and complex transportation ecosystem. There are over 700 different transit services including demand response, paratransit and specialized services, dozens of different proprietary fare payment systems, scores of limited-service area applications (apps), and various regional entities responsible for setting regional policies related to mass transit. This is in addition to the myriad of non-transit public and private sector mobility providers, including transportation network companies, bike and car-share, private shuttles, private bus services, scooter rental, etc., as well as the ecosystem that supports private vehicle usage such as tolling and road pricing and the fast-approaching, recently regulated, electric vehicle (EV) charging at scale. As a result of this disaggregation, there is a lack of standardization and interoperability across agencies, modes, and the broader mobility ecosystem, creating friction and hampering the customer experience in unnecessary and sometimes confusing ways that further depresses ridership. Customers don't know what the price of a trip is if the trip involves multiple agencies or services; transfers between services are not timed or co-located in customer-friendly ways; and the reliability and dependability that customers expect in making a choice to purchase something or not is absent.

Many of the problems facing transit services and the other connected mobility ecosystem stakeholders are not unique to California, but rather reflect patterns seen across the United States of America (nation): public transit ridership is decreasing in many jurisdictions; less farebox revenue is being recovered by transit agencies; and COVID is still changing travel and ridership patterns. These trends taken together create a vicious cycle, with historically underfunded systems leading to worse service, leading to lower ridership, which leads to more funding challenges-all while the customer experience of other sectors like retail, and travel by car is improving rapidly. This is all while the public organizations grapple with how to encourage the transition from gasoline to electric and hydrogen vehicle usage to address the climate crisis and understand how new business models and modes of travel fit into the overall transportation network. In addition, many passenger vehicle charging stations often don't work, frustrating customers and putting more pressure on small agencies and non-profit organizations to get into businesses they do not understand and cannot scale themselves.

The Cal-ITP was established through a Transit and Intercity Rail Capital grant from the California State transportation Agency (CalSTA) to help California:

- Improve the customer experience by removing barriers to accessing public transit and to transferring between travel modes, across jurisdictions and operator service areas.
- Advance equity and reduce costs to California families as well as administrative burden on public benefits recipients.

- Increase public agency buying power for technology and services to modernize, increase efficiency, and reduce operating costs.
- Realize operational benefits for public transit services, as a framework for also enabling improvements in shared electric and/or autonomous vehicles, bikeshare, e-bikeshare, scooters, micromobility, etc.
- Meet greenhouse gas emission reduction goals established and articulated via the Global Warming Solutions Act of 2006 and the Sustainable Communities and Climate Protection Act.

With the prior BCP Coronavirus Aid, Relief, and Economic Security (CARES) Act funding allocated to technical assistance from Caltrans, CIM built data pipelines between transit agencies and Caltrans to begin to help them plan their services post COVID. One data pipeline contains General Transit Feed Specification Schedule data (GTFS) and Real Time GTFS (GTFS-RT) data downloaded from every agency that produces that data. The other pipeline contains the payment data downloaded from agencies that have become merchants and offer payment by bank cards through the program. The pipelines collect schedule and payments data every night, and real time GTFS data every 20 seconds. These datasets can be used for many purposes, as well as combined with non-transit data. At base, GTFS and Real Time GTFS data tell passengers when and where to find the bus or train they need, including how to travel across modes; but the data also show Caltrans/CIM how much service was run versus scheduled. Open payment data tell agencies how much revenue they collected and from which types of fare products; but the data also tell Caltrans/CIM where and what the ridership is.

Also with the prior CARES Act funding, CIM researched all of Caltrans' grants and built a prototype grant eligibility checker to demonstrate which grants Caltrans customers, including transit agencies, are eligible for. With this BCP, Caltrans would complete the grant eligibility requirements and business rule verification so that all Caltrans grants and customers are listed. In this way, transit agencies can discover additional resources and their requirements. Further, with the prior CARES ACT funding BCP, automating part of the annual reporting that Caltrans does to the FTA for the purposes of completing the National Transit Database has begun. By verifying the quality and completeness of the data before sending it to FTA, today's back and forth between Caltrans and FTA to correct simple, repeated errors can be eliminated. And finally, with the BCP CARES Act funding, a contract was awarded to begin working on a statewide capital planning/transit asset management system of record for participating agencies. With this work Caltrans hopes to significantly reduce the amount of time transit agencies need to apply for grant funding because their data will already exist in an easily queried digital format. All the BCP CARES Act funded work to date is supported by CALACT, the transit trade association for small and rural transit agencies.

Mass Transportation Resource History
(Dollars in thousands)

Program Budget	FY 2018–19	FY 2019–20	FY 2020–21	FY 2021–22	FY 2022-23
Authorized Expenditures	$374,611	$460,394	$609,499	$883,248	$634,374
Actual Expenditures	$240,183	$383,014	$298,579	$558,198	$319,757
Authorized Positions	62.7	62.7	61.7	61.7	75.7
Filled Positions	61.0	66.7	69.4	79.7	88.5
Vacancies	1.7	-5.0	-7.7	-18.0	-12.8

B. Justification

There are 250 organizations offering fixed-route services in California. Approximately 87 of them receive most of their funding from the Federal Transit Administration via Caltrans' Division of Rail and Mass Transit as delegated by the Governor. There are 84 organizations that offer paratransit services and receive their funding from the Federal Transit Administration (FTA) via delegation to Caltrans. Unlike Los Angeles Metro, Bay Area Rapid Transit, and the Sacramento Regional Transit, these agencies are too small to receive their federal money directly from the FTA. Caltrans is the fiduciary to these small, rural, on-demand paratransit and intercity services. Since many of these small services provide transportation to the elderly and to members of the disability community, they do not have the resources or skills to keep pace with technology or best business practices. The FTA encourages departments of transportation (DOTs) to use 10 percent of its formula funds for small and rural agencies to provide technical assistance to address needs that these small and rural agencies have but lack the capacity to accomplish themselves. This is how most DOTs fund their transit technical assistance programs. However, Caltrans has traditionally granted all the FTA formula funding directly to the transit services without supplying operational technical assistance and has only in the last two years expanded its limited technical assistance capabilities with startup funding through a Transit and Intercity Rail Capital project grant to the Capital Corridor Joint Powers Authority and one-time CARES Act small operator support funds for Cal-ITP.

With this request Caltrans proposes to significantly expand the technical assistance that transit agencies desperately need and that EV charging stakeholders, tolling agencies, and road charge stakeholders will need very soon regarding open payments, merchant interchange fees, merchant category codes, mobility data standards, digital identity, and eligibility verification. Caltrans also proposes to leverage the proposed investment to bring data analytics and digital services, such as business process streamlining and product services to all divisions within the Planning and Modal Programs (PM&P) to reify data, support data-driven decision-making, radically improve the experience of applying to Caltrans for grants and organize the Division's data and processes in order to answer basic and strategic questions regarding Caltrans' investments through grant-making across the enterprise.

A 2019 feasibility study identified that public transportation in California faces serious challenges: as mobility preferences and options further shift to personal cars, shared rides, Transportation Network Companies like Uber, and new micromobility services, transit ridership and fare revenue are decreasing. Meanwhile, operating costs and capital expenditures in public transportation are steadily increasing. The constantly optimized, rigorously tested customer experience provided by Transportation Network Companies and new mobility services are setting new standards in lower-hassle travel and higher customer expectations: optimized networks, real-time information, multimodal offerings, and seamless payments (at least for those participating in the banking system) have become the norm. And finally, discovering and paying for retail and commercial service offerings are simpler, faster, and safer than ever.

Hundreds of public transit operators in California are struggling to innovate and are failing to keep up with the rate of mobility innovation found in the private sector. Further, their lack of integration with these new mobility options hampers multi-modal travel and diminishes the likelihood that unhabitual travelers try transit at all. This implies that the downward pressure on public transportation demand may well get stronger over time (as was the case during COVID). Public transportation in California urgently needs to consider fundamentally rethinking its service propositions, its pricing propositions, and the way it engages with its existing and potential customers. To inform this assessment, the study conducted in-depth market research

and gathered feedback from market parties and transportation providers between September 2019 and January 2020. In this research, three main, underlying issues were emphasized: Lack of reliable information decreases ridership; frictions in payment create unnecessary hurdles for users; and complex, paper-based eligibility requirements to receive transit benefits violates customer privacy while placing a large administrative burden on all transit agencies and every customer receiving benefits. These issues are particularly acute within and across public transit systems, apply across road charges and tolling today, and are emerging quickly regarding EV charging.

<u>GTFS and Real Time GTFS Support</u>

Technical assistance in producing Schedule GTFS and Real Time GTFS data is done by Cal-ITP's TIRCP funded consultants for agencies that need help. At the end of 2021, this assistance resulted in 206 of the 250 agencies having complete GTFS schedule data. But only 43 percent of the 250 agencies could produce Real Time GTFS. Many of the small and rural agencies fell out of Schedule GTFS compliance during 2022, requiring further technical assistance from Cal-ITP's consultants. During 2022, the ongoing work of the Cal-ITP consultants and the CIM Program data staff revealed that:

1. Most small and rural agencies do not have scheduling software that automatically produces GTFS schedule data (they use spreadsheets or paper).
2. There is no commercially available scheduling software that produces GTFS and is scaled to the operations of small and rural transit services.
3. There is no commercially available software or hardware that produces Real Time GTFS for the small, rural, and intercity agencies for whom Caltrans is the fiduciary.

With this proposal, a permanent and expanded data team will provide more insights, better and ongoing analysis, and automate as much of the work as possible over time. This combined data helps Caltrans understand how well transit service is meeting the needs of customers statewide and where Caltrans can recommend improvements to transit operators, as well as make infrastructure improvements to the state highway system so that buses can move more efficiently on California roadways.

CIM proposes to bring all of the current activities in house with permanent staff that can complete all but the most specialized activities currently performed by consultants, and to work with one to two commercial scheduling vendors, soon available through Department of General Services's (DGS) Software Licensing Program, to trial that software with up to three volunteer agencies in order to determine if the software services can support the use cases of small, rural, and intercity agencies, and if the volunteer agencies can learn and maintain their schedules using the software services. With this request, CIM would staff the onboarding of small and rural agencies onto these software services and provide continuing support to use the scheduling software and keep agency data current. If this works with three agencies that are currently involved in a pilot, CIM would build an operating model to offer all the small, rural, and intercity agencies the scheduling software and technical assistance from CIM to always have complete and accurate GTFS data from the 87 small and rural fixed route agencies, and over time, GTFS "flex" data from the 84 paratransit agencies for whom Caltrans is the fiduciary for the FTA.

<u>Discounts and Incentives</u>

In parallel with helping agencies comply with GTFS, Real Time GTFS, and accepting payment by bank cards, the CIM Program Manager and the Cal-ITP TIRCP funded consultants are working with the California Department of Technology's Digital Identity Team to demonstrate providing discounts to older adult customers paying directly with a bank card. Agencies across the United

States are required to provide discounts to older adults and other types of customers under 49 U.S.C. Section 5307(d)(1)(D)of the Federal Transit Act. With the existing Cal-ITP consulting team, CDT's Team, and the General Service Administration's login.gov team, Caltrans supports transit discounts for seniors at two agencies, and is being asked by many additional agencies across the country how they can leverage the same functionality. If this request is funded, the plan is to roll this service out to cover the other discounts required by the FTA, to any California-based agency that accepts payments by bank card through the California Integrated Mobility Program-transitioning from demonstration to scale. Included is a plan to work with the United States General Services Administration (GSA), the CDT Digital Identity Team, local agencies, and DOTs in other states to make this eligibility verification and benefits service available nationally, hosted by a federal agency. Connecticut's DOT has already received a USDOT Smart Grant to partner with CIM for this purpose.

Data and Digital Services Division

DDS will be organized as a matrix organization to staff data, business process, and customer experience projects it is tasked with. Each project will be assigned DDS team members appropriate to the problem, led by a product manager. When projects are completed, team members will be ready to join new projects. Major projects, such as monitoring and improving the quality of transit GTFS and GTFS Real Time data, will be permanent projects for some of the team members-enabling the Division of Transportation Planning to identify and prioritize transit improvements in corridor plans and for project initiation, or allowing the Office of Emergency Services to reroute or commandeer vehicles and assign evacuations of the disability community during times of emergency, for example. As data professionals define additional mobility data standards–say for freight –DDS would monitor and analyze those as well. Other projects, such as consolidating P&MPs' 32 grant applications and simplifying grant application processes, will require many DDS resources at the beginning, but will lead to enormous efficiencies and structured data that can be analyzed for insights into the effectiveness of state and federal grant investments-data which is very difficult to obtain now. Other example projects include collecting and structuring the Office of Civil Rights' DBE data for regular access via dashboards; training Caltrans District staff to work with mobility data and modern data tools; automating annual National Transit Database reporting; packaging and publishing as much of P&MP's data as possible on California's Open Data Portal.

Finally, CIM could focus on the most exciting portion of the program: partnering with the payments industry to ideate, test, and roll out debit products for the underbanked and unbanked. An example of this is the Cal-ITP consultant-staffed partnership with Square (now Block) to tweak and message the availability of Square's existing Cash App debit product to under and unbanked customers in the service areas of Cal-ITP participating transit agencies. In the Monterey/Salinas Transit District Service Area, for instance, between March and August of 2021, 30 percent of the Cash App's new customers were attributable to the Cal-ITP demonstration. Meaning that the first time the customer used their Cash App account was to tap on a Monterey Salinas bus. At the end of that same period, 93 percent of the transactions made by these new Cash App customers were for things other than transit-mostly food.

CIM, Cal-ITP consultants, and CDT's Digital Identity team held a workshop with Wells Fargo's North American Consumer Products team to explore what Wells Fargo can do. CIM staff plan to hold more workshops with other payment issuers, including banks, but also non-bank payment accounts like those offered by PayPal, Venmo and Discover. If this request is approved, CIM staff can do a lot more of this information- and use-case sharing work, hopefully in partnership with other state and local agencies that wish to provide benefits on Federal Deposit Insurance Corporation (FDIC) insured bank cards, making transportation more convenient and affordable while increasing financial inclusion.

Cal-ITP's TIRCP funded consultants and the CIM Program Manager are also working with CARB's Clean Cars for All Program to demonstrate open payments for lower income EV owners who need to recharge on the road, as the problem of the underbanked, eligibility verification and interoperability that exists in transit is rapidly emerging with electric vehicle recharging. If this BCP is funded, this work could transition to CIM, and be extended to other modes, such as bike share, scooter share, and importantly, road charges. Many areas of California are critically underserved by transit; while lower-income people are already spending a large percentage of their income on transportation, in these areas the cost of driving is even more punishing. The cash-paying lines on toll bridges and roads today are indicators that the work Cal-ITP is doing is needed more broadly in California-anywhere a banked, underbanked, or unbanked customer needs to pay for part of a trip they want to make.

C. Departmentwide and Statewide Considerations

The Cal-ITP partnership consists of CalSTA, Caltrans, and intercity and local transit partners. Increasingly, Cal-ITP has been able to forge partnerships with other State agencies, including the California Department of Technology (CDT) via its Digital Identity Team, the California Air Resources Board (CARB) and California Governor's Office of Business and Economic Development (GO-Biz) as well as with the new Federal Joint Office of Energy and Transportation. Together, this group is piecing together a transition to a cleaner, simpler, and more effective transportation ecosystem for all the sustainable modes in California (transit, paratransit, micromobility, bikeshare, e-bikeshare, shared electric vehicles) and engaging key stakeholders to help realize Governor Newsom's Executive Orders on Zero Emissions, Equity, and Infrastructure.

D. Outcomes and Accountability

Projected Outcomes

Workload Measure	2023-24	2024-25	2025-26	2026-27
e.g., A) Expressions of Interest, Scopes of Work assisted, negotiating advice, B) Onboarding and account maintenance	25 A; 15B	30 A; 32B	32A; 45B	35; 60B

Projected Outcomes

Workload Measure	2023-24	2024-25	2025-26	2026-27	2027-28
e.g. (A) Grant consolidation; (B) Customer success function; (C) Federal grant rule training	-	50% A; 25% B	50% A; 25% B; 50% C	50% B; 50% C	More processes

E. Implementation Plan

As GTFS schedule, Real Time GTFS, accepting payment by bank cards and secure, safe, and easy benefits eligibility verification roll out to agencies, CIM would take more steps with the resources proposed in this BCP. Next steps for transit include:

1. Working with DGS to procure standardized annunciators and digital signage that consume GTFS and Real Time GTFS data feeds and present that information in a standardized way (today every transit sign and every annunciator is bespoke and expensive, and there are no products that small and rural agencies can afford). These products would require initial technical assistance from CIM for agencies to onboard so that the products are interoperable with the agency's GTFS and Real Time GTFS technology stack.

2. Working with DGS to procure standardized automatic passenger counters (today every bus and every train is custom, so there are no standardized passenger counters, and ridership counts are often manual and ridership calculations are done using inconsistent methodologies). Automatic passenger counters would assist in validating the payments data pipeline as more customers pay by bank card.

3. Working with the global to extend GTFS to paratransit services (currently known as "GTFS-Flex") so that some aspect of paratransit is available on Google and Apple Maps. This work is currently done by Cal-ITP's GTFS-funded consultants but could transition to CIM if there were funding as proposed here. This work could be further extended to incorporating first-mile and last-mile mobility, such as bike share, e-bike share, scooter-share, and transportation network companies via the GOFS project.

4. Reverse engineering existing legacy Computer Aided Dispatch and Automatic Vehicle Location products (which enable larger transit agencies to provide turn by turn instructions to bus operators on the fly) to see how to split them up into "Lego blocks" Caltrans can request DGS to procure, so that small, rural, and intercity agencies can purchase individual components as they need them as well as modernize the legacy hardware and software in the current solutions Computer Aided Dispatch/Automatic Vehicle Location(CAD/AVL systems are still radio-based and went offline last year when AT&T deprecated 3G). As mentioned in the Mineta Transportation Institute's US Transit Bus Manufacturing Industry Study, "policy makers should consider the reality that the transit bus market may be too small to effectively spur the [Research and Development] required for improved diesel emissions technology." Small and rural transit agencies together are too small a market to effectively spur development for modern technologies for themselves. Therefore, the technical assistance proposed here is critical, as current solutions are pre-internet, cater to large agencies and are outrageously expensive.

5. Working with login.gov to improve the login.gov signup by carrying out user testing and professional user research in California with participating transit agencies and their customers. Continuing the work with CDT to extend the platform to incorporate verification of income and other key program eligibility requirements and enable benefits distribution across State agencies.

6. Working with CARB to research and write the scope of work for a statewide electric bicycle share program that easily integrates with transit and Electric Vehicle charging.

7. Working with GO-Biz and CARB to build the business model(s) for refueling infrastructure shared by freight, transit, and possibly passenger vehicles–possibly on transit agency and/or Caltrans real estate.

F. Supplemental Information (If Applicable)

None

BCP Fiscal Detail Sheet

BCP Title: California Integrated Travel Project, Data and Digital Services Division   **BR Name: 2660-076-BCP-2024-GB**

Budget Request Summary

	CY	BY	BY+1	BY+2	BY+3	BY+4
Personal Services				FY24		
Positions - Permanent	0.0	24.0	46.0	70.0	70.0	70.0
Total Positions	**0.0**	**24.0**	**46.0**	**70.0**	**70.0**	**70.0**
Salaries and Wages						
Earnings - Permanent	0	2,482	4,632	6,925	6,925	6,925
Total Salaries and Wages	**$0**	**$2,482**	**$4,632**	**$6,925**	**$6,925**	**$6,925**
Total Staff Benefits	0	1,512	2,827	4,231	4,231	4,231
Total Personal Services	**$0**	**$3,994**	**$7,459**	**$11,156**	**$11,156**	**$11,156**
Operating Expenses and Equipment						
5301 - General Expense	0	137	262	399	399	399
5302 - Printing	0	6	11	17	17	17
5304 - Communications	0	27	51	78	78	78
5306 - Postage	0	1	3	4	4	4
5320 - Travel: In-State	0	19	36	55	55	55
5322 - Training	0	3	5	8	8	8
5326 - Utilities	0	20	39	60	60	60
5340 - Consulting and Professional Services - External	0	7,600	14,500	14,500	14,500	14,500
5344 - Consolidated Data Centers	0	7	14	21	21	21
Total Operating Expenses and Equipment	**$0**	**$7,820**	**$14,921**	**$15,142**	**$15,142**	**$15,142**
Total Budget Request	**$0**	**$11,814**	**$22,380**	**$26,298**	**$26,298**	**$26,298**

Fund Summary

Fund Source - State Operations	CY	BY	BY+1	BY+2	BY+3	BY+4
0046 - Public Transportation Account, State Transportation Fund	0	11,814	22,380	26,298	26,298	26,298
Total State Operations Expenditures	**$0**	**$11,814**	**$22,380**	**$26,298**	**$26,298**	**$26,298**
Total All Funds	**$0**	**$11,814**	**$22,380**	**$26,298**	**$26,298**	**$26,298**

Program Summary

Program Funding	CY	BY	BY+1	BY+2	BY+3	BY+4
1840019 - State and Federal Mass Transit	0	11,814	22,380	26,298	26,298	26,298

Total All Programs	$0	$11,814	$22,380	$26,298	$26,298	$26,298