



The Essential Role and Benefit of California's Construction and Materials Industry During COVID-19

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CAL
CIMA

California Construction And
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Important Takeaways

- The construction and materials industry is essential to maintain critical infrastructure and preserve access to healthcare and other basic services during times of crisis.
- Classified among the lower risk industries, with stringent safety measures already in place that meet or exceed CDC, state and local requirements, few industries are as well suited or as strongly committed to protecting the health and safety of workers and the public.
- Significant additional protections have been added during the pandemic to increase safety for workers and the public.
- \$26 billion in critical public and private infrastructure projects were able to continue construction safely during COVID-19.
- 750,000 workers were able to continue working safely, earning \$16.5 billion to care for their families and adding a much needed boost to local economies when they needed it most.
- The industry is one of the few essential sectors that touches nearly every revenue stream in the economy.
- Construction and materials employers annually generate \$485 billion in total revenue to support the state and local communities.

Executive Summary

While the battle to thwart the coronavirus hammered most of the economy, costing the state more than one-fifth of its jobs and bringing the economy to its knees, the construction materials supply chain continued uninterrupted – allowing essential healthcare, transportation and affordable housing construction to advance safely and uninterrupted.

of which was funded by SB 1, a recent measure to repair California's crumbling roads and bridges.

No wonder California [declared](#) and later [affirmed](#) that the combined construction and materials industry is a low risk, "essential industry" that should remain operational during the pandemic. In fact, the [Department of Labor COVID-19](#)

[risk analysis](#) classifies construction as low risk, among the safest jobs of all industry sectors.

Few industries are as well suited or as strongly committed to protecting the health and safety of its workers. Safety is a deeply embedded cultural norm across the industry.

Governor Gavin Newsom declared construction projects (both housing and commercial) an essential service, a stance reiterated by L.A. Mayor Eric Garcetti, whose spokesperson Alex Comisar described construction as "essential to the economy." [Los Angeles Times](#).

In the middle of the turmoil, the construction and materials industry emerged as one of the bright spots, quickly implementing added health and safety measures to demonstrate that construction of essential infrastructure can operate safely during the pandemic. Through it all, the value and benefit of California's construction and materials industry has never been demonstrated more clearly – keeping workers safely on the job, sustaining families and essential services while simultaneously propping up the economy with a steady stream of ongoing public and private essential infrastructure projects.

"Safety is job one for our industry," states Gary W. Hambly, President and CEO, California Construction and Industrial Materials Association (CalCIMA). "While there are risks in every industry, our work is unique in that it is typically outdoors where 'social distancing' is built in and worksites are tightly controlled and closed to the general public with extensive safety protocols already in place."

"Safety is job one for our industry."

*Gary W. Hambly, President and CEO
California Construction and Industrial Materials Association*

New and added hospital beds, emergency clinics, field hospitals and COVID-19

wings to serve veterans and our most vulnerable populations were completed safely and in record time. Thousands of miles of roads and highways were built safely and well ahead of schedule. Dams and bridges were repaired.

In fact, during the first five months of the year (January – May 2020), a whopping \$26 billion in state and local building projects were permitted, launched, continued or completed - including \$10 billion in state-wide transportation projects, \$2 billion

In the first weeks of COVID-19 industry employers quickly embraced new protocols, going above and beyond existing measures to protect employees and the public.

The pandemic has also underscored just how critical and interwoven the state's supply chain is to access essential services. A single broken link can easily become a bottleneck that can prevent the entire supply chain from functioning.

Background

In January 2020, the first case of coronavirus was confirmed in the United States, and Health and Human Services Secretary Alex Azar declared a national public health emergency. During the next few weeks a series of federal, state and local government actions and reactions led to a cascade of public health orders closing schools, hotels and restaurants - eventually confining most Californians to the shelter of their homes.

On March 19, 2020, California was the first state to issue a mandatory statewide order restricting all activities, except as needed to maintain continuity of operations of essential critical infrastructure sectors and additional sectors.

On March 22, 2020, California released much-needed guidance listing [“Essential Critical Infrastructure Workers”](#) who are not

These businesses, including California’s construction and materials employers, have detailed strategies to protect their workforce from the spread of COVID-19 while ensuring continuity of operations. California Governor Gavin Newsom has made clear that he is satisfied that the state has “strict workforce efforts” in place to protect its army of construction workers.

“We’re not New York ... and we’re going to do everything we can to bend our curve,” Newsom stated in one of his daily briefings in early April 2020. The Governor argued that there are “very different conditions in the state of California” than in other states and cities, including Boston, that have shut down construction. And he said that in California, “we’ve been working very closely with the building construction trades” to ensure safety for the public.

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required to stay at home, including construction and materials workers critical to create and maintain essential infrastructure such as bridges and roads; building, expanding and repairing hospital infrastructure; building new temporary emergency hospitals and healthcare facilities; and keeping society’s basic services such as water, energy and many others running.

Local governments, cities and counties also issued separate orders, often conflicting and even more restrictive.

Essential workers, based on Department of Homeland Security-designated industries, ensure that the hundreds of millions of people under social distancing or shelter-in-place orders can continued to have access to basic services. They ensure food is on grocery store shelves, clean water comes out of the faucet, the lights turn on, the trash gets picked up, and – critically – roads, highways and hospitals get built so Californians continue to access the health care they need.

Across the industry tough standards were instituted at the outset of the COVID-19 outbreak to protect workers — requiring masks, including taking temperatures at work sites, sterilizing tools and equipment, staggering work schedules, lunches and breaks, implementing strict measures to discourage gatherings and mandating strict social distancing.

“We’ve trained our people to work in the Borax mines, in tunnels underneath the Bay ... and we build 80-story skyscrapers without losing a worker — or even a serious injury,” Robbie Hunter, President of the State Building and Construction Trades Council of California, told POLITICO. “We are used to serious training for different scenarios — and we have applied everything we’ve got on this.”



Sacramento Mayor Darrell Steinberg, minutes after touring a construction site at the Sacramento Convention Center with Hunter, shared with the same publication that he witnessed “strict protocols” in place. “We have to do whatever we can to keep the economy going, while never jeopardizing public health and safety,” he said, adding that sites that are too crowded or close to the public will be shut down.

Governor Newsom has applauded building trade leaders “for their strict workforce efforts ... making sure their members are protecting their community, and those that they serve.”

Dan C. Dunmoyer, president of the California Building Industry Association, has also echoed the need to keep construction moving telling the Los Angeles Times, “You can’t shelter in place with no shelter.”

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With construction allowed to continue, and streets empty due to shelter in place orders, officials across the state seized an opportunity too serendipitous to pass up. Roads were paved, bridges were repaired and highways were constructed in record time.

In Los Angeles, crews resurfaced a crucial half-mile stretch of road in two day – less than half the time it would normally take, and without the traffic congestion it would otherwise cause.

Labor officials agreed. “Construction sites aren’t like office buildings,” said Ron Miller, executive secretary of the Los Angeles/Orange Counties Building and Construction Trades Council. Members “are not working on top of each other in cubicles.”

An essential industry

The construction and materials workforce is essential to battling the pandemic - constructing, repairing, and maintaining facilities that are critical to Californians, such as hospitals, communications systems and utility operations. Further, the industry is vital to ensuring that homes, schools and businesses do not fall into a state of disrepair so life can resume with some sense of normalcy once restrictions begin to lift.

The combined construction and materials sector is one of the few industries that actually touch just about every revenue stream in the economy. It is California's fifth largest industry, accounting for more than 5% of the state's total economy. To shut it down would be devastating for essential infrastructure services as well as multiple other sectors across the economy.

First and foremost, the industry helps keep people healthy and safe, ensuring access to essential services, repairing roads and bridges and helping to address the need for housing.

operating. And also why California Governor Newsom issued [California Executive Order N-33-20](#), which clarifies that construction is an essential business in California.

The State Public Health Officer issued important updates to the list of ["Essential Critical Infrastructure Workers"](#) directly addressing the essential nature of the construction materials industry, specifically confirming that:

- Essential Workforce for Public Works **includes construction materials suppliers**; and
- Essential Workforce for Community-Based Government Operations and Essential Functions **include workers who provide services related to construction materials sources.**

On March 28, 2020, CISA issued an Advisory Memorandum specifically identifying an "Essential Critical Infrastructure Workforce" list, including "workers necessary for mining" as members of the "Essential Critical Infrastructure Workforce".



The California Department of Public Health [provided further guidance on the state's COVID-19 Response website](#) which clarifies that the Governor's shelter in place order includes activities that are "needed to maintain the federal critical infrastructure sectors, critical government services, schools, childcare, and construction, including housing construction." (Emphasis added.)

This additional guidance helps ensure that construction materials and products such as aggregates (sand, gravel, and crushed stone) and ready-mix concrete continue to

be manufactured for and delivered to road and highway, public infrastructure, healthcare and housing projects, in addition to many among others.

This all helps explain why the U.S. Department of Homeland Security's Cybersecurity & Infrastructure Security Agency (CISA) has identified construction as one of the sectors it encourages state and local officials to allow to continue

Jobs classified as low risk

Quarries, concrete plants and construction work sites are inherently tightly controlled environments where work is conducted under the strictest health and safety protocols to prioritize the safety of workers. For these reasons, the industry is placed in the [low risk of transmission](#) range according to [classification criteria](#) issued by the Department of Occupational Safety and Health Administration (OSHA).

OSHA considers construction a lower-risk industry when workers perform their tasks more than 6 feet apart and a medium-risk industry when workers must maintain less than 6 feet of distance between each other in order to carry out their duties.

Leveraging data from the Occupational Information Network, global publishers Visual Capitalist created a chart, Appendix 1, to demonstrate which occupations face the highest and lowest risk of exposure to COVID-19.

“Construction Laborer” (shown in the lower left hand corner of the chart, nearest “Secretaries” and Delivery Truck Drivers”) scored among the lower risk occupations.

The [Occupational Information Network](#) is an online database of worker and occupational attributes that succeeds the U.S. Department of Labor’s (DOL) Dictionary of Occupational Titles (DOT) as the primary source of information for occupations in the U.S. economy.

The results are based on an evaluation of the data on three physical job attributes covered in the occupational database: contact with others, physical proximity and potential exposure to disease and infection.



Global consulting firm McKinsey & Company also evaluated the various work environments for risk during the pandemic and concluded [construction is among the lowest risk categories](#). They based their analysis on the proximity of potential exposure and the extent of the potential exposure.

Where tracked and reported at the county level in California, incidence of COVID-19 in the industry is among the lowest. Monterey County is one such county, tracking and reporting [incidence by employment industry](#) since March 17, 2020. There, the incidence rate among “craftsman, construction workers and other skilled labor” is the lowest of the total cases reported as of June 20, 2020, Exhibit 2.

Concerned that a higher percentage of essential workers were getting sick because they were going to work, New York Governor Andrew Cuomo ordered a survey of hospitalized New York coronavirus patients. The study of 1,269 patient respondents at 113 hospitals revealed that the majority of people being admitted to hospitals with the virus were not essential workers.

The Wall Street Journal published results of the survey on May 6, 2020, including findings that only 17% of New York coronavirus patients were actually working, compared with 37% who were retired and 46% who were unemployed. Sixty-six percent of patients said they were at home before they were admitted to the hospital, compared with 18% who had been in nursing homes, 4% from assisted-living facilities and less than 1% from prisons.

“More than 80 percent were not even working outside the home, which means that most of them probably got the disease from someone in the household.” Sen. Steve Glazer (D-Orinda) explained, commenting on the published survey results in a [June 9, 2020 opinion piece](#) in the Sacramento Bee.

Employment Industry	Incident Cases	Change	% of Total Cases ▼
Agriculture	541	4	37.47%
Unknown or Under Investigation	256	-2	17.73%
Retired or Unemployed	150	2	10.39%
Educational and Child Care Setting	124	1	8.59%
Other	93	4	6.44%
Health Care, Dental Care & First Responders	86	2	5.96%
Office, Management, Sales, or Retail	69	2	4.78%
Food Service	58	1	4.02%
Professional, Technical, and Related Professions	37	1	2.56%
Craftsman, Construction Workers & Other Skilled Labor	30	0	2.08%

Source: Monterey County COVID-19 report as of June 25, 2020

*Self-reported information. Does not indicate exposure occurred at work.

Enhanced protocols protect industry workers and public



While COVID-19 brings new complexity to the work environment, few industries are as well suited as the construction and materials industry to continue operating safely during any crisis. The industry is driven by a collective and continuous commitment by leaders, managers and workers to prioritize and emphasize safety over competing goals, with wide-reaching safety policies and practices built into operations.

Even so, during the pandemic, industry employers implemented new protocols and additional enhancements to operations.



As part of Site-Specific Safety Plans, employers have implemented additional health and safety guidance from the Centers for Disease Control and Prevention (CDC) as well as new COVID-19 directives from state and local public health authorities.

Mandatory face covers, distancing on job sites, one person per piece of equipment per day and enhanced cleaning measures quickly became the new norm. Enhanced protocols were added to ongoing safety training already required by the [California Division of Occupational Safety and Health Administration \(Cal/OSHA\)](#) and other regulators.

Group practices were eliminated. Huddling together for a safety meeting, sharing iPads and carpooling to work were some of the first common practices to be reimagined. Where appropriate, clear plexiglass barricades and signs were posted alerting

Few industries are as well suited as the construction and materials industry to continue operating safely during any crisis.

Safety has been deeply ingrained in the industry over many decades. Companies are accustomed to following complex and ever-changing regulatory rules, continuously seeking out more and better ways to keep workers safe.

customers of ways to protect themselves from COVID-19, including frequent hand washing, social distancing and covering coughs and sneezes. Even handling of paper delivery tickets changed to electronic means where possible.

Health & safety guidelines, best practices and resources

The [Occupational Safety and Health Act](#) requires construction employers to provide a safe and healthy workplace. For COVID-19, OSHA provides specific guidance for the [Construction Workforce](#), and a webpage specifically devoted to [construction work](#). These address risk levels, engineering and administrative controls, including screening tools, training, safe work practices, personal protective equipment, and how to implement the safety practices. It also specifically includes control and prevention for [“Workers and Employers of Workers at Lower Risk of Exposure.”](#)

In addition, the Centers for Disease Control (CDC) developed specific requirements for [“Implementing Safety Practices for Critical Infrastructure Workers Who May Have Had Exposure to a Person with Suspected or Confirmed COVID-19.”](#) The CDC also has a specific webpage and guidance directed to suppliers of [construction materials](#).

Importantly, all construction companies are required to have a [COVID-19 Exposure Prevention, Preparedness and Response Plan](#) that follows [Cal/OSHA](#) and [CDC](#) guidance, which includes control

For instance, several [Bay Area Counties](#) have specific requirements for COVID-19 safety at large and small construction projects. This includes Site-Specific Health and Safety Plans and a third-party COVID-19 Safety Compliance Officer to ensure practices are implemented, screening conducted, personnel trained, and with the authority to shut down projects.

Guidance continues to evolve. Updates issued by Cal/OSHA during the pandemic include [emergency temporary guidance](#) for standards that require medical surveillance amid COVID-19. This includes a substance-by-substance table on health surveillance exams and requirements for potential workplace exposures. In early June 2020, the National Institute for Occupational Safety & Health at the CDC issued [new guidance for operations to protect employees from COVID-19](#), including two new pamphlets, one for healthy miners and one for miners with underlying health conditions.

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measures, symptom checking, social distancing, hygiene and decontamination procedures, and training. This includes specific information on updating Injury and Illness Prevention Plans (IIPP), which are a specific requirement to California’s safety and health regulatory structure. California’s Department of Public Health’s [guidance](#) for construction also includes specific guidance and a [checklist](#).

These address worksite plans, training topics, screening and individual control measures, cleaning, and physical distancing protocols.

In addition, specific regions and counties in California have developed their own requirements in regard to construction.

The Construction Industry Safety Coalition, made up of 27 trade associations, representing associations from all sectors of the construction industry, including commercial building, heavy industrial production, home building, road repair, specialty trade contractors and material suppliers, recently released an updated [COVID-19 Prevention, Preparedness and Response Plan for Construction](#) which includes the latest protective measures and guidance for keeping workers safe on jobsites.

Based on best practices shared by employers in critical industries, [CalCIMA](#), a trade association for the construction and industrial materials producers, assembled a compilation of safety protocols that provide guidance and suggestions to strengthen already stringent health and [safety measures for members](#). The Association includes about 70 aggregate, industrial mineral and ready-mix concrete producers with over 500 production sites located in every county of California.

The Associated General Contractors (AGC) of America and AGC of California have both shared COVID-19 resources for members. The AGC of America [website](#) offers guidelines, resources and outlines the many steps the construction industry takes to protect construction workers and the public from the spread of the coronavirus.

Emphasizing the critical need for contractors to fully implement the latest coronavirus-related safety measures at all jobsites, AGC also published a [Sample Plan for COVID-19 Exposure, Prevention, Preparedness, and Response](#) which outlines the steps that every construction employer and employee can take to reduce the risk of exposure to COVID-19,

The National Center for Construction Research and Training and the North American Building Trades Unions issued a set of [standards](#) employers should implement as part of their COVID-19 exposure control plan on all job sites, including steps workers should take, special guidance for older workers and people with underlying health conditions, and a series of additional resource links.

United Contractors (UCON), a construction trade association in California, created special [COVID-19 website](#) to provide information, guidance and toolkits to support the industry's public health and safety efforts. The page is frequently updated with industry-relevant information related to COVID-19.

UCON has also published a series of COVID-19 site specific safety templates for utilization on jobsites throughout California,

including Bay Area contractors to help ensure that their jobsites are in compliance with the specific requirements mandated in the most recent County Public Health Officer Orders for Large and Small Construction Project Safety Protocols.

In partnership with the Construction Industry Safety Coalition (CISC), the American Road and Transportation Builders Association published a [“COVID-19 Checklist for Transportation Construction Employees and Employers”](#) that includes important public health and safety precautions.

It has taken flexibility, patience and significant effort to implement evolving regulations related to COVID-19, however construction and materials companies have always prioritized health and safety. The pandemic has not changed that commitment or approach.

USEFUL RESOURCE LINKS:

- [What Construction Workers Need to Know about COVID-19](#)
- [CDC Interim Guidance for Businesses and Employers to Plan and Respond to Coronavirus Disease 2019](#)
- [CalCIMA Industry Health and Safety Best Practice Examples](#)
- [National Institute for Occupational Safety and Health COVID-19 Workplace Safety and Health Topic](#)
- [CDC COVID-19](#)
- [Cal/OSHA COVID-19](#)
- [Center for Construction Research and Training and North America's Building Trade Unions: COVID-19 Standards for Construction Sites](#)



Jobs and wages essential to local economies

Keeping the construction and materials industry working during the pandemic facilitated ongoing payroll valued at more than \$6 billion per month which mitigated the burden of a massive volume of unemployment insurance payments to those in the sector during unprecedented unemployment levels in California.

In several rural metropolitan statistical areas (MSA) the average income for construction and materials workers was significantly higher than the regional average for all industries combined.

Table 1


Construction and Materials Industry Payroll - Largest MSA Payroll

Region	Total Payroll	Avg. Income
Los Angeles-Long Beach-Anaheim	\$22,636,103,680	\$62,689
San Francisco-Oakland-San Rafael	\$13,453,599,744	\$83,503
Riverside-San Bernardino	\$7,767,579,648	\$55,030
San Diego-Carlsbad	\$5,971,715,584	\$55,664
San Jose-Sunnyvale-Santa Clara	\$5,387,149,312	\$82,902
Sacramento-Arden-Roseville	\$5,124,590,080	\$63,403
	\$60,340,738,048	\$67,199

Source: *Applied Development Economics, 2016*

Construction and materials industry workers in California earn \$75.4 billion annually, equivalent to an average industry payroll of \$6.3 billion per month. Table 1 shows the regions in the state with the largest annual payroll to construction and materials industry workers. The average income per worker within the sector among these regions is \$67,199.

Every job created in the construction and materials industry results in another 1.40 jobs in other industries, [according to the economic impact report](#) prepared for CalCIMA by Applied Development Economics (ADE). A research and data firm based in Sacramento and Lafayette, California, ADE uses state of the art tools to evaluate fiscal and economic impacts.



California will not reach its housing goals if the industry were to be shut down, even if for a short time.

Real revenue benefits for state and local communities

During the most recent comprehensive analysis in 2016, construction and materials industry employers paid nearly half a billion dollars (\$494 million) in federal, state and local taxes, providing local governments the needed revenue to repair roads, develop schools and improve public services.

In addition to tax revenues, a ready supply of affordable, local construction materials increases the likelihood of building, reduces the cost of new development of affordable housing and helps reduce consumer costs, road wear and tear, and traffic congestion as well as lowering emissions and greenhouse gases in California. Such important outcomes are closely aligned with those of Governor Gavin Newsom who has made development of affordable housing units in the state one of his [top priorities](#).

The state budget signed in June of 2019 made a historic \$1.75 billion investment in new housing and created major incentives for cities to approve new home construction with emphasis on

affordable housing. Later that fall, Newsom signed 18 bills into law designed to help jumpstart housing production, including SB 330, major legislation aimed at removing local barriers to housing construction and speeding up new development.

Major progress was made in the planning process with many housing development projects started - even more continue to be processed. California will not reach its housing goals if the industry were to be shut down, even if for a short time.

The value of the aforementioned benefits for residents, businesses and government agencies is significant and essential to the economy, livelihood and quality of life for local residents across California.

\$10 billion in essential public infrastructure

The landmark SB 1 transportation infrastructure legislation is delivering undeniably [positive impacts](#) for Californians at a time when it's needed most. Over the first five months of 2020, during the pandemic, \$2 billion of SB 1 funding over 733 contracts has generated an estimated 130,000 jobs (every \$1 billion invested in transportation infrastructure [supports 13,000 jobs a year](#) according to the Council of Economic Advisors).

During the period from January 1 through May, the coronavirus crisis, with all of its gruesome implications, created one good thing: nearly empty roads. The rare situation provided a unique opportunity to accelerate rebuilding California's essential infrastructure. Traffic has been down 36 percent on average in urban areas across the state since the March 19 shelter-in-place order, Matt Rocco, a Caltrans spokesman, told the Sacramento Bee.

With traffic reduced substantially, contractors were able to work during the day instead of at night, extending work hours

and closing longer stretches of road at a time under temporary agreements with Caltrans and local agencies.

Similar changes have been applied to projects around the state. "It's great to see infrastructure projects moving toward completion in less time and with fewer impacts," CalCIMA's Hambly said.

For example, a project by Teichert Construction to build truck scales near Sacramento, which would normally back up traffic on Interstate 80, was on track to be finished weeks ahead of schedule.

All across California, SB 1 infrastructure funding put people to work and kept them working during the pandemic to advance critical infrastructure, highways, local roads and bridges more efficiently than ever - keeping the economic benefits flowing while saving taxpayer dollars as many projects finished ahead of schedule and below budget.



A \$16 billion boost to local economies

A largely uninterrupted supply chain of materials delivered an impressive \$16 billion boost to the economy in terms of private building construction activity during the pandemic, helping to better position the state for recovery.

The private building construction category includes development of single family and multi-family residential units, industrial buildings (e.g., logistics warehouses, manufacturing facilities), and a wide range of commercial buildings such as offices, service stations, retail stores, churches and hospitals.

As shown in detail in Table 2 below, during the period from January 1 to April 30, 2020, the construction and materials industry in California enabled companies and investors to start and/or continue work on 30,647 new housing units valued at \$9 billion, including 14,121 apartment and/or condominium units, and start and/or continue work on \$7.2 billion worth of industrial and commercial development projects. The total valuation for private building construction during the period was \$16.2 billion.



Table 2

California Private Sector Building Construction Activity: January 1 - April 30, 2020

Category	Jan-20	Feb-20	Mar-20	Apr-20	Total
New Housing Units Permitted					
Single Family Units	4,927	5,253	3,862	2,484	16,526
Multi-Family Units:	4,267	3,188	3,767	2,899	14,121
Total New Housing Units	9,194	8,441	7,629	5,383	30,647
Building Permit Valuations					
Residential Building					
Single Family Structures	\$1,408,845,278	\$1,493,300,104	\$1,107,600,723	\$702,419,447	\$4,712,165,552
Multi-Family Structures	\$1,379,551,843	\$1,133,681,675	\$991,693,431	\$764,339,574	\$4,269,266,523
Total Residential Building	\$2,788,397,121	\$2,626,981,779	\$2,099,294,154	\$1,466,759,021	\$8,981,432,075
Private Non-Residential Building					
New Industrial Buildings	\$88,401,625	\$88,398,899	\$33,962,337	\$5,362,305	\$216,125,166
New Commercial Buildings	\$2,016,144,032	\$1,913,925,300	\$1,678,783,752	\$1,402,242,667	\$7,011,095,751
Total Non-Residential	\$2,104,545,657	\$2,002,324,199	\$1,712,746,089	\$1,407,604,972	\$7,227,220,917
Total Building Construction	\$4,892,942,778	\$4,629,305,978	\$3,812,040,243	\$2,874,363,993	\$16,208,652,992

Source: Construction Industry Research Board, 2020

An economic engine to fuel recovery

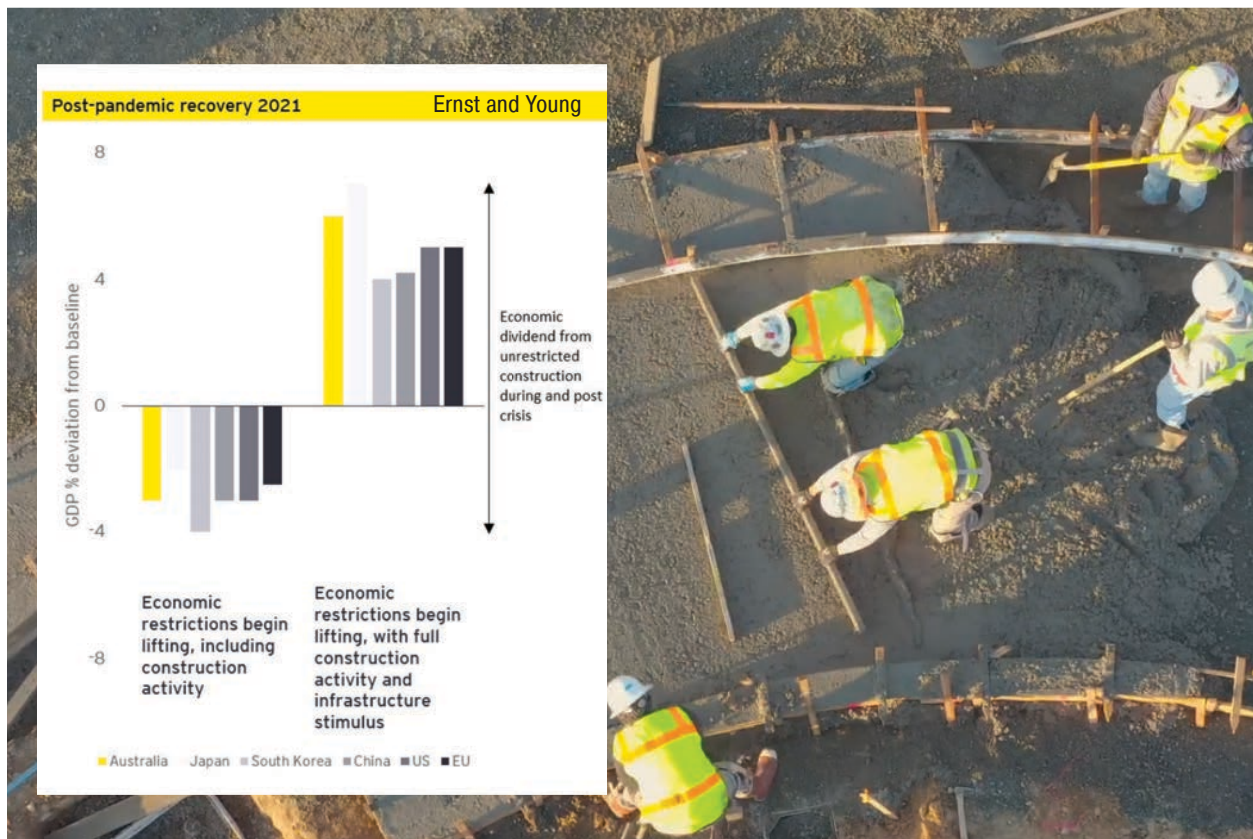
The construction and materials industry is essential to economic stability as well as an instrumental engine in the reactivation of local economies post pandemic. The industry supports and supplies dozens of subsectors of the economy, touching nearly every other industry.

Every year there is roughly \$10 trillion in construction-related spending globally, equivalent to 13% of the world's gross domestic product (GDP). The sector employs 7% of the world's working population, making construction and materials one of the largest sectors in the world.

In California, the construction and materials industry is a leading driver of the statewide economy. As the state's fifth largest industry generating 5% of the state's economic output,

the construction and materials sector creates well-paying jobs for residents, generates revenue for local jurisdictions and provides essential benefits to all. The materials sector supplies the sand, gravel and crushed stone, concrete and asphalt needed for local construction. Millions of tons of construction materials are required to build and maintain our infrastructure, including roads, homes, buildings, schools and public works.

The direct and indirect impacts of the construction and materials industry, while not often publicly reported, are enormous. Especially, during this unprecedented time of the COVID-19 pandemic, essential construction and materials employers are providing a critical level of support to jobs and a wide range of other positive impacts to the California economy.



Essential workers drive local economies

While the coronavirus crisis has had an extremely negative effect on all sectors of the economy across the country, including construction and materials, those working in states with government-mandated construction job shutdowns, have been especially hard hit. A look at government employment statistics and jobsite construction activity pinpoints the states that have been most impacted.

While the most recent data from the Bureau of Labor Statistics shows deep construction job losses across the country since the start of the coronavirus pandemic, some states, including Michigan, Pennsylvania and Vermont, experienced all-time lows, attributed to state-imposed limits on construction.

safety guidelines and regulations, job losses were limited to a decrease of 15.1%, according to the U.S. Bureau of Labor Statistics (BLS), keeping a total of roughly 750,000 jobs in the sector intact. If not for the severe limitations imposed in the San Francisco/Bay Area, the loss of jobs could have been even lower.

Where allowed to continue uninterrupted, the construction and materials industry is an engine helping to drive a post-pandemic economy, vital to fortifying medium and long-term economic growth and development.

In the [San Francisco-Oakland/San Rafael](#) region construction and materials companies are leading drivers of the regional



Nearly all of the 10 most impacted job loss states were those that had severe statewide government shutdown orders that included construction, or in the case of Massachusetts, a shutdown order in Boston and other major cities. The state of New York experienced the largest reduction of construction jobs from March to April, experiencing a 41% decrease in that sector for a total loss of 166,200 construction jobs.

Fortunately, in California, where the construction and materials sector was declared essential and able to continue with strict

economy, creating well-paying jobs for residents, generating revenue for local jurisdictions and providing essential benefits to all. The industry typically generates \$33.3 billion in total economic output annually in this region. That's 4.5% of the region's total economic output and the second highest output for the sector among all regions in California. Shutting down construction in the Bay Area Counties hit the local communities hard. And the impact is significant.

A closer look at regional consequences to work stoppages

The consequences of construction work stoppages at any time during the current health crisis would be devastating, the negative impact reverberating through the economy at a time when the unemployment system is already being stressed. As a pillar of local economies, taking out construction and materials would cripple already fragile local communities throughout the state.

The combined construction and materials industry generates \$210 billion in total annual economic output in California or the equivalent of \$17.5 billion per month according to a regional [economic impact study](#) prepared for CalCIMA by economists at ADE.

According to the ADE regional industry impact study, in the California MSAs where construction and materials are most prolific, the industry is responsible for roughly 5.5% of the total economic output of their respective regions, Table 3.

In growing regions such as [Riverside-San Bernardino](#) (8.6% of regional GDP) and [Sacramento-Arden-Roseville](#) (7.2%) the impacts are especially impressive and critical. For the state as a whole, construction and materials accounts for 5% of GDP.

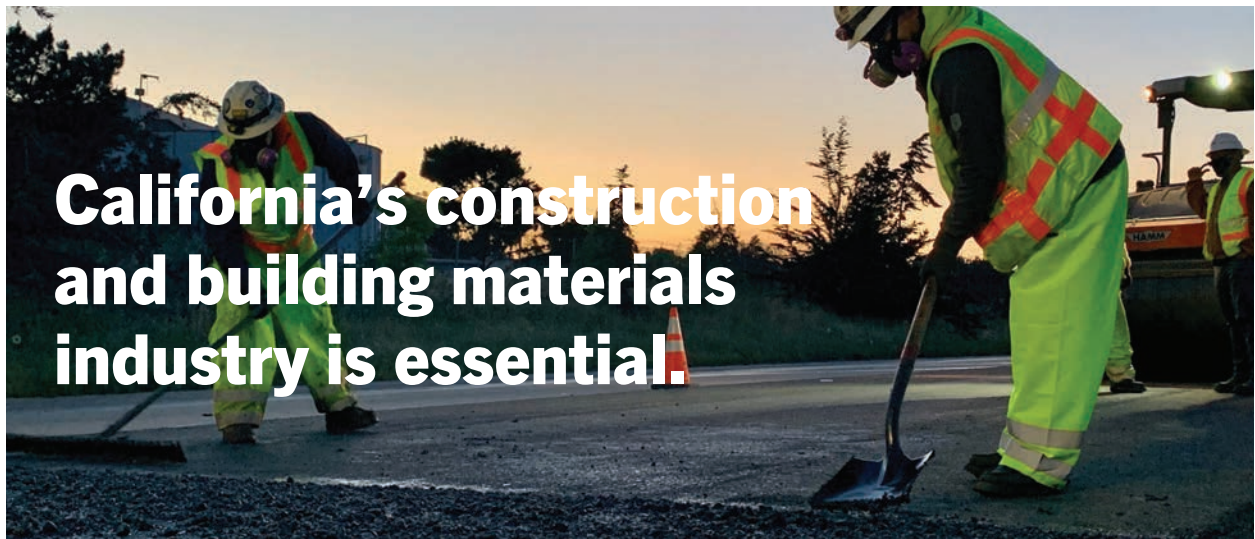
In several smaller regions, the industry accounts for more than 8% of their total economic activity. Examples include the San Luis Obispo-Paso Robles (9%), [Santa Cruz-Watsonville](#) (8.8%) and [Santa Rosa](#) (8.3%) MSAs.

Table 3

Construction and Materials Industry Output - Largest MSA Impacts

Region	Total Output	% of Output
Los Angeles-Long Beach-Anaheim	\$63,991,455,744	4.20%
San Francisco-Oakland-San Rafael	\$33,320,503,296	4.50%
Riverside-San Bernardino	\$24,082,503,680	8.60%
San Diego-Carlsbad	\$18,057,197,568	5.10%
Sacramento-Arden-Roseville	\$14,302,329,856	7.20%
San Jose-Sunnyvale-Santa Clara	\$13,345,266,688	3.20%
	\$167,099,256,832	5.47%





Conclusion

In a few short months, the COVID-19 pandemic changed everything about how we live and work in California.

In the process, the critical role and benefit of California's construction materials industry has been highlighted, demonstrating the ability of the industry to work safely, efficiently and responsibly, helping to support the re-opening of local communities.

As a result, more than \$26 billion in public and private construction was able to move forward, keeping 750,000 essential workers on the job and generating much needed revenue and spending for local communities. The promise of California's SB 1 public transportation funding was also fulfilled,

with \$2 billion of ongoing investment in 733 ongoing public infrastructure projects, creating 130,000 critically needed new jobs at the time local communities need it most.

Allowing construction and materials to continue uninterrupted as essential infrastructure businesses, while strictly adhering to the recommendations of state and federal health officials, means that residents across the state will continue to receive necessary goods, services, and support during the COVID-19 pandemic and beyond.

It's clear, in good times and in bad, California's construction and building materials industry is essential.

Appendix I:

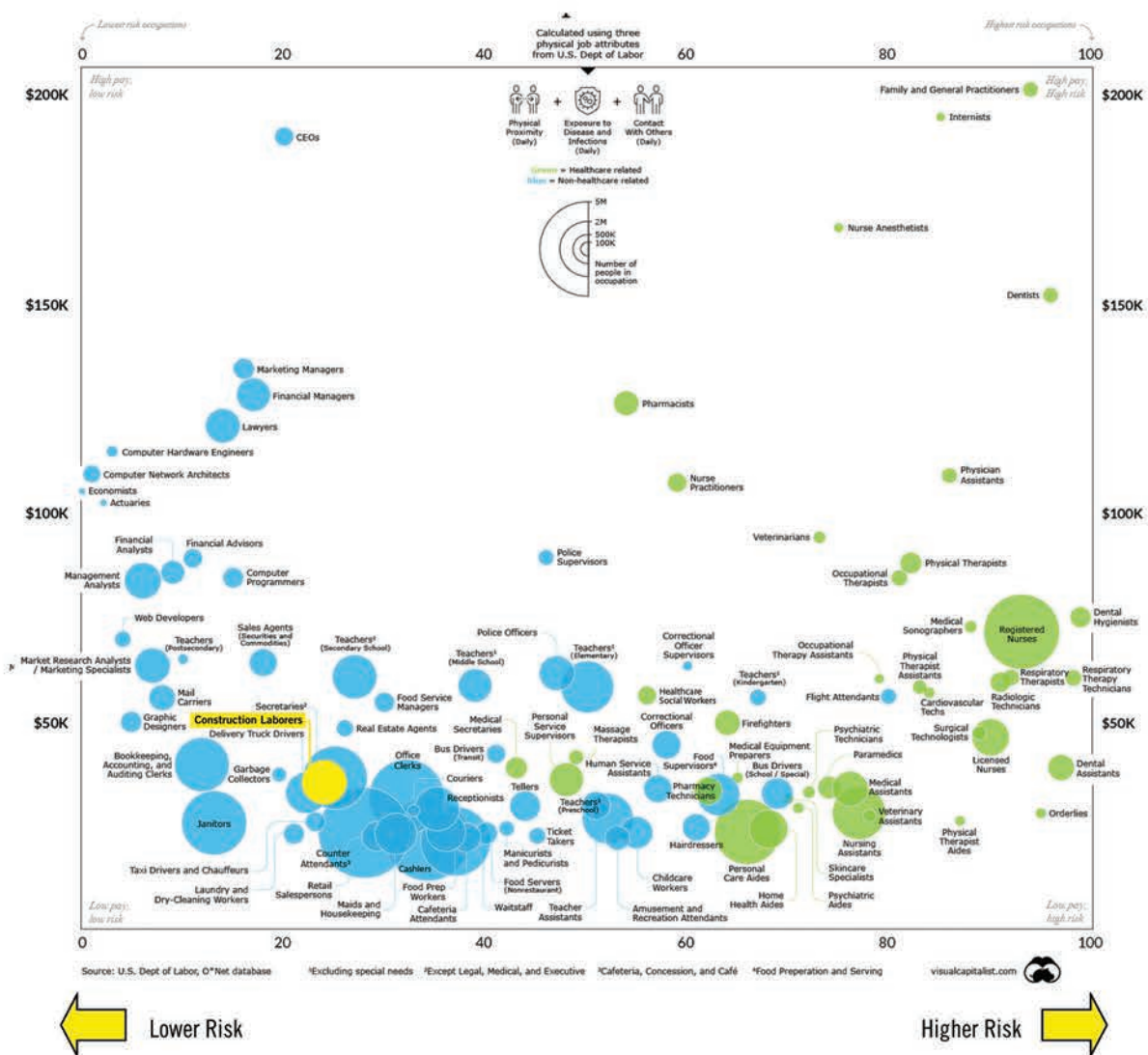
COVID-19 Occupational Risk Score

Leveraging data from the Occupational Information Network to determine which occupations face the highest risk of exposure to COVID-19, global publishers Visual Capitalist analyzed various job categories to identify the occupations with the highest COVID-19 risk based on evaluating the data on three physical job attributes covered in the occupational database: contact with others, physical proximity and exposure to disease and infection.

Construction was identified as among the lower risk occupational categories – see lower left hand corner where “Construction Laborer” is highlighted, shown adjacent to “Secretaries” and “Delivery Truck Driver” occupations.

Each attribute was assigned an equal weight, then aggregated to arrive at a final COVID-19 Risk Score between 0 and 100, with 100 representing the highest possible risk. Jobs with a risk score below 0.5 were excluded from further analysis.

To narrow down the list, most occupations held by fewer than 20,000 people were removed from the list. From the remaining pool, 100 well-known occupations were analyzed, including the average annual income and number of workers associated with each based on Bureau of Labor Statistics data.



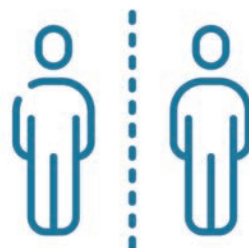
CALIFORNIA'S CONSTRUCTION AND MATERIALS INDUSTRY **HEALTH AND SAFETY IS JOB ONE**

The health and safety of employees is the number one priority for construction and materials companies. The measures outlined in many of the guidelines issued during the pandemic are things that construction and materials companies are already doing. As a result, the industry is one of the essential sectors with the ability to operate relatively safely during the health crisis.

During COVID-19, existing safety policies and practices have been enhanced to incorporate special protocols designed to protect employees and the public and to maintain compliance with new health regulations and guidelines. Companies also continuously assess hazards and apply strategies as needed to reduce risk.

COMPREHENSIVE SAFETY POLICIES AND PRACTICES ALREADY IN PLACE

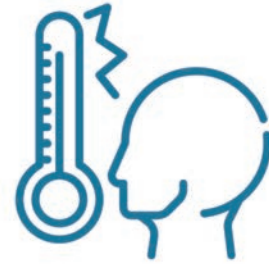
- ❖ Hard hats, safety vests, gloves, and respiratory controls and protections are mandated.
- ❖ Face masks or respirators required for many tasks and worksites.
- ❖ Tight regulatory controls to ensure respiratory protection and control of dust (silica) for both mining and construction - screening, monitoring, and protective equipment; specific exposure and actions levels and exposure control plans to minimize exposures of airborne contaminants.
- ❖ Workers are empowered to develop safe work areas and plans as well as to identify and report safety concerns.
- ❖ New employee hires typically are required to complete 24 hours of extensive safety and health training within the first 90 days of employment.
- ❖ All miners are required to receive a minimum of 8 hours of refresher safety training annually. Most mining operations provide double or triple that amount of training.
- ❖ Companies routinely have daily pre-shift safety talks (tail gates).
- ❖ All areas where work will be performed must be examined (inspected) prior to the start of the shift or before work can begin.
- ❖ There is also worksite specific training (required for anyone on a mine site).
- ❖ All contractors, vendors and visitors (including company employees who do not work at that particular mining operation) are required to receive site-specific hazard awareness training prior to entering the mine.
- ❖ Safe job procedures are developed and implemented based on each job/task analysis.
- ❖ All employees are required to complete task training specific to the equipment they will operate or task they will perform.
- ❖ Ongoing safety performance is tracked, measured and reported.



SAFETY MEASURES ADDED TO EXPAND PROTECTIONS DURING PANDEMIC

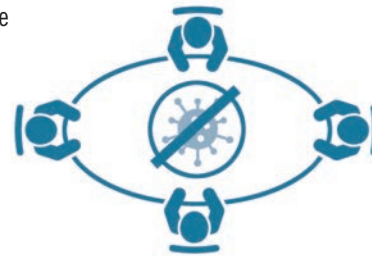
A compilation of best practices, added safety measures and policies undertaken during COVID-19 by CalCIMA member companies is available at calcima.org. A few examples are listed below:

- ❖ Face masks and physical-distancing required for all employees in all areas.
- ❖ Cleaning/sanitizing workstations and equipment between shifts.
- ❖ Employees, contractors and customers are educated and informed regarding how to recognize symptoms of the virus and preventive measures to use.
- ❖ Screening employees (and subcontractors) and visitors for COVID-19 symptoms.
- ❖ Notices/posters at entry points advising employees and visitors not to enter if they have pandemic-related disease symptoms. Also, encouraging staying home when sick, cough and sneeze etiquette, and hand hygiene at entrances and in other workplace areas.
- ❖ No-travel and work-from-home policies were also adopted early on in most companies and are now in place across the board for non-essential and administrative workers.
- ❖ Extensive sanitization measures employed in the office, plant facilities and vehicles, including for heavy equipment.
- ❖ Physical distancing and/or video conferencing for daily pre-shift safety talks (tail gates).
- ❖ Online conferencing platforms replaced in-person meetings.
- ❖ Clean surfaces of construction equipment (pavers, end loader, rollers, cranes, etc.) and service/fleet vehicles (including steering wheel, gear shift, instrument panels, etc.) at beginning and end of shifts, or between users. Use aerosol sanitizers inside closed cabs.
- ❖ Some companies are limiting equipment use to one worker per piece of equipment per day. Others are no longer allow carpooling.
- ❖ Some employers have implemented daily temperature checks, symptom checklists and instructions for employees to stay home if they or a family member is feeling sick.
- ❖ Posters, flyers and electronic messages to inform and reinforce the importance of measures to stop the spread of the virus.
- ❖ COVID-19 Exposure Prevention, Preparedness and Response Plans in place.



CULTURE OF SAFETY

- ✦ Few industries are as well suited to protect workers as the construction and materials industry where the safety culture is strong, driven by a collective and continuous commitment by industry leaders, managers and workers to prioritize and emphasize safety over competing goals.
- ✦ Designated safety officers monitor and track performance, oversee safety reviews and activities and guide implementation of ongoing updates to strengthen policies and practices.
- ✦ Incentives and rewards are offered for ongoing performance improvement.
- ✦ Safety records are tracked and reported, including efforts to eliminate or mitigate hazards through substitution, engineering and administrative controls and personal protection equipment.
- ✦ Safety committees and regular safety meetings are ongoing.



ONGOING MULTI-LAYERED REGULATORY OVERSIGHT AND PUBLIC HEALTH GUIDANCE

There are multiple agencies that have provided frequent updates and directives during the pandemic as well as ongoing guidance to emphasize certain mining or construction hazards or trends, alerts on hazards, reminders on safe practices, and extensive analysis on actual accidents. Many of these same agencies also require regularly scheduled and mandated inspections (3x/yr. for mines; 6x/yr. for tunnel construction) as well as for hazard or complaint driven inspections.

- | | |
|---|--|
| ✦ Centers for Disease Control and Prevention (CDC) | ✦ Federal Occupational Safety and Health Administration (OSHA) |
| ✦ California Department of Public Health (CDPH) | ✦ Mine Safety and Health Administration (MSHA) |
| ✦ California Occupational Safety and Health Administration (CalOSHA) | ✦ Department of Transportation/Federal Motor Carrier Safety Administration (DOT/FMCSA) |
| ✦ California Department of Transportation (Caltrans) | ✦ Bureau of Alcohol, Tobacco, Firearms and Explosives (ATFE) |
| ✦ California Department of Water Resources – Safety of Dams Division/Inspectors | |

Appendix III:

Examples of critical projects continuing during the pandemic

As the California economy was booming in recent years, until the onset of the COVID-19 pandemic, government agencies were in relatively excellent financial condition. As the post-Great Recession expansion kept rolling along, municipalities and special districts were generally reducing debt aggressively, enjoying strong tax revenue streams based on brisk economic activity, and increasing property valuation.

Coupled with massive new revenue streams earmarked for roadway infrastructure investment through taxes generated by Senate Bill 1, The Road Repair and Accountability Act of 2017 (SB 1), the public sector had great capacity. Public agencies were extremely active in funding and implementing the development of essential systems and structures that facilitate the smooth flow of an economy's day-to-day activities and enhance the people's standard of living. Projects cover the full scope of critical infrastructure and facilities, including highways and bridges, water supply systems, electricity facilities, schools, parks, power stations, pipelines, telecommunications infrastructure and more.

The decision to include the construction and materials industry in the essential category and keep it operating during the COVID-19 pandemic crisis enabled hundreds of critical public infrastructure development projects worth tens of billions of dollars to continue and allowed new projects to be started.

Following are some examples how essential and financially valuable these projects are to local economies during this crisis when jobs and the economic activity they yield are needed now more than ever.

Kaiser Permanente COVID-19 Test Lab – Berkeley

Project Value: \$14 Million

Facing long waits for outsourced COVID-19 test results, Kaiser Permanente Northern California built its own state-of-the-art lab in Berkeley capable of performing 10,000 tests per day.

The 7,700 square-foot lab was under construction 24 hours a day, 7 days a week, and ready for its first test in June, according to Scott Tibbetts, executive director of Kaiser Permanente Northern California Service Delivery. Turnaround time for COVID-19 test results will be same day in many instances or the following day.

The new lab helps Kaiser Permanente shift from testing members currently in the hospital or who are high risk, to a program that will test members on a much larger scale in order to monitor populations and put the brakes on future outbreaks. Testing on a large scale is one of six key requirements California Gov. Gavin Newsom has set to ease the stay-at-home order during the COVID-19 pandemic.

Kaiser Permanente building massive COVID-19 test lab – Opened

“Right now everyone is at home, so if someone is mildly to moderately sick, they get well at home. Once we start going back to work and to restaurants, we have to know who is infected, so they can be isolated and not spreading it further.”

- Brian Missett, MD, associate executive director of The Permanente Medical Group

The Alemany Bridge Project – San Francisco

Project Value: \$37 million

In April, Caltrans completed construction work to replace the U.S. 101 bridge deck at San Francisco's Alemany Circle. The project was funded in part by SB1. Caltrans decided to safely fast-track this critical infrastructure work originally planned for July 2020 so it could be completed in a shorter timeframe than normal because of reduced traffic during the height of the pandemic.

The contractor, C.C. Meyers, was able to complete the project in eight days fewer than budgeted if it had been done during normal traffic flow which saved taxpayers millions of dollars. Maintaining one of the Bay Area's most heavily travelled corridors, connecting the Peninsula to downtown San Francisco is critical to the region's commuters as more than 240,000 vehicles normally travel through this corridor daily. With work completed during the pandemic, commuters avoided estimated six-mile long backups the project would have caused in July had it not been pushed up.

Huge Alemany Construction project: highway 101/ alemany bridge project starts and finishes well ahead of schedule saving taxpayer dollars - completed early

"This project was originally scheduled to take place over three weeks in July. We were able to advance the work to April and cut the time for construction because traffic has been significantly lower."

- Caltrans director Toks Omishakin said in a statement on April 30, 2020

"With people staying at home right now, traffic counts have come down between 40 and 60 percent, which gave us a tremendous opportunity to do this and not impact people."

- Caltrans spokesperson Bart Ney

Interstate 405 Improvement Project – Orange County

Project Value: \$1.9 Billion

Even as millions of Californians have stayed home to help stop the spread of COVID-19, work continued at a rapid pace on the massive I-405 Improvement Project in Orange County.

The Orange County Transportation Agency (OCTA), in cooperation with Caltrans, is widening the San Diego Freeway (I-405) between State Route 73 and Interstate 605. OCTA says the \$1.9 billion I-405 Improvement Project is the largest highway project under construction in California and the second largest in state history.

Decreased freeway traffic allows massive highway development to continue – fast tracked

During the spring, construction crews were able to take advantage of decreased freeway traffic volumes induced by the pandemic to close lanes during the day so more work can be completed. Estimates are that extended closures allowed for more than 4,800 additional work hours on the I-405 project from mid-March to mid-May.

"We want the public to know that even as we all work to manage the effects of the coronavirus, OCTA remains dedicated to fulfilling the promises made to voters through Measure M and doing so in a safe manner."

- OCTA Chairman Steve Jones, also the mayor of Garden Grove

SAC 5 Corridor Enhancement Project – Sacramento

Project Value: \$370 Million

The SAC 5 Corridor Enhancement Project, which began in January 2020, features the rehabilitation of existing pavement, the construction of new carpool lanes, ramp meters and sound walls, the installation of new fiber-optic lines, and the extension of various entrance and exit ramps. The project will rehabilitate 67 lane miles of pavement and add 23 new lane miles of high-occupancy vehicle lanes.

I-5 enhancements in greater Sacramento – likely to be completed early because of reduced traffic

On average, 150,000 vehicles, including about 15,000 trucks, utilize this corridor on a daily basis so when the economic recovery ensues, the expanded and improved roads will be ready and better than ever to accommodate the increased traffic.

SB1 is providing \$48 million in funding for the project, which is designed to relieve congestion through improvements to the north and southbound lanes.

SLO Water Plus Upgrade – San Luis Obispo

Project Value: \$100 Million

The City of San Luis Obispo's Water Resource Recovery Facility (WRRF) is responsible for treating all of the wastewater within the city, Cal Poly and the county airport. The facility treats 4.5 million gallons of wastewater daily. The upgrade will improve the plant's efficiency while helping reduce the region's dependency on reservoir and groundwater supplies while delivering significant long-term benefits to water quality and the surrounding environment.

Wastewater treatment plan to improve safety and preserve groundwater

Nearly 50 percent of mayors surveyed by the U.S. Conference of Mayors in recent years rank water and wastewater investment a top three priority for their cities. Keeping the construction of SLO Water Plus going during the pandemic means keeping high-paying jobs in place and ensuring critical water treatment and supply infrastructure improvements are done on time and on budget while improving the region's environment.

"The WRRF provides an essential service to our community – treating 3.3 million gallons of wastewater and producing 200 thousand gallons of recycled water per day, 365 days per year. We are committed to the health and safety of staff and our community and are taking many precautions to protect against COVID-19."

- San Luis Obispo WRRF Superintendent, Chris Lehman

San Marcos Creek Project – San Marcos

Project Value: \$104 Million

The San Marcos Creek Project is adding the needed infrastructure to relieve long-standing flooding issues, improve traffic circulation with two new bridges, preserve and enhance creek habitat and build new parks and trails while revitalizing and preserving the San Marcos Creek.

After years of planning and getting funding in place, work on the 214-acre project began on March 25 this year and continues as a critical project for the community as the essential construction and materials industry makes the ongoing development possible.

"Given the importance of the project and its role in providing critical transportation infrastructure and relief from flooding, the city will continue with construction as planned."

- Public statement from the City of San Marcos

"We are pleased to move forward with a project that will solve a long-standing issue and provide tremendous value to the community in the future."

- City of San Marcos Project Manager Isaac Etchamendy.

City of San Marcos creek district project - its largest capital improvement project ever

Guadalupe Court Apartments (Affordable Housing) – Guadalupe

Project Value: \$15 Million

Construction on the new Guadalupe Court affordable housing development was completed. The community includes 38 apartments, an outdoor courtyard and site-based educational programs with after-school tutoring and college prep.

Applicants must earn most of their income from farm labor because partial funding for this project came from the USDA. Between 130 and 140 people will reside at the complex when occupied at full capacity.

"We're exempt from the governor's stay-at-home order because housing is such an important thing in California. We have been continuing to build safely through the pandemic."

- John Fowler, CEO, People's Self-Help Housing

High-Speed Rail – Central Counties

Project Value: \$3.9 Billion/\$77 Billion (total project)

Current high-speed rail construction contracts total nearly \$4 billion according to the California High-Speed Rail Authority (CAHSRA). As of June 1, 2020, there are 30 active construction sites spanning 119 miles across five counties, including Madera, Fresno, Kings, Tulare and Kern.

Construction continues with 3,500 construction workers dispatched as of April 2020

The construction workforce continues to grow for the project, with the week ending April 3, 2020 averaging 821 construction workers deployed on the project. More than 3,500 construction workers have been dispatched to high-speed rail construction sites as of January 2020, 418 of which were disadvantaged workers. Thirty percent of all project work hours have been performed by workers living in economically distressed areas per CAHSRA.

With construction underway, the economic benefit of these activities is substantially growing. Starting with just a few employees a decade ago, the project now supports thousands of jobs across all functions – from planning and environmental clearance to engineering and construction. This investment has spurred massive economic benefits around California and across the country.

"High-speed rail is currently the biggest infrastructure project in California, and one of the biggest, if not the biggest in the U.S."

- California High-Speed Rail Authority (CAHSRA) spokesperson Annie Parker

Appendix IV:

About CalCIMA

The California Construction and Industrial Materials Association (CalCIMA) is a statewide trade association for aggregate, ready mixed concrete, and industrial mineral operations. The members of CalCIMA provide California with construction materials such as concrete, asphalt, and road base. These materials build roads, bridges, homes, hospitals, walkways, and water structures. CalCIMA industrial mineral members also provide essential ingredients for beer, wine, vitamins, nutrients, and soil enhancements, as well as for paint, roofing shingles, glass, pipes, brick, plastic, and artistic elements. More than 200 member companies operate about 500 plants located in every county in California.

Acknowledgments

CalCIMA appreciates the participation of the member working group who gave generously of their time, providing input, insights and feedback and offering thoughtful review and comments on repeated drafts of the report. CalCIMA Safety Committee members also provided important input and resources.