

The Economic Impacts of Highway, Street, Bridge, & Transit Investment in the Bay Area, California

SUPPORTING \$49 BILLION IN ANNUAL ECONOMIC ACTIVITY



Commissioned by

The California Alliance for Jobs • The California Transit Association
The California State Association of Counties • The League of California Cities

Prepared by



American Road
& Transportation
Builders Association

JULY 2021

About the Author

This research was conducted for the California Alliance for Jobs by the economics and research team at the Washington, D.C.-based American Road & Transportation Builders Association (ARTBA). This analysis was conducted by Dr. Alison Premo Black, the association's senior vice president and chief economist.

Since joining ARTBA in 2000, Dr. Black has led teams and authored over 100 studies examining state transportation funding and investment patterns. Dr. Black also leads the operation of the Transportation Investment Advocacy Center™. She has a Ph.D. in economics from the George Washington University and a master's in international economics and Latin American Studies from the Johns Hopkins School of Advanced International Studies.

About the American Road & Transportation Builders Association

ARTBA is a federation whose primary goal is to aggressively grow and protect transportation infrastructure investment to meet the public and business demand for safe and efficient travel. In support of this mission, ARTBA also provides programs and services designed to give its more than 8,000 public and private sector members a global competitive edge.

ARTBA's Transportation Investment Advocacy Center™ (TIAC) is a first-of-its kind, dynamic education program and internet-based information resource designed to help private citizens, legislators, organizations and businesses successfully grow transportation investment at the state and local levels through the legislative and ballot initiative processes. It's powered by: transportationinvestment.org.

About The California Alliance for Jobs

The California Alliance for Jobs is a unique labor-management partnership that advocates for responsible investments in public infrastructure projects. Representing over 2,000 heavy construction companies and 80,000 union construction workers, the Alliance focuses on the core of what keeps California's people and economy moving as the state's population grows: transportation networks, water systems, and increasing the quality of infrastructure for all Californians.

About The California Transit Association

The California Transit Association is dedicated to advocating for the creation of transit-friendly policy, to protect and increase transit funding, and to support a balanced transportation system.

About The California State Association of Counties

The primary purpose of CSAC is to represent county government before the California Legislature, administrative agencies and the federal government. CSAC places a strong emphasis on educating the public about the value and need for county programs and services.

About The League of California Cities

The League of California Cities has been shaping the Golden State's political landscape since the association was founded in 1898. We defend and expand local control through advocacy efforts in the Legislature, at the ballot box, in the courts, and through strategic outreach that informs and educates the public, policymakers, and opinion leaders. Cal Cities also offers education and training programs designed to teach city officials about new developments in their field and exchange solutions to common challenges facing their cities.

The Economic Impacts of Highway, Street, Bridge, & Transit Investment in the Bay Area, California

TABLE OF CONTENTS

I. Executive Summary	4
II. Economic Impact of Transportation Investment in the Bay Area	6
III. Economic Impact of Highway, Street, Bridge & Transit Investment on Major Industry Sectors	9
Accommodation and Food Services	13
Administrative and waste management services	14
Agriculture, forestry, fishing, and hunting	15
Arts, entertainment, and recreation.....	16
Construction	17
Educational services	18
Finance and insurance	19
Health care and social assistance.....	20
Information	21
Management of companies and enterprises.....	22
Manufacturing	23
Mining	24
Other services	25
Professional, scientific, and technical services.....	26
Real estate and rental and leasing	27
Retail trade.....	28
Transportation and warehousing	29
Utilities	30
Wholesale trade	31
Methodology and Sources	32

I. Executive Summary

The construction, maintenance, and operation of California's highway, street, bridge, and transit infrastructure will yield an average of **\$49 billion in annual economic output, earnings, tax revenue, and user benefits in the Bay Area over the next decade.**

The investment will support an average of 33,653 jobs each year and contribute \$2.8 billion to the Gross State Product (GSP).

In addition to the economic impact quantified in this report, there are additional benefits for California residents and businesses, such as gains in business productivity from greater access to labor, suppliers, and customers, which are not included in this analysis.

This suggests that **the benefits of \$490 billion in this report are just the minimum.**

Total highway, street, bridge, and transit investment in California is expected to grow from \$40.4 billion in 2021 to \$52.6 billion in 2030, not including any additional spending included in the 2021 federal infrastructure bill being negotiated in Congress. This includes investment from federal, state, and local government revenue sources to spend on capital outlays, design work, maintenance, system improvements, safety, administration, and operations.

Investment in the Bay Area, which includes Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma counties, is expected to grow from \$9.8 billion to over \$13 billion over that time.

Based on the expected mix of capital projects and operations in the Bay Area, the regional impacts of state highway, street, bridge, and transit investments include:

- Sales and revenue by local businesses of nearly **\$5.4 billion each year**, totaling \$53.9 billion over 10 years. This is across all sectors of the Bay Area economy.

Highway, street, bridge, and transit investment has a positive economic impact on the state in three ways:

- 1) Transportation agencies, construction firms, and supplier industries purchase goods and services, and hire employees to operate, maintain, and improve the infrastructure network.
- 2) Employees of these firms spend their wages and support additional demand throughout the economy.
- 3) As improvements to the system are made, drivers, shippers, and transit riders will save money through lower operating costs and travel times, improved safety, and greater network access.

How does the economic ripple effect work? The highway, street, bridge, and transit investments support **business sales and output** across all sectors of the economy, which in turn allows firms to hire more **employees**.

The **earnings** from those workers are part of the value each industry contributes to California's **Gross State Product (GSP)**, which is a measure of overall economic output.

Tax revenue is collected from businesses and individuals through state, federal, and local income taxes, sales and use taxes, and corporate taxes. These funds are available to support additional investments in the community.

With improved service and infrastructure, **users of the system** benefit as they save time and money. Safety improvements help reduce crash costs and save lives.

Businesses become more productive as transportation costs decrease and they have greater access to more employees, inputs, services, and customers.

Economic Activity Supported by Highway, Street, Bridge & Transit Investment in the Bay Area, 2021–2030		
	Total	Annual Average
Savings for Users of the System		
Highway, Street & Bridge	\$37.0 billion	\$3.7 billion
Transit	\$102.2 billion	\$10.2 billion
Economic Impacts		
Business Sales & Output	\$220.2 billion	\$22.0 billion
Employee Earnings	\$62.6 billion	\$6.3 billion
Tax Revenue	\$68.3 billion	\$6.8 billion
Total Economic Benefits	\$490.3 billion	\$49.0 billion
Number of Jobs	1,654,203 job-years	165,420
Contribution to GSP	\$111.0 billion	\$11.1 billion

- This will support **165,420 jobs** each year, with growing investment over the next decade adding nearly 52,500 new jobs.
- Those workers will **earn an average of \$6.3 billion** per year, resulting in \$62.6 billion in additional earnings over 10 years.
- These earnings are part of the **\$11.1 billion per year value-added** that these businesses contribute to the state GSP.
- Federal, state, and local government **tax revenue from the economic activity will average \$6.8 billion per year**, for a total of \$68.3 billion over the decade. This includes estimated revenues from individual income, business, corporate, and sales and use taxes.

In addition to the immediate economic impacts, drivers and transit riders will benefit from additional savings as improvements and upgrades are made to the road and transit networks.

Depending on the mix of projects, user benefits could average as much as \$13.9 billion per year for Bay Area drivers, transit riders, and businesses, adding up to \$139.2 billion over 10 years.

Commuters and truck drivers will spend less time sitting in traffic and the cost of maintaining and operating vehicles will go down as roadway conditions improve and safety enhancements are put in place. Transit riders will take more trips and have greater access to goods and services.

Any future revenue increases would support additional economic output and would continue to improve system conditions and the quality of life for California residents for the next generation.

II. Economic Impact of Transportation Investment in the Bay Area

Highway, street, bridge, and transit investment in the Bay Area has a significant impact on all sectors of the county's economy. Transportation capital investments triggers immediate economic activity that creates and sustains jobs and tax revenues while yielding long-lived capital assets that facilitate economic growth for the next generation by providing access to jobs, services, materials, and markets.

The Bay Area's highway, street, bridge, and transit investment will support the following benefits over the next decade:

- Generate \$22 billion annually in economic output as businesses throughout the economy sell goods and services to both other businesses and consumers, totaling \$220.2 billion over 10 years.
- Contribute \$11.1 billion per year of state GSP, adding up to \$111 billion over 10 years.
- Support or create 165,420 jobs on average each year throughout the economy, with over 88 percent of the employment outside of the construction industry. This includes an estimated 80,630 jobs in transportation and warehousing, 7,000 jobs in real estate, and over 6,500 jobs in real estate, rental, and leasing. This will add up to over 1.6 million job-years supported or created over the next 10 years.
- These workers will earn nearly \$6.3 billion in wages annually, totaling \$68.3 billion over 10 years.
- \$6.8 billion in additional tax revenues each year, adding up to \$68.3 billion over 10 years. This includes:
 - \$1.9 billion in annual state and local tax revenue from payroll, business, income, sales and use taxes, totaling \$19.3 billion over 10 years
 - \$4.9 billion in annual federal payroll, income, and business taxes, totaling \$49 billion over 10 years

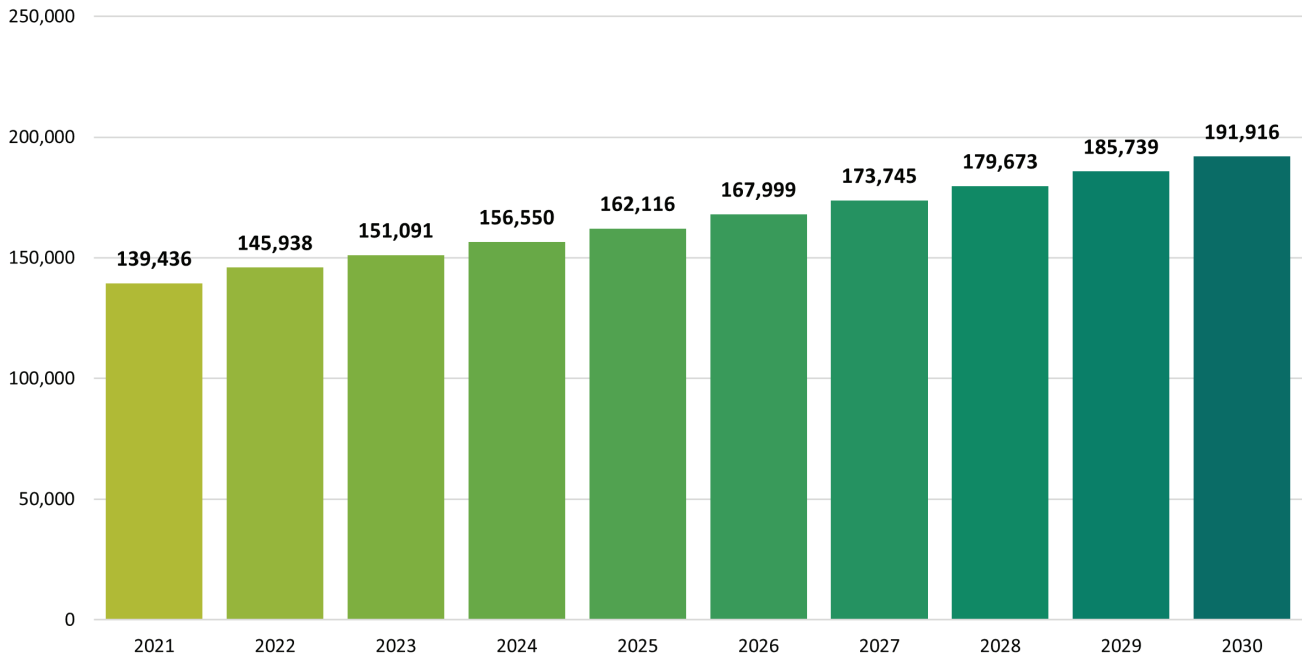
This economic activity is broken down by four different types of transportation spending.

- Highway, street, and bridge construction and maintenance activity include major investments to improve the infrastructure.
- Transit construction is comprised of improvements to the physical infrastructure and the purchase of other capital, such as rolling stock.
- Other highway, street, and bridge spending encompasses additional investments by state and local governments on operations, planning and design work, right of way purchases, administration, research, and overhead.
- Transit operations include spending to run transit agencies and deliver services to California residents.

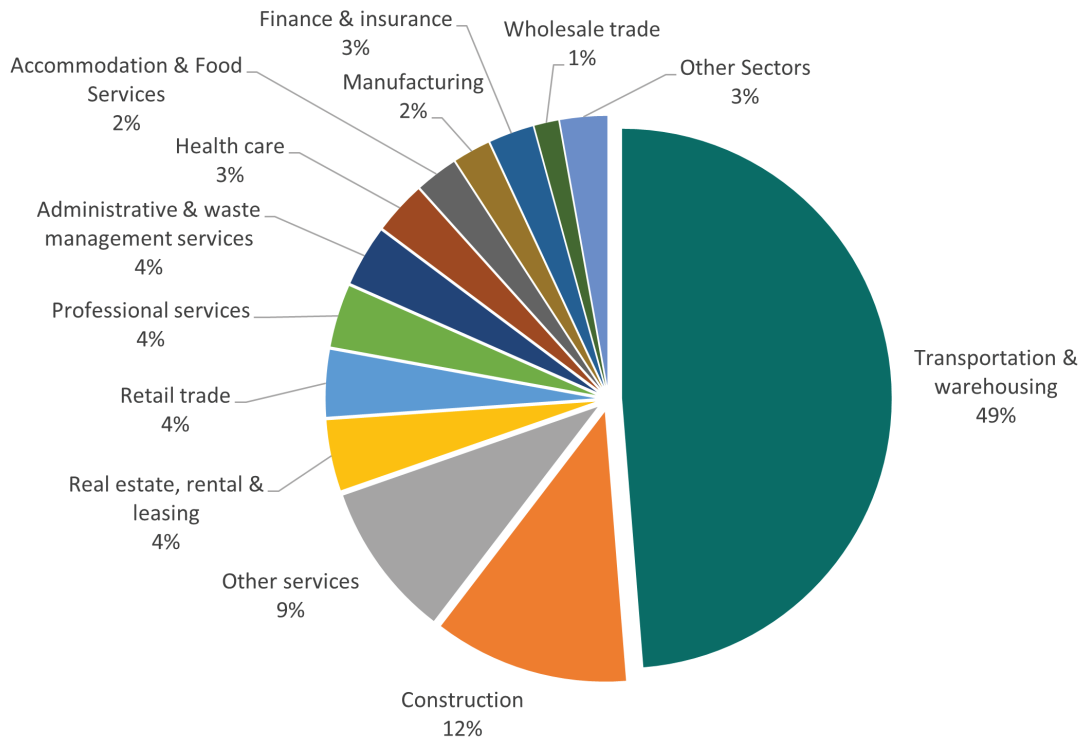
Total Economic Impact of Highway, Bridge, Street and Transit Investment in the Bay Area Over 10 Years (in billions \$)					
	Impact of Highway, Bridge and Street Construction	Impact of Transit Construction	Impact of Transit Operations & Other Activity	Impact of Design, Engineering, Right of Way, Project Support and Administration	Total Impact
Total Output	\$32.4	\$36.1	\$77.3	\$74.4	\$220.2
Total Value Added (GSP)	\$17.1	\$19.0	\$38.5	\$36.5	\$111.0
Earnings	\$8.4	\$9.4	\$26.0	\$18.8	\$62.6
Employment (Job-Years)	146,870	164,049	1,011,042	332,241	1,654,203
Total Tax Revenues	\$7.1	\$7.9	\$41.3	\$12.0	\$68.3
Federal Tax Revenue	\$5.1	\$5.7	\$29.7	\$8.5	\$49.0
State & Local Tax Revenue	\$2.0	\$2.2	\$11.6	\$3.5	\$19.3

Annual Average Economic Impact of Highway, Bridge, Street and Transit Investment in Bay Area (in billions \$)					
	Impact of Highway, Bridge and Street Construction	Impact of Transit Construction	Impact of Transit Operations & Other Activity	Impact of Design, Engineering, Right of Way, Project Support and Administration	Total Annual Impact
Total Output	\$3.2	\$3.6	\$7.7	\$7.4	\$22.0
Total Value Added (GSP)	\$1.7	\$1.9	\$3.8	\$3.6	\$11.1
Earnings	\$0.8	\$0.9	\$2.6	\$1.9	\$6.3
Employment	14,687	16,405	101,104	33,224	165,420
Total Tax Revenues	\$0.7	\$0.8	\$4.1	\$1.2	\$6.8
Federal Tax Revenue	\$0.5	\$0.6	\$3.0	\$0.9	\$4.9
State & Local Tax Revenue	\$0.2	\$0.2	\$1.2	\$0.4	\$1.9

Jobs Supported/Created in the Bay Area by Highway, Street, Bridge, & Transit Investment



Breakdown of Jobs Supported/Created in the Bay Area by Highway, Street, Bridge, & Transit Investment



III. Economic Impact of Highway, Street, Bridge & Transit Investment on Major Industry Sectors

Highway, street, bridge, and transit investment has an impact across all sectors of the California economy. This comes from spending on capital projects, system upgrades, maintenance, administration, research, safety, and other spending that supports the operation, maintenance, and upgrades to the transportation system.

The following section calculates the economic impact of highway, street, bridge, and transit investment for major industry sectors in the Bay Area.

These sectors include:

Accommodation and Food Services

The Accommodation and Food Services sector comprises establishments providing customers with lodging and/or preparing meals, snacks, and beverages for immediate consumption.

Administrative and Support and Waste Management and Remediation Services

The Administrative and Support and Waste Management and Remediation Services sector comprises establishments performing routine support activities for the day-to-day operations of other organizations.

Agriculture, Forestry, Fishing, and Hunting

The Agriculture, Forestry, Fishing and Hunting sector comprises establishments primarily engaged in growing crops, raising animals, harvesting timber, and harvesting fish and other animals from a farm, ranch, or their natural habitats.

Arts, Entertainment, and Recreation

The Arts, Entertainment, and Recreation sector includes a wide range of establishments that operate facilities or provide services to meet varied cultural, entertainment, and recreational interests of their patrons.

Construction

Construction sector comprises establishments primarily engaged in the construction of buildings or engineering projects (e.g., highways and utility systems).

Educational Services

The Educational Services sector comprises establishments that provide instruction and training in a wide variety of subjects.

Finance and Insurance

The Finance and Insurance sector comprises establishments primarily engaged in financial transactions (transactions involving the creation, liquidation, or change in ownership of financial assets) and/or in facilitating financial transactions.

Health Care and Social Assistance

The Health Care and Social Assistance sector comprises establishments providing health care and social assistance for individuals.

Information

The Information sector comprises establishments engaged in the following processes: (a) producing and distributing information and cultural products, (b) providing the means to transmit or distribute these products as well as data or communications, and (c) processing data.

Management of Companies and Enterprises

The Management of Companies and Enterprises sector comprises (1) establishments that hold the securities of (or other equity interests in) companies and enterprises for the purpose of owning a controlling interest or influencing management decisions or (2) establishments (except government establishments) that administer, oversee, and manage establishments of the company or enterprise and that normally undertake the strategic or organizational planning and decision-making role of the company or enterprise.

Manufacturing

Manufacturing sector comprises establishments engaged in the mechanical, physical, or chemical transformation of materials, substances, or components into new products.

Mining

Mining, Quarrying, and Oil and Gas Extraction sector comprises establishments that extract naturally occurring mineral solids, such as coal and ores; liquid minerals, such as crude petroleum; and gases, such as natural gas.

Other Services

The Other Services (except Public Administration) sector comprises establishments engaged in providing services not specifically provided for elsewhere in the classification system.

Professional, Scientific, and Technical Services

The Professional, Scientific, and Technical Services sector comprises establishments that specialize in performing professional, scientific, and technical activities for others.

Real Estate and Rental and Leasing

The Real Estate and Rental and Leasing sector comprises establishments primarily engaged in renting, leasing, or otherwise allowing the use of tangible or intangible assets, and establishments providing related services.

Retail Trade

Retail Trade sector comprises establishments engaged in retailing merchandise, generally without transformation, and rendering services incidental to the sale of merchandise.

Transportation and Warehousing

The Transportation and Warehousing sector include industries providing transportation of passengers and cargo, warehousing and storage for goods, scenic and sightseeing transportation, and support activities related to modes of transportation.

Utilities

Utilities sector comprises establishments engaged in the provision of the following utility services: electric power, natural gas, steam supply, water supply, and sewage removal.

Wholesale Trade

Wholesale Trade sector comprises establishments engaged in wholesaling merchandise, generally without transformation, and rendering services incidental to the sale of merchandise.

Total Economic Impact of Highway, Bridge, Street & Transit Investment in the Bay Area				
Industry	Impact on Industry Output (in millions)	Jobs Supported or Created (job-years)	Earnings (in millions)	Tax Revenues (in millions)
Accommodation and Food Services	\$3,176	41,476	\$992	\$1,920
Administrative and waste management services	\$5,020	59,650	\$1,891	\$3,333
Agriculture, forestry, fishing, and hunting	\$203	1,718	\$58	\$98
Arts, entertainment, and recreation	\$924	10,784	\$309	\$404
Construction	\$48,150	192,858	\$12,500	\$10,300
Educational services	\$953	13,626	\$438	\$248
Finance and insurance	\$10,840	44,260	\$3,059	\$1,872
Health care and social assistance	\$5,635	51,633	\$2,458	\$1,556
Information	\$4,382	11,518	\$871	\$525
Management of companies and enterprises	\$1,691	5,887	\$678	\$472
Manufacturing	\$17,880	36,571	\$2,963	\$1,629
Mining	\$634	1,877	\$103	\$86
Other services	\$42,910	153,330	\$9,794	\$3,292
Professional, scientific, and technical services	\$10,260	61,913	\$4,442	\$2,942
Real estate and rental and leasing	\$13,540	70,010	\$2,131	\$3,173
Retail trade	\$5,900	65,810	\$2,021	\$2,821
Transportation and warehousing	\$41,470	806,298	\$16,100	\$32,530
Utilities	\$982	1,203	\$142	\$25
Wholesale trade	\$5,614	23,782	\$1,658	\$1,065
Total industry impact	\$220,163	1,654,203	\$62,607	\$68,291

Average Annual Economic Impact of Highway, Bridge, Street & Transit Investment in the Bay Area				
Industry	Impact on Industry Output (in millions)	Jobs Supported or Created	Earnings (in millions)	Tax Revenues (in millions)
Accommodation and Food Services	\$318	4,148	\$99	\$192
Administrative and waste management services	\$502	5,965	\$189	\$333
Agriculture, forestry, fishing, and hunting	\$20	172	\$6	\$10
Arts, entertainment, and recreation	\$92	1,078	\$31	\$40
Construction	\$4,815	19,286	\$1,250	\$1,030
Educational services	\$95	1,363	\$44	\$25
Finance and insurance	\$1,084	4,426	\$306	\$187
Health care and social assistance	\$564	5,163	\$246	\$156
Information	\$438	1,152	\$87	\$53
Management of companies and enterprises	\$169	589	\$68	\$47
Manufacturing	\$1,788	3,657	\$296	\$163
Mining	\$63	188	\$10	\$9
Other services	\$4,291	15,333	\$979	\$329
Professional, scientific, and technical services	\$1,026	6,191	\$444	\$294
Real estate and rental and leasing	\$1,354	7,001	\$213	\$317
Retail trade	\$590	6,581	\$202	\$282
Transportation and warehousing	\$4,147	80,630	\$1,610	\$3,253
Utilities	\$98	120	\$14	\$2
Wholesale trade	\$561	2,378	\$166	\$107
Total industry impact	\$22,016	165,420	\$6,261	\$6,829

Accommodation and Food Services

Highway, street, bridge, and transit investment in the Bay Area will support \$3 billion in business output for this industry over the next decade.

This sector currently includes 20,495 establishments that employ 378,397 people in Bay Area, who earn \$12 billion in wages.

The average annual economic activity supported by highway, street, bridge, and transit investment include:

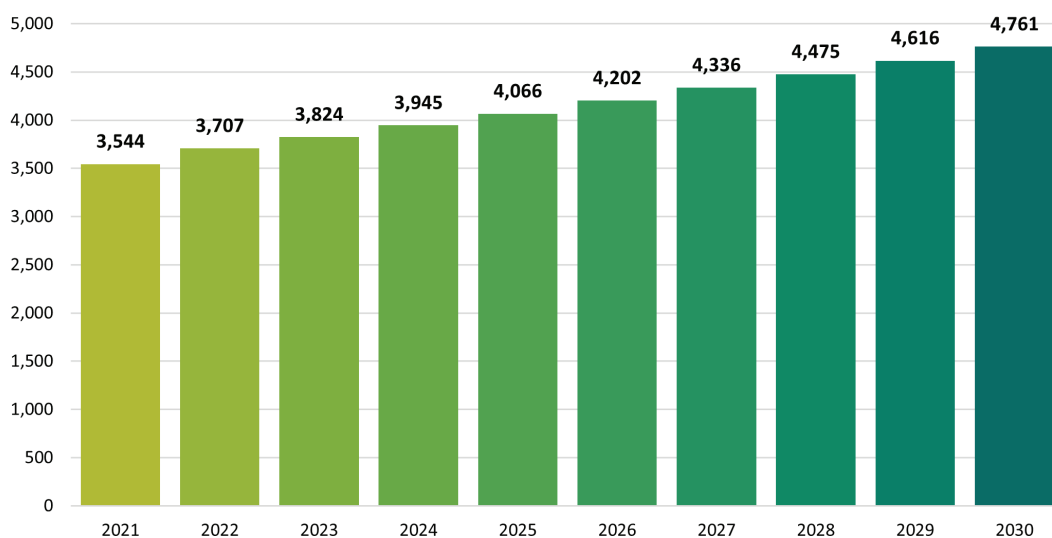
- \$317.6 million in business output
- \$175.8 million in gross state product (GSP)
- 4,148 jobs either supported or created
- \$192.0 million in federal, state, and local tax revenue

	Average Annual Impact	Total Economic Impact, 10 Years
Business Output	\$317.6 million	\$3.2 billion
GSP	\$175.8 million	\$1.8 billion
Employment	4,148 jobs	41,476 jobs-years*
Payroll	\$99.2 million	\$992.1 million
Tax Revenue	\$192.0 million	\$1.9 billion

Highway, street, bridge, and transit investment has a positive economic impact on this sector in two ways. The first is through direct purchases from transportation construction firms and suppliers involved in building, maintaining, and operating the area's infrastructure systems. The second effect is when employees of transportation and supplier firms spend their wages and make purchases throughout the economy.

The Accommodation and Food Services sector comprises establishments providing customers with lodging and/or repairing meals, snacks, and beverages for immediate consumption.

Accommodation and Food Services: Industry Jobs Supported by Highway, Street, Bridge, & Transit Investment



*A job-year of employment is defined as employment for one person for one year. Thus, this number will include people whose jobs are supported over multiple years. For example, if a person is hired in this sector and remains in her position for five years, this is counted as five job-years.

Administrative and Waste Management Services

Highway, street, bridge, and transit investment in the Bay Area will support \$5 billion in business output for this industry over the next decade.

This sector currently includes 10,931 establishments that employ 215,193 people in Bay Area, who earn \$13 billion in wages.

The average annual economic activity supported by highway, street, bridge, and transit investment include:

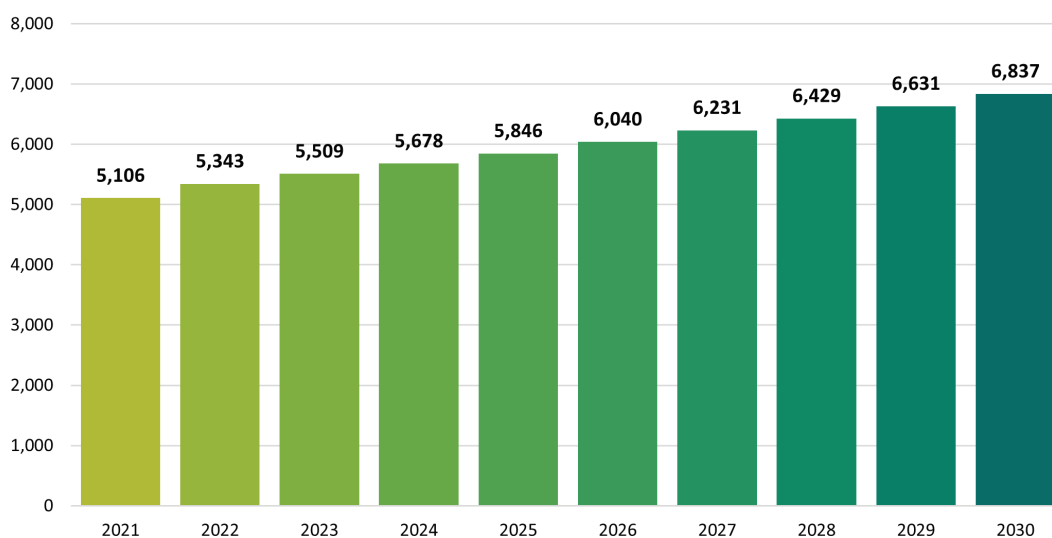
- \$502.0 million in business output
- \$307.5 million in gross state product (GSP)
- 5,965 jobs either supported or created
- \$333.3 million in federal, state, and local tax revenue

	Average Annual Impact	Total Economic Impact, 10 Years
Business Output	\$502.0 million	\$5.0 billion
GSP	\$307.5 million	\$3.1 billion
Employment	5,965 jobs	59,650 jobs-years*
Payroll	\$189.1 million	\$1.9 billion
Tax Revenue	\$333.3 million	\$3.3 billion

Highway, street, bridge, and transit investment has a positive economic impact on this sector in two ways. The first is through direct purchases from transportation construction firms and suppliers involved in building, maintaining, and operating the area's infrastructure systems. The second effect is when employees of transportation and supplier firms spend their wages and make purchases throughout the economy.

The Administrative and Support and Waste Management and Remediation Services sector comprises establishments performing routine support activities for the day-to-day operations of other organizations.

Administrative and Waste Management Services: Industry Jobs Supported by Highway, Street, Bridge, & Transit Investment



*A job-year of employment is defined as employment for one person for one year. Thus, this number will include people whose jobs are supported over multiple years. For example, if a person is hired in this sector and remains in her position for five years, this is counted as five job-years.

Agriculture, Forestry, Fishing, and Hunting

Highway, street, bridge, and transit investment in the Bay Area will support \$203 million in business output for this industry over the next decade.

This sector currently includes 1,599 establishments that employ 14,131 people in Bay Area, who earn \$615 million in wages.

The average annual economic activity supported by highway, street, bridge, and transit investment include:

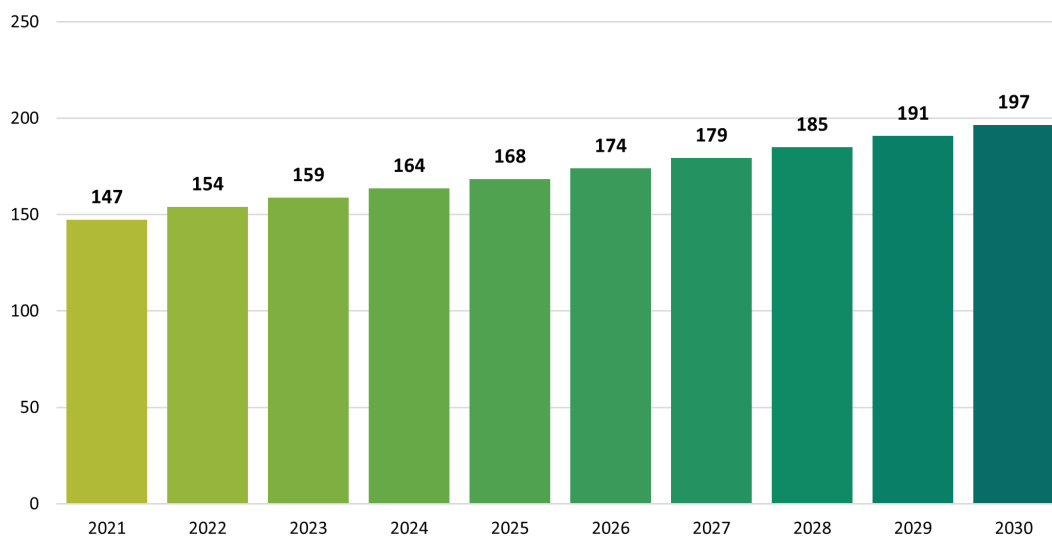
- \$20.3 million in business output
- \$11.6 million in gross state product (GSP)
- 172 jobs either supported or created
- \$9.8 million in federal, state, and local tax revenue

	Average Annual Impact	Total Economic Impact, 10 Years
Business Output	\$20.3 million	\$202.8 million
GSP	\$11.6 million	\$115.7 million
Employment	172 jobs	1,718 jobs-years*
Payroll	\$5.8 million	\$57.8 million
Tax Revenue	\$9.8 million	\$97.6 million

Highway, street, bridge, and transit investment has a positive economic impact on this sector in two ways. The first is through direct purchases from transportation construction firms and suppliers involved in building, maintaining, and operating the area's infrastructure systems. The second effect is when employees of transportation and supplier firms spend their wages and make purchases throughout the economy.

The Agriculture, Forestry, Fishing and Hunting sector comprises establishments primarily engaged in growing crops, raising animals, harvesting timber, and harvesting fish and other animals from a farm, ranch, or their natural habitats.

Agriculture, Forestry, Fishing, and Hunting: Industry Jobs Supported by Highway, Street, Bridge, & Transit Investment



*A job-year of employment is defined as employment for one person for one year. Thus, this number will include people whose jobs are supported over multiple years. For example, if a person is hired in this sector and remains in her position for five years, this is counted as five job-years.

Arts, Entertainment, and Recreation

Highway, street, bridge, and transit investment in the Bay Area will support \$923 million in business output for this industry over the next decade.

This sector currently includes 3,555 establishments that employ 74,164 people in Bay Area, who earn \$4 billion in wages.

The average annual economic activity supported by highway, street, bridge, and transit investment include:

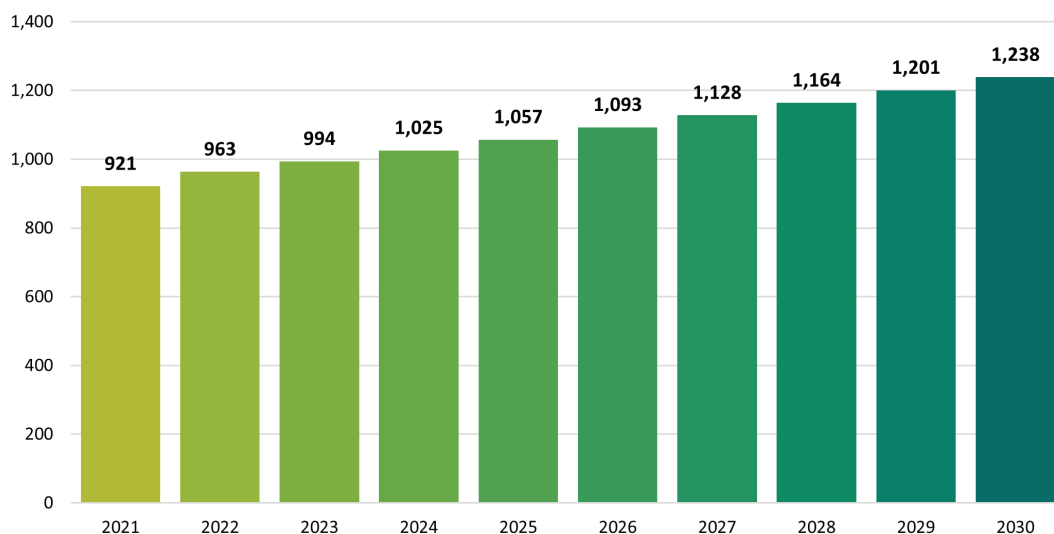
- \$92.3 million in business output
- \$54.7 million in gross state product (GSP)
- 1,078 jobs either supported or created
- \$40.4 million in federal, state, and local tax revenue

	Average Annual Impact	Total Economic Impact, 10 Years
Business Output	\$92.3 million	\$923.5 million
GSP	\$54.7 million	\$546.7 million
Employment	1,078 jobs	10,784 jobs-years*
Payroll	\$30.9 million	\$308.7 million
Tax Revenue	\$40.4 million	\$404.0 million

Highway, street, bridge, and transit investment has a positive economic impact on this sector in two ways. The first is through direct purchases from transportation construction firms and suppliers involved in building, maintaining, and operating the area's infrastructure systems. The second effect is when employees of transportation and supplier firms spend their wages and make purchases throughout the economy.

The Arts, Entertainment, and Recreation sector includes a wide range of establishments that operate facilities or provide services to meet varied cultural, entertainment, and recreational interests of their patrons.

Arts, Entertainment, and Recreation: Industry Jobs Supported by Highway, Street, Bridge, & Transit Investment



*A job-year of employment is defined as employment for one person for one year. Thus, this number will include people whose jobs are supported over multiple years. For example, if a person is hired in this sector and remains in her position for five years, this is counted as five job-years.

Construction

Highway, street, bridge, and transit investment in the Bay Area will support \$48 billion in business output for this industry over the next decade.

This sector currently includes 18,045 establishments that employ 214,875 people in Bay Area, who earn \$19 billion in wages.

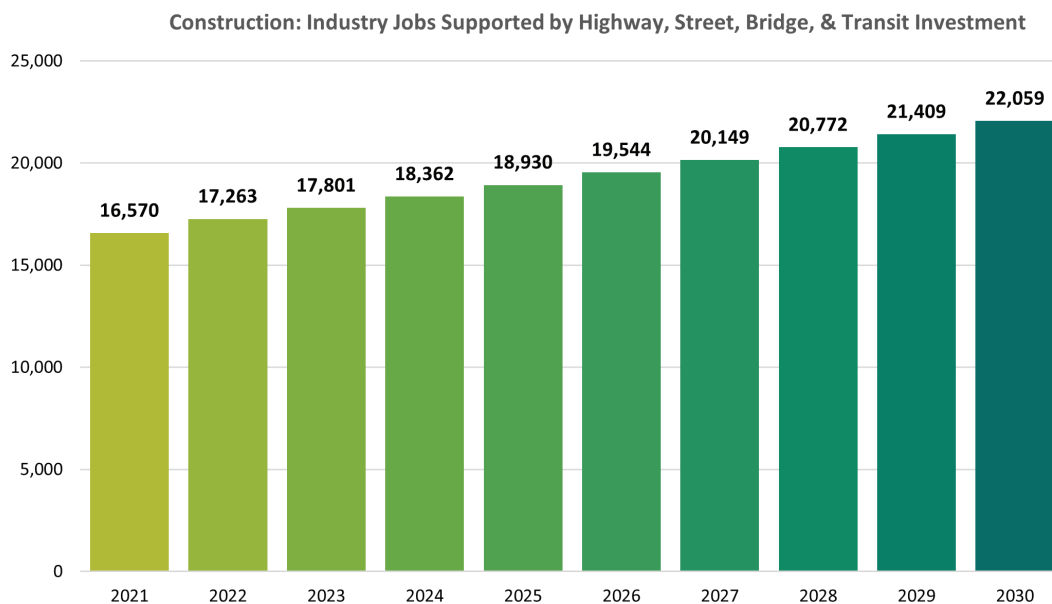
The average annual economic activity supported by highway, street, bridge, and transit investment include:

- \$4.8 million in business output
- \$2.5 million in gross state product (GSP)
- 19,286 jobs either supported or created
- \$1.0 million in federal, state, and local tax revenue

	Average Annual Impact	Total Economic Impact, 10 Years
Business Output	\$4.8 billion	\$48.1 billion
GSP	\$2.5 billion	\$25.1 billion
Employment	19,286 jobs	192,858 jobs-years*
Payroll	\$1.2 billion	\$12.5 billion
Tax Revenue	\$1.0 billion	\$10.3 billion

Highway, street, bridge, and transit investment has a positive economic impact on this sector in two ways. The first is through direct purchases from transportation construction firms and suppliers involved in building, maintaining, and operating the area's infrastructure systems. The second effect is when employees of transportation and supplier firms spend their wages and make purchases throughout the economy.

The Construction sector comprises establishments primarily engaged in the construction of buildings or engineering projects (e.g., highways and utility systems).



*A job-year of employment is defined as employment for one person for one year. Thus, this number will include people whose jobs are supported over multiple years. For example, if a person is hired in this sector and remains in her position for five years, this is counted as five job-years.

Educational Services

Highway, street, bridge, and transit investment in the Bay Area will support \$953 million in business output for this industry over the next decade.

This sector currently includes 7,743 establishments that employ 166,133 people in Bay Area, who earn \$11 billion in wages.

The average annual economic activity supported by highway, street, bridge, and transit investment include:

- \$95.3 million in business output
- \$59.0 million in gross state product (GSP)
- 1,363 jobs either supported or created
- \$24.8 million in federal, state, and local tax revenue

Highway, street, bridge, and transit investment has a positive economic impact on this sector in two ways. The first is through direct purchases from transportation construction firms and suppliers involved in building, maintaining, and operating the area's infrastructure systems. The second effect is when employees of transportation and supplier firms spend their wages and make purchases throughout the economy.

The Educational Services sector comprises establishments that provide instruction and training in a wide variety of subjects.

	Average Annual Impact	Total Economic Impact, 10 Years
Business Output	\$95.3 million	\$953.4 million
GSP	\$59.0 million	\$589.8 million
Employment	1,363 jobs	13,626 jobs-years*
Payroll	\$43.8 million	\$437.6 million
Tax Revenue	\$24.8 million	\$248.4 million



*A job-year of employment is defined as employment for one person for one year. Thus, this number will include people whose jobs are supported over multiple years. For example, if a person is hired in this sector and remains in her position for five years, this is counted as five job-years.

Finance and Insurance

Highway, street, bridge, and transit investment in the Bay Area will support \$11 billion in business output for this industry over the next decade.

This sector currently includes 11,338 establishments that employ 133,600 people in Bay Area, who earn \$28 billion in wages.

The average annual economic activity supported by highway, street, bridge, and transit investment include:

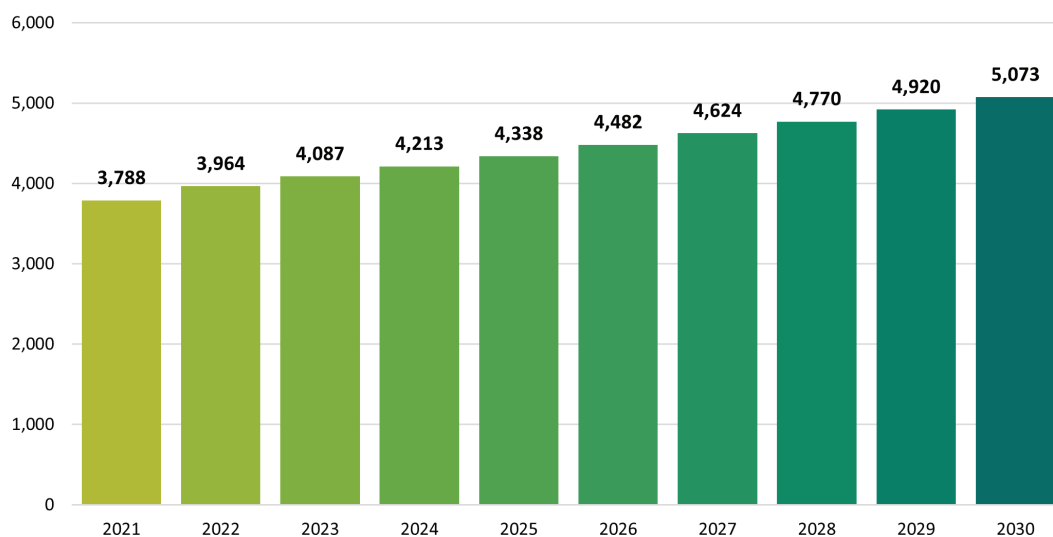
- \$1.1 million in business output
- \$546.4 million in gross state product (GSP)
- 4,426 jobs either supported or created
- \$187.2 million in federal, state, and local tax revenue

	Average Annual Impact	Total Economic Impact, 10 Years
Business Output	\$1.1 billion	\$10.8 billion
GSP	\$546.4 million	\$5.5 billion
Employment	4,426 jobs	44,260 jobs-years*
Payroll	\$305.9 million	\$3.1 billion
Tax Revenue	\$187.2 million	\$1.9 billion

Highway, street, bridge, and transit investment has a positive economic impact on this sector in two ways. The first is through direct purchases from transportation construction firms and suppliers involved in building, maintaining, and operating the area's infrastructure systems. The second effect is when employees of transportation and supplier firms spend their wages and make purchases throughout the economy.

The Finance and Insurance sector comprises establishments primarily engaged in financial transactions (transactions involving the creation, liquidation, or change in ownership of financial assets) and/or in facilitating financial transactions.

Finance and Insurance: Industry Jobs Supported by Highway, Street, Bridge, & Transit Investment



*A job-year of employment is defined as employment for one person for one year. Thus, this number will include people whose jobs are supported over multiple years. For example, if a person is hired in this sector and remains in her position for five years, this is counted as five job-years.

Health Care and Social Assistance

Highway, street, bridge, and transit investment in the Bay Area will support \$6 billion in business output for this industry over the next decade.

This sector currently includes 114,044 establishments that employ 518,421 people in Bay Area, who earn \$36 billion in wages.

The average annual economic activity supported by highway, street, bridge, and transit investment include:

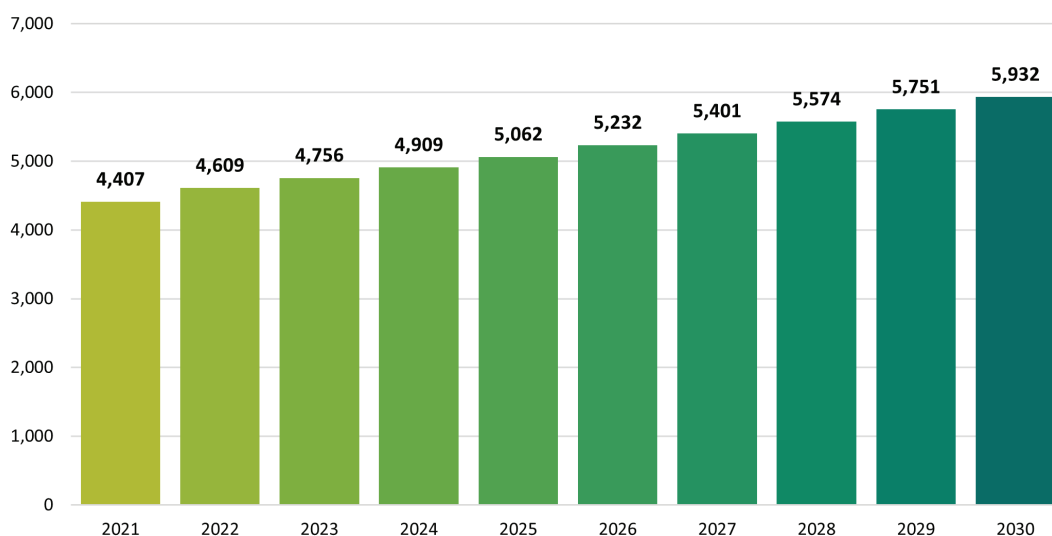
- \$563.5 million in business output
- \$335.5 million in gross state product (GSP)
- 5,163 jobs either supported or created
- \$155.6 million in federal, state, and local tax revenue

	Average Annual Impact	Total Economic Impact, 10 Years
Business Output	\$563.5 million	\$5.6 billion
GSP	\$335.5 million	\$3.4 billion
Employment	5,163 jobs	51,633 jobs-years*
Payroll	\$245.8 million	\$2.5 billion
Tax Revenue	\$155.6 million	\$1.6 billion

Highway, street, bridge, and transit investment has a positive economic impact on this sector in two ways. The first is through direct purchases from transportation construction firms and suppliers involved in building, maintaining, and operating the area's infrastructure systems. The second effect is when employees of transportation and supplier firms spend their wages and make purchases throughout the economy.

The Health Care and Social Assistance sector comprises establishments providing health care and social assistance for individuals.

Health Care and Social Assistance: Industry Jobs Supported by Highway, Street, Bridge, & Transit Investment



*A job-year of employment is defined as employment for one person for one year. Thus, this number will include people whose jobs are supported over multiple years. For example, if a person is hired in this sector and remains in her position for five years, this is counted as five job-years.

Information

Highway, street, bridge, and transit investment in the Bay Area will support \$4 billion in business output for this industry over the next decade.

This sector currently includes 6,125 establishments that employ 233,785 people in Bay Area, who earn \$65 billion in wages.

The average annual economic activity supported by highway, street, bridge, and transit investment include:

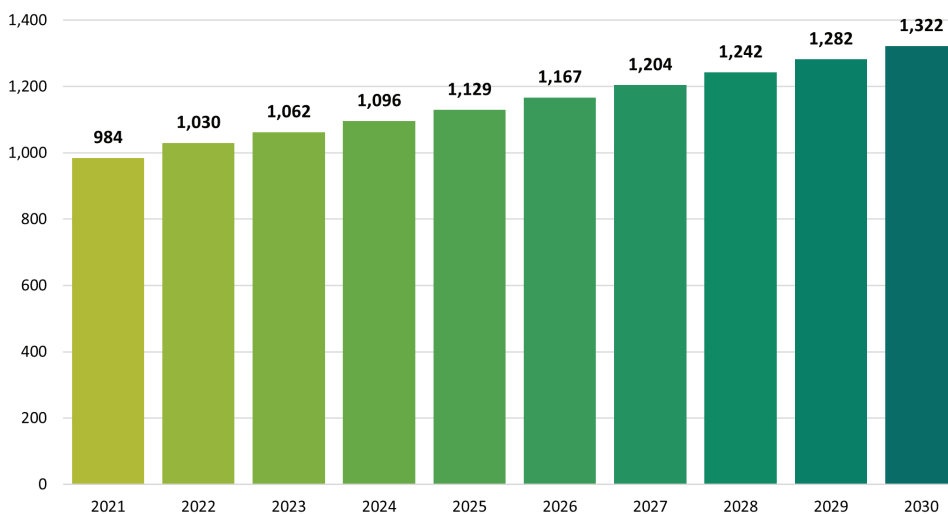
- \$438.2 million in business output
- \$249.6 million in gross state product (GSP)
- 1,152 jobs either supported or created
- \$52.5 million in federal, state, and local tax revenue

	Average Annual Impact	Total Economic Impact, 10 Years
Business Output	\$438.2 million	\$4.4 billion
GSP	\$249.6 million	\$2.5 billion
Employment	1,152 jobs	11,518 jobs-years*
Payroll	\$87.1 million	\$870.8 million
Tax Revenue	\$52.5 million	\$525.4 million

Highway, street, bridge, and transit investment has a positive economic impact on this sector in two ways. The first is through direct purchases from transportation construction firms and suppliers involved in building, maintaining, and operating the area's infrastructure systems. The second effect is when employees of transportation and supplier firms spend their wages and make purchases throughout the economy.

The Information sector comprises establishments engaged in the following processes: (a) producing and distributing information and cultural products, (b) providing the means to transmit or distribute these products as well as data or communications, and (c) processing data.

Information: Industry Jobs Supported by Highway, Street, Bridge, & Transit Investment



*A job-year of employment is defined as employment for one person for one year. Thus, this number will include people whose jobs are supported over multiple years. For example, if a person is hired in this sector and remains in her position for five years, this is counted as five job-years.

Management of Companies and Enterprises

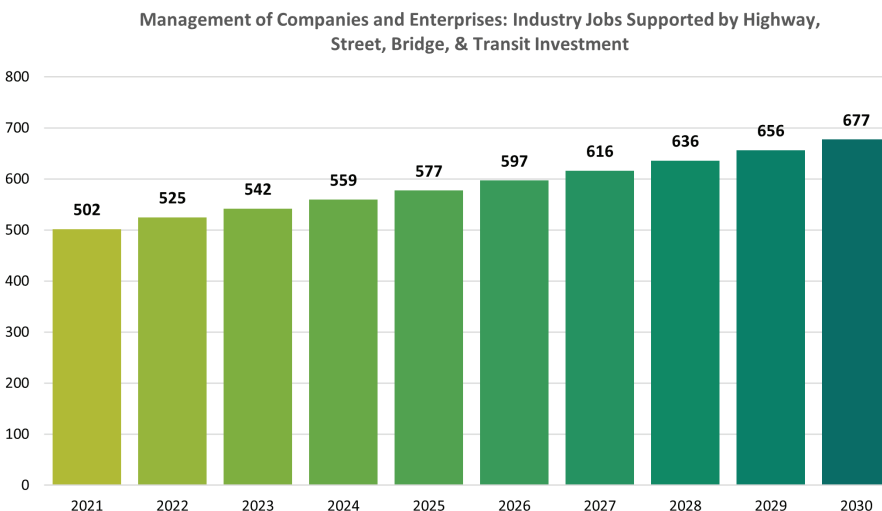
Highway, street, bridge, and transit investment in the Bay Area will support \$2 billion in business output for this industry over the next decade.

This sector currently includes 1,115 establishments that employ 74,436 people in Bay Area, who earn \$14 billion in wages.

The average annual economic activity supported by highway, street, bridge, and transit investment include:

- \$169.1 million in business output
- \$101.9 million in gross state product (GSP)
- 589 jobs either supported or created
- \$47.2 million in federal, state, and local tax revenue

	Average Annual Impact	Total Economic Impact, 10 Years
Business Output	\$169.1 million	\$1.7 billion
GSP	\$101.9 million	\$1.0 billion
Employment	589 jobs	5,887 jobs-years*
Payroll	\$67.8 million	\$677.9 million
Tax Revenue	\$47.2 million	\$471.5 million



Highway, street, bridge, and transit investment has a positive economic impact on this sector in two ways. The first is through direct purchases from transportation construction firms and suppliers involved in building, maintaining, and operating the area's infrastructure systems. The second effect is when employees of transportation and supplier firms spend their wages and make purchases throughout the economy.

The Management of Companies and Enterprises sector comprises (1) establishments that hold the securities of (or other equity interests in) companies and enterprises for the purpose of owning a controlling interest or influencing management decisions or (2) establishments (except government establishments) that administer, oversee, and manage establishments of the company or enterprise and that normally undertake the strategic or organizational planning and decision making role of the company or enterprise.

*A job-year of employment is defined as employment for one person for one year. Thus, this number will include people whose jobs are supported over multiple years. For example, if a person is hired in this sector and remains in her position for five years, this is counted as five job-years.

Manufacturing

Highway, street, bridge, and transit investment in the Bay Area will support \$18 billion in business output for this industry over the next decade.

This sector currently includes 9,055 establishments that employ 362,498 people in Bay Area, who earn \$59 billion in wages.

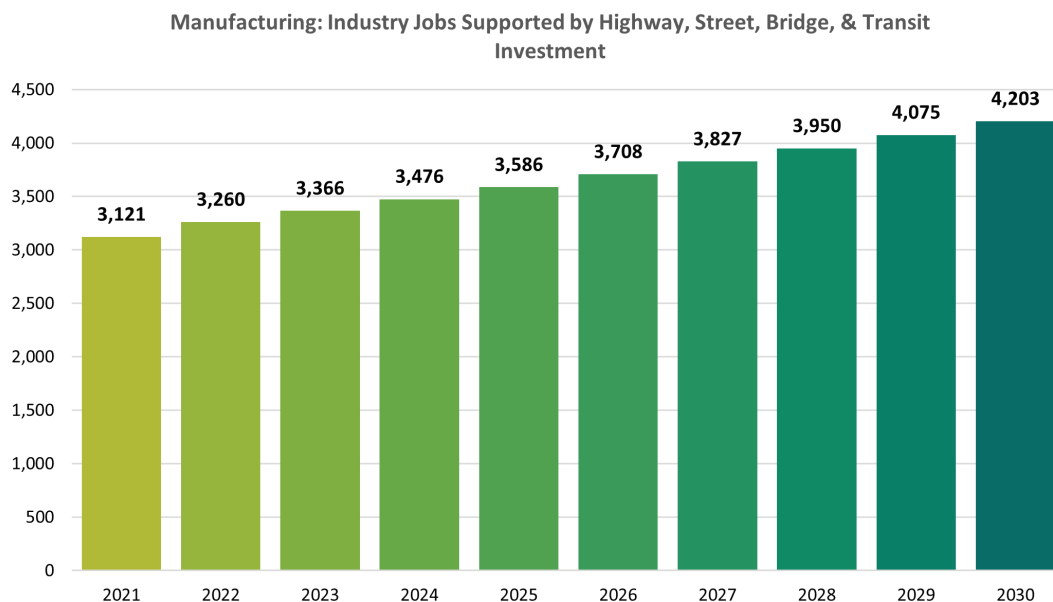
The average annual economic activity supported by highway, street, bridge, and transit investment include:

- \$1.8 million in business output
- \$557.5 million in gross state product (GSP)
- 3,657 jobs either supported or created
- \$162.9 million in federal, state, and local tax revenue

	Average Annual Impact	Total Economic Impact, 10 Years
Business Output	\$1.8 billion	\$17.9 billion
GSP	\$557.5 million	\$5.6 billion
Employment	3,657 jobs	36,571 jobs-years*
Payroll	\$296.3 million	\$3.0 billion
Tax Revenue	\$162.9 million	\$1.6 billion

Highway, street, bridge, and transit investment has a positive economic impact on this sector in two ways. The first is through direct purchases from transportation construction firms and suppliers involved in building, maintaining, and operating the area's infrastructure systems. The second effect is when employees of transportation and supplier firms spend their wages and make purchases throughout the economy.

The Manufacturing sector comprises establishments engaged in the mechanical, physical, or chemical transformation of materials, substances, or components into new products.



*A job-year of employment is defined as employment for one person for one year. Thus, this number will include people whose jobs are supported over multiple years. For example, if a person is hired in this sector and remains in her position for five years, this is counted as five job-years.

Mining

Highway, street, bridge, and transit investment in the Bay Area will support \$634 million in business output for this industry over the next decade.

This sector currently includes 66 establishments that employ 1,097 people in Bay Area, who earn \$109 million in wages.

The average annual economic activity supported by highway, street, bridge, and transit investment include:

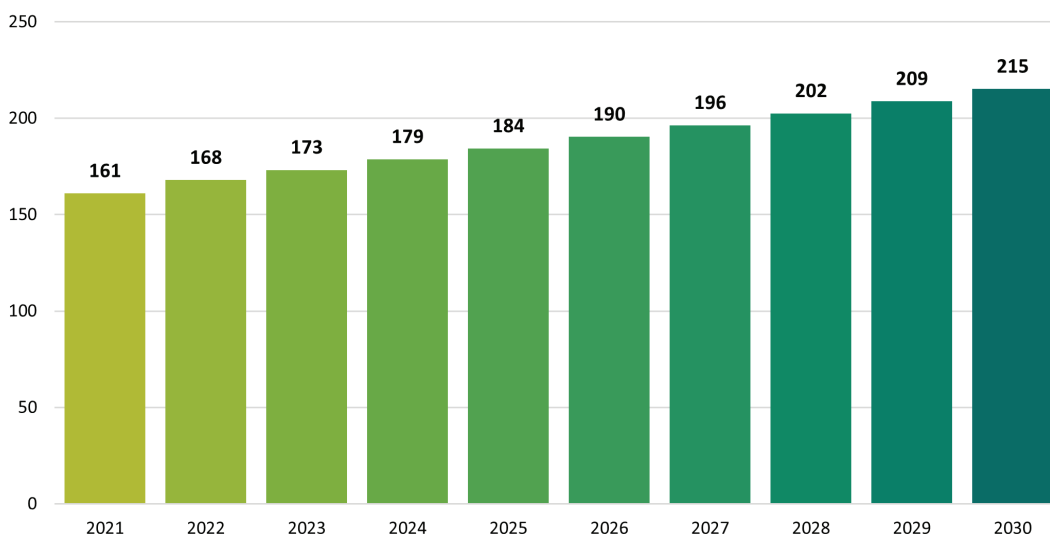
- \$63.4 million in business output
- \$40.6 million in gross state product (GSP)
- 188 jobs either supported or created
- \$8.6 million in federal, state, and local tax revenue

	Average Annual Impact	Total Economic Impact, 10 Years
Business Output	\$63.4 million	\$633.7 million
GSP	\$40.6 million	\$405.9 million
Employment	188 jobs	1,877 jobs-years*
Payroll	\$10.3 million	\$102.9 million
Tax Revenue	\$8.6 million	\$86.1 million

Highway, street, bridge, and transit investment has a positive economic impact on this sector in two ways. The first is through direct purchases from transportation construction firms and suppliers involved in building, maintaining, and operating the area's infrastructure systems. The second effect is when employees of transportation and supplier firms spend their wages and make purchases throughout the economy.

The Mining, Quarrying, and Oil and Gas Extraction sector comprises establishments that extract naturally occurring mineral solids, such as coal and ores; liquid minerals, such as crude petroleum; and gases, such as natural gas.

Mining: Industry Jobs Supported by Highway, Street, Bridge, & Transit Investment



*A job-year of employment is defined as employment for one person for one year. Thus, this number will include people whose jobs are supported over multiple years. For example, if a person is hired in this sector and remains in her position for five years, this is counted as five job-years.

Other Services

Highway, street, bridge, and transit investment in the Bay Area will support \$43 billion in business output for this industry over the next decade.

This sector currently includes 25,631 establishments that employ 132,368 people in Bay Area, who earn \$7 billion in wages.

The average annual economic activity supported by highway, street, bridge, and transit investment include:

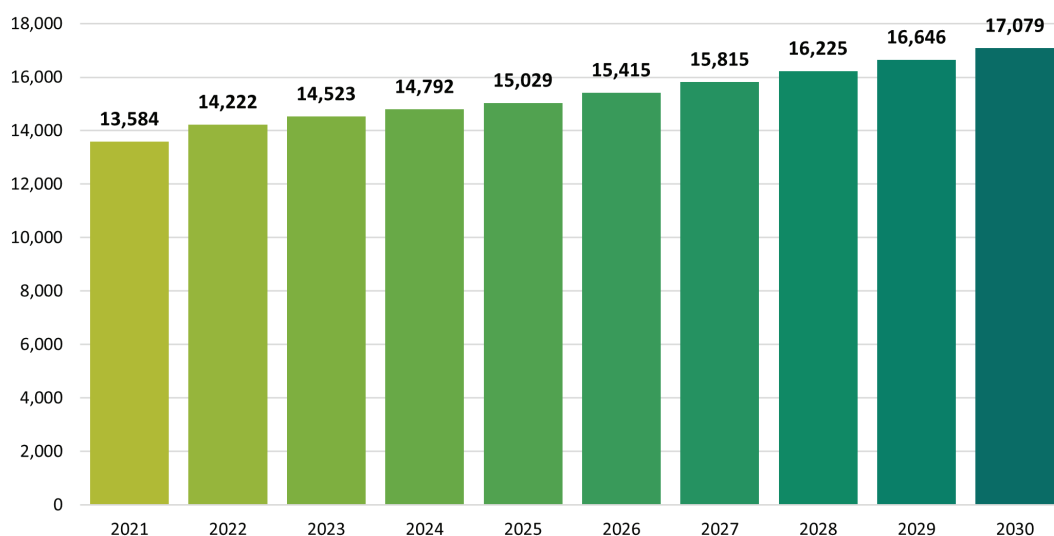
- \$4.3 million in business output
- \$1.9 million in gross state product (GSP)
- 15,333 jobs either supported or created
- \$329.2 million in federal, state, and local tax revenue

	Average Annual Impact	Total Economic Impact, 10 Years
Business Output	\$4.3 billion	\$42.9 billion
GSP	\$1.9 billion	\$18.7 billion
Employment	15,333 jobs	153,330 jobs-years*
Payroll	\$979.4 million	\$9.8 billion
Tax Revenue	\$329.2 million	\$3.3 billion

Highway, street, bridge, and transit investment has a positive economic impact on this sector in two ways. The first is through direct purchases from transportation construction firms and suppliers involved in building, maintaining, and operating the area's infrastructure systems. The second effect is when employees of transportation and supplier firms spend their wages and make purchases throughout the economy.

The Other Services (except Public Administration) sector comprises establishments engaged in providing services not specifically provided for elsewhere in the classification system.

Other Services: Industry Jobs Supported by Highway, Street, Bridge, & Transit Investment



*A job-year of employment is defined as employment for one person for one year. Thus, this number will include people whose jobs are supported over multiple years. For example, if a person is hired in this sector and remains in her position for five years, this is counted as five job-years.

Professional, Scientific, and Technical Services

Highway, street, bridge, and transit investment in the Bay Area will support \$10 billion in business output for this industry over the next decade.

This sector currently includes 37,462 establishments that employ 486,016 people in Bay Area, who earn \$84 billion in wages.

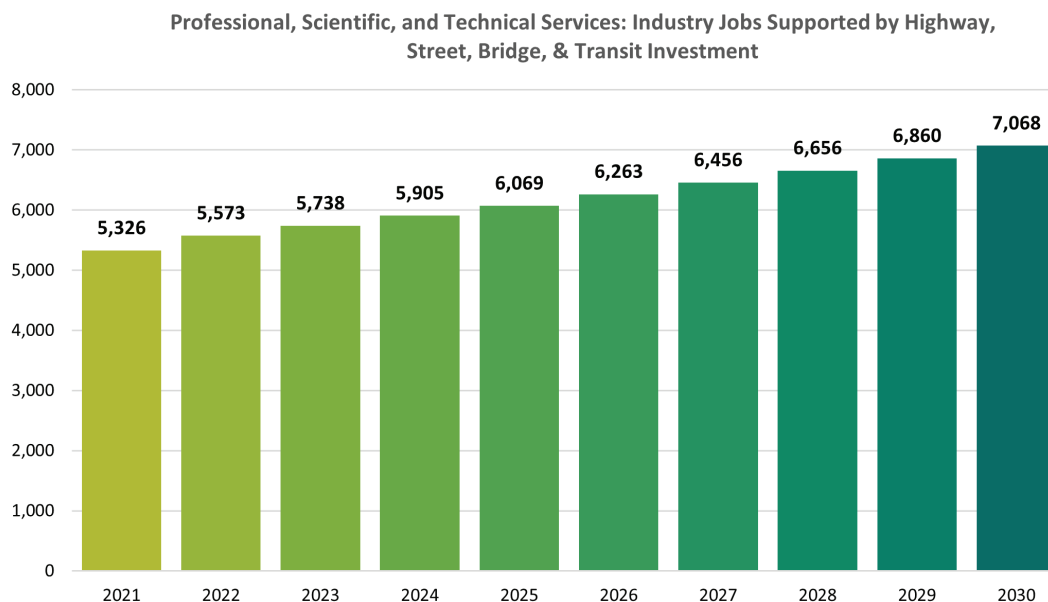
The average annual economic activity supported by highway, street, bridge, and transit investment include:

- \$1.0 million in business output
- \$635.6 million in gross state product (GSP)
- 6,191 jobs either supported or created
- \$294.2 million in federal, state, and local tax revenue

Highway, street, bridge, and transit investment has a positive economic impact on this sector in two ways. The first is through direct purchases from transportation construction firms and suppliers involved in building, maintaining, and operating the area's infrastructure systems. The second effect is when employees of transportation and supplier firms spend their wages and make purchases throughout the economy.

The Professional, Scientific, and Technical Services sector comprises establishments that specialize in performing professional, scientific, and technical activities for others.

	Average Annual Impact	Total Economic Impact, 10 Years
Business Output	\$1.0 billion	\$10.3 billion
GSP	\$635.6 million	\$6.4 billion
Employment	6,191 jobs	61,913 jobs-years*
Payroll	\$444.2 million	\$4.4 billion
Tax Revenue	\$294.2 million	\$2.9 billion



*A job-year of employment is defined as employment for one person for one year. Thus, this number will include people whose jobs are supported over multiple years. For example, if a person is hired in this sector and remains in her position for five years, this is counted as five job-years.

Real Estate and Rental and Leasing

Highway, street, bridge, and transit investment in the Bay Area will support \$14 billion in business output for this industry over the next decade.

This sector currently includes 11,760 establishments that employ 66,391 people in Bay Area, who earn \$6 billion in wages.

The average annual economic activity supported by highway, street, bridge, and transit investment include:

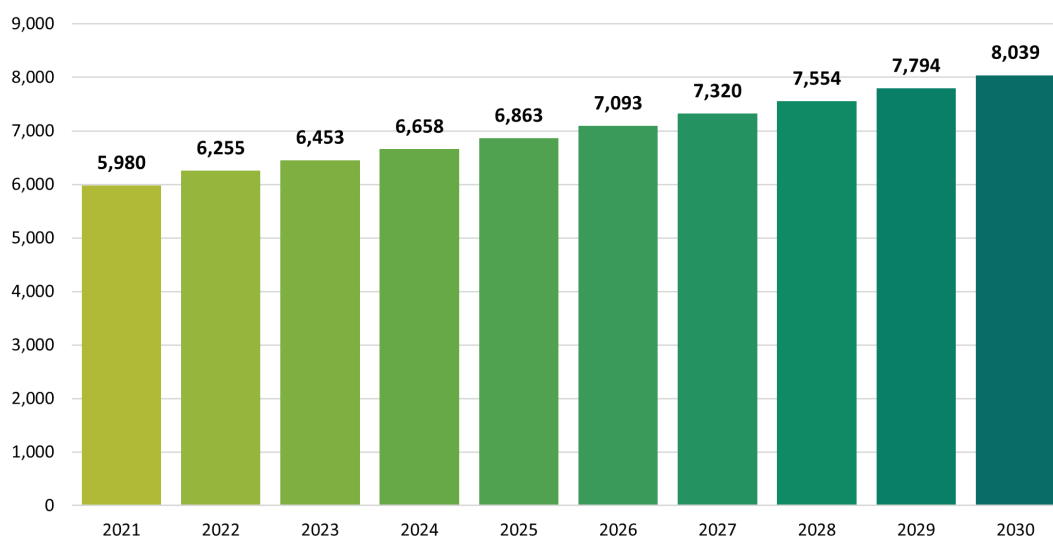
- \$1.4 million in business output
- \$949.4 million in gross state product (GSP)
- 7,001 jobs either supported or created
- \$317.3 million in federal, state, and local tax revenue

	Average Annual Impact	Total Economic Impact, 10 Years
Business Output	\$1.4 billion	\$13.5 billion
GSP	\$949.4 million	\$9.5 billion
Employment	7,001 jobs	70,010 jobs-years*
Payroll	\$213.1 million	\$2.1 billion
Tax Revenue	\$317.3 million	\$3.2 billion

Highway, street, bridge, and transit investment has a positive economic impact on this sector in two ways. The first is through direct purchases from transportation construction firms and suppliers involved in building, maintaining, and operating the area's infrastructure systems. The second effect is when employees of transportation and supplier firms spend their wages and make purchases throughout the economy.

The Real Estate and Rental and Leasing sector comprises establishments primarily engaged in renting, leasing, or otherwise allowing the use of tangible or intangible assets, and establishments providing related services.

Real Estate and Rental and Leasing: Industry Jobs Supported by Highway, Street, Bridge, & Transit Investment



*A job-year of employment is defined as employment for one person for one year. Thus, this number will include people whose jobs are supported over multiple years. For example, if a person is hired in this sector and remains in her position for five years, this is counted as five job-years.

Retail Trade

Highway, street, bridge, and transit investment in the Bay Area will support \$6 billion in business output for this industry over the next decade.

This sector currently includes 19,996 establishments that employ 336,236 people in Bay Area, who earn \$15 billion in wages.

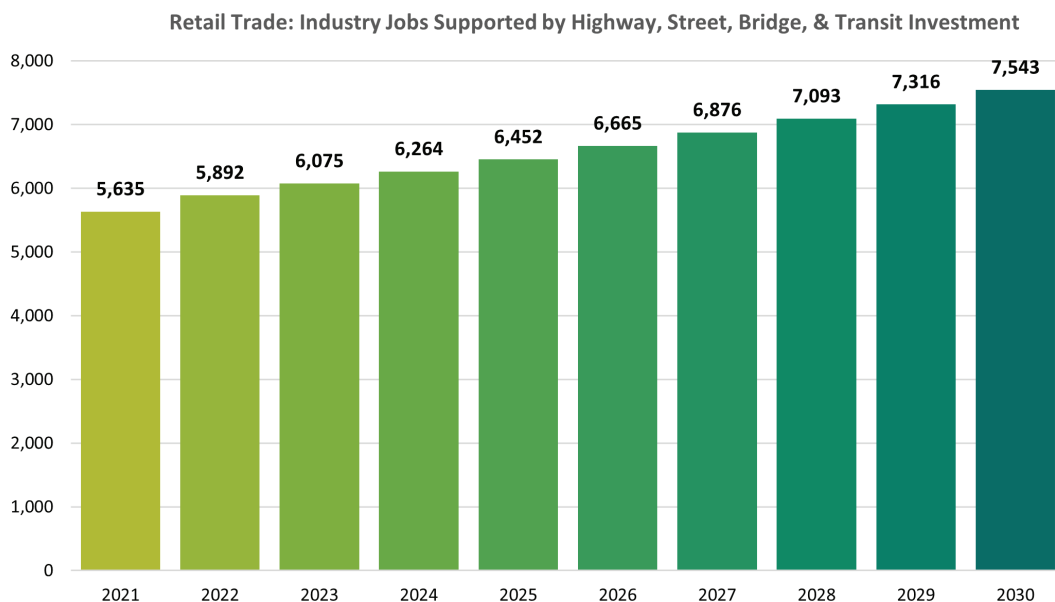
The average annual economic activity supported by highway, street, bridge, and transit investment include:

- \$590.0 million in business output
- \$387.7 million in gross state product (GSP)
- 6,581 jobs either supported or created
- \$282.1 million in federal, state, and local tax revenue

	Average Annual Impact	Total Economic Impact, 10 Years
Business Output	\$590.0 million	\$5.9 billion
GSP	\$387.7 million	\$3.9 billion
Employment	6,581 jobs	65,810 jobs-years*
Payroll	\$202.1 million	\$2.0 billion
Tax Revenue	\$282.1 million	\$2.8 billion

Highway, street, bridge, and transit investment has a positive economic impact on this sector in two ways. The first is through direct purchases from transportation construction firms and suppliers involved in building, maintaining, and operating the area's infrastructure systems. The second effect is when employees of transportation and supplier firms spend their wages and make purchases throughout the economy.

The Retail Trade sector comprises establishments engaged in retailing merchandise, generally without transformation, and rendering services incidental to the sale of merchandise.



*A job-year of employment is defined as employment for one person for one year. Thus, this number will include people whose jobs are supported over multiple years. For example, if a person is hired in this sector and remains in her position for five years, this is counted as five job-years.

Transportation and Warehousing

Highway, street, bridge, and transit investment in the Bay Area will support \$41 billion in business output for this industry over the next decade.

This sector currently includes 4,178 establishments that employ 124,318 people in Bay Area, who earn \$12 billion in wages.

The average annual economic activity supported by highway, street, bridge, and transit investment include:

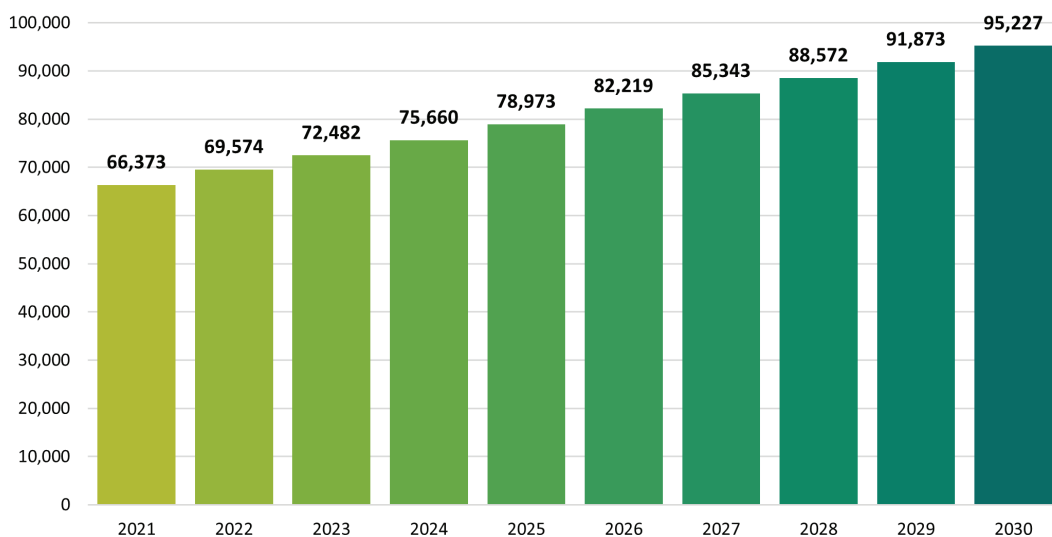
- \$4.1 million in business output
- \$1.9 million in gross state product (GSP)
- 80,630 jobs either supported or created
- \$3.3 million in federal, state, and local tax revenue

	Average Annual Impact	Total Economic Impact, 10 Years
Business Output	\$4.1 billion	\$41.5 billion
GSP	\$1.9 billion	\$18.9 billion
Employment	80,630 jobs	806,298 jobs-years*
Payroll	\$1.6 billion	\$16.1 billion
Tax Revenue	\$3.3 billion	\$32.5 billion

Highway, street, bridge, and transit investment has a positive economic impact on this sector in two ways. The first is through direct purchases from transportation construction firms and suppliers involved in building, maintaining, and operating the area's infrastructure systems. The second effect is when employees of transportation and supplier firms spend their wages and make purchases throughout the economy.

The Transportation and Warehousing sector includes industries providing transportation of passengers and cargo, warehousing and storage for goods, scenic and sightseeing transportation, and support activities related to modes of transportation.

Transportation and Warehousing: Industry Jobs Supported by Highway, Street, Bridge, & Transit Investment



*A job-year of employment is defined as employment for one person for one year. Thus, this number will include people whose jobs are supported over multiple years. For example, if a person is hired in this sector and remains in her position for five years, this is counted as five job-years.

Utilities

Highway, street, bridge, and transit investment in the Bay Area will support \$982 million in business output for this industry over the next decade.

This sector currently includes 236 establishments that employ 16,085 people in Bay Area, who earn \$2 billion in wages.

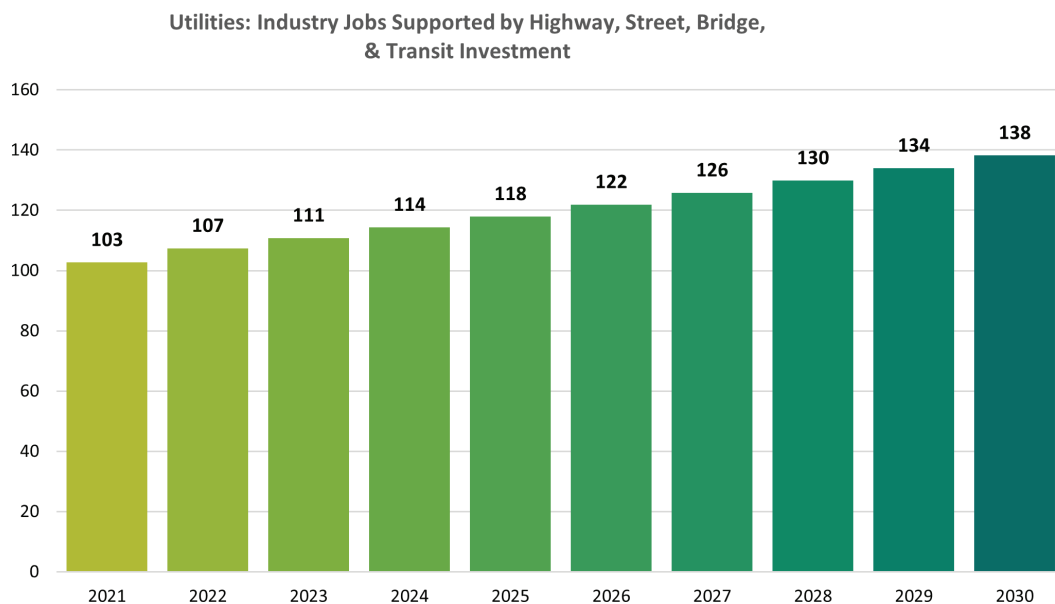
The average annual economic activity supported by highway, street, bridge, and transit investment include:

- \$98.2 million in business output
- \$46.7 million in gross state product (GSP)
- 120 jobs either supported or created
- \$2.5 million in federal, state, and local tax revenue

	Average Annual Impact	Total Economic Impact, 10 Years
Business Output	\$98.2 million	\$981.8 million
GSP	\$46.7 million	\$466.9 million
Employment	120 jobs	1,203 jobs-years*
Payroll	\$14.2 million	\$141.9 million
Tax Revenue	\$2.5 million	\$24.9 million

Highway, street, bridge, and transit investment has a positive economic impact on this sector in two ways. The first is through direct purchases from transportation construction firms and suppliers involved in building, maintaining, and operating the area's infrastructure systems. The second effect is when employees of transportation and supplier firms spend their wages and make purchases throughout the economy.

The Utilities sector comprises establishments engaged in the provision of the following utility services: electric power, natural gas, steam supply, water supply, and sewage removal.



*A job-year of employment is defined as employment for one person for one year. Thus, this number will include people whose jobs are supported over multiple years. For example, if a person is hired in this sector and remains in her position for five years, this is counted as five job-years.

Wholesale Trade

Highway, street, bridge, and transit investment in the Bay Area will support \$6 billion in business output for this industry over the next decade.

This sector currently includes 9,359 establishments that employ 117,491 people in Bay Area, who earn \$12 billion in wages.

The average annual economic activity supported by highway, street, bridge, and transit investment include:

- \$561.4 million in business output
- \$377.2 million in gross state product (GSP)
- 2,378 jobs either supported or created
- \$106.5 million in federal, state, and local tax revenue

	Average Annual Impact	Total Economic Impact, 10 Years
Business Output	\$561.4 million	\$5.6 billion
GSP	\$377.2 million	\$3.8 billion
Employment	2,378 jobs	23,782 jobs-years*
Payroll	\$165.8 million	\$1.7 billion
Tax Revenue	\$106.5 million	\$1.1 billion

Highway, street, bridge, and transit investment has a positive economic impact on this sector in two ways. The first is through direct purchases from transportation construction firms and suppliers involved in building, maintaining, and operating the area's infrastructure systems. The second effect is when employees of transportation and supplier firms spend their wages and make purchases throughout the economy.

The Wholesale Trade sector comprises establishments engaged in wholesaling merchandise, generally without transformation, and rendering services incidental to the sale of merchandise.



*A job-year of employment is defined as employment for one person for one year. Thus, this number will include people whose jobs are supported over multiple years. For example, if a person is hired in this sector and remains in her position for five years, this is counted as five job-years.

Methodology and Sources

This report uses the U.S. Department of Commerce Regional Input–Output Modeling System (RIMS II) and the Federal Highway Administration’s Highway Economic Reporting System (HERS–ST) to quantify short and long–run economic benefits of transportation investment in California. RIMS II is based on input output (I–O) tables. For a given industry, the I–O tables show the industrial distribution of inputs purchased and outputs sold. In this analysis, four separate multipliers specific to California were used to estimate the impacts of highway, street, bridge, and transit construction and non–construction investment.

According to the U.S. Department of Commerce, RIMS multipliers have been used to estimate such things as the regional impact of military base closings, tourist expenditures, new energy facilities, offshore drilling and the opening or closing of manufacturing plants and other facilities. These multipliers are also used frequently to analyze the impact of new construction projects, including transportation construction.

Current investment levels are based on expenditure data from the California state budget, the Federal Highway Administration’s (FHWA) Highway Statistics Series, and the Federal Transit Administration’s (FTA) National Transit Database. Future spending levels are assumed to increase in line with revenue estimates from the California Transportation Commission, the federal–aid surface transportation program, and local government revenues. Breaking the state spending down to the county and regional investment levels is based on a combination of historical spending in each location and planned expenditures in the SHOPP and STIP. Tax revenue estimates are based on historical per employee tax contributions by industry and location for federal, state, and local income, business, corporate, and sales and use taxes, using data from the U.S. Census Bureau and the California Department of Tax and Fee Administration.

The FHWA HERS–ST model is used to estimate highway investment needs for California, using the same modeling techniques as those employed by FHWA when preparing the Needs and Conditions Report on the nation’s transportation infrastructure. HERS–ST selects a set of optimal improvements based on funding constraints over a given time–period to the state roads that are part of the federal aid system. Thus, the results are illustrative, and one example of possible user benefits based on the most optimal investments. All data used in the HERS–ST model is submitted by Caltrans to FHWA as part of the Highway Performance Monitoring System. Benefits are extrapolated to account for additional state and local investment.

Baseline employment and establishment data for each industry is from the U.S. Bureau of Labor Statistics Quarterly Census of Employment and Wages.