STATE OF CALIFORNIA
Budget Change Proposal - Cover Sheet
DF-46 (REV 08/15)

Fiscal Year	Business Unit	Department	Priority No.
2016	8660	Public Utilities Commission	006

Budget Request Name	Program	Subprogram
8660-006-BCP-BR-2016-A1	6690064 – RAIL TRANSIT SAFETY	

Budget Request Description
Rail Transit Safety

Budget Request Summary

This proposal seeks an increase of $701,000 (Public Transportation Account, State Transportation Fund-0046) and five Transit Safety positions to allow the PUC to maintain safety inspection and accident investigation levels to keep up with the significant expansion of rail transit systems. These positions may be up to 80% reimbursable under the FTA grant program in the budget year and out years.

A key component of the PUC's mission is to ensure public safety. This request would bring the number of inspectors in line with the growth of transit infrastructure and ridership to increase public and transit employee safety. The number of rail transit systems has increased from 12 in 2009, to 14 systems with 500 miles of track in 2015. Ridership in the Los Angeles County Metropolitan Transit Authority (LACMTA) system alone has increased 25 percent: from 327 million in 2009 and 408 million in 2013, to over 500 million in 2015. There are currently ten rail transit line extension projects in various stages of construction, all of which must be monitored and inspected during and after construction and safety certification.

Requires Legislation	Code Section(s) to be Added/Amended/Repealed
☐ Yes ☒ No	

Does this BCP contain information technology (IT) components? ☐ Yes ☒ No *If yes, departmental Chief Information Officer must sign.*	Department CIO	Date

For IT requests, specify the date a Special Project Report (SPR) or Feasibility Study Report (FSR) was approved by the Department of Technology, or previously by the Department of Finance.

☐ FSR ☐ SPR Project No. Date:

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	Date	Reviewed By	Date
Elizaveta Malashenko	03/29/16	Jack Dwyer	03/29/16
Department Director	**Date**	**Agency Secretary**	**Date**
Timothy J. Sullivan	03/29/16		

Department of Finance Use Only

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

BCP Type: ☐ Policy ☐ Workload Budget per Government Code 13308.05

PPBA	Original Signed By: Ellen Moratti	Date submitted to the Legislature	APR 01

Analysis of Problem

Budget Request Summary

This proposal seeks an increase of $701,000 (Public Transportation Account, State Transportation Fund-0046) for five Transit Safety positions and four DGS truck leases (for three inspectors and one supervisor), to enable the PUC to maintain safety inspection and accident investigation levels to keep up with the expansion of rail transit systems.

The PUC Rail Transit Safety Branch ensures that rail transit agencies construct, maintain, and operate their lines in a manner which promotes and safeguards the health and safety of its employees, passengers, and the public. The number of rail transit systems has increased from 12 in 2009 to 14 in 2015. Similarly, ridership has also increased: In the Los Angeles County Metropolitan Transit Authority system alone, ridership has increased from 327 million in 2009 to over 500 million in 2015. With ten rail transit line extension projects in various stages of construction and at least four public authorities pursuing streetcar projects, these numbers will continue to increase.

Along with the number of rail transit systems and riders, the number of accidents, injuries, and fatalities has also increased. The PUC is charged with ensuring safe and reliable infrastructure. PUC Transit Safety Inspectors are critical with regard to mitigating public safety risks, and additional Transit Safety staff are necessary to keep up with this growth.

B. Background/History

In 1992, California Governor Pete Wilson designated the PUC as the State Safety Oversight Agency for California. The designation followed passage of the Intermodal Surface Transportation Efficiency Act, which required review of safety plans and other requirements for rail transit systems. At the time, the PUC already regulated rail transit agencies such as the Bay Area Rapid Transit (BART) and San Francisco Municipal Railway (SF Muni) under existing General Orders (GOs) and Public Utilities (PU) Code section 99152, which states the following:

> *Any public transit guideway planned, acquired, or constructed, on or after January 1, 1979, is subject to regulations of the Public Utilities Commission relating to safety appliances and procedures.*
>
> *The commission shall inspect all work done on those guideways and may make further additions or changes necessary for the purpose of safety to employees and the general public.*
>
> *The commission shall develop an oversight program employing safety planning criteria, guidelines, safety standards, and safety procedures to be met by operators in the design, construction, and operation of those guideways. Existing industry standards shall be used where applicable.*
>
> *The commission shall enforce the provisions of this section.*

The state law provides the PUC with the safety and security authority over all rail transit and other fixed guideway systems in California. The PUC works in cooperation with the Federal Transit Administration (FTA), which means that the FTA provides certification and authority to the PUC inspectors to enforce federal laws and regulations. To implement and enforce more specific state laws, the PUC promulgated General Orders 143-B, 164-D, 135, 172, and 175 (see General Order Index Page, http://www.cpuc.ca.gov/generalorders/).

In 1997, the FTA established the State Safety Oversight Program and used the PUC GOs as a model and starting point to develop and establish specific requirements for participating state partners overseeing the safety of rail fixed guideway systems that FTA funded through its grant programs.

In the late 1990s, rail transit expanded across the country. Along with this expansion, high-profile rail transit accidents occurred which highlighted the need for greater government oversight of the safety of the transit systems, which included additional inspection, investigation, and regulatory requirements:

- In May 2008, a Massachusetts Bay Transportation Authority train collided with another train, killing the operator and injuring seven occupants.
- In June 2008, two SF Muni light-rail trains collided injuring 16 train occupants.
- In July 2008, a Sacramento Rail Transit District (Sac RT) light-rail train fatally struck a maintenance worker.

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- In August 2008, a BART train fatally struck a maintenance worker.

Out of concern about the expansion of public interest in using transit and the aging infrastructure (SF Muni was 104 years old and BART was 30 years old at the time), in March 2009, the PUC added an inspection function for rail transit systems, utilizing skilled and experienced operational personnel for broader and more complete oversight to assure public and employee safety, which established a separate Rail Transit Safety inspection unit for the program that consisted of just four inspectors.

Shortly thereafter, additional tragic transit accidents occurred:

- In May 2009, a Massachusetts Bay Transportation Authority train collided with another train, injuring 46 people.
- In June 2009, a Washington Area Metropolitan Transit Agency train collided with another train, injuring 52 occupants, with nine fatalities.
- In July 2009, two SF Muni trains collided, injuring 48 passengers.
- In August 2013, a car of the Angel's Flight funicular derailed. Luckily, there were no injuries.
- In October 2013, a BART train struck and killed two BART wayside workers.

After several accidents throughout the nation on rail and other types of fixed guideway systems, the National Transportation Safety Board (NTSB) recommended that states investigate and exert their safety jurisdiction over all fixed guideway systems within their state, regardless of funding source and start-up date. The PUC responded to those NTSB recommendations (R-11-2 and R-11-3) by investigating potentially jurisdictional systems, resulting in one additional system identified as being jurisdictional under existing PUC authority codified in PU Code 99152.

On July 6, 2012, President Obama signed Moving Ahead for Progress in the 21st Century (MAP-21), which grants the FTA the authority to establish new requirements for the State Safety Oversight Program, including certification of state programs and up to 80 percent grant funding for costs of performing the State Safety Oversight Agency function.

MAP-21 requires the FTA to develop certification requirements and certify State Safety Oversight Agencies, along with setting further criteria for qualifying State Safety Oversight agencies. MAP-21 will provide grant funding for a portion of the State's Safety Oversight Program, such as costs associated with the program and its jurisdictional assertion over FTA-funded rail transit agencies. Preliminary allowable expenses include most administration, overhead, training, and travel expenses related to the MAP-21 requirements. The PUC first expends the state funds from its Budget Act appropriation, and then submits a draw-down request for reimbursement from the FTA.

California was one of two states certified in the initial review to pursue grant funding. Federal regulation 49 U.S.C. 53, section 5336(h)(4) states that the FTA must apportion 0.5 percent of amounts made available to provide financial assistance for urbanized areas under section 5307 to eligible states for the State Safety Oversight Formula Grant Program. According to information posted on the FTA's website, the PUC may be eligible to seek reimbursements for approximately $3 million over a two-year period.

Although the FTA has certified that the PUC has met the technical requirements to manage FTA grants, the PUC needs to possess an adequate baseline transit safety program to compete for federal funds.

Current Inspector Staffing:

Currently, the PUC Rail Transit Safety Branch has seven Associate Railroad inspectors (Transit Safety Inspectors) in four safety disciplines: (1) track structures (two inspectors), (2) mechanical equipment (two inspectors), (3) signal and train control systems (one inspector), and (4) operating rules and practices (two inspectors), plus one Supervisor. Also, one of the individual inspectors is a Senior Inspector. This Senior Inspector acts as a lead and assists the Supervisor in tracking inspections, inspection responses, and corrective actions, as well as helping to establish Section procedures, inspection schedules, and other activities related to the rail transit inspection program. The Senior Inspector and Section Supervisor may come from any of the four disciplines, providing for personnel growth, succession planning, and promotional paths of opportunity for the inspector individuals. (See staffing details under Justification, Inspector Positions.)

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The engineers, not the inspectors, formed the original foundation of the PUC's state safety oversight program and perform a vital function in assuring rail transit agency safety and compliance. The engineers are each assigned agencies to be primary PUC contacts for safety and security oversight activities such as accident reporting and investigation, Safety Certification Process, Triennial Audit/Review Program, and new construction oversight and compliance activities.

The inspectors perform a more "on-the-ground" role and possess technical expertise. In order to perform safety inspections and investigations as required by statute, the PUC recognized a need for craft-specific positions (such as track structures, mechanical equipment, etc.). These craft-specific inspectors could perform routine and frequent inspections at each transit system, requiring possession of a more-detailed knowledge of the industry and strong expertise in specific industry disciplines or areas.

Before a transit system can open, expand, or re-route, PUC approval is required. Rail Transit Safety Inspectors monitor and observe system testing and also perform a thorough inspection of the system before authorizing it to be placed in service, to ensure it is safe. They conduct continuous and ongoing inspections throughout the year, participate in comprehensive triennial safety audits of the public rail transit agencies, and perform accident investigations and other special investigations to assure that rail transit services are provided in a safe and reliable manner, in compliance with state and federal regulations and accepted industry practices. More specifically, the Rail Transit Safety Inspectors perform inspections, investigations, and participate in formal Rulemakings and Investigations. More detailed workload is described below under Supplemental Information.

The number of accidents, injuries, and fatalities has increased. Transit-related fatalities have increased almost three-fold—from 11 in 2012 to 30 in 2015. About two-thirds of the incidents occurred at crossings. Of all the fatalities, about 20 percent resulted from train versus automobiles and bicycles (trying to get around a crossing arm or getting the car or bicycle stuck in the middle of a crossing), and the remaining 80 percent were classified as train versus pedestrian. This is common with transit facilities because most trains operate at-grade and often share pedestrian malls. Pedestrians' situational awareness is significantly diminished by the distraction of cell phone use, along with the increased use of head phones while walking which impedes the ability to hear an approaching transit vehicle. Very few transit-related fatalities are a deliberate means to end life (heavy freight, on the other hand, experiences an inordinate number of suicides annually). The Transit Safety Inspectors are critical with regard to mitigating public safety risks.

The PUC is mandated by the FTA to provide a State Safety Oversight Program for the 14 rail transit systems. These systems are located throughout the state and require routine inspections to ensure that all rail transit systems are in compliance with state and federal regulations. Most accidents must be investigated immediately upon notification.

Current Systems:

The current footprint of the rail transit industry is very large and rapidly expanding each year. The rail transit systems in the state consist of the following:

- Seven large FTA-funded public Rail Transit Agencies
- Three Automated People Mover (APM) systems (and one transit agency APM system)
- One Inclined Funicular System
- Three Trolley Systems
- Over 500 miles of Track Infrastructure
- Over 500 miles of Signal/Train Control Infrastructure
- Over 500 miles of Overhead Catenary
- Hundreds of Operating and Maintenance Employees
- Over 1,000 rail vehicles

Specific PUC-regulated transit systems include:

- Sacramento Regional Transit District (Sac RT)
- BART
- Sacramento Airport Automated People Mover
- SF Muni
- San Francisco Airport Automated People Mover (Airtrain)

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- Santa Clara Valley Transportation Agency (SCVTA)
- Los Angeles County Metropolitan Transportation Authority (LA Metro)
- North (San Diego) County Transit District (Sprinter)
- San Diego Metropolitan Transit System (San Diego Trolley)
- Port of Los Angeles Red Car Trolley
- Americana on Brand Trolley system
- The Grove Trolley system
- Angel's Flight Funicular
- The Getty Center Museum Automated People Mover

Inspection staff responsibilities include:

- Inspections
  - Develop inspection forms and protocols for PUC inspection staff and engineers.
  - Perform inspections of rail transit agency infrastructure and vehicles for safety and compliance. Inspections are continuous and ongoing.
  - Track findings until the corrective action is implemented.
  - Monitor and inspect construction and maintenance of system.
  - Review and inspect transit agency process and procedures for compliance with GOs and overall safety.
  - Review system safety (infrastructure and operations) regardless of specific rules via the Risk Management Status Reports.
- Investigate accidents and other safety matters to identify deficiencies and monitor corrective actions.
- Contribute to and participate in formal Rulemakings.
- Initiate and provide expert support to formal Orders of Investigation where inspector identified a violation of law or GO that was not remedied.
- Perform specific inspections for the federally mandated Triennial Audits. Review and inspect transit agency implementation of their system safety program plan (SSPP) and system security plan (SSP), as required by the FTA.

Resource History

(Dollars in thousands)

Program Budget	2010-11 PY - 4	2011-12 PY - 3	2012-13 PY - 2	2013-14 PY - 1	2014-15 PY
Authorized Expenditures[1]	4,163	4,005	5,006	5,434	5,964
Actual Expenditures	4,008	4,002	4,909	5,578	6,303
Revenues[2]	0	0	0	0	0
Authorized Positions[3]	7	7	7	7	7
Filled Positions	6	6	6	4	6
Vacancies	1	1	1	3[4]	1

[1] Authorized Expenditures and Actual Expenditures include both the Engineering side and the Inspection side of the Rail Transit Safety Branch.

[2] The Rail Transit Safety Branch has generated the following revenues; however, each is in a different stage of the Investigation process or appellate process: (1) Sacramento Regional Transit District, $10,000, Citation RTSB 1503001, Citation appealed but reaffirmed by Res. ALJ-322, effective Dec. 3, 2015; (2) SF Muni – OII on Subpoena and Records Access for Mission Rock fatal accident, $211,500, OII 13-09-012, SFMTA filed a rehearing request and request to stay order to pay fines, in October of 2015. No ruling has been issued yet; (3) SF Muni – OII on Blue Flag Issues violating previous OII settlement, and attempting to prevent an inspection, OII 14-01-005, $10,000 and $10,000 deferred, SFMTA fined $10,000 for attempting to prevent inspection and $10,000 for violating earlier settlement (deferred). Fine due 30 days from 8/28/15 Decision date.

[3] Authorized Positions are only Rail Transit Safety Inspector positions only and does not include Engineering positions because these positions are not interchangeable.

[4] Transit inspection branch has experienced fluctuating vacancies over the previous several years. After filling all but one position, in the Spring of 2014, three individuals left the agency within a short period of time.

Analysis of Problem

State Level Considerations

This proposal is consistent with the Administration's priorities:

- High-Speed Rail—Confidence in the Administration's top priority of constructing California's first high-speed rail system is incumbent on the perception of transit safety. California citizens depend on the PUC to hold the transit agencies accountable for providing safe and reliable design and construction, rigorous maintenance, and safe operating practices, and safety is a major part of our mission statement. These rail transit systems encompass over 500 miles of infrastructure and serve more than 275 million passengers annually.
- Mass Transit—The 2016 Governor's Budget includes $1 billion to reduce emissions in the transportation sector. High-profile transit accidents could erode the public's confidence in our rail transit systems and put people back in their cars.
- Greenhouse Gas Reduction—California's leadership has the goal of minimizing California's carbon footprint, thereby reducing the threat of anthropogenic climate change. Transportation accounts for approximately 40 percent of California's carbon emissions, and reducing the number of private vehicle miles travelled is a crucial part of reaching California's aggressive emission reduction goals. Rail transit offers an important alternative to private vehicle travel, but Californians will only use rail transit if it is safe and reliable.
- Safety, both public and employee safety—Recently, the PUC has come under legislative and public scrutiny with respect to the core competencies of the PUC. Both the Legislature and media have critiqued the PUC's conduct of regulatory oversight concerning public safety, auditing, and budgeting efforts. Outside state audits mandated by the Legislature have identified weaknesses and inefficiencies in how the PUC conducts its core mission in assuring that California utility consumers have safe, reliable utility service at reasonable rates.
- Problems with funding highway maintenance—Governor Brown recently convened special transportation funding sessions to determine how to pay for highway maintenance. If more commuters and the general public have confidence in safe and reliable transit systems, there will be less need for highway maintenance in out years.
- Transportation funding—The federal government can withhold up to five percent of the state's transportation funding if the PUC does not meet its safety oversight requirements. In order to ensure continued progress toward California's emission-reduction goals and to maximize federal transportation funding, it is imperative that the PUC have the staff necessary to comply with its state and federal mandates, and to verify that these systems are maintained and operated safely.

The expansion of California's rail transit systems, the current expansion of the federal and state roles in transit safety regulation, and the recent high-profile rail transit systems accidents in California and nationwide have made apparent the need for additional inspection, investigation, regulatory development, and oversight over California's rail transit systems.

To ensure transit operators run their systems safely, the PUC performs inspections, investigates accidents and incidents, and reviews the transit systems' safety procedures to ensure compliance with federal and state laws, and PUC GOs.

Specific federal and state laws include the following:

- Federal regulation, 49 CFR 659 requires the "State Safety Oversight Agency" (PUC) to be responsible for establishing standards for rail safety and security practices, and procedures to be used by rail transit agencies within its purview. In addition, the state oversight agency must oversee the execution of these practices and procedure to ensure compliance with the provisions of these regulations. Federal law identifies and describes the various requirements for the state oversight agency, including performing an annual review of system safety program plans and system security plans, internal safety and security reviews, oversight agency safety and security reviews, hazard management processes, accident notification, investigations, and corrective action plans.
- The California Constitution, Article XII defines a system for the transportation of people or property to or for the public as public utilities, and allows the commission to establish rules, examine records,

issue subpoenas, administer oaths, take testimony, punish for contempt, and prescribe a uniform system of accounts for all public utilities.

- PU Code section 309.7 requires the safety division in the PUC to:
  - Be responsible for inspection, surveillance, and investigation of the rights-of-way, facilities, equipment, and operations of railroads and public mass transit guideways, and for enforcing state and federal laws, regulations, orders, and directives relating to transportation of persons or commodities, or both, of any nature or description by rail.
  - Exercise all powers of investigation granted to the commission, including rights to enter upon land or facilities, inspect books and records, and compel testimony.
  - With delegated PUC attorneys, enforce safety laws, rules, regulations, and orders, and to collect fines and penalties resulting from the violation of any safety rule or regulation.
- PU Code section 315 requires the PUC to investigate all accidents that occur on public utility property that results in loss of life or injury, or that should be investigated.
- PU Code section 763 requires the PUC to ensure the rail transit agencies run trains with relative frequency to accommodate the transport traffic.
- PU Code section 768 requires the PUC to ensure every public utility constructs, maintains, and operates its lines in a manner which promotes and safeguards the health and safety of its employees, passengers, and the public.
- PU Code section 771 permits the commissioners and their officers and employees to enter upon any premises occupied by any public utility, for the purpose of making examinations and tests, and exercising any of the other powers.
- PU Code section 778 requires the commission to adopt rules and regulations relating to safety appliances and procedures for rail transit services operated at grade and in vehicular traffic. The rules and regulations shall include, but not be limited to, provisions on grade crossing protection devices, headways, and maximum operating speeds with respect to the speed and volume of vehicular traffic within which the transit service is operated.
- PU Code section 29047 requires the PUC to inspect all work and ensure that BART provides safety to its employees and the general public.
- PU Code section 30646 requires the PUC to enforce safety appliances and procedures, and inspect all work done of the Southern California Rapid Transit District to ensure safety to its employees and the general public. (RTD was merged into the Los Angeles County Metropolitan Transportation Authority in 1993.)
- PU Code section 99152 requires the PUC to ensure the safety of all public guideways, and requires the PUC to inspect all work done on those guideways. The PUC may order further additions or changes to such guideways as necessary for the purpose of safety to employees and the general public. It also requires the PUC to develop an oversight program employing safety planning criteria, guidelines, safety standards, and safety procedures to be met by operators in the design, construction, and operation of those guideways.
- PU Code section 100168 requires the PUC to enforce safety appliances and procedures, and inspect all work done of the Santa Clara Valley Transportation Authority to ensure safety to employees and the general public.

D. Justification

Following the San Bruno pipeline explosion tragedy, the National Transportation Safety Board (NTSB) and Independent Review Panel (IRP) both urgently recommended a safety culture change at the PUC. Their primary criticism was that neither the utility nor the PUC knew the actual condition of critical pipelines. Consistent with the NTSB's and IRP's recommendations, the requested rail transit inspectors are needed to effectively assess the condition of the rail transit infrastructure, to thus put the PUC in a proactive and preventative mode, precluding the reactive mode, with respect to such tragedies as San Bruno, and the rail incidents described above.

Analysis of Problem

The national financial recession is having an adverse effect on California rail transit systems, which have seen their state subsidies slashed as state tax revenues have fallen. Although federal stimulus grants are available for rail transit, the vast majority of the money is set aside for special projects or new construction, and cannot be used for general operations and maintenance. Transit agencies may not possess the capital to invest their limited resources in system safety, regardless of the state's financial condition or other exogenous factors. Their primary focus is on on-time services, which directly affect their revenues. Absent reliability, people will choose to drive.

Before a transit system can open, expand, or re-route, PUC engineers and transit inspectors conduct oversight and perform a thorough inspection of the system to ensure it is constructed in compliance with federal and state safety laws and regulations.

Many transit systems are growing. Numerous FTA-funded system expansions are under way or in design and funding stages. Examples are the LACMTA Expo Phase 2 project, LACMTA Crenshaw project, LACMTA Regional Connector project, LACMTA Westside extension, San Diego Trolley Midcoast project, Sacramento South Line phase 2, SF MTA Central Subway project, BART Extension to San Jose, BART Oakland Airport connector, and there are others. Additionally, there are two currently-funded projects to expand or replace vehicle fleets of specific rail transit systems:

- LACMTA initiated its P 3010 Vehicle Procurement Project, in which it will procure 78 new vehicles with an option for up to 235.
- BART is acquiring at least 260 news cars in its base contract, with an option to add up to 515 vehicles.

The transit agencies must provide a Safety Certification Plan to the PUC that specifically identifies the methodology they will use to test and verify all safety-critical systems on the entire project. Once staff has reached agreement on the scope and content of the Safety Certification Plan with the transit agency, the Rail Transit Safety Branch staff develops a formal Resolution to bring it before the Commission. It must be approved by a vote of the Commission to certify that the transit systems have complied with the design and safety testing requirements. The PUC transit staff witness the testing, participate in design review meetings as well as the meetings where the transit agencies review their test findings and operating assessment of the vehicles. Vehicle acquisition and major line extension projects are typically a multi-year process.

Inspections: Over the past few years, the PUC has identified increasing incidents of hazardous conditions when performing field inspections. This is likely due to the pressure to expand the transit systems, which shifts limited funds away from operations and maintenance. The number of inspections in the budget year and out years is expected to significantly increase. The inspectors are already starting to meet with the transit agencies that are initiating construction on the new Sonoma-Marin Area Transit (SMART) and the ten expansion projects on existing transit lines. The inspectors review the initial plans and ensure that the plans include the safety measures required by FTA, State PU Codes, and PUC General Orders. If the plans do not comply (SMART had an inordinate number of safety violations that would compromise the safety of the public while waiting on the landing), the inspectors return to review the plans after changes are made. They also perform numerous inspections during various phases of the projects to ensure compliance. If items are constructed that do not comply with laws and general orders, the inspectors need to return at a later date to see if the items have been fixed. These numerous inspections and re-inspections necessitate a significant increase in the number of inspections in the budget year and out years.

Investigations: PUC staff investigators perform or evaluate and approve approximately 230 accident investigations annually. The purpose of investigations on all accidents (minor to moderate) is to determine the root cause and identify corrective actions needed to safely transport the rail-travelling public and prevent employee injuries. Accidents include all derailments; collisions between trains; collisions with motor vehicles, bicyclists, pedestrians, and other obstructions; and accidents resulting from operations and trains.

The investigator determines the transit agency's compliance with state and federal regulations, and recommends enforcement action where applicable.

Analysis of Problem

The PUC anticipates an increase in the number of accident investigations due to the new transit projects and the expansion of existing transit lines. Regarding the new projects, the public is not conditioned to looking both ways before crossing tracks that may have been abandoned for 20 years or longer. Due to this lack of awareness, some local governments are trying to alert drivers and pedestrians to the reality that tracks and rights of way are being reactivated and pose a significant safety hazard. Similarly, with the expansion of existing lines, drivers, cyclists, and pedestrians are not accustomed to being more alert when crossing previously defunct tracks or encountering a crossing with new tracks where tracks never existed. An increased number of accidents necessitating investigations (as required by law) is inevitable.

Rulemakings: Two rulemaking proceedings have been ongoing since 2008-09 to amend existing general orders and create new ones. Rulemaking cases can often take years depending on the complexity of the issue. Minor revisions were found to be necessary after implementation of GO 172 and GO 175 and those changes are in process now. A major undertaking to revise GO 143-B will commence over the next year.

To reduce accidents and incidents caused by train collisions, new research and rulemakings will be required to develop and implement requirements of collision avoidance technologies on all rail transit systems. The US Department of Transportation's Federal Transit Administration (FTA) is embarking on an expanded joint federal/state regulatory program that will need much development, considerable state participation and input, and additional state staffing. The PUC is the national leader in rail transit oversight, and PUC transit inspector program expertise is sought out by many other-state participants, and viewed as a high-value program by the FTA. When the FTA completes its several ongoing rulemakings, PUC GO 164-D will almost certainly require update and revision.

Citations/Orders Instituting Investigation: Formal proceedings are the PUC's strongest enforcement mechanism, particularly if the Safety and Enforcement Division (SED) program has already tried to gain compliance through the other normal processes, such as inspection reports, letters, meetings with transit agency personnel, elevating concerns to middle or upper management, or other regulatory enforcement strategies. Prior to any formal Citation being issued or any Order Instituting an Investigation (OII) being opened, staff provides the transit agency all opportunities to rectify the violation or unsafe condition.

The Rail Transit Safety inspectors enforce both state and federal rail safety regulations. If regional transit agencies fail to timely correct non-compliance with regulations, penalties may be assessed pursuant to the Rail Transit Citation program or a formal OII. All penalty payments for federal violations are deposited into the US Treasury; California penalty payments are deposited into the General Fund. The PUC Rail Transit Safety program has prosecuted transit agencies for violating federal and state safety laws, which has generated over $250,000 in General Fund revenue:

CASE	AGENCY	AMOUNT	DETAIL
Citation RTSB 1503001	Sacramento Regional Transit District	$10,000	Citation appealed but reaffirmed by Res. ALJ-322, effective Dec. 3, 2015.
OII 13-09-012	SF Muni – OII on Subpoena and Records Access for Mission Rock fatal incident	$211,500	SFMTA filed a rehearing request and request to stay order to pay fines, in October of 2015. No ruling has been issued yet.
OII 14-01-005	SF Muni – OII on Blue Flag Issues violating previous OII settlement, and attempting to prevent an inspection	$10,000 And $10,000 deferred.	SFMTA fined $10,000 for attempting to prevent inspection and $10,000 for violating earlier settlement (deferred). Fine due 30 days from 8/28/15 Decision date.

Although the goal of the program is to encourage the transit agencies to avoid prosecution and simply repair safety violations, the activity and outcomes of the positions requested in this proposal will result in additional revenues to the General Fund.

Triennial Audits: On April 29, 2005, the FTA published its revised 49 CFR Part 659, Rail Fixed Guideway Systems; State Safety Oversight final rule in the Federal Register. The revised rule, which went into effect on May 1, 2006, contains provisions that direct each State Safety Oversight agency (PUC) to conduct an on-site review, at least once every three years, at each rail transit agency in its jurisdiction. The purpose of this review is to assess the regional transit agency's implementation of its System Safety Program Plan and to determine whether it is effective and whether it should be updated. In addition, in California, the

triennial audits conducted by PUC Rail Transit Safety Inspectors also look to determine if processes, procedures, activities, and documentation comply with Commission General Orders, Federal regulations, and industry standards.

Triennial audits are very labor-intensive. Teams of Rail Transit engineers and inspectors work as a team to complete the audits. The FTA identifies 21 individual elements that must be audited. The FTA also provides checklists to ensure that, within each element, specific items are reviewed and evaluated for compliance. The completed triennial audits end up being about 150 pages for the larger transit agencies like BART, SF Muni, Sac RT, and LA Metro.

Risk-Management Status Reports: The NTSB recommended that the PUC implement a risk-based approach to safety inspections. To comply with the NTSB recommendation, the railroad safety inspectors employed by the Railroad Operations Safety Branch (heavy freight railroads) complete Risk-Management Status Reports when they discover an identified need to document and remedy risks for which there is no regulation. These reports have been instrumental in decreasing safety hazards and mitigating accidents. This process is being extended to the Rail Transit Safety Branch.

FTA Certification and Training: The FTA requires State Safety Inspectors to attend four individual one-week courses before the inspector is qualified to enforce federal FTA laws and regulations and becomes certified. The PUC requires inspectors to engage in continuous inspection training to ensure their skills are current to keep up with the rapidly changing transit technologies associated with the new transit vehicles and safety regulations.

Rail Transit Safety Branch Workload

Inspector Workload Only-Does not include Transit Engineers

	Proposed Workload	Current Frequency (Annually)	Proposed Frequency	Iteration Per Inspector	Needed Insp. For Proposed	SUP.	AGPA
	Inspections	170.0	480.0	27.9	17.2	5.6	2.8
	Accident Investigations	220.0	350.0	36.5	9.6	7.3	3.7
	Rulemakings	2.0	2.0	0.3	6.0	0.1	0.0
	Order Instituting Investigations	1.2	3.0	0.2	15.0	0.0	0.0
	Triennial Audits	3.8	5.0	0.6	7.9	0.1	0.1
	Risk Management Status Reports	0.0	20.0	0.0	0.2	0.0	0.0
	Subtotal: Average Number of Inspectors to Perform Workload				9.3	2.2	1.1
	General Administrative Time (5%)				0.5	0.1	0.1
	FTA Certification and Ongoing training (2%)				0.2	0.0	
	Number of Positions Needed				10.0	2.3	1.1
Total Positions Currently Authorized					**7.0**	**1.0**	**0.0**
Total Positions Requested					**3.0**	**1.3**	**1.1**

Analysis of Problem

There is not a linear correlation between the number of inspectors being requested and the number of inspections and investigations forecasted. The PUC does not anticipate an increased number of all workload categories. We anticipate the number of rulemakings to be static and rulemakings require a significant amount of the inspectors' time. Some are finishing and new rulemakings are expected to commence with the new MAP-21 standards. We anticipate minor overlap. If an overlap occurs, it might be absorbable in the short run because the PUC would likely decrease the number of follow-up inspections instead of requesting additional resources. However, this may have safety implications.

We do, however, anticipate that the number of inspections will increase for two reasons: (1) Inspections are proactive in nature and more will be performed because there will be more track to inspect as a result of the increase in transit systems, transit lines extension projects, and prospective streetcar projects; and (2) assuming this request is approved, there will be more inspections done because there will be more inspectors to do them.

The PUC currently employs one inspector supervisor (Supervisor Operations and Safety Section, PUC) and the following Railroad Inspector positions with specific areas of expertise:

Position	Northern CA	Southern CA
Senior Transportation Operations Supervisor[5] (Lead)	Sac/SF	NONE
Associate Transportation Operations Supervisor[6]	Sac/SF	NONE
Associate Signal and Train Control Inspector	NONE	Los Angeles/San Diego
Associate Railroad Track Inspector	Sac/SF	Los Angeles/San Diego
Associate Railroad Equipment Inspector (Mechanical)	Sac/SF	Los Angeles/San Diego

This request would add three inspector positions and vehicles located in the specified regions, to allow for the full complement of expertise in each of the two regions. The Senior Transportation Operations Supervisor (technically a misnomer—not a supervisor but a more highly experienced inspector with some "lead" duties assigned, but no supervisory duties) will be the lead for the Southern California team of Associate inspectors. The remaining associate-level inspectors will complement the existing Railroad Equipment Inspectors needed to conduct routine inspections as well as participate in the multi-year oversight and review of the vehicle procurement Safety Certification Plans and the many expanding systems. All transit agencies in Southern California are expanding at a rapid pace.

Due to the risks associated with Sprinter wanting to run trains on precarious brakes as well as significant violations and increased ridership in the Los Angeles basin, a risk-based assessment would likely place an additional Railroad Equipment Inspector who specializes in Operations in Southern California.

[5] This position is not a "supervisor" in the sense that it does not directly supervise lower-level staff. It is merely the title of the job classification for a Senior Railroad Inspector who specializes in operating practices. In the job specifications, the Senior Transportation Operations Supervisor "assists the section supervisor…."

[6] As with the Senior Transportation Operations Supervisor, this title is a misnomer and is an Associate-level position which does not supervise staff. It is a parallel position with the other Associate Railroad Inspectors.

Analysis of Problem

With regard to inspector positions, this request includes:

- One Senior Transportation Operations Supervisor in the Southern California region
- One Associate Transportation Operations Supervisor in the Southern California region
- One Associate Signal and Train Control Inspector in the Northern California region

This requested team of inspectors will allow the PUC to have one inspector in each discipline in both the northern and southern regions of California. We expect this complement to result in improved response time to critical safety issues and rail transit accidents. Adding two discipline-specific Associate Railroad Inspectors with expertise in Signal and Train Control, and Operations will assist in the Rail Transit Safety Branch's ability to provide the crucial expertise to oversee California's diverse and expanding rail transit infrastructure.

This request would also add one Associate Governmental Program Analyst (AGPA). The AGPA will assist in the design and implementation of inspection and investigation documents/forms, processes and procedures, programs, and in the collection and compilation of data and interpretation of results—including formulation of effective approaches for the PUC Enterprise Risk Management implementation. This position will be responsible for processing all formal matters (documents relating to OIRs and OIIs) relating to the proceedings resulting from the inspections and/or investigations, and resulting from the MAP-21 rulemaking. This includes receipt and distribution of filings and all formal matters received by the branch, analyzing documentation to identify trends, monitoring and advising appropriate staff on the status and action items relating to their assigned formal matters, assigning branch resolution numbers, proofreading formal Decisions and Resolutions, routing items for appropriate action from Legal and Administrative Law Judge Divisions, making edits to documents, formatting and web-publishing documents, and ensuring that formal matters go through the Process Office. This position will compile and edit the monthly Roadmap report of Branch Formal matters, research documentation on formal matters, and maintain the master files for formal matters and Resolutions.

These are critical elements of the Branch's work, as the Rail Transit Safety Branch inspectors are an integral component of many formal filings and Resolutions being brought before the Commission. It is essential that these items be brought forth in a reasonable time frame and that the necessary Process and Docket Office procedures are followed to assure validity in final Decision and Resolutions issued by the Commission. The work cannot be fulfilled by others because there is no substitute staff to do this work. Other than Supervisors, the remaining Branch staff are all Utilities Engineers. All of these employees have other duties and tasks required of them that do not allow them to assume these separate and distinct analytical and central tasks of critical legal importance. Currently these duties are performed by a retired annuitant. She is backlogged because she cannot work full time and has indicated that she is unlikely to continue past 2016.

Finally, this request would add one Supervisor, Operations and Safety Section, PUC Position. The above workload table identifies the need for an additional supervisor. The current supervisor supervises seven inspectors. With the added four staff, the Rail Transit Safety Branch will need an additional supervisor. The Program Manager intends to split the number of associate-level inspectors between the two supervisors because one supervisor cannot manage 11 staff, especially considering the increased risk-assessment requirements of the NTSB-recommended RMSR process. The one current supervisor will retain supervision over the Southern California team, and this requested supervisor will supervise the Northern California team.

E. Outcomes and Accountability

We anticipate that the number of inspections will increase because inspections are proactive. The number of investigations is also expected to increase due to transit lines being extended to areas in which the public is not used to expecting approaching trains, resulting in an increased number of train versus automobile, train versus bicycle, and train versus pedestrian incidents. Although some past rulemakings are closed, new rules will be required to implement the provisions of the new MAP-21 requirements. We are hoping that with proactive inspections, the risks transit agencies take will be minimized, thus maintaining the number of OIIs at the same level and not increasing commensurately with increased inspections.

Projected Outcomes

Workload Measure	CY	BY	BY+1	BY+2	BY+3	BY+4
Inspections	170	480	480	480	480	480
Investigations	220	350	350	350	350	350
Rulemakings	2	2	2	2	2	2
Orders of Investigations	2	2	3	3	3	3
Triennial Audits	3.8	4	5	5	5	5
Risk Management Status Reports	0	14	20	20	20	20

F. Analysis of All Feasible Alternatives

Alternative 1: Redirect existing positions

Pro: Fewer additional resources would be necessary.

Con: All positions are fully encumbered. As such, a position would need to be redirected from a critical public safety related program. The knowledge required for the rail transit inspector position is developed through actual hands on in the field training, and experience in constructing, maintaining, and inspecting rail transit machinery and operations. The FTA requires Rail Transit Safety Inspectors to take four one-week long classes to qualify as a State Rail Transit Inspector. These inspectors are not comparable to the other PUC Safety Inspectors, such as those who inspect gas pipelines and electric generation, transmission, and distribution facilities. Rail Safety Inspectors who specialize in heavy freight must have knowledge of load stresses and the physics of pulling hundred-car trains laden with hazardous materials and other loads through high-risk mountain passes. Thus, training an individual with heavy freight experience as opposed to rail transit experience is not practical. Training an individual without such a background would take years to complete before any value could be beneficial.

- If redirected from an existing inspector position, the industry would be less likely to abide by laws and general orders, which would decrease public safety and increase the likelihood of future accidents involving the volatile and antiquated public utility infrastructure.
- If redirected from an existing engineering position, the PUC would not be able to comply with Public Utilities Code sections that require investigations into all incidents involved with public utilities, make recommendations to the PUC on rule changes that would increase safety, and punish the utility if after a hearing the PUC has found the utility accountable.
- Any redirection of existing positions would require increased costs to train and certify the redirected inspectors.

Alternative 2: Utilize outside consultants

Pro: No additional permanent or ongoing positions would be necessary.

Cons:

- The PUC would incur sunk costs to get the contractor inspectors FTA certified and there is no guarantee they would stay with the PUC, requiring duplicative training efforts and losing the benefit of growing seasoned and experienced staff, as well as the initial investment in the FTA certification.
- With a lengthy contracting process, it would take more time to hire consultants than to hire staff.
- Many contractors would come directly from the industry they would be required to regulate, creating a potential conflict of interest in enforcing federal and state laws, as well as PUC General Orders, thus compromising public safety.
- The quality of work from contractors may vary, and non-uniform results may compromise the integrity of the state safety program.
- Orders of Investigation and Rulemakings may be compromised if contractors come and go. PUC inspectors who identified code violation(s) must testify to their findings in the adjudicatory

proceeding. Many investigations and/or rulemakings can take as long as two or three years. Continuity is important when making new rules resulting from the MAP-21 Act.

Alternative 3: Hire temporary staff

Pro: Position authority would be limited.

Cons:

- The PUC would incur sunk costs to get the inspectors FTA certified and trained if there is no long term opportunity for them to stay with the PUC.
- Transit safety inspections are a career. It would be difficult to hire and train new inspectors if candidates knew that they would not have the opportunity to remain with the PUC.
- The original transit agencies are aging and newer agencies are expanding. There is no indication that workload would decrease any time soon. The work of these temporary positions would still need to be done long after the positions themselves sunset.
- Seasoned and professional staff are able to identify code violations and defective machinery far more effectively than newly trained inspectors, ensuring that the safety of millions of transit riders would not be compromised.

G. Implementation Plan

1. Issue Job Opportunity Bulletins for the requested positions on or shortly after July 1, 2016.
2. Interview qualified candidates from SROA and existing hiring lists by September 1, 2016.
3. Extend job offers to highest qualifying candidate(s) by October 1, 2016.
4. Hire accepting candidates by October 15, 2016.
5. Identify experienced Rail Transit Safety Inspector mentors for the new inspectors.
6. Schedule federal Department of Transportation (DOT) training for each new inspector. The DOT requires inspectors to attend four individual one-week courses before the inspector is qualified to enforce federal FTA laws and regulations.

H. Recommendation

We recommend approving this request as submitted, including positions and necessary travel funding and vehicles to perform safety inspections to keep up with the increases in the number of transit systems, and the expansion of the existing systems.

With only seven inspectors, the current number of inspections performed is deficient. The inspectors are unable to accomplish all of the inspections necessary to ensure rail transit agencies are operating safely. With the increase in ridership and miles of track, the number of accidents, injuries, and fatalities has also significantly increased.

The growth of transit is not expected to stop any time soon, and seasoned, experienced inspectors are necessary to ensure that the rate of accidents, injuries, and fatalities does not grow along with it. The kind of qualified staff that proactively inspects comes only with long term commitment, both on the parts of the agency and the staff. None of the three alternatives can deliver that: Redirection, hiring consultants, and temporary staffing all require wasted resources in training that is used in the short term only. None of the alternatives comes with a commitment to the work.

The budget request recognizes the time, effort, and cost required to train a dedicated inspector whose sole purpose is to protect the public's safety, a critical component of the PUC's mission.

Department of Finance
2016-17
Finance Letter Worksheet

8660-001-0046-2016
Prop 98: N

DEPT: Public Utilities Commission
STATE OPERATIONS

8660-106-BCP-BR-2016-A1 **Rail Transit Safety**

Proposal Summary
Add resources to maintain safety inspections and accident investigation levels due to expansion of rail transit systems in the state.

Category Changes	**Positions**	**Whole Dollars**
Salaries and Wages	5.0	368,000
Staff Benefits	0.0	151,000
Operating Expenses and Equipment	0.0	182,000
Total Category Changes	**5.0**	**$701,000**
Program Changes		
6690 Regulation of Transportation	5.0	701,000
6690064 Rail Transit Safety	5.0	701,000
Total Program Changes	**5.0**	**$701,000**
Fund Changes		
Amount Funded by 8660-001-0046-2016	5.0	701,000
Net Impact to Item	**5.0**	**$701,000**

ASM CONSULTANT: CG
SEN CONSULTANT: FCB
DOF ANALYST: Kathy Madison
LAO DIRECTOR: BB
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