



Analysis of Construction Project Outcomes Study - Final Report

Los Angeles Unified School District
(LAUSD)

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Introduction

MGT Impact Solutions, LLC (MGT), through a competitive bidding process, was selected by the Los Angeles Unified School District ("LAUSD" or "District") to conduct a Comparative Analysis of LAUSD's Construction Project Outcomes. MGT conducted an evaluation of selected District construction projects completed from May 2022 to April 2024. This involved reviewing project timelines, cost per square foot, local market influences, and key performance indicators along with common practices. The study also included comparative analysis of selected peers supplemented by additional analysis of California-specific construction outcomes and national datasets used in California-based facilities benchmarking projects.

The study's primary objective was to provide the District decision-makers with critical data needed to understand the factors driving costs and delays in district construction projects. In particular, MGT:

- A. Identified factors that might be inflating LAUSD's construction costs and extending projected timelines of projects relative to similar types of construction projects
- B. Determined whether costs are in line with peer districts and/or community college districts
- C. Evaluated external market dynamics that impact project costs
- D. Identified complexities that are unique to urban construction
- E. Reviewed the District's contracting practices
- F. Reviewed the District's change order process
- G. Followed up on change order Office of the Inspector General Audit and Recommendations
- H. Shared best practices with LAUSD

Executive Summary

Introduction

Los Angeles Unified School District (LAUSD) engaged MGT Impact Solutions, LLC to conduct a comparative analysis of LAUSD's construction project outcomes. The study evaluated selected LAUSD construction projects completed from May 2022 to April 2024, focusing on timelines, costs, local market influences, and key performance indicators. The study also included comparative analysis based on peer entity data and national data sets used in California-based facilities benchmarking projects. The study's primary objective was to provide District decision-makers with critical data needed to understand the factors driving costs and delays in district construction projects, thus leading to insights and recommendations to implement operational efficiencies and cost-saving strategies.

Project Overview and Methodology

LAUSD, the second-largest school district in the United States, serves over 557,000 students across various educational programs. The district has seen significant increases in construction costs over the past five years, prompting this study to understand and implement mitigation strategies to manage these expenses.

MGT structured its approach to this project into five phases:

1. Project Planning and Status Updates: Met with LAUSD staff to clarify project objectives, chose diverse LAUSD projects for review, identified peer entities, established project plans and project management protocols.
2. Data Collection: Interviewed staff, reviewed documents, and gathered peer and public data.
3. Data Analysis: Evaluated metrics and conducted detailed analysis of budget overruns, schedule delays, and market factors.
4. Draft and Final Report: Synthesized findings and incorporated stakeholder feedback to develop draft reports.
5. Presentation of Findings and Recommendations: Delivered the final report and actionable guidance at Board meeting(s).

Macroeconomic Data Analysis

The Macroeconomic Data Analysis section of this report involves accessing and studying macroeconomic variables that are related to construction costs and, as much as possible, are specific to California and the Los Angeles area. The analysis of macroeconomic data revealed significant increases in commodity prices and labor costs since January 2020, contributing to rising construction costs. MGT also evaluated other California-specific economic considerations such as California's Construction Cost Index, the cost of living, January 2025 wildfires, affordable housing and new private housing, and major upcoming events like the 2028 Olympics and 2026 FIFA World Cup.

Contractor Participation Analysis

The degree of competition in the local market for contractors would be expected to have an impact on construction costs in that area. The study found that Los Angeles County has fewer contractors per capita compared to neighboring counties, leading to less competitive pricing. Corporations and partnerships are over-represented, while joint ventures and sole proprietorships are under-represented.

Staff Interviews

MGT conducted twenty individual interviews with key members across several critical departments, including Business Services, Operations, Facilities, Construction and Maintenance, Community Relations, and Small Business. To ensure that the qualitative data was collected consistently, MGT developed an interview framework that was used by all MGT interviewers. Interviews with LAUSD staff highlighted challenges in project execution, prioritization, guidelines, value engineering, and community engagement. Successes included the Roosevelt High School modernization, while common challenges involved historic preservation and unforeseen structural issues.

LAUSD Construction Project Cost Analysis

LAUSD's informal request for proposal included 99 school construction projects completed from May 2022 to April 2024. A collaborative effort between LAUSD and MGT was used to select the projects chosen for in-depth review. Factors such as project budget, scope, percentage over budget, delays, and geographic region were all considered during the selection process to ensure there was a diverse mix of projects on which to draw insights and recommendations. MGT ultimately selected 10 projects to conduct a comprehensive view of areas for improvement across different project types at elementary, middle, and high schools. The analysis of 10 selected projects revealed significant budget variances, with most projects exceeding their original budgets at an average variance of 42% over budget. Analysis also included a review of hard and soft costs (direct vs. indirect), with a project-wide average of 86% of hard costs as total project costs, higher than industry standards ranging between 70 and 80%.

Common Issues and Complications

Frequent scope changes and unforeseen issues were common, leading to numerous change orders and budget modifications. The need for corrective actions to pass inspections also contributed to cost overruns. Of significance, MGT noted that five of the projects reviewed had more than 50 change orders; therefore, a focus of the analysis was on change order costs, amounts, and reasons. From this review, MGT also found that nine of the projects had change orders related to abatement, with an average cost of \$21,183 per change order.

Quality Control Review

MGT conducted a thorough review of various project documents, including Board of Education documents, construction budgets, cost control documents, and change orders. This review highlighted a significant concern: the high number of change orders and budget modifications, which raised questions about the overall quality control and planning effectiveness of the

projects. LAUSD's bond program is subject to rigorous annual independent audits, including both financial and performance audits as required by Prop 39 and state law. The Office of Inspector General conducts targeted audits and reviews of the District's facilities program, including audits of change orders, construction contracts, and procurement policies. While no fraudulent spending of bond funds has been uncovered in recent years, procedural issues such as payroll allocation and minor contract compliance gaps have been identified and addressed through corrective actions. MGT obtained and reviewed the reports from 2022 through 2024 and noted that the reports did not identify any instances of fraud. This independent verification further supports the integrity of the District's use of bond funds and underscores the commitment to transparency and accountability within LAUSD's facilities program.

Peer Analysis

Benchmarking against peer entities can provide insights, but external comparisons have limitations due to: different organizational structures and processes, varied project management techniques, a mix of internal and external expertise, microeconomic differences impacting construction costs, and difficulties in normalizing data due to the nuances across school construction regulations and practices.

MGT collaborated closely with LAUSD staff to identify five peer institutions for comparison. The collaboration involved examining various school districts, community colleges, and other entities nationwide – ultimately, two California school districts, the California State University system, the Los Angeles Community College District, and one Arizona school district were selected as peers. MGT conducted market research, reached out to peer entities for validation, issued Public Records Access requests, and worked with LAUSD to gather as much comprehensive information as possible for the peer analysis. Due to variations in the type of documentation available and differences in the construction projects conducted during the 2-year time period used for the comparative analysis, insights were provided where there was reliable data comparability and reasonability. For each of the selected peers, a profile was developed to assess bond program(s), committees, construction related procedures, review of audits, and small and diverse business participation.

The comparative analysis against peer entities entailed a review of school construction project costs, timelines, and delivery methods. Furthermore, MGT examined local labor market influences, prime contractor competition, subcontractor participation, and labor availability and cost. For the peer project analysis, MGT selected three to four construction projects similar in scope to the LAUSD projects reviewed in-depth for this study. Due to the inherent limitations of finding similar projects in a finite time period, MGT supplemented its peer analysis with data from other school districts outside of the five peer entities originally selected for the study.

As the basis for the peer project comparison, MGT analyzed project timelines and costs for peer projects and compared the results to similar projects completed by LAUSD. Different metrics were used in the comparative analysis to try to normalize the data including estimated substantial completion date to actual substantial completion date, projected substantial completion date to actual substantial completion date, square footage completed per day, budget to actual costs, cost per square foot, and hard cost as percent of total project cost. Based on the data reviewed,

LAUSD's completed projects generally adhered more closely to their initial budgets compared to the peer projects analyzed. Cost per square foot for HVAC replacement projects were generally in line with peers; however, there was not sufficient data from other types of projects for additional insights. Finally, at 86%, LAUSD's hard cost as a percentage of total costs is significantly higher than that of its peers at 70%.

In terms of key performance indicators and common practices, MGT reviewed LAUSD's standard legal terms and conditions for construction contracts as well as payment practices and compared them to the selected peer entities. In this review, similarities and differences were identified to help inform potential areas of improvement. With the significant number of change orders in LAUSD projects, MGT also gathered comparable data for analysis specific to this topic. The change order amount as a percentage of the original contract value at the project level in LAUSD ranged from 1% to 17%, compared to West Contra Costa, which was between 1% and 10%. From an increase in contract value impact of the change orders, LAUSD was at 8% compared to 7% at West Contra Costa.

Finally, MGT included comparative analysis from other school districts as well as industry-wide data standards to supplement insights gathered from the peer project analysis. This additional data, while limited, provides data benchmarking that could be used in construction valuation and budgeting to inform project pricing.

Recommendations

MGT's recommendations are grounded in the results of our qualitative and quantitative analysis and are designed to be practical and achievable. Recommendations were identified based on the collection of qualitative and quantitative data gathered throughout the study and were vetted with LAUSD stakeholders during the draft reporting process. Recommendations were finalized after executive level review and alignment, and are tied to the following categories: Cost/Time Savings; Organizational Structure; Process Changes; Peer Data-Driven Changes; External and Exogenous Factors, and Previous Reviews. The following four key recommendations were identified as the priority for LAUSD to implement for the highest impact on the cost effectiveness and efficiency of the construction program across Departments:

- **Strategic Plan to Address Root Cause of Program Management Challenges:** Establish key performance indicators to measure, monitor, and assess the school construction program: workload/staffing, processes, and technology.
- **Change Order Procedures, Process, and Training Review:** Establish a stringent review process for project change orders once they meet a certain threshold. This threshold could be set at a specific number of change orders (i.e. more than 15) or at a percentage of the overall project budget (i.e. more than 10%).
- **Consider a Sub-Contractor Management Study to Increase Participation:** Encourage more diverse contractors to enter the market to boost competition and potentially lower costs. This is an expansion to the recommendation based on contractor participation analysis, where the focus is on the identification of systemic barriers that could be addressed thereby leveling the playing field and creating cost savings through greater local participation.

- **Proactive Abatement Testing:** To secure competitive pricing and ensure timely completion of work before construction begins, it is recommended to issue a Request for Qualifications (RFQ) early for hazardous materials assessment and abatement plans. Additionally, mandate detailed job walks to uncover risk before bidding.

For a comprehensive list of all recommendations developed through this study, please refer to Attachment A.

Project Overview

Background

LAUSD is the second largest school district in the country, with over 557,000 students enrolled in the 2024-25 academic year. This includes over 387,000 students in grades K-12; over 22,000 students in special day classes and Special Education; and almost 148,000 students in early education, adult education, and independent charter schools.

As of fall 2023, English and 154 languages are spoken by students at LAUSD schools. LAUSD has 83,923 students who are learning to speak English proficiently. The primary languages spoken by students other than English are Spanish (88% of English learners), Armenian (2%), Russian (2%), Korean (1%), Filipino/Tagalog (1%), Farsi (1%), Arabic, Vietnamese, Bengali, K'iche' (a Mayan language of Guatemala), Cantonese, and other languages each accounting for less than 1% of the total. LAUSD is the second-largest employer in Los Angeles County, with a total of approximately 79,000 employees. The District covers an area of 710 square miles, which includes most of the City of Los Angeles, along with all or portions of 25 cities and unincorporated areas of Los Angeles County. Approximately 4.8 million people live within these boundaries.

Motivation

The goal of this project was to conduct a comparative assessment of LAUSD's construction program, especially as it relates to costs. Like many school districts across the country, LAUSD has seen its construction costs rise significantly in the past five years. Understanding and controlling construction costs is a substantial concern for the District. LAUSD has completed 136 new K-12 construction projects since 1997. Also, more than 24,100 school rehabilitation, modernization and replacement projects have been completed during the same period.

Commendations

MGT would like to thank the staff within and outside the District for their responsiveness, transparency, and willingness to engage in this project. Our understanding of the landscape was enhanced immensely thanks to their time, qualitative and quantitative data, and engagement.

Project Methodology

MGT's approach to this study was structured in five phases, each designed to build upon the previous step to ensure a methodical examination. Throughout these phases, MGT employed various high-level activities, including stakeholder interviews, comprehensive document reviews, and market analyses to gather and analyze the data necessary for forming conclusions and recommendations.

Phase One – Project Planning and Status Updates

- **Interviews and Initial Review:** Met with LAUSD staff to clarify project objectives, identify cost-related issues, and gather preliminary construction project data.
- **Project and Peer Selection:** Chose diverse LAUSD projects (e.g., varying sizes, complexity, locations) for detailed review, focusing on factors like high costs, frequent change orders,

and schedule extensions. Also identified urban, coastal, and large peer entities—both in and outside California—to benchmark LAUSD’s performance.

- **Planning and Communication:** Established a clear process for status updates and data requests, enabling efficient collaboration with District stakeholders.

Phase Two – Data Collection

- **Document Collection:** Reviewed materials from completed LAUSD projects—contracts, budgets, change orders, Board of Education reports, etc.—to identify common cost and timeline drivers.
- **Peer and Publicly Available Data:** Gathered comparable project information from peer entities and macroeconomic indicators (e.g., labor market data, materials costs) to contextualize local construction conditions.
- **Quality Control Review:** Performed an initial high-level quality control review to identify areas where District processes might be vulnerable to fraud.

Phase Three – Data Analysis

- **Evaluation Metrics:** Developed criteria (e.g., schedule adherence, cost escalation, contractor performance) to compare LAUSD projects internally and against peer data.
- **Detailed Analysis:** Reviewed budget overruns vs. planned costs, schedule delays, and change orders to pinpoint systemic issues. Considered macroeconomic factors and the availability of contractors and skilled trades in the Los Angeles region.
- **Market Factors:** Examined local market competitiveness to determine potential price or procurement impacts.

Phase Four – Draft and Final Report

- **Findings Consolidation:** Synthesized insights from interviews, document reviews, and data analyses into a draft report highlighting key observations about construction costs, market conditions, and potential risks.
- **Stakeholder Feedback:** Shared the draft report with LAUSD personnel for review and refinement, integrating their input before finalizing the report.
- **Recommendations:** Proposed strategies to enhance cost controls, operational efficiencies driven by observations from qualitative and quantitative data collection.

Phase Five – Presentation of Findings and Recommendations

- **Report Delivery:** Presented the final report to LAUSD leadership, outlining both short-term and long-term measures to address construction cost challenges.
- **Actionable Guidance:** Recommended process improvements, contracting best practices, and adjustments to project planning and oversight, supported by peer comparisons and market research.
- **Ongoing Improvement:** Encouraged continuous monitoring of costs and performance, regular updates to District procedures, and proactive planning in response to local economic and market shifts.

By conducting interviews, reviewing District documents, and analyzing both local and macroeconomic factors, along with a high-level risk assessment—MGT provided LAUSD with clear, data-driven recommendations to strengthen its construction cost management and overall project delivery.

Macroeconomic Data Analysis

The Macroeconomic Data Analysis section of this report involves accessing and studying macroeconomic variables that are related to construction costs and, as much as possible, are specific to California and the Los Angeles area. The goal of this section is to provide additional context to economic trends observed within the Los Angeles area, as well as an explanation about why construction costs have been rising for LAUSD as well as other districts.

Summary of Approach

MGT obtained data for the Macroeconomic Data Analysis section of this report from the website of the Federal Reserve Bank of St. Louis, which offers a service called Federal Reserve Economic Data, or FRED (fred.stlouisfed.org). FRED is a data aggregator, which compiles data from hundreds of sources, including the U.S Census Bureau, the Bureau of Labor Statistics, and the Board of Governors of the Federal Reserve System.

MGT subsequently analyzed various data trends for insights as to how changing macroeconomic conditions might have affected construction costs. The data analyzed relates to the cost of materials commonly used in construction projects, as well as labor market conditions that would be expected to affect labor costs and hence construction costs overall. The analysis suggests that overall, conditions were favorable for rising construction costs in every sector examined, and that no sector showed any trend to the contrary.

Materials Market Conditions

MGT analyzed trends in the cost of eight commodities as well as the average cost of inputs for producers to obtain insight into how those costs might have affected construction costs for LAUSD. These commodities are expected to be relevant for construction projects in general, as they relate to the basic components of most structures. Generally, an increase in the cost of these commodities, as well as producer prices in general, would be expected to increase construction costs. The analysis is presented in Exhibit 1.

Exhibit 1 - Commodity Cost Analysis

Material / Index	Unit / Base Year	January 2020 Value	October 2024 Value	Increase Since January 2020
Electricity	Kilowatt-Hour	\$0.19	\$0.29	48%
Utility Piped Gas	Therm	\$1.33	\$1.70	28%
Gasoline	Gallon	\$3.55	\$4.60	29%
Producer Price Index (PPI)	Index Jun 1982=100	\$199.30	\$253.02	27%
PPI: Copper and Copper Products	Index Jun 1982=100	\$376.70	\$573.74	52%
PPI: Ready-Mix Concrete by Commodity	Index Jun 1982=100	\$129.80	\$178.41	37%
PPI: Ready-Mix Concrete by Industry	Index Jun 1982=100	\$130.10	\$178.97	38%
PPI: Cold Rolled Steel	Index Jun 1982=100	\$193.80	\$243.95	26%

Source: Retrieved from FRED, Federal Reserve Bank of St. Louis, <https://fred.stlouisfed.org/> and <https://www.dgcs.ca.gov/>

Overall, the analysis concludes that every category of commodity, and commodity prices on average, have risen considerably since January 2020. The margins of increase range from 26 percent for cold rolled steel to 52 percent for copper and copper products. Generally, we would expect that the above increases in commodity prices would tend to put upward pressure on construction costs for all types of projects.

Labor Market Conditions

Several indicators point to a growing shortage of employees in the construction industry over the past several years. Such a shortage would also put upward pressure on construction costs for all types of projects. This is because a gap between the number of workers wanted or needed for each construction project and the number of workers available for employment in construction would create an incentive for contractors and other construction managers to increase wages as a means of attracting scarce labor resources.

MGT analyzed employment trends for the following macroeconomic variables:

- All Employees: Construction
- All Employees: Construction: Specialty Trade Contractors
- All Employees: Construction: Other Specialty Trade Contractors
- Average Hourly Earnings, All Employees, Total Private
- Unemployment Rate
- All Employees: Total Nonfarm
- All Employees: Mining, Logging, and Construction
- All Employees: Construction: Heavy and Civil Engineering Construction

All variables measure activity over the Los Angeles-Long Beach-Anaheim Metropolitan Statistical Areas (MSA) unless otherwise noted.

Looking back to the business cycle trough in 2009-10, which followed the 2007-08 recession, depending on the economic indicator in question, one can see a clear trend of growth in construction employment.

For example, “All Employees: Construction” – which measures the total number of people employed in construction – hit a low point of 169,775 in September 2010. Construction employment peaked a decade later, in February 2020, at 262,703. Measured over the intervening period of 114 months, construction employment grew by approximately 822 jobs per month. Had that trend continued through July 2024, total construction employment would equal 306,289 jobs. Instead, due to several factors, total construction employment in the Los Angeles area as of July 2024 was just 257,589, suggesting an **employment gap of approximately 48,700 jobs**. In other words, construction employment in the Los Angeles area is roughly **16 percent lower** than would be the case had the counterfactual trend continued.

This pattern is mirrored in other subsets of the construction employment market. For example, “All Employees: Construction: Specialty Trade Contractors”¹ saw a peak in employment in January 2020 of 174,940, following a trough of 111,354 in September 2010. The intervening 112 months saw an average growth in trade contractor employment of 568 jobs per month. Had that trend continued, current employment in specialty trades would be approximately 205,598. Instead, in July 2024 there were 169,111 people employed in that sector. This represents roughly **36,486 “missing” jobs in specialty trades, a decrease of almost 18 percent** relative to the trend.

MGT noted similar trends within “All Employees: Construction: Other Specialty Trade Contractors,” “All Employees: Mining, Logging, and Construction,” “All Employees: Construction: Heavy and Civil Engineering Construction,” and “All Employees: Total Nonfarm.” Each of these groups sees a rise in employment until early 2020, only to flatline or decrease by 2024.

These trends are underscored by a declining labor force participation rate for the State of California. This statistic measures the ratio of the labor force – those who are currently working or seeking work – to the working age population – the civilian noninstitutional population who are 16 years of age and older. While the labor force participation rate is not available for the Los Angeles-Long Beach-Anaheim MSA, data at the state level show that the rate peaked at 66 percent in February 2009, followed by a decade of near-constant declines.

Prior to the Covid-19 pandemic, the labor force participation peaked at 63 percent in February 2020, then dropped precipitously to 59.6 percent in May 2020. The rate has not yet recovered to pre-pandemic levels, standing at 62.1 percent in December 2024. While a difference of almost four percentage points from peak to present might not seem significant, that amounts to a decrease in the labor force of over 1.2 million people. Overall, such a decline in the labor force would tend to put upward pressure on wages, as fewer workers would create an incentive for firms to raise wages in order to attract and retain scarce employees.

Since January 2020, average hourly wages for all private sector employees in the Los Angeles-Long Beach-Anaheim MSA have steadily risen from \$32.06 to \$38.65 in October 2024, an increase of 21 percent. During the same time, the unemployment rate in the Los Angeles-Long Beach-Anaheim MSA increased dramatically, from 4.4 percent in January 2020 to 18 percent in May 2020, before falling again to 5.6 percent in October 2024.

¹ “The Specialty Trade Contractors subsector comprises establishments whose primary activity is performing specific activities (e.g., pouring concrete, site preparation, plumbing, painting, and electrical work) involved in building construction or other activities that are similar for all types of construction, but that are not responsible for the entire project. The work performed may include new work, additions, alterations, maintenance, and repairs. The production work performed by establishments in this subsector is usually subcontracted from establishments of the general contractor type or operative builders, but especially in remodeling and repair construction, work also may be done directly for the owner of the property. Specialty trade contractors usually perform most of their work at the construction site, although they may have shops where they perform prefabrication and other work. Establishments primarily engaged in preparing sites for new construction are also included in this subsector.” – <https://www.bls.gov/iag/tgs/iag238.htm>

reflects elevated prices for goods and services, which can impact residents' overall purchasing power and quality of life. A high cost of living index can also influence decisions related to salary negotiations, business investments, and relocation considerations for both individuals and companies.

MGT's analysis disclosed that the cost of living in California is the fourth highest in the country. Additionally, Los Angeles has the eighth-highest cost of living among cities in the United States².

Wildfires

In January 2025, over a dozen wildfires impacted the Los Angeles metropolitan area, as well as parts of San Diego County. At least 29 people lost their lives during the fires, with another 200,000 forced to evacuate. Among the 18,000 structures destroyed or damaged were three of LAUSD schools: Palisades Charter High School, Palisades Charter Elementary School, and Marquez Charter Elementary School.

The economic impact of the wildfires is vast and will take years to fully understand. In the short run, one would expect an increase in demand for labor, as efforts to demolish and remove damaged structures and vehicles give way to reconstruction later in 2025. An increase in demand for materials should also occur, as more resources are directed to the Los Angeles and San Diego areas. The fires could cost property insurers as much as \$20 billion.

An increase in demand for labor and material goods will tend to put upward pressure on already rising construction costs. The fires could also put upward pressure on insurance rates, as insurance companies attempt to cover the cost of claims resulting from the fires.

Affordable Housing

During the January 2025 wildfires, more than 18,000 structures, including over 12,000 houses, in Los Angeles County were destroyed, putting additional pressure on already rising construction costs. This decrease in the supply of housing occurs in an area where affordable housing is already scarce, which could place further upward pressure on construction costs.

A decrease in the supply of all housing would tend to raise the price of housing, holding all else constant. An increase in the price of all housing creates incentives for developers to reduce the supply of affordable housing in favor of higher price housing, as affordable housing is now less profitable to produce. An increase in housing prices also creates an incentive for renovators to convert affordable housing to market-rate housing. Both factors would tend to reduce the supply of affordable housing in LA county.

Indeed, a 2024 report by the California Housing Partnership found that 494,446 low-income households do not have access to affordable housing, a shortage of almost 500,000 housing units. Among households who are low-income, very low-income, or extremely low-income, 11 to 77% are severely cost burdened by rent, meaning that they are paying over 50% of their monthly income to housing expenses. This shortage is exacerbated by a decrease in federal and state funding for housing of 45% between FY 22 and FY 23. The lack of affordable housing in Los Angeles County could put additional upward pressure on construction costs, as construction workers find living in Los Angeles County increasingly difficult. This would tend to increase commute times, which would require employers to pay workers higher wages to offset the additional commuting costs. This would also tend to decrease the supply of labor in Los Angeles

² Source: numbeo.com/cost-of-living

County as workers move elsewhere in search of affordable housing. In both cases, higher labor costs could be passed on in the form of higher costs for construction projects.

New Private Housing

Another economic factor MGT considered relates to demand for construction workers, via demand for new housing. MGT's analysis looked at "New Private Housing Structures Authorized by Building Permits" to determine if there was an overall decrease in demand for new housing, and hence employment in construction, during the period before and after 2020.

MGT compared the monthly average for "New Private Housing Structures Authorized by Building Permits" from January 2010 through December 2019 to the monthly average from January 2020 to October 2024. Our analysis concluded that demand for new housing increased overall after 2020. The monthly average was around 2,105 new private housing structures from January 2010 through December 2019. The monthly average later increased to 2,467 from January 2020 to October 2024. This suggests that demand-side factors are not to blame for the overall decline in construction employment post-pandemic.

2028 Olympics and 2026 FIFA World Cup

The 2028 Los Angeles Olympics and 2026 FIFA World Cup will have significant impacts on construction, transportation, housing, and the economy. The surge in public and private projects will strain contractor availability, create labor shortages, and increase construction costs due to increased demand for materials and skilled workers. Traffic congestion and public transit usage will intensify as infrastructure projects compete for resources, potentially delaying other developments.

The City of Los Angeles is actively preparing to host the 2028 Olympic and Paralympic Games with a focus on utilizing existing infrastructure, enhancing public transportation, and promoting sustainability. The city plans to leverage its abundance of venues, minimizing the need for new construction. This approach, termed a "no-build" strategy, aims to reduce costs and environmental impact. Iconic locations such as the Los Angeles Memorial Coliseum and the Rose Bowl will be used. Newer facilities like SoFi Stadium and BMO Stadium will also serve as key venues. To facilitate efficient movement during the Games, Los Angeles is investing in significant public transportation improvements. The "Twenty-eight by '28" initiative seeks to complete transit projects before the Games commence. Mayor Karen Bass has emphasized a "transit-first" approach, encouraging the use of public transportation to reduce traffic congestion. Plans include expanding the Metro Rail system and increasing bus fleets to accommodate the anticipated influx of visitors.

Construction of Los Angeles International Airport's (LAX) Automated People Mover (APM) train is scheduled to be completed on December 8, 2025. The APM is expected to begin full operations in January 2026, which should alleviate some traffic in and around LAX.

The Los Angeles Metro's D Line (formerly Purple Line) Extension is a significant infrastructure project currently underway aimed to enhance public transportation ahead of the 2028 Olympic and Paralympic Games. Upon completion, the D Line Extension will provide a direct and efficient transit route from downtown Los Angeles to key areas on the Westside, including Westwood and UCLA. This development is expected to significantly reduce travel times and alleviate traffic congestion, offering a reliable transportation option for both residents and visitors during the 2028 Olympics.

Economically, the events will boost tourism and create temporary job growth but could also lead to inflation and a post-event slowdown. While challenges include supply chain disruptions and

increased cost of living, long-term benefits are expected to provide infrastructure improvements, global investment, and sustained economic growth.

If the 2028 Olympics in Los Angeles and the 2026 FIFA World Cup (with games in multiple U.S. cities, including California) occur as planned, several key impacts need to be considered, particularly for construction, transportation, and economic factors. The 2028 Olympics and the 2026 FIFA World Cup are expected to bring about significant impacts on various sectors, including construction, transportation, housing, and the economy. One of the key concerns is contractor availability, as a surge in public and private projects, such as stadiums, hotels, and transit improvements, might lead to project delays due to limited resources. Additionally, increased demand for materials like steel, concrete, and lumber could result in shortages and inflated costs, especially for major projects. The construction industry might also face skilled labor shortages, potentially leading to wage inflation.

Transportation and traffic are other areas likely to be affected. The significant increase in traffic, particularly during the Olympics, could impact daily commutes and logistics for construction projects. Public transit systems will need to be enhanced, placing additional stress on existing services and affecting regular users. Infrastructure upgrades, including highway expansions, rail line improvements, and airport upgrades, could compete for resources and labor. Housing and real estate will also experience changes. The demand for short-term rentals, such as Airbnb and hotels, could reduce the availability of long-term rentals, leading to increased housing costs. Development projects and rising rents might cause the displacement of lower-income residents. Economically, higher wages in sectors like construction and hospitality could lead to inflation and increased costs for goods and services. While tourism is expected to boom, benefiting the economy through increased spending on hotels, restaurants, and attractions, this could also result in price hikes in these sectors. After the events, there might be a reduction in temporary jobs and a slowdown in construction activity.

Despite these challenges, there are potential benefits. Permanent infrastructure improvements to roads, transit, and public spaces could provide long-term advantages for residents. Additionally, the events are likely to create substantial, albeit temporary, job growth in construction, hospitality, and event services. Moreover, increased investment and global attention on the region could bring about lasting economic benefits.

The extensive transit work for the 2028 Olympics in Los Angeles could affect the availability of key professionals needed for school construction and modernization projects. Design professionals, structural engineers, electrical contractors, and general contractors may have limited capacity due to commitments to Metro expansion, roadway improvements, and other infrastructure projects. Architectural and engineering firms engaged in transit work might be less available for school designs and seismic retrofits, while electrical contractors focusing on Metro's power and signaling systems could face scheduling constraints. Additionally, general contractors and skilled labor could be tied up with large-scale infrastructure projects, potentially increasing costs and extending timelines for school upgrades. To mitigate these challenges, early contractor engagement, securing alternative firms specializing in educational facilities, and strategic project phasing can help ensure smooth execution and avoid competition with high-demand transit work.

Mitigation strategies include early contractor engagement, which involves locking in agreements with architects, engineers, and contractors ahead of time to secure their availability. Additionally, identifying alternative contractors who specialize in educational facilities rather than large-scale transit projects can be beneficial. Phased project scheduling is another effective approach, where projects are staggered to avoid peak competition with transit work.

Contractor Participation Analysis

Background

The degree of competition in the local market for contractors would be expected to have an impact on construction costs in that area. All else held constant, an increase in contractors per capita should put downward pressure on rates charged by contractors to clients, in addition to strengthening the incentive for contractors to be mindful of their costs. Both of those factors would be expected to lower – or help constrain – construction costs ultimately paid by clients.

Conversely, fewer contractors per capita would render the market overall less competitive and would tend to lead to above-normal economic profits for contractors. Higher profits would ultimately be paid by clients via higher prices for construction projects.

Data

The school district utilizes a wide variety of contractors to ensure the diverse needs of construction projects are met effectively. These include general building contractors, masonry experts, plumbing and electrical contractors, as well as specialists in roofing, HVAC systems, and solar installations. Employing such a range of expertise ensures that each aspect of construction is handled by professionals, thereby enhancing the quality, efficiency, and safety of the completed projects. In preparation for this analysis, MGT consulted with LAUSD to align on a list of contractor categories to include, which are as follows:

Exhibit 3 – Contractor Categories

Contractor Classification	Contractor Code
General Building	B
Boiler, Hot Water Heating, and Steam Fitting Contractor	C-4
Electrical Contractor	C-10
Warm-Air Heating, Ventilating and Air-Conditioning Contractor	C-20
Building Moving/Demolition Contractor	C-21
Asbestos Abatement Contractor	C-22
Masonry	C-29
Plumbing Contractor	C-36
Roofing Contractor	C-39
Solar Contractor	C-46
Structural Steel	C-51

Source: Created by MGT, information from the Contractors State Licensing Board for the State of California

MGT then obtained information from the Contractors State Licensing Board for the State of California about the number of such licensed contractors in the following counties in Southern California, as of October 2024: Los Angeles, Orange, Riverside, San Diego, and Ventura.

The data MGT secured included the following descriptors about each contractor: Contractor City, County, ZIP Code, Code, and Business Type, among others.

Finally, MGT obtained county-level population estimates from the U.S. Census.

Analysis and Results

Contractor Participation by County

MGT used the above data to compute the number of each category of contractors per 1,000 residents in each county. The results are presented in Exhibit 4.

Exhibit 4 - Contractors Per 1,000 Residents By County

Contractor Classification	Code	County (Population)					Trend		
		Orange	Riverside	San Bernardino	Ventura	Mean	Los Angeles	Variance	Percent
		3,135,755	2,492,442	2,195,611	829,590	-	9,663,345	-	-
Asbestos Abatement Contractor	C-22	0.012	0.004	0.007	0.004	0.007	0.008	-0.001	12%
Plumbing Contractor	C-36	0.442	0.427	0.326	0.574	0.442	0.457	-0.014	3%
Boiler, Hot Water Heating and Steam Fitting Contractor	C-4	0.012	0.008	0.004	0.014	0.01	0.01	0	1%
General Building*	B	2.829	2.125	1.856	3.04	2.463	2.312	0.15	-6%
Electrical Contractor*	C-10	0.762	0.712	0.588	0.84	0.725	0.67	0.055	-8%
Structural Steel*	C-51	0.034	0.04	0.048	0.028	0.037	0.034	0.003	-8%
Building Moving/Demolition Contractor	C-21	0.051	0.047	0.049	0.049	0.049	0.043	0.007	-13%
Warm-Air Heating, Ventilating and Air-Conditioning Contractor*	C-20	0.323	0.412	0.296	0.305	0.334	0.288	0.046	-14%
Roofing Contractor	C-39	0.137	0.122	0.134	0.165	0.14	0.113	0.027	-19%
Solar Contractor	C-46	0.025	0.035	0.02	0.023	0.026	0.02	0.006	-22%
Masonry	C-29	0.072	0.087	0.054	0.119	0.083	0.043	0.04	-48%

Source: Created by MGT, information from the Contractors State Licensing Board for the State of California

*Indicates building components that are significant costs in projects.

The county with the highest number of each type of contractor per 1,000 residents is bolded in the table above. For example, Ventura County has the highest number of General Building contractors per 1,000 residents: 3.04. Orange County is second highest, at 2.829, and Los Angeles County is second lowest, at 2.312. Therefore, Ventura County is assumed to have a more competitive market for General Contractors overall, while conditions in Los Angeles would be less competitive.

As the distribution of green squares under the county names shows, Los Angeles County is not the most competitive market for any type of contractor. Indeed, as the column on the far right ("Percent") demonstrates, Los Angeles County has a below-average incidence of nearly every type of contractor, except for Asbestos Abatement and Structural Steel. In fact, the number of contractors per 1,000 residents in Los Angeles County is particularly low for Masonry and Solar. For those categories, Los Angeles County is 48% and 22% below average, respectively, suggesting that contractor competition is much higher elsewhere in Southern California.

Overall, the incidence of contractors per 1,000 residents is 12% lower in Los Angeles County than in the average of the other four counties, again suggesting that conditions are more favorable for higher profits than lower construction costs.

Contractor Participation by Business Type and County

MGT went further in this analysis and examined the intersection between the number of each type of contractor in each county and the business type of those contractors. There are five types of businesses in the contractor data set:

- Corporation
- Joint Venture

- Limited Liability Corporation
- Partnership
- Sole Owner

MGT studied the distribution of business types across the eleven categories of contractors included in this project and by county. The goal was to determine if certain types of businesses were under- or over-represented in different categories of contractors in Los Angeles County.

MGT determined that corporations and partnerships are over-represented in Los Angeles County, whereas joint ventures and sole proprietorships are evenly distributed across different contractor categories. Additionally, limited liability corporations are infrequent within each contractor category.

Staff Interviews

Overview

MGT conducted 20 individual interviews with key members across several critical offices, divisions, and departments, including Business Services and Operations, Facilities, Construction, Maintenance and Operations, Facilities Community Relations, Procurement, and the Office of General Counsel. These conversations were designed to gather insights and perspectives tailored to each department's unique role and challenges. LAUSD is one of the largest and most complex school districts in the nation, and it manages an extensive and diverse portfolio of assets, each requiring specialized attention. Some schools are designated as historic landmarks, necessitating careful preservation efforts to maintain their architectural and cultural integrity. Others face significant challenges related to Americans with Disabilities Act (ADA) compliance, seismic retrofitting, and structural safety, highlighting the importance of proactive planning and resource allocation.

Adding to this complexity, community engagement plays a pivotal role in the District's project planning processes. The team must navigate the intricate balance between meeting LAUSD's strategic priorities and programmatic goals while addressing the diverse and sometimes competing expectations of the community. This multifaceted approach ensures that all stakeholders' needs are considered, fostering collaboration and long-term success.

To ensure that the qualitative data was collected consistently, MGT developed an interview framework that was used by all MGT interviewers. This rubric can be found in Appendix A. Each interview was conducted with a panel of MGT staff with various backgrounds and California-specific experience in facilities, school construction, and budgeting. Information from the interviews was collected by each MGT interviewer and then summarized into one document per interview to ensure feedback was collected with as much detail as possible. After all interviews were conducted, MGT reviewed all feedback collectively to inform insights.

Insights

Exhibit 5 below summarizes the various comments and insights gleaned from the staff interviews. All individuals interviewed communicated the aim of improving the efficiency, effectiveness, and community impact of the District's construction projects. While LAUSD staff who were interviewed may have made personal recommendations based on their experience, not all were included as an insight unless they were validated as a topic that came up through several interviews. It is also important to note that in some cases, feedback from LAUSD staff may reflect a lack of understanding of process or need for additional training.

Exhibit 5: Summary of Staff Interviews

Topic	Summary of Comments
Project Execution and Management	Staff stated an understanding of their roles in project execution; however, common challenges regarding design complexities, contractor and subcontractor issues, and unforeseen conditions found during construction make project execution and management difficult.
Project Prioritization	Staff are aware that factors such as existing conditions, current enrollment, and community needs are considered in project prioritization; however, the Asset Management Branch and Maintenance & Operations are ultimately responsible for their respective project timelines and prioritization.
Guidelines and Standards	Staff members know the District uses set standards from the California Department of Education and Division of the State Architect; however, it was noted that internal guidelines and standards are being updated to reflect current District needs and industry best practices.
Value Engineering	Staff understand that value engineering is typically implemented during the design phase; however, some feel they are not involved in these discussions when they should be.
Educational Specifications and Project Standards	Staff have knowledge and an understanding of the importance of the educational specifications and project standards that guide project design.
Successes and Challenges	Many staff members mentioned the success of the Roosevelt High School modernization using the design-build delivery method; however, challenges related to historic preservation, unforeseen structural issues, and balancing community needs with project goals were commonly discussed.
Community Engagement and Communication	Staff emphasize the importance of engaging with the community to address its needs. Staff also mentioned that communication and collaboration across departments is lacking at times.

LAUSD Construction Project Cost Analysis

Overview

In school construction projects, understanding the distinction between hard costs and soft costs is critical for effective budgeting, planning, and execution. These two categories encompass the comprehensive expenses associated with bringing a construction project to completion, yet they represent fundamentally different aspects of the construction process.

- **Hard costs** - often referred to as "brick-and-mortar" costs, are the direct expenses related to the physical construction of a school building. These costs are tangible and can be easily identified and calculated. They are essential for transforming architectural designs into a functional structure. Components of hard costs include construction materials, labor costs, equipment, site work, structural costs, building systems, and finishes.
- **Soft costs** - are the indirect expenses associated with a school construction project. These costs are not directly tied to the physical building process but are essential for the successful planning, management, and completion of the project. Soft costs are often less tangible and can be more challenging to estimate accurately. Components of soft costs include architectural and engineering fees, project management fees, permits and inspections, legal fees, insurance, financing costs, consulting fees, and administrative costs.

LAUSD categorizes costs associated with construction projects into five categories: Site & Environmental, Plans, Construction, Management, and Other Costs & Reserve. Activities in the five categories include:

- Site & Environmental – Land surveys, supplemental site investigation, and geotechnical seismic report.
- Plans – Architect's basic contract, architect's extra services, planning and design, local plan review, and printing.
- Construction – Construction contracts, asbestos/lead sampling, insurance premiums, material testing, soil testing, and inspection construction.
- Management – Construction management and the Office of Environmental Health and Safety (OEHS) oversight.
- Other Costs & Reserve – Community outreach non-labor.

Best practices in school construction project management suggest that approximately 70 to 80 percent of the total project cost should be allocated to the construction phase. This ensures that the bulk of resources are directed towards the physical building process, encompassing hard costs such as materials, labor, and equipment, which are critical for the successful completion of the project.

For this analysis, MGT collaborated with LAUSD staff to gather information for school construction projects completed from May 2022 to April 2024. Included in the in-depth analysis are 10 projects reflective of a project mix ranging from heating, ventilation, and air conditioning (HVAC) installations to full building and classroom construction. A collaborative effort between LAUSD and MGT was used to select the projects chosen for in-depth review. Factors such as project budget, scope, percentage over budget, delays, and geographic region were all considered during the selection process. Below is an overview of the project selection and data review process:

- LAUSD’s informal request for proposal included 99 school construction projects completed since May 2022.
- MGT normalized the data for initial analysis and generated multiple spreadsheets to analyze the projects in multiple ways, including timeliness, contractors, and staffing.
- MGT reviewed potential projects for analysis based on multiple factors, including region, school type, project type, days over schedule, and final cost and percentage over budget.
- MGT proposed projects to LAUSD staff for consideration.
- LAUSD proposed its own projects list for MGT consideration, that included several projects also on the MGT project list.
- MGT generated crosswalk between MGT and LAUSD proposed projects to identify those for a detailed review – focusing on factors like high costs, frequent change orders, and schedule extensions. Projects were selected based on size, region sampling, and types.
- LAUSD and MGT agreed on an initial list of four LAUSD construction projects to begin analysis. Smaller projects were selected initially to understand the available data, including how the data was stored and what was available.
- Additional projects were reviewed and analyzed once MGT’s review method was completed and tested using the sample four projects.
- MGT completed its review and shared in-depth analysis of 10 projects.
- LAUSD and MGT agreed to the final list of 10 projects included in the report.

For the projects selected for the report, the District provided MGT with relevant project documentation including but not limited to: Board of Education documents; construction budget, cost, and control documents; estimate at completion reports; budget modification forms; change orders; notices of award; notices to proceed; and notices of completion. MGT reviewed these documents to gain an understanding of each project including its purpose, timeline, budgeted and actual costs, and potential issues or complications encountered during the completion of the project. An analysis of these findings, highlighting commonalities across the projects, is discussed below. Project Summaries for each of the projects that was reviewed in-depth are available for reference in Appendix B.

Analysis

Budget Versus Actual Project Costs Summary

The variance between the original budgeted costs and actual project costs may be indicative of challenges in accurately predicting expenses, potential inefficiencies, unforeseen complications, or changes in project scope during the construction process. Best practices in project management strive to keep cost variances within 15 percent of the original budget to maintain financial efficiency and project integrity. Exhibit 6 provides a summary of the variance between the original budget and actual costs for each of the 10 projects reviewed by MGT.

Exhibit 6 – Cost Summary

Project Data					Calculations	
Project	School Level	Project Type	Original Budget	Actual Costs per EAC*	Actual Vs Budget Variance	Over/Under Budget %
Carnegie MS - HVAC	Middle	HVAC Replacement	\$3,658,844	\$4,546,726	\$887,882	24%
Sun Valley Magnet - HVAC	Middle & High School	HVAC Replacement	\$3,770,837	\$4,032,483	\$261,646	7%
Garvanza Technology & Leadership Magnet ES - Seismic Retrofit of Main Building	Elementary	Seismic Retrofit	\$5,224,506	\$7,328,857	\$2,104,351	40%
Glassell Park STEAM Magnet ES - Seismic Retrofit of Main Building	Elementary	Seismic Retrofit	\$7,221,209	\$7,736,392	\$515,183	7%
Ramona ES - ADA Improvements	Elementary	ADA Upgrades	\$6,650,121	\$3,325,834	-\$3,324,287	-50%
Cleveland Charter HS - Comprehensive Modernization	High School	Modernization	\$109,823,330	\$167,080,188	\$57,256,858	52%
Venice HS - Comprehensive Modernization	High School	Modernization	\$111,491,261	\$156,907,036	\$45,415,775	41%
Wonderland ES - Classroom Replacement	Elementary	Modernization	\$7,004,000	\$11,367,361	\$4,363,361	62%
Hollywood HS Roofing	High School	Roofing	\$1,553,680	\$2,979,797	\$1,426,117	92%
Los Angeles Center for Enriched Studies - Roofing	High School	Roofing	\$1,251,581	\$1,147,825	-\$103,756	-8%
Average Variance All Sample Projects			\$257,649,369	\$366,452,499	\$108,803,130	42%
Average Variance HVAC Projects			\$7,429,681	\$8,579,209	\$1,149,528	15%
Average Variance ADA Projects			\$19,095,836	\$18,391,083	-\$704,753	-4%
Average Variance Modernization Projects			\$228,318,591	\$335,354,585	\$107,035,994	47%
Average Variance Roofing Projects			\$2,805,261	\$4,127,622	\$1,322,361	47%

Source: Created by MGT, information provided by LAUSD

*-EAC = Estimate at completion

Overall, the projects were well beyond the original approved budget with two exceptions: the ADA Upgrade project at Ramona Elementary and the roofing project at Los Angeles Center for Enriched Studies, which were completed 50% and 8% under the approved budget, respectively. The average variance across the selected projects was approximately 42% over budget.

Most significantly, modernization and roofing projects were approximately 47% over budget, with HVAC projects next at approximately 15% over the approved budget.

With typical construction overages or contingencies are 10-15%, MGT evaluated the circumstances for each of these projects to understand factors resulting in the averages outlined above. In addition, MGT assessed how expected variance range of budget to actual, based on peer averages and industry standards, compares to the data above. However, the variance above across these projects is extremely large.

Hard & Soft Costs by Project Type Summary

For each project, MGT totaled, reviewed and analyzed the mix of soft and hard costs on each project. For that detail, MGT used the same LAUSD definitions across all projects reviewed. Soft costs include costs for: planning, management, other and reserves. Hard costs include costs for: environmental, site and construction. Exhibit 7 details the mix of hard and soft costs by project and some ranges of those project cost components. It is generally accepted in the construction industry that hard construction costs are 70-80% of the expected project costs. This means that soft costs can be up to 30% of the anticipated project cost. Exhibit 7 shows that hard costs as a percentage of total cost range from 72-98% across the project reviewed and on average is 86% across the 10 projects in aggregate.

Exhibit 7 – Hard and Soft Costs

Project Data			Calculations			
Project	School Level	Project Type	Hard Cost	Soft Cost	Total Cost	Hard Cost as % of Total Costs
Carnegie MS - HVAC	Middle	HVAC Replacement	\$3,441,766	\$1,104,960	\$4,546,726	76%
Sun Valley Magnet - HVAC	Middle & High School	HVAC Replacement	\$3,197,845	\$834,638	\$4,032,483	79%
Garvanza Technology & Leadership Magnet ES - Seismic Retrofit of Main Building	Elementary	Seismic Retrofit	\$5,665,071	\$1,663,786	\$7,328,857	77%
Glassell Park STEAM Magnet ES - Seismic Retrofit of Main Building	Elementary	Seismic Retrofit	\$6,419,278	\$1,317,114	\$7,736,392	83%
Ramona ES - ADA Improvements	Elementary	ADA Upgrades	\$2,402,168	\$923,666	\$3,325,834	72%
Cleveland Charter HS - Comprehensive Modernization	High School	Modernization	\$148,004,934	\$19,075,254	\$167,080,188	89%

Project Data			Calculations			
Project	School Level	Project Type	Hard Cost	Soft Cost	Total Cost	Hard Cost as % of Total Costs
Venice HS - Comprehensive Modernization	High School	Modernization	\$133,247,276	\$23,659,760	\$156,907,036	85%
Wonderland ES - Classroom Replacement	Elementary	Modernization	\$8,529,030	\$2,838,331	\$11,367,361	75%
Hollywood HS Roofing	High School	Roofing	\$2,916,623	\$63,174	\$2,979,797	98%
Los Angeles Center for Enriched Studies - Roofing	High School	Roofing	\$1,079,701	\$68,124	\$1,147,825	94%
Total			\$314,903,692	\$51,548,807	\$366,452,499	86%

Source: Created by MGT, information provided by LAUSD

Industry standards are typically 70-80% hard construction costs, but that varies by the type of project. MGT observed less variance on those costs for roofing and larger dollar modernization projects.

Common Issues and Complications

Based on the LAUSD projects reviewed and analyzed in depth, MGT identified several common setbacks the District faced during the planning and execution of construction projects. Most projects reviewed required a scope of work change before the project was started. These changes range from simple design changes to full redesign of structures and locations. Scope changes made during projects were also noted in some projects. While scope changes before the construction starts are not ideal and in some instances may be as a result of DSA review, it is better for the District to identify changes that are necessary before the construction begins, as materials and labor time could be wasted, thus adding costs.

Many projects mentioned “unforeseen” issues which lead to change orders and budget modifications. While unforeseen issues can happen during construction projects, especially in historical building sites, these consistent unforeseen issues and changes in scope appear to be more of an issue in regard to the initial planning phase projects. MGT noted that five of the 10 projects reviewed had more than 50 change orders.

MGT noted that several projects required budget modifications related to inspections costs and corrective actions. While it is certainly reasonable to expect some corrective actions needed to pass inspections, the need to make large budget modifications to accommodate these inspections and corrective actions as a common practice is generally not reasonable.

The table below presents a summary of the original board-approved budget, subsequent budget modifications, and the actual costs incurred for each of the ten projects reviewed. For a detailed analysis of budget versus actual costs by expenditure category for each project, please refer to Appendix B.

Exhibit 8 - Project Cost Variance Analysis

Project	Original Board Approved Budget	Change Orders	Other Budget Modifications	Total Cost	Under / Over % of Original Budget
Carnegie MS - HVAC	\$3,658,844	\$661,072	\$226,810	\$4,546,726	24%
Cleveland Charter HS - Comprehensive Modernization	\$109,823,330	\$2,657,635	\$54,599,223	\$167,080,188	52%
Garvanza Technology & Leadership Magnet ES - Seismic Retrofit of Main Building	\$5,224,506	\$808,642	\$1,295,709	\$7,328,857	40%
Glassell Park STEAM Magnet ES - Seismic Retrofit of Main Building	\$7,221,209	\$932,534	\$(417,351)	\$7,736,392	7%
Hollywood HS Roofing	\$1,553,680	\$209,744	\$1,216,373	\$2,979,797	92%
Los Angeles Center for Enriched Studies - Roofing	\$1,251,581	-	\$(103,756)	\$1,147,825	-8%
Ramona ES - ADA Improvements	\$6,650,121	\$202,991	\$(3,527,278)	\$3,325,834	-50%
Sun Valley Magnet - HVAC	\$3,770,837	\$641,112	\$(379,466)	\$4,032,483	7%
Venice HS - Comprehensive Modernization	\$111,491,261	\$16,242,267	\$29,173,508	\$156,907,036	41%
Wonderland ES - Classroom Replacement	\$7,004,000	\$604,369	\$3,758,992	\$11,367,361	62%
Total	\$257,649,369	\$22,960,366	\$85,842,764	\$366,452,499	42%

Source: Created by MGT, information provided by LAUSD

Change Order Analysis

To address these issues, MGT performed an analysis of the change orders associated with the 10 projects evaluated. This analysis aimed to uncover the underlying reasons for the change orders and identify recurring patterns that could inform future process improvements. By meticulously categorizing each change order and its associated costs, MGT sought to provide insights that would enable the District to better manage and anticipate potential setbacks, ultimately leading to more efficient and cost-effective project execution. **Exhibit 9 provides a summary of the results.**

Exhibit 9 – Change Order Cost per Code

Change Order Cost Per Code - Evaluated Projects			
Code*	# Change Orders	Cost	% of Total Change Orders
Course of Construction Scope Addition	320	\$12,581,910	54.80%
Owner Initiated Scope Addition	162	\$6,716,537	29.25%
Abatement	53	\$2,304,332	10.04%
Design Scope Addition	122	\$1,158,188	5.04%
Bid Scope Gap	9	\$917,289	4.00%
Undefined	84	\$543,175	2.37%
Utilities	2	\$505,140	2.20%
Means and Methods	1	\$170,535	0.74%
COVID	2	\$87,217	0.38%
Administrative Change	16	\$44,863	0.20%
Seismic	1	\$42,656	0.19%
Value Engineering	1	\$1,775	0.01%
Delay	2	\$0	0.00%
Course of Construction Scope Deletion	1	(\$901)	(0.01%)
Design Scope Deletion	2	(\$2,415)	(0.01%)
Owner Initiated Scope Deletion	16	(\$2,109,935)	(9.19%)
Total	794	\$22,960,366	100%

Source: Created by MGT, data provided by LAUSD

*** Code Explanations**

- **Abatement** – Change orders related to hazardous material abatement, primarily involving Asbestos (ACM) testing and abatement.
- **Administrative Change** – A category from the change order logs provided by LAUSD.
- **COVID** – Defined in the change order report for Cleveland Comprehensive Modernization
- **Course of Construction Scope Addition/Deletion** – Change orders resulting from unforeseen circumstances discovered during construction.
- **Delay** – Change orders where a delay was mentioned in the comments or indicated as a reason or result of the change order.
- **Design Scope Addition/Deletions** – Change orders where design was cited as the reason for the change order
- **Owner Initiated Scope Addition/Deletion** – Change orders initiated by the owner or end user.
- **Seismic** – A designation from the change order logs.
- **Undefined** – A designation from the change order logs.
- **Utilities** - Defined in the change order report for Cleveland Comprehensive Modernization.
- **Value Engineering** – A designation from the change order logs.

As shown above, the change orders associated with the 10 projects reviewed totaled over \$22.9 million dollars which represents approximately 6.3% of the total hard and soft costs for the projects. The Course of Construction Scope Addition accounted for approximately 55% of the total, highlighting its significant impact on the overall project costs.

Additionally, seven of the projects reviewed had change orders related to abatement, with a total cost of \$2,304,332, accounting for 10% of the total change order cost across all 10 projects. The modernization projects incurred the highest abatement costs, with Cleveland and Venice totaling \$2,103,839, which represents 91% of the total costs of change orders associated with abatement due to the large scale of modernization projects.

Exhibit 10 – Abatement Change Orders

Abatement Change Orders – Evaluated Projects		
Project*	# Change Orders	Cost
Venice HS - Comprehensive Modernization	24	\$1,282,515
Cleveland Comp Mod	14	\$821,324
Garvanza Technology & Leadership Magnet ES - Seismic Retrofit of Main Building	5	\$48,495
Carnegie MS - HVAC	4	\$95,242
Sun Valley Magnet - HVAC	3	\$37,641
Wonderland ES - Classroom Replacement	2	\$11,851
Ramona ES - ADA Improvements	1	\$7,263
Total	53	\$2,304,332

Source: Created by MGT, data provided by LAUSD

*-Glassell Park STEAM Magnet ES and Hollywood HS Roofing projects did not have any abatement related change orders. Los Angeles Center for Enriched Studies roofing project did not have any change orders at all.

Individual change order analysis for each of the 10 projects is included in the respective Project Summary in Appendix B.

Quality Control Review

Project Documentation Review

MGT reviewed several documents for each of the 10 selected projects. At a minimum, the documents reviewed included Board of Education documents; construction budget, cost, and control documents; estimate at completion reports; budget modification forms; change orders; notices of award; notices to proceed; and notices of completion. The substantial number of change orders and budget modifications for some projects does raise concerns for overall project quality control.

Change orders are a normal and sometime necessary part of the construction process. The District sets clear expectations for the level of service expected and change orders can be used to meet those expectations. However, when projects have 50, 80, or sometimes more than 200 change orders, it raises concerns for the project's overall planning effectiveness and the efficient use of funds. The District should consider setting up a very stringent review process for project change orders, in addition to the current monthly review, once they meet a certain threshold. This threshold could be set at a specific number of change orders (i.e., more than 15) or at a percentage of the overall project budget (i.e., more than 10%).

A significant number of change orders indicates potential deficiencies in the initial planning and project management processes, suggesting a lack of thorough initial assessments, which could lead to increased costs and delays. The issues with change orders identified during our review reinforce deficiencies in the process noted in the 2020 audit report issued by the Office of the Inspector General (OIG). The OIG audit report highlighted significant inconsistencies in compliance, documentation, and adherence to procedural timeliness related to the change order process. Specifically, it found inconsistent implementation of controls, documentation gaps, failure to follow timeliness, and inefficient process management. While change order procedures have been an area of focus for the District, additional improvements to the process may mitigate common patterns identified in the project review. In light of these concerns, MGT recommends revisiting the inconsistencies from the OIG audit report and elevating it to a strategic plan that strengthens oversight, enforces compliance, and improves processes through the development of key performance indicators and continuous performance monitoring. In addition to project documentation and a high-level brief fraud examination, MGT reviewed LAUSD specific audits.

Overview of Auditing Practices

LAUSD's bond program is subject to rigorous auditing. Annual independent audits are performed for the bond funds each fiscal year, as required by Prop 39 and state law. These include both a financial audit (verification of financial statements for the bond funds) and a performance audit to determine whether bond expenditures were made in accordance with the intended purposes and project list approved by voters. [Bond Audit Procedures](#).

Over the past five years, the annual Prop 39 bond audits for LAUSD have generally reported clean results, confirming that funds were spent on authorized capital projects and not on disallowed uses. For example, the FY2022 Bond Audit had no findings or questioned costs – the auditors' report did not identify any material weaknesses or compliance issues, and prior years' audits were

similarly free of significant findings. [2023 School Bond Construction Program – Audited Financial Statements](#).

These audits typically verify dozens of sample transactions across all active bond measures (K, R, Y, Q, RR) and check that project expenditures match the bond ballot language and Board-approved plans. They also review internal controls on bidding, contracting, and accounting for bond dollars.

Independent Auditor Findings

In FY2023, the independent auditors noted a few minor findings relating to cost allocation practices. One key issue was that certain employee payroll costs had been charged to bond funds (Measure K) based on budgeted allocations rather than actual time spent on bond projects. The performance audit found that this resulted in some “ineligible” salary expenditures being paid from Measure K funds. The auditors recommended LAUSD adjust those costs off the bond, implement full-year time-tracking metrics for employees who charge time to bonds, and provide additional training to departments on distinguishing bond-eligible staff activities ([source](#)).

In response, LAUSD management concurred and outlined corrective actions:

- Transfer the inappropriate charges out of Measure K, to use more robust metrics and year-end journal adjustments for any payroll on bond programs
- Conduct annual training on time-reporting requirements for bond-funded personnel

These steps were documented in the audit’s corrective action plan. No other material compliance issues were identified. The audit still concluded that, aside from the noted adjustments, bond expenditures “were in accordance with the specific projects listed in the bond measures”, meaning funds were properly used for school facilities needs.

Office of the Inspector General (OIG) Audit Report Findings

Beyond the yearly Prop 39 audits, LAUSD’s Office of the Inspector General (OIG) conducts various targeted audits and reviews of the District’s facilities program. Including:

- Audit of Change Orders by Vendors
- Audit of Construction Contracts
- Construction Procurement Policies and Procedures Audits
- Audit of the Facilities Division’s cost estimating processes.
- Performance & Financial Standard Audits

The OIG also operates a fraud hotline and investigates any allegations of fraud or waste in bond projects. Notably, neither the independent audits nor OIG investigations in recent years have uncovered any fraudulent spending of bond funds – oversight reports consistently show that bond monies have been spent on legitimate facilities projects (e.g. building improvements, technology installs, etc.) rather than misdirected. The findings that do arise tend to be procedural (like the payroll allocation issue or minor contract compliance gaps) and are addressed via management corrective actions. The Bond Oversight Committee’s Audit Task Force monitors the implementation of any audit recommendations.

Conclusion

MGT's high level review of project documents and audits did not reveal instances of overt fraud; however, the scope of this review does not allow for a definitive exclusion of fraud-related activities. MGT is unable to opine that any level of malice indicative of fraud occurred within the projects reviewed, as the level of scrutiny required to make such an opinion is outside the scope of this project.

Additionally, a third-party certified public accounting firm performs an annual financial audit of the District's Bond Fund. MGT obtained and reviewed the reports from 2022 through 2024 and noted that the report did not identify any instances of fraud. This independent verification further supports the integrity of the District's use of bond funds and underscores the commitment to transparency and accountability within LAUSD's facilities program.

Peer Analysis

Overview

Conducting a peer comparison of construction costs for a school district is crucial as it provides valuable information about the efficiency and effectiveness of resource allocation. By benchmarking against similar districts, stakeholders can identify cost-saving opportunities, uncover areas of overspending, and ensure that funds are being utilized optimally. This comparative analysis not only highlights best practices and innovative approaches but also fosters transparency and accountability. Ultimately, it enables informed decision-making, ensuring that the district can deliver high-quality educational facilities while maintaining fiscal responsibility.

Benchmarking against **peer districts can provide insights**, but **self-benchmarking** remains the optimal method for assessing **LAUSD's construction performance**. **External comparisons have limitations** due to:

- Different organizational structures
- Varied project management techniques
- A mix of internal and external expertise
- Macroeconomic differences impacting construction costs
- Difficulties in normalizing data due to nuances noted above

Key Findings: LAUSD's Internal Benchmarking

- **Overbudget projects:** Change orders and scope changes are major cost drivers
- **External peer data does not directly correlate** with LAUSD's specific cost overruns
- **LAUSD needs to establish internal cost efficiency standards** for better financial control

Objectives:

- Identify **areas for cost reduction** and **process improvements** using LAUSD's historical data
- **Extract useful practices from peer audits** to **enhance internal benchmarks**

Peer Selection

In this effort, MGT collaborated closely with LAUSD staff to select five peer institutions for comparison. The collaboration involved examining various California school districts, California colleges, and other school districts nationwide. **Exhibit 11** on the next page provides a listing of the original entities considered for selection as peers for this project.

Exhibit 11 – Original Peer Entities Considered

Urban School Districts in California	Colleges in California	School Districts Outside of California
San Diego Unified School District	California State University System	Phoenix, AZ
San Francisco Unified School District	Los Angeles Community College District	Houston, TX
Sweetwater Elementary Schools		
West Contra Costa Unified School District		
Long Beach Unified School District		
Oakland Unified School District		
Chula Vista Elementary Schools		

Source: Created by MGT

Ultimately, five peers were chosen based on their similar size, geographic location, and operational complexity, ensuring a relevant and insightful benchmark. The selected peers include San Diego Unified School District (San Diego, California), West Contra Costa Unified School District (Richmond, California), Los Angeles Community College District (Los Angeles, California), California State University (Long Beach, San Diego, Los Angeles), and Phoenix Union School District (Phoenix, Arizona). Exhibit 11 provides an overview of the peer entities.

Exhibit 12 – Peer Entities

Peer Entity	State	Enrollment	County Population
Los Angeles Unified School District	California	557,352	9,663,345
Phoenix Union School District	Arizona	27,000	4,420,568
West Contra Costa Unified School District	California	32,197	1,165,927
Los Angeles Community College District	California	193,960	9,663,345
San Diego Unified School District	California	114,467	3,269,973
California State University	California	485,549	N/A
Peer District Average*	---	235,087	5,636,632

Source: Created by MGT

MGT conducted online research and outreach to the peer entities to obtain comparable data to inform the analysis. Outreach included emails, calls, and Public Records Access Requests to the peer entities to gather information as well as LAUSD outreach to peer entities. Due to differences in the type of completed construction projects and inconsistencies in the data available for peer entities, the list of peers for the comparative analysis was expanded to also include data from Long Beach Unified. MGT also interviewed and gathered data from Fresno Unified School District, Hillsborough Public Schools in Florida, and Indianapolis Public Schools in Indiana.

A Profile Summary of the original five selected peer entities along with Long Beach Unified, Hillsborough Public Schools, Fresno Unified School District, and Indianapolis Public Schools is available in Appendix C.

Comparative Analysis

For the comparative analysis, MGT gathered information from peer entities to analyze construction project costs, timelines, and delivery methods. Furthermore, we examined local labor market influences, such as prime contractor competition, sub-contractor participation, and labor availability and cost. Lastly, we identified similarities and differences in key performance indicators and common practices, including legal terms and conditions and the impact of LAUSD's payment practices. The results of the peer comparison are presented in the following pages.

Local Labor Market Influences

Local labor market influences play a significant role in determining the cost and efficiency of construction projects in a school district. Prime contractor competition, for instance, can drive costs up or down depending on the number of qualified contractors bidding for projects. In areas with limited competition, school districts may face higher prices due to a lack of competitive pressure. Additionally, sub-contractor participation is crucial as it directly affects the availability of specialized skills and the ability to meet project timelines. A higher number of participating sub-contractors typically leads to more competitive pricing and better quality of work. However, in regions where sub-contractor availability is low, the cost and duration of projects can increase. Labor availability and cost are also critical factors; in markets with high demand for construction labor, wages can escalate, further inflating project budgets. These local market dynamics, combined with regional regulatory requirements create a complex environment that influences the overall cost and success of construction initiatives in school districts.

MGT analyzed the local labor market influences as it relates to prime contractor competition, sub-contractor participation requirements, and labor availability and cost in Los Angeles and other California areas. The results of our analysis are presented in the following pages.

Prime Contractor Competition

To compare the District's local contractor competition to other peers, MGT gathered contractor participation by county for the metropolitan statistical areas (MSA) in which, the LAUSD, San Diego Unified and West Contra Costa Unified School Districts reside. These MSA's are Los Angeles-Long Beach- Anaheim, San Diego-Carlsbad and San Francisco-Oakland-Hayward, respectively. MGT found the number of contractors within each category for all the counties located within the different MSAs. The data was aggregated to find the average number of contractors per 1,000 residents. The results are displayed in Exhibit 13. MGT has highlighted the most competitive markets for each category in green.

Exhibit 13 – Contractor Competition

Contractor Classification	Code	MSA Data			Calculations	
		LA-LB-Anaheim	SD-Carlsbad	SF-Oakland-Hayward	Average	Difference (Peer Avg. vs. LA)
Average MSA Population		3,663,349	3,269,973	1,195,400	2,709,574	
General Building	B	2.4626	2.6147	2.8746	2.6506	(0.1880)
Boiler, Hot Water Heating and Steam Fitting	C-4	0.0098	0.0119	0.0413	0.0210	(0.0112)
Electrical	C-10	0.7253	0.6324	0.6627	0.6735	0.0518
Warm-Air Heating, Ventilating and AC	C-20	0.3339	0.2572	0.1852	0.2588	0.0751
Building Moving/Demolition	C-21	0.0492	0.0419	0.0401	0.0437	0.0055
Asbestos Abatement Contractor	C-22	0.0067	0.0095	0.0074	0.0079	(0.0012)
Masonry	C-29	0.0832	0.0606	0.0305	0.0581	0.0251
Plumbing	C-36	0.4423	0.4550	0.4698	0.4557	(0.0134)
Roofing	C-39	0.1398	0.1187	0.1059	0.1215	0.0183
Solar	C-46	0.0259	0.0428	0.0278	0.0322	(0.0063)
Structural Steel	C-51	0.0374	0.0324	0.0334	0.0344	0.0030

Source: Created by MGT, data from the California Contractors State License Board

Based on the table above, the LA-LB-Anaheim MSA proves to have the most competitive market in six of the 11 contractor classifications. San Diego-Carlsbad MSA is the most competitive market in two classifications and the San Francisco-Oakland-Hayward MSA is the most competitive in three markets. However, the range across each MSA for the different classifications is very minimal. The largest range between the three MSA's is found in the general building classification. The San Francisco-Oakland-Hayward MSA has the most competition at 2.8746 contractors per 1,000 residents, while the LA-LB-Anaheim MSA is 2.4626. The average across the three MSAs is 2.6506, and the difference between the average and the LA-LB-Anaheim MSA is (0.1880).

The contractor in the general building classification would be able to bid on and complete the widest range of projects for the District and a more competitive market should drive down project costs. The data shows that both the San Diego-Carlsbad and San Francisco-Oakland-Hayward MSAs have a more competitive market than the LA-LB-Anaheim MSA for general builders, thus, both of those two markets would likely have better pricing competition between bidders than the MSA the District falls under. While the difference between the different MSAs is not significant, these market conditions for contractor competitiveness could lead for large bids and higher project costs for the District as compared to its peers in other areas of the state.

Sub-Contractor Participation and Small Business Enterprise Participation

Sub-contractor participation is crucial in school construction projects for several reasons. Firstly, sub-contractors bring specialized skills and expertise that general contractors might not possess. This specialization ensures that each aspect of the construction, from electrical work to plumbing, is handled by professionals with in-depth knowledge and experience in their respective fields. This not only enhances the quality of the work but also ensures compliance with safety standards and building codes, which is particularly important in environments where children will be present. Additionally, sub-contractors often have access to the latest technologies and techniques in their trade, which can lead to more efficient and innovative construction solutions.

For school districts, the benefits of involving sub-contractors are significant. By leveraging the expertise of sub-contractors, school districts can often achieve better project outcomes within budget and on schedule. This is because sub-contractors can work simultaneously on different parts of the project, reducing overall construction time. Furthermore, the competitive bidding process for sub-contractors can lead to cost savings, as it encourages competitive pricing and ensures that the district gets the best value for its investment. Ultimately, the involvement of sub-contractors contributes to the creation of safe, high-quality educational facilities that can better serve the needs of students and the community.

LAUSD has implemented various initiatives to enhance the participation of small business enterprises (SBEs) in its projects, aiming to foster a more inclusive and competitive market. These initiatives include:

- **Certification Assistance:** LAUSD helps small businesses with the certification process, making it easier for them to qualify for contracts.
- **Educational Workshops and Seminars:** These programs provide SBEs with valuable information and training on how to do business with LAUSD.
- **Meet the Buyers Program:** Quarterly vendor fairs where small businesses can present their products or services directly to LAUSD procurement teams.
- **Technical Assistance:** Referrals to resources for bonding, insurance, and financial support to help SBEs meet project requirements.
- **We Build Program:** Pre-apprentice program that prepares local residents for placement on LAUSD construction projects, indirectly supporting SBEs by increasing the local skilled labor pool.

To determine if LAUSD is taking advantage of sub-contractor participation, we gained an understanding of the sub-contractor participation initiatives in LAUSD and compared it to the initiatives in San Diego Unified School District, West Contra Costa Unified School District, Los Angeles Community College District, and California State University. The results of the comparison are presented in **Exhibit 14 on the next page**.

Exhibit 14 – Subcontractor Participation Initiatives

Entity	Subcontractor Participation Initiatives
Los Angeles Unified School District	LAUSD requires all mechanical, electrical, and plumbing (MEP) subcontractors to be prequalified before bidding on construction projects. The district also supports inclusive contracting through its Small Business Enterprise (SBE) and Veteran Business Enterprise (VBE) programs, offering bid preferences of up to 13% for SBEs, up to 15% for micro SBEs, and up to 15% for veteran-owned businesses. Participation goals are set at 25% for SBEs and 5% for VBEs.
San Diego Unified School District	San Diego Unified School District mandates that general contractors and MEP subcontractors submit a prequalification package for projects over \$1 million. The district uses an “XBE” framework with targets of 5% DVBE, 8% MBE, 7% WBE, 40% SBE, and an overall 50% participation goal, with a minimum 3% DVBE requirement on every project.
West Contra Costa Unified School District	Under its Local Capacity Building Program (LCBP), WCCUSD prequalifies contractors for projects of \$1 million or more in accordance with state guidelines. The district’s approach ensures that local businesses secure at least 30% of the total project dollar volume, supported by local hiring targets (e.g., 24% of work hours by local residents and participation from apprentices).
Los Angeles Community College District	LACCD leverages its Community Economic Development (CED) Program to award contracts, mandating that at least 30% of Build Program contracts go to Local, Small, Emerging, and Disabled-Veteran Owned Businesses (LSEDEV)—including MBE, WBE, SBE, and DVBE categories—reinforced by a Project Labor Agreement (PLA) supporting local hiring.
California State University	CSU requires subcontractors to comply with the Disabled Veteran Business Enterprise (DVBE) participation requirements, which include a 3% goal of total contract value. CSU allows informal bidding on contracts under \$250,000 by obtaining quotes from at least two certified small businesses or two DVBEs. This prequalification process supports a minimum DVBE participation of 3% across all contracts and requires annual reporting to ensure diverse supplier engagement
Phoenix Union School District	Phoenix Union’s Local and Small Business Outreach Program (LSBOP) requires contractors to maximize local participation. The district targets three priority areas—Central Phoenix, Greater Phoenix (Maricopa County), and Outlying Regions—to ensure local businesses receive at least 30% of the project dollar volume. Additionally, annual goals require 25% of work hours by local residents and 20% by apprentices, with all subcontracting pre-approved by the Procurement Officer.
Long Beach Unified School District	Long Beach Unified School District has a formal Local Hire and Local Business Participation policy to reinvest bond dollars back into the community, including targeting firms and workers within a 15-mile radius of the district. Additionally, the Long Beach Unified School District maintains a pre-qualification program for contractors that allows small and minority-owned firms to get on the district’s preapproved bidders list for projects. The Long Beach Unified School District has also entered into a Community Workforce Development Agreement (a project labor agreement) with the Los Angeles/Orange Counties Building Trades Council. This agreement guarantees fair wages and working conditions on bond-funded projects and also includes provisions for hiring local apprentices and workers-in-training.

Source: Created by MGT

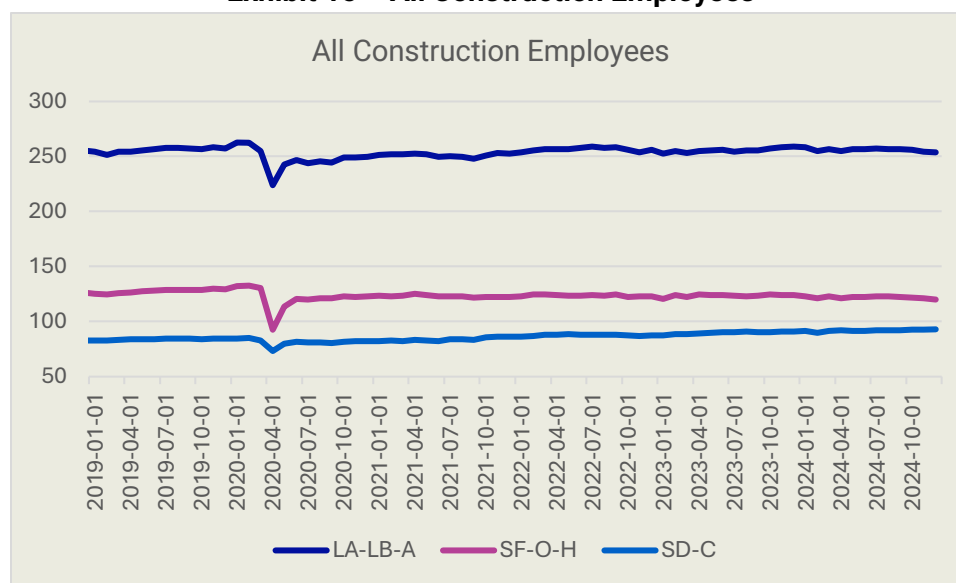
Our research disclosed that LAUSD promotes sub-contractor participation by offering a 10 percent bid preference to certified SBEs and pre-qualified subcontractors, similar to peer entities. This initiative underscores LAUSD's commitment to fostering equitable opportunities for small businesses and ensuring a diverse pool of qualified subcontractors for their construction projects.

Labor Availability and Cost

Labor availability and labor cost typically have a negative correlation, meaning the more labor available to perform the job, the lower the market rate for labor cost should be. The opposite should also be true as labor availability decreases, the market rate for labor is going to increase as the labor would have leverage to demand a higher wage.

MGT has gathered data from the Federal Reserve Bank of St. Louis, which aggregates economic data across all different categories from across the United States and globally. MGT first looked at the availability of construction workers within the three different MSAs (i.e., LA-LB-A, SF-O-H, and SD-C) which were compared above in the contractor analysis. The exhibit below displays the data found from 2019 through 2024 for the total number of workers employed within the construction industry, in thousands, in each MSA.

Exhibit 15 – All Construction Employees



Source: Created by MGT

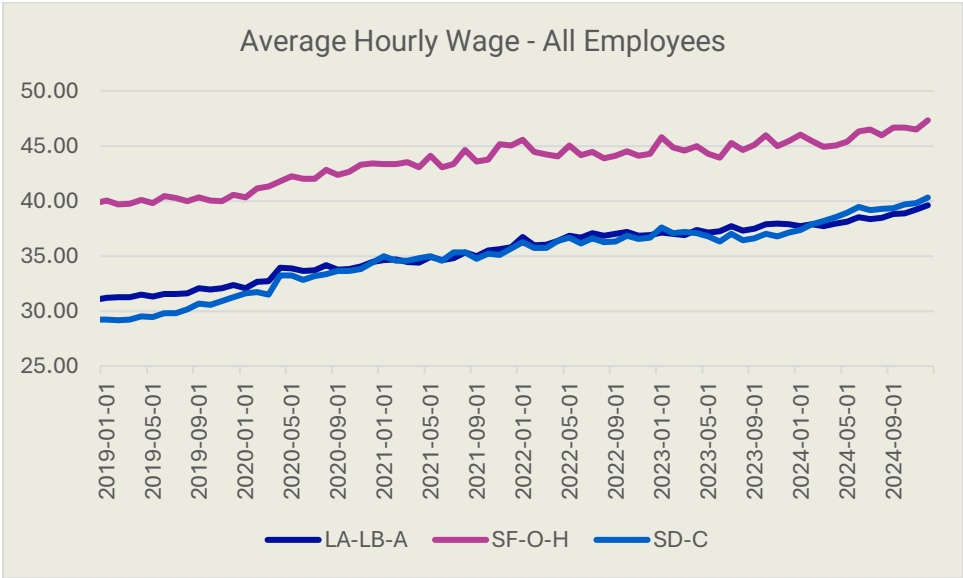
As shown in Exhibit 15 above, the MSA in which LAUSD (i.e., LA-LB-A) is located has the most construction workers employed compared to the two other MSAs by a substantial amount, almost double. However, when comparing these numbers to the average population, construction workers make up 6.9%, 10%, and 2.8% for the LA-LB-Anaheim, SF-Oakland-Hayward, and SD-Carlsbad MSAs, respectively. This indicates that the number of construction employees in the LA-LB-Anaheim MSA is relatively smaller when compared to the SF-Oakland-Hayward MSA.

The exhibit also shows that all three areas experienced a decline in the number of construction workers during the COVID-19 pandemic and even though the number of construction workers has

increased since then, data seems to imply that the LA-LB-Anaheim and SF-Oakland-Hayward MSAs have not been able to reach their pre-pandemic high in late 2019.

In theory, the greater population of construction workers in the LA-LB-Anaheim areas should drive the overall cost of the labor down. MGT performed research to assess whether the hourly wages of construction workers in the LA-LB-Anaheim MSA were lower than in the SF-Oakland-Hayward and SD-C MSAs. However, the salary data available was not specific to construction workers. Therefore, MGT analyzed the average hourly wages for all employees in the three MSAs. The exhibit below shows the average hourly wages for all employees.

Exhibit 16 – Wages in California MSAs



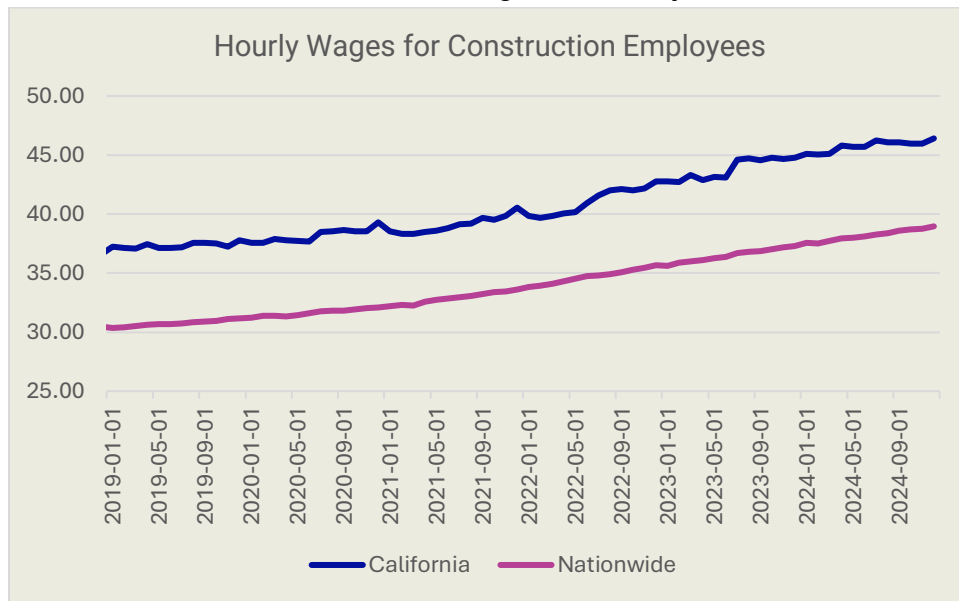
Source: Created by MGT

As shown in Exhibit 16 above, the average hourly wages in the San Francisco -Oakland-Hayward MSA is significantly higher than in the LA-LB-Anaheim and SD-C MSAs. However, this is an outline as the San Francisco-Oakland-Hayward MSA includes parts of Silicon Valley, home to some of the highest wage earners in the country. The LA-LB-Anaheim and SD-C MSAs are very similar in average hourly wages.

The LA-LB-Anaheim MSA has a substantially higher number of construction workers than the SD-C MSA while having similar average population sizes across the area they represent. The expectation would be that the LA-LB-Anaheim MSA would have a lower average hourly wage as it likely has more workers overall; however, when looking at the data, the average cost for workers is almost identical to the SD-C MSA.

Furthermore, MGT gathered data for average hourly wages in construction for California and the nation, as the state level was the smallest aggregation MGT could find for construction-specific wages. Exhibit 17 on the next page represents MGT’s findings.

Exhibit 17 – Wages Nationally



Source: Created by MGT

As displayed, California’s average hourly wages are approximately \$5 more than the nationwide average, which represents that building in California is going to be more expensive than the national average as it relates to labor cost.

School Construction Delivery Methods

In the Design Bid Build (DBB) delivery method, an architect is hired to create design documents from which the general contractors will submit a bid. This delivery method is also referred to as a “hard bid” and districts are required to select lowest responsible bidder. Usually, this delivery method has the following disadvantages: longer timelines, cost uncertainty, and costly change orders.

Design Build (DB), whereby the contractor/designer team is responsible for both design and construction, is considered in the industry to offer faster timelines with more cost certainty. The risk is generally shared between the owner and contractor/design team. There are two models of Design Build – Traditional and Progressive. San Diego Unified and LACCD reported using both Design Build contracting models.

Traditional Design Build focuses on price certainty at the beginning of a project often not fully designed, which can sometimes lead to cost and design misalignment later in the project. Progressive Design Build emphasizes collaboration and phased pricing, thus reducing surprises and allowing for adjustments before committing to a final cost. Cost estimates are established, and project scope is more developed. **For school modernization or large public works projects, Progressive Design Build is often preferred** because it provides more flexibility and **reduces the risk of unexpected cost overruns**, while still maintaining a streamlined timeline. In the Design Build models, design and construction can overlap whereas in traditional Design Bid Build, the design is complete and then the bidding and construction occurs.

Best Value Procurement (BVP) is a form of design-build that evaluates both cost and qualitative factors to select the contractor that offers the best overall value for the project. This method aims to strike a balance between cost and other qualitative factors to ensure the best overall project outcome. Unlike traditional low-bid procurement, which prioritizes the lowest price, BVP considers a combination of criteria such as technical expertise, innovative solutions, risk management, and long-term performance.

Job Order Contracting (JOC) is a procurement method used in school construction projects that allows for efficient and flexible management of multiple small-scale construction tasks under a single, competitively awarded contract. LAUSD utilizes it extensively, but each contract is capped at \$1.5 million and limited in scope.

The Lease-Leaseback (LLB) delivery method establishes a contract by which a district owns a piece of property and leases it for a nominal amount to an entity (typically a general contractor) that will build a school on the site. That entity then leases the finished school and site back to the district for a specified period and specified rental price. At the end of the lease, the school and site become the property of the district. This delivery method does not require the selection of the lowest responsible bidder.

Representatives from the reviewed peer districts provided information on Construction Delivery Methods used on the most recent projects. Similar to LAUSD, LACCD delivers projects via the Design Build delivery method. San Diego Unified School District has used Design Build in the past and, most recently, has completed projects under Design Bid Build in addition to Lease-Leaseback. West Contra Costa Unified School District has most recently utilized the Design Build delivery method authorized under Education Code section 17250.60 et seq. (the “Alternative Design Build Statute”).

Based on the review of identified LAUSD projects in scope for this review, LAUSD is advised to use caution in its use of the Design Bid Build delivery method in light of its inherent disadvantages. However, in discussion with Facilities staff in the drafting of this report, limitations to the use of Design Build as a viable alternative due to lack of contractor availability and market conditions may necessitate the use of Design Bid Build despite its risks.

If the goal of LAUSD is faster timelines for project delivery, cost control, or risk reduction, Lease-Leaseback or one of the Design Build models are favorable options. Continue to advertise widely for increased competitive pricing on projects and create a deeper pool of pre-qualified firms to shorten the selection timeline using a Request for Qualifications/Request for Proposal procurement process.

Peer Project Analysis

For each of the five peer institutions, MGT selected three or four construction projects that were comparable to the selected LAUSD projects reviewed by MGT in-depth. MGT attempted to select comparable projects by basing our selection on project type and the school level of the schools associated with the projects. This selection ensured a thorough and balanced comparison, providing a comprehensive overview of construction costs and practices. Below is an overview of the projects selected for each peer entity.

1. San Diego Unified School District

- a. *Barnard Elementary School Whole Site Modernization Phase II GMP I* - Removal of three portable classrooms, placement of six relocatable interim classrooms, ADA upgrade to accessible parking and restrooms in Building 400, construction of a new fire services and relocation of site water and irrigation mains
- b. *Roosevelt Middle School HVAC Phase 2 Region 4* - The work is part of the Board of Education's 2015 decision to bring relief to students by implementing district-wide air conditioning in classrooms and other primary use spaces.
- c. *Crawford High School Site Modernization Phase III* - This site modernization phase three project at Crawford High School constructs a new three-story, 20-classroom building at the corner of Colts Way and Orange Ave that provides performing arts and administration spaces. Construction takes place after demolition of the existing auditorium is completed. Other improvements to the school campus include a new parking lot and student drop off/pick up zone once the existing administration building is demolished. The project provides accessibility and other improvements to satisfy California Building Code requirements including fire/life safety, sustainability and energy efficiency.

2. West Contra Costa Unified School District

- a. *Collins and Cameron Elementary Schools HVAC Systems* - Improvements to site HVAC Systems, Electrical Infrastructure, and Accessibility including path of travel improvements and parking lot updates.
- b. *Michelle Obama Middle School Campus Rebuild* - Full campus replacement of the renamed Wilson Elementary site.
- c. *Richmond High School* - New construction of a single-story gymnasium, demolition of old gymnasium and new plaza site work. Seismic upgrade of existing two-story Science Building and site work surrounding the building, including adding a new exterior elevator to the building. Demolition of existing Building A (old auto-shop building) and pavement of the area to prepare for new Health Clinic portable buildings.

3. Phoenix Union High School District

- a. *Central High School Modernization* - The project includes a renovation of the school's cafeteria, adding approximately 6,000 square feet. The modernization

also includes upgrades to the safety and security of the building's registration area, ensuring a safer environment for students and staff and front entry renovation.

- b. *Camelback High School Modernization* - The modernization includes significant improvements to the school's infrastructure, ensuring that the facilities meet current educational standards and provide a safe, conducive learning environment
- c. *Linda Abril Education Academy HVAC Modernization* - The project involves upgrading the Heating, Ventilation, and Air Conditioning (HVAC) systems to improve air quality and energy efficiency throughout the school.

4. Los Angeles Community College Districts

- a. *Los Angeles Pierce College Fire Alarm & HVAC Systems Upgrade on Building 1500* - the project involves upgrading the fire alarm systems and HVAC (Heating, Ventilation, and Air Conditioning) systems in Building 1500 to enhance safety and comfort.
- b. *Los Angeles Pierce College SLE – South of Mall – ADA/Landscaping* - The project focuses on ensuring that the South of Mall area meets the Americans with Disabilities Act (ADA) standards, making it accessible to all students, staff, and visitors
- c. *Los Angeles City College Da Vinci Hall Modernization* - The modernization included 24 classrooms, an AV classroom with technology upgrades, IT and security upgrades, and ADA accessibility improvements. The project also involved seismic retrofitting and updates to the building's fire protection, plumbing, electrical, and mechanical systems.

5. California State University

- a. *Long Beach Building Services CPAC, HVAC, MERV Upgrades* - Include replacing twenty existing (20) rooftop packaged HVAC units with "like for like" HVAC units with Minimum Efficiency Reporting Value (MERV) filter rating capabilities. HVAC units with MERV 13 filters, when installed as part of this project, will remove the particles that contain aerosol viruses from being spread through central HVAC system, and facilitate minimizing the potential spread of the pandemic causing virus transmission within building facilities.
- b. *Long Beach Building Services Brotman Hall Suite 377 Renovation* - This project consisted of renovating suite 377 for Student Affairs. The renovation included 6 new offices, an open office area for 4 cubical stations, 3 hoteling stations, reception, conference room, copy/scan room and kitchenette. The mechanical system was reconfigured for the new layout and plumbing services was added to the kitchenette. New LED lighting throughout the space along with updated finishes to compliment the departments branding/identity.
- c. *Los Angeles Campus Physical Sciences Building* - Modernization of a 1970s 8 story, 218,000 sq. ft. building.

- d. *San Diego Campus Professional Studies and Fine Arts Renovation* – Improvements include replacing the roof, replacing windows and the entry doors, improving the HVAC and plumbing systems, renovating the 3rd-floor restroom, completing fire/life/safety requirements, and upgrading corridor finishes, flooring, and lighting.

6. Long Beach Unified School District

- a. *Cubberley K-8 HVAC Replacement* – The project Includes the installation of an energy-efficient HVAC system.
- b. *Robinson K-8 HVAC Replacement* – The project involved the installation of an energy-efficient HVAC system.
- c. *Jordan High School Major Renovation* – The project is a multi-phase, multi-year transformation initiative that includes the construction of new buildings, replacement of bleachers, construction of a 400-meter synthetic running track, all-weather sports field, and associated structures and equipment.

As the basis for the peer comparison, MGT analyzed project timelines and costs for each of the projects listed above and compared the results to similar projects completed by LAUSD. Due to the inherent limitations of finding similar projects in a finite time period, MGT supplemented its peer analysis with data from other school districts outside of the five selected peer entities.

Project Timelines

Timeliness in school district construction projects is paramount, as it directly impacts the educational environment and the community's ability to maintain uninterrupted learning experiences. Construction delays can lead to extended periods of inadequate facilities, which may hinder students' educational progress and overall well-being. Moreover, timely completion of projects ensures that budgetary constraints are adhered to, preventing cost overruns that can strain district resources. By comparing project timeliness to peer entities, we gain valuable insights into the efficiency and effectiveness of LAUSD's construction processes. Such comparisons highlight areas where LAUSD excels or lags, offering a benchmark for industry standards.

Estimated Substantial Completion Date vs Actual Substantial Completion Date

MGT assessed several variables to compare the timeliness of LAUSD construction projects with those of other similar entities, including whether projects were completed before or after the scheduled substantial completion date when the Notice to Proceed (NTP) was issued. Completing a project before the scheduled substantial completion date indicates efficient project management and timely execution of construction activities, which can enhance budget adherence and minimize disruptions to the educational environment. Conversely, completing a project after the scheduled date may signify delays in construction activities, potentially leading to extended periods of inadequate facilities and cost overruns, which can strain district resources and impact students' educational progress. **Exhibit 18 presents the results of an analysis examining whether LAUSD completed the projects before or after the scheduled substantial completion date.**

Exhibit 18 – LAUSD Project Projected Substantial Completion vs Actual Substantial Completion

Project Data				Calculations		
Project*	School Level	Project Type	NTP	Substantial Completion Date at NTP	Actual Substantial Completion Date	Days Late (Early)
Carnegie MS - HVAC	MS	HVAC Replacement	10/4/2021	3/27/2023	4/23/2024	393
Sun Valley Magnet - HVAC	MS & HS	HVAC Replacement	10/26/2020	4/19/2022	1/4/2022	(105)
Garvanza Technology & Leadership Magnet ES - Seismic Retrofit of Main Building	ES	Seismic Retrofit	11/1/2021	11/20/2023	10/21/2023	(30)
Glassell Park STEAM Magnet ES - Seismic Retrofit of Main Building	ES	Seismic Retrofit	9/2/2020	8/12/2022	6/3/2022	(70)
Wonderland ES - Classroom Replacement	ES	Modernization	11/23/2020	7/15/2022	5/26/2023	315
Hollywood HS Roofing	HS	Roofing	6/1/2022	5/1/2023	5/27/2023	26
Los Angeles Center for Enriched Studies - Roofing	HS	Roofing	3/7/2023	2/4/2024	5/28/2023	(252)

Source: Created by MGT, data obtained from LAUSD

*-Note that the Ramona Elementary Upgrades, Cleveland Charter Comprehensive Modernization, and Venice Comprehensive Modernization projects were not included in the table as the projects had multiple phases with multiple NTPs and Substantial Completion Dates.

As illustrated in the exhibit above, four of the seven projects reached substantial completion before the scheduled substantial completion date when the NTP was issued. Specifically, these four projects were completed 30, 70, 105, and 252 days before the scheduled substantial completion dates. The other three projects reached substantial completion 26, 315, and 393 days after the scheduled substantial completion date, respectively.

In addition to analyzing individual projects, MGT also compared LAUSD's performance in this area to that of its peers. This comparative analysis provided valuable insights into the relative efficiency and timeliness of LAUSD projects. **Exhibit 19 on the next page provides an overview of the results.**

Exhibit 19 – Peer Projects Projected Substantial Completion vs Actual Substantial Completion

Peer*	Project	Project Type	NTP**	Expected Substantial Completion Date	Actual Substantial Completion Date	Days Late (Early)	Days to Complete
LACCD	Pierce - Fire Alarm & HVAC Systems Upgrade for Building 1500*	Fire Alarm & HVAC	9/22/2022	1/10/2023	12/31/2024	721	831
LACCD	Los Angeles City College DaVinci Modernization**	Modernization & ADA	1/4/2017	7/6/2018	4/14/2022	1378	1926

Source: Created by MGT

*-LACCD = Los Angeles Community College District;

**NTP on the Construction Contract

As illustrated above, the two Los Angeles Community College District projects reviewed experienced significant delays of 831 and 1,926 days respectively. These delays were notably higher than those encountered by the LAUSD projects reviewed by MGT.

Square Footage (SF) Completed Per Day

One of the main factors contributing to the extended duration of certain projects compared to similar undertakings is the size of the area that needs to be worked on. Larger areas naturally require more time for completion due to the greater amount of work, resources, and coordination involved. To address differences in project sizes, MGT calculated a "square footage completed per day" factor, which represents the average square footage completed each day on a project. A higher square footage completed per day factor signifies a more efficient project. The calculation used for the square footage completed per day is as follows:

$$\text{Total Square Footage/No. of Days to Complete the Project} = \text{Square Footage Completed/Day}$$

To analyze project timeliness, MGT calculated the average square footage completed per day by project type for the seven LAUSD projects reviewed, which had a single NTP and one Substantial Completion Date. The results of this analysis are presented in **Exhibit 20 on the next page**.

Exhibit 20 – SF Completed per Day LAUSD Projects

Project Data				Calculations			
Project	School Level	Project Type	NTP	Actual Substantial Completion Date	SF	No. of Days to Substantial Completion	SF/Day
Carnegie MS - HVAC	Middle	HVAC Replacement	10/4/2021	4/23/2024	18,447	932	20
Sun Valley Magnet - HVAC	Middle & High School	HVAC Replacement	10/26/2020	1/4/2022	42,200	435	97
Garvanza Technology & Leadership Magnet ES - Seismic Retrofit of Main Building	Elementary	Seismic Retrofit	11/1/2021	10/21/2023	33,812	719	47
Glassell Park STEAM Magnet ES - Seismic Retrofit of Main Building	Elementary	Seismic Retrofit	9/2/2020	6/3/2022	32,270	639	51
Wonderland ES - Classroom Replacement	Elementary	Modernization	11/23/2020	5/26/2023	24,141	914	26
Hollywood HS Roofing	High School	Roofing	6/1/2022	5/27/2023	57,838	360	161
Los Angeles Center for Enriched Studies - Roofing	High School	Roofing	3/7/2023	5/28/2023	15,620	82	190

Source: Created by MGT

As shown in Exhibit 20 above, the seven projects included in the table disclosed that the square foot completed per day for the projects ranged from 20 for the Carnegie Middle School HVAC Project to 190 for the Los Angeles Center for Enriched Studies Roofing Project.

In addition to analyzing the LAUSD's projects, MGT compared the average square footage completed per day for the District's projects to the square footage completed per day for similar projects completed by peer entities. This comprehensive analysis aimed to determine whether LAUSD's project completion times aligned with industry standards and to identify any potential delays or inefficiencies in the construction process. **Exhibit 21 presents the results of the analysis.**

Exhibit 21 – Average SF Completed per Day Peer Projects

Project Data							Calculations
Peer*	Project	Project Type	NTP	Completion Date	Days to Complete	SF	SF/Day
LBUSD	Cubberley K-8 HVAC	HVAC Replacement	12/13/2017	10/31/2021	1,418	47,870	34
LBUSD	Robinson K-8 HVAC	HVAC Replacement	3/1/2019	5/31/2023	1,552	59,062	38
LACCD	Pierce - Fire Alarm & HVAC Systems Upgrade for Building 1500**	Fire Alarm & HVAC	9/22/2022	12/31/2024	831	76,000	91
LBUSD	Jordan High School Major Renovation	Renovation***	7/1/2012	5/31/2024	4,352	29,000	7
LACCD	Los Angeles City College DaVinci Modernization**	Modernization & ADA	1/4/2017	4/14/2022	1,926	65,920	34
CSU	Los Angeles Campus Physical Sciences Building	Modernization Seismic Retrofit	6/23/2017	9/26/2021	1,556	218,000	140

Source: Created by MGT

*-LBUSD = Long Beach Unified School District; LACCD = Los Angeles Community College District; CSU = California State University

**-NTP on the Construction Contract

***-The project was classified as a Major Renovation. However, the project was a comprehensive effort to modernize and enhance the campus similar to a modernization project.

As shown in Exhibit 21 above, the peer entities completed on average 54 (i.e., 34, 38, and 91) square feet per day in the three HVAC Replacement projects reviewed compared to 58 (i.e., 20 and 97) for the two HVAC Replacement projects reviewed from LAUSD. In terms of ADA upgrades, modernization, and renovation projects, LAUSD completed, on average, 41 (i.e., 26, 47, and 51) square feet per day, compared to 60 (i.e., 7, 34, and 140) for its peers.

Although MGT requested peer data for roofing projects, no data was provided; therefore, MGT was unable to make a comparison of the timeliness in completing roofing projects.

Project Costs

To compare LAUSD's project costs to its peers, MGT compared several factors, including budget vs. actual, cost per square footage, and the percentage of project costs allocated to activities included in hard costs. This comparative analysis provided a comprehensive understanding of how LAUSD's construction expenditures relate to those of similar entities, highlighting areas of efficiency and potential improvement. The results of the analysis are presented in the following pages.

Budget vs Actual

Keeping project costs within budget is crucial for a school construction program as it ensures the efficient use of resources, allowing funds to be allocated to other high priority capital projects. Staying within budget also minimizes financial strain on the school district and taxpayers, promoting trust and transparency. MGT reviewed costs data for the LAUSD projects and calculated the difference between actual versus budgeted costs and the percentage difference.

Exhibit 22 below presents the results of this analysis.

Exhibit 22 – LAUSD Budget vs Actual Cost Analysis

Project Data					Calculations	
Project	School Level	Project Type	Original Budget	Actual Costs per EAC	Actual Vs Budget Difference	Over / Under Budget %
Carnegie MS - HVAC	Middle	HVAC Replacement	\$3,658,844	\$4,546,726	\$887,882	24%
Sun Valley Magnet - HVAC	Middle & High School	HVAC Replacement	\$3,770,837	\$4,032,483	\$261,646	7%
Garvanza Technology & Leadership Magnet ES - Seismic Retrofit of Main Building	Elementary	Seismic Retrofit	\$5,224,506	\$7,328,857	\$2,104,351	40%
Glassell Park STEAM Magnet ES - Seismic Retrofit of Main Building	Elementary	Seismic Retrofit	\$7,221,209	\$7,736,392	\$515,183	7%
Ramona ES - ADA Improvements	Elementary	ADA Upgrades	\$6,650,121	\$3,325,834	-\$3,324,287	-50%
Cleveland Charter HS - Comprehensive Modernization	High School	Modernization	\$109,823,330	\$167,080,188	\$57,256,858	52%
Venice HS - Comprehensive Modernization	High School	Modernization	\$111,491,261	\$156,907,036	\$45,415,775	41%
Wonderland ES - Classroom Replacement	Elementary	Modernization	\$7,004,000	\$11,367,361	\$4,363,361	62%
Hollywood HS Roofing	High School	Roofing	\$1,553,680	\$2,979,797	\$1,426,117	92%
Los Angeles Center for Enriched Studies - Roofing	High School	Roofing	\$1,251,581	\$1,147,825	-\$103,756	-8%
Total			\$257,649,369	\$366,452,499	\$108,803,130	42%

Source: Created by MGT

As shown in the table above, the 10 projects reviewed had actual costs that were, on average, 42% higher than the budgeted cost. The range indicates that one project was completed 50% under budget, while the project with the highest overrun was completed 92% over budget.

To assess how LAUSD's budget versus actual costs compared to peer entities, MGT compared the average budget versus the actual percentage difference from the LAUSD projects reviewed to those of its peers. This comparative analysis provided a glimpse of how efficiently LAUSD managed its project costs in relation to similar entities, highlighting areas where LAUSD either outperformed or lagged its counterparts. **Exhibit 23 below shows the results of this analysis.**

Exhibit 23 – Peers Budget vs Actual Cost Analysis

Project Data					Calculations	
Peer*	Project	Project Type	Original Budget	Actual Costs per EAC	Actual Vs Budget Difference	Over / Under Budget %
LBUSD	Cubberley K-8 HVAC	HVAC Replacement	\$19,852,635	\$17,972,735	\$(1,879,900)	-9%
LBUSD	Robinson K-8 HVAC	HVAC Replacement	\$10,034,218	\$7,831,076	\$(2,203,142)	-22%
LACCD	Pierce - Fire Alarm & HVAC Systems Upgrade for Building 1500	Fire Alarm & HVAC	\$625,220	\$1,975,716	\$1,350,496	216%
LBUSD	Jordan High School Major Renovation	Renovation**	\$42,645,836	\$35,715,684	\$(6,930,152)	-16%
LACCD	Los Angeles City College DaVinci Modernization**	Modernization & ADA	\$16,874,153	\$42,682,125	\$25,807,972	153%

Source: Created by MGT

*-LBUSD = Long Beach Unified School District; LACCD = Los Angeles Community College District

**--The project was classified as a Major Renovation. However, the project was a comprehensive effort to modernize and enhance the campus similar to a modernization project.

Based on the data reviewed, it is evident that LAUSD's completed projects generally adhered more closely to their initial budgets compared to the peer projects analyzed. As illustrated above, two of the peer projects reviewed were completed 153% and 216% over the original budget.

Another important factor to consider when analyzing the original budget against the actual cost is inflation. To adjust for inflation, MGT utilized the Construction Cost Change Index (CCCI) to calculate the estimated difference in cost from the original budget at the time of the project's approval by the board to when the Notice to Proceed (NTP) was issued. This adjustment provides a representation of cost changes over time, taking CCCI into account. **Exhibit 24 on the next page presents the results of this analysis.**

Exhibit 24 – LAUSD Cost Escalation Factors

Project	BAD*	Original Budget	NTP	CCCI – BAD*	CCCI - NTP	CCCI - BAD & CCCI - NTP % Change	Cost Escalation
Carnegie MS - HVAC	3/13/2018	\$3,658,844	10/4/2021	6596	8080	22%	\$823,184
Sun Valley Magnet - HVAC	5/8/2018	\$3,770,837	10/26/2020	6596	7120	8%	\$299,563
Garvanza Technology & Leadership Magnet ES - Seismic Retrofit of Main Building	4/18/2017	\$5,224,506	11/1/2021	6461	8141	26%	\$1,358,484
Glassell Park STEAM Magnet ES - Seismic Retrofit of Main Building	5/9/2017	\$7,221,209	9/2/2020	6455	7036	9%	\$649,964
Ramona ES - ADA Improvements	11/13/2018	\$6,650,121	3/22/2022	6679	8736	31%	\$2,048,105
Cleveland Charter HS - Comprehensive Modernization	2/9/2016	\$109,823,330	9/21/2017	6132	6620	8%	\$8,740,017
Venice HS - Comprehensive Modernization	2/9/2016	\$111,491,261	5/7/2018	6132	6596	8%	\$8,436,390
Wonderland ES - Classroom Replacement	6/13/2017	\$7,004,000	11/23/2020	6470	7123	10%	\$706,895
Hollywood HS Roofing	11/13/2018	\$1,553,680	6/1/2022	6679	8925	34%	\$522,468
Los Angeles Center for Enriched Studies - Roofing	10/1/2019	\$1,251,581	3/7/2023	6851	9118	33%	\$414,148
Total		\$257,649,369					\$23,999,223

Source: Created by MGT. Project data provided by LAUSD and CCCI factors extracted from the California Department of General Services website. <https://www.dgs.ca.gov/>

*-BAD = Board Approval Date

As illustrated above, if the actual project cost had increased based on the CCCI, the additional costs for each project would have been estimated to increase from 8% to 34% from the date the Board approved the budget to when the NTP was issued³. This is in line with broader increases in producer costs from 2016 to 2023, which is reflected in a 75% increase in the Producer Price Index for the western U.S.

³ This CCCI calculation is intended solely as an illustrative estimate of how inflation might have affected project costs, and should not be interpreted as representing an actual increase to the project cost.

This percent increase is intended as an example and should not be interpreted to represent actual project cost increases. This variance could have a significant impact on project costs, as unforeseen expenses arise during the pre-construction and early construction phases. Consequently, these extra costs must be managed to prevent budget overruns and ensure that the projects remain financially viable. Such fluctuations necessitate a robust approach to budgeting and cost control, allowing for contingencies and proactive adjustments to safeguard the overall financial health of the projects.

Cost per Square Foot

By conducting peer comparisons based on the average cost per square foot, valuable information can be obtained regarding cost efficiencies and potential areas for improvement. This analysis enables the identification of best practices and benchmarks across different projects, facilitating more accurate forecasting and planning for future construction endeavors. To analyze project costs, MGT began by calculating the average cost per square foot by project type for the nine LAUSD projects reviewed that contained square footage data. The calculation used for the cost per square foot is as follows:

$$\text{Total Cost of Project} / \text{Total Square Footage} = \text{Cost/Square Foot}$$

The results of this analysis are presented in **Exhibit 25** below.

Exhibit 25 – Average Cost per SF LAUSD Projects

Project Data					Calculations	
Project*	School Level	Project Type	Total Cost	SF	Cost Per SF	Cost per SF Avg. by Type
Carnegie MS - HVAC	Middle	HVAC Replacement	\$4,546,726	18,447	\$246	\$141
Sun Valley Magnet - HVAC	Middle & High School	HVAC Replacement	\$4,032,483	42,200	\$96	
Garvanza Technology & Leadership Magnet ES - Seismic Retrofit of Main Building	Elementary	Seismic Retrofit	\$7,328,857	33,812	\$217	\$228
Glassell Park STEAM Magnet ES - Seismic Retrofit of Main Building	Elementary	Seismic Retrofit	\$7,736,392	32,270	\$240	
Cleveland Charter HS - Comprehensive Modernization	High School	Modernization	\$167,080,188	246,309	\$678	\$498
Venice HS - Comprehensive Modernization	High School	Modernization	\$156,907,036	402,362	\$390	
Wonderland ES - Classroom Replacement	Elementary	Modernization	\$11,367,361	24,141	\$471	
Hollywood HS Roofing	High School	Roofing	\$2,979,797	57,838	\$52	\$56
Los Angeles Center for Enriched Studies - Roofing	High School	Roofing	\$1,147,825	15,620	\$73	

Source: Created by MGT

*-The Ramona Elementary ADA Improvements project was excluded because there is no square footage data available for this project.

As shown in the exhibit above, the nine LAUSD projects reviewed for cost per square foot disclosed that the average cost per square foot for HVAC replacement, Seismic Retrofit, Modernization, and Roofing projects were approximately \$141, \$228, \$498, and \$56, respectively.

After calculating the cost per square foot for the LAUSD projects, MGT compared the average cost per square foot for the nine LAUSD projects to the average cost per square foot for peer entities completing similar projects. When applicable, MGT considered the project type and the school level (i.e., to perform the comparison). The objective of this comprehensive analysis was to ascertain whether LAUSD's average cost per square foot was within industry standards. **Exhibit 26 below presents the results of this analysis.**

Exhibit 26 – Average Cost per SF Peer Projects

Project Data					Calculations	
Peer*	Project	Project Type	Project Cost	SF	Cost Per SF	Cost per SF Avg. by Type
LBUSD	Cubberley K-8 HVAC	HVAC Replacement	\$17,972,735	47,870	\$375	\$152
LBUSD	Robinson K-8 HVAC	HVAC Replacement	\$7,831,076	59,062	\$133	
LACCD	Pierce - Fire Alarm & HVAC Systems Upgrade for Building 1500*	Fire Alarm & HVAC	\$1,975,716	76,000	\$26	
LBUSD	Jordan High School Major Renovation	Renovation**	\$35,715,684	29,000	\$1,232	\$826
LACCD	Los Angeles City College DaVinci Modernization	Modernization & ADA	\$42,682,125	65,920	\$647	

Source: Created by MGT

*-LBUSD = Long Beach Unified School District; LACCD = Los Angeles Community College District

** -The project was classified as a Major Renovation. However, the project was a comprehensive effort to modernize and enhance the campus similar to a modernization project.

As shown in the exhibit above, the peers' average cost per square foot was \$152 and \$826 for HVAC Replacement and Renovation and Modernization construction projects, respectively. The analysis of the nine LAUSD projects selected for review disclosed that the average cost per square foot for HVAC replacement and Modernization projects were approximately \$141 and \$498, respectively. This comparison indicates that the average cost per square foot for LAUSD construction projects is similar to that of its in HVAC Replacement projects. For the Renovation and Modernization projects, MGT was unable to draw a conclusion, as we were only able to obtain sufficient data to perform this analysis from two peers. Additionally, one of the two projects appears to be an outlier with a cost per square foot of over \$1,200.

Hard Cost As Percentage of Total Project Costs

Furthermore, MGT conducted a comparative analysis of the percentage of total projects allocated to hard costs and soft costs. Hard costs refer to the direct expenses associated with physical construction, such as materials, labor, and equipment. Soft costs include indirect expenses such as architectural and engineering fees, permits, insurance, and project management. By examining these allocations, the analysis provides insight into the budgeting priorities and resource distribution of LAUSD's construction projects. **Exhibit 27 on the next page presents the results of this analysis.**

Exhibit 27 – LAUSD Hard Costs As a % of Total Project Costs

Project Data						Calculations
Project	School Level	Project Type	Hard Cost	Soft Cost	Total Cost	Hard Cost as % of Total Costs
Carnegie MS - HVAC	Middle	HVAC Replacement	\$3,441,766	\$1,104,960	\$4,546,726	76%
Sun Valley Magnet - HVAC	Middle & High School	HVAC Replacement	\$3,197,845	\$834,638	\$4,032,483	79%
Garvanza Technology & Leadership Magnet ES - Seismic Retrofit of Main Building	Elementary	Seismic Retrofit	\$5,665,071	\$1,663,786	\$7,328,857	77%
Glassell Park STEAM Magnet ES - Seismic Retrofit of Main Building	Elementary	Seismic Retrofit	\$6,419,278	\$1,317,114	\$7,736,392	83%
Ramona ES - ADA Improvements	Elementary	ADA Upgrades	\$2,402,168	\$923,666	\$3,325,834	72%
Cleveland Charter HS - Comprehensive Modernization	High School	Modernization	\$148,004,934	\$19,075,254	\$167,080,188	89%
Venice HS - Comprehensive Modernization	High School	Modernization	\$133,247,276	\$23,659,760	\$156,907,036	85%
Wonderland ES - Classroom Replacement	Elementary	Modernization	\$8,529,030	\$2,838,331	\$11,367,361	75%
Hollywood HS Roofing	High School	Roofing	\$2,916,623	\$63,174	\$2,979,797	98%
Los Angeles Center for Enriched Studies - Roofing	High School	Roofing	\$1,079,701	\$68,124	\$1,147,825	94%
Total			\$314,903,692	\$51,548,807	\$366,452,499	86%

Source: Created by MGT

As illustrated in the table above, the percentage of hard costs to total costs for the 10 reviewed projects ranges from 72% to 98%. A closer examination reveals that roofing projects tend to have a higher percentage of hard costs compared to other types of construction projects. The overall average for these projects was 86%, reflecting a consistent allocation of funds toward essential materials and labor.

MGT compared the hard costs as a percentage of total costs for LAUSD projects to those of peer entities. This comparison provided valuable insights into how efficiently LAUSD allocates its resources toward essential materials and labor. This comparison can reveal potential areas for cost optimization, ensuring that the district maximizes efficiency while maintaining high standards of quality and compliance. **Exhibit 28 presents the results of this analysis.**

Exhibit 28 – Peer Entities Hard Cost as % of Total Project Costs

Project Data					Calculations	
Peer*	School	School Level	Project Type	Hard Cost Amount	Total Cost	Hard Cost %
SDUSD	Barnard	Elementary	Modernization	\$1,925,341	\$2,437,140	79%
SDUSD	Roosevelt	Middle	HVAC Replacement	\$2,388,883	\$2,949,238	81%
SDUSD	Crawford	High School	Modernization	\$45,962,615	\$62,111,642	74%
WCCUSD	Cameron	Elementary	HVAC Replacement	\$2,392,745	\$3,370,063	71%
WCCUSD	Collins	Elementary	HVAC Replacement	\$4,895,302	\$6,799,031	72%
WCCUSD	Michelle Obama (Wilson)	Middle	Modernization	\$25,191,347	\$39,361,480	64%
WCCUSD	Richmond	High School	Modernization	\$13,770,023	\$20,250,034	68%
LBUSD	Jordan High School	High School	Renovation**	\$23,215,195	\$35,715,684	65%
PUHSD	Central	High School	Modernization	\$6,480,000	\$9,000,000	72%
LACCD	Pierce College - 1500 Building	Community College	HVAC Replacement	\$935,280	\$1,299,000	72%
LACCD	Pierce College – SLE South of Mall	Community College	ADA Upgrades	\$873,540	\$1,266,000	69%
LACCD	LA City College – Da Vinci Hall	Community College	Modernization	\$13,059,200	\$17,600,000	74%
Total				\$141,089,470	\$202,159,312	70%

Source: Created by MGT

*-SDUSD = San Diego Unified School District; WCCUSD = West Contra Costa Unified School District; LBUSD = Long Beach Unified School District; PUHSD = Phoenix Union High School District; LACCD = Los Angeles Community College District

** -The project was classified as a Major Renovation. However, the project was a comprehensive effort to modernize and enhance the campus similar to a modernization project.

As shown in the two tables above, at 86%, LAUSD's hard cost as a percentage of total costs is significantly higher than that of its peers at 70%. This is important as it may indicate LAUSD's emphasis on quality and long-term durability in its construction practices. By investing more in hard costs, such as materials and labor, LAUSD ensures that the infrastructure built is robust and can withstand wear and tear over an extended period. This focus on hard costs could reflect a strategic approach to minimizing future maintenance expenses and enhancing the longevity of school facilities. However, it might also suggest potential inefficiencies or higher-than-average costs in their construction processes, which warrant further analysis to ensure optimal budget utilization.

In addition to the above, MGT gathered data from other school districts with school bond measures: Hillsborough Public Schools in Florida and Indianapolis Public Schools in Indiana. While this information is presented as a further data point, its comparative nature is limited due to differences in geographic economic factors as well as contractor availability.

A comparative analysis between the roofing project performed by Indianapolis Public Schools, IN, and two HVAC projects carried out by Hillsborough County Public Schools, FL, and the 10 projects reviewed for LAUSD revealed the following:

- a. The anticipated cost per square foot for the IPS Mary Nicholson 70 (full Ethylene Propylene Diene Monomer Roof Replacement) project performed by Indianapolis Public Schools was \$23.62. This is significantly less than the average of \$63 for the two LAUSD roofing projects reviewed.
- b. The average cost per square foot for the two HVAC replacement projects completed by Hillsborough County Public Schools was \$33.85. This is significantly less than the average of \$171.02 for the two LAUSD HVAC replacement projects reviewed.

This data demonstrates the challenges of comparing state and project data for analysis. It should not be used to assess LAUSD's cost per square footage due to the complex factors influencing construction costs and outcomes.

Key Performance Indicators and Common Practices

Implementing key performance indicators (KPIs) and adhering to common practices and industry standards are paramount for any school district overseeing construction programs. KPIs provide a measurable framework that allows for continuous monitoring and evaluation of various aspects of the construction process, from cost management to project timelines and quality control. By benchmarking against industry standards and best practices, the district ensures that every step of the construction project aligns with proven methodologies, thus minimizing risks and inefficiencies.

In addition to the project timeliness and cost per square foot key performance indicators analyzed above, MGT reviewed LAUSD's standard legal terms and conditions for construction contracts and compared them to the standard legal terms and conditions of the peer entities. MGT also examined the impact of LAUSD's payment practices on construction projects. The results of these procedures are presented below.

Legal terms and conditions

LAUSD includes standard legal terms and conditions in its construction contracts to ensure compliance with state and federal regulations, quality standards, and risk management. While the exact language may vary depending on the specific contract, some common provisions typically found in LAUSD construction contracts include:

1. Compliance with Laws – Requires contractors to adhere to all applicable federal, state, and local laws, including labor laws, safety regulations, and environmental requirements.
2. Prevailing Wage Requirements – Mandates compliance with California's Prevailing Wage Law (DIR Requirements) under the California Labor Code and Davis-Bacon Act if federal funds are involved.
3. Insurance and Bonding Requirements – Requires all contractors on formal contracts to participate in LAUSD's Owner's Controlled Insurance Program.
4. Indemnification – Requires contractors to indemnify and hold LAUSD harmless from any claims, damages, or liabilities arising from their work.

5. Change Orders – Establishes procedures for handling modifications to the contract scope, cost adjustments, and timeline extensions.
6. Subcontracting and Assignment – Specifies restrictions on subcontracting and the requirement for LAUSD’s approval before assigning work to another entity.
7. Time for Completion and Liquidated Damages – Defines deadlines and penalties for delays.
8. Termination Clauses – Allows LAUSD to terminate the contract for convenience or cause, including non-performance, bankruptcy, or legal violations.
9. Dispute Resolution – Outlines mechanisms such as mediation, arbitration, or litigation for resolving contract disputes.
10. Retention and Payment Terms – Details progress payments, final payments, and retention amounts as per California Public Contract Code.
11. Equal Employment Opportunity & Non-Discrimination – Ensures compliance with state and federal laws prohibiting discrimination.
12. Safety and Security Requirements – Requires contractors to follow OSHA and Cal/OSHA standards and provide a safe working environment.
13. Force Majeure – Defines circumstances under which delays due to unforeseen events (natural disasters, pandemics, etc.) may be excused.

Additionally, MGT compared LAUSD’s standard legal terms and conditions in construction contracts to the standard legal terms and conditions of its peers to identify similarities and differences and assess whether there are opportunities for improvement. MGT’s review disclosed the following:

Similarities

1. Compliance with Laws: All districts require contractors to comply with applicable laws, statutes, codes, ordinances, and regulations. This ensures that all construction activities are legally compliant and meet safety standards.
2. Insurance Requirements: Each district mandates that contractors maintain specific insurance coverage, including general liability, workers' compensation, and builder's risk insurance. This protects both the district and the contractor from potential liabilities during the construction process.
3. Performance Bonds: Contractors are generally required to provide performance bonds to guarantee the completion of the project according to the contract terms. This is a common practice to ensure financial security and project completion.
4. Subcontractor Management: All districts have provisions for managing subcontractors, including requirements for prequalification, adherence to contract terms, and ensuring that subcontractors comply with the same standards as the primary contractor.

5. LAUSD, California State University, and San Diego Unified have specific DVBE participation requirements, encouraging the inclusion of disabled veteran-owned businesses in their projects.

Differences

1. Project Delivery Methods:

- LAUSD and California State University often use design-build contracts, which integrate design and construction services under one contract.
- San Diego Unified and West Contra Costa Unified primarily use traditional design-bid-build methods, where design and construction are separate contracts. Traditional Design Bid Build may be a formal low bid or a best value procurement strategy, which may impact costs as best value scoring criteria based on firm and key personnel requirements are competitive (including K12 and DSA experience, and minimum levels of experience for key personnel including Superintendent, Project Manager, Quality Control and Safety team members). These best-value scoring criteria also apply to Design-Build. Using a formal low-bid procurement may be typically less costly but incur a certain amount of risk.

2. Prequalification Requirements:

- For projects over \$10M, San Diego Unified requires contractors to provide the audited financials.
- LAUSD and California State University also have prequalification processes but may vary in the specifics and criteria.
- West Contra Costa Unified and Phoenix Union High School District have less detailed prequalification processes.

3. Environmental and Sustainability Standards:

- California State University includes specific provisions related to the Buy Clean California Act, which sets standards for greenhouse gas emissions for materials used in construction.
- LAUSD and San Diego Unified have solid waste management and stormwater permitting requirements to ensure environmental compliance.
- LAUSD specifications provide very specific requirements of building components to meet district sustainability goals.

Examination of the Impact of LAUSD's Payment Practices

Having good payment practices in construction contracts is crucial for maintaining the trust and cooperation between involved parties. Timely and structured payments ensure that contractors have the necessary cash flow to manage their financial obligations, such as purchasing materials, paying workers, and covering overhead costs. This financial stability helps prevent delays in project completion, as contractors are less likely to face disruptions due to funding issues.

Moreover, clear and fair payment terms can reduce the likelihood of disputes, fostering a positive working relationship and ensuring that projects are completed efficiently and on schedule.

To gain a comprehensive understanding of LAUSD's payment practices and their impact, we conducted extensive research and reviewed relevant documents. The results of this review are presented below.

- **Payment Practice:**
 - In accordance with the California Prompt Payment Laws, LAUSD's standard payment terms for construction contracts are Net 30.
 - Contractors must register as a vendor with LAUSD to be eligible for payment. This involves obtaining an LAUSD Vendor Number.
 - Contractors submit monthly invoices for completed work. Invoices must be accurate and include all necessary documentation to avoid delays.
 - Payment for construction cannot be made in advance. Invoices are reviewed and approved by the Facilities Services Division. This includes verifying that the work has been completed according to the contract terms.
 - Once approved, payments are issued to the contractor. Payments are typically made via electronic funds transfer (EFT) or check.
 - LAUSD may withhold payments if the contractor fails to meet contract requirements, there are defective or incomplete work items, and there are subcontractor disputes or unpaid suppliers.
 - LAUSD typically withholds a retention amount from each progress payment. This retention is usually around 5-10% of the total payment and is held until the project is completed and all contractual obligations are met. The retention amount is released upon satisfactory completion of the project and after all final inspections and approvals.
 - Additional work outside the original contract scope requires an approved change order before payment.
- **Positive Impacts**
 - Progress payments and retention allow LAUSD to control cash flow and ensure work is completed before full payment and helps prevent overpayment for incomplete or substandard work.
 - Retention incentivizes contractors to complete work correctly and on time to receive full payment and reduces the risk of defects, as final payment is tied to satisfactory project completion.
 - LAUSD's ability to withhold payments for non-compliance, defective work, or unpaid subcontractors protects project integrity and ensures accountability for contractors to meet deadlines and quality standards.
 - Structured progress payments require contractors to plan finances carefully and reduces the likelihood of financial mismanagement or cash flow shortages.
- **Negative Impacts**

- Although the Public Contract Code establishes that public entities may withhold up to 5% of progress payments as retention until the project is completed and accepted, retention can strain contractors, particularly small businesses that rely on steady cash flow.
- Even though the review did not disclose evidence of LAUSD paying contractors late, bureaucratic processes, inspections, and paperwork approvals can slow down payments, potentially causing contractors to experience financial hardship while waiting for funds.
- Monthly progress payment applications require extensive documentation, adding administrative costs for contractors.
- Change order approvals can be slow, delaying extra work payments.
- Withholding payments for defective work or disputes over change orders can lead to litigation and contractors may need legal action to resolve payment disputes, increasing project costs.
- Smaller contractors with limited capital may struggle to meet retention and cash flow demands. Even though LAUSD's payment terms comply with the California Public Contract Code, the payment terms may favor larger firms with more financial flexibility.

As discussed above, LAUSD's payment practices have both positive and negative impacts on contractors. However, the biggest takeaway from the impacts is that smaller contractors with limited capital may struggle more with these demands. While LAUSD's strict payment terms may favor larger firms with greater financial flexibility, there is not much the District can do, as the payment terms must comply with California law.

Additionally, MGT compared LAUSD's payment terms to those of peer entities. The findings of this comparative analysis are presented in **Exhibit 29 below**.

Exhibit 29 – LAUSD and Peers Payment Practices

Category	LAUSD	SDUSD	WCCUSD	LACCD	CSU	PUHSD (Arizona)
Progress Payments	Monthly, Net 30	Monthly, Net 30	Monthly, Net 30	Monthly, Net 30	Monthly, Net 30	Monthly, Net 30
Retention	5% withheld per PCC § 9203	5% withheld per PCC § 9203	5% withheld per PCC § 9203	5% withheld per PCC § 9203	5% withheld per PCC § 10851	10% withheld (Arizona law)
Retention Release	60 days after acceptance per PCC § 7107	60 days after acceptance per PCC § 7107	60 days after acceptance per PCC § 7107	60 days after acceptance per PCC § 7107	60 days after acceptance per PCC § 10851	60 days after acceptance
Substitution of Securities	Allowed per PCC § 22300	Allowed per PCC § 22300	Allowed per PCC § 22300	Allowed per PCC § 22300	Allowed per PCC § 10851	Not specified in Arizona

Category	LAUSD	SDUSD	WCCUSD	LACCD	CSU	PUHSD (Arizona)
Change Order Payments	Paid after formal approval	Paid after formal approval	Paid after formal approval	Paid after formal approval	Paid after formal approval	Paid after formal approval
Late Payment Penalties	Interest per PCC § 7107	Interest per PCC § 7107	Interest per PCC § 7107	Interest per PCC § 7107	Interest per PCC § 10853	May apply interest under Arizona law
Electronic Payments	Available	Available	Available	Available	Available	Available

Source: Created by MGT

As discussed above, LAUSD's payment practices have both positive and negative impacts on contractors. While LAUSD's strict payment terms may favor larger firms with greater financial flexibility, the District has limited options, as payment terms must comply with California law.

Change Order Review

This analysis compared the change order amount as a percentage of the original budget for the nine of 10 LAUSD projects reviewed by MGT, which had a change order issued, to the same metrics for five projects completed by West Contra Costa Unified School District on or after 2021. The purpose of the analysis was to determine whether the change order amount as a percentage of the original budget for LAUSD was within a comparable range to that of West Contra Costa Unified School District's projects.

Exhibit 30 – LAUSD Change Order Amount as a Percentage of Original Contract Value

LAUSD Project Name*	Original Budget	Total Change Orders	CO Amount as % of Original Budget
Carnegie MS - HVAC	\$3,658,844	\$661,072	18%
Garvanza Technology & Leadership Magnet ES - Seismic Retrofit of Main Building	\$5,224,506	\$808,642	15%
Cleveland Charter HS – Comprehensive Modernization	\$109,823,330	\$2,657,635	2%
Venice HS - Comprehensive Modernization	\$111,491,261	\$16,242,267	15%
Ramona ES - ADA Improvements	\$6,650,121	\$202,991	3%
Wonderland ES - Classroom Replacement	\$7,004,000	\$604,369	9%
Glassell Park STEAM Magnet ES - Seismic Retrofit of Main Building	\$7,221,209	\$932,534	13%
Hollywood HS Replace Roofing	\$1,553,680	\$209,744	13%
Sun Valley Magnet - HVAC	\$3,770,837	\$641,112	17%
Total	\$257,649,369	\$22,960,366	9%

Source: Created by MGT

*-The Los Angeles Center for Enriched Studies Roofing did not have any change orders.

For West Contra Costa, we identified six projects completed in 2021 or later. For each, we calculated the change order amount as a percentage of the original contract value. Exhibit 31 presents the results of our analysis.

Exhibit 31 – WCCUSD Order Amount as a % of Original Contract Value

Completed Project	Original Contract Amount	Total Change Orders	CO Amount as % of Original Contract Value
Pinole Valley High School – Fields, Field House and Bleachers	\$15,185,000.00	\$1,518,542.79	10%
Fairmont Elementary School – Critical Needs	\$59,000.00	\$500.00	1%
Kennedy High School – Bleacher & Press Box	\$5,042,000.00	\$461,147.79	9%
Cameron School & Collins ES – Critical Needs	\$9,064,000.00	\$456,475.17	5%
Riverside ES – Playground Improvements	\$849,000.00	\$53,644.29	6%
Hercules MS/HS – Science Building	\$15,613,000.00	\$693,466.00	4%
Total	\$45,812,000.00	\$3,183,776.04	7%

Source: Created by MGT, data extracted from the West Contra Costa Unified School District Website

Key Insights:

- The change order amount as a percentage of the original contract value at the project level in LAUSD varied significantly, ranging from 2% to 17%, compared to the tighter range observed in West Contra Costa, which was between 1% and 10%. This demonstrates that LAUSD experiences a wider variation in cost impacts from change orders.
- On average, change orders in West Contra Costa accounted for a **7%** increase in contract value, whereas LAUSD experienced an average impact of **9%**. The **2%** difference in average change order impact between West Contra Costa and LAUSD suggests that the variation

in project costs due to change orders was relatively similar for the projects reviewed in both districts.

Additional Comparative Analysis

To supplement the cost per square foot for the peers, MGT obtained industry-wide data from various sources. This includes external data from the RSMeans Gordian Database and internal MGT general contractor data. The results of this analysis are presented in the following pages.

RSMeans Gordian Database New Construction Data

RSMeans is a leading source of construction cost data in North America. It provides cost information for construction projects, helping professionals like owners, architects, engineers, and contractors with cost estimation and budgeting. RSMeans offers a variety of data types, including:

- Unit Costs: Detailed pricing for individual construction items, such as materials, labor, and equipment.
- Assemblies Costs: Costs for groups of related items that are typically installed together.
- Square Foot Costs: Estimates based on the square footage of a project, useful for early-stage budgeting.
- Facilities Maintenance Costs: Data for repair and maintenance of existing facilities.
- Localized Costs: Pricing adjusted for over 970 locations across North America to reflect local market conditions.

Although the data is not specific to school districts, the RSMeans data can provide insights into the estimated cost per square foot in the region, offering valuable information about construction costs in the area.

Although MGT was not able to access data related to the costs of modernization or renovation projects within the RSMeans database, MGT was able to extract new construction data for elementary, middle, and high schools.

Furthermore, MGT was able to use RSMeans data to compare the average cost per square foot⁴ for construction projects within the Los Angeles metropolitan area and other cities in California and other states. **Exhibit 32 on the next page provides an overview of the results.**

⁴ The cost per square foot is for baseline new construction projects only and does not include add-ons.

Exhibit 32 – Average Cost per SF New Construction

City	Elementary	Middle	High School
Dallas, TX	\$191	\$183	\$183
Phoenix, AZ	\$204	\$197	\$197
Anaheim, CA	\$259	\$252	\$256
San Diego, CA	\$262	\$252	\$255
Inglewood, CA	\$263	\$252	\$257
Long Beach, CA	\$266	\$254	\$259
Los Angeles, CA	\$272	\$262	\$266
Oakland, CA	\$294	\$283	\$288
San Jose, CA	\$303	\$293	\$298
New York City, NY	\$308	\$299	\$306
San Francisco, CA	\$309	\$298	\$303

Source: Created by MGT from data obtained from the RSMeans Database

As illustrated above, the average cost per square foot for new construction projects in Los Angeles falls comfortably within the range of the average costs per square foot in the 12 cities identified. This indicates that Los Angeles' construction costs are comparable to other major urban areas, suggesting a level of efficiency and market alignment.

MGT Internal Data

Based on internal MGT data (November 2024), and in conjunction with the General Contractor Erickson-Hall Construction Company (Cost Estimating Department), MGT has been using the following cost per square foot calculations for its Facility Master Plans, Facility Needs Assessment, and Developer Fee Studies in relation to new construction and modernization in the southern California region:

- a. Elementary Schools: \$590 cost per square foot
- b. Middle Schools: \$615 per square foot
- c. High Schools: \$670 per square foot

In comparison to the LAUSD data for Comprehensive Modernization per square foot of \$513, the LAUSD data seems to be in alignment with MGT/General Contractor Data on the cost per square for TK-12 schools and does not suggest a material cost differential.

Recommendations

MGT's recommendations are grounded in the results of our qualitative and quantitative analysis and are designed to be practical and achievable. These recommendations were identified based on the collection of qualitative and quantitative data gathered through the following:

- Macroeconomic data analysis
- Contractor participation review
- Staff interviews
- LAUSD construction project data analysis
- Peer analysis

Below, we present recommendations based on the observations from qualitative and quantitative data review and analysis based on the procedures which identified the recommendation.

MGT presented draft recommendations to LAUSD based on the findings across various phases of the project, which were discussed and refined for the final report. After LAUSD had an opportunity to review the initial drafted recommendations, MGT worked with LAUSD executive stakeholders on the recommendation prioritization process – in this phase of the project, drafted recommendations were discussed with LAUSD stakeholders to align on criticality and finalize the categories to which the recommendations apply: Cost/Time Savings; Organizational Structure; Process Changes; Peer Data-Driven Changes; External and Exogenous Factors, and Previous Reviews.

Macroeconomic Data Analysis

MGT offers the following recommendations based on macroeconomic data analysis. While macroeconomic factors are not in LAUSD's control, the District should consider mitigation strategies that may be implemented to shift into a proactive instead of reactive approach to known changes.

1. **Prepare for Labor Shortages:** Develop strategies to mitigate the impact of a declining labor force, such as investing in training programs or exploring automation to control rising labor costs. Coupling this with contractor participation outreach and addressing workforce through innovative approaches like:
 - Continue and increase partnerships with trade schools, community colleges, and apprenticeship programs to promote labor supply with highest needs.
 - Consider implementing innovation and automation such as artificial intelligence (AI) solutions to automate the identification and onboarding of contractors.
2. **Monitor Commodity Prices:** Develop a standard review of commodity prices, as they significantly impact construction costs. Plan budgets accordingly to accommodate potential increases through the use of adjusted cost escalation factors.

- While increasing cost escalation factors may impact the number of projects, it can be leveraged as a planning tool to inform potential cost increases as compared to original budget.

Contractor Participation Review

MGT offers the following recommendations based on analysis of contractor participation in Los Angeles County and surrounding counties in Southern California.

Attracting contractors to participate in a **school facilities building program in Southern California** requires a strategic approach that considers the region's unique challenges, including high labor demand, regulatory complexities, and rising material costs.

1. **Increase Contractor Participation:** Encourage more contractors to enter the market to boost competition and potentially lower costs. Currently, LAUSD has a lower percentage of contractors compared to surrounding areas, leading to reduced competition and higher construction costs. While LAUSD's Procurement Services Division hosts vendor drop-in sessions, an evaluation of the efficacy of current outreach and implementation of a more targeted approach could increase participation in specific trades.
 - LAUSD has **11% fewer contractors per 1,000 residents** than the average across neighboring counties, leading to reduced competition and higher construction costs.
 - Key contractor categories, including **Masonry and Solar**, are significantly underrepresented (48% and 22% below the regional average, respectively).
2. **Diversify Contractor Base:** Promote the inclusion of smaller firms to reduce the pricing power of larger corporations and partnerships, leading to more competitive pricing. MGT determined that corporations and partnerships are over-represented in Los Angeles County, whereas joint ventures and sole proprietorships are evenly distributed across different contractor categories. Additionally, limited liability corporations are infrequent within each contractor category. While the Facilities Services Division has a 25% Small Business Enterprise (SBE) participation goal and offers SBE Boot Camp, LAUSD should evaluate its performance to goal and identify ways to increase SBE participation.
 - LAUSD's contractor pool is **dominated by large corporations and partnerships**, reducing price competition.
 - **Smaller firms, joint ventures, and sole proprietorships** are underrepresented, limiting the number of competitive bids.
 - Encouraging a more **balanced mix of contractor types** would introduce more competition, **reduce pricing power among large firms, and lower overall costs.**
 - **By increasing participation and diversifying the contractor base**, LAUSD can foster a more competitive market, drive down costs, and improve the efficiency of its school facilities projects.

Staff Interviews

During interviews conducted with multiple staff members, with varying responsibilities for construction projects, LAUSD staff described a well-established process for identifying and prioritizing construction projects. Notably, the LAUSD staff highlighted that prioritization is based on various data points, with each project category following its own distinct process. The following recommendations were derived from MGT's analysis of these interviews with key LAUSD personnel. It is important to note in these recommendations that qualitative feedback from staff in various roles is subjective and may be isolated to certain focus areas as opposed to reflective of a systemic challenge to be addressed.

1. **Expand Contractor Pool:** Increase outreach efforts to attract a diverse range of contractors, including medium-sized firms, to support various project sizes and complexities.
 - Staff highlighted the use of industry conferences to gauge contractor interest and to understand the contractor base. For instance, with numerous large kitchen modernization projects in the pipeline, hosting a dedicated forum could help gather industry feedback and explore ways to enhance competition and meet district needs.
 - Another example is the electrification of the fleet. Staff noted that only a limited number of companies are capable of bidding. Given that the same resources may be required across multiple projects, strategic planning is needed to ensure availability and competitive bidding.
2. **Implement Checkpoints:** Establish additional project checkpoints to reassess scope and budget, especially for long-term projects, to adapt to changing conditions and needs.
 - Several staff noted that once a project is approved, several years may pass before construction begins, and changes in enrollment rates or district priorities could profoundly affect the project as originally scoped. Currently, there are limited mechanisms to reassess and adjust projects to reflect existing conditions.
 - Another recommendation was to conduct more extensive testing, potentially at the design phase, to proactively identify and address issues before construction begins.
3. **Update Guidelines:** Regularly review and update educational specifications, design standards, and product requirements to align with current needs and best practices. LAUSD is currently implementing this recommendation through an update to its contract specifications.
 - While some specifications are updated biannually to comply with changing regulation and code, others have aged significantly.
 - Additionally, LAUSD's specifications, designed for a 40 to 50-year lifespan, may be overly stringent and exceeds requirements for normal standard or uncommonly

used materials. Staff expressed that reevaluating specifications may get a better price and more bidders.

4. **Enhance Collaboration:** Strengthen communication and collaboration across departments to ensure all participants are informed and involved in decision-making processes. Surveying staff following goal communication allows you to assess their understanding and build on strengths identified during interviews.
 - Staff noted that a recent reorganization of construction related responsibilities has led to increased collaboration over the last year. However, it was stated that not all goals or programs are clearly communicated to all staff. Both internal and external communications could be improved to enhance transparency and efficiency to properly address staff concerns.
5. **Address Community Needs:** Continue to ensure community engagement and feedback are integral parts of the project planning and execution phases when possible. While this recommendation was grounded in what is going well at LAUSD, it is important to note that community engagement is challenging and costly to scale. LAUSD's Facilities Service Division has a Community Relations office that leads this work.
 - Staff specifically highlighted Roosevelt High School as a standout success, citing its complex negotiations with the Historical Society. Staff noted the process was highly collaborative, which enabled the district to achieve meaningful breakthroughs with the community. The final outcome authentically reflects the community and integrates seamlessly with its surroundings, serving as a strong model for future LAUSD projects.

LAUSD Construction Project Data Analysis

1. **Proactive Abatement Testing:** To secure competitive pricing and ensure timely completion of work before construction begins, it is recommended to issue a Request for Qualifications (RFQ) early for hazardous materials assessment and abatement plans. Additionally, mandate detailed job walks to uncover risk before bidding.
 - This proactive approach can significantly mitigate the risk of substantial change orders related to hazardous materials abatement, as observed in nine of the projects evaluated by MGT.
 - Conducting hazardous materials testing, inspection, and abatement after construction has commenced can lead to considerable delays, as noted in several evaluated projects. By including hazardous materials assessment, testing, and abatement in the project design from the outset, the process can be streamlined, preventing potential delays.
 - Additionally, a detailed mandatory job walk may reveal the need for hazardous materials abatement. For instance, the presence of 9 x 9 tile could be identified to bidders, ensuring it is not considered an unforeseen condition.

2. **Extended Pre-Construction Schedule:** Build in more time for walkthroughs and facility condition assessment. By allowing more time in the schedule for pre-construction activities, the district can reduce the likelihood of unexpected changes and associated costs, leading to more efficient and cost-effective construction projects. Furthermore, the walkthroughs should include the Construction/General Contractor and the Architect/Engineer teams to catch “unforeseen” issues early.
3. **Re-Evaluate Aged Projects:** Reassess scope and cost prior to bid. Based on project review, some projects were identified more than five years prior to funding being identified and proceeding with design and ultimately bidding the project. While the specific delays on these projects may have been influenced by the pandemic, many alterations to the program and the cost environment can change during any period spanning more than six months. Re-evaluation of the project should be accomplished prior to entering the bid environment to avoid cost and schedule overruns.
4. **Prioritize Site Investigations:** Conduct early structural reviews and explore alternative design options pre-DSA submission. Allowing more time to investigate facility conditions and considerations while renovating a historic site may have avoided the need to add scope after Glassel Park’s seismic retrofit began at Glassel Park STEAM Magnet. The elevator shaft extended into the attic necessitating reframing the walls, reconfiguring the attic and roof structure, correcting footings to accommodate existing footings, and new structural anchors to connect it to the existing structure. This may have been avoided if the issue were revealed in the pre-construction phase while different options could have been considered and incorporated into the plans submitted to DSA.
5. **Strengthen Document Review Process:** Conduct detailed constructability reviews and assess As-Builts and historical documents before bidding. To avoid costly delays and budget increases, it is crucial to review construction documents thoroughly before the project is bid and/or begins. Missed scope and plan changes after construction starts can lead to significant budget modifications.
6. **Enable Value Engineering:** Allow time for cost-saving assessments and explore alternate solutions during design. Allowing more time for value engineering might reveal some cost and time-saving measures. A comprehensive facility condition assessment and investigation of the site and historical documents might reveal issues prior to planning and construction.
7. **Document and Review Lessons Learned:** Capture and share recurring issues and resolutions and conduct team reviews of past projects to establish best practices. Reflect on what went well and what could be improved. Understanding successes and challenges will streamline processes and establish best practices moving forward.
8. **Enhance Change Order Reporting Process:** More detailed and easily accessible data will allow the Board to monitor developments and identify/address potential issues before they arise or become major. This will enhance the district’s ability to respond to cost and schedule changes. To increase transparency, support timely decision-making, and enable

better oversight of the LAUSD's construction projects, it is recommended that the change order reporting process be strengthened in two key ways:

- By expanding the Change Order Rate Report to include additional details, such as reporting change orders by individual project and including the reason for each change order, alongside the current summary by project type.
- By developing a dashboard that enables easy monitoring of change orders by projects and ad hoc reporting.

Peer Analysis

MGT offers the following recommendations based on comparative peer analysis.

1. **Develop strategic plan to address root cause of program management challenges across the Construction Program:** Many of the issues identified in the OIG Audit Report conducted in 2020 related to change orders seemed to surface in the LAUSD construction outcome projects that were reviewed. While documentation may exist to address the implementation of issues identified in the audit, the recurring themes create a need for the development of a strategic plan that strengthens oversight, enforces compliance, and improves processes through the development of key performance indicators and continuous performance monitoring. A strategic plan would identify changes to organizational structure, process, and technology that could decrease costs while increasing operational efficiency. Examples of what would be included in a strategic plan, focused on the Construction Program:
 - Workload Analysis: is LAUSD appropriately staffed to manage the different workstreams related to construction projects?
 1. Evaluate functions and timelines related to procurement process to identify whether staffing levels are appropriate
 2. Assess the project management function in the Facilities Service Division to understand differences in caseloads across project managers
 - Process Analysis: is the current process, not mandated by regulations, efficient and are there improvements to timeline or service delivery?
 1. Implement targeted contractor outreach to increase participation
 2. Implement different process for change orders as described below
 - Technology Analysis: are the tools being leveraged across the Construction Program effective in managing processes and producing meaningful reports?
 1. Evaluate whether current reporting in systems provides transparency to help stakeholders understand where improvements may be needed. For example, assess whether the current systems allow for real-time reporting during project delivery that would enhance project management and outcomes.

2. Understand use of District's vendor system to assess whether contractors from vendor outreach are enrolling and actively using the system.
2. **Consider a sub-contractor management study to increase participation:** Encourage more diverse contractors to enter the market to boost competition and potentially lower costs. This is an expansion to the recommendation based on contractor participation analysis, where the focus is on the identification of systemic barriers that could be addressed thereby leveling the playing field and creating cost savings through greater local participation.
3. **Change order procedures, process, and training review:** The District should establish a stringent review process for project change orders once they meet a certain threshold. This threshold could be set at a specific number of change orders (i.e. more than 15) or at a percentage of the overall project budget (i.e. more than 10%).
 - Review current process with LAUSD staff to identify improvements that can be implemented quickly and assess any trends in change orders where training for staff would be beneficial.
 1. Review Owner-Initiated Scope Addition Change Orders. Examine change orders initiated by the owner to determine if they could have been identified through a more comprehensive needs assessment or stakeholder engagement process. This review can help improve the accuracy of project scope and reduce the likelihood of unexpected changes during construction.
 2. Train staff on change order best practices and have them complete a post-training survey to assess understanding of the content and provide targeted support, where additional training may be needed.
 - Updated procedures to reflect changes to process.
4. **Evaluate feasibility of competitive and fair compensation clauses that have been effective for peers:** by leveraging performance and payment, the District can accelerate delivery and better manage costs. Potential solutions include:
 - **Timely Payments:** Guarantee quick and predictable payment schedules to improve cash flow for contractors.
 - **Cost Escalation Clauses:** Account for potential increases in labor and material costs, reducing financial risk.
 - **Performance-Based Incentives:** Offer bonuses for early project completion or exceeding efficiency targets.
5. **Assess delivery method approach:** Continue identifying delivery methods based on project scope, complexity, and size. Selecting the delivery method that aligns best with the project type can be a way to control cost, timeline, and risk management.

Recommendation Prioritization

After LAUSD had an opportunity to review the initial drafted recommendations, MGT worked with LAUSD stakeholders on the recommendation prioritization process – in this phase of the project, drafted recommendations were discussed with LAUSD stakeholders to align on criticality and finalize the categories to which the recommendations apply: Cost/Time Savings; Organizational Structure; Process Changes; Peer Data-Driven Changes; External and Exogenous Factors, and Previous Reviews.

The Recommendation Prioritization matrix, which will serve as the basis for the post-project implementation review with LAUSD one to three months after the project is officially completed, is presented in Attachment A.