# CITY OF LONGBEACH

Date: March 31, 2025

To: Thomas B. Modica, City Manager /\_\_\_

From: Grace H. Yoon, Deputy City Manager

For: Mayor and Members of the City Council

#### Subject: Final Report of the Fire Optimization Study for LB Fire Department

On <u>October 29, 2022</u>, a draft Fire and Emergency Medical Services (EMS) Optimization Report was released as part of a broader effort to evaluate the operations and service delivery of the Long Beach Fire Department (LBFD), in the context of identifying reductions. This initiative originated during the preparation of the FY 21 budget, amid the COVID-19 economy and severe financial constraints that necessitated citywide budget reductions. To address the complexities of implementing targeted reductions within the LBFD, the City engaged AP Triton (Consultant) to conduct an independent Fire Services Optimization Study.

The initial objective of the Study was to identify specific strategies for achieving \$1.9 million in ongoing budget reductions in alignment with the FY 21 budget. However, as detailed in the 2022 update to the City Council (Attachment A), the findings from the first two phases of the Study primarily highlighted departmental needs and challenges, rather than providing actionable strategies for operational efficiencies or cost-saving opportunities. In response, a third phase was initiated to explore potential revenue-generating options within the City's EMS system.

With the completion of the third and final phase, the Fire Services Optimization Study is now finalized (see Attachment B for Phase Three Final Report). The recommendations presented, including those from this final phase, did not fully address the City's original request for strategies to achieve operational efficiencies or significant cost savings. However, the Consultant's findings offer insights into the LBFD's operations and potential future considerations.

This memorandum summarizes the Consultant's recommendations, provides staff comments on each, and outlines the steps the City has taken – or plans to take – based on the recommendations.

#### Report Recommendations and City's Comments

AP Triton Recommendations	AP Triton Suggested Implementation Timeline	City of Long Beach Comments
Restructure the EMS Division by moving it from the Support Services Bureau to the Operations Bureau, adding two Captains, a Battalion Chief or an Assistant Chief, and a third Nurse Educator.	91 days to 1 Year	This proposal provides concepts for investments that can potentially enhance the overhead support to the department's emergency medical services program. While the recommendation is valuable, it does not meet the City's original request to receive strategies that achieve operational efficiency and significant cost-savings.
Add one Nurse Educator in the EMS Division.	91 days to 1 Year	This proposal provides concepts for investments that can potentially enhance the overhead support to the department's emergency medical services program. While the recommendation is valuable, it does not meet the City's original request to receive strategies that achieve operational efficiency and significant cost-savings.
Develop a process to ensure fire and EMS incident data quality.	Ongoing	The Fire Department acknowledges that incident data categorization and metadata can be improved to provide additional insights, trends, and context related to EMS delivery. LBFD will work with the Technology and Innovation Department as well as technology vendors to identify strategies to enhance EMS data quality. Implementation of this recommendation enhances overall operation of LBFD's services but does not meet the City's original request to receive strategies that achieve operational efficiency and significant cost-savings.

AP Triton	AP Triton	City of Long Beach Comments
Recommendations	Suggested	
	Implementation	
Conduct an analysis of the	91 days to 1	I BED has developed an internal
time EMS responders must	Year	dashboard that provide daily data
wait with their patients at		related to APOTs. The data is
receiving hospitals		reviewed by the department
(Ambulance Patient		frequently to understand the impacts
Offload Time [APOT]).		of APOTs. Implementation of this
		recommendation enhances overall
		does not meet the City's original
		request to receive strategies that
		achieve operational efficiency and
		significant cost-savings.
Relocate the BLS unit from	1 to 3 years	Fire Station 9 is currently under
Station 16 to Station 9.		construction and will be completed in
		relocate the BLS unit currently
		assigned to Station 16 to Station 9
		when construction is complete.
		Implementation of this
		recommendation transfers an
		existing BLS unit from one facility to
		City's original request to receive
		strategies that achieve operational
		efficiency and significant cost-
		savings.
Request that the LBFD	3 to 5 years	LBFD and its Medical Director
report the findings and		FMS deployment models such as
recommend alternative		telehealth options and leveraging Al
EMS deployment models		to assist with dispatching calls. A
that could enable LBFD to		feasible alternative model related to
match patients with lower-		the existing patient transport model
acuity needs with the most		is to transport patients to alternative
		This pilot program is still under
		review by the County of Los
		Angeles, which approves all
		changes in emergency medical
		services. It is important to note that
that could enable LBFD to match patients with lower- acuity needs with the most appropriate EMS services.		feasible alternative model related to the existing patient transport model is to transport patients to alternative care destinations instead of the ER. This pilot program is still under review by the County of Los Angeles, which approves all changes in emergency medical services. It is important to note that while research and development are

AP Triton	AP Triton	City of Long Beach Comments
Recommendations	Suggested	
	Timeline	
		actively occurring, implementation of a pilot or permanent program requires approval from a variety of regulatory agencies at the County and State level. While alternative models can produce significant cost- savings, the path and approval process to implement pilot and structural changes requires a long- term approval process involving multiple County and State stakeholders.
Implement a program or process to measure the physical impacts of firefighters' workloads at the individual level.	1 to 3 years	This proposal complements on- going and current efforts to enhance the department's Wellness Program for fire personnel.
Discontinue utilizing the Los Angeles County private ambulance rate structure as it does not apply to LBFD and conduct a rate study that takes into consideration the full and accurate cost of providing	91 days to 1 year	In 2022, the LBFD conducted a cost recovery study, which included calculating the full and accurate cost of providing ambulance transport. This report recommended that LBFD's BLS accurate rate is \$1,702, while the ALS rate is \$2,658 based on FY 22 costs.
ambulance transport.		County of Los Angeles' ambulance rates for FY 23 were \$1,809 for BLS ambulance service and \$2,710 for ALS ambulance service, which LBFD adopted for FY 23.
		LBFD recommended utilizing County of Los Angeles' ambulance rate to align with past practice and to promote pricing based on county- wide market conditions. The County of Los Angeles ambulance rates are updated annually, which allows LBFD to also update its ambulance rates on an annual basis.

AP Triton Recommendations	AP Triton Suggested Implementation	City of Long Beach Comments
	Timeline	
		In summary, LBFD did conduct a rate study and calculated the full and accurate per transport cost of providing ambulance transport services. The cost difference between the LBFD and County rate was not significant in FY 23.
Establish a rate structure that attempts to maximize the recovery of costs within Proposition 26 guidelines, establish a single base rate for all transport regardless of BLS or ALS status of the transport unit, and establish a "package bundle" rate for supplies.	91 days to 1 year	LBFD and the Department of Financial Management concur that when LBFD calculated its rates, it utilized Proposition 26 guidelines as part of that assessment. Additionally, the LBFD continues to use the LA County assessment, which also aligns with Proposition 26 guidelines. While AP Triton recommends a single base rate, Medicare reimburses the City using a tiered rate system and enhanced reimbursement for ALS services, which supports City of Long Beach's use of the dual rates for BLS and ALS services. Upon completion of this report, the City has satisfied this
		City has satisfied this recommendation.
Increase First Responder fees to more accurately reflect the cost of services provided.	91 days to 1 year	LBFD's First Responder Fee was implemented in 2017. It is assessed when a Paramedic Assessment Unit Fire Engine provides paramedic services but does not provide transportation to a hospital facility. The fee was implemented in 2017 at \$250 and has remained at this level since implementation.
		Fee is not a covered service under

AP Triton Recommendations	AP Triton Suggested Implementation Timeline	City of Long Beach Comments
		Medicare and the fee is charged to the patient. Comparatively, Medi-Cal reimburses at a fixed rate, while approximately 50 percent of commercial insurers reimburse the City for this fee. Per the City's Financial Policy on user fees and charges, fees may be set at full cost recovery, except where there is a greater public benefit through the use of a lower fee. Given that this fee has a direct impact on City of Long Beach residents and a large impact on Medicare/Medi-Cal patients, LBFD recommends maintaining this fee at \$250.

#### **Exploration of Other Cost-Saving or Revenue Generation Options**

In addition to the findings of the Fire Services Optimization Study, the City is exploring alternative governance and funding structures that could enhance long-term financial sustainability. One such option is the potential formation of a Fire District, a model that has been implemented in other jurisdictions to provide dedicated funding and operational autonomy for fire and emergency services.

Establishing a Fire District would require a detailed feasibility assessment, including legal analysis, financial modeling, community engagement, as well as research into the types of district structures that could be considered. Depending on the structure, the formation of a Fire District would also likely require a public vote, particularly if it involves a special tax or benefit assessment to fund operations.

#### **Next Steps**

LBFD will continue to evaluate its operations and identify opportunities for efficiencies as part of its ongoing internal reviews and the annual budget development process. While the Study has concluded, the Department remains committed to pursuing innovative and practical solutions to enhance service delivery and operational sustainability.

If you have any questions, please contact Dennis Buchanan, Fire Chief, at (562) 570-2509.

**ATTACHMENTS** 

CC: DAWN MCINTOSH, CITY ATTORNEY DOUGLAS P. HAUBERT, CITY PROSECUTOR LAURA L. DOUD, CITY AUDITOR APRIL WALKER, ASSISTANT CITY MANAGER TERESA CHANDLER, DEPUTY CITY MANAGER MEREDITH REYNOLDS, DEPUTY CITY MANAGER GRACE YOON, DEPUTY CITY MANAGER TYLER BONANNO-CURLEY, DEPUTY CITY MANAGER KEVIN LEE, CHIEF PUBLIC AFFAIRS OFFICER MONIQUE DE LA GARZA, CITY CLERK DEPARTMENT HEADS

# CITY OF NGBEACH

Date: October 29, 2022

Tom Modica, City Manager To:



Linda F. Tatum, Assistant City Manager From:

For: Mayor and Members of the City Council

#### Subject: Release of Draft Fire Optimization Study for LB Fire Department Operations

During preparation of its FY 21 budget, the City was amid the COVID-19 economy and a severe financial crisis that prompted the need for budget reductions across City departments and operations. Due to the complexities and challenges of identifying reductions in the LBFD, the City decided to engage consultant services to evaluate the scope and level of services provided by the Long Beach Fire Department (LBFD). Staff conducted an RFP process for a firm to assist in the completion of an independent Fire Services Optimization Study (Study) and selected AP Triton (Consultant), a firm that specializes in assessing public safety services for local governments throughout California.

#### Study Purpose

The purpose of the Study was to find areas of potential savings within the LBFD to meet the targeted \$1.9 million FY 21 budget reduction. This step was needed for the adopted FY 21 Budget to address the \$30 million budget deficit by achieving specific reduction targets in each Department. The reduction in the LBFD was addressed with one-time reductions while specific on-going service reductions were to be identified by the Study for future years. The expectation for this comprehensive Study was to identify specific strategies to increase revenue or reduce expense that could be implemented in FY 22 budget and to address future anticipated budget deficits.

#### Study Phases One and Two

The Study initially included two phases, the first addressed existing conditions regarding staffing, operations, facilities, wellness and other department initiatives. The second phase provided recommendations based upon the Consultant's analysis of existing conditions. The Study findings and recommendations were presented in a draft Fire and EMS Optimization Report (Report) in June 2022. The City's expectation was that the Study would identify potential areas of operations or staffing that could reimagined or restructured to result in cost savings or reductions for consideration. Rather, the draft Study identified several areas of additional department needs, and no areas of specific budget reductions or cost savings to achieve the study's objective.

#### **Report Still in Draft Form**

As the report has not yet met the study objectives, the City considered the report still in draft form. Additionally, there are a number of comments that the City made to the Consultant regarding the recommendations to provide better clarity and understanding - those comments are attached as part of the Report as Attachment A.

Additionally, there were a number of areas where during the course of the study, the City requested the consultant provide additional information on so as to create a more complete picture of Fire operations, potential additional models or cost saving or revenue ideas, and asked for a pro and con discussion on these topics. These are not included in the draft Report. Some of the concepts included:

- Review of the various staffing models used in the fire service, including 4-person and 3-person staff, which are both used in the region. Specifically, the City requested an advantages / disadvantages review, to have a real understanding of the various models and when they are used.
- Analysis of ideal station locations, where new stations could be built that would consolidate current stations, providing a revenue source to build new stations, improve response times, and/or create cost savings.
- Civilianization of positions to achieve cost savings and reduce use of overtime.
- Ideas to "bend the response curve" to provide relief to current crews in the station and improve resource availability. Specifically, ideas that could help either route calls to other appropriate work units to handle, education campaigns on when to call or not to call 911, or other ideas.
- Analysis of other models to address health calls, such as community paramedicine models, transport to alternative receiving facilities (rather than hospitals), or on scene telehealth models.
- A specific analysis of "wall time" and specific recommendations on how to improve wait times at hospitals so that units can be returned quicker.
- Ideas to reduce callback staffing to provide relief to firefighters and reduce overtime requirements, including advantages and disadvantages of ideas such as non-career firefighters, a pool of floater or part-time firefighters, etc.
- Alternatives to match staffing to response load, like exploration of peak-load staffing models and discussion of the advantages and disadvantages of those models.
- Exploration of contracting in for other agencies, and the pros and cons of doing so.

#### Phase 3 Initiated

As the draft Report did not identify specific areas for cost savings/reductions to meet the specific study objective, the need remains for the City to consider options for additional revenue as an offset. Staff requested the Consultant to explore revenue options from the City's EMS system as a third phase of the study. This phase is currently underway and is anticipated to be completed by the end of the year at the earliest but no later than early 2023. Staff requested the Consultant to maintain the draft status of the Report until the third and final phase of the Study is completed so that the study with all three phases would then be considered a final report.

Release of Draft Fire Optimization Study for LB Fire Department Operations October 29, 2022 Page 2

#### Unexpected Release of the Draft Report

Unfortunately, while the Report was still in draft form, an unknown member of either AP Triton or a member of City staff decided to release the draft Report to a member of the media. Given its premature release prior to completion, City staff are releasing it in draft form so the City Council can see the current status of the work, the City's comments, and information on Phase 3 of the Report, which is hoped to generate ideas related to revenue development.

#### Interim Steps

During the interim, a number of steps to enhance Fire Department operations have already been accomplished. The FY 23 budget funded a number of the items that were also included in the draft Report. These include:

- Added administrative staffing for investigations and PRAs
- Upgraded PIO to a Captain and made permanent
- Added a fire captain to the Fire Diversity Recruitment Program and made permanent
- Upgraded an analyst dealing with grants
- Funded the Station 17 match

Additionally, the City had already scheduled two upcoming fire academies, and an Engineer's Academy. A recruit academy of 25 candidates began last Monday. A second academy is planned for Fall 2023, and the Engineer's Academy is planned for Spring 2023. There are currently 20 firefighters in Paramedic School and approximately 20 firefighters per shift who are unavailable due to long-term illness, injury or stress, which is causing a high level of workload currently and required overtime shifts. Future planned academies should help alleviate the need for additional overtime shifts to maintain constant coverage.

#### Mental Health and Workload

While the Report is still draft form, it does provide some important insight into high workload, impact of the past two years on our firefighters and their families, issues of retention and attraction, pay, mental health, succession planning, and other issues. The City takes these issues very seriously. On October 18, 2022, the City Council approved a new three-year agreement with our Firefighter's Association which is designed to provide a fair comprehensive agreement to compensate our firefighters and acknowledge their value and contribution to protecting our community. We will also continue to explore additional ways to support the mental health of our workforce, including specific investment in additional counselling more specific to the Fire Department.

#### Next Steps

Once the third and final stage of the Study is completed, Staff will provide the final Report and a summary of the findings and recommendations to the City Council.

Release of Draft Fire Optimization Study for LB Fire Department Operations October 29, 2022 Page 2

If you have any questions, please contact me at (562) 570-6916.

ATTACHMENT - A - CONSOLIDATED CITY COMMENTS AND FIRE AND EMS OPTIMIZATION REPORT

CC: CHARLES PARKIN, CITY ATTORNEY DOUGLAS P. HAUBERT, CITY PROSECUTOR LAURA L. DOUD, CITY AUDITOR TERESA CHANDLER, DEPUTY CITY MANAGER APRIL WALKER, ADMINISTRATIVE DEPUTY CITY MANAGER MONIQUE DE LA GARZA, CITY CLERK DEPARTMENT HEADS From:Linda TatumTo:Richard Buchanan; Xavier Espino; David HoneyCc:Kurt Latipow; Kurt Henke; Valerie Erwin; Melissa SwankSubject:RE: Study Final ReviewDate:Wednesday, June 22, 2022 5:55:00 PMAttachments:Consolidated City Comments.docx

Hi Rich,

Attached are the City's comments on the initial Phase II Report that were forwarded to you on April 7. We started a walkthrough of these comments but never finished the walk through.

In rereviewing the Final Report that Kurt sent a couple of weeks ago, I see that all the edits were addressed, but not all the City comments were addressed, and we haven't discussed why. In the interest of moving forward and wrapping up this phase of the project, I've rereviewed the City comments that were not addressed in the final report and highlighted several comments for discussion/closeout tomorrow.

Linda F. Tatum

Assistant City Manager

#### Office of the City Manager

411 W. Ocean Boulevard, 10<sup>th</sup> Floor Long Beach, CA 90802 562-570-6916

#### CITY OF LONG BEACH COMMENTS ON FIRE STUDY RECOMMENDATIONS

- 1. Recommendation No. 1. Create a Facilities Service Division. This recommendation in incredibly inefficient and will not result in staffing with expertise to perform this function.
- 2. Recommendation No. 2. This recommendation is not practical and would not be considered with sworn personal as proposed. Provide a model for this recommendation with cost estimates for civilian personnel.
- 3. Recommendation No. 3. No justification is provided for the need for a BC for this staffing. Provide cost estimates for civilian personnel.
- 4. Recommendation No. 4 1.0 full-time Accountant II was added in the FY 22 Budget and is currently filled.
- Recommendation No. 7. Cost impacts are reported to be cost neutral—yet additional staff proposed at a cost of over \$800K. Narrative recommends 2 Captains and only one is costed out in the table. Revise narrative to be consistent with table and to reflect cost impacts.
- 6. Recommendation 10. Would like to see a best practice recommendation for this issue other than a study. Report strategies that other Departments use to address this issue.
- 7. Recommendation 11. Add language to specify that this recommendation is for *Temporary* Station No. 9.
- 8. Recommendation No. 13. Reword to focus on objective/outcome rather than current perceptions of the process. Consider wording such as "Develop a selection process that is transparent, free of bias, and accessible to all staff".
- 9. Recommendation No. 14. Reword to focus on objective/outcome rather than current perception of the process. Consider wording such as "Develop, communicate, and implement disciplinary guidelines that are transparent and equitable".
- 10. Recommendation No. 19. Delete this recommendation. The City recently completed an LBFD Strategic Plan.
- 11. Recommendation No. 20. Reword to focus on objective/outcome rather than current perception of the process. Consider wording such as "Review the Department's promotional processes to ensure that it is fair, transparent, and free of bias".
- 12. Recommendation No. 26 Please clarify/specify which "elements remain unknown" to Command Staff members. Reword recommendation to focus on objective for transparency—See City comments on Recommendations Nos. 13-14.
- 13. Recommendation No. 35 References "LAFD personnel." Change to "LBFD personnel."
- 14. Recommendation No. 36. Reword as noted: "Comply with the requirement of the City's Injury and Illness Prevention Program to address safety deficiencies immediately." As worded, the recommendation implies that there are known safety issues that the City has not addressed. Rather, the language of the recommendation should be crafted to address the outcome –as noted in earlier City comments.
- 15. Recommendation No. 38. Consider conducting a minimum of two to three recruit academies over the next two years. The City has programmed academies to meet this recommendation. Is this recommendation necessary?

- 16. Recommendation No. 45. No data or justification is provided for this recommendation other than increased downtown density. No nexus is provided that demonstrates that additional density in downtown warrants the need for additional watercraft. Provide data to support this recommendation.
- 17. Recommendation No. 42. Provide a facility operating cost estimate for this recommendation. City estimates that this cost is approximately \$30,000.
- 18. Page 52. Facility Opportunities. Fire Station 15 does have a response area.
- 19. Page 52. Figure 11 Ranking of stations for Discontinuance. Discuss why some of the higher ranked parks are not recommended for discontinuance, i.e. that they are funded by sources other than the General Fund, i.e. Airport, Harbor.
- 20. Page 54. Facility Opportunities. Station 18 was built in 1936, not 2000.
- 21. Page 54 second paragraph. Disclose that Station No. 18 only has an ambulance, and that shifting the ambulance and closing the station doesn't result in savings. Add a fiscal impact that shows the value of closing an engine.
- 22. Page 55. Therefore, it is recommended that if Station 18 is discontinued, Rescue 18 be reassigned to Station 19. Disclose that this recommendation does not result in cost savings. See City comments on Recommendation 17.
- 23. Recommendation No. 39. The City implemented a Fire Facilities Impact Fee in 2007. This recommendation is problematic as structured. City will consider a fee structure that considers building height in addition to square footage to more concisely cover the cost of high rise fire response during the next impact fee study.
- 24. Recommendations No. 43 and 44: Revise Labor Cost Savings of Station Closure as noted below.
  - a. Engine 5 and Engine 8 are Paramedic Assessment Units and are therefore staffed with 1 Firefighter and 1 Firefighter/Paramedic per shift. Additionally, cost estimates do not factor in call-back overtime required to constantly staff the Engine. Change Figures 13 and 14 as follows:
    - i. Captain \$320,675 x 3 = \$962,024
    - ii. Engineer \$274,786 x 3 = \$824,359
    - iii. Firefighter \$213,066 x 3 = \$639,197
    - iv. FF/PM \$252,067 x 3 = \$756,201
    - v. Total Savings = \$3,181,781
- 25. Recommendation No. 47-49: Each of these recommends rebranding the FP Bureau, which includes creating new job classifications and descriptions. In the previously attached document, I mention the amount of time and cooperation it has taken for one single new job classification request. This is potentially a multi-year project that would require bandwidth that we just don't have.
- 26. Recommendation No. 57: They are recommending reclassifying many of the current sworn FP positions to civilian positions. We tried to change one position last year and the local 372 did not support at all.
- 27. Page 65 Fire Prevention Bureau Opportunities. Tri Data study was completed in 2005, not 2009.

- 28. Recommendation No. 53 The Fire Department increased non-sworn Combination Building Inspector Aide II positions by 3.0 FTE in the FY 22 Budget.
- 29. Recommendation No. 54. Reconsider 2007 Decision to not require property owners to retrofit high rises with fire sprinkler protection. This recommendation is not likely to be implemented. It is not a practice or policy in the Codes in region (or the State), primarily due to the cost. **Outcomes:** If the Department successfully persuades City management and elected officials to agree to reverse the previous decision. Reword this statement to use more nuanced language.
- 30. Recommendation No. 55. Revised Fire Code amendments by January 1, 2023 during current Code adoption Cycle. This recommendation can be deleted as this update is programmed to occur during the City's triennial code update, scheduled to be adopted in 2023.
- 31. Recommendation No. 60. Limit messaging to once campaign per quarter. Delete this language as part of the recommendation. It suggests less communication rather than the intent to add staff to provide more and broader communication.
- 32. Recommendation No. 63. Set and communicate clear boundaries for Communication Services Section. Delete this recommendation—setting the duties of staff and ensuring that staff focuses on assigned duties is within the Department's current authority. This is a common issue across all City Departments and should be handled by management.
- 33. Recommendation No. 65. Hire 6-12 lifeguards to address surge in beach-downtown visitors. What data is this based on? Provide data to support this recommendation. Discussion of more downtown residents does not establish a nexus for the need for more boats. Are these non-career summer guards for swimming, or professional Marine Safety Officers? Need to show which locations are not staffed, or need more staff, and what ratios you are using to come up with the numbers.
- 34. Recommendation No. 65 -- Estimated Financial Costs/Savings: Provide cost estimates for this recommendation. No financial impact to the General Fund, as Marine Safety is funded from a separate source and is not part of the LBFD's budget. This is not an accurate statement—there are cost impacts regardless of the fund/source.
- 35. Recommendation 66. Current staffing of Harbor positions needs to be changed from 2 Assistant Chiefs to 1 Assistant Chief. This discussion between the Fire Department command staff and Harbor staff occurs annually. There does not appear to be a need for this recommendation.

A fundamental objective of the study was to identify opportunities for budget cuts and/or cost savings in the Fire Department. Though several recommendations for enhanced operations and additional staff with significant budget impacts are presented, there are no corresponding recommendations for opportunities to achieve cost savings as anticipated. We noted during the data collection phase that the City would consider proposals to enhance revenues as an alternative means to achieve cost savings, however, no recommendations for revenue enhancements are provided. Such options would have allowed the City to offset the cost of

enhanced staffing, as recommended, consistent with the City's practice to identify a revenue source in any request for staffing or service enhancements. Based on the significant financial and revenue data collected, the City would like the Study to include recommendations for revenue enhancements, as anticipated.

# FIRE & EMS OPTIMIZATION STUDY Phase Two Final Report





# City of Long Beach Fire Department

# Long Beach, California



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## **EXECUTIVE SUMMARY**

AP Triton, LLC (Triton) was retained to conduct a two-phase study for the City of Long Beach Fire Department. Phases One and Two began concurrently. Phase One, completed in September 2021, included Triton's review of the City's 2022 budget and opportunities for revenue enhancements related to the Fire Department's EMS service delivery. Triton always suggests considering options to maximize revenue and reduce or eliminate the need to cut services. Should additional revenue not eliminate the need for cuts, the new or additional revenue can minimize the impact of cutting some services. By simply making a few modifications within the current rate structure, AP Triton identified an additional \$1.2M in revenue that the system could capture.

The following report is the culmination of Phase Two, Long Beach Fire Department's Fire & EMS Optimization Study. This report represents hundreds of hours of work by Triton's subject matter experts, who approached this project objectively without any pre-conceptions. This study complies with the agreed-upon project scope of work. The City of Long Beach required the following study components:

- Efficiency Review: Review of the operations of all major divisions of the LBFD for service optimization.
- **Operations Savings:** Identify options on how to budget savings of at least \$1.9M that can be achieved and how operations and service modifications on such a scale can be made with the most negligible adverse impact.
  - Increased revenues or decreased costs.

All divisions were reviewed, and we found numerous opportunities for improved efficiency, especially in prevention, support services, and workforce initiatives. AP Triton evaluated all divisions for budget savings or increased revenues. In addition to the revenue identified in Phase One, AP Triton found additional revenue in other divisions, especially prevention fees.

The majority of capital resources and facilities have exceeded replacement requirements, and there are no practical opportunities for cost savings. Most of the analyses identified the need to increase funding for aging capital. Staffing is the highest cost for the provision of emergency services. The analysis showed that all divisions function with limited staffing, and future retirements will exacerbate the challenge. LBFD's effective response force (ERF) does not meet national guidelines in 53% of first alarm structure fires. The arrival of the first unit to structure within the Department's goal of 6 minutes, 20 seconds, occurs in 83% of incidents. The Department's goal is 90%. There are no practical staffing cuts that can be initiated without a significant compromise to the services provided.

AP Triton's analysis determined that the current and projected service delivery requirements are consistent with the allocation of resources.



# Section I: EVALUATION OF CURRENT CONDITIONS



# THE CITY OF LONG BEACH

Long Beach ("City") is a coastal city in Southern California located in Los Angeles County. Incorporated in 1897, it consists of 80.3 square miles (50.7 square miles land and 29.6 square miles water). Long Beach is the seventh most populous city in California and the forty-third most populous city in the United States.

Long Beach has an urban downtown with multiple high-rise buildings. The downtown area is under continuous re-development with additional high-density mid- to high-rise buildings currently under construction and planned.

Pre-COVID-19, the City hosted multiple high-attendance events throughout the year. The City will be a venue host for several competitions as part of the 2028 Los Angeles Summer Olympics.

The Port of Long Beach has been and continues to be a vibrant economic base for the region. It is adjacent to the Port of Los Angeles. According to its website, the Port of Long Beach is the second busiest container port in the United States, after the Port of Los Angeles. It is among the world's largest ports, shipping some 172 million metric revenue tons (FY 2020) of cargo worth \$200 billion annually. The Port continues to experience increasing cargo volume in 2021, surpassing its previous records. The Port of Long Beach is a vital economic partner for the City and the western United States.

#### **Geographic & Topographic Features**

Long Beach is located along the Pacific Coast 20 miles south of Los Angeles, California, at an elevation 52 feet above sea level. The topography is generally level, with rising terrain to the west.

The area's geology provides for considerable accumulations of petroleum known as the Long Beach Oil Field. The site also is near an active portion of the Wilmington Blind-Thrust Fault, where earthquakes are frequent. On March 10, 1933, a magnitude 6.4 earthquake occurred on the Newport-Inglewood fault, causing extensive damage (\$50 million in 1933 dollars) throughout the City of Long Beach and surrounding communities and causing 120 fatalities. The following figure displays the Long Beach Fire Department study area.





Figure 1: Long Beach Fire Department Study Area

### **AP TRITON**

#### **Overview of the Long Beach Fire Department**

Effectively managing a fire department is a complex task, often impacted by financial constraints, political pressures, and demanding community expectations. Today's fire department must address these complexities by ensuring an efficient and flexible organizational structure, adequacy of response, maintenance of competencies, a qualified workforce, and financial sustainability.

The development of baseline management components in fire-service organizations enables them to move forward in an organized and efficient manner. In the absence of foundational management elements, organizations can flounder, becoming lost in ineffective leadership and divergent views of purpose and vision.

A well-organized and efficiently administered organization has appropriate documentation, policies, and procedures; and protocols to effectively address internal and external issues. There is a need to establish processes that manage the flow of information and communication within each fire agency and its respective constituents

Toward those ends, the organizational structure of the Long Beach Fire Department ("LBFD" or "Department") is designed to maintain a city-wide presence to respond effectively to fire, medical, beach, and waterway emergencies, and to provide effective prevention, education, and preparedness services for the community of Long Beach.

The Department adheres to the typical metropolitan fire department's chain of command in which the Fire Chief reports to the City Manager, and the organization has a tiered structure from the Chief down to the line personnel, with various bureaus managing its operations.

The Long Beach Fire Department is an all-risk department and is divided into four bureaus that report to the Fire Chief. Each bureau is further broken down into divisions. Each bureau has specific responsibilities and is supervised by a Deputy Chief or a Manager.





The Long Beach Fire Department operates out of 23 fire stations of varying ages and conditions. The oldest is Station 8, built in 1930; the newest is Station 15, constructed and occupied in 2021, also houses one of the harbor's fire boats. Overall, the stations average 50 years old and their conditions range from poor to excellent (new).

#### **Strategic Plan**

The Department is currently developing a three-year strategic plan. Its expected publication date is late 2021.

The purpose of a strategic plan is to provide a framework within which organization members make decisions. At a minimum, it includes a vision statement, a mission statement, core values, and long-term goals. Effective plans contain more detail, such as the objectives or tactics needed to achieve each goal, the people responsible for achieving each goal, measures of progress and achievement, and timelines. Creating a detailed implementation plan significantly increases the likelihood that the strategic plan will not sit on the shelf or in a drawer somewhere.



Although many sworn personnel do not believe they have the skills to engage effectively in strategic planning, they may be more capable than they think they are: strategic planning and implementation are very similar to the Incident Command System (ICS) familiar to all fire-rescue personnel. Both represent structures for decision-making to achieve a defined outcome. Both articulate a desired end result; assess the current state vs. the desired state; identify the steps needed to achieve the goal, the resources needed, and measures of progress and achievement; formally communicate the plan; delegate responsibilities; and implement the plan, adjusting it as needed to meet changing circumstances.

Just as no fire department would think of having its personnel arrive on the scene of an incident and immediately start taking action without first sizing up the situation and quickly devising and communicating a plan of action, neither should it choose to forego a strategic plan. In its absence, neither personnel nor the community (including its leaders), know the Department's priorities, whether they are achievable given the resources allocated, or what they can expect.

#### Mission, Vision, & Values

LBFD personnel need to be grounded in the acceptance and adoption of a strong mission statement and an organizational vision and values. These fundamental foundation blocks are necessary to ensure everyone inside and outside the organization understands why the Department exists, the level of services it provides, its vision for the next three to five years, and the goals and objectives needed to achieve it.

The LBFD's mission, vision, and values statements must be part of a "living" process, consciously evolving as the Department changes and grows. An effective strategic planning process provides the tools for success. For example, it enables improvements related to the creation and maintenance of standardized policies and procedures; enhancement of internal and external communications practices; improved operational deployment and recordkeeping; and sustainable financial practices.

The following figure displays the status of the LBFD's strategic planning efforts.



rigule 3: LBFD Mission, Vision, & Siralegic Flanning Ellons		
Department Mission & Goals	LBFD	
Mission Statement adopted	Yes	
Vision Statement adopted	Yes	
Core Values established/communicated	Yes	
Strategic Plan adopted	No	

#### Figure 3: LBFD Mission, Vision, & Strategic Planning Efforts

#### **Mission Statement**

The mission of the Long Beach Fire Department is to protect lives, property and the environment, improving the quality of life and safety of the community.

#### **Vision Statement**

The Long Beach Fire Department is trusted to provide exceptional service to the community and takes pride in its operational excellence, dedication to teamwork, and family values. Our vision is accomplished through our commitment to high standards, training, innovation, efficiency, camaraderie, and a strong sense of purpose. Each team member puts the goals and needs of the department ahead of his or her own. We carry out our mission of protecting lives, property and the environment with professionalism and a commitment to those we serve.

#### **Core Values**

The following lists and describes the core values of the Long Beach Fire Department:

- **Trust:** The LBFD is an organization whose members can be relied upon by peers and the public.
- **Teamwork:** The LBFD works together to achieve a common goal in the most efficient manner.
- **Pride:** The LBFD honors the rich traditions that made us who we are today and that inspire us to continue to live up to the trust the community places in us as we provide the highest possible level of service every day, regardless of the magnitude of the situation.
- **Respect:** The LBFD shows regard for and consideration of others.
- **Family:** The LBFD extends the same empathy, care, and compassion to the community as we do to each other.
- **Commitment:** The LBFD is dedicated to the success of every job, even those that entail more work than usual or result in unexpected occurrences.



#### **Critical Issues**

As a part of this study, we asked the Department to list the top five critical issues facing the organization. Triton evaluated the responses, looking for commonalities that could lead to more cohesive planning in the future. The following figure summarizes the issues facing the LBFD.

lssue No.	Issue Description
1	Budget
2	Growth/change—downtown/vertical density, homelessness, equity, 2028 Olympics, mission/all-risk.
3	Technology—replacement and relevance
4	Facilities/infrastructure: average age of the fire stations is 55 years. There is an immediate need for five fire stations to be remodeled or replaced.
5	Workforce—development, employee wellness (behavior and physical health), succession planning, and diversity, equity, and inclusion.

#### Figure 4: LBFD Critical Issues

The budget issues are the fiscal constraints the City has continued to experience for several years. The Department has faced multi-year budget cuts that have included staffing reductions of civilian and sworn personnel staffing in administrative, fire prevention, and fire operations.

The City has continued to grow and change as the downtown area increases the number and size of mid- and high-rise buildings. The homelessness crisis has changed the Department's response model.

The technology issue refers to the need to stay ahead of changing and aging hardware and software. The Fire Prevention Bureau still uses paper reporting, making alignment with other City departments challenging.

The fire stations and support buildings continue to age, and some require major updating, relocating, and replacement. Long Beach voters passed Measure A to fund public infrastructure and public safety services. The Department is working with City management to develop a plan for the necessary work.

The workforce development issue is all-inclusive, ranging from employee wellness and succession planning to workplace inclusion, equity, and diversity.

#### Internal & External Communications

In today's "hyper-speed" world of communications, the public expects strategic, frequent, responsive, and transparent communication from government agencies. Likewise, employees expect the same when disseminating internal messages. Without it, public and employee confidence in the Department can suffer severe damage and create informal communication channels to spread false and misleading information throughout the community and organization. Each bureau uses the basic tools to communicate internally and externally. The following figure identifies the LBFD's various internal and external communication tools.

Communication Method	LBFD
Regularly scheduled staff meetings	Yes
Agency intranet	Yes
Written memos	Yes
Internal newsletter/video	Yes
All-hands meetings	No
Community newsletter	Pending
Department website	Yes
Social media accounts	Yes
Community surveys	Citywide

#### Figure 5: Communications Methods Utilized by LBFD

There is a general Command Staff meeting weekly. The Department generates and distributes a video update to the staff. The community receives newsletters, which also are available on the Department's internet/website/email to the community.

#### **Regulatory Documents & Recordkeeping**

Government agencies depend on written policies, standard operating guidelines (SOGs), and reports as tools to provide effective management and legal compliance. The following figure summarizes the LBFD's various policies.

Regulatory Documents	LBFD
Rules available for review by members	Yes
SOGs available for review by members	Yes
SOGs regularly updated	As needed
SOGs used in training evolutions	Yes
Department policies available for review by members	Yes
Policies internally reviewed for consistency	Yes
Policies reviewed for legal mandates	Yes
Training on policies provided to members	Yes

#### Figure 6: Regulatory Documents

The Department reviews the policies and SOGs as necessary, depending on changes to policy, procedure, and rules. More detail about policies and procedures may be found in the LBFD Workforce Initiatives section of this report.



#### **Documentation & Compliance Testing**

Proper recordkeeping and secure record archiving are essential to meet legal, regulatory, and business best practices. Document security and archiving can help address legal and other administrative actions confronting the Department. The following figure depicts the LBFD's recordkeeping practices.

Documentation & Compliance	LBFD
Electronic Reports	Yes
Software used: Fire	Fire Records Live®
Software used: EMS	Fire Records Live® & Medic Clipboard®
Financial Reports	Provided by City Finance
Management Reports	No
Operational Reports	Yes
Annual Reports produced	No
Incident Reports	Yes
Patient Care Reports	Yes
Exposure Reports	Yes
SCBA Testing	Internal
Hose Testing	Internal
Ladder Testing	Internal
Pump Testing	Internal
Atmospheric Monitors	Internal
Vehicle Maintenance Records	Fleet Maintenance

#### Figure 7: Documentation & Compliance

The documentation process for Fire Prevention inspections requires paper forms. The Bureau has attempted to modernize the reporting process to no avail. Ideally, the fire inspection documentation should align with the City's Development Services Code Enforcement and Building/Occupancy inventory records.

#### Information Technology Systems

Technology support services, systems, and processes are critical management components. Here are those used by the LBFD.

#### Figure 8: Information Technology Systems Used by LBFD

Technology Services	LBFD
IT Division	Yes
Contracted IT Services	No
Hardened Infrastructure	Yes
Backup Battery Supply	Yes
Automated Trouble Alert Systems	Yes
24-hour Support System	Yes
Continuity of Operations Plan	Yes
Budgetary Replacement Plan	Yes
System Parts and Equipment Supply	Yes

The City's Technology and Innovation Department provides the Department with IT services, support, computers, and infrastructure.



## **ORGANIZATIONAL SYSTEM REVIEW**

#### **Operations Bureau**

The Operations Bureau is managed by a Deputy Chief and an Assistant Chief who manage daily field operations (Districts 1, 2, and 3) and Special Operations including the Airport, Port, Fireboats, Urban Search and Rescue (USAR), Hazardous Materials, Strike Team/Mutual Aid, and Terrorism/Weapons of Mass Destruction. The Bureau is responsible for all field operations, including fire suppression, the Marine Safety Division, personnel, policies, and fire/non-fire response activities.

#### Fire Suppression Review

The Long Beach Fire Department responds to over 5,000 calls for service per month, with 77.64% of the total responses calls for Emergency Medical Services (EMS).<sup>1</sup> Typically, multiple apparatus respond to these calls in order to assemble an adequate number of trained Firefighters quickly to manage the emergency. The Department provides at least four firefighters on a fire apparatus (engine & ladder truck) and two Firefighter/Paramedics on the rescue ambulance.

The stations house a variety of fire engines, ladder trucks, rescues, paramedic vehicles, and civilian staffed Basic Life Support (BLS) response transportation vehicles, motorized ATV carts, scene lighting/self-contained breathing apparatus (SCBA) resupply compressor trailers, and an assortment of vehicles necessary to provide a robust fire, EMS, and rescue response. Some stations house specialty apparatus such as USAR equipment, rescue boats, small utility vehicles, and staff vehicles. Other frontline apparatus include the crash fire rescue equipment located at the Long Beach Airport station and two fire boats that provide fire and rescue response in the Port of Long Beach and the surrounding area.

Several fire engines are equipped and staffed as Paramedic Assessment Units (PAU) and provide immediate lifesaving services while awaiting the arrival of a rescue ambulance (RA) Paramedic unit. These engines are staffed with at least one Firefighter/Paramedic.

<sup>&</sup>lt;sup>1</sup> See Figure 93: Response by Incident Type.



The LBFD maintains an extensive list of reserve apparatus, including engines, ladder trucks, rescue vehicles, and other vehicle types. These apparatus are called into service as needed and are utilized for statewide mobilizations or large-scale events within the city, such as the Grand Prix, the recent COVID-19 immunization response, and the planned 2028 Olympic events.

Fire equipment is maintained and repaired at the City of Long Beach vehicle maintenance facility by a cadre of specially trained mechanics. A set of drive-through bays are set aside in this facility for fire apparatus of all types (except boats).

The City is divided into three Battalions, each with an assigned Battalion Chief (three per Battalion, one for each shift) and up to nine fire stations that house a variety of equipment, Firefighter/EMT, Firefighter/Paramedic, and civilian EMT staff.

#### **Suppression Shift Schedule**

There are three shifts (A, B, & C) of approximately 128 Firefighters per shift, comprised of 40 who are Paramedics and 88 who are EMTs. The personnel are divided into three Battalions with a Battalion Chief assigned to each Battalion daily. Ten single role (non-safety) EMTs staff the ambulances that provide transportation for BLS-type calls to local area hospitals.

#### **Suppression Apparatus**

The Department operates from 23 fire stations strategically located around the City. The specific number of Firefighters assigned to each station depends on the number of apparatus assigned to that station. For example, Station 2 houses one engine company (fire engine and crew) and one BLS ambulance (civilian-staffed transportation unit). The daily staffing is four firefighters (including an officer) on the fire engine and two civilian Emergency Medical Technicians on the Basic Life Support ambulance. Another example is Station 7, which houses one ladder truck with four Firefighters and one engine company with four Firefighters for a total of eight Firefighters. Because the engine company is a Paramedic Assessment Unit (PAU), one crew member is a Firefighter/Paramedic.

#### Suppression Response Dispatching

Fire and medical responses are dispatched by the Long Beach Emergency Communications Center, operating Computer-Aided Dispatch (CAD) technology to ensure reliable communications between first responders in the field. The appropriate apparatus type and number are dispatched to manage the call and mitigate the situation. This response dispatching uses the fire apparatus available in the immediate response location.


Apparatus and firefighters originate from their assigned station, or if the unit(s) are assigned to another call or project and remain available, they may be directed to an incident as part of the response package.

For example, a highly life-threatening event such as a cardiac arrest necessitates a minimum of two apparatus: a Firefighter/Paramedic (ALS) from the closest rescue ambulance (RA) and the closest engine or truck company.

If the call is determined to require a lower level of medical care, called a Basic Life Support (BLS) response, a minimum of two apparatus are assigned: the closest apparatus (engine or truck company) along with a BLS transport unit.

For large structure fires—e.g., house, apartment, commercial business, high rise, or other fire events—the dispatch center will assign a minimum of three engine companies, one truck company, a rescue ambulance, and a Battalion Chief. The responders on this type of emergency response can request additional resources as needed. In those cases, the dispatch center will either assign additional LBFD resources or will use a mutual aid response protocol to summon additional resources from neighboring fire departments or to staff a vacated LBFD station if the event is large enough to warrant this type of response.



Service Type	General Resource- Asset Capability	Basic Staffing Capability per Shift
Fire Suppression	20 staffed engines 4 staffed trucks 3 BC units 9 paramedic rescues 1 light/air unit 1 mobile command unit 1 foam task force	128 suppression personnel staffed daily x three shifts (not including daylight personnel)
Airport Operations	3 ARFF units	5 assigned daily 21 qualified personnel 250+ certified personnel
Port Operations	2 fire boats	12 personnel assigned daily (6 per boat) 65 qualified personnel 187 certified personnel
Beach Operations	8 lifeguard units 6 lifeguard boats 10 lifeguard facilities Dive team 41 seasonal stations	24 budgeted full-time personnel 140+ seasonal personnel
HazMat Response	1 HazMat unit 1 HazMat engine 1 HazMat rescue 1 HazMat backup engine	10 HazMat personnel assigned daily (TF24, E19, R18) 24 qualified personnel 20 certified personnel
Tech. Rescue	1 heavy rescue 1 heavy rescue (spare) 1 light rescue 1 K-9 search team 30-person regional task force	5 assigned daily 62 qualified personnel 24 certified personnel 6 instructors
Tech. Rescue/ Swift Water	1 OES SWR task force 3 LG SWR units in-service when parameters met	Type 1 (16-person team)
Vehicle Extrication	All sworn personnel on duty are trained in vehicle extrication	

#### Figure 9: Response Capabilities Provided by Long Beach Fire Department

The LBFD is a regional responder to assist neighboring fire departments with available equipment and staffing both on land and on the water. The Department is part of a regional mobilization group for large events such as wildland fires, which activate a multi-jurisdictional process, drawing resources from all over California and the western states.



### **Emergency Medical Services Review**

The Emergency Medical Services (EMS) Division has administrative and operational responsibility for the design and delivery of all EMS system activities, including the certification of all uniformed personnel.

All Long Beach Firefighters, Ambulance Operators, and Lifeguards are certified Emergency Medical Technicians (EMT); some Firefighters are Paramedics. The Division is staffed by an Operations Fire Captain, an Emergency Medical Education Coordinator, and two Emergency Medical Educators, an Assistant Administrative Analyst, and a Clerk Typist. The EMS Educators provide Paramedic, EMT, and Dispatcher continuing education and quality improvement. A Medical Director, who is an emergency medicine physician, reports to the Deputy Chief.

The Division also is responsible for:

- The design and delivery of all EMS system activities, including the certification of all uniformed personnel.
- Certification of all LBFD Firefighters, Ambulance Operators, Marine Safety Officers, and Emergency Medical Technicians (EMT).
- Continuing education and quality improvement for Firefighter/Paramedics and Firefighter/EMTs.

Service is provided by both Firefighter/EMTs (Emergency Medical Technicians) and Firefighter/Paramedics. Patients who are sick or injured are transported to local area hospitals, some of which are designated to receive and treat patients with certain medical conditions, including heart attacks, cardiac arrests, strokes, trauma, and pediatrics. Each of those medical certifications (EMT or Paramedic) has a prescribed level of education and training. EMTs, considered Basic Life Support (BLS), must undergo approximately 140 hours of classroom and skill training. Paramedics, considered Advanced Life Support (ALS) providers, must undergo over 3,000 hours of training that includes a higher level of medical skills, such as dispensing certain medications and performing invasive procedures, such as the administration of intravenous lines to administer fluids and medications.

LBFD Firefighter/Paramedics and Firefighter/EMTs operate under the Los Angeles County Emergency Medical Services Division's approved protocol guidelines adopted by the Department for field application.

#### **EMS Division Management**

Currently, the EMS Division is managed under two different bureaus. One Battalion Chief and one Captain in the Operations Bureau are responsible for ALS and BLS services and Paramedic schools. In the Support Services Bureau, the Medical Director, an emergency room physician, is under contract with the LBFD to provide medical control and direction. Three civilian positions, two Nurse Educators and an EMS Coordinator, round out the staff. Day-to-day operations fall under the Operations Bureau's EMS Battalion Chief.

#### **EMS Response**

An EMS response is dependent on the type of emergency, which can vary widely. For example, a child who is skateboarding falls to the ground and injures his arm. A response for this call may consist of the closest engine or truck company in addition to the BLS transport ambulance. Upon their arrival, the child is evaluated by the Firefighter/EMTs, treated, and possibly transported to the patient's doctor's office by the parents or to a hospital by the BLS ambulance. (An engine or truck "company" refers to the apparatus and its crew.)

A medical response to a cardiac arrest, a higher level of emergency, would consist of the closest rescue ambulance (RA) and the closest engine or truck company. After a successful resuscitation, the patient would be transported by the rescue ambulance to the closest destination hospital with the possible assistance of Firefighter/EMTs from the truck or engine company.

The City of Long Beach is a coastal city with nine miles of beach front and an active cargo Port and Airport. Medical Emergencies that occur in these locations may require a somewhat different response. For example, a response on the water would involve one or more rescue boats or a fire boat, depending on the location. The personnel staffing these boats are either Firefighter/EMTs or Firefighter/Paramedics. Additional resources for water EMS responses are available on an as-needed basis.

#### **Delivery of Services**

Time matters a great deal in achieving an effective outcome to an emergency event. Time, however, is not the only factor. Delivering the correct number of properly trained and appropriately equipped personnel within the critical period is imperative to successful patient outcomes.



All fire apparatus are staffed with Firefighter/EMTs, and some have Firefighter/Paramedics. Per County Protocol for Advanced Life Support Units, the rescue ambulances (RA) are staffed with two Firefighter/Paramedics.

Nine of the engines are staffed with a rotating Firefighter/Paramedic and are designated as Paramedic Assessment Units (PAU). While their equipment is similar to that on the RAs, the PAUs do not carry narcotics and cannot transport patients.

These resources are dispatched by Long Beach Emergency Communications Center. Using a system of pre-programmed response patterns for the type of call and the resources necessary to manage it, the dispatchers send the appropriate apparatus and personnel from the closest fire station or, sometimes, based on the nearest available resources. It is conceivable that no fewer than two fire apparatus, including a Firefighter/Paramedic staffed Rescue Ambulance, respond to a cardiac arrest call, while no fewer than two fire apparatus, including a BLS transport unit, will be sent for a simple injury or illness.

This response matrix can vary based on the nature of the medical emergency. Many calls are not time-critical. However, for severe trauma, cardiac arrest, or conditions that may lead to cardiac arrest, a rapid response is essential.

The following figure represents the typical response to calls for Emergency Medical Services. By dispatch protocol, the closest unit is dispatched along with the other appropriate units depending on the type of call, including a BLS ambulance or an ALS unit.



Unit Type	Number of Units	Dept. Staff	
EMERGENCY MEDICAL SERVICES (no	ot Life Threatening)		
Engine or Truck	1	4	
BLS Unit	1	2	
Battalion Chief or EMS BC	—		
Total Staffing/Units Provided:	2	6	
EMERGENCY MEDICAL SERVICES (Lif	e Threatening)		
Engine or Truck	1	4	
Medic Unit	1	2	
Battalion Chief or EMS BC	_		
Total Staffing/Units Provided:	2	6	
<b>BEACH/WATER RESCUE SERVICES (Lif</b>	e Threatening)		
Engine or Truck	1	4	
Medic Unit	1	2	
Battalion Chief or EMS BC	—		
Lifeguard unit(s)	1	2	
Total Staffing/Units Provided:	3	8	
MAJOR MEDICAL RESPONSE (10+ Pa	itients)		
Engine	5	20	
Truck	1	4	
MCI Trailer	1	2	
Battalion Chief	2	2	
Paramedic Unit	3	6	
BLS Ambulance	7	14	
USAR Task Force	1	5	
Total Staffing/Units Provided:	20	53	

### Figure 10: Critical Tasking for EMS Responses

It is imperative that the LBFD have sufficient adequately staffed response units (i.e., engine, truck, rescue ambulance) located throughout the city to manage the more than 50,000 calls for emergency medical services each year. This number will increase greatly as the City's planned density grows significantly, especially in the downtown area.

### Apparatus

Emergency Medical Services responses are provided by Firefighter/Paramedics on rescue ambulances, by Firefighter/EMTs on engines or trucks, and/or by civilian EMTs on BLS ambulances, depending on the call type.

Advanced life support response is generally reserved for medical emergencies such as cardiac arrest, strokes, multiple trauma from motor vehicle accidents, falls, assaults, and gunshot or stabbing wounds that present possible life-ending injuries or illnesses. BLS level calls are categorized as non-life-threatening events such as simple fractures, lacerations, falls, and other similar incidents. Here is the breakdown of the LBFD's EMS-related apparatus (E = fire engine, R = rescue unit):

- Paramedic Assessment Units (PAU)—E2, E5, E6, E7, E8, E13, E14, E17, E19, E24, Fire Boat 15, Fire Boat 20, Rescue Boat 1
- ALS ambulances—R1, R3, R4, R9, R10, R11, R12, R18, R22
  BLS ambulances—BLS1, BLS2, BLS12, BLS13, BLS14, BLS16, BLS19

### **Medical Direction and Control**

Oversight of the LBFD's EMS program is provided by a Medical Director who is an emergency room physician under contract to provide this level of supervision. This position is required by the County of Los Angeles Department of Health Services.

### **EMS Transportation**

The LBFD provides all ALS and BLS transportation to local area hospitals, some of which have designated specialties such as trauma. The hospitals utilized for the EMS destinations are St. Mary Medical Center, Long Beach Memorial, Community Hospital of Long Beach (since 2021), College Medical Center, Lakewood Regional Medical Center, and Los Alamitos Medical Center. Only the first two provide base station/on-line medical control for the Department's EMS program.

The Department also provides interfacility transport for ALS critical transports. It does not have any arrangements with private ambulance companies to provide additional EMS resources.

Five BLS transport ambulances are located at Stations 2, 12, 13, 14, and 16. These units are part of an EMS response within the City and are dispatched to provide medical ground support at fire operations. The staff are civilian EMTs who are not trained as firefighters.

BLS units work either 24-hour or 12-hour shifts. For example, BLS Units 2 and 14 are staffed 24 hours per day, while BLS Units 12, 13, and 16 are staffed 12 hours per day. These numbers have varied depending on the reporting division.

Facility	Trauma Level	Stroke Center	PCI/Cath Lab	Physical Address	Provides Online Medical Control
College Medical Center	No	No	No	2776 Pacific Avenue Long Beach 90806	No
Lakewood Regional Medical Center	No	Yes	Yes	3700 South Street Lakewood 90712	No
Long Beach Memorial Medical Center	2	Yes	Yes	2801 Atlantic Avenue Long Beach 90806	Yes
Los Alamitos Medical Center	No	Yes	Yes	3751 Katella Avenue Los Alamitos 90720	No
St. Mary Medical Center	2	Yes	Yes	1050 Linden Avenue Long Beach 90813	Yes

### Figure 11: Clinical Facilities & Hospitals

### **EMS Records Management**

LBFD personnel utilize an iPad with an application from Digital EMS Solutions called Medic Clipboard records management system (RMS) to document all EMS incidents to which they are dispatched. When completed, the application generates an electronic patient-care report (ePCR) that can be downloaded by the receiving hospitals.

EMS documentation is completed on the scene only if the patient is not transported or refuses treatment. Otherwise, the document is completed either during transportation of the patient or soon after arriving at the receiving hospital or facility.

Maintaining complete EMS and patient care records (PCR) is critical for EMS operational and clinical quality management. The Department also can use these records to generate statistics related to the types of medical emergencies it responds to so it can prepare for managing projected future call types with training, equipment, and additional personnel. For example, the recent COVID-19 pandemic necessitated certain precautions to prevent the spread of the virus to the LBFD's EMS responders. The conditions changed certain response patterns and protocols, as did the uptick in responses to the City's homeless population.



Studying response statistics will support more accurate planning for either additional EMS units or for collaboration with other community assets. For example, City agencies such as the Health Department could respond and manage calls for service from people experiencing homelessness.

Accurate and complete documentation can be used to defend and protect the Department and its personnel in the unlikely event of a lawsuit from a former patient or member of the public. Such records are the basis of an affirmative defense for the Department, demonstrating that appropriate and timely treatment was delivered to the patient. When events are litigated long after they have occurred, Department-generated records can be used as an institutional recall memory. EMS records management includes identifying, classifying, storing, securing, retrieving, tracking, and destroying or permanently preserving records under the *State of California's Records Management Act.*<sup>2</sup>

### Quality Assurance/Quality Improvement (QA/QI)

The LBFD's Quality Assurance and Quality Improvement (QA/QI) process is handled by the Support Services Bureau, which includes two Nurse Educators, the EMS Coordinator, and the EMS Medical Director. This group is responsible for reviewing all LBFD-created medical records, including critical events and trends as directed by the Los Angeles Health Department's core measures for EMS providers.<sup>3</sup>

A strong clinical quality improvement (QI) program is essential for ensuring that an EMS system delivers effective patient care. QI/QA contact hours are counted toward on-going mandatory Continuing Medical Education (CME) for EMTs (24 hours) and Paramedics (48 hours).

#### **EMS Response Apparatus**

The LBFD maintains a robust EMS response to many types of medical calls with the appropriate apparatus and staffing, as noted in the following figure. As the Department responds to an anticipated increase in demand on the current EMS system driven by the City's planned surge in density, annual and periodic planning is necessary to adequately manage this new reality with the necessary additional equipment and trained personnel.

<sup>&</sup>lt;sup>3</sup> https://emsa.ca.gov/wp-content/uploads/sites/71/2020/08/2019\_CM\_Manual.pdf.



<sup>&</sup>lt;sup>2</sup> https://www.sos.ca.gov/archives/records-management-and-appraisal.

•	•	
Service Type	General Resource-Asset Capability	Basic Staffing Capability per Shift
Emergency Medical Services	12 Engines – ALS equipped & PAU 8 Engines – BLS equipped 9 Paramedic (RA) Units 5 BLS Units 2 Fire Boats – ALS equipped 4 Ladder Trucks – BLS equipped 2 MCI Units (not staffed)	128 personnel staffed daily (40 paramedics, 88 EMTs) Three shifts (A, B, C) 10 non-sworn EMTs staffed daily on BLS ambulances

#### Figure 12: EMS Resource Management and Apparatus and Personnel Available

All of these response types are staffed with qualified Firefighter/EMTs, Firefighter/Paramedics, and/or civilian EMTs.

### **EMS Public Education**

The EMS Public Education provides guidelines for prevention, emergency access, initial treatment options and initiatives supporting emergency medical response. The function is primarily the responsibility of the City's Health Department. However, the LBFD uses its website to inform the public of its activities through press releases, a Public Information Officer, and other media outlets.

### **Mutual Aid**

When LBFD resources are insufficient to meet current call volume, the Department requests mutual aid from surrounding fire departments, including those in Los Angeles County, the City of Los Angeles, Orange County, and the City of Compton. LBFD reciprocates by providing mutual aid to regional departments when necessary. Each department has its own qualified personnel and apparatus.



# Airport Operations Review Long Beach Airport

The Long Beach Airport is located in approximately the center of the city. According to its website, the Airport serves four airlines that operate passenger service as well as many small private airplanes and select cargo carriers. The airport had over 1.75 million enplanements, according to the FAA, and is ranked 76<sup>th</sup> in the nation and one of the busiest in the state.<sup>4</sup> Over 168 million pounds of cargo have been handled at the Long Beach Airport, making it the 105<sup>th</sup> busiest in the nation. Boeing operates a maintenance facility and is located to the west of Station 16, where the LBFD operates the Aircraft Rescue and Firefighting units for the Airport.

The LBFD maintains a presence on the airport's grounds to meet the FAA standards for a quick and efficient response to on-site and off-site aircraft incidents, as well as fire and EMS response to all airport facilities. The crew consists of five Firefighter/EMTs and one shift Battalion Chief. A civilian-staffed BLS ambulance, available in 12-hour shifts seven days per week, also operates from Station 16. This Airport station has two crash fire rescue (CFR) units and one pickup truck mounted with fire suppression equipment. This station must follow FAA Rules and Regulations, such as conducting periodic CFR (Code of Federal Regulations) drills. The Airport owns the facility, and the Department maintains it.

Station 16 has specialized fire apparatus for aircraft crash incidents (staff of 3). In addition, the station is home to a Basic Life Support Ambulance (2 civilians), a Battalion Chief, and a quick response pick-up (staff of 2). Temporary Station 9, as well as Stations 17 and 19, are located near the airport. The LBFD's Administration building is located near the civilian entrance to the terminals. The following figure shows an aerial view of the airport.

<sup>&</sup>lt;sup>4</sup> https://www.faa.gov/airports/planning\_capacity/passenger\_allcargo\_stats/passenger/.





Figure 13: Airport Aerial View

Station 16 is located inside the perimeter fence and has a direct route to the main terminal as well as to the aviation facilities on the south side of the airport. Though its apparatus must cross runways during an emergency, this is typical for airports. Crash trucks are engineered to reach a high rate of speed during acceleration, according to NFPA standards. Station 9 and the BLS unit in Station 16 can use local roads to reach these areas for incidents on the east side of the airport. The same holds true for Stations 17 and 19, which both can reach the passenger terminal area.

According to GIS data provided by the City, there are 422 various types of structures located on airport property, although most are listed as commercial aviation facilities (offices). The next figure details the percentage of each type of facility located on the airport grounds.





The crash fire trucks responded to 70 aircraft emergencies over the incident data period. Most of the demand for services was for medical events, as shown in the following figure. Total volume was reduced in 2020 due to the reduction in air travel during the COVID-19 pandemic.



#### Figure 15: Airport Property Incidents by Type and Year

# **AP TRITON**

**AP TRITON** 

Incident volume increases during the course of the year, with September being the busiest month, as shown in the following figure.



Similarly, the busier days are later in the week, peaking on Thursdays, as shown in the following figure.



#### Figure 17: Airport Workload by Day of the Week

Figure 16: Airport Workload by Month of Year

By the hour of the day, incidents occur most frequently in the afternoons and early evening. The effect of lower passenger traffic is apparent in the 2020 data. There were no incidents at midnight during the last three years and only three at 3 a.m. in 2019. The busiest period is between 7 p.m. and 8 p.m., as represented in the next figure.



#### Figure 18: Airport Workload by Hour of Day

Most of this demand occurred near the terminal and surrounding buildings. In the following figure, note that some occurred at the fire facilities. There are two tunnels for vehicular traffic below the runway on the southeast side. Some accidents occurred in the northwest tunnel. The ends or near ends of runways is where the crash trucks position themselves during a reported aircraft emergency.



Figure 19: Airport Incident Demand and Locations

Most of the demand listed the crash truck as the primary unit, followed by Engine 19 and Engine 9. There were others that responded to these calls as well on a smaller volume of airport incidents. For airport incidents, the 90<sup>th</sup> percentile turnout time for incidents was 11:47 minutes, the travel time was 7:42 minutes, and the performance measure from dispatch to arrival was 8:47 minutes at the 90<sup>th</sup> percentile.



# **Harbor Operations Review**

Under an agreement with the City and the Port of Long Beach, the Harbor is responsible for four fire stations: Station 24, Station 20, Station 15, and Station 6. Staff associated with these stations are LBFD employees paid by the Port of Long Beach through a Memorandum of Understanding (MOU).

### Port of Long Beach

The LBFD's Harbor Section staff consists of one Assistant Chief in the Fire Prevention Bureau who is the liaison with the Harbor Department. This position also works with Harbor Patrol, Police, Homeland Security, Coast Guard, and others to maintain the health, safety, and security of the Port of Long Beach.

This Section is responsible for the operation of two large 108-foot fire boats designed by Robert Allen Ltd. and built at Foss Marine in Seattle. These vessels are located at Station 15 and Station 20 and staffed by six Firefighters daily. Four personnel staff the fire engine at each station, while two consistently are assigned to the fire boat for an immediate response if the engine has been dispatched to a response.

Fire apparatus, USAR equipment, and rescue boats used in Port operations are owned and maintained by the City, while the two large fire boats, Boat 15 and Boat 20, are owned and maintained by the Port. The rescue boats are under the direction of the Marine Safety Division Chief.

### **Command Staff**

The Assistant Chief in the Fire Prevention Bureau is the fire departments liaison to the Port, working in collaboration with other agencies from Homeland Security, Harbor Police, the Long Beach Police Department, the Coast Guard, and other governmental entities to ensure the Port's safe operations. The Assistant Chief is the point of contact for code enforcement personnel on new and existing structures, for emergency responses, and for other events that primarily affect the Port.

The Assistant Chief also supports operations at Station 24 (also owned by the Port) on HazMat situations at the Port, in the City, and in surrounding jurisdictions. Station 6, housing the USAR unit, is one of the Port resources.

The Assistant Chief is generally the Incident Commander for Search and Rescue operations with the Coast Guard (along with other available agencies) both inside the Port area and outside the Harbor property.



The current Harbor District staff includes one Assistant Chief, four Captains, boat, and engine crews for each of the three 24-hour shifts. The fire boat pilots are a separate classification. In addition, the current staff include a ½ FTE Plan Checker and Fire Review position and a ¼ FTE Deputy Fire Marshal. There are approximately 63 firefighters assigned to Harbor operations.

#### Training

Training frequently occurs within the Port and includes other relevant agencies such as the Harbor District, the Coast Guard, Homeland Security, Harbor Police, and the County Sheriff. The Port of Los Angeles, which adjoins the Port of Long Beach, has five fireboats staffed by Los Angeles Fire Department personnel. Much of the training is focused on rescue operations, such as security and fire issues, hazardous materials, CBRN (chemical, biological, radiological, and nuclear) events, and EMS.

Firefighters assigned to the Port area have multidisciplinary training in areas that include, but are not limited to, remote vehicle underwater operation, paramedicine, dive rescue, and water-based firefighting.

#### **Mutual Aid Response**

LBFD Harbor operations responds in a mutual aid configuration with the Port of Los Angeles to Pier A and other piers as needed using its fire boats and other resources. The Port of Los Angeles adjoins the Port of Long Beach. Mutual aid involves all available resources, including the Harbor Patrol, Homeland Security, Sheriff's office, Coast Guard, Fire Department, and the LBFD's Marine Safety Division.



### Marine Safety Division Review

The LBFD operates and maintains a full service Marine Safety Division consisting of lifeguard and rescue boat operations. It is responsible for the safety of residents and visitors along Long Beach's beaches and waterways, including the Long Beach Marina, which is the seventh-largest in the United States, and Marine Stadium, which hosts many water-based spectator events. Rescue Boat 3 covers these facilities from Marine Safety Station 33. Alamitos Bay is served by Rescue Boat 1, which resides at Marine Safety Station 21.

The Marine Safety Division is managed by one Marine Safety Chief. Each of the Division's stations has a Captain. Unlike most of the LBFD, which is funded by the City's general fund, the Division is funded by a specialized fund. In addition, its Lifeguards are associated with a separate union, consisting of approximately 224 members, of whom 24 are full-time and 200 are seasonal.

The Division consists of 24 full-time employees, divided among boat and beach operations, with 140-plus seasonal personnel.

#### **Rescue Boats & Marine Safety**

The Marine Safety Division operates six 32-foot Seaway rescue boats that are maintained meticulously as unique assets to its operations. Two of the boats are designed specifically to operate in Naples' narrow waterways with low overhead clearances. In the event of a structure fire in Naples, the Seaways may be the only long-term water pumping source for firefighter operations.

Rescue boats operate out of Marine Safety Stations 21, 33, and 32. The main lifeguard administrative building is located at a historic site at 2100 East Ocean Blvd. The rescue boats are serviced periodically and repaired as they are uniquely designed for water rescue operations over the long-term. Although these boats generally are on a 15-year replacement cycle, the Marine Safety Division has determined that repairing and replacing operational components is more cost-effective than replacing the boats with a less durable model. The rescue boats are designed for a 40- to 50-year life span. Although each haul out for maintenance and repair is expensive (\$500,000 per episode), it represents long-term savings.



Marine Safety provides two 24-hour rescue boats. Rescue Boat 1, in Alamitos Bay, is the only fully integrated Fire/Lifeguard rescue boat in the United States. Rescue Boat 1 is staffed with a Fire Captain/Paramedic and a Marine Safety Rescue Boat Operator. Rescue Boat 2, in the Downtown Marina, is staffed with a Marine Safety Rescue Boat Operator and a Marine Safety Operator and a Marine Safety Officer. Rescue Boat 3 is a daylight rescue boat assigned to the Marine Stadium area.

The rescue boats' specific responsibilities are search and rescue, dive operations, and Port security, including law enforcement and maritime law enforcement. The Rescue Boat Operators have the authority to function as Peace Officers. Although they are not fully trained in firefighting, they have an awareness of firefighting operations.

In addition to the rescue boats, two large firefighting boats are located at Station 15 and Station 20 within the Harbor. They are under the direction and supervision of the District 1 Battalion Chief, who oversees fire operations in the Port Area.

#### **Dive Teams**

The Marine Safety Division is responsible for the Dive Team that works in conjunction with other agencies, including the Harbor Police and the Coast Guard. The Division has the only on-duty rescue dive team in the region, and is capable of placing a rescue diver in the water within 15 minutes, 24 hours a day.

First established in 1968, the Long Beach Lifeguard Search & Rescue Dive Team has become an industry leader. The Dive Team has three platoons, each comprised of a Dive Master and four Divers. The team is responsible for underwater search and rescue, body recovery operations, evidence collection, salvage, and all other related activities. Recognized as a leader in public safety diving, the LBFD's Lifeguard Dive Team has trained many other lifeguard, fire, and police dive teams.

#### Swiftwater Rescue Team

The Long Beach Fire Department/Lifeguards have developed and maintain the country's first fully-integrated Fire/Lifeguard Swiftwater Rescue Team. The team, which consists of 12 Lifeguards and 8 Firefighters, responds to all emergency calls that involve moving water or flooding. All team members are trained to Swiftwater Rescue Levels I and II. Additional specialized training includes Swiftwater Rescue Instructor, Animal Rescue, High Angle Rescue, Rope Systems, and Inflatable Rescue Boat Handling.



### **Coast Guard**

The Marine Safety Division, as well as the Harbor Operations, interacts with the U.S. Coast Guard (USCG) on a continual basis. The collaboration includes frequent training, updates in shared technology, and the use of helicopters and rescue boats. The Harbor's two large fire boats are frequent participants of these joint trainings and operations. The USCG's mission is a Homeland Security function of harbor security and safety in which LBFD Harbor and Marine Safety are active participants.

### **Beach Operations**

Beach Operations is responsible for all day-to-day operations on public beaches. A minimum of two lifeguard response vehicles are on duty to cover all daytime needs. During the busiest season, June to September, 140-plus seasonal Lifeguards are employed to assist with the increased need for service. Additionally, there are 25 full-time professional lifeguards.

#### Lifeguards

Lifeguards make up the backbone of staffing for the Marine Safety Division. They average several thousand direct-contact rescues in Long Beach's waters every year.

The Marine Safety Division runs a Junior Lifeguard program for young people ages 9 to 17 that is one element of career pathway programs with the local school district. Qualified youths from the Junior Lifeguard cadet program may progress into the Lifeguard ranks.

Demand for the Lifeguards' services is high due to the large number of visitors and to rescues both on and off the water (i.e., land-based events such as marathons) that include minor to major medical emergencies and reuniting lost children with their families. The Marine Safety Division also responds to fires and medical emergencies in the City's marinas. It is estimated that approximately 10% of the boats in the marina are live-a-boards, meaning there is a continual year-round presence with the associated hazardous materials response, gas leaks, water leaks, and sinking vessels. This population has not been counted, as the number varies seasonally.

The following figure displays specific statistics of the Marine Safety Division's activities from 2018 through 2020.



Activity	2018	2019	2020
Swim rescues	4,268	5,103	3,147
Drownings	1	6	4
Beach hazards (e.g., used syringes, broken glass from alcoholic beverages)	58,129	58,164	49,593
Boat assists/# of people on board	827/1,496	868/1,605	906/2,887
Boat rescues/# of people on board	325/711	292/602	351/963
Medical Assists:			
Minor ("Band-Aid" and sting ray injuries)	7,276	8,501	6,797
BLS-level injuries (require EMT transport)	67	50	36
ALS-level injuries (require paramedic response)	236	167	158
Dive responses	17	22	32
Swift water rescue responses	15	11	16
Enforcement advisories (e.g., warnings for municipal code violations)	275,334	331,027	325,582
Estimated beach attendance	3,169,526	2,570,285	2,659,211

Figure 20: Marine Safet	V Division—Selected Activities	2018_2020
rigule zu. Maline saler	y Division—selected Activilies,	2010-2020

Lifeguards also must deal with the City's growing homeless population when incidents occur that affect beach operations, such as drug use or overdose and violence among this population as well as with some visitors. The majority of seasonal Lifeguards are high school and college students who work for the Division during the summer. However, some also are able to make themselves available as needed, such as during the pandemic, when many logged thousands of hours staffing the City's testing and vaccination sites.

### Headquarters and Lifeguard Stations

There are three lifeguard stations that house administrative staff, lifeguards, and boat operators. There are 21 lifeguard towers that cover the variety of beachfronts.

# Coverage Area

The Marine Safety Division covers 7 miles of beaches and approximately 4 miles of inland waterways. Demand for its services spikes during the summer compared to the winter, though Division personnel are busy year-round. The Bayside beaches have a high utilization rate. Many private businesses located beachside provide amenities for beachgoers.



The Marine Safety Division also provides coverage for the City's Aquatic Playground, a facility that has required many rescues and the constant close attention of multiple Lifeguards on each shift. There are similar, and much larger, facilities in the planning stages for development on the beach in time for the 2028 Olympic Games. Such additional facilities will generate greater demands for service, which will require increased staffing of Lifeguard personnel.

#### Los Angeles 2028 Olympics

Long Beach will play a significant role in the 2028 Los Angeles Olympics as it will host events including water polo, open water swimming, the triathlon, handball, sailing, and BMX racing. The Long Beach Sports Park, which, when constructed, will be the second-largest sports park outside of downtown Los Angeles. It too will be staffed by the Marine Safety Division's Lifeguards and rescue boats.<sup>5</sup>

#### Funding

The Marine Safety Division is funded separately from the rest of LBFD, which receives most of its funding from the City's general fund. While this operation is funded in part by citations and impounds, the majority of its approximately \$9.5 million annual budget originates from the Tideland Fund's oil revenues.<sup>6</sup>

#### **Future Plans and Projects**

The Marine Safety Division builds on its strength with community services and a continual presence on the beach and other venues. The Division has a robust Junior Lifeguard Program with up to 700 members at any one time. It aggressively seeks diverse participants from all areas of the city. In 2021, there were participants from each of the nine Council districts. Some of the participants are disenfranchised individuals, and the Long Beach Unified School District provide some funding for this program.

<sup>&</sup>lt;sup>6</sup> City of Long Beach FY 16 Adopted Budget, used for background information as to the source of the funds and not a FY 20/21 summation of the fund sources.



<sup>&</sup>lt;sup>5</sup> 8 by 28 (longbeach.gov).

The Marine Safety Division has established a close connection to the community, and the exemplary behavior of the Junior Lifeguards reflects the value it provides to the community. Because its Lifeguards interact on a daily basis with patrons and visitors to the beaches and waterways, the Division is a de facto ambassador for the City. The lifeguard staff regularly participate in City-wide safety events, including the COVID-19 testing and vaccination sites.

The Division's long-term goal is to expand the seasonal and professional Lifeguard staffs to meet the greater demands for service that necessarily will accompany the City's planned increased density, particularly downtown, which is within walking distance to the beach. Candidates for the professional Lifeguard position must complete a rigorous testing process that includes an open water swim, running, and demonstrating other physical aspects of the job in a highly competitive environment. The constant turnover of seasonal Lifeguards, which is a "stepping stone" rather than a career position, creates a demand for replacements to fully cover the City's waterfront recreational facilities as well as the nearweekly special events that the City hosts on or near the beaches or waterways that the Division is charged with protecting.



# **Training Division**

The Training Division, part of the Support Services Bureau, is directed by a Battalion Chief and staffed by three Fire Captains, a Communications Specialist III, a contract A/V Media Specialist and Editor, and an Administrative Aide. The Training Division is responsible for conducting recruit academies, probationary testing, and evaluations, as well as all ongoing training and education of fire personnel. A variety of training methods and resources are utilized, including video and technology-based programs.

The LBFD is a member of a Regional Training Group (RTG) comprised of departments that make up the Los Angeles Area Fire Chiefs Association. Its representative to the RTG is a Battalion Chief who reports to the Association. The RTG program is nationally recognized for providing the highest quality of innovative education and training to the region's fire service members through safe, cooperative, sustainable, and equitable partnerships in a consistent, efficient, and effective manner. RTG programs are held at the LBFD's Captain David Rosa Regional Training Center, which has been designated as a Regional Training Facility.

From the beginning of firefighters' careers, the Training Division is instrumental in ensuring their competency, safety, and ability to accomplish the essential functions of their jobs from the Recruit Academy through their probationary period and continuing to their eventual retirement, perhaps with some promotions to the officer ranks along the way. The first step for aspiring LBFD firefighters is the Department's Recruit Academy, an extensive 16-week internal fire academy that includes all curricula required to obtain a Firefighter I certification. It includes, but is not limited to, basic EMT skills training/certification, structural firefighting (engine/truck operations), Hazardous Materials Awareness and Operations, and Wildland Fire Fighting. Recruits also study the concepts and practical applications of the Dispatch Center and Emergency responses. They also learn the basic use, safety, and care of small tools and power tools, which they will use throughout their careers.

The Academy enables recruits who previously received their initial EMT certification from outside agencies to sharpen those skills. Firefighter/EMTs graduating from the LBFD's Recruit Academy are assigned to a truck or engine company for continued training during a one-year probationary period. They spend six months with an engine company station and six months with a truck company station which affords training with both types of apparatus.



The Captain David Rosa Regional Training Center is involved in ongoing fire and EMS training through regularly scheduled sessions for all Firefighters. For example, Continuing Medical Education is provided by the EMS Division's Nurse Educators through a variety of formats, including in-person, video, webinars, and online training. The Division's EMS Education Coordinator and the Medical Director oversee the training and often are available themselves to answer questions during or after online training sessions. LBFD uniformed members also undergo EMS skills testing. After their initial certification and training as EMS providers, EMTs must accumulate 12 continuing education hours each certification period, while Paramedics are required to undergo 24 hours. Emergency Medical Dispatchers receive an additional 12 hours of training. Course material is obtained from a variety of sources, including through the Los Angeles County EMS Agency. The Department's Nurse Educators are responsible for all EMS training, certifications, and recertification.

All LBFD Instructors are certified in the topics they teach. Instructor certifications include, but are not limited to, Firefighter I and II Instructors, State Fire Marshal Instructors, and State teaching credentials. The Training Division maintains personnel with specialty instruction in USAR and Hazardous Materials disciplines as well.

#### **Ongoing Continuing Training**

There is an active ongoing and continuing training program that certifies firefighters for certain tasks and roles for the Department's fire operations.

### **Special Rescue**

Firefighters who are trained as USAR Specialists (Urban Search and Rescue) are required to possess certifications for Rescue Systems 1 and 2, Trench Rescue, Confined Space, and Swift Water Rescue. They subsequently are required to complete 30 hours of Continuing Education annually. All certified USAR members are, at minimum, Rescue Specialists. The LBFD's USAR team is a state-certified Regional Task Force.

### Hazardous Materials Certification Level

All sworn LBFD personnel are certified at a minimum at the "Hazardous Materials Operations" level (HazMat). Those who are part of the Hazardous Material Response Team and assigned to the HazMat stations are certified HazMat Technicians or Specialists who have additional weapons of mass destruction (WMD) certification.



### Wildland Firefighter

All sworn LBFD personnel are minimally certified to the level of Firefighter I, which requires successful completion of S-190 (Introduction to Wildland Fire Behavior). Those who are Firefighter II are certified with the completion of S-290, Intermediate Wildland Fire Behavior. RT-130 is the annual refresher/recertification course required by LBFD.

# **Vehicle Extrication**

All LBFD personnel are trained on vehicle extrication during the operational phase of the Department's Recruit Academy. Fire Recruits learn to stabilize vehicle(s), remove glass, manage air bag restraint systems, gain vehicle access, and extricate patients safely. Scenario and live extrication training occurs throughout the firefighters' one-year probation. Vehicle extrication training is scheduled regularly when probationary personnel are assigned/detailed to a station with a ladder truck or extrication equipment.

### **Defensive Driving**

LBFD teaches E.V.O.C. & Code-3 Driver Training to its personnel who have completed their one-year probation successfully and are allowed to drive emergency fire apparatus. The LBFD Training Division currently facilitates the biennial drive and pump certification program for all personnel holding the ranks of Captain and Firefighter.

### Incident Command and Officer Training

Incident command training for Company Officers and Chief Officers is part of the officer development and training program for all incumbent Firefighters seeking promotion to a higher rank. The relevant classes are presented over a period of time to enable candidates who work shift schedules sufficient time to complete these courses.

### **Radio Communication Training**

LBFD trains its Firefighters to use the current portable and fixed radios in the Department's inventory, including the use of all tactical channels and the ability to communicate with each other, the Dispatch Center, and mutual aid responders.

# **Training Hours**

Company officers track training daily on the Department's Vector Solutions system (formerly Target Solutions). This includes additional training such as classes for various subjects and programs. Specialty program training is tracked by the assigned program manager. Annual reporting is provided through Vector Solutions. The Training Division is responsible for maintaining firefighter training records and the various training certifications. It also provides additional information when various certifications and licenses expire.



#### **Additional Training Items**

The Training Division uses hands-on skills training to bolster the didactic classroom environment. Much of the hands-on skill performance occurs daily at the station level and at the Captain David Rosa Regional Training Center when crews arrive for scheduled multicompany training. Training hour requirements are set and recorded for each additional specialty discipline in the organization. Hazardous materials drills are conducted semiannually with Santa Fe Springs, L.A. County, and Los Angeles Fire Departments. USAR drills are conducted with other regional agencies on a variable basis during the year (i.e., Mobex drills). Other combined drills include the annual Great Shake Out Earthquake Drills. Large-scale Airport exercises are conducted every three years with Long Beach Airport and the FAA. USAR Mobex and Hazardous Materials disaster drills vary from year to year based on budget and time restrictions.

#### **Pre-Fire Planning Drills**

Pre-fire planning is conducted every month by individual fire stations that conduct fire inspections at businesses, churches, and large apartment complexes. In addition to ensuring there are no fire code violations, these inspections allow company officers to develop pre-fire plans for those specific structures. Station crews also conduct building walkthroughs of facilities representing specific target hazards within the City.

#### Long Beach Fire Department Training Facility and Equipment

The Department provides training at the Captain David Rosa Regional Training Center for ongoing training and new firefighter recruit training. The LBFD generally maintains four reserve engines at that facility for use during recruit training and during mobilization events. On-duty crews use their own apparatus during daily and scheduled training. On any given day, there may be four engines and one to two rescues taken offline to attend this type of training. In case of a large multi apparatus event, the units in training can be diverted to respond to the larger event or to cover a station response area if that apparatus will be out of service during the event. The main facility is in poor condition, as described in detail in the Facilities section of this report. The main training building houses offices for the Director of Training, the Training Secretary, and A/V personnel as well as two classrooms and kitchen.



The Captain Rosa Regional Training Center, which covers five acres and has an extensive training ground that includes a six-story training tower, a three-unit strip mall, and a large one-story modular house with a two-story structure attached to the back side. The grounds also include a large, panelized ventilation prop, large conventional ventilation prop, two low pitch/high pitch roof props, one small elevated low pitch/high pitch ventilation prop, and one conventional flat roof prop on the second floor of the tower. There are two forcible entry door props, with rolling steel and sheet curtain forcible entry props. In addition to the previously listed material is a flashover container, an O'Cady burn building with four separate burn rooms. The training tower has burn rooms on the third and fifth floors with two burn chimneys for live-fire under ventilation props and built by LBFD personnel over the years.

To accommodate the Department's special teams, there is an Urban Search and Rescue (USAR) training area, a hazardous materials training area, and a draft pit. There is a stockpile of donated vehicles for extraction training. All Recruit Academy participants have multiple experiences in vehicle extraction, which is unusual for similar programs.



### **Fire Prevention Bureau**

The Fire Prevention Bureau saves lives and is dedicated to reducing fires and burn injuries through *prevention* with an emphasis on protection, education, and action. Several statements regarding fire prevention are inclusive of the public, an essential partner in effective fire prevention. The website also states that fire prevention is one of the Department's top priorities. The Fire Chief enforces the fire code and the Deputy Chief/Fire Marshal ensures laws are followed for the protection of lives, including those of firefighters as well as of the public, of the environment, and of property. It is commendable that the Department models the priority in this manner.

#### Fire Prevention Bureau Performance

The risk of fire in the City of Long Beach is higher than the national average for communities with a population of 250,000 or more. Risks include critical infrastructure such as the Port of Long Beach, the number of residential occupancies, high poverty rate, PEH population, and the age of housing. As indicated in the following figures from the Community Risk Assessment included in this report, there is a high probability of consequential fires in the city. The second table provides the factors that led to this conclusion. Not surprisingly, the LBFD received a high score for mitigation capacity, including preparedness, internal response, and external response (mutual/automatic aid). Therefore, the best way to lower the risk is to decrease the probability of fire, as well as the human impact. This can best be done through a Department-wide emphasis on fire prevention.

	Structure Fires	Non- Structure Fires	EMS- Medical Assist	Rescue	Hazmat	Natural Hazards	Technologic al Hazards	Human Hazards	Total for Community
Probability	75.00%	62.50%	75.00%	61.11%	58.33%	41.67%	48.68%	35.00%	50%
Severity	58.33%	46.88%	34.72%	37.04%	43.06%	38.89%	54.39%	55.00%	46%
Relative Risk	44%	29%	26%	23%	25%	16%	26%	19%	23%

#### Figure 21: City of Long Beach Risk Categories and Percentage

#### Figure 22: Risk Legend

Risk	Relative Threat
Low	< 35%
Moderate	35%-59.99%
High	60% <b>-74.99</b> %
Very High	> 75%



AP TRITON HAZARD AND VULNERABILITY ASSESSMENT TOOL								
	STRUCTURE FIRES							
	SEVERITY = IMPACT - MITIGATION)						DICK	
EVENT	PRODADILITY	CO		АСТ	МІТІ	GATION CAPA	CITY	RISK
	Likelihood this will occur	HUMAN IMPACT	PROPERTY IMPACT	BUSINESS IMPACT	PREPARED- NESS	INTERNAL RESPONSE	EXTERNAL RESPONSE	Relative threat*
SCORE	0 = N/A 1 = Low 2 = Moderate 3 = High 4 = Very High	0 = N/A 1 = Low 2 = Moderate 3 = High 4 = Catastrophic	0 = N/A 1 = Low 2 = Moderate 3 = High 4 = Catastrophic	0 = N/A 1 = Low 2 = Moderate 3 = High 4 = Catastrophic	0 = Very High 1 = High 2 = Moderate 3 = Low 4 = None	0 = Very High 1= High 2 = Moderate 3 = Low 4 = None	0 = Very High 1 = High 2 = Moderate 3 = Low 4 = None	0 - 100%
High Risk Urban	4	4	4	4	1	1	1	63%
Moderate Risk Urban	3	3	4	4	1	1	1	44%
Low Risk Urban	2	3	4	3	1	1	1	27%
AVERAGE SCORE	3.00	3.33	4.00	3.67	1.00	1.00	1.00	44%

#### Figure 23: City of Long Beach Hazard and Vulnerability Assessment

\*The risk is determined by adding the community impact and mitigation capacity and dividing by the total amount of scoring available (24) and multiplied by the probability. The probability is determined by dividing the score by four.

### **Community Risk Reduction Plan**

This effort begins with the creation of a Community Risk Reduction Plan (CRRP). The plan will help the LBFD focus scarce resources on targeted risks to achieve the best outcomes, benefiting the community and Department. In addition, the planning process includes the development of performance indicators and measures that quantify the Department's efforts in terms of reduced deaths, injuries, and fire loss in a comprehensive manner.

Many of the elements necessary to develop the CRRP are included in this report and there are several guides that can facilitate its development, including Vision 20/20's Community Risk Reduction Planning Guide, NFPA 1300 Standard on Community Risk Reduction and Community Risk Reduction Plan Development, NFPA 1452 Guide for Training Fire Service Personnel to Conduct Community Risk Reduction, and several free on-line and inperson courses offered by the U.S. Fire Administration.



#### Figure 24: CRR Overview

#### Fire Prevention Bureau Mission

"The Long Beach Fire Department Bureau of Fire Prevention (LBFPB) is dedicated to reducing fires and burn injuries through prevention with an emphasis on protection, education, and action. Here's how we do it and how you can help ensure safety in the City of Long Beach—yours and ours."

- **Fire Inspectors** recognize and determine what it takes to improve safety conditions according to the fire code and local ordinances. Inspectors identify life safety hazards for the public as well as that of their fellow firefighters.
- All Long Beach Firefighters address reported fire hazards in their respective neighborhoods. Long Beach Firefighters know life safety first-hand and, like fire inspectors, are committed to safety for all.

The above statements from the LBFD website are indicative of typical fire prevention activities in most fire departments. However, the fact that all firefighters are mentioned and expected to be engaged is a significant step ahead of where many fire departments are in terms of the overall community risk reduction model.

#### **Strategies & Tactics**

There are two strategies for addressing community risks: prevention and mitigation. The LBFD does an excellent job implementing the risk mitigation strategy, as seen by the high mitigation score in the previous figure. To further reduce losses, the "prevention" strategy should be employed more intentionally. The LBFD first will need to better understand the City's fire problem.

In addition to the two strategies of prevention and mitigation, there are five tactics that should be used to address community risk. Employing all five is essential to a successful program. They include Emergency Response, Engineering, Enforcement, Education, and Economic Incentives/Disincentives.

The Five E's are a combination of the original Three E's—education, engineering, and enforcement—noted by President Truman at The President's Conference on Fire Prevention in 1947. Two E's, economic incentive and emergency response, were added by the National Fire Academy due to their importance in Community Risk Reduction. A sixth E, Empowerment, is a suggestion based on the CRR model. Utilizing all Six E's will ensure that a Community Risk Reduction plan is deliberate, cost-effective, and sustainable.



The goal is to fully integrate both risk reduction strategies and all six tactics. When combined, the synergistic effect makes them more effective than if utilized individually. If employed correctly, the Six E's get the community involved in problem-solving and strategic implementation, which could prevent or reduce community and fire department injuries and deaths, and help ensure the survival of the organization. Empowerment is used in different applications and combinations with the other tactics.

#### **Fire Prevention Fees**

Another important finding is that most positions in the Fire Prevention Bureau (FPB) have the potential to be 100% funded through user fees (see next figure), providing little downside to filling vacancies when they occur or adding staff when workloads increase. However, it is necessary to conduct a workload analysis and update the fee schedule frequently to ensure cost recovery. As Part I of this study identified (see the following figures), the FPB is currently only recovering 53% of its costs.

Ideally, the fee schedule should be updated every two to three years, as is done in Development Services, with incremental increases linked to cost of living adjustments (COLAs) or other known costs, in the intervening years. The COLA has been applied since 2005. The last fee study was conducted in December 2005 by Public Resource Management Group. Per City staff, a new study should be conducted soon.

Expenses	FY 16/17 Actual	FY 17/18 Actual	FY 18/19 Actual	FY 19/20 Actual	FY 20/21 Estimate
Administration	3,151,752	3,400,605	7,731,478	8,354,142	8,859,024
Fire Prevention	6,483,646	7,335,084	7,837,472	7,683,156	8,373,292
Support Services	9,281,050	9,576,030	8,044,465	6,744,192	6,920,593
Operations	95,511,586	104,411,284	117,287,336	119,419,888	125,079,355
TOTAL EXPENDITURES:	\$114,428,034	\$124,723,003	\$140,900,751	\$142,201,378	\$149,232,264

#### Figure 25: Bureau Expenditure and Revenue (2017–2021 estimate)

Revenue	FY 16/17 Actual	FY 17/18 Actual	FY 18/19 Actual	FY 19/20 Actual	FY 20/21 Estimate
Administration	13,740	14,584	17,377	34,342	14,000
Fire Prevention	3,460,168	3,876,565	4,744,841	4,628,138	4,394,207
Support Services	2,256,685	3,668,807	3,457,917	4,202,934	925,409
Operations	32,231,488	36,169,626	38,191,275	35,215,231	39,771,150
TOTAL REVENUE:	\$37,962,081	\$43,729,582	\$46,411,410	\$44,080,645	\$45,104,766

In addition to fee-supported positions, several positions are funded by other City departments based on duties, i.e., Health/CUPA, Harbor/Port, and Building & Safety (see the following figure). These agencies should have the flexibility to revise position counts according to the desired level of service, but the LBFD should not use positions funded by other means to deliver that service.

Position Title	#	% Funded*	Funding Source	Comment
Deputy Chief/Fire Marshal	1	0	Fire Admin	Consider % cost recovery in next fee study
Assistant Chief	1	100	Harbor	
Deputy Fire Marshal	2	100	Fire Fees, CUPA Fees, Building Fees, Harbor	
Investigations FC	1	20	CUPA	Consider Fire restitution fees in next study
Community Services FC	1	0s	N/A	Consider % cost recovery in next fee study
Inspections FC	1	100	70 Convention/30 Fire Fees	
Construction Inspector/FF	2	100	Building Fees	1 Vacant
Construction Inspector/Eng	1	100	50 Harbor/50 Building Fees	
UST/AST Plan Check II	3	100	CUPA	
HazMat Specialist II	2	100	CUPA	
MMJ Inspector/Investigator	1	Ś	Dependent on duties (Investigator or Inspector)	Vacant Consider % in next fee study
MMJ Plan Check II	1	100	Fire Fees	
Harbor Plan Check II	1	100	Harbor	
Harbor Inspector/FF	1	100	Harbor	
Investigations/FFs	3	30	CUPA	Consider fire restitution fees in next study
CERT/Comm Services FF	1	75	CERT Grant	
Special Events FF	1	100	Fire Fees	OT is Comm Svcs
Combo Building Aides	6	100	Fire Fees	2 vacant
Inspector/FF (Inspections)	2	100	Fire Fees	1 is ENG
Secretary/Fire Marshal	1	0	N/A	Consider % in next fee study
Admin Analyst I	1	80	CERT Grant	
Admin Analyst II	1	100	CUPA	
Clerk Typist II/Fire Marshal	1	50	Fire Fees	
Clerk Typist II/Inspections	1	100	Fire Fees	
Clerk Typist III	2	0	N/A	1 Vacant Consider % in next fee study
Intern	2	0	Budget unit unknown	Paid Consider % in next fee study

Figure 26: FPB Positions & Funding Source (outside LBFD General Fund)<sup>6</sup>



#### **Emergency Medical Responses**

Optimization of Emergency Medical responses to mitigate the effects of unintentional injuries and save lives is covered elsewhere in this report. However, there may be an opportunity for changes in response protocols to better meet specific risks.

Prepared and empowered fire station staff will be addressed in the sections below to the degree they currently participate in the implementation of the other E's, as well as have opportunities to make an even more significant impact.

#### Empowerment

Empowerment can describe the importance of incident data in addressing community risks, as data empower CRR. Accurate and complete incident data are key to identifying and understanding city-wide risks. Once it is definitively determined where, when, why, how, and by whom fires start and to whom injuries occur, resources can be deployed to target the problem, typically through public education and community engagement. These data also inform the Community Risk Reduction Plan.

Currently, LBFD incident data clearly identify when and where incidents occur. Injury data is fairly complete, although more detail in the mechanism of injuries would be helpful. However, fire data is lacking in the "how" and "why" the incident occurred. More complete incident reports are required, including (for fires) "heat source," "item first ignited," "factors contributing" (including human), and "equipment involved." In addition, "cause of ignition" only rarely should be "undetermined." If the on-scene fire officers have difficulty documenting an incident due to time or lack of expertise, they should contact the Fire Investigator for assistance.

#### Investigations (Arson/Environmental)

The LBFD's Investigations Section focuses on fire and environmental crimes, as well as all large loss or fatal fires. The three firefighters and Captain are supported by an LBPD Detective, a growing and positive trend in the fire service. In addition to cross-training, the Detective can bring in additional police resources when warranted.

Investigators also assist firefighters with origin and cause determination on accidental fires, as requested. This assistance is necessary to ensure that all causal factors are captured in fire reports and the "undetermined" category is checked as infrequently as possible.



It is critical that fire investigators have expertise in scientific-based investigation and the analysis of fire and explosion incidents to accurately determine their origin and cause. NFPA 1033 establishes qualifications for the fire investigation; NFPA 921, which sets the bar for processes and procedures, is used in the field, in court, and in training. It can take years to acquire the expertise and experience necessary to conduct investigations accurately and efficiently. At a minimum, fire investigators should have Fire Investigation IA, IB, IC, and PC832 (40 hours), as well as complete the free CFI online courses in basic electricity, ethics, evidence, interview/interrogation, and motive, means, and opportunity. An introductory course in NFPA 921 would provide the investigator with an overview of the practices, procedures, and tools necessary for the job.

The LBFD recognizes the expertise necessary for effective fire investigation and requires a 4year commitment to rotate into the section. However, the section is currently short one Investigator position, another will retire this year, and the LBPD Detective is promoting out. The Captain is working as an Investigator, in addition to supervisory and administrative duties, and has only been in the section a little over one year. Despite this, the section responds to approximately 360 fires per year. Each Investigator carries a high caseload related to intentional fires; some cases are closed without resolution due to the expiration of the statute of limitations. Despite this, the arrest rate in FY 19 was 20%, which is good for a Part I crime that is difficult to prove/prosecute.

Calls for service data indicate that People Experiencing Homelessness (PEH) are responsible for most of the outside fires in Long Beach, both intentional and unintentional. The number of intentional fires grew from 8% of total fires to almost 12% between 2018 and 2019, a 33% increase, adjusted for population. Staff report that number increased another 200% this past year. Most of what is burned is refuse, trash containers, and small areas of vegetation. This increase in fires represents more than an increase in workload for crews and Investigators. The frequent fires are a tax on limited resources and a detraction from more serious emergencies. Investigations staff have done a good job triaging the outdoor vegetation fires not on private property and with no witnesses, but the crews remain tied up. Staff mentioned a field may be added to report templates allowing the crews to specify PEH encampment/areas. That field should be added, the areas mapped, and strategies developed to curb fire activity such as HEART visits, PD patrols, and/or cameras at hot spots. The department also can work with the LBPD to add emergency response costs to restitution payments for both arson (PC 451) and reckless (PC 452) fires if a suspect is convicted. Such fines may serve as a deterrent.


### CUPA

Staff assigned to CUPA (Certified Unified Program Agencies) are responsible for investigating unreported releases of hazardous materials, documenting the hazardous materials inventory of public and private agencies, and ensuring the proper storage of materials in underground tanks

The City of Long Beach created a unique CUPA division of authority. Rather than a lead agency as CUPA with one or more "participating agencies," both Fire and Health are co-CUPAs with distinct responsibilities. The division of authority coincides with agency expertise, administrative duties are shared, the workload is reasonable, and all positions are subject to 100% cost recovery.

The system appears to work well. The operations are automated, including tablets for inspectors, and the workload is reasonable. Staff conduct annual inspections of underground tanks and triennial inspections of facilities with aboveground tanks and businesses subject to Hazardous Materials Business Plans and Risk Management Plans. They conduct fire code inspections of facilities storing, using, or handling hazardous materials, based on risk.

#### Education

Education involves determining the appropriate type and mix of messages necessary to inform the public and effect behavioral change. It informs and influences audiences to refrain from risky or unhealthy behavior, and/or take positive action to reduce risk. Effective education increases knowledge regarding community risks, changes attitudes, encourages behavioral changes, and, unlike many efforts in the prevention realm, is easily measured in evaluations.

#### **Community Services Section**

Although referenced on the Department's website, the LBFD Office of Public Education no longer exists. Elimination of this office is common in many departments experiencing budget shortfalls, yet short-sighted and disappointing: fires that cause most deaths, injuries, and dollar losses are human-caused (accidental) and occur in homes, where people typically feel safest. Because homes are not subject to fire inspections, programs that target causal behaviors in residential structures have the best chance of preventing these fires.



The LBFD has a small but motivated and energetic Community Services Section (CSS) that genuinely cares about personal contacts and community relationships. As one staff member stated, those relationships are the result of the people in that Section. Despite having an extremely high workload, staff take ownership of their projects and morale is high. This is due, in large part, to the Captain leading the unit and the cohesiveness of his team. However, it is difficult to imagine they are not headed for burnout due to the hours worked and growing and continued expectations to do more.

Community Services is staffed with two Firefighters, an Assistant Administrative Analyst I, a Clerk Typist (vacant), and a part-time Intern, in addition to the Captain in charge of the section. Like the Captain, the two Firefighter positions are rotational with a minimum commitment of two years. The Captain and both Firefighters also share the role of the Department's Public Information Officer (PIO) and are on call 10 to 11 days each month for crisis communications and media relations.

The Section handles special events, ranging from movies and commercials to conventions and parades, specialized pyrotechnic displays, sporting events, concerts, and seasonal attractions. Staff are responsible for ensuring all codes and regulations are adhered to for the safety of residents, visitors, staff, and responding Firefighters.

Long Beach has been an attractive site location for the film industry, and as a result, there are over 750 filming days/year in the city (approximately two each day). Because filming is increasing in complexity with drones, tents, and pyrotechnics, a staff member participates in the SAFFE advisory partnership, attending meetings to stay current with the industry. Currently, 90% of one FTE is necessary to handle filming activities, and there are approximately 60 firefighters cross-trained to assist with standby. The film industry pays fees to the City, including to the Fire Department: \$130 for a spot check and \$105/hour for required standby.

A career FPB staff member would provide institutional knowledge and program continuity when the other two positions rotate. Because the position would be long-term and nonrotational position, it would provide redundancy for filming and any other activity that currently has only one person with the required level of experience and expertise.

Because of its relationships and strong connection with the community, the LBFD has several successful programs with dedicated volunteers that augment the Department's scarce resources. The following list describes several of those programs:

- **Community Emergency Response Team (CERT).** Long Beach CERT provides the necessary training required by the Federal Emergency Management Agency (FEMA) to its fellow citizens.
- Fire Ambassadors. The Mission of the Long Beach Fire Ambassadors, in partnership with the Long Beach Fire Department, is to increase awareness of fire safety at home and in the community and to educate children and adults in ways to prevent injuries to persons and property damage as a result of a fire.
- **Fire Corps.** This summer program, running in conjunction with Search & Rescue, trains individuals aged 15 to 21, Explorers in ICS (Incident Command System), radio protocols, CPR, first aid, and preparedness.
- Friends of Long Beach Firefighters. This group is focused on community service, education, and engagement. They oversee several different programs, including Fire Ambassadors, Spark of Love, and other programs as determined by their Board of Directors.
- Long Beach Firefighter's Museum. The mission of the Long Beach Firefighter's Museum is to collect, preserve, and display the deeply rich history of the Long Beach Fire Department.
- **Summer internship through the Port.** Two high school students are sponsored by the Port to learn about the fire service through CSS staff.

Funding for these important programs is becoming a challenge as resources to secure grants dry up. The department should consider other fund-raising activities, perhaps through the Friends of Long Beach Firefighters.

In addition to the above responsibilities, the CSS appears to be the landing spot for any unanticipated or ad hoc duties assigned to the Fire Department. They represent LBFD at the COVID-19 call centers, work at the Ready Long Beach annual disaster preparedness expo, partner for recruitment processes, support promotional and retirement ceremonies, memorials, neighborhood events and block parties, host post-fire community meetings, developed the "Every 15 Minutes" campaign, and provide councilmember/dignitary support. Incredibly, they are also responsible for the Department's social media platforms, including the website, Facebook, and Twitter. Because the Clerk Typist III position has been vacant, personnel also perform many administrative duties.



The prioritization process for all these duties ends up being whatever is most emergent. CSS staff sometimes recruit logistical assistance for event set-ups and driving the trailer from seasonal Lifeguards (October–May) and/or Ambulance Operators.

Because CSS staff have no access to incident data, they use the Safety Observation Calendar from the National Safety Council to highlight a different safety topic each month, or even each day, creating content and blast-outs. Although this scatter-shot approach provides the community with several safety messages over a broad range of topics, it does not permit customized content. The ability to target the most vulnerable audiences would increase effectiveness and reserve resources outside the designated areas for other efforts. The prioritized risk, target populations/areas, and strategies for addressing would become CRR Programs rolled out for the entire Department, another important element of the Community Risk Reduction Plan (CRRP). For example, most fire deaths and injuries in the U.S., California, and Long Beach occur in homes.<sup>9</sup> The most common cause is cooking. And, in too many occurrences, there is no working smoke alarm. This may be especially true in Long Beach, as 55% of homes were built before 1960, when smoke alarms were not required.

The following figure shows the geographic distribution of Long Beach structure fire incidents. The "hotspots" are near the downtown, Alamitos Beach, and Washington neighborhoods, as well as near Station 11.





#### Engineering

Engineering involves determining whether there are any engineering or technological solutions available to address the identified risk. It includes incorporating new products and technology to modify the environment to prevent or mitigate injuries and deaths, such as fire sprinklers, smoke alarms, ground fault circuit interrupters, child safety seats, and bicycle helmets.

The Plan Checkers in the City Hall/Permit Center and New Construction Inspectors in Life Safety cover engineering solutions during the construction process. These staff, the Deputy Fire Marshals, and others with expertise in fire and life safety issues, new technologies, and the code development process could assist with triannual code adoption by working with the Building Department to develop amendments that address specific community risks based on local climatic, topographic, and geologic findings associated with that risk.

#### City Hall/Permit Center

The City Hall/Permit Center Section is staffed with a Deputy Fire Marshal (DFM) who is responsible for supervising four Plan Check staff employed by the Building Department. Fire plan review staff have been employed by Building & Safety since 2012, when all positions associated with construction were transferred to City Hall. Reportedly, the new construction inspectors working in Building & Safety did not work well for either department, and, in 2015/16, the MOU was revised to separate between the two departments. The DFM is responsible for their coordination. Although not perfect, this agreement creates a one-stop-shop for the development community and ensures Fire Department issues are represented in the process.

The DFM assists in the hiring, training, and retention of Fire Plan Checkers with expertise in up-to-date fire and life safety code requirements, state-of-the-art building design, fire protection systems and equipment, emergency egress, emergency water supply systems, and ever-changing technologies, including special extinguishing and fire alarm systems in the variety of industries represented in the city. Their vital work ensures fire safety for new and existing occupancies that include residential and commercial projects such as high-rise developments, planned communities, shopping malls, and hazardous materials storage warehouses.



Depending on the pace of the City's planned development to increase density, additional positions may be necessary and should be supported by construction fees (Plan Check Fees from Building & Safety and Construction Inspection Fees from LBFD). It should be noted that external customers were not surveyed for this study, and it is unknown if the development community finds the service levels acceptable. Plan review staff cite current backlogs of 6–12 weeks, which would be considered unreasonable in most jurisdictions. However, construction inspection staff report scheduling and conducting inspections withing 48 hours of request, which is excellent. It will be important for Building & Safety and the FPB to coordinate city and developer service expectations, staffing levels, and any resulting fee revisions as development continues to ramp-up in the city.



#### Figure 28: Plans Review Status

# **AP TRITON**

All plans are submitted electronically due to COVID-19. By agreement, plans for high-rise buildings are sent to the DFM at LBFD headquarters, and plans for the Port, cannabis-related businesses, and tanks/piping also are reviewed by the designated staff.

Building & Safety uses the RMS system called INFOR, which can be accessed by FPB staff. It tracks plan status, person responsible, and corrections issued. However, the system does not communicate well with other modules or systems and does an inadequate job of running reports. There are numerous data quality issues, and staff has requested modifications that include providing mandatory fields as well as a plan status tab for customers.

Once a plan is approved, it is sent to the applicant with the job card for the LBFD. Nothing is sent to the FPB, which has a separate system for scheduling construction inspections. One construction inspector receives all customer calls and assigns them to staff. There is no way to identify workload until the customer calls. Plans are scanned to Laserfiche to provide inspectors with access prior to site visits. Automation is critical to the effectiveness, as well as the efficiency, of the Section.

#### Enforcement

Enforcement identifies potential risks and non-compliance in local properties and teaches the community how fire safety codes protect them. This component of the Community Risk Reduction Plan reduces risks by enforcing locally adopted (International and State) consensus codes and standards and by using inspections coupled with fines for noncompliance (Economic Disincentives). An analysis of this tactic involves identifying whether stronger, more frequent enforcement is necessary and/or if newer codes and standards should be adopted.

The City of Long Beach amended and adopted the 2019 California Fire Code (CFC) as Part 18.48 of the Long Beach Municipal Code on November 19, 2019. This is the most current version of the code available, and adoption was completed before the effective date of January 1, 2020. The supplement went into effect on July 1, 2021, without local amendments, as is typical for most jurisdictions. The next adoption cycle is underway, and the 2022 CFC will be in effect on January 1, 2023. Therefore, the Building and Fire Departments should work together on new amendments for presentation to City Council next year.



City amendments to the code appear to support local conditions, e.g., marine and air operations, and fireworks prohibition in dry climates with geologic risks, with one exception. It is unclear why Municipal Code Section 18.48.440 that adopts CFC Chapter 9, Section 903.2.8 – Group R includes an amendment that "All new single-family dwelling and duplexes greater than 4,000 sq. ft., or more than two stories in height, shall be protected by an automatic sprinkler system." The current model code and CFC require fire sprinkler protection in all new R occupancies, regardless of size. It is neither prudent nor legal to be less restrictive than the CFC, and sprinkler protection in all homes is critical to life safety.

Another interesting amendment was made to Section 903.1.2's existing buildings. "An automatic sprinkler system shall be installed in all existing occupancies as required by this section, if any of the following occurs:

- 1. There is a change in occupancy classification to one that would require an automatic sprinkler system per the Fire Code in the new occupancy.
- 2. The Fire Code Official determines that an automatic sprinkler system is required to provide a minimum level of public safety."

Long Beach has not required high-rise buildings constructed before 1975 to be retrofitted with fire sprinkler systems, although it was offered as an alternative to other requirements in a 2009 ordinance. Several California jurisdictions, including L.A. City (non-residential), San Francisco, Ventura, Orange, and San Diego Counties, have retrofitted high-rise structures with these lifesaving systems. Tragically, a 2007 fire on the 18<sup>th</sup> floor of the Galaxy Towers resulted in a 60-year-old man jumping to his death from his balcony, three months after a fire in another building without fire sprinkler protection resulted in two fire deaths. Another 13 units at Galaxy Towers were damaged, and 22 people were displaced.

The City should promote a fire sprinkler retrofit in all high-rise buildings. The Coronavirus Economic Stabilization (CARES) Act of 2020 includes a technical correction to the 2017 Tax Cuts and Jobs Act (TCJA) that gives incentives to corporations that retrofit their buildings with fire sprinkler systems. The new Section 179 deduction applies to upgrading existing systems or retrofitting systems in existing structures. For the first time, the law consolidated several categories of equipment, including fire sprinklers, under the umbrella of qualified improvement property. In order to be eligible, the equipment must be put into use after September 27, 2017, and before January 1, 2023.

The result could be, that any size business might be able to deduct 100% of the cost of a sprinkler system installation.

#### Life Safety/CUPA

The section is led by a Deputy Fire Marshal and staffed with four Plan Checker IIs, two Hazardous Materials Specialist IIs, three Firefighters, one Fire Engineer, and an Assistant Administrative Analyst II.

#### **Fire Prevention/Inspections**

The section is led by a Fire Captain and staffed by a Clerk Typist II, two Firefighters, a Fire Engineer, a Plan Checker II, and six Combination Building Aide IIs, two of which are currently vacant.

The Risk Reduction Inspections Section is responsible for code enforcement and compliance in existing structures, making regular visits to ensure fire code requirements are observed, and changes in use and/or occupancy are appropriately regulated. Its personnel also issue permits, which track and provide conditions for high-risk storage and processes. Annual inspections of these occupancies are required.

The FPB has excellent inspection reports, guidelines, checklists, and permit forms that assist the inspectors with requirements in the field and provide the owner/manager with information on what is necessary for compliance. Adding these materials to the website would assist businesses in being proactive with safety requirements, particularly where inspections are not conducted. It also assists staff and the safety of the entire community.

Permit provisions were added to the fire code, by amendment, requiring permits for airport, heliport and helistop, commercial daycare and daycare in residential properties with more than seven children, high-rise and institutional buildings, marijuana facilities, marine service stations, residential occupancies with more than three units, and to operate battery storage systems, emergency responder radio coverage systems, radioactive materials, above ground bulk storage of flammable and combustible liquids, and for public firework displays. There also is a general use permit to "maintain, store, use or handle materials, or to conduct processes which may produce conditions hazardous to life or property, or to install equipment used in connection with such processes, or to carry on any activity which in the opinion of the Fire Code Official may be hazardous to life and property."



Most of these additional permits increase the inspection workload beyond what is mandated by the State. Since it is policy to conduct inspections of these occupancies and operations annually and annual fees are charged, this added workload is significant. Until the LBFD has the staff necessary to complete inspections of all State-mandated inspections, these permit inspections should be conducted in another manner, such as a multi-year or self-inspection program.

State and City-adopted building and fire codes adopted define building uses and apply requirements using an occupancy classification system. California State agencies regulate select occupancies by statute and delegate responsibility for enforcement to local fire departments. The following figure indicates which occupancies are State-regulated, whether the city can develop more restrictive requirements for these occupancies, if an inspection is required, and if fees can be applied to recover inspection costs. Of the six occupancy types requiring annual inspection and the biennial requirement for jails, LBFD completes two.

State Regulated Occupancy	LBFD Code Amend. Apply	State Mandated Inspection	Fee Authorized	# in city	% Complete	LBFD Compliance
A – Assembly	Yes	None	Yes		(320) crews	N/A
E – K-12	No	Annual	No	119	93%	No
E – Child Care	Yes	None	Yes	not in	spected	N/A
12.1 – Ambulatory Care	No	None	Yes	not ir	spected	N/A
13 - Jail	Yes	Biennial	Biennial Yes		100%	Yes
14 – Custodial Day Care	Yes	None*	Yes	***		N/A
L – Labs	Yes	None	Yes	not in	spected	N/A
R3 – Family Day Care	No**	None*	No		***	Yes
R3.1 – Board & Care, < 7	No**	None*	No		***	Yes
R1 – Transient	Yes	Annual	Yes	9100	2707	No
R2 – Non-Transient	Yes	Annual	Yes	0100	31%	ONI
R2.1 – Assisted Living, > 6	No	Annual	Yes	27 R2.1	2097	No
R4 – Assisted Living, 7–16	Yes	Annual	Yes	29 total	20%	ΟΝΙ
High-Rise	Yes	Annual	Yes	78	100%	Yes

#### Figure 29: LBFD Inspection per Occupancy

\*Fire Clearance required for new/revised facility. \*\*Unless applied to all R3s \*\*\*120 total completed

A May 2020 letter to fire chiefs from the Office of the State Fire Marshal (OSFM) outlined the new Priority Building Inspection Program based on a 2017 Legislative Bill (Senate Bill 85). The OSFM began an electronic tracking process for mandated inspections this year. LBFD should have received an email on or before June 1, 2020, requesting the completion of a spreadsheet listing high rises, jails, schools, and R1/R2 occupancies in the city. Beginning this year, staff should be entering data into the system that indicates compliance. Although high rise and jail inspections are completed annually, the LBFD should put more effort into completing those for schools and R occupancies.

Inspections of R1 and R2 occupancies currently are conducted by four professional CRR staff (classified as Combo Building Aides) and fire station crews. The process is inefficient and cumbersome. The list of multifamily occupancies in the city is generated from tax rolls and provided by the Assessor. (FPB staff have no access to the database.) There are approximately 8,000 buildings, with 6,300 having 10 or fewer units. Buildings with 16 or more units are required by state law to have property managers. Professional staff are assigned responsibility for buildings with 50 or fewer units, and fire crews inspect those with more than 50 units. For professional staff, these are the only buildings they inspect. Inspection requirements include address verification and any violations identified from outside the building or in the common areas. Inspectors report that only 15% of the apartments have no violations, with maintenance being the most common issue. Therefore, 85% require at least one additional inspection. The address is verified, and the inspection form is completed. A copy is posted on the building or left with the manager, if present, and a copy is kept for mailing to the owner.

Once back at headquarters, inspectors undergo the arduous tasks of owner verification from City databases (DATA Tree, INFOR, Simpler), scanning inspection records to mail to owners, entering data into Hansen with the form attached, and entering data into MUNIS for fee calculation and bill generation. Despite these efforts, which account for 30% of each inspector's time, the volume of returned mail is significant (over 500/year), and inspectors are responsible for researching as well as issuing fee waivers. There are not enough resources to address the backlog.



One clerical position handles the administrative workload for the station crews, who do not have access to automated systems. A common error made by Operations staff is forgetting to put the number of units per building on the form. Instead, the buildings are lumped together. In one case (Carmelitos), this resulted in a fee of \$521 rather than \$10,000. It is recommended corrections to inspection reports be returned to the field via the Battalion Chief to ensure crews understand the process and its importance.

Because fees can be charged for recovering the costs of conducting residential inspections, positions should be added to complete these State-mandated annual inspections. The paper-based reporting system inefficiency should be addressed, and the three vacant inspection positions should be filled.

The other State-mandated inspections, K-12 schools, are conducted by fire station crews. They are close to completion and most likely could be completed with the Battalion Chiefs' encouragement and follow-up. The FPB employs an economic *disincentive* tactic by charging fees for reinspection. It also should consider implementing fees for false alarms, which often indicate a system is not working properly.

The most significant improvement the FPB can make is to purchase or develop an RMS system that communicates with other City systems. This is an expensive, long-term project, and the City has taken the prudent step of adding a 6.2% technology surcharge to all fees to fund the project. Providing a tablet-based system would allow staff to collect data and upload reports from the field. This would streamline the entire process, providing data verification and generating mail-ready reports and fees, as well as tracking reinspection and overall workload.

Until a new system is operational, temporary clerical staff should be hired to handle the administrative workload. At least one additional FTE is needed to complete the R inspections alone.

The California Fire and Building Code occupancy classification system can be assigned risk categories to assist an organization when prioritizing non-mandated inspections and determining which should have pre-incident surveys. The following figure assigns risk priorities according to national statistics on the frequency and severity of fires in these occupancies. Using LBFD incident data will highlight risks within a category and/or provide a more accurate prioritization for the City.



For example, the number of Long Beach residents who live in multifamily dwellings is over 50%, which is 75% higher than the national average. Over 40% of residents live in buildings with more than five units and, with over 80% of these built before 1980 when fire sprinkler protection was required, they are most likely the City's highest risk occupancies.

PRI Risk	IBC Group	Examples
High	A-1, A-2 A-3, A-4, A-5 H-1, H-2, H-3, H-4, H-5 B I-1, I-2, I-3, I-4 M R-1, R-3 Special Risk (Target hazards)	Nightclub, restaurant, theater, airport/cruise ship terminal Arenas, museums, religious Hazardous materials sites (Tier II) All government & public buildings, other office buildings over two stories Schools, daycare centers Hospitals, assisted living centers, correctional strip centers, closed-air shopping malls, big box stores Hotels, motels, dormitories, apartments, board & care Railroads, Interstate highways, airports Any building with life safety risk beyond the reach of preconnected hose lines > 200 feet, including high-rise buildings.
Moderate	B F-1 M I-2, R-4 S-1	Outpatient clinics, general business, offices < 3 stories Fabrication or manufacturing of combustible materials Mercantile, free-standing Foster group homes, assisted living homes Storage of combustible materials, car repair, hangars
Low	F-2 S-2 U	Fabrication or manufacturing of non-combustible materials Storage of non-combustible materials Barns, silos, other unclassified

#### Figure 30: IBC Occupancy Classifications

## Administration Bureau<sup>7</sup>

The Administration Bureau is managed by a Manager of Administration and an Administrative Officer. The Bureau is charged with maintaining the general administrative tasks associated with a large organization and supports the entire Department through the provision of administrative services, including personnel management, fiscal operations, and purchasing and warehouse operations.

#### The Payroll/Personnel Section

The Payroll/Personnel section maintains the records for the Department's 500-plus employees and is responsible for all personnel transactions, including payroll, employee benefits, and workers' compensation.

Over 100,000 data entries are required to ensure 26 accurate and timely payrolls are met. Insurance needs, flexible spending and deferred compensation programs, employment verification, and many other personnel processes are maintained by the two civilian personnel in this section.

#### **Fiscal Operations**

Fiscal Operations staff prepare and monitor the Department's annual budget, oversee the daily business and financial transactions, receive and deposit receipts for services provided to the public, and ensure compliance with all applicable fiscal policies.

#### Purchasing and Warehouse

Purchasing and Warehouse staff are responsible for purchasing, receiving, and distributing all equipment, materials, supplies, and services necessary for the daily maintenance of the Department's operations, including 23 fire stations, the Captain David Rosa Regional Training Center, and headquarters.

<sup>&</sup>lt;sup>7</sup> Administration (longbeach.gov), Fire Prevention (longbeach.gov).



## Other Components of the Long Beach Fire Department

The Long Beach Fire Department enhances its ability to protect lives, property, and the environment by investing in programs that are staffed by community volunteers who are trained and supervised by LBFD personnel. These programs include the Community Emergency Response Team (CERT), LISTOS, READY Long Beach, Junior Lifeguards, Long Beach Search and Rescue, and Long Beach Fire Ambassadors.

#### Community Emergency Response Team (CERT)

CERT's mission is "To do the greatest good for the greatest number of people in the shortest amount of time" when a major incident such as an earthquake occurs in the city. The program prepares individuals to take care of themselves, their families and neighbors or co-workers, and professional rescue personnel until Department personnel are able to get to those who need help, which could be up to three days. Volunteers must complete an intense classroom and hands-on training program facilitated by LBFD personnel in subjects such as disaster preparedness, basic first aid, fire extinguisher training, disaster psychology, basic search and rescue, and FEMA's Incident Command System. The 22-hour training curriculum culminates in a simulated disaster drill at the LBFD's Training Center in which students must put their new knowledge and skills to the test to save the "victims" (volunteers made up to simulate a variety of injuries) of an earthquake. Personal safety always comes first. Regular monthly meetings in which new information or skills practices are offered to help CERT members remain current.

CERT members have stepped up in major ways to assist the City in its times of need. For example, during the COVID-19 pandemic, CERT volunteers filled non-medical roles at both the testing and vaccination sites. Those with a medical background became Medical Reserve volunteers and administered COVID tests and vaccinations. Other CERT volunteers monitored patients after they received their shots and provided traffic control services. By taking on all these tasks, CERT volunteers freed up LBFD and other City personnel.



CERT volunteers have a history of stepping up to meet the City's needs in related areas. For example, during a days-long power outage throughout downtown Long Beach in July 2015, they conducted wellness checks of residents in apartment buildings and high-rises, many of whom were seniors; carried supplies including bags of ice up the stairs for those who were unable to get out on their own; engaged in clean-ups; and did general canvassing. The Long Beach Health Department benefited from the services of the CERT volunteers who assisted with the Zika virus canvassing. For several years, CERT members also canvassed neighborhoods near the beach in the weeks leading up to July 4<sup>th</sup> to educate residents and business owners about the penalties for using illegal fireworks. In addition to providing important public services, the volunteers freed up City personnel to do their jobs or fulfill their emergency-related roles.

Several years ago, the LBFD implemented a "Teen CERT" program in the city. Students from area high schools who were nominated by their teachers underwent the same training as adult CERT volunteers. The purpose is to encourage the teens to share their knowledge with their classmates and help their families, friends, and neighbors prepare for disasters. They also have opportunities to interact with LBFD personnel and perhaps consider a career in the fire-rescue service.

#### LISTOS

LISTOS (READY) is a basic emergency preparedness education program delivered to Spanish-speaking residents in the Long Beach area. Its purpose is to build resilience in vulnerable populations at high risk during disasters and engage individuals who do not have the ability or desire to commit to the 22-hour CERT training.

#### **READY Long Beach**

READY Long Beach is a community-based preparedness expo that is planned and staffed primarily by CERT volunteers under the supervision of LBFD personnel. This day-long event, held annually for six years before the COVID-19 pandemic, enables families from all over the city to spend a free, fun day learning how to take care of themselves at home and work during emergencies. According to a 2019 letter from Fire Chief Espino, READY Long Beach has two purposes: "...(1) promote a 'whole community' approach to emergency preparedness and readiness through education and hands-on, interactive demonstrations, and (2) raise funds for Long Beach CERT." Those funds are used to increase the safety and well-being of the entire Long Beach community by providing the outreach, training, and supplies they need to prepare for disasters. Thousands of residents throughout the city attended these expos annually.



#### Long Beach Junior Lifeguards

The LBFD's Marine Safety Division partners with the Long Beach Parks and Recreation Department to coordinate reservations for the department's six-week summer Junior Lifeguards (LBJG) program. Participants, who range from 9 to 17 years old, can attend either a morning or an afternoon session each day. Because swimming is a critical skill for lifeguards, prospective program attendees must pass a timed swimming test before they are allowed to register. For those who are unable to swim or who cannot pass the test, there is a free Junior Guard Prep Class available. This program provides an opportunity for the Division to teach young people an important life skill and to cast a wider net that encompasses individuals who otherwise would not be able to participate.

Participants in the LBJG program, who now number in the high hundreds every year, learn about topics such as rescue techniques, first aid, and ocean ecology. They engage in activities such as physical conditioning, ocean sports, and beach sports and games. Although there is a fee for this program, scholarships are available for those who qualify. LBJG graduates frequently come back as instructors and later apply for Long Beach's seasonal lifeguard positions. In addition, the Division offers a Cadet program for junior lifeguards ages 15 to 17 whose purpose is to foster leadership skills while preparing participants for careers as lifeguards or other public safety jobs such as firefighters. Cadets receive higher levels of training in first aid and rescue techniques, shadow Long Beach lifeguards, and assist LBJG instructors.

#### Long Beach Search and Rescue

Long Beach Search and Rescue is a program co-sponsored and staffed by the Long Beach Firefighters Association and the Long Beach Motor Patrol Association. Its mission is to provide young adults with exposure to public safety careers and opportunities, to learn search and rescue skills, and to grow personally and professionally. Participants, young adults between the ages of 15 and 21, support the LBFD and the LBPD in a variety of ways, such as providing canteen services for first responders during large incidents, assisting as needed at major fires and hazardous materials incidents, and during major flooding and power failures, and providing traffic and crowd control at large events. Members are on call 24 hours a day and stand ready to enhance both the LBFD's and the LBPD's efforts to keep the community safe by providing services that free up the professionals' time.



#### Long Beach Fire Ambassadors

The Long Beach Fire Ambassadors, comprised of volunteer retirees over the age of 55, provide important public safety educational services in the community. Its mission is to increase awareness of fire safety in homes, schools, and the community by educating children and adults about preventing injuries and property damage as a result of a fire. Its primary focus is on providing fire safety education programs for all third graders in the Long Beach Unified School District. The Ambassadors also conduct senior safety programs upon request. Teaching children at an early age results in families throughout the city that are better prepared for disasters, while senior education focuses on the needs of an older population. The Ambassadors represent the Fire Department at many functions throughout the City, such as parades and neighborhood fairs. The volunteers also provide hospitality at Department events such as Academy graduations and promotional ceremonies.



# **CAPITAL FACILITIES & APPARATUS**

Fire departments require three basic resources to accomplish their mission of providing services to the community successfully. Those resources are trained personnel, firefighting equipment that includes apparatus, vehicles, and in the case of the LBFD, rescue boats, and fire stations. Although firefighters' competency is extremely important, if the appropriate capital equipment is not available for operations personnel, it would be impossible for the Department to deliver services in a time-sensitive and effective manner. The essential capital assets for use in emergency operations are facilities, apparatus, rescue ambulances, rescue boats, and other emergency response vehicles.

Integrated into this mix is the Department's financial ability to replace existing equipment and purchase new equipment based on its current and future needs. This section of the report assesses the LBFD's respective capital facilities, rescue ambulances, and apparatus, including rescue boats, to determine their direct and indirect impact on the Department's ability to optimize current fire and EMS operations.

#### Fire Stations & Facilities

Fire stations play an integral role in the delivery of emergency response services for several reasons. To a large degree, a station's location will dictate response times to emergencies. A poorly located station can mean the difference between confining a fire to a single room and losing the structure, or survival from sudden cardiopulmonary arrest. Fire stations also need to be designed to house equipment and apparatus adequately and meet Department personnel's needs.

A fire station's structure should be adequate in size and function. Examples of these functions include the following:

- Residential living space and sleeping quarters for on-duty personnel (all genders)
- Kitchen facilities, appliances, and storage
- Bathrooms and showers (all genders)
- Training, classroom, and library areas
- Firefighter fitness area
- Housing and cleaning of apparatus and equipment; including decontamination and disposal of biohazards
- Administrative and management offices, computer stations, and office facilities
- Public meeting space



There are some unique features in the LBFD's headquarters building. Although strictly administrative, the leased building also houses other shared functions with the Long Beach Police and Long Beach Airport.

- Included in the main facility are conference rooms, SWAT operations on the Police side, a shared gymnasium, and Police locker and changing rooms.
- The LBFD side of the facility functionally is conducive to accessing most of the Department's Divisions. It is anticipated that this facility will be transferred to the City in approximately 2038, as the City owns the land. Ongoing maintenance of the building is the responsibility of the City.

In gathering information from the LBFD, a Triton team member performed site visits with the assistance of the on-duty Battalion Chief, interviewed the fire crews located at the individual stations, and asked them to rate their station's conditions using the criteria listed in the next figure.

The LBFD operates out of 23 fire stations of varying ages and conditions. The oldest, Station 8, was built in 1930. Station 15, the newest station constructed and occupied in 2021, houses one of the Harbor's two fire boats. The stations are an average of 50 years old and are in varying states of condition ranging from poor to brand new.

Other than the new station (Station 15), the stations are rated as poor to excellent. One station is closed due to an environmental health issue, which necessitated moving the crews and apparatus to a new temporary location.

Several stations have been remodeled to meet ADA and gender-specific requirements to accommodate female firefighters, such as bathroom and sleeping quarters. The station upgrades appear to be a work in progress.

Repairs to upgrade some of the internal components of several stations included upgrading kitchens and bathrooms, moving a wall in one station (Station 7) to accommodate office space, and remodeling in the wake of flooding caused by the sprinkler system (Station 1). Station 1 also completed the remodel and construction of an office and bathroom for the assigned Battalion Chief.



The Port of Long Beach owns four fire stations: Stations 15, 20, 6, and the recently constructed Station 24, which houses one engine and the HazMat Unit. There are plans for a new Station 20, complete with a boathouse for the crew, one engine, and the Harbor fire boat. The proposed completion date is undetermined but anticipated to be within three to five years.

There are four lifeguard stations associated with full-time and seasonal lifeguard staff and rescue boats: Stations 21, 32, 33, and 35.

There is one station slated for new construction, Station 9, vacated due to an environmental hazard. Those firefighters and apparatus (rescue and engine) are occupying a temporary structure. The process of land acquisition, designing the structure, and occupancy is underway. A timeline has not been established for this project's completion.

There are no current remodeling or upgrading plans for the existing fire stations, either for the City of Long Beach or the Harbor's fire stations other than Station 20 and its boathouse, which are in the design stage.

A facilities conditions assessment of the existing stations completed by Faithfull + Gould Inc. evaluated the current condition of the engineering and structural aspects of existing fire stations and the proposed costs of upgrades, maintenance and expected costs to complete the projects inclusive of their costs over time. It appears the study was limited in scope and made no references to the upgrade of the entire facility or other recommendations.

A February 2005 study by TriData evaluated, among several other targeted areas of study, the current location of existing stations and suggested consolidating two identified fire stations into a single existing fire station or building new fire stations in locations that would improve response times.<sup>8</sup> This study did not evaluate the conditions of the existing fire stations nor make recommendations for improvements. It appears that the results of this study were not enacted, and the recommendations were not implemented.

<sup>&</sup>lt;sup>8</sup> TriData study, February 2005.



### **Current Conditions**

Existing fire stations were sited (placed in their current locations) over the many years that the LBFD has been in existence and during which the City has grown tremendously. Eighteen stations (including Marine Safety facilities) reportedly are only partly or not at all ADA compliant.

#### Figure 31: Criteria Utilized to Determine Fire Station Condition

Excellent	Like new condition. No visible structural defects. The facility is clean and well maintained. Interior layout is conducive to function with no unnecessary impediments to the apparatus bays or offices. No significant defect history. Building design and construction match the building's purposes. Age is typically less than ten years.
Good	The exterior has a good appearance with minor or no defects. Clean lines, good workflow design, and only minor wear of the building interior. Roof and apparatus apron are in good working order, absent any significant full-thickness cracks or crumbling of apron surface or visible roof patches or leaks. Building design and construction match the building's purposes. Age is typically less than 20 years.
Fair	The building appears to be structurally sound with a weathered appearance and minor to moderate non-structural defects. The interior condition shows normal wear and tear but flows effectively to the apparatus bay or offices. Mechanical systems are in working order. Building design and construction may not match the building's purposes well. Shows increasing age-related maintenance, but no critical defects. Age is typically 30 years or more.
Poor	The building appears to be cosmetically weathered and worn with potentially structural defects, although not imminently dangerous or unsafe. Large, multiple full-thickness cracks and crumbling of concrete on the apron may exist. The roof has evidence of leaking and/or multiple repairs. The interior is poorly maintained or shows signs of advanced deterioration with moderate to significant non-structural defects. Problematic age-related maintenance and/or major defects are evident. It may not be well suited to its intended purpose. Age is typically greater than 40 years.



#### Figure 32: Long Beach Fire Department Headquarters

Address/Physical Location:

#### **General Description:**

3205 Lakewood Blvd, Long Beach, CA 90808

Office structure that houses administrative staff, Chief officers, FMO, HR, and assorted staff. A portion of the larger structure is shared with the Police and other security services, with a large hangar space included. The larger hangar space is utilized for reserve equipment storage, staging area for supplies and equipment for the City's COVID-19 Immunization response and other functions requiring large open space accommodations.

Structure							
Date of Original Construction	1997	1997					
Seismic Protection	Yes						
Auxiliary Power	Yes						
General Condition	Fair						
Number of Apparatus Bays	Drive-through Bays	0	Back-in Bays	0			
ADA Compliant	Yes						
Total Square Footage	195,401 (shared strue	cture	e)				
Safety & Security							
Station Sprinklered	Yes						
Smoke Detection	Yes						
Decontamination/Bio. Disposal	No						
Security System	Yes						
Apparatus Exhaust System	N/A						

Address/Physical Location: 10	0 Magnolia Ave, Long Beach, CA 90802				
FIRE STATION 1 CITY OF LONG BEACH	General Description: This downtown station is fully staffed, undergoing an extensive remodel due to significant water damage in 2002 and upgrading the entire second floor, resulting in a total remodel and upgrades.				
Structure					
Date of Original Construction	1968 (extensive remodeling occurred in 2002)				
Seismic Protection	Yes				
Auxiliary Power	Shared with a nearby police facility				
General Condition	Fair				
Number of Apparatus Bays	Drive-through Bays 0 Back-in Bays 3				
ADA Compliant	Downstairs only				
Total Square Footage	16,067				
Facilities Available					
Sleeping Quarters	16Bedrooms16Beds0Dorm Beds				
Maximum Staffing Capability	16				
Exercise/Workout Facilities	Yes				
Kitchen Facilities	Yes				
Individual Lockers Assigned	Yes				
Bathroom/Shower Facilities	Yes				
Training/Meeting Rooms	Yes				
Washer/Dryer	Yes/Residential 2 upstairs/one downstairs/Extractor				
Safety & Security					
Station Sprinklered	Yes				
Smoke Detection	Yes				
Decontamination/Bio Disposal	Red bag to hospital				
Decontartination/bio. Disposa					
Security System	No				

Figure 33: LBFD Station 1

Fi	Figure 34: LBFD Station 2						
Address/Physical Location: 16	45 E. 3	<sup>rd</sup> St, Long Beac	h, C	A 90802			
	General Description: General purpose neighborhood fire station that contains one engine and one Basic Life Support (BLS) unit. Responding to a compact high density neighborhood with a high call volume.						
Structure							
Date of Original Construction	1964						
Seismic Protection	No						
Auxiliary Power	Yes						
General Condition	Fair			•			
Number of Apparatus Bays	Drive-through Bays 0 Back-in Bays 2				2		
ADA Compliant	No						
Total Square Footage	4,932	2					
Facilities Available							
Sleeping Quarters	7	Bedrooms	7	Beds	0	Dorm	Beds
Maximum Staffing Capability	6						
Exercise/Workout Facilities	Yes						
Kitchen Facilities	Yes						
Individual Lockers Assigned	Yes						
Bathroom/Shower Facilities	3 up: fema and	stairs, one desig ale firefighters a one shower do	nate nd c wnst	ed to acco a 1/2 bathr airs	ommo oom	odate downst	airs
Training/Meeting Rooms	No						
Washer/Dryer	Resid	dential					
Safety & Security							
Station Sprinklered	No						
Smoke Detection	No						
Decontamination/Bio. Disposal	No						
Security System	No						
Apparatus Exhaust System	Yes						

Address/Physical Location: 12	222 Daisy Ave, Long Beach, CA 90813				
EIRE STATION IND.3	General Description: Older station with a postponed upgrade. Service area is primarily downtown Long Beach, along the shore, residential and mixed-use business.				
Structure					
Date of Original Construction	1956				
Seismic Protection	No				
Auxiliary Power	No				
General Condition	Fair				
Number of Apparatus Bays	Drive-through Bays 0 Back-in Bays Yes				
ADA Compliant	No				
Total Square Footage	6,214				
Facilities Available					
Sleeping Quarters	7Bedrooms7Beds0Dorm Beds				
Maximum Staffing Capability	7				
Exercise/Workout Facilities	Yes				
Kitchen Facilities	Yes				
Individual Lockers Assigned	Yes				
Bathroom/Shower Facilities	4 upstairs; accommodations for gender equity				
Training/Meeting Rooms	Yes				
Washer/Dryer	Residential				
Safety & Security					
Station Sprinklered	No				
Smoke Detection	Yes				
Decontamination/Bio. Disposal	No				
Security System	Yes				
Apparatus Exhaust System	Yes				

#### Figure 35: LBFD Station 3

F	igure 3	6: LBFD Station 4	ŀ				
Address/Physical Location: 4	11 Lom	a Ave, Long Bea	ach, (	CA 90814			
IO IG BEACH FIRE STATION 4	General Description: General purpose residential fire station built in 1964 serving primarily a residential area, high-rises, and Pier responses, including commercial businesses and strip malls. Also, a site for new paramedic training is scheduled.						
Structure							
Date of Original Construction	1964	—recent upgra	de				
Seismic Protection	No						
Auxiliary Power	Yes						
General Condition	Fair						
Number of Apparatus Bays	Drive-through Bays 3 Back-in Bays 3					3	
ADA Compliant	No						
Total Square Footage	5,86	5					
Facilities Available							
Sleeping Quarters	6	Bedrooms	6	Beds	0	Dorm	Beds
Maximum Staffing Capability	6						
Exercise/Workout Facilities	Yes						
Kitchen Facilities	Yes						
Individual Lockers Assigned	Yes						
Bathroom/Shower Facilities	Divid	ded into gender	equi	ty facilitie	S		
Training/Meeting Rooms	Yes						
Washer/Dryer	Resid	dential					
Safety & Security							
Station Sprinklered	No						
Smoke Detection	Yes						
Decontamination/Bio. Disposal	Red	bag for disposir	ng of	contamin	ated	materi	al
Security System	No						
Apparatus Exhaust System	Yes						

Figure 37: LBFD Station 5							
Address/Physical Location: 75	75 E. V	/ardlow Rd., Lor	ng Be	each, CA	90808	8	
General Description: Fire station providing services to the local community. This station provides the hose testing services to the department and is considered the storekeeper for these types of needs and services. This station also houses the Light Plant and Breathing Air trailer.							
Structure	I						
Date of Original Construction 1968—remodel 7–8 years ago							
Seismic Protection	No						
Auxiliary Power	Yes						
General Condition	Fair						
Number of Apparatus Bays	Drive-through Bays 0 Back-in Bays 2					2	
ADA Compliant	No						
Total Square Footage	4,221						
Facilities Available							
Sleeping Quarters	4	Bedrooms	4	Beds	0	Dorm	Beds
Maximum Staffing Capability	4						
Exercise/Workout Facilities	Yes						
Kitchen Facilities	Yes						
Individual Lockers Assigned	Yes						
Bathroom/Shower Facilities	3; fa	cility available f	or ge	nder equ	ity		
Training/Meeting Rooms	No						
Washer/Dryer	Yes						
Safety & Security							
Station Sprinklered	No						
Smoke Detection	Yes						
Decontamination/Bio. Disposal	No						
Security System	No						
Apparatus Exhaust System	Yes						

Figure 38: LBFD Station 6					
Address/Physical Location: 33	0 Windsor Way, Long Beach, CA 90802				
LIONS BEACH	<b>General Description:</b> Long-term occupancy of a temporary facility on Port property. The port maintains the facility and there are no plans to remodel. In addition to fire and EMS response to the port facility and surrounding areas, this facility is the USAR station housing an 18 wheeled vehicle for USAR deployment.				
Structure					
Date of Original Construction	Temporary structure occupied for past 16 years.				
Seismic Protection	No				
Auxiliary Power	Yes				
General Condition	Good				
Number of Apparatus Bays	Drive-through Bays 0 Back-in Bays 2				
ADA Compliant	No				
Total Square Footage	3,200 (approximately), trailer facility				
Facilities Available					
Sleeping Quarters	5 Bedrooms 5 Beds 6 Dorm Beds				
Maximum Staffing Capability	6				
Exercise/Workout Facilities	Yes				
Kitchen Facilities	Yes				
Individual Lockers Assigned	Yes				
Bathroom/Shower Facilities	Yes				
Training/Meeting Rooms	No				
Washer/Dryer	Residential				
Safety & Security					
Station Sprinklered	No				
Smoke Detection	Yes				
Decontamination/Bio. Disposal	Red bag for disposing of contaminated material				
Security System	Located on port property, tight security				
Apparatus Exhaust System	Yes				

Address/Physical Location: 2	295 Elm Ave., Long Beach, CA 90806				
	General Description: General purpose fire station housing an Engine and straight axle and Basket Aerial Ladder Company with a full complement of firefighters on each apparatus.				
Structure					
Date of Original Construction	1939—Some remodeling over the past for crew upgrades; No major remodeling to the structure				
Seismic Protection	No				
Auxiliary Power	Yes, portable				
General Condition	Poor				
Number of Apparatus Bays	Drive-through Bays 0 Back-in Bays 2				
ADA Compliant	Downstairs – Bathrooms				
Total Square Footage	6,183				
Facilities Available					
Sleeping Quarters	9Bedrooms7Beds0Dorm Beds				
Maximum Staffing Capability	8				
Exercise/Workout Facilities	Yes				
Kitchen Facilities	Yes				
Individual Lockers Assigned	Yes				
Bathroom/Shower Facilities	4 with shower and ½ bathroom; gender equity facilities				
Training/Meeting Rooms	Yes				
Washer/Dryer	Yes – Residential				
Safety & Security					
Station Sprinklered	No				
Smoke Detection	Yes				
Decontamination/Bio. Disposal	Red bag for disposing of contaminated material				
Security System	No				

#### Figure 39: LBFD Station 7

F	gure 4	0: LBFD Station 8	5				
Address/Physical Location: 53	65 E. 2	<sup>nd</sup> St., Long Bead	ch, C	A 90803			
	General Description: Original and historic fire station built in 1930 currently in operation with one engine company with a crew of four.						
Structure							
Date of Original Construction	1930 curre	1930—some remodeling over the past 10 years; No current plans for remodel					
Seismic Protection	No						
Auxiliary Power	Yes						
General Condition	Fair						
Number of Apparatus Bays	Drive-through Bays 0 Back-in Bays 1					1	
ADA Compliant	No						
Total Square Footage	5,229	)					
Facilities Available							
Sleeping Quarters	4	Bedrooms	4	Beds	0	Dorm	Beds
Maximum Staffing Capability	4						
Exercise/Workout Facilities	Yes						
Kitchen Facilities	Yes						
Individual Lockers Assigned	Yes						
Bathroom/Shower Facilities	Yes -	- Split for use by	femo	ale firefigh	nters		
Training/Meeting Rooms	Yes,	in library					
Washer/Dryer	Yes -	- Residential					
Safety & Security							
Station Sprinklered	No						
Smoke Detection	Yes						
Decontamination/Bio. Disposal	Red	bag for disposin	g of	contamin	atec	l materio	al
Security System	No						
Apparatus Exhaust System	Yes						

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Figure 41: LBFD Station 9 (Interim)							
Address/Physical Location: 20	19 E. V	I 9 E. Wardlow Rd., Long Beach, CA 90807					
	General Description: Temporary occupancy by firefighters in a former Boeing Company fitness facility. The firefighters were dislodged from their permanent fire station due to environmental hazards. The firefighters have divided the fitness facility into cubicle sleeping quarters, bathroom facilities, and there are two large locker facilities for use by male and female firefighters.						
Structure							
Date of Original Construction	Unkr	Unknown, temporary occupancy					
Seismic Protection	Yes						
Auxiliary Power	Yes						
General Condition	Goo	d		-			
Number of Apparatus Bays	Drive	e-through Bays	0	Back-in Bays 0			
ADA Compliant	Yes						
Total Square Footage	15,000, approximate						
Facilities Available							
Sleeping Quarters	11	Bedrooms	11	Beds	0	Dorm	Beds
Maximum Staffing Capability	6						
Exercise/Workout Facilities	Yes						
Kitchen Facilities	Yes						
Individual Lockers Assigned	Yes	Yes					
Bathroom/Shower Facilities	Yes						
Training/Meeting Rooms	Yes	Yes					
Washer/Dryer	Resid	Residential					
Safety & Security							
Station Sprinklered	Yes	Yes					
Smoke Detection	Yes	Yes					
Decontamination/Bio. Disposal	Red bag for disposing of contaminated material						
Security System	No						
Apparatus Exhaust System	Арр	Apparatus housed in outside covered facility					

Figure 42: LBFD Station 10						
Address/Physical Location:	17 Peterson Ave., Long Beach, CA 90813					
	General Description: Fire Station located in the middle of the City serving a combination residential and business community. This station houses an engine and paramedic staffed Rescue companies.					
Structure						
Date of Original Construction	1967—remodel approximately 7 years ago					
Seismic Protection	No					
Auxiliary Power	Yes					
General Condition	Poor					
Number of Apparatus Bays	Drive-through Bays 0 Back-in Bays 2					
ADA Compliant	No					
Total Square Footage	9,182					
Facilities Available						
Sleeping Quarters	6 Bedrooms 6 Beds 0 Dorm Beds					
Maximum Staffing Capability	8					
Exercise/Workout Facilities	Yes					
Kitchen Facilities	Yes					
Individual Lockers Assigned	Yes					
Bathroom/Shower Facilities	Two on the ground floor, two on the upper floor					
Training/Meeting Rooms	Yes (use kitchen facility)					
Washer/Dryer	Residential					
Safety & Security						
Station Sprinklered	No					
Smoke Detection	No					
Decontamination/Bio. Disposal	No					
Security System	No					
Apparatus Exhaust System	Yes					

Figure 43: LBFD Station 11						
Address/Physical Location: 160 E. Market St., Long Beach, CA 90805						
fire station ety = long locos II	General Description: Large fire station housing a Tiller Aerial Ladder, Engine and Firefighter/Paramedic staffed Rescue unit.					
Structure						
Date of Original Construction	1963 (last remodel approximately 15 years ago)					
Seismic Protection	No					
Auxiliary Power	Yes					
General Condition	Fair					
Number of Apparatus Bays	Drive-through Bays 0 Back-in Bays 3					
ADA Compliant	First floor only					
Total Square Footage	7,135					
Facilities Available						
Sleeping Quarters	11 Bedrooms 11 Beds 0 Dorm Beds					
Maximum Staffing Capability	11					
Exercise/Workout Facilities	Yes					
Kitchen Facilities	Yes					
Individual Lockers Assigned	Yes					
Bathroom/Shower Facilities	Gender equity facilities					
Training/Meeting Rooms	Yes					
Washer/Dryer	2 residential					
Safety & Security						
Station Sprinklered	No					
Smoke Detection	Yes					
Decontamination/Bio. Disposal	No					
Security System	No					
Apparatus Exhaust System	Not reported					

Figure 44: LBFD Station 12						
Address/Physical Location: 1199 E. Artesia Blvd., Long Beach, CA 90805						
	<b>General Description:</b> Fire Station located in the predominantly residential section of Long Beach. This station is equipped with an Engine, Rescue, and BLS unit staffed 12 hours per day with civilian employees.					
Structure						
Date of Original Construction	2013—Newer station no plans for remodel					
Seismic Protection	Yes					
Auxiliary Power	Yes					
General Condition	Excellent					
Number of Apparatus Bays	Drive-through Bays 3 Back-in Bays 0					
ADA Compliant	Yes					
Total Square Footage	18,195					
Facilities Available						
Sleeping Quarters	7Bedrooms8Beds0Dorm Beds					
Maximum Staffing Capability	8					
Exercise/Workout Facilities	Yes					
Kitchen Facilities	Yes					
Individual Lockers Assigned	Yes					
Bathroom/Shower Facilities	Yes, gender equity facility					
Training/Meeting Rooms	Yes					
Washer/Dryer	Yes x 2 residential					
Safety & Security						
Station Sprinklered	Yes					
Smoke Detection	Yes					
Decontamination/Bio. Disposal	Red bag system for contaminated material					
Security System	Yes					
Apparatus Exhaust System	Yes					
Figure 45: LBFD Station 13						
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Address/Physical Location: 24	75 Ad	lriatic Ave., Long	Bea	ch, CA 90	810	
E STATION NO IS	Ger Fire mixe BLS	General Description: Fire Station is predominately residential with some mixed-use commercial housing a single engine and BLS unit staffed with 12-hour providers.				
Structure	-1					
Date of Original Construction	1950	6—remodel abo	ut 7 y	ears ago.		
Seismic Protection	No					
Auxiliary Power	Yes	Yes				
General Condition	Fair	Fair				
Number of Apparatus Bays	Drive-through Bays 0 Back-in Bays 2					
ADA Compliant	No					
Total Square Footage	6,214					
Facilities Available					-	
Sleeping Quarters	6	Bedrooms	6	Beds	0	Dorm Beds
Maximum Staffing Capability	7					
Exercise/Workout Facilities	Yes					
Kitchen Facilities	Yes					
Individual Lockers Assigned	Yes					
Bathroom/Shower Facilities	Yes					
Training/Meeting Rooms	Yes					
Washer/Dryer	Resi	Residential				
Safety & Security						
Station Sprinklered	No					
Smoke Detection	No					
Decontamination/Bio. Disposal	No	No				
Security System	No					
Apparatus Exhaust System	Yes					

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Figure 46: LBFD Station 14				
Address/Physical Location: 52	0 Eliot Ave., Long Beach, CA 90803			
	General Description: Fire station housing one engine, one BLS unit and a shift Battalion Chief. The station has undergone a remodel on the second floor to accommodate firefighters with improvements and accommodations for female firefighters.			
Structure				
Date of Original Construction	1985			
Seismic Protection	Yes			
Auxiliary Power	Yes			
General Condition	Fair			
Number of Apparatus Bays	Drive-through Bays 2 Back-in Bays			
ADA Compliant	Yes			
Total Square Footage	7,481			
Facilities Available				
Sleeping Quarters	7Bedrooms7Beds0Dorm Beds			
Maximum Staffing Capability	7			
Exercise/Workout Facilities	Yes			
Kitchen Facilities	Yes			
Individual Lockers Assigned	Yes			
Bathroom/Shower Facilities	Gender equity accommodation			
Training/Meeting Rooms	Yes (kitchen)			
Washer/Dryer	Residential			
Safety & Security				
Station Sprinklered	No			
Smoke Detection	No			
Decontamination/Bio. Disposal	Red bag for contaminated material			
Security System	No			
Apparatus Exhaust System	Yes			

# **AP TRITON**

Figure 47: LBFD Station 15						
Address/Physical Location: Pie	er F Bei	rth 202, Long Bec	ach, (	CA 90802		
	Gen New Octo engi prop of tw	<b>General Description:</b> New facility including a boathouse occupied in October 2021. This station also accommodates an engine company for responses on and off Port property. The Fire Boat maintains a constant crew of two firefighters.				
Structure						
Date of Original Construction	2021	New Construction	on			
Seismic Protection	Yes					
Auxiliary Power	Yes					
General Condition	Excellent					
Number of Apparatus Bays	Drive-through Bays 2 Back-in Bays 2				n Bays 2	
ADA Compliant	Yes					
Total Square Footage	Fire Station: 7,750 Boat Bay: 16,311					
Facilities Available						
Sleeping Quarters	6	Bedrooms	6	Beds	0	Dorm Beds
Maximum Staffing Capability	6					
Exercise/Workout Facilities	Yes					
Kitchen Facilities	Yes					
Individual Lockers Assigned	Yes					
Bathroom/Shower Facilities	Yes -	- with accommo	datic	on for fer	nale	firefighters
Training/Meeting Rooms	Yes					
Washer/Dryer	Yes -	- Residential				
Safety & Security						
Station Sprinklered	Yes					
Smoke Detection	Yes					
Decontamination/Bio. Disposal	Red	bag for contami	nate	d materio	al	
Security System	Yes -	- on port facility				
Apparatus Exhaust System	Yes					

## **AP TRITON**

Figure 48: LBFD Station 16						
Address/Physical Location: 28	390 E Wardlow Rd., Long Beach, CA 90807					
	General Description: This is the airport station that has two CFR units and one pickup truck with fire suppression equipment mounted. This station houses a BLS unit with two civilian employees on a 12-hour shift. This station is on Airport property and must follow FAA Rules and Regulations requiring periodic CFR drills.					
Structure	Structure					
Date of Original Construction	1960					
Seismic Protection	No					
Auxiliary Power	Yes					
General Condition	Fair					
Number of Apparatus Bays	Drive-through Bays 0 Back-in Bays 3					
ADA Compliant	No					
Total Square Footage	7,162					
Facilities Available						
Sleeping Quarters	5 Bedrooms 5 Beds 0 Dorm Beds					
Maximum Staffing Capability	5					
Exercise/Workout Facilities	Yes					
Kitchen Facilities	Yes					
Individual Lockers Assigned	Yes					
Bathroom/Shower Facilities	Yes – with gender equity facilities					
Training/Meeting Rooms	No					
Washer/Dryer	Residential					
Safety & Security						
Station Sprinklered	No					
Smoke Detection	No					
Decontamination/Bio. Disposal	Red bag for contaminated material					
Security System	Airport property with security					

Fi	Figure 49: LBFD Station 17						
Address/Physical Location: 22	241 Arg	onne Ave., Lonç	g Bec	ach, CA 9	0815		
BIRE STATION, NOIT	Gene Fire S Rosa one com	General Description: Fire Station with the closest proximity to Captain Rosa Regional Training Center. This facility houses one engine company and one aerial ladder company.					
Structure	T						
Date of Original Construction	1956	(to be remodel	ed)				
Seismic Protection	No						
Auxiliary Power	Yes						
General Condition	Fair/Good						
Number of Apparatus Bays	Drive-through Bays 0 Back-in Bays 2				2		
ADA Compliant	No						
Total Square Footage	6,214						
Facilities Available				1	1		
Sleeping Quarters	8	Bedrooms	8	Beds	0	Dorm	Beds
Maximum Staffing Capability	8						
Exercise/Workout Facilities	Yes						
Kitchen Facilities	Yes						
Individual Lockers Assigned	Yes						
Bathroom/Shower Facilities	4 Bat	hroom/Showers	s (gei	nder acco	omm	odatior	ns)
Training/Meeting Rooms	No						
Washer/Dryer	Resic	dential					
Safety & Security							
Station Sprinklered	No						
Smoke Detection	Yes						
Decontamination/Bio. Disposal	Red bag System for contaminated material						
Security System	No						
Apparatus Exhaust System	Yes						

Address/Physical Location: 3	- 361 Pal	o Verde Ave., La	ong E	Beach, CA	\$ 908	08	
	General Description: Single bay station housing a Paramedic staffed Rescue unit with two Firefighter/Paramedics.						
Structure							
Date of Original Construction	2000	1					
Seismic Protection	No						
Auxiliary Power	Yes						
General Condition	Fair			1			
Number of Apparatus Bays	Drive	e-through Bays	0	Во	ack-i	n Bays	1
ADA Compliant	No	No					
Total Square Footage	3,930	)					
Facilities Available							
Sleeping Quarters	2	Bedrooms	2	Beds	0	Dorm	Beds
Maximum Staffing Capability	2						
Exercise/Workout Facilities	Yes						
Kitchen Facilities	Yes						
Individual Lockers Assigned	Yes						
Bathroom/Shower Facilities	Yes						
Training/Meeting Rooms	No						
Washer/Dryer	Resid	dential					
Safety & Security							
Station Sprinklered	No						
Smoke Detection	Yes						
Decontamination/Bio. Disposal	Red	Red bag system for contaminated material					
Security System	No						
Apparatus Exhaust System	Yes						

#### Figure 50: LBFD Station 18

Figure 51: LBFD Station 19					
Address/Physical Location: 3	al Location: 3559 Clark Ave., Long Beach, CA 90808				
	General Description: Fire station providing service to primarily residential and small businesses. The station is adjacent to a large golf course and Long Beach Airport. Provides Hazardous Materials response and standby.				
Structure					
Date of Original Construction	Original 1960. Recent remodel approximately 2000				
Seismic Protection	No				
Auxiliary Power	Yes				
General Condition	Fair/Poor				
Number of Apparatus Bays	Drive-through Bays 0 Back-in Bays				
ADA Compliant	No				
Total Square Footage	5,216				
Facilities Available					
Sleeping Quarters	5 Bedrooms 5 Beds 1 Dorm Beds				
Maximum Staffing Capability	5				
Exercise/Workout Facilities	Yes				
Kitchen Facilities	Yes				
Individual Lockers Assigned	Yes				
Bathroom/Shower Facilities	Yes				
Training/Meeting Rooms	0				
Washer/Dryer	Residential				
Safety & Security					
Station Sprinklered	No				
Smoke Detection	Yes				
Decontamination/Bio. Disposal	Red bag system for contaminated material				
Security System	No				
Apparatus Exhaust System	Yes				

Fig	jure 52: LBFD Station 20				
Address/Physical Location: 40	Pier D Ave., Long Beach, CA 90802				
Bit BOAT Station 20	<b>General Description:</b> This station has been temporary for over 15 years housing one engine and one newer fire boat. This station is projected to move into a new facility currently in a design phase. Facility is on port property.				
Structure					
Date of Original Construction	Temporary, new facility currently in design phase				
Seismic Protection	No				
Auxiliary Power	Yes				
General Condition	Poor				
Number of Apparatus Bays	Drive-through Bays 0 Back-in Bays 1				
ADA Compliant	No				
Total Square Footage	Fire Station: 2,880 Apparatus Tent: 1,440				
Facilities Available					
Sleeping Quarters	6 Bedrooms 6 Beds Dorm Beds				
Maximum Staffing Capability	Yes				
Exercise/Workout Facilities	Yes				
Kitchen Facilities	Yes				
Individual Lockers Assigned	Yes				
Bathroom/Shower Facilities	Yes				
Training/Meeting Rooms	No				
Washer/Dryer	Residential				
Safety & Security					
Station Sprinklered	No				
Smoke Detection	No				
Decontamination/Bio. Disposal	Red Bag system for contaminated material				
Security System	No				
Apparatus Exhaust System	Yes				

Address/Physical Location: 22	5 Mari	Marina Drive, Long Beach, CA 90803					
	Gen This s conv long resou with This is	<b>General Description:</b> This station, according to interviewed staff, is a converted boathouse for lifeguard use. The station is long and narrow and has basic living conditions. This resource functions as the "lifeguard" station staffed with one Fire Captain and firefighter boat operator. This is also a Rescue Boat Station.					
Structure	-						
Date of Original Construction	2000	2000					
Seismic Protection	No						
Auxiliary Power	Portable Generator						
General Condition	Poor						
Number of Apparatus Bays	Drive-through Bays 0 Back-in Bays 0				0		
ADA Compliant	No						
Total Square Footage	3,080						
Facilities Available	1	1		1	T	T	
Sleeping Quarters	3	Bedrooms	3	Beds	0	Dorm	Beds
Maximum Staffing Capability	3						
Exercise/Workout Facilities	Yes						
Kitchen Facilities	Yes						
Individual Lockers Assigned	Yes						
Bathroom/Shower Facilities	Three	e					
Training/Meeting Rooms	No						
Washer/Dryer	Resid	dential					
Safety & Security	T						
Station Sprinklered	No						
Smoke Detection	Yes						
Decontamination/Bio. Disposal	No						
Security System	No						
Apparatus Exhaust System	No						

#### Figure 53: LBFD Station 21

	Jure 54: LBFD Station 22			
Address/Physical Location: 63	40 Atherton St., Long Beach, CA 90815			
	General Description: Fire Station undergoing a remodel approximately 3 years ago with upgraded plumbing, new apron, addition of Captain bedroom, added an office and relocated a wall for space accommodation. Primary response is residential.			
Structure				
Date of Original Construction	1959 – Remodel 3 years ago			
Seismic Protection	No			
Auxiliary Power	Portable			
General Condition	Good			
Number of Apparatus Bays	Drive-through Bays 0 Back-in Bays 2			
ADA Compliant	Yes			
Total Square Footage	52,216			
Facilities Available				
Sleeping Quarters	6 Bedrooms 6 Beds 1 Dorm Beds			
Maximum Staffing Capability	6			
Exercise/Workout Facilities	Yes			
Kitchen Facilities	Yes			
Individual Lockers Assigned	Yes			
Bathroom/Shower Facilities	Two, gender equity provided			
Training/Meeting Rooms	Yes			
Washer/Dryer	Residential			
Safety & Security				
Station Sprinklered	No			
Smoke Detection	Yes			
Decontamination/Bio. Disposal	Red bag for disposal of contaminated material			
Security System	No			
Apparatus Exhaust System	Yes			

Figure 54: LBFD Station 22

Figure 55: LBFD Station 24							
Address/Physical Location: 11	1 Pier S	S Ave., Long Bee	ach, C	CA 90802			
	General Description: Recently built fire station housing an engine company and the HazMat unit responding in an industrial area. Facility maintenance is a shared responsibility between the fire department and the Port.						
Structure	1						
Date of Original Construction	New	er					
Seismic Protection	Yes						
Auxiliary Power	Yes						
General Condition	Excellent						
Number of Apparatus Bays	Drive-through Bays 2 Back-in Bays 0				0		
ADA Compliant	Yes						
Total Square Footage	Excess of 4,000 square feet						
Facilities Available	1		1			1	
Sleeping Quarters	6	Bedrooms	6	Beds	0	Dorm	Beds
Maximum Staffing Capability	6						
Exercise/Workout Facilities	Yes						
Kitchen Facilities	Yes						
Individual Lockers Assigned	Yes						
Bathroom/Shower Facilities	Half	bath on grounc	l floor,	facilities	for fe	emales	
Training/Meeting Rooms	Yes						
Washer/Dryer	Resic	dential					
Safety & Security							
Station Sprinklered	Yes						
Smoke Detection	Yes						
Decontamination/Bio. Disposal	Red bag for contaminated material						
Security System	Yes						
Apparatus Exhaust System	Yes						

Figure 56: LBFD Station 32 (Beach Operations)				
Address/Physical Location:	2100 E Ocean Blvd., Long Beach, CA 90803			
	General Description: This facility is dedicated to beach and lifeguard operations. There is one captain and one boat operator assigned with a mix of career and seasonal lifeguards. This a rescue boat station with pickup trucks assigned to this station staffed by lifeguards. There is also a dispatcher assigned for the beach and rescue operations. This is a historical facility.			
Structure				
Date of Original Construction	1938			
Seismic Protection	Unknown			
Auxiliary Power	Yes			
General Condition	Poor			
Number of Apparatus Bays	Drive-through Bays 0 Back-in Bays 1			
ADA Compliant	No			
Total Square Footage	Undetermined			
Facilities Available				
Sleeping Quarters	0 Bedrooms 0 Beds 0 Dorm Bed			
Maximum Staffing Capability	10			
Exercise/Workout Facilities	Yes			
Kitchen Facilities	Kitchenette: sink, electric burner, microwave, fridge			
Individual Lockers Assigned	Yes			
Bathroom/Shower Facilities	Yes			
Training/Meeting Rooms	Yes			
Washer/Dryer	Yes			
Safety & Security				
Station Sprinklered	No			
Smoke Detection	No			
Decontamination/Bio. Dispos	NO INO			
Security System	No			
Apparatus Exhaust System	No			

Address/Physical Location: 620	4 E. 2 <sup>nd</sup> Street, Long Beach, CA 90803				
	General Description: Rescue Boat/Lifeguard station.				
Structure					
Date of Original Construction	Unknown				
Seismic Protection	Unknown				
Auxiliary Power	No				
General Condition	Poor				
Number of Apparatus Bays	Drive-through Bays 0 Back-in Bays 0				
ADA Compliant	No				
Total Square Footage	Unknown				
Facilities Available					
Sleeping Quarters	0 Bedrooms 0 Beds 0 Dorm Beds				
Maximum Staffing Capability	Unknown				
Exercise/Workout Facilities	No				
Kitchen Facilities	Sink, refrigerator, microwave				
Individual Lockers Assigned	Yes				
Bathroom/Shower Facilities	1 toilet, 1 shower				
Training/Meeting Rooms	Yes				
Washer/Dryer	No				
Safety & Security					
Station Sprinklered	No				
Smoke Detection	No				
Decontamination/Bio. Disposal	No				
Security System	No				
Apparatus Exhaust System	No				

#### Figure 57: LBFD Station 33

Figure 58: LBFD Station 35						
Address/Physical Location: 450	E. Shc	oreline Drive, Long	) Bea	ch, CA S	70802	2
	Desc Faci resc Staff	cription: lity used as a Lifeg ue capacity. This 5. Staffing is consis	guarc is a si tent <sup>-</sup>	d station hared fo through	with acility out th	boat with Marina ne seasons.
Structure						
Date of Original Construction	Unkr	nown				
Seismic Protection	Unkr	Unknown				
Auxiliary Power	Yes	Yes (inoperable)				
General Condition	Poor					
Number of Apparatus Bays	Drive-through Bays 0 Back-in Bays 1			n Bays 1		
ADA Compliant	No					
Total Square Footage	Unknown					
Facilities Available			-			
Sleeping Quarters	3	Bedrooms	3	Beds	3	Dorm Beds
Maximum Staffing Capability	3					
Exercise/Workout Facilities	No					
Kitchen Facilities	Yes					
Individual Lockers Assigned	Yes					
Bathroom/Shower Facilities	1 women's toilet/shower, 1 men's toilet/2 showers					
Training/Meeting Rooms	No					
Washer/Dryer	Yes					
Safety & Security						
Station Sprinklered	No					
Smoke Detection	Yes					
Decontamination/Bio. Disposal	No					
Security System	Yes					
Apparatus Exhaust System	No					

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### Long Beach Fire Department Training Facility and Equipment

The Department provides ongoing training at the Captain David Rosa Regional Training Center and hosts the LBFD's firefighter Recruit and Engineer Academies. A detailed description of its equipment, uses, and training ground may be found in the Training Division portion of the Organizational System Review section of this report; thus, it will not be repeated here. The following figure lists the basic structural and other features of the Long Beach Fire Department Training Center.



Figure 59: Captain David Rosa Regional Iraining Center					
Address/Physical Location: 22	Address/Physical Location: 2249 Argonne Ave., Long Beach, CA 90815				
LONG BEACH FREE DEPARTMENT CAPTEN MOND ROSA REGIONAL TRAINING CENTER	General Description: Facility houses training staff and classrooms. There is an extensive training ground inclusive of a training tower and strip mall mockup. Several props are on-site for vehicle extrication.				
Structure					
Date of Original Construction	Unknown				
Seismic Protection	No				
Auxiliary Power	Yes				
General Condition	Fair				
Number of Apparatus Bays	Drive-through Bays Back-in Bays				
ADA Compliant	Yes				
Total Square Footage	6,500 (approximate)				
Facilities Available					
Sleeping Quarters	0 Bedrooms 0 Beds 0 Dorm Beds				
Maximum Staffing Capability	Not applicable				
Exercise/Workout Facilities	No				
Kitchen Facilities	Not reported				
Individual Lockers Assigned	Yes				
Bathroom/Shower Facilities	Three with one in the training tower				
Training/Meeting Rooms	Yes				
Washer/Dryer	Not reported				
Safety & Security					
Station Sprinklered	No				
Smoke Detection	Yes				
Decontamination/Bio. Disposal	Red bag system if needed				
Security System	No				
Apparatus Exhaust System	No				

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#### Fire Apparatus—Engines, Trucks, Rescue Ambulances, and Rescue Boats

Fire apparatus are unique pieces of equipment customized to operate for a specific community and defined mission. Other than its firefighters, officers, and support staff, the next most crucial fire department resources are the emergency apparatus and vehicles. Apparatus must be sufficiently reliable to transport firefighters and equipment rapidly and safely to an incident scene and be able to operate under extreme conditions.

Modern fire apparatus are complex and sophisticated vehicles that must be maintained to ensure firefighters and EMS providers arrive promptly and are able to safeguard public safety in any emergency or routine situation on land and on the water.

Triton requested that Long Beach Fire Department provide an inventory of its frontline fleet. For each vehicle, the Department was asked to rate its condition utilizing the criteria in the following figure.

<b>Evaluation Components</b>	Points Assignment Criter	ia		
Age:	One point for every yec in-service date.	r of chronological age, based on the		
Miles/Hours:	One point for every 10,000 miles or 1,000 hours			
Service:	1, 3, or 5 points are assig (e.g., a pumper would b severe duty service).	gned based on service type received be given a 5 since it is classified as		
Condition:	This category considers body condition, rust interior condition, accident history, anticipated repairs, etc. The better the condition, the lower the assignment of points.			
Reliability:	Points are assigned as 1 frequency a vehicle is ir assigned to a vehicle in month on average, whi in the shop on average	, 3, or 5, depending on the n for repair (e.g., a 5 would be the shop two or more times per le a 1 would be assigned to a vehicle of once every three months or less).		
Point Ranges	Condition Rating	Condition Description		
Under 18 points	Condition I	Excellent		
18–22 points	Condition II	Good		
23–27 points	Condition III	Fair (consider replacement)		
28 points or higher	Condition IV	Poor (immediate replacement)		

#### Figure 60: Criteria Used to Determine Apparatus & Vehicle Condition



The following figure lists the 2021 inventory of the LBFD's frontline fleet of engines, ambulances, and other apparatus.

Unit	Туре	Manufacturer	Year	Condition
Engines				
F1	Pumper	Segarave	2018	Excellent
E2	Pumper	KME	2016	Good
E3	Pumper	КМЕ	2016	Good
E4	Pumper	Seagrave	2018	Excellent
E5	Pumper	Seagrave	2005	Poor
E6	Pumper	Seagrave	2001	Poor
E7	Pumper	Seagrave	2018	Excellent
E8	Pumper	Seagrave	2018	Excellent
E9	Pumper	КМЕ	2016	Good
E10	Pumper	КМЕ	2016	Good
E11	Pumper	Seagrave	2018	Excellent
E12	Pumper	КМЕ	2016	Good
E13	Pumper	КМЕ	2016	Good
E14	Pumper	Seagrave	2018	Excellent
E15	Pumper	Seagrave	2005	Poor
E17	Pumper	Seagrave	2005	Poor
E19	Pumper	Seagrave	2005	Poor
E20	Pumper	Seagrave	2005	Poor
E22	Pumper	Seagrave	2005	Poor
E24	Pumper	Seagrave	2005	Poor
Medic Units				1
R1	Ambulance	Ford	2019	Excellent
R3	Ambulance	Ford	2019	Excellent
R4	Ambulance	Ford	2019	Excellent
R9	Ambulance	Ford	2019	Excellent
R10	Ambulance	Ford	2019	Excellent
R11	Ambulance	Ford	2019	Excellent
R12	Ambulance	Freightliner	2017	Fair
R18	Ambulance	Ford	2019	Excellent
R22	Ambulance	Freightliner	2017	Fair
BLS2	Ambulance	Dodge	2009	Poor
BLS12	Ambulance	Dodge	2009	Poor
BLS13	Ambulance	Dodge	2009	Poor

#### Figure 61: LBFD Frontline Rescue Ambulance & Apparatus Fleet Inventory (2021)



Unit	Туре	Manufacturer	Year	Condition
BLS14	Ambulance	Dodge	2009	Poor
BLS16	Ambulance	Dodge	2009	Poor
Ladder Trucks				
T1	Truck	Pierce	2019	Excellent
Τ7	Truck	Pierce	2019	Excellent
T11	Truck	Seagrave	2013	Good
T17	Truck	Seagrave	2008	Fair
Other Apparatus				
Airport 1	Truck	Ford 550	2006	Fair
Airport 3	Crash rig	Oshkosh	2005	Fair
Airport 5	Crash rig	Oshkosh	2005	Fair
MCI 1	Truck	International	2006	Good
MCI 12	Truck	International	2006	Good
HazMat 19	Truck	International	2006	Good
HazMat 24	Truck	Spartan	2012	Good
Foam 12	Truck	Freightliner	2013	Good
Light/Air 5	Truck	Freightliner	2018	Excellent
Fireboat 15	Boat	Foss	2017	Good
Fireboat 20	Boat	Foss	2015	Good
USAR 6	Tractor	Spartan	2016	Excellent
USAR 6	Trailer	Hackney	2004	Poor
Command & Staff	Vehicles	F		F
BC 1	Suburban	Chevy	2016	Fair
BC2	Suburban	Chevy	2016	Fair
BC3	Suburban	Chevy	2018	Good
Fire Chief	Interceptor	Ford	2018	Good
Deputy Chief	Interceptor	Ford	2016	Fair
Deputy Chief	Interceptor	Ford	2017	Good
Deputy Chief	Interceptor	Ford	2016	Fair
Assistant Chief	Interceptor	Ford	2016	Fair
Assistant Chief	Interceptor	Ford	2016	Fair
Assistant Chief	Interceptor	Ford	2016	Fair
Lifeguard Chief	Expedition	Ford	2016	Fair
Rescue Boats				
Rescue Boat 1	Boat	Seaway	1997	Excellent
Rescue Boat 2	Boat	Seaway	2003	Excellent
Rescue Boat 3	Boat	Seaway	2007	Poor

The preceding figure does not represent Long Beach Fire Department's entire fleet. The Department maintains a hazardous material unit, light unit, water tender, heavy utility vehicle, Gator, rehabilitation unit, USAR response unit, and an assortment of command vehicles and staff cars. The LBFD maintains a fleet of specialty and support vehicles (e.g., ATV, trailers, pickup trucks). Additionally, the Department retains several engines, ladders, RAs, and other apparatus in a reserve status.

Engines, ladder trucks, rescue ambulances, and wildland apparatus are in constant motion daily. Fire trucks, for example, have a specific operational life based on time in service measured in years since the date of purchase, mileage, or operating hours. Some departments use engine operation hours to plan a replacement schedule for some of the apparatus. For example, fire engines and ladder trucks may operate for a long time at a fire, which is not the same as driving down the streets in a community.

The LBFD's apparatus replacement schedule has been delayed to meet other financial needs of the Department or of the City. Every year that the purchase of new replacement vehicles is delayed increases the likelihood of an apparatus failure during a critical event.

The highest mileage apparatus in the fleet are the rescue ambulances, which respond to thousands of medical calls all over the City. Constant maintenance is in order. The older the vehicles, the higher their maintenance costs. Eventually, this apparatus becomes mechanically unstable and must be replaced. Emergency Medical Services vehicles have the highest call volume.

All ancillary vehicles, most notably staff, support, and Battalion Chief vehicles, are equally high mileage and require continual maintenance and regularly scheduled repair and replacement. Adequate budgeting and a plan that ensures vehicles are replaced as scheduled are requirements for keeping the community and responders safe.

#### **Reserve & Replacement Schedule**

As shown in the preceding figure, LBFD's apparatus are in a variety of conditions. Although the newer ones are in excellent or good condition, most are older apparatus in poor shape that require replacement. The apparatus replacement schedule is generally maintained by the assigned Captain following previously scheduled vehicle replacement events such as this one: engines—15 years, ladder trucks—15 years, rescues—6 years, crash fire rescue (CFR) rigs—10 years, and light-duty cars and trucks —7 to 9 years, depending on the truck classification. Grant funding through the FAA and Long Beach Airport should be sought for the specialized apparatus required at Station 16 (Airport station).



Current replacement projects include ten engines, three tiller aerial ladders, seven rescue ambulances, three Battalion Chief trucks (moving away from Suburban-type SUVs due to weight limitations), 12 light-duty staff vehicles, and one Mobile Command Unit (grant-funded). The Long Beach Airport is in the process of replacing its frontline CFR units with costs covered by the FAA and the Airport. Also projected for replacement are two HazMat units, one of which will be used as a spare, and two operational Mass Casualty Incident (MCI) rigs.

The Port of Long Beach recently provided a Polaris-type vehicle to the Department for use on the bridge over Port property due to the limited access for full-sized fire apparatus.

Replaced fire apparatus are placed into a reserve status. They are used on a rotation basis to substitute for frontline apparatus when the latter are deployed to a mobilization event, are scheduled for maintenance, are damaged, or for other reasons that render them inoperable. There is a robust fleet of reserve apparatus that includes engines, trucks, and rescue units. Older reserve apparatus are declared surplus and are sold on the open market.

#### Wildland Fire Engines

The Department recently acquired a Type III Wildland Engine provided by the Office of Emergency Services (OES). It will be staffed by on-duty LBFD firefighters to respond to a wildland or other OES-designated event. This vehicle is State of California property housed at a Department fire station and can be used for events within the City. The expectation is that when the OES activates this resource, LBFD firefighters will staff it and deploy it as needed.

#### **Fleet Maintenance**

The following figure displays a City-owned heavy maintenance fleet center that services all of the City's fleets, including those for the Fire Department, as well as smaller vehicles for other departments.

The portion of this large facility devoted to Department apparatus consists of three double deep bays staffed by five Mechanics and a Lead Mechanic responsible for scheduling all services. The Fleet Management Captain is the point of contact between the Fire Department and the City's Fleet Services.

The facility also houses a maintenance section for smaller vehicles such as pickup trucks, SUVs, staff cars, and other smaller Fire Department vehicles.



Contained within the facility are a decal shop and radio shop for new installation and repair.

Repairs are scheduled unless there is an emergency, in which case the apparatus or small vehicles can be driven to the maintenance shop for on-the-spot repairs. Apparatus or vehicles that cannot be driven are towed to the facility.

The shop provides a Mechanic to work on the location of an emergency related to vehicle performance and has the ability to repair on location. This is a 24-hour on-call position from the shop staff.

#### Figure 62: City of Long Beach Fleet Facility

3600 Temple Avenue, Long Beach, CA

Address/Physical Location:



#### **General Description:** Long Beach Fire Department employs qualified fulltime mechanics to maintain its apparatus and vehicle fleet in a shared facility with the City of Long Beach. When necessary, some work is outsourced for specialized repairs and maintenance.

#### Structure

Date of Original Construction	Undetermined				
Seismic Protection	Unknown				
Auxiliary Power	Yes				
General Condition	Good				
Number of Apparatus Bays	Drive-through Bays	20+	Back-in Bays	0	
ADA Compliant	Yes				
Total Square Footage	Undetermined				
Safety & Security					
Station Sprinklered	No				
Smoke Detection	Yes				
Decontamination/Bio. Disposal	N/A				
Security System	No				
Apparatus Exhaust System	Mostly open-door system				



### Other Capital Equipment—Fleet Management Division

The LBFD's Fleet Management Division is staffed by one Captain, who was assigned to this two-year rotational position 10 years ago. The position is responsible for all of the emergency and non-emergency capital rolling stock, including fire engines, ladder trucks, rescue units/ambulances, and rescue boats.

The position also is responsible for all staff vehicles throughout the Department, including those assigned to the Fire Chief, Assistant and Deputy Chiefs, Fire Marshal's Office, Fire Inspectors, and Battalion Chiefs.

A fleet of smaller vehicles falls under the purview of Fleet Management, including Polaris vehicles used in some fire suppression and EMS applications during large publicly attended events such as the Grand Prix, bridge accidents, and similar events that necessitate the use of a smaller vehicle to gain access.

The LBFD Fleet Management Division is the liaison between the Department and City Fleet Services. Responsibilities include scheduling regular maintenance and emergency repairs for all of the rolling stock, maintaining a robust reserve fleet inventory, working with a Fleet committee to acquire new equipment, bidding and purchasing new equipment, and placing that equipment in service upon arrival.

The Division also is responsible for replacing apparatus at the stations with reserve apparatus for scheduled maintenance, working with the Dispatch Center on anticipated mobilizations, and other events that require sufficient apparatus to accomplish the task successfully. The Captain can work with the duty Battalion Chief on station closures in order to provide sufficient apparatus and maintain sufficient daily staffing with appropriate apparatus in times of extreme emergency such as a wildland fire event or other resource intense mobilization events.

### **Airport Fire Apparatus**

The crash fire rescue (CFR) apparatus at the Long Beach Airport consists of two FAAapproved 2005 Oshkosh fire apparatus and one smaller engine classified as a pickup truck with a suppression package on board. There also is one reserve 1992 CFR Oshkosh vehicle in addition to one rescue unit used for BLS transports.



This equipment is purchased through a joint agreement between the FAA and the Long Beach Airport. The apparatus are maintained regularly and are scheduled for replacement according to the FAA's 16-year replacement plan, which affects the two frontline CFR apparatus acquired in 2005. Replacement and replacement costs are provided through an agreement between the FAA and Long Beach Airport.

#### **Fire Boats**

There are two fire boats that currently are located at Station 20 and Station 15 in the Port. The boats were acquired in 2016 through a grant and funding from the Port of Long Beach. Maintenance is performed on the schedule recommended by the manufacturer. The terms of a mutual aid agreement with the City of Los Angeles ensure the L.A. Fire Department will respond in the event that a fire or rescue emergency event occurs during a time when one or both fire boats are out of service for maintenance or other reasons.

### **Special Event Equipment**

The City of Long Beach hosts many special events throughout the year that attract thousands of participants, residents, and visitors, such as the Grand Prix, musical events, water sports events, parades, beach events, and running and fitness events. All of these events require the presence of fire apparatus, equipment, and personnel in case a fire and/or EMS response becomes necessary.

Planning for these events involves a wide range of fire apparatus; depending on the type of event, they could include engines, rescues, and smaller support vehicles such as vans, stake trucks, light plants, electric carts, and vehicles designated as Quenches, which are small fire suppression unit equipment mounted on Polaris-type vehicles.

Coordinating any large event is an all-member operation. The Fleet Captain is responsible for providing the required equipment and forecasting its planned usage, relocating other vehicles within the City to accommodate this need, and maintaining awareness of potential impending mobilizations that could take reserve and possibly other apparatus out of the City to wildland fires, large building fires, freeway events, or similar emergencies.

Special event deployments deplete available apparatus, which is one reason why the Department maintains a robust reserve of apparatus available for large events both in and out of the City. The Fleet Captain is a part of the planning sessions to ensure adequate equipment is assigned to these events.



# Section II: STAKEHOLDER INPUT



# **STAKEHOLDER INPUT**

Triton interviewed a wide variety of the Long Beach Fire Department's internal and external stakeholders. The purpose of these interviews was to understand better issues, concerns, and options regarding the emergency service delivery system.

It is important to note that the information solicited and provided during this process was in the form of "people inputs" (stakeholders individually responding to our questions), some of which are perceptions reported by stakeholders. All information was accepted at face value without an in-depth investigation of its origination or reliability. The project team reviewed the information for consistency and frequency of comment to identify specific patterns and trends. Multiple sources confirmed the observations, and the information provided was significant enough to be included nn this report. Based on the information reviewed, the team identified a series of statements, recommendations, and needs and confirmed with multiple sources that all was significant enough to be included within this report.

Interviews included fifty-one Stakeholders from eight separate groups: Cal State University, AMR, CERT, Red Cross, Chief Officers, Labor Leaders, Administrative Staff, City Management, Airport, and Port Management.

### **Compilation of Stakeholder Input Results**

#### **External Stakeholders**

In your opinion, what are the strengths of the Long Beach Fire department service delivery system?

- The Campus has 42,000 students. The Fire Department strengths include medical and fire responses 132 last year. Responsive and help with a broad range of services. The department assists with the construction projects on Campus, making sure the design does not miss anything. They are increasing life safety and facility resilience. Campus police and Long Beach Fire continuously update the pre-plans of the Campus. Active Shooter and HAZMAT drills. The Emergency Management Team works well with the fire department. Resilience and emergency management skills. There is close coordination with road closures. SWAT drills are held with the Campus Police.
- Responsive. Diverse. Professional. Effective and efficient.

- Community outreach. Jake Heflin is the PIO for the LBFD, and he is exceptional. Awareness for community preparation. The FD has a resident-based pool of people who want to support the City in many different ways, and the fire department works well to maximize this resource.
- They have a unique identity. Long Beach does an excellent job to maintain resources to serve the City.

### What are the weaknesses of the Long Beach Fire Department services system?

- I do not know of any.
- They enhance the program's CERT connectivity by enabling the people with CERT training to develop the neighborhood program to a higher level. To the degree that the fire department uses residents for specific support roles, there is much more that they have to offer.
- Understanding how the fire department structured and how many people it needs to run a fire department. Do we have enough people to handle the growth of the call load? They seem to be diverse, are they?

What can the Long Beach Fire Department do to improve community engagement?

- They are working to connect the CERT communities within Long Beach to grow a more consistent and cohesive linking of the neighborhoods working towards more refined community-based services, much like the linkage to the Health Department services.
- Fire departments, in general, the outreach that fire agencies perform is always helpful. Engaging the community through programs like CERT creates that connection.
- None to be noted.
- More collaboration with schools and community groups, engaging them to make them aware of what the fire department does and what they do.

In your opinion, does the existing system provide the residents and community with acceptable protection?

- Yes, it is—both in responsiveness and prevention. The training and assistance the fire department provides have enhanced the Campus's resilience.
- Yes. We have a very, very strong fire department. They are very busy and do a great job.

#### Internal Stakeholders: City Officials, Fire Department Personnel (All Divisions/ Bureaus/Offices), Labor, Emergency Management, Airport, and Port Authority

What strengths contribute to the success of the fire department? What do they do well?

- Great job in communicating issues with the airport. Good dialogue. Fire understands the concerns for the airport financial issues. Fire is flexible in handling the needs of the airport. Responsive to the needs of the airport.
- Very collaborative. Always willing to help whenever there is a need. The management team is very well situated.
- Is very collaborative. Very family-oriented. Cohesive.
- Team oriented. Accomplishes the mission to serve the community.
- Great to work with the management. The fire station understands the airfield needs.
  Engages in the events. The adjacent fire station 19 comes in as well to participate.
  The fire department is always changing people in leadership positions and constantly getting to know the new leaders. The fire leadership group is collegial.
- Operationally, all of the personnel need to be working together. Good with communicating with the airport.
- Operations. Community outreach, homeless, Heart Team (Homeless Outreach response). Incident Management Teams are handling events/major incidents. CERT program is great.
- Excellent fire department. Great service delivery. The community is happy with the service. Community survey-based. Strong at NIIMS/SIMS/EOC.
- Provide services that they are charged to provide exceptionally well. Staff does well with the community. They deliver the needs of the community. They take leadership in crisis. Impressive.
- Leadership from the top. Command staff and Chief are well respected. Exhibit leadership qualities that people follow—operational preparedness. Training prepares the firefighters for the job. Specialized training and battalion training is excellent. They are prepared to handle emergencies. Aggressive approach but safe. Dedicated personnel, sworn and civilian. Family environment, a place to belong. Extension of your family. Is safe for all. (530 members)
- Community engagement is excellent. Sworn personnel opportunity for advancement is there.

- Very good at planning and training at things that will strengthen the service and outlining the roles of people, and providing direction. Interactions with fire provide adequate information to others to get things done.
- The fire department culture has been cultivated in its role of delivering services to the community. Big enough department to contribute to the ideas and concepts of services, yet small enough to be agile to change and adapt to the challenges that come our way. The organization values civilian insights.
- Our labor/management relationship is strong and aligned with the City's goals. The trust we have with the organization's leadership and those people on the line has greatly improved. Our people are our strength. Great people. We are constantly training to our ethos, infecting the eggs. The training and the process of developing our people are our strengths. Given training, our operations are second to none. We do operations well. The Mind and Hearts of our people are what makes the difference in serving the community. Our Command Staff is great, managing the programs and people effectively, intending to do good for our people and community. We are a smaller version of the LA City. We have the Port of Long Beach, Urban Rescue Program, and our HAZMAT Team is a regional leader. Great people!
- Family-oriented
- Community perception. Social media marketing.
- Good leadership of the fire department.
- Good leadership. Excellent fire chief. Community perspective is strong for the fire department. Good relationships with schools and hospitals.
- High quality of service, the strength of leadership, good solid training programs. Good facilities and equipment.
- The collaborative relationship between the Labor group and the command staff is strong.
- Aggressive operations. Strong relationships with each other as a firefighter group. Inclusiveness Open line to Command staff and fire administration. Level of trust I good.
- Ability to communicate with fire staff and city Council that allows strong communications with one another.

- We are an all-hazard, all-risk service provider at a fair value when the cost-benefit analysis is considered. The strong working relationship between the command staff. Community aligns, and Council alignment is strong. We are a premier department that serves the community well.
- The people who work here. The family aspect is strong. The crew members working every day represent the fire department. Labor leadership is strong within the City, state, and nationwide. The command staff is strong and moving in the right direction. Looking after the people in the field to make sure we are safe.
- Leadership shows genuine concern for us, family. High level of customer service. Great interaction within the organization. Great relationships with other departments. Vital feedback inputs on how we do stuff. Our fire department adapts to changes.
- Personnel, well trained, committed, receptive to collaborate within the City and regionally. Fire Academy, a robust curriculum that 80% of the members have gone through. Strategically located fire stations allow for quick response times with the right resources. The delivery of service to the community is well respected. Well trained and equipped.
- Personnel is our strength that adapts and overcomes, meeting the challenge.
- The traditional values of the organization, the pride of the members is a key strength. The organization is big enough to be significant, yet small and agile to do a lot of good work for the community. The organization is open to new ideas and concepts.
- Department is very aggressive and takes training seriously from the date of hire and continuous. Aggressiveness and passion for each other create who we are as an organization.
- Strengths are our people and traditions for the fire service. We are a family that brings our strengths and traits together to make this department one of the best. The fire academy is our strength of the department. The roots begin there and continue to grow there. The Academy aligns with the mentorships and the bond that ties us together. This trust builds the core values, mission, and vision to build the team, guide the team towards a servant leaders' heart for the community.
- The HR team is amazing that works together collaboratively and effectively. A family atmosphere is what makes them great.

- Value to the community, and the community knows what we do. The employees are behind the mission and passionate. The training division provides excellent training. The reputation in the community is strong. The relationship within the department is strong, and city departments. Strong labor/management relationship. Strong HR team, dedicated to making things work.
- Our HR team is amazing. They work together collaboratively and effectively. The fire department has a family atmosphere that makes them great.
- EMS, we do good things with our community members. We work together as a team. The fleet is finally up to date, and our equipment is top-notch. We are getting fire stations. Office space is coming together.
- Good working relationships. The organization allows civilian inputs without regard to status. Good people working well and communicating.
- Collaboration and communication internally and externally
- Our people and our brand are our strengths. The fire department personnel are out in the field representing the agency.
- The greatest strength is the trust the community has with the department and respect for the organization. I feel the community sense the value it gains from our services. We are true to our mission. We are good at connecting with the community, building a community sense of service, and caring about those who live here.
- Relationship building within and outside the organization (City and community/region).
- Core Values, sense of family, teamwork, public trust. Holding each other to our Core Values. "More than fighting fires." We do much more, relationships are key to our existence. Prevention and proactive measures save lives and protect property. We work hard to engage the community to prepare and stay safe. Leveraging social media as our community communications tools to engage and inform. Agile and adaptable organization.

#### What are the weaknesses of the LBFD?

- LBFD is a large department. The challenge of consistent leadership and personnel. The rotation of fire personnel is a challenge to keep qualified personnel on staff.
- The leadership stability at the BC level (program manager) has been a challenge, constantly changing.

- The FD tries to handle the situations internally. Discipline issues are not necessarily consistent with City practices for the administration of policies.
- The family cohesion crates the challenges of handling discipline when the family bonds get in the way. The schedules: Kelly schedule is the best pay cycle for the department and the City. The budget is significant for payroll for public safety. The perspective of adjusting the pay and benefits is difficult to implement.
- No comment.
- We are not that good at developing leaders for the department. The promotional process has not been updated for years, and the lack of in-house preparation programs is challenging for Captains and Battalion Chiefs candidates.
- Narrow focused. Not in tune fiscally. Not open to changing the mindsets of funding. They believe they are busy and too busy. Heavily focused on fire service doing it all versus civilianized. Heavy medical and little fire. Diversity challenges. Culture, old fire service, hazing, not a professional approach. Altogether for them and not the whole. Frat-boy culture.
- Ability and willingness to see alternatives.
- Leadership development, Captains and Chief Officers. It needs to improve like the Engineer's Academy. At the moment, it is incumbent on the employee to seek development on their own. Organizational communications in both directions have room for growth. Communication of "Why" decisions are being made.
- Lack of advancement opportunity for civilians in the agency.
- At times, Fire has too many people providing conflicting information when there is a need for direction. There is a need to get a streamlined chain of decision-making. The processes for developing procedures and plans actions without the input from other City divisions and department. Do not trusting civilians because we do not have a badge.
- Tradition. A lot has changed, but some things have not. Navigating the system as a non-fire person can be challenging.
- Call volume is high in LBFD, and the resources have decreased. The growing gap of service is noticeable. The EMD process/system requires updating and QI. The current delivery model requires agile integrated and mobile health concepts.



- Our culture is very difficult to change. We do not offer education for our people. We do not provide succession planning for our people. We do not have the programs that prepare our people to promote (they do it independently). The requirements to lead the organization (degree) is challenging to find the right person internally to take over. Engaging the public at the level, we should be on all fronts. Being strategic in acquiring the things that make us successful. The need for resources to support the mission.
- Not enough support staff for the organization
- Short-staffed at the support level. Need for on-going training.
- The lack of Budget funding for the fire department. Pay for civilians is low causes turnover. Sworn is given higher opportunities than civilians, based on the fire relationships.
- Broken department. A chain of command. Respect for one another.
  Communication. Mentoring and succession training for the support staff. Skills are not used to capacity for our people. The pressure of increased workloads due to reduced budget and personnel over the years.
- Staffing levels inconsistent, turnover. Communication dynamics are impacting information between each bureau.
- Communication could always be better across all levels. Improved training would be helpful.
- Budget. The past years have not allowed the restoration of 4 units that were cut during past budget cuts. The call loads are exceeding 3500 per for some units annually. Infrastructure requires updating and replacement. We lack gender accommodations. Some stations are located in residential communities, and they need to be relocated. The demographics of our personnel do not reflect the community. We need to recruit female, Asian and Black employees.
- The average age of the stations exceeds 55 years. We are dealing with the new normal and living with reductions since 2004. We lost and not restored: Engine 101, Engine 18, Truck 14, Engine 17 (temporary), and a Rescue. Seventy thousand calls per year, with increased population. Increased call load is impacting our members, particularly the paramedics. Our non-sworn staff was reduced in 2004 that has increased the workloads on people.

- The fire department is the catch-all for all things big with the City. We are the go-to organization when the City has dramatic needs. This strains the organization when we are ready running too thin. We never say no to requests for help. It begins to impact our home life. My spouse reminded me of such. Lack of staffing to support the operations of the organization. Unfilled support positions create a strain on existing staff, causing people to work above their current job descriptions.
- We have no depth in positions to support the continued demand for information. Collateral duties create a weight on the positions that need more capacity to handle the City's challenges. The restrictions of Civil Service Systems that impact how our people grow and advance within the organization. This hampers our ability to retain quality employees. We create programs that need ever-increasing feeding of people resource time that we do not have. We are not meeting the expectations. Our promotional and succession processes are poor.
- I do not think we tell our story as well as we could. Lack of diversity, in progress. It does not reflect the community we serve. The department has critical assignments that lack people to fill in those positions. We lack resiliency and redundancy. Support Staff voids with work to be done. The loss of the Payroll clerk void caused significant concerns. Minimal support staff to do what we need to do. We need more people to support the fire mission. Seem to be constantly training new people due to turnover.
- Failure to tell our story and tell it effectively. Lack of diversity, not limited to demographics. We have voids in our experience. Cognition. We lack in all three areas. Weak in DEIB Demographics, Equity, Inclusion, and Belonging. Marginalized communities, Black, Women, LBGQT personnel-lack sense of belonging. Marine Safety does an excellent job in Marine Safety LBG+. Fire needs work in all areas. The trust factor with the community, we need to look like them. We do not. Deplorably understaffed in administration. Forty investigations in the last four years. 100,000 data entries annually. 1,000 HR documents this year. 43 Meet and Confers. Workload impacts are causing employee workers comp claims.
- Technology is a problem for fire prevention services that are tied to other departments. The current process has some electronic and some paper.
- Technology voids. We are way behind. The current system is way behind.
  Overworked and underpaid, under-resourced, and lack the technology and people to meet the job demands. Clerical staff to Chief, under-compensated. The demands and workloads are impacting the mental health of the organization.

- The Economy. We do a lot, and we do not have the resources to sustain what we do. We do not say no to additional duties/tasks. The Economy is a driver that impacts the potential loss of budget. Communications internally could be better. The age of our facilities.
- We do not do a good job marketing ourselves. We respond and do great things, but people and businesses do not know what we do behind the scenes doing all that we do. We need to tell our stories to the public and policy makers.
- What we gain from our foundation in our beginning career, we fall short in developing our people to grow and advance within the organization. The inconsistent approach leads to a varied approach to doing things. The community does not understand that the fire department is staffed to meet the current demands and cannot handle large incidents, such as a high-rise fire and large vehicle crash. The PIOs are multi-tasked and cannot focus on building the brand we need.
- We are over-committed to the community. We have taken additional projects and services without additional people. We use existing staff to make it happen. We fail to sustain the momentum without funding for support for those added programs. We need to market ourselves better to gain support for additional funding. The downtown densities are increasing and not keeping up with the demands that come with it.
- Being stretched too thin. We are going backward and not keeping up with the highrise development, higher densities. We are a younger department that lacks life experiences. The growing numbers of newer employees are not as independent. We are losing the values of the traditions of the department. The staffing for the bureaus is thin and lean. We do a poor job branding ourselves. We need to do a better job.
- To our detriment, we will do our job no matter the lack of tools we are given to do our job.
- Young fire department. Our expertise is growing.
- Too big to be small, too small to be big. We are ambitious in developing and serving our community. We want to be like our neighbors, but the financial resources are limited.

## **AP TRITON**

- We keep perpetuating the same mistakes. Billing is antiquated. City cost recovery policy is not enforced across the board. The Enterprise funds of the budget take advantage of the fire department. Marine division integration operationally is challenging. The lack of coordination to responses is obvious. The disaster Management process and actions are challenging, creating voids in actions and coordination. Consolidated dispatch is horrible.
- Infrastructure is poor. The growth will impact the current fire department level of resources. Rely on outside resources to supplement response.

What are some areas in which you think the department could make improvements?

- The stability of the leadership at the BC level (program manager) has been a challenge, constantly changing. Maybe make the Station Captain the program lead. Internal budgeting process that impacts the Airport budget. The Fire MOU's throw unfunded expenses that surprise the airport operations.
- The budgeting processes with the City get passed along from Fire to the airport. The restrictions of how the airport can pay for the requests.
- More flexibility in adapting to pay and benefits. The nepotism, ethnicity, and making sure we hire the right people, not necessarily the family members
- More consistency with policy adherence.
- MOU process impacts the airport. Budgeting process awareness of the limitations of the airport's abilities to fund requests.
- Developing a leadership development process. More resources in the high-impact downtown areas. Educating our crews on communicating with the public.
- Diversity improvements. Civilianization of the fire department. Instead of placing civilians in support positions, fire wants Captains and BC's to fill the role. The FD does not see the fiscal issues looming over the City. Look at Alternate staffing levels 3 versus 4 person engines in parts of the City. Look at the different types of vehicles, Quints versus ladders. Infrastructure challenges. Old stations need replacement. Look at placing stations smartly and locating resources smartly. Revenue enhancements, generating revenue
- Willingness to see alternatives. FD could seek and provide alternatives to delivering services. Openness to adapt to the reduction in resources. The fiscal realities drive the need to look at other service delivery options. One Paramedic on an ambulance versus the two we have. Three versus four people on an engine. Look at the alternatives.
- Organizational communications in both directions have room for growth. Communication of "Why" decisions are being made. Infrastructure improvements. Old City needs a plan for improving/replacing the buildings/stations /facilities. Fire personnel has taken on "projects" to improve the buildings and property. Measure "A" money was supposed to go towards fire station improvements. The resources need improvements to meet the increasing call loads. We are doing more with less and creating overwork situations for the personnel running the calls, increasing the stressors. (Since 2003, continued cuts). Restoring resources back to where we were in staffing.
- Citywide document management (paper/electronic) is cumbersome and redundant. Infrastructure needs a plan. Identifying the fire department's roles that will assist personnel seeks guidance to contact who is responsible for the tasks.
- Partner with the other City departments and divisions that are impacted by the actions/decisions of the fire department.
- Technology, equipment, digitization for drug/supply acquisition. Integrating technology in records management. The 85% of the call burden is medical, and investing in that side of the services would enhance delivery quality and focus. Concern for employee burnout in the field, quality of life with high call loads exceeding 4,000 response in some stations.
- The resources to deliver the services and manage the QA/QI, support, education, and training of those services. The salary guides for non-sworn positions require updating to be competitive.
- Develop the succession plan. Enhance our initial attempts at recruiting a diverse workforce that reflects our community. Working with our female workforce to challenge them to promote into leadership positions. We have a lot of work to do to motivate and prepare our people to promote. Improve our engagement with the community. The fire prevention efforts for Mandatory Inspections and enforcement.
- Online education, employee reimbursement, leadership development with mentoring for a career path.
- Upkeep of the stations needs improvement. EMS response resource increase to meet the demands.
- Infrastructure, stations, and living quarters. Temporary stations for a long time.
- The promotional process is horrific. Use the example of the Engineer Academy for each process towards advancement.

- We need an infrastructure plan for the fire department. We need to plan for the future. Improve the resources for the department to meet the demands today and for the future. Look at providing a higher service across the operations aspect. Create a scheduled hiring process to maintain staffing and fill vacancies.
- Review the revenue sources by reviewing the process for collecting fees, enterprisefunded departments, and other options. Follow up on the previous studies that offered insights towards improvements.
- Opportunity to telecommute. Fire academy orientation to the fire administration processes and services to the membership.
- Opportunities for career advancement, employee development. Networking between each bureau that strengthens the organization. Leadership development. A disconnect between leadership and the floor. Create a bridge between the admin and the field. We should get out there more.
- Safety awareness- evacuation drill and emergency planning drills. Sharing of information. Best practices use of the internet site. Use technology to leverage the information sharing Microsoft Teams. The great divide between the floor and civilians-bridge the gap.
- Bridging the gap between the sworn and civilians. Education to gain more opportunities to grow as a person.
- There is a strong need to build connections between the support staff and the stations. The use of temporary employees is a distraction and temporary.
- Meet the recruitment of employees that reflect our community demographics. We could take more advantage of the grants by obtaining a grant writer to expand the revenues. Utilizing technology to streamline operations and fire prevention.
   Alternative delivery services, team approach, with the homelessness crisis.
   Developing a strategy that addresses those needs and reduces the call loads.
- Align the Measure "A" funds with the purpose they were voted for, fire and police, to meet our backlog needs.
- Expanding our administrative section of the fire department to support the administrative burdens. We need to run the department like a business and build on the successes that can support what we do better.



- We need to improve our brand for the fire department. We need to invest in our health and wellness of our people. There is a lot of burnout with our folks. We need to do something about it. Call volumes are increasing and beating up our folks. Increased training requirements in addition to the call load.
- We need to bring on grant writers that are focused on seeking funds for the fire department.
- We need more people to leverage technology and social media to communicate and engage the community. We need to reduce the collateral duties to perform our jobs at a higher level. How the fire department manages City crisis with the same resources places a continuous strain on us. The demands are impacting our family life, be mindful of such.
- Organizationally, where does the PIO Office fall within the organization to align the information needs for the organization and community.
- Equality for the organization. We still have a sense of periodic favoritism for others when it suits others. Juggling the fiscal constraints with the demands of the job requiring more and more of us and our time. Provide a clear scope of the job and expected and understand that we have little capacity to take on any more tasks without overtime, people, and technology. Promotional examination process-Career pathways and support for our members to grow and serve our organization.
- We need to better plan for turnover and fill them quicker.
- Technology enhancements. Streamlining the hiring process to fill a vacancy in the division. The current City process is too slow and not responsive.
- Technology enhancements and compensation. Some of the facilities are old and needing replacement, gender quarters. Spend the Measure "A" to do the intended work. Why are we not partnering with the development community to help the fire department get facilities and resources to serve the downtown growth. If the City were to hire the Inspectors to perform the inspections, the fees would pay for themselves.
- Reimagining Public Safety is an opportunity to adapt our fire department based on community expectations. We do more than fighting fires. Use the strengths of our employee's ideas and motivations. Teaching mindfulness to our people to understand the perceptions of the community and our people.
- Continue building trust within the fire department leadership structure. Get out into the field and engage the people in the stations.

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- Budget cuts today and following years. We are still NOT whole from the cuts ten years ago. Operationally the City continues to grow while the services are not expanding. Vertical density will be a challenge. Succession planning lacks, therefore, is a threat. Continuous turnover at the command staff level creates constant challenges. Admin workload and stress. The civilian promotional paths are generally in other departments. The fire workloads are high, and our staff looks to other departments for a less compressed job.
- Budget cuts create a large portion of the threat to the fire department. We do not have a float pool of people to fill vacancies or workers' compensation voids. We hire back. That creates increased higher stress among employees. LBFD has all of the risks, and we deploy people out to Statewide wildfires. The deployments create the need to backfill and added budget burdens. If the LBFD were not to deploy, we lose the experience of the IMTs management and processes. Our personnel excels at setting up the crisis response. Cutting budgets and opportunities for experiences will create negative ripple effects across all areas of the City. Single points of failure for support staff are multiple, bill processing, for example, payroll. We need to increase staffing to meet the mission of the department and City. The FD has the lowest support staffing levels of any other department in the City.

#### What are the threats to the Long Beach Fire Department?

- Personnel turnover of the fire department impacts airport operations. Concern for expending monies that are not airport related.
- Public Safety environments will become more regulated, litigious, require more training. Nothing is getting easier. The increased procedures impact the community and the fire department.
- The General Fund, pension reform impacts. Budget cuts impact how the FD balances public safety services.
- We are not listening to the employees. We have needs and ideas that will significantly improve our organization and service to the city/community. When we do not correct the deficiencies, we will lose people and continue to get behind. We lose good quality people because we are not agile to respond to the needs of the people.
- Keep falling behind on infrastructure needs. Spend money to make/save money. Deficits will continue to grow if the City fails to get ahead of the needs. We are losing people to other agencies because we are not paying enough. The "Sprinkler Heads" are leaving.

- The Economy. Societal pressures that are occurring today, epidemic, homelessness, and weather. The increase in vertical construction projects and population density. This impacts our people without additional personnel and resources to support them and handle the growth. Improve the understanding of the City Manager about fire department services and importance. Implicit bias.
- Growth. We need to be ready for what may/will happen. Not being prepared to handle it is a threat. Recruiting people that reflect the community and the conflict it brings to the organizational culture of acceptance of the individual. The equity of our members is challenging. Public perception of how much income is being earned by our people in comparison to the community members.
- Sustainability. Pension is a concern, but the long-term costs of sustaining services. Costs will continue to grow with negotiated agreements. Concern for increasing costs driving towards contracting service.
- Economic competitiveness for the costs of the Airport MOU. The opportunities for a third-party vendor to provide rescue services. Politics of the services. Maintain reasonableness of fees for providing services related to serving the airport, not external needs. There are strict FAA auditing requirements that provide essential grant funding.
- Budgetary. Outside/Inside threats to public safety. Jealousy of compensation, furlough, and pay increases. Dangers to the job. Internal employee relations and comments being made that create complaints. Fire station closures due to budgets.
- Status quo. Given the financial issues, fire 25% and PD 50% crowd out the "quality of life" services that the Council wants. Culture. Not adapting to the service model, medical response heavy, not fire. The response times are better for fires, not critical medical calls. Cost of on-going labor cost increases \$100,000 base firefighter entry.
- Resources and lack of resources are an issue for every city department. Reductions could happen to the budget; planning for such or failure to plan is a threat. The loss of other city services versus the fire department does not lose anything.
- Budget x2. Budget cuts. The all-risk response duties of the fire department create additional risks for our personnel.
- Lack of diversity of the organization. Lack of resources to keep up with growth.
- Lack of sufficient transport resources to serve the community.
- Budget. Politics of the City.

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- Funding problems to meet the demands of a growing and changing organization. Expectations for our ability and action to adapt as an organization. Managing expectations.
- Meeting increased community expectations as a whole. Speed, accuracy, and now. Living in a world of instant gratification for a response. Providing information for the diverse communications, language, and technology levels/abilities of the community.
- Funding. Diversity. Managing growth in the City.
- Funding. Diversity, Equity, Inclusion, and Belonging (DEIB). Civilian staffing levels.
- Budget. Funding to do all of the essential services we provide. Recruitment and retention of quality people to provide support to the organization.
- The media is constantly reporting misinformation. Budget. The pandemic will have a more prolonged impact. The potential turnover of command staff continuously happens.
- Funding is a critical threat that impacts staffing. Lack of qualified applicants for the positions that are open. Ever-changing political climate.
- The staff's perception in other departments sees the fire staff working hard and do not want to come to the fire department. There is an over-work issue for support staff. Loss of the payroll clerk is an example. The need to keep command staff longer would be nice. These changes have an impact on us.
- Succession planning for the department. We are not looking ahead of the current command staff timeline. The lack of a formal promotional process that prepares our members for the leadership needs.
- The City is continually not learning from past mistakes. Full cost recovery is not being made. We are not taking recommendations from previous outside reviews. We do a poor job at collections and billing. Full cost recovery.
- We are not evolving with the times, technology advancement. Automation processes for supplies and equipment. Tracking the expenses properly. Financial planning by the City and prioritizing the public safety services for the citizens. The fiscal crisis should not cause budget cuts. We still do pen and paperwork. Let's move to technology to help us.
- Budget crisis times always look at cutting staffing which impacts the response to the calls. The cheaper approach that cities look at could look at contracting of services.

- The lack of a comprehensive career development plan for our membership. Call load increases. Competition of EMS. Contract fire services. Recruiting the right people for the jobs today and for the future.
- The SME departure creates knowledge gaps. Property security is a concern for our employees, building, and parking lot.
- Property security. Turnover of command staff and civilians. Communicating with our leadership.
- Turnover in civilian staff leave because of pay and workload. The entire department is always busy. The budget analyst's departure was a large gap. Failure to plan for the vacancy. To fill the vacancy takes way too long. There is no transition process.
- How the City Management perceives us. A large portion of the budget goes to Public Safety. The threat of burnout of our personnel. This creates a downstream impact with personnel investigations and resignations.
- Requirements for doing more with less. The demands from statewide deployment to wildfires to suppress fires instead of only protecting structures. The old stories of playing checkers still reside in the public's eyes. We need to change that. The push to lower the standards for new people coming into the agency. Head, Hands, and Heart that guide our mission. The lack of such creates increased dangers for the individual and the organization. Lowering the standards for new people lowers the quality of services. The sense that external forces are causing us to accept lower standards.
- Police and Fire consume nearly 70% of the general fund. That impacts the other services the City wants to provide. The Council is looking for ways to reduce public safety costs to spend on other programs. Budget equity is a challenging concept within the City. New World Order of budgeting, how we talk and plan our budget that has a message. We are losing control of the selection of people. Like LA County that has lost the operating the selection processes for firefighter positions.
- Maintain the staffing to match the needs for services, while illnesses impact the workforce, we want to do it all, but we may not be able to do it. Given all of the education, training, and support issues, we struggle to keep up.
   Retention/recruitment of non-sworn personnel given lower compensation levels versus private sector.

- Managing expectations internally and externally. Our people being overworked/burdened with increased call loads, different call loads. Budget cuts and programs being moved, the public expectations do not change, they want the fire department at their emergency quickly. Homelessness issues, blight, fires, and medical calls are increasing, while the resources do not. The City Admin and Council expectations are varied.
- Diversity and inclusion. Meeting the expectations for the organization to have the right people in the positions to lead.
- Ourselves. Our actions will dictate our future via social media. Social media is the jury and judge, not the facts.
- Maintain relevancy for the organization as it relates to the changing societal needs and perceptions.
- The homelessness crisis is a threat to the organization. Properly with dignity. Significant growth in the City, area-wide. Commercial, residential, and mid/high rise development, bringing more people and more calls. The 2028 Olympics will challenge us. The loss of resources increases burdens on personnel left to serve the community. Measure "A" was recently passed by the voters to not sunset. The Measure passed by a very slim margin. We stand to lose the trust of the people. The mental health of our members is a threat. The resilience of our people is wearing down.
- Continually dealing with the new normal of diminished resources. The newer employees do not know what we lost, so to lose any more resources creates a greater impact. Aging infrastructure and the wellness of our people. The impacts of safety wot our members. Equity and Inclusion Team movements to redefine public safety through a different response mode. For instance, a "man down response" may not provide a police response to the incident.
- Public Safety Continuum that attempts to align all of the City departments under cover of Public safety to receive Measure A funding.
- Keeping up with the environmental challenges of protecting without causing harm via our actions and tools.
- Surviving organizational studies like the one we are going through.

#### What do you see as the critical issues faced by the fire department today?

- Airport operations do not necessarily align with fire and PD shift scheduling
  programs. The desire to have an airport specific response system. Staff that is trained
  for the airport operations specifically. The rotation of personnel who do not have the
  required training. The City MOU has a "true-up" at the end of the year that creates
  stressors when paying for stuff.
- Having enough fire personnel on-duty to respond to airport incidents appropriately. What is adequate staffing? Other duties assigned to the crews that impact airport services while passenger flights are occurring. Peripheral responsibilities assigned to the fire station are a great concern. Making sure the alarm system is antiquated and challenging given the City IT infrastructure. Communicating training and inspection criteria and findings comparative to the FAA requirements. Challenges of conforming to the inspection codes for FAA criteria that how the fire department personnel perform the inspections. When an incident occurs with a small aircraft and the need. The challenges of maintaining Part 139 minimum staffing requirements for the various air traffic.
- Staffing concerns. Five people on shift is the minimum. When a firefighter leaves for food/shopping, that drops below the minimum staffing criteria. The alternate duties being contemplated by fire. There is a uniqueness of the airport operations that require prompt and properly trained personnel. Budget issues not aligning within the MOUs. For instance, the fire station's maintenance created a case of who is responsible for paying for specific costs. The FD is strapped and does not have the flexibility to move people around.
- Cost. Operational efficiency. Consistency employee relations.
- Costs. Consistency in Policy, Diversity.
- Customer service: high expectations to provide "above and beyond" when we might not be able to.
- Maintaining staffing has been a challenge.
- Diverse workforce that is competent, diverse, and able to work the demanding job.
- Adapting to the financial reality
- Continuing to the environment of rising call volumes.
- Infrastructure. Crumbling fire stations.

- Making sure we are a part of the Reimagine Public Safety processes. Open-minded to change and adaptable to that change. Being mindful of the income disparity with our community. Transparent with income matters. Being aware of these differences.
- Budget/funding, staffing. External threats as noted. How we treat each other no matter our opinions, beliefs, orientation, and acceptance of our members.
- Resources, resources, and resources. Lack of looking at alternatives to deliver services with a reduction of resources.
- Budget shortfalls (vehicles/buildings); staffing is variable given the COVID Relief funding, grants, and the threat of loss of revenues that will cut the staffing.
- Funding for the department. Staffing. Mentoring/leadership
- Budget, staffing, and pay grade
- Funding. Seeking additional funding through various processes. Enterprise funds, billing process, (fire hydrant servicing cost transfer we stopped checking the hydrants) Gas department leak response, not getting paid for it. Oil-Pipeline issues, we provide services and do not get paid for them. Not a PROP 218 issue. Fire is a contractor use of MOU. Low hanging revenue that is out there that we do not take advantage of.
- Resources, lack. Funding. Increasing low-priority call loads cause the wrong use of lean resources. Lower the run volume by adjusting the call typing.
- Stabilize the funding to the fire department. Will allow for increased services. Infrastructure needs are high. The stations are older and making our members sick.
- Funding: Adequate resources to deliver core services. Formalized succession plan
- Give and take, tug and pull that occurs with the revenue when funds are tight. Continue to provide the expected level of services.
- Continuous staffing levels across all sections. Media. Funding. Public perception based on misinformation. Safety awareness and training for the building systems and processes.
- Budget. High turnover and security/safety
- Funding staffing and pay.
- Budget. City politics. The HR Services requires assistance.
- Infrastructure. Wellness of our personnel. Call volume increases. Match the growth with resource growth.

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- Budget. Recruiting and retention of personnel.
- Doing more with less. Lowering standards for hire. Because of these two issues, the wellbeing and safety of our personnel. The programs that are implemented that change the entry requirements for firefighters impacts how candidates work within the past practice outcome-based approach of the Academy. These changes impact the services delivered. The public engagement with the community members to entice them to join us.
- The budget is not keeping up with the demands. Prevents long-range planning. The environmental impacts that create more work when weather event occurs.
- Mental health and bandwidth of our people. A budget that changes the response profile reduces our services. Lowering our selection standards for new hires. The changes made recently have increased the pool of candidates, but when the drill school begins, we stand to lose who we are. The Branding of our fire department increases the draw of locals to the agency to become a Long Beach Fire/Police member.
- Funding. Diversity. Managing growth in the City.
- Funding. Diversity, Equity, Inclusion, and Belonging. Civilian staffing levels.
- None that comes to mind.
- Budget issues. Homelessness issues that are impacting the City and the demand of the demand for city services and connections.
- Call volumes are outpacing fire department resources. At this pace, we will not be able to meet the needs of the City. The increasing administrative burdens by outside regulatory groups. Protecting and preserving our workforce, relating to members' mental and physical health in challenging times, and increasing burdens on the people who do the work.
- Funding/Finance. The perception of EMS has changed over time. The desire of fire personnel to promote/train to paramedic level is less today. The rotation of fire leadership positions challenges the continuity of the division's needs and direction.
- Budget
- Growth/Change—Downtown/Vertical density, Homelessness, Equity, 2028 Olympics, Mission/All-Risk.
- Technology—Replacement and relevance
- Facilities/Infrastructure—Average age of our fire stations is 55 years. There is an immediate need for five fire stations to be remodeled or replaced
- Workforce development—Employee wellness (Behavior and Physical Health), Succession Planning, Workforce Diversity, Equity, and Inclusion.



# Section III: PERSONNEL MANAGEMENT



# LBFD WORKFORCE INITIATIVES

# Introduction

Any study whose purpose is to assess an organization's performance and to make recommendations about how it can optimize its services is incomplete unless it addresses the people who provide those services. Thus, this section addresses personnel-related matters in the LBFD, with a special emphasis on inclusion, equity, and diversity throughout the Department. In its 2020 Guide for Creating a Diverse and Inclusive Department (IAFC Guide), the International Association of Fire Chiefs presents proven ways for agencies to increase inclusiveness, equity, and diversity in eight specific areas of their organizations, such as policies and procedures, job descriptions, and training and development. In this section, we address inclusion, equity, and diversity with respect to how personnel treat each other, then with respect to the extent to which those concepts "show up" in the Department's processes, services, systems, and programs.

The City's stated goal is to have its Fire Department personnel "look like" the community they serve. In 2017 the City created an Office of Equity, whose purpose is to "...advance equity and ensure all Long Beach residents have what they need to thrive."<sup>9</sup> In the City Council-approved *Long Beach Equity Toolkit for City Leaders and Staff* ("*Equity Toolkit*"), the Mayor committed to the achievement of this outcome: "...we know that our diverse neighborhood and community members have varying levels of access to the resources needed to succeed. I am committed to close these gaps. Mindful of the need for the LBFD's services to be aligned with the City's goals, and consistent with the approach taken by the City to achieve them, we approached this assessment with an "equity lens."

# **Methodologies**

To obtain the data needed to address the issues related to workforce initiatives, our team employed five methodologies: examination of LBFD and City documents and public records, individual interviews, an organizational self-assessment, a Department-wide survey, and organization chart exercises.

<sup>&</sup>lt;sup>9</sup> International Association of Fire Chiefs (2020). *Guide for Creating a Diverse and Inclusive Department*. Chantilly, VA: International Association of Fire Chiefs. https://www.iafc.org/topics-and-tools/resources/resource/guide-for-creating-a-diverse-and-inclusive-department



#### LBFD and City Documents

In response to AP Triton's initial project data request, both the LBFD and the City submitted voluminous data for use in all areas of the study. The Workforce Initiatives-related documents request included information related to inclusion, equity, and diversity (e.g., how leaders define those terms, demographic information), instruments and results used for internal and external assessments, copies of policies and procedures, instruments, and measures (e.g., performance management, promotional processes, training), MOUs for all employee groups, workforce-related strategic initiatives (e.g., strategic plan, succession management), job descriptions, recruitment and retention programs, processes, and initiatives, and physical and mental health and wellness.

#### Individual Interviews

Our team conducted two sets of individual and group interviews. The purpose of the first set was to get a feel for the organization's strengths, weaknesses, opportunities, and threats from both internal and external stakeholders. With that goal in mind, our Project Manager conducted group and individual interviews in Long Beach from March 29 to April 1, 2021, both in person and via Zoom. External interviewees included the City Manager and other City staff as well as those from the Long Beach Airport, the Port of Long Beach, the City's Emergency Operations Communication Coordinator, AMR, and the American Red Cross. Internal interviewees included the Fire Chief, the Command Staff, Department Secretaries, Training Center personnel, the Fleet liaison, Local 372's Board, personnel from the Department's Marine Safety Division, Community Services, and EMS, and the Department's Medical Director. Our team did its best to capture the issues and concerns raised by these individuals throughout the report.



The purpose of the second set of interviews was to learn about the LBFD's workforce initiatives from the people directly affected by them: Department personnel. We approached our conversations with them with two goals in mind: first, to assess how people throughout the LBFD interact with one another, and second, to determine the extent to which inclusion, equity, and diversity "show up" (or not) throughout the Department, particularly in its firefighter selection process. Our team interviewed 103 personnel as well as six individuals outside the Department. Although we promised individual confidentiality so people could speak freely to us, employees' "voices" can be heard throughout this report in the form of common themes and/or concerns they expressed and, in some cases, paraphrases or direct quotes. Participants represented every rank and position level in the organization. Forty-two percent were civilian staff, and 58% were sworn; 27% were female, and 73% were male. (Note: although the civilian staff who participated were split nearly equally between men and women, the total was skewed by the preponderance of sworn personnel, most of whom are male. There is a similar disproportionate effect on the race/ethnicity data.) Race/ethnicity percentages were as follows (rounding accounts for 101% total):

- Asian 12%
- Black 13%
- Hispanic 24%
- White 50%
- Multiple 2%

# **Organizational Self-Assessment**

Our team administered a series of eight short organizational self-assessments representing the eight areas identified in the IAFC *Guide*: vision, mission, and values (n = 34), strategic plan (n = 19), non-emergency communication (n = 17), policies and procedures (n = 18), job descriptions (n = 16), training and development (n = 20), individual development plans and performance review (n = 11) and valuing each other and the community (n = 10). The numbers in parentheses represent the number who responded to each assessment. Although the response rate was low for all assessments, the fact that respondents all were officers or chief officers offered the opportunity to compare their responses with the feedback we received from non-officer personnel. This information has been incorporated into our report.



#### **Department-Wide Survey**

In 2012–2013, LBFD embarked on a Department-wide project to identify its core values and define them in behavioral terms at the department and work unit levels. Because many of those behaviors embody inclusion and equity, our team decided to forego the "usual" inclusion, equity, and diversity survey content in favor of building on the foundation Department personnel had established and the behaviors which they said define who they are and why they do what they do. Those values are *pride*, *respect*, *family*, *commitment*, *teamwork*, and *trust*. Their department-level definitions may be found in the Mission, Vision, Values section of this report.

For each of the six core values, participants were asked a standard question and invited to suggest behaviors related to that value that would support the goal of becoming a more inclusive, equitable, and diverse Department. The question was as follows: "Based on your own experience, how frequently do the people in your work unit demonstrate the behaviors associated with [name of core value] in ways that foster a welcoming environment in which all individuals feel valued, respected, and trusted regardless of who they are?" The final question asked, "What is one action or change that you believe could increase the levels of inclusion, equity, and/or diversity significantly in the Department, your bureau/division, and/or your work unit, even if it seems like it is impossible or cannot be done right now?" The responses of the 97 participants (nearly 25% of the current workforce) may be found in various areas of this report. A summary of the findings can be found in Appendix C.

#### **Organization Chart Exercises**

Two critical tasks for organizational survival are identifying and addressing staffing vulnerabilities and single points of failure. To identify the LBFD's vulnerabilities and single points of failures, the Command Staff completed two exercises by color-coding their respective bureau or division organization charts. The first exercise addressed the staffing vulnerabilities throughout the Department by identifying all personnel's earliest date of retirement. You may view those charts and the accompanying description in the LBFD Staffing section of this report.



In the second exercise, the Command Staff identified the functions in their bureaus that represent single points of failure. That is, if those functions are not staffed, or staffed adequately, the ability of the Department to continue to protect lives, property, and the environment is in jeopardy. For example, payroll is a critical function for any organization that pays its employees: if people do not get paid, they stop going to work. Unfortunately, the LBFD experienced a major challenge in its payroll function last year when its long-time Payroll/Personnel Assistant transferred to another City department. Because the function was understaffed to begin with and because the remaining Payroll/Personnel Assistant was new and untrained, many personnel reported experiencing major negative financial consequences such as the inability to add new family members to their insurance, delays in the resolution of workers' comp claims, and reimbursement of out-of-pocket COVIDrelated expenses. At the time of our interviews, personnel reported some of the issues had not yet been resolved. On top of dealing with the uncertainties of the pandemic, those problems significantly increased employees' stress levels and, in some cases, disrupted their lives. Our team's review indicates that the function remains understaffed. At the end of August, we were told that the Department had requested a Clerk-Typist position as well as a temporary worker (function not specified) to help alleviate the burden on overworked Payroll staff.

The single points of failure charts and their accompanying description may be found in the LBFD Staffing section of this report.

It is the LBFD's responsibility to identify its staffing vulnerabilities and single points of failure, specify the resources needed to overcome or mitigate them, and communicate clearly and realistically to the Community and City leaders their impacts on service delivery should they not be addressed. City leaders are responsible for determining to what extent, if any, the Department will be able to address them.



#### **Definitions of Terms**

Although City staff use the terms "inclusion, equity, and diversity" ("I/E/D") interchangeably, they are separate and distinctly different concepts. The following list defines these concepts as they appear in the IAFC *Guide*.<sup>10</sup> While consistent with the explanations provided in the City's *Equity Toolkit*, they are a bit more specific for purposes of a service optimization study. In addition, the order in which we address the three terms is purposeful: if people do not feel welcome in the work environment, prospective candidates will not apply for jobs there and current employees will not stay. Similarly, if people feel they are not being treated fairly—e.g., organizational systems or processes are unfair, or they experience discrimination—they will not stay. Once inclusion and equity are incorporated in all aspects of an organization, it will be attractive to people of diverse backgrounds.

- **Inclusion** speaks to the extent to which people feel welcomed, respected, trusted, treated fairly, and valued.
- **Equity** reflects the way in which we ensure equal opportunities for people to be who they are and how fairly we treat them. Note that "equity" and "equality" are NOT the same. In fact, treating people and departments equally often results in inequities.
- **Diversity** includes every possible element on which people differ. In addition to the demographic traits and characteristics we normally associate with diversity, here are a few examples of others that are relevant to the LBFD: talents, skills, and competencies, including "trades"-related skills; leadership and management styles; career goals; rank or position; civilian or sworn staff; and hobbies and interests.

### Context and Perspectives: The Fire-Rescue Profession and Culture

To best understand LBFD personnel—e.g., why they chose such a dangerous profession, what drives them to excel, and what factors weigh in some of their decision-making—it helps to have some insight into their profession and its culture. Here are some key features:

<sup>&</sup>lt;sup>10</sup> IAFD Guide, p. 5



Firefighters see themselves as the people of last resort. That is, when no one else ٠ knows what to do, how to solve a problem or address an issue, and/or is capable of doing it, someone calls the fire department. As a Fire Captain once said, "When people call, we respond, even if we do not know what to do, because we're the fire department and people expect us to do something." Although this cultural norm is one of which its members are very proud, it brings with it a heavy burden: the belief that if they cannot solve the problem, there is no one else to turn to for help. Thus, they do everything they can to make things right. This aspect of the fire-rescue service culture most recently was displayed by LBFD personnel when COVID-19 arrived in force in March 2020. LBFD personnel stepped in to set up and staff the City's Emergency Operations Center and an Incident Management Team. Due to the fire department's experience managing large scale incidents, LBFD personnel stepped in to set up the Incident Command System (ICS) structure that emergency responders throughout the U.S. use to organize the people and tasks necessary to address whatever type and size of emergency presents itself. This is basic information that City employees should have been trained on. In addition to setting up the structure and processes that enabled City employees eventually to manage the crisis without such heavy reliance on them, LBFD personnel performed many of the tasks themselves and during the first two months also trained City employees how to perform their assigned functions in the ICS. For example, the ICS's Incident Commander and two of the three Command Staff roles were filled by LBFD personnel. Similarly, three of the four Section Chiefs were LBFD personnel. This scenario repeated itself when COVID-19 vaccinations became available. The Health Department did not have the same level of experience within the ICS structure. LBFD personnel did the initial set-up for the Health Department's vaccination logistics process. Department personnel assisted in training temporary workers hired by the Health Department, and provided their own personnel to augment the administration of the immunization process and provide support services that freed up Health Department and other City staff.



- For example, the LBFD's Marine Safety Division's seasonal lifeguards, who normally work June through August, logged thousands of hours each month for several months staffing several vaccination centers. At the same time, LBFD personnel continued to serve the community by responding to calls, including those that required them to put themselves and their families at risk by assessing, providing initial care for, and transporting COVID-19 patients. When asked about the critical roles the LBFD filled during the last 18 months, one firefighter replied, "This is what we do. We see a problem, we find a way to fix it, and we take care of it. We do not need recognition."
- Most firefighters view the work they do as a calling rather than as a job. When
  people speak of firefighter "DNA," they are referring to the passion for helping others
  that brings them to the profession and keeps them going despite even significant
  challenges. Unlike people in other professions who have multiple careers during their
  lives, firefighters tend to remain in their profession. They are part of the larger firerescue culture, something bigger than themselves through which they can serve the
  purpose to which they feel called.
- The services that fire-rescue professionals perform often literally represent life and death situations of the people they serve. At times, that fact, coupled with the drive to "get it done at any cost," creates a dilemma for them. For example, when faced with situations in which they are forced to choose between doing the "right thing" to ensure the best patient care and adhering to protocols that, if followed, would result in possible or certain harm to the patient, most would choose the good of their patients over the certainty of facing disciplinary action as a result of such decisions. Some of those who have done so and suffered the consequences have said they would make the same choice again.



The fire-rescue service often is referred to as a "brotherhood/sisterhood." The ٠ commonly cited analogy of "family" is an indication of the closeness of their interactions. Outside of the military, there are few other professions whose members work, live, sleep, eat (depending on call volumes), experience daily traumas, and train together 24/7. "Primary" families generally do not experience that much togetherness, except perhaps during COVID-19, and certainly nowhere near the number and severity of the traumas. As is the case with those families, fire-rescue "families" can become dysfunctional, either temporarily or on a longer-term basis. Firefighters are not immune to the divisiveness that U.S. society has been experiencing, and the significant increase in the levels of their physical and mental stresses due to the pandemic have exacerbated their reactions in ways that are testing those family relationships. Such divisiveness, which has manifested itself in ways that include bad behaviors in some stations, can lead to toxic workplaces. The significant deterioration of physical and mental wellness many LBFD personnel are experiencing has pushed them to their limits. Representative statements made during our interviews and on the department-wide survey include, "I don't think I can do this anymore." "Our people are responding to more calls than ever with the least amount of staffing than ever. This is a recipe for disaster. It is starting to manifest itself with some folks' personal lives, but will continue to spiral in which I think we may have some catastrophic events between crew members, such as what happened recently as workplace violence in L.A. County FD. We are mentally, physically, and spiritually drained...." "The run volume we are seeing. With the amount of shifts worked. This simply is not sustainable. This city is going to drive members to the edge."

- Despite some progress in the fire-rescue service around acknowledging and dealing ٠ with mental and behavioral wellness, a sizable stigma remains attached to firefighters who admit they need help and those who seek treatment. In addition to the traumas they experience on a daily basis (approximately 78% of all calls to LBFD are for emergency medical services see Figure 93: Response by Incident Type), firefighters must try to mitigate or heal damages to their relationships, their physical health, and their mental health that are exacerbated by the divisiveness in society, the politicization of vaccinations, and the continued uncertainty around COVID-19. Conditions such as PTSD/I (post-traumatic stress disorder/injury), burnout, stress, anxiety, physical exhaustion, compassion fatigue, and substance abuse reportedly are on the rise across the fire-rescue profession, not just at the LBFD. Imagine the potential outcomes of an emergency medical call for which the patient requires advanced life support care, and the paramedics who respond have been without sleep for 24 hours or more because their call volume has been extremely high and/or they have been forced to work back-to-back shifts due to staffing shortages. These situations occur around the country every day, and in Long Beach as well. Statements from LBFD Firefighter/Paramedics (FF/PMs) as well as their colleagues throughout ranks indicate that the lack of sleep is a routine occurrence for them. They point to the high call volume as well as to the fact that these personnel (as well as Firefighter/EMTs) often spend hours waiting with their patients at area hospitals until the hospital can provide a bed for them (patients). The number of additional mandatory shifts that LBFD FF/PMs are required to work due to staffing shortages provides additional evidence of how routinely they must battle the effects of sleeplessness on the job. Here are the number of 24-hour shifts that LBFD FF/PMs were required to work in 2018–2021, as reported to us by the LBFD:
  - 2018: 1,201
  - 2019: 1,281
  - 2020: 397
  - 2021: 986 (not a full year)

Advance notice of the required additional shifts ranges from a few hours to 21 days. Last-minute absences, such as those due to injury, illness, or the need to quarantine, cause some personnel to be told at or near the end of their 24-hour shift that they would be staying for another 24 hours. When staffing gaps can be identified earlier, personnel will have more advance notice.

# Inclusion, Equity, and Diversity in the LBFD: The People

To assess the extent to which LBFD personnel interact with each other in ways that are consistent with the concepts of inclusion, equity, and diversity, our team relied on data gathered through 103 individual interviews with civilian and sworn personnel (a number that does not include the people interviewed by our Project Manager in March 2021) and the results of the organizational self-assessment and Department-wide survey. The demographic characteristics of the employees who participated in interviews were outlined previously in this section. To encourage people to speak freely, we promised confidentiality to participants of all three methodologies.

Although there is anecdotal evidence that personnel create welcoming environments and treat one another fairly and respectfully, there are tremendous opportunities for improvement. Staff members report experiences that vary widely, though they frequently are not aligned clearly with demographic characteristics. That is, while there are non-White personnel who spoke about instances of exclusion that they observed and/or encountered personally, other non-White personnel reported very different experiences. Non-White staff tended to offer specific suggestions for improvement. White staff members generally reported feeling that inclusion, equity, and diversity are important, and they expressed support for the Department's efforts to improve in those areas. However, most were unable to offer specific suggestions for improvement. They, too, reported experiencing exclusionary or disrespectful behaviors and inequitable processes. Irrespective of their demographic characteristics, civilian personnel frequently reported experiencing exclusionary and disrespectful behavior by their sworn colleagues. Personnel of all demographic characteristics were adamant that the Department's performance standards always should be upheld.

Perhaps the best way to approach the contradictory messages we heard about how LBFD personnel interact with each other is in the context of the Department's core values, which were described in the Overview of the LBFD section. When they were identified and defined by Department personnel in 2012 in an inclusive process that involved about half the employees, the core values truly were indicative of who people believed they were and what they stood for. Experience since then has shown, however, that these same values have become a double-edged sword: in some cases the values that most define LBFD personnel also can turn into their collective Achilles' heel. Both "sides" to those values can be seen now in the Department. Below we define each core value and provide one or two representative quotes from personnel that embody the contradictions we heard.



**Pride:** The LBFD honors the rich traditions that made us who we are today and that inspire us to continue to live up to the trust the community places in us as we provide the highest possible level of service every day, regardless of the magnitude of the situation.

"Regardless of how hard our job has become over the last few years, individuals still come into work and do a phenomenal job."

"In order to become more inclusive, equitable, and diverse, we need to examine the cancerous behavior of a handful of stations that believe they are the 'cream of the crop,' so to speak. There are crews that treat people in an awful way, certainly with little to no respect, let alone with 'inclusivity' in mind."

**Commitment:** The LBFD is dedicated to the success of every job, even those that entail more work than expected or result in unusual circumstances.

"We do finish every task. Do it well. Follow through. Even when someone is not looking. The problem lies that we're so committed to our jobs that we make it work. The city is out of units, so we scramble at the hospital and 'Fire, we can take that run.' We're so committed we are burning our candle at both ends. Fighting so hard to be good at our jobs and run every call that we have no fight or ability to be committed at home. Look into divorce rates even just this last year."

"I believe we are committed as a department to an extent that we self-sabotage by always doing whatever we can to get the job done. I believe this has made it where the city believes we need less resources to get the job done. Which is the opposite. I believe we are slowly destroying our people as a whole with the workload we put on the department."

**Respect:** The LBFD shows regard for, and consideration of, others.

"I do not care what you look like, If you can do the job and are willing to work hard, you've got my respect. Welcome."

"We are horrible at this. We take any shot we can to break someone down rather than build them up. Courtesy and kindness have been blinded by malice and disrespect. We should treat each other with dignity and courtesy, like any good team or team mate does but the department fails in this category."



**Trust:** The LBFD is an organization whose members rely on each other and can be relied on.

"The trust that we share among one another is not like any other profession. We are a family and we trust one another. We must be honest with one another to preserve that trust."

"We trust ONLY in each other these days at the floor level. The continual barrage of the current workday without the proper support our mental health will continue to fail and is a recipe for disaster. Pay attention to the needs of your people and their trust will grow exponentially."

**Teamwork:** The LBFD works together to achieve a common goal in the most efficient manner.

"Being part of a team is including those that are different in many aspects but we are all working toward the same goal."

"It is a boy's club and unless you are one of the boys, you really do not matter. The fire department is a brotherhood, but only for the sworn."

**Family:** The LBFD extends to the community the same empathy, care, compassion, and level of accountability as we do to each other.

"I work with an amazing crew that will do whatever it takes to get the task at hand done and they will do it under the crappiest of conditions. They will do it with short staffing, limited resources, and after multiples days at work. I know that being part of my crew (my family) is the best part of working for this department. We all have different ranks and come from different backgrounds, but we all have been through the same training as rookies and have earned the family we work for now."

"We are a dysfunctional family. It looks good from afar, but going to work is extremely toxic."



## Inclusion, Equity, and Diversity in the LBFD: Organizational Processes

To assess the extent to which the LBFD's organizational processes incorporate and are aligned with the concepts of inclusion, equity, and diversity, our team reviewed City and Department documents and public records as well as relied on the sources noted previously (i.e., interviews, organizational assessment, and survey). Sections marked with an asterisk (\*) are those addressed in the IAFC *Guide*.

#### Job Descriptions\*

The LBFD does not appear to have job descriptions. Instead, it relies on the City's job classifications and the job bulletins the City posts on its website when there are job openings. Below are the differences among these three types of documents and why distinguishing among them is important.

- Job classifications are very broad statements of job duties that apply to jobs across departments throughout the City. Typically, the positions that fall within a given classification vary greatly, both in terms of complexity and of function. For example, many job classifications include all levels of a given job, such as Clerk-Typist I-III, with only general information to distinguish one level from the others. An Assistant Administrative Analyst may conduct data analyses, assist in financial and budget management, manage events or programs, or work as a counselor or personnel analyst. While these documents are very useful for compensation purposes, they are too vague for departments to use for other important Human Resources (HR) purposes such as selection and performance evaluation. In addition, many of the City's job classifications we were able to uncover on the internet are out of date both in terms of their age and the tasks they list. For example, the job classification for Fire Captain is dated 1968. It requires a minimum of four years of experience as (among other positions) "a Long Beach Fire Man" or "Auto Man." The Firefighters job classification (dated 1983) says that employees in this job "perform first aid" even though EMT and paramedic services have been provided since the 1970s.
- Job bulletins typically are posted on the City's intranet or website when a
  department has gotten approval to fill a position. They are more specific than a job
  classification, and sometimes may be tailored to positions with unique tasks, such as
  the Clerk-Typist for Marine Safety. Although they may be used for HR purposes such
  as staffing and workload analyses, they do not contain the level of detail that
  typically is found in job descriptions.

• Job descriptions provide detailed information about the job in question, including physical or environmental considerations, the reporting relationships, and often the performance expectations. They are considered the foundation of every HR function.

Here are some of the equity-related issues that have been raised by LBFD staff due to the absence of clear job information and performance expectations:

- They cannot tell whether their perceptions/beliefs that they are, or have been, working out of class are accurate.
- It is difficult to hold people accountable for their performance when the expectations are vague, not communicated, and/or outdated.
- Without a baseline to determine how the City defines a given employee's position, an outside evaluation of those tasks compared to what the person may be doing in reality is likely to be inaccurate.
- Employees are unable to chart a career path for themselves or to prepare for future possible opportunities if they do not know what jobs are available and what qualifications they must have to be eligible to apply.
- The Department cannot accurately assess its needs for additional staff and/or for position upgrades because management does not know what every job entails.
- Some personnel report that while their bureau heads are very supportive verbally, some appear not to know what they do. As a result, they cannot tell whether what they are asking their staff to do is within their job classification. (The staff are not talking about small differences; rather, they are referring to major tasks or duties and/or those that they are assigned or "inherited" when another position is vacated and that never return to their rightful position.) Without access to accurate, complete, and up-to-date job information, they will be hard-pressed to remedy that situation should they choose to do so. While most civilian staff report that they like the work that they do and are more than willing to go above and beyond for their LBFD bosses, they feel they are being taken advantage of when additional tasks or responsibilities migrate to them and stay there.

The responses from officer-level personnel to the job description organizational selfassessment (n = 16) reflect beliefs that are at odds with the above perceptions and experiences. While the sample size is too small to make definitive statements, it is striking how differently the groups describe their perceptions of job descriptions. Here are some of the most relevant findings:

- 82% agree/strongly agree that there is a written job description for every job in the Department
- 50% agree/strongly agree that each job description is accurate, complete, and up to date
- 63% agree/strongly agree the LBFD relies on the information in the job descriptions when filling jobs internally
- 75% agree/strongly agree that LBFD personnel are evaluated based on the requirements stated in their job descriptions
- 63% agree/strongly agree that the criteria for all promotions are grounded in the job description for the target job

Despite repeated requests for the Department's job bulletins (in lieu of descriptions) from both the LBFD and the City, our team was unable to obtain a copy of those documents for every job. In some cases, we found them on the City's website, while in others, the job incumbents had copies of their own bulletins that they shared with us. The fact that the Administrative Bureau was unable to access those documents easily indicates that they also are difficult for employees to obtain.

#### **Promotional Processes and Filling Open Positions**

The LBFD fills open positions in two primary ways: through Civil Service-administered promotional processes or through less formal means. Although civilian staff work for the Department, the City HR, and Civil Service Departments handle their personnel-related matters. Thus, it is not always clear to us which entity is involved. It is possible that the staff do not know either: lack of transparency is one of their concerns.

Both civilian and sworn personnel perceive serious inequities in their respective promotional processes. Their concerns about specific behaviors and practices, if true, are in direct violation of Section 12 of the City's Civil Service Rules and Regulations, which states, "All Civil Service examinations and/or other employee selection procedures shall be administered fairly, objectively, and equitably pursuant to established Commission policy and procedures."



Some personnel have characterized the civilian promotional process as dysfunctional and as lacking transparency, which they view as inequitable. Unsuccessful candidates are especially resentful when they must train the people who were promoted into jobs for which they believe they are qualified. The fact that they are assigned to train a new person indicates to them that a supervisor or manager believes that they are qualified, or they would not have asked them to do the training. Individuals have commented that interview panels often lack diversity and/or are filled with people who are friends and exhibit favoritism.

Civilian staff also report a number of perceived inequities in the ways the LBFD fills open positions for which exams are not applicable or are bypassed. For example, some contend that either that open positions either are not posted, or they are not communicated widely or clearly within the Department. Employees state they find out about them either because there is a new person sitting at a desk or they notice there has been a change in the title in a colleague's signature block. One person reported being asked to apply for a position (which she did not get), while another time, she never heard about the opening for a position she did want. Here are some additional allegations:

- Temps brought in to fill vacancies sometimes are made full-time employees.
- Department employees sometimes are placed in jobs for which they are not qualified on a temporary basis so they can get the experience they need to apply for it and/or so they can bypass the test entirely.
- New positions sometimes are created for people; others do not have a chance to apply.

Many civilian staff perceive these personnel situations as particularly egregious when they believe they are qualified for the open position, are on the list for the classification, and would like to have been considered for it. Some non-White staff members feel excluded from the process of filling open positions and speculate that it may be due to their race or ethnicity. Although investigating such reports is beyond this study's scope, the fact that multiple staff members describe the same situation as an almost regular practice indicates the Department needs to take these statements seriously, examine its practices, and take steps to ensure they consistently adhere to Civil Service rules and regulations related to filling open positions.



Likewise, sworn personnel have raised concerns about problems with the promotional processes for Captains and Battalion Chiefs. Those cited most frequently include the lack of training or preparation for jobs that are very different than those people currently are doing, the absence of guidelines about what to study other than extensive reading lists, a lack of standardization in the testing process and/or in the assessment methods, and no information about raters' performance expectations. Candidates for promotion typically form study groups months in advance to prepare for the promotional exams. Some non-White personnel have reported feeling excluded from such opportunities and perceive that this puts them at a disadvantage. The writing test for both exams was criticized heavily as the reason why many otherwise well-qualified candidates fail to qualify for the list. Also cited were inconsistent rater expectations, both for internal and external raters. For example, an LBFD Deputy Chief may tell personnel to do things one way while an Assistant Chief tells them to do it another way. Those who choose the "wrong" advice during the test fail to pass. Because the LBFD often does things somewhat differently than other departments, concerns have been raised about external raters who evaluate candidates based on practices they are familiar with rather than those used by the Department. Again, in such instances, candidates' perceptions are that they fail through no fault of their own. These concerns are reported of sources of frustration and perceptions of inequity because they are outside candidates' control yet often end up being the decisive factors in the promotional process. Many cite the lack of standardization—of rater expectations, of advice people are given, of guidelines for what to study, of grading criteria—as an underlying issue that gives rise to their concerns.

Aside from the testing itself, personnel report concerns that the promotional processes lack a leadership component and fail to consider candidates' past performance or behaviors because performance evaluation results are included as one of the selection criteria. They cite as unfair some of the pre-requisites for taking one of the promotional exams, such as the requirement for an officer's certificate. They state that earning the certificate requires people to travel all over the state to attend the relevant classes, which cost thousands of dollars. Yet, they are not tested on what they learn during those classes, much of which they allege do not apply to the LBFD because it does some things differently than other departments. With respect to filling open Command Staff positions, personnel have raised questions about how individuals are selected, as there is no testing requirement or "list" at that level. They view that process as inequitable because decisions are perceived as being made (and in fact at times have been made) based on favoritism. Some see the current interview process for Command Staff as a waste of time when the outcomes seem to have been pre-determined. When personnel see that favoritism takes precedence over merit or stated criteria, they take notice. Even when the end result may have positive implications or outcomes, such as creating a diverse group of leaders like the current Command Staff, when personnel perceive favoritism at the very top of the Department, they view the selection process as being tainted. Thus, it is not surprising to find favoritism displayed and practiced in other parts of the organization: personnel pay attention to what their leaders do. Greater transparency at the top could help curb some of the favoritism that both sworn and civilian personnel report exists in staffing decisions made elsewhere in the Department.

#### **Training and Development**

There is universal agreement that the LBFD does an exceptional job of training Fire Recruits through the Recruit Academy and then as newly minted Firefighter/EMTs through their probationary year—and that is where it stops. Civilian staff report that they typically do not get training or development opportunities. As a result, they tend to transfer to other City departments that offer greater opportunities in terms of career paths (and often significantly reduced workloads and more money).

Our team identified four major recurring themes related to training and development: the lack of time for training, the lack of opportunities for professional development, the lack of training or development opportunities for civilian staff, and the negative impacts caused by the lack of standardization.



#### Little to no time for personnel to attend training.

Without a doubt, high call volumes make finding the time for training very difficult. Inadequate staffing also is a constraint, as taking an engine or truck company and/or a rescue out of service strains the Department's ability to provide coverage throughout the city. Captains are responsible for training their crews, and they have a special responsibility for training probationary Firefighters. Some report having to conduct training at night, although call volume then often is heavy as well. Personnel are at greater risk of injury when it is dark outside, and they may be fatigued by the time they are at least halfway into a 24-hour shift (or in the case of those who have mandatory hold overs, a 48-hour shift). Although Battalion Chiefs are responsible for conducting regular battalion-wide drills, one firefighter stated he could not remember the last time that had happened. Many of his colleagues agreed.

EMS educators have found it very challenging to conduct the training personnel need to learn what is new and to keep their EMT or paramedic licenses current. During the pandemic, they made greater use of video training to reduce travel time. Still, given current call volumes, many captains find it difficult to take the engine or truck or rescue out of service, even for a 45–60-minute training video. The Department's Medical Director or the Emergency Medical Education Coordinator make themselves available for questions during video training sessions. A big benefit for personnel undergoing such training is the expertise of the Department's part-time video producer, who films, edits, and produces the lessons. The professionalism and quality she adds to the videos make a huge difference, according to the LBFD Medical Director. The range of learning methods that the producer incorporates enables the facilitators to address the learning style preferences of most people, which aids greatly in learning and retaining the material.

Department records show the courses listed below from 2018–2020. Those designated Company Officer ("CO") are state-certified and require 4–5 consecutive days of attendance. Members can attend on their days off. Attendance while on duty requires Captain and Battalion Chief approval.

2018: Fire Inspection and Investigation (CO) All Risk Command Operations (CO) Wildland Incident Operations (CO) Low Angle Rope Rescue Operation River/Flood Water Rescue Rope Rescue Technician



Basic Air Operations Intermediate Wildland Behavior

- 2019: Fire Operations Low Angle Rope Rescue Operation Rope Rescue Technician Rescue System I & II Intermediate Wildland Behavior Trench Rescue Technician Technical Search Specialist
- 2020: Fire Inspection and Investigation (CO) Wildland Incident Operations (CO) Confined Space Rescue River and Water Rescue Rope Rescue Technician Rescue System I and II Trench Rescue Technician

#### Leadership and professional development for sworn personnel.

The second major training-related theme is the lack of leadership and professional development. Given the current significant experience gap in the Department, coupled with the large number of personnel who are expected to retire within the next one to three years, leadership development should be a very high priority. Yet it has not been for the last few years: as is typical in many organizations, training and especially development usually are the first programs to be cut during lean budget times and the last to be restored. This fall, however, the Department plans to revive its previous Officer Continuing Education Program (OCEP) and Chief Officer Continuing Education Program (COCEP) programs, whose purposes are to provide regular and recurring training for all active Captains and Battalion Chiefs and to develop standard operating procedures as well as shared behaviors and thought processes. Training topics are driven by the leader's intent, Command Staff's vision, and the Department's current needs. An OCEP/COCEP working group of four Captains and four Battalion Chiefs was created to identify and develop the training topics and curriculum, and then deliver the training to their peers.



Department records show a limited number of leadership and professional development opportunities offered in 2018–2020. The Company Officer courses (designated "CO" below) are state-certified and require 4–5 consecutive days. Members can attend on their days off. Attendance while on duty requires Captain and Battalion Chief authorization.

- 2018: Human Resource Management (CO) General Administrative Functions (CO) Instructor I – Instructional Mythology Regional Task Force Leader
- 2019: Certification and Examination Evaluation Course Human Resource Management (CO) General Administrative Functions (CO) Ethical Leadership Instructor I Regional Instructor Leadership Crew Boss Engine Boss

2020: Fire Service Writing Workshop

Although the time available for training remains a major challenge, the impending leadership vacuum at the LBFD makes these kinds of programs essential for the safety and health of personnel as well as the community they serve. The Department cannot afford not to develop its personnel.



#### Training or development opportunities for civilian personnel.

Civilian personnel have made it very clear that the lack of opportunities for training for their current or future jobs and professional development that could benefit them now and in the future hurts the Department's ability to attract and retain qualified staff. (Very high workloads and the resulting stress also reportedly are major factors in turnover and even hiring.) Frequently staff report that they received zero training for their jobs, so they had to do their best and hope they were doing the right things. Some staff reported that their requests for training were denied by their supervisors because of their workload and lack of coverage. Because many of the Department's jobs have no or limited opportunities for advancement and because staff report they are not allowed to attend training, even for topics relevant to their current jobs, they see the Department as a dead-end for them. An LBFD executive's interview comments support this point, stating that because there is no career path for civilians like there is for sworn staff, they (civilians) need to leave the Department and/or the City.

According to a Department executive, Administration does not coordinate training for its civilian staff, although it does pass along information it receives from the City's HR department about training opportunities. Training is reported to have included writing skills and a variety of supervisory skills courses. Past professional development opportunities have included attendance at conferences and seminars. Eligibility to attend is determined by employees' supervisors/managers. Mandatory safety training is assigned to all civilian personnel through Vector Solutions.



#### Recognition of the negative impacts caused by the lack of standardization.

According to most of its graduates, the LBFD's Recruit Academy is so effective in setting them up for success in their jobs because of the extent to which everything is standardized: assignments, curriculum, lectures, information disseminated, drills, tests, and improvement points. Although every LBFD firefighter goes through the same Academy and comes out having learned the desired way to do the various tasks, over time, that standardization wears off as people begin to do things a little differently. That inconsistency may begin during the probationary period if the station Captains responsible for training rookies have deviated from what they were taught at the Academy. A reduction in standardized procedures has a cascading effect of unintended negative consequences. For example, if there is more than one engine or truck company at a structure fire, crews may do things a little differently. Or someone who is working overtime with an unfamiliar crew does not know the way his colleagues do things. If they assume he does, the consequences may range from minor to major. Although the Recruit Academy's training is highly structured and standardized, there are concerns that probationary firefighters' training is all over the map, dependent on the station Captains' motivation to train and the extent to which standard procedures are followed (or not). One of the most common complaints occurs when unsuccessful candidates believe they failed a promotional exam because the officer who helped them or taught them does things differently than the exam raters expect. As a result, the failure rate can be unnecessarily and unfairly high, sometimes causing good candidates to shelve their higher-ranking aspirations and opt to stay where they are. Finally, holding people accountable for their performance is difficult when there are few, if any, meaningful, consistent evaluation standards. It also would represent an inequitable practice.

The Department is beginning to address its urgent need for structure and consistency in its training and operations. The previously mentioned working group of Captains and Battalion Chiefs is a good start. Although the OCEP and COCEP programs are created specifically for officers, some have suggested that because the content is operationally based, in an ideal world, the participating Captains would bring their entire crew so that everyone will learn how to do the same thing consistently. This will speed the standardization process as well as provide a better foundation for probationary firefighters.
The LBFD can demonstrate the positive impact of standardizing its training by pointing to its new Engineering Academy as well as to its Recruit Academy. Those who are involved with the Engineers Academy are clear that the reason the pass rate for the Engineer exam—which previously had been abysmally low—shot up after the first Academy and remained high after the second is that it was patterned on the standardization inherent in the Recruit Academy. The fact that more candidates are passing the Engineer exam—which arguably is the most difficult promotional exam—means that the Department is finally beginning to obtain the number of qualified personnel it needs to staff its apparatus without lowering its standards. Although the Academy costs approximately \$560,000 for 16 students and six instructors, the fact that Engineer candidates who attend the Academy have posted significantly higher pass rates than those who did not experience its benefits (e.g., 14/16 pass vs. 3/16), the Department likely saves money because it can reduce the number of promotional exams it takes to get a sufficient number of qualified Engineers. The community and personnel are safer as a result, and the City's financial liability risk is reduced.

It is likely that at least some of the few training classes available for civilian personnel could benefit from standardization. As one person noted, training often is based on what the last person did rather than on training materials. This is particularly problematic when the training is for a new software program.

#### **Policies and Procedures**

Policies are defined as authoritative declarations promoted by a person or body given the power to do so. They shape principle and law, as well as state and influence how and by whom actions should be performed.

As defined by the National Fire Protection Association (NFPA), procedures are "an organizational directive that establishes a course of action. Policies and procedures are an essential element of any successful fire department. However, policies and accompanying documents will not do any good if personnel do not follow them.

Policies and procedures should be used as guiding documents that set a path for the Department to define formally what it intends to do and how its personnel must carry out stated objectives. These high-level statements of intent can help reduce its risk of making errors or failing due to a lack of focus.



The LBFD has a variety of authored policies contained within five volumes: Fire Department Organization, Operations, Emergency Medical Services, Communications Center, and Marine Safety. In addition to Department-specific policies, the LBFD mirrors various policies set forth by the City of Long Beach's Human Resources Department.

The LBFD's procedures are developed, stored, and maintained within a third-party software program, Vector Solutions (formally Target Solutions). Through this platform, the Department develops and delivers Standard Operating Procedures (SOPs) to all Department personnel utilizing online, web-based access.

In addition to their online accessibility through the Department's intranet, its policies and procedures are kept in binders at each of the stations. Due to an increased workload within the Department, most policies are reviewed on an as-needed basis rather than annually. Similarly, updating the binders is a very low priority. Thus, personnel often do not have access to the most current information.

A review of the Department's online policies and procedures revealed that many documents need to be updated. For example, here are the dates of policies describing various ranks in Promotional Information (1.17.0.0): Battalion Chief 2/98, Captain 12/01, Engineer 4/02, and Fireboat Operator 2/98. It seems logical that some of their duties and/or responsibilities may have changed since the last review. Alternatively, it is possible that this policy has been updated on paper yet was not saved to the online repository that we reviewed. Either way, many policies and procedures are out of date.

Currently, there is one Battalion Chief in charge of general policies and procedures; it is not clear who handles other types. Based on interviews with a number of personnel, the following lists what Triton's team learned about the Department's policies and procedures:

- There is no clear process for updating the policies and procedures ("P&Ps"), although one recently has been established. Currently, there is no common format for the documents, although the new committee might create a template. (See the following.)
- There is no one "trigger" for initiating a policy review. Sometimes reviews are conducted or changes are made depending on Command Staff's priorities or Battalion Chiefs' requests.
- The Battalion Chiefs (BCs) responsible for specialty programs (e.g., HazMat, USAR) sometimes ask the Captains there to write or update policies because they are closer to the details of their respective programs than the BCs are.

**AP TRITON** 

- Every policy or procedure that affects firefighters' working conditions must be vetted by Local 372.
- The current practice for updating P&Ps is for the program BC to red-line the existing document and send it to the new P&P Reviewers Committee, whose members check the content, grammar, and accuracy. They also consider whether it is readable—i.e., whether the people who read it know what they are expected to do. In the event the update includes changes to working conditions and/or other areas covered by one or more of the existing labor agreements, it may be subject to the formal meet and confer process. If the results of meet and confer suggest changes to the document, it goes back to the committee, sometimes repeatedly. Once the labor unit agrees with the final document, the updated draft is returned to the BC, who reviews it before sending it to Command Staff for their review. Although someone needs to check to be sure the revised policy is aligned with existing ones, it is unclear who has that responsibility.
- Once approved, new or revised policies are dated, a memo is sent from headquarters to alert personnel to the change. Personnel must sign each revised or new policy electronically to confirm they have read it. Although there should be a follow-up process to ensure everyone signs the policy, it is not clear if one is in place.
- New P&Ps are written by people in various bureaus and divisions, such as EMS. It is unclear whether the EMS policies go through the same review process as described above.
- P&Ps are kept in multiple locations in both paper and electronic forms. For example, there are paper copies at all stations and the Captain David Rosa Regional Training Center. However, given how busy Department personnel are, updating the P&P binders is not a high priority. There is no central, definitive, reliable central location.
- P&Ps must be living documents people can rely on to make decisions and take action. For this reason, they need to be reviewed periodically, which is not being done at this time.



#### Valuing Each Other and the Community

The elements of inclusion, equity, and diversity come to the forefront when interactions among people are involved. Because valuing each other and the community may not be at the top of mind for many fire-rescue professionals, it deserves a bit of an introduction. The IAFC *Guide* describes this aspect of fire-rescue organizations as follows: "Firefighters often describe themselves as belonging to a fire 'family' or brotherhood and sisterhood. It is no secret that families become dysfunctional when their members fail to appreciate and support each other. Similarly, fire-rescue agencies and the communities they serve have an interdependent and potentially synergistic relationship. However, that potential can be achieved only when both parties recognize and value each other."<sup>11</sup>

#### Valuing Each Other

Family is one of the LBFD's core values. In 2012, Department members defined it as follows: "The LBFD extends the same empathy, care, and compassion to the community as we do to each other." For years, that sentiment has been evident in the ways that sworn personnel treat each other: they greet each other by name, hug each other, and catch up on the latest news about each other's non-work families when they meet. Candidates who aspire to be LBFD firefighters frequently cite "the family environment" during their job interviews as a big reason they want to come to this department. Nearly all the personnel our team interviewed cited the LBFD's family culture as a major reason they stay here; many said they could not imagine leaving here for another agency.

Then the pandemic entered the world, turning it upside down for most people, including LBFD personnel. In other sections of this report, we go into detail about the effects of those changes; here we will focus on the impact the last 18 months have had on the traditions of family and of valuing each other. During that time, the LBFD family has become dysfunctional in ways that have left it nearly unrecognizable to many. The enormous physical and emotional toll of that time period, which continues today, is driving those dysfunctions, as are evident in newly toxic work environments, disrespectful behaviors, and a divisiveness that has split the Department. According to a multitude of statements from both sworn and civilian staff in interviews and the Department-wide survey, while the pride and commitment that personnel have in serving their community has not changed, the "family" is broken.

<sup>&</sup>lt;sup>11</sup> IAFC Guide, p. 64.



The fact is, the "family" that LBFD personnel aspire to create never truly existed. As is the case with many fire departments around the U.S., there is a disconnect between civilian and sworn staff; only the degree of separation may be different. Civilian staff at the LBFD report feeling like second-class citizens, being looked down upon by sworn staff, and not being valued. Certainly, they do not experience the "empathy, care, and compassion" that firefighters demonstrate to one another. The last 18 months have caused this disconnect to look and feel more like a chasm than a gap. No doubt, COVID-19-related fears and anxiety, the level of stress that accompanies extremely high workloads, and distress over the deterioration of family and personal relationships have played a big role in the situation today. Yet, the divide always has been there. Most of the civilian staff who spoke with us had become resigned to the second-class way in which they are treated. Some spoke of their excitement at "winning the lottery" by landing a job at the LBFD, only to find that they were excluded from its "family." Others are resentful of the fact that sworn personnel do not know or acknowledge the fact that many of them are highly trained and educated in their respective specialty areas, and that even though they did not attend the Department's strict 16-week Recruit Academy, they too have earned their credentials and the right to be in their jobs. As one person said, "I wish they knew they could trust us even though we do not have a badge." (Though some inspectors do have a badge, they are civilian employees.) Some are sad that firefighters do not realize that the work they do supports them so they can do their work, knowing that their paychecks will be issued, benefits will be provided, expenses during deployments will be reimbursed, and many other "behind the scenes" actions will be taken care of by people who are proud to be the ones supporting their firefighters. Some staff in Fire Prevention wish that sworn personnel would recognize that their work protects not only the community but them as well. Functions such as code enforcement and plan checking can reduce the number of structure fires and decrease the number or hazards in a workplace and/or mitigate their effects. This level of disconnect was a theme that came through loud and clear in our interviews as well as in the Department-wide survey. Here is a representative statement from the survey:



"There should not be any difference between field staff and sworn. We are all the public face of this department even if internally the non-blue shirts are made to feel less than. Do you realize that we had to work for our uniform too? Many of us worked very hard in school and in experience to 'get to be part of the LBFD' only to find out that we can buy LBFD shirts but shouldn't wear them, can provide training to sworn personnel but cannot participate in many activities that the department encourage us to train for but then do not let us do. Why get us trained in special events and then say, 'You're not sworn' or 'You're not an EMT?' By and large, we know where we stand and that is a culture issue with LBFD."

Other members of the LBFD "family" who feel like stepchildren are Marine Safety personnel. Although previously not a part of the Department, the Division now operates under the Operations Bureau. There is a not-always-healthy competition between the "firemen" and the "watermen." Although some of the skills required by their respective professions overlap, many seem to see themselves as more dissimilar than similar. Marine Safety personnel are just as proud of their skill sets as fire personnel are of theirs. The two groups share the same goal of protecting lives, property, and the environment; they just do it in very different ways. While there are several ways in which firefighters and Marine Safety personnel work together as a team, such as when there are major medical emergencies on the beach, where the Department's heavy apparatus cannot travel, and when they collaborate on in-city water rescues as the swift water rescue team. However, because the locations of those collaborative activities are at or around the beach and City waterways, only a small percentage of firefighters are likely to interact with their Marine Safety colleagues.

LBFD personnel will have to decide whether its "family" be reconciled.



#### Valuing the Community

LBFD members believe they have a great relationship with the community. Personnel often cite the diversity of the people they serve as an attractive aspect of their jobs, they attend community events, often cooking hot dogs for the attendees, and consistently have given back to the City and its residents through long-standing and on-going programs such as the Spark of Love, the Rockett Academy, and Junior Lifeguards. Fire Prevention personnel report that they try to form collaborative relationships with the business owners whose structures they inspect, seeing their roles as educational and supportive rather than as punitive or adversarial. Lifeguards have the most opportunities to interact directly with the public on a regular basis, and they are great ambassadors for the Department and the City.

By their actions, their words, and their stories, LBFD personnel throughout the Department demonstrate that they are proud to serve their community. Again, there are some shadows of that relationship. Though usually not called out by name, compassion fatigue has been reported widely by floor personnel. It refers to the physical and mental impact of helping others. Unlike burnout, which is the result of cumulative experiences, compassion fatigue can be the result of one or more specific experiences and may be brought on by excessive workloads, a lack of resources, or a toxic work environment. Over the last few years, the prevalence of compassion fatigue among LBFD personnel seems to have increased as the City's homeless population and call volumes have grown. The Department reports that over 60% of all structure fires now are connected to homelessness, while an increasingly large percentage of responses are for calls reporting a "man down" or "man sleeping in a blanket." Firefighter/EMTs or paramedics are required to go, even though most of the time, the subjects of the calls are sleeping and become angry when awakened by responders checking on their welfare. When incidents like these occur throughout the day and night, and especially when the calls are about or from the same people, firefighters, who are human, report they are finding it harder and harder to live up to their core value of treating people with empathy and compassion.



A Firefighter/Paramedic, someone whose role is to provide advanced life support for patients with critical needs, was more than a little annoyed recently when after being mandatoried for a consecutive 24-hour shift he found himself "holding the wall" at a hospital for five hours (i.e., waiting with the patient until the hospital is ready and able to admit the person). He had responded to a call for a person who was drunk and had to transport the individual to the hospital because no BLS ambulance was available. Since people who are intoxicated are very low on hospitals' priority lists, he and his partner ended up standing around for hours in the middle of the night, unable to respond to other calls or perhaps be able to relax for a few minutes before the next call.

#### Discipline

The Department and the City appear to have different perspectives when it comes to employee discipline. That is not surprising, given that our team was unable to find evidence that either entity has clearly identified and aligned policies about this process for civilian and sworn personnel. However, both the Civil Service Department and the various MOUs have detailed processes for employees who appeal a disciplinary decision that results in suspension or termination. The LBFD has a written "Complaint and Investigation Process" and flow chart. However, it seems to apply only to sworn personnel, and the fact that examples at the initial complaint stage cite serious allegations, such as criminal behavior, indicates that the process is not meant to address lesser transgressions. Given that multiple personnel have reported instances of favoritism that resulted in inconsistent or no disciplinary actions for lesser infractions such as making biased or discriminatory comments, the Department would be well advised to establish some clear guidelines or policies to create and implement clear, equitable, and consistent accountability mechanisms.

Assuming the purpose of discipline is to change behaviors rather than impose punishment, an effective disciplinary policy would focus on whether rules or policies were broken, not on the outcome of a given infraction (also known as the "no harm, no foul" mentality). An outcome-focused process makes the normalization of deviance possible, which could have safety implications for Department personnel and the community. Supervisory personnel who lack the skills necessary to be the "boss" rather than the friend when it comes to disciplinary issues could have difficulty in holding others accountable for their errant behaviors. The City has published a "Guide to Discipline" that does a very good and thorough job of explaining every aspect and step of its desired disciplinary process, including providing templates of sample letters and checklists of major steps for easy reference. The document's stated intention is to provide a "general framework to assist in the administration of disciplinary and constructive action programs."<sup>12</sup> However, it is not clear to what extent LBFD supervisors and managers access and use this document, or even whether they know about it and/or are required to follow its guidelines. During a phone conversation, the City's HR staff said that all departments generally follow progressive discipline steps; there is no matrix of discipline, and decisions are made on a case-by-case basis. When asked about City officials' comments during their March 2021 interview in which they expressed frustration that the LBFD tends to act on its own and is perceived to be inconsistent in its decision-making, one staff member responded that sometimes the City will recommend a level of discipline and the Fire Chief will decide to do something different. However, he was quick to point out that all of the City's department directors are the ultimate decision-makers, and it is common for them to make disciplinary decisions that are inconsistent with the City's recommendations. It does seem ironic that City staff expressed frustration that the LBFD handles disciplinary matters on a case-by-case basis, given their own statements that other City departments do the same thing, and that all department heads have the discretion to make the final decisions, even when they are at odd with what City management would prefer.

#### Compensation

Our team did not conduct a compensation study for two reasons: (1) such a study is very time-consuming and expensive, and was not part of the proposal, and (2) the salaries of all LBFD employees are governed by a variety of MOUs. Those documents reflect agreements between the City and the respective unions, and any changes must be negotiated between the parties.

There are three compensation-related issues that are sources of perceived inequity by many LBFD civilian staff that the Department should address.

<sup>&</sup>lt;sup>12</sup> City of Long Beach. The Guide to Discipline, p. 3.



- Working out of class. Although employees understand that they are obligated to ٠ work out of class up to 25% of the time when requested, they have little to no understanding of how that 25% is calculated or for how long a period they must do such work. In response to a request for clarification on this issue, City HR staff referred us to City Civil Service Rules and Regulations, section 62, which indicates that employees' duties in their current classification must be performed "at least 75% of the time during a 30-day period." While this language seems to indicate that "the time" refers to the hours in a regularly scheduled work week (vs. overtime hours), it does not specify that fact. Section 62 does provide alternative remedies for staff who are working more than 25% of the time performing duties outside of their class. These include having the employees stop performing those duties, creating a new classification that includes the extra duties, or assigning affected employees permanently to another class. This information should be conveyed to employees so they can determine whether the perceived inequitable treatment is the result of a misunderstanding or if they have a legitimate concern. Either way, the Department should address this issue to correct any misinformation and/or to make changes that result in employees' equitable treatment.
- Differential pay. Closely associated with working out of class, the issue of differential
  pay is another source of confusion and perceived inequity. While staff believe they
  should be compensated for working out of class more than the required 25% of
  time, they do not know how to request it. When asked, City HR staff responded that
  the various MOUs describe differential pay. However, the two MOUs that do address
  that issue (LBAEE and IAM) speak only to employees who are required to perform
  "the full range of duties in a vacant, higher classification" position. They are silent as
  to the questions raised by LBFD staff. The perceived inequity is likely to persist until the
  Department communicates a clear explanation to its staff.

Desk audits. There seems to be a great deal of conflicting information surrounding desk audits by supervisors as well as employees, such as who is allowed to submit a request, whether a supervisor can bar such submission on the grounds that "it is not necessary," and where the form goes after it is signed by management. In addition, failing to receive a response to the submission of the required P-30 form or of being told simply that the request was denied strikes people as inequitable. When asked about this issue, City HR staff responded that since 2017 they have received about 24 P-30s, 11 of which came from one department, and none of which were submitted by the Fire Department. They described their (HR's) turnaround time as "not really long," and stated that their decisions are communicated via memo to the department head and the Administrative Officer. This situation indicates a bottleneck at some point in the process that the Department should address.

#### LBFD Workforce Initiatives Findings

- The LBFD's leadership roles at the beginning of the COVID-19 pandemic and again as vaccinations became available were critical factors in the City's success in addressing the pandemic.
- There has been a significant deterioration in the physical and mental well-being of firefighters in the last two years.
- The Department has many opportunities for improvement in terms of creating and maintaining a welcoming environment and in treating people fairly and respectfully.
- Personnel reported widely divergent experiences with respect to how others treat them; only some were perceived as being related to demographic characteristics.
- The Department's core values have become a double-edged sword: those that most defined them have also become their Achilles' heel.
- Personnel reported serious equity-related concerns in a number of areas, including job descriptions, training and development, promotional processes, and the disciplinary process.
- There is an exceptionally wide and dysfunctional divide between sworn and civilian staff. A similar yet perhaps more covert divide reportedly exists between firefighters and Marine Safety personnel.



## SAFETY, PHYSICAL HEALTH, & MENTAL WELL-BEING

## Safety

The LBFD's Safety Orders policy (1.4.25.0), dated 1992, requires the Department to have a standing safety committee and publish regular safety bulletins. There is no one individual designated as a safety officer; instead, the committee, as a whole, reports to the Fire Chief. We were unable to obtain updated information about the current status of the Department's safety initiatives. In addition, because we did not receive key safety-related data in time to include it in this study, we cannot report on any trends in that area.

We can say that some personnel have raised concerns about safety at the Department's headquarters building. They point to locked doors that frequently are left ajar and the fact that the Department does not conduct safety drills (e.g., how to evacuate the building safely in an emergency) as reasons for their concerns.

The safety of both Department personnel and the Long Beach community and visitors is threatened when emergency responders are overworked, experiencing severe stress, and sleep deprivation. Everyone has seen fire and rescue apparatus race by, lights and sirens on, rushing to help people in immediate need. When the personnel who drive those vehicles have been up for 24 or 48 (or more) hours because they were "mandatoried" (i.e., forced to work one or more additional shifts) and the call volume is so high they were unable to get any rest, the odds that they will suffer some or all of the effects of sleep deprivation, such as decreased reaction time, impaired judgment, and reduced short- and long-term memory. When partners in a rescue unit, for example, actively need to keep others awake, the patient they are working on and transporting does not get their full attention. Engineers, those who drive the fire engines and trucks and are charged with getting their crews to and from scenes safely, also have been subject to mandatory additional shifts. According to data provided by the LBFD, here are the number of mandatory 24-hour shifts worked by Engineers from 2018–2021:

2018: 1,328
2019: 825
2020: 911
2021: 1,427 (not a complete year)



Advance notice ranges from a few hours to 21 days, depending on whether the open positions are the result of last-minute problems such as illness, injury, or the need to quarantine or of planned events or activities. Engineers who are mandatoried sometimes find themselves working back-to-back 24-hour shifts.

A document from December 27, 2007, labeled "Injury and Illness Prevention Program," provides written procedures for implementing the Citywide Safety Program. Provision 8.6.2 of the document's Correction of Safety Concerns section states that "Supervisors shall ensure that known safety deficiencies are appropriately addressed using the Hazard Correction Work Order Matrix on page 13." Because sleep deprivation is known to cause such deficiencies, presumably, this matrix is relevant. Considering the probability of mishap (5 = occurs any time) and the seriousness of the consequences of the deficiency (3 = serious: cause injury or equipment damage; 4 = imminent: death, severe injury, or major damage), sleep deprivation falls into the red zone for work orders. The period for correcting is "immediate (ASAP)."

### **Physical Health**

The physical toll of a firefighter's job on their bodies is significant, often resulting in injuries, chronic pain, wear and tear on their knees, back, and shoulders. Many emotional issues, such as burnout, compassion fatigue, post-traumatic stress injury (PTSI), insomnia, anxiety, and depression, cause medical issues. Stress is a major cause of physical injuries and adverse health conditions such as high blood pressure, weight gain, and heart attacks.

The LBFD has an ongoing wellness program operated primarily through Santa Ana College that is open to all personnel. Its purpose is to help mitigate some of the health issues that characterize the firefighter profession by educating people about physical and mental health, encouraging them to follow good health practices, and track their overall health over time. The program also includes annual physical exams and fitness assessments for employees. Members of Local 372 who participate in the program receive a monthly monetary incentive. Those who achieve program-related goals receive an additional monthly incentive. Achievement benchmarks are agreed upon through a meet and confer process between the City and Local 372.



The wellness program is coordinated by a full-time LBFD station Captain, which means that the time he can spend on the program is limited. He reports that although the program has been in existence a long time, a monetary incentive negotiated for Local 372 members increased enrollment. Three lectures are offered each year through a two-credit course at Santa Ana College. Recent topics include compassion fatigue/burnout, caffeine, and a dead weight lifting workshop. A blood test assesses 15–20 elements. The fitness test involves stretching, strength, endurance, body composition assessments, and resting and stress EKGs. The test results are compiled into a 15–20 page report for each participant. The Captain's goals for the wellness program are to enable easy access to useful healthrelated resources and 100% utilization. Payroll data from 2018–2020 indicate the following numbers of personnel who received participation pay and who also received achievement pay:

2018:	259 participation pay	158 both payments
2019:	260 participation pay	159 both payments
2020:	241 participation pay	164 both payments

Because he is new to the wellness coordinator role, the Captain could not speculate on what effect, if any, the pandemic has had on participation rates.

Although the LBFD was unable to obtain data from the City related to the number and type of injuries caused by workloads or stress or sworn and civilian staff, it was able to provide data on the number and cost of workers' compensation claims from 2018–2020. The number of cases represents new claims for each calendar year as well as claims from retired personnel. The costs reflect the amounts reserved for the claims, not what has been paid.

2018:	\$3,485,405	110 cases
2019:	\$3,056,134	80 cases
2020:	\$4,069,309	184 cases



### **Mental Well-Being**

When a licensed clinician whose specialty is working with firefighters expresses more than a little concern about the mental well-being of the Department's firefighters, everyone must sit up and take notice. This is particularly true of firefighters, who take their job-imposed obligation to place the needs of total strangers above their own so seriously that they have jeopardized their own physical and mental wellness.

There is a very good reason why flight attendants tell airline passengers to put on their own oxygen masks during an emergency before trying to help others: if they become part of the problem by passing out due to lack of oxygen, they cannot be part of the solution. Similarly, LBFD personnel who do not address their own safety, health, and well-being potentially will endanger themselves. If/when that happens, they also put their colleagues, the Department, community members, and the City at risk.

Based on what she has observed among her clients, a clinician who specializes in working with first responders described LBFD firefighters as not doing well. She provided a litany of issues that have exacerbated the "usual" daily traumas that first responders in general experience and accumulate over time—e.g., gunshot and stabbing victims, people who have had heart attacks or died by suicide, children with serious medical conditions or injuries—and have accelerated the deterioration of their physical and mental health.

The pandemic has been very trying for Firefighters. Many contracted COVID-19, they are frustrated about having to put themselves and their families at risk to continue to work, then being subjected to frequent mandatories, scolded for occasionally running afoul of the ever-changing status of mask mandate and told they must continue to "do more with less." They do not know who to trust about information related to the virus and vaccinations. There are strong feelings on both sides that are testing once-strong work and home relationships, and they believe that City leaders do not care about their physical and mental well-being.



Families are among the most important support groups first responders can have. Yet firefighters who suffer from job-related emotional and/or mental disorders are likely to bring a lot of "baggage" from the job home with them. The excessive amount of time away from their families in the past 18 months due to realities such as working back-to-back 24-hour shifts, contracting COVID-19 and/or having to guarantine after being in contact with someone who had COVID-19, and deployment for two weeks at a time to fight wildfires have caused them to miss even more of their children's events and bedtimes than usual. Family life and relationships have become strained, and firefighters often become unable to communicate because of cognitive fatigue. They cannot support their spouses or partners, whose lives also have been disrupted by the pandemic. Acting grumpy or irritable and/or having a short fuse triggers negative interactions. Family members learn to walk on eggshells because they do not know how to handle such behaviors. With the degree of understaffing and increasing call volumes in the Department, there is no time for firefighters to decompress and to bond with their families and friends. The divorce rate among LBFD firefighters reportedly has "skyrocketed" recently. Co-workers experience these outcomes also. People rub each other the wrong way. Of great concern are reports that crews in the stations which describe themselves as "family" are treating each other poorly, such as "taking each other out at the knees." Those who engage in or experience that type of behavior lose that critical source of support. All of these outcomes are common across ranks and positions; no one is immune. The only variables are the degree of severity of the outcomes and individuals' willingness to take their own physical and mental well-being seriously.

According to a clinical psychologist who specializes in treating first responders and whose clients include LBFD personnel, indicators of mental health issues may include increased irritability, lying around on days off, isolating from one's partners and families, generally withdrawing from life, eating too much, distracting themselves through pornography, video games, or shopping, excessive speed in driving, drinking, and taking drugs. For obvious privacy and professional ethics reasons, we did not ask her to identify the behaviors her LBFD clients have shared with her, nor would she have shared that information.



Largely because of the stigma still attached to mental illness and seeking help for physical or mental issues, many firefighters suppress the day-to-day traumas that accumulate over a 30-year career. If those issues are not dealt with through healthy coping mechanisms, they could evolve into PTSI. Clinicians report that firefighters tend to reach out to them only when things get really, really bad. These are good reasons for the LBFD to develop a culture of wellness in which asking for help is seen as an act of courage and selflessness rather than as a weakness. Teaching firefighters that it is okay not to be able to fix their own problems requires a major mindset change for professionals who pride themselves on their problem-solving expertise. Yet allowing themselves to ask for help breeds strength and enables others to seek the help they need as well.

It really does take a village to address behavioral and mental well-being issues. Here is what is in it for the Department and the City to do so: increased ability to save lives and protect property and the environment; long, productive careers as people remain healthy; reduced liability for the City; avoidance of high attorney fees and payouts from lawsuits; fewer complaints; and a high level of customer service and patient care.

The last question asked in our team's Department-wide survey was this: "What is the one action or change that you believe could increase the levels of inclusion, equity, and/or diversity in the Department, your bureau/division, and/or your work unit, even if it seems like it is impossible or cannot be done right now?" The theme that was expressed most frequently was the need for the Department to address the mental health of its workforce by providing more mental health resources, hiring more people, and taking action to decrease mandatory overtime that creates high levels of stress. Here are some representative comments:

 "We respond to critical scenes and work in unstable environments requiring quick analysis, interpretations, determining a solution and execution. When the mind and body are stressed, the ability to make sound decisions is compromised. God forbid myself or anybody else makes a decision that jeopardizes the safety and well-being of my fellow brothers and sisters. I believe there is a direct correlation between a healthy mind and body and good customer service. When we are stressed, we are more prone to injuries and illnesses."



• "Give proper support to the mental health of your people. They are cracking far worse than you want to accept and an antiquated team of amazing people put in place to help them. Give them the financial support that allows for the training and resources so others will not have to wait 30 years before they finally seek help or worse. You are ignoring a 'ticking time bomb' in your people."

The International City/County Management Association (ICMA), which describes itself on its website as "the leading organization of local government professionals dedicated to creating and sustaining thriving communities throughout the world" has this to say about mental health: "A healthy local government organization needs leadership and a work environment that promotes and protects the health, safety, and well-being of employees in the workplace."<sup>13,14</sup>

During the City Council's August 17, 2021, discussion of the LBFD's FY 2022 budget, Chief Espino announced that his number one priority for the coming fiscal year is Department personnel's safety, physical health, and mental well-being.

#### Safety, Physical Health, & Mental Well-being Findings

- A number of safety issues related to sleep deprivation have been identified, especially in the Firefighter/Paramedic and Engineer ranks.
- The City's "Injury and Illness Prevention Program" requires supervisors to ensure known safety deficiencies are addressed appropriately in a timely manner.
- To help offset the physical toll their jobs take on firefighters' bodies, the Department offers to pay Local 372 members to participate in a wellness program and to earn additional funds by achieving designated wellness goals.
- For each year from 2018–2020, the Department reserved between \$3 million and \$4 million for payment of workers' compensation claims by civilian and sworn staff and retirees.
- The events of the last two years—e.g., COVID-19, mask and vaccine mandates, increased political divisiveness—have had serious negative consequences on personnel's mental health that exacerbate the levels of trauma they regularly experience on the job.

<sup>&</sup>lt;sup>14</sup> www.icam.org/topics/mental-health.



<sup>&</sup>lt;sup>13</sup> www.icma.org, International City/County Management Association.

- Many personnel have described themselves and others as being at or near their physical and mental limits, with no relief in sight.
- A recurring theme is a widespread perception that City leaders do not care about LBFD's personnel physical and mental well-being.
- The factors listed above have taken a toll on relationships that firefighters traditionally rely heavily on for support: family members and colleagues at work.



# LONG BEACH FIRE DEPARTMENT STAFFING

#### Overview

The Long Beach Fire Department has the typical hierarchical configuration of many metropolitan fire departments, with the Chief at the top of the management "pyramid" and four bureaus and their respective divisions below. The bureaus and their areas of responsibility are as follows:

- Operations Bureau consists of fire suppression, Emergency Medical Services, and Marine Safety.
- Fire Prevention Bureau consists of life safety and code enforcement, Harbor Section, fire investigations, and community services.
- Support Services Bureau consists of training, information technology, EMS Education and Oversight, grants, fleet management, and diversity recruitment and partnerships.
- Administration Bureau consists of financial management, personnel services, employee safety, purchasing, and warehouse.

### **LBFD Staffing Vulnerabilities**

The color-coded organization charts that follow depict the staffing vulnerabilities of the LBFD on both the Department (first chart) and the Bureau levels (subsequent charts). (Note: these charts address staffing/people issues only. Vulnerabilities associated with functions that represent single points of failure are addressed later in this report.) The criterion we used to create these charts was each employee's earliest retirement date. Although this is an imperfect indicator because LBFD personnel often stay beyond the date at which they are eligible to leave, it does show the time frames within which individuals could choose to walk out the door, taking their institutional knowledge and years of experience with them.



The information in these charts should provide some direction for the Department's succession planning process. The current environment also should be factored into all staffing analyses. For example, labor agreements are coming up for negotiation in 2021 at a time when City management is projecting major budget deficits for the coming years and promising significant cuts to the Department's budget. Many personnel, both civilian and sworn, report that they have experienced excessive stress due to existing overwhelming workloads and call volumes. During interviews with LBFD personnel, several expressed the concern that City leaders continue to insist that the Department "do more with less." And that this message has been conveyed in the past by the City's budgetrelated decisions that resulted in the permanent loss of engine and truck companies (e.g., Engine 101, Truck 14) and the years-long loss of some engine companies (e.g., Engine 17) at the same time that call volumes continued to increase. Since Engine 17 was restored with one-time dollars, its continued use has been on the table each budget cycle since it has not been able to be added to the ongoing structural budget, making it difficult for the Department to make long-term plans for providing equitable coverage throughout the community. Currently, the City is significantly increasing population and building density downtown at the same time that City management has promised significant cuts to the Department's budget in the coming fiscal year and beyond despite the fact that LBFD leaders acknowledge that its current resources are inadequate to handle large emergencies such as the high rise fires that Long Beach has experienced in the past.

The divisiveness that has split the U.S. has found its way into many of the stations, resulting in toxic work environments that are not good for members' physical and mental well-being. Broken relationships and reliance on drugs and alcohol to ease the results of daily traumas exacerbated by insufficient staffing and apparatus to serve the community equitably, the continued COVID-19-related uncertainties, and strongly held beliefs for and against mandatory vaccinations increase the likelihood that personnel will leave when they can.

Aside from the number of personnel in key and leadership positions who are eligible to retire in the short-term, the other key story the charts tell is how "young" LBFD firefighters are in terms of their fire ground experience and their time in leadership positions. It is highly likely that many of them will have to be promoted to leadership positions in the next few years before they are able to do so capably.

Each small block in the charts represents a single employee.

The following colors indicate the time frames in which individuals become eligible to retire based on information provided by staff:

- Red = within the coming 12 months (as of July 2021)
- Yellow = 1 to 3 years
- Green = 3+ to 5 years
- Blue = 5+ to 10 years
- White = 10+ years

#### Figure 63: Staffing Vulnerabilities all Departments





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## **AP TRITON**









As noted, the information in these charts should provide some direction for the Department's succession planning process. During the planning process, it will be important to consider that in January 2013, the California Public Employees' Pension Reform Act (PEPRA) changed the way CalPERS retirement and health benefits are applied and placed compensation limits on members. As a result, many of the employees hired post-PEPRA will need to remain longer to receive the maximum retirement benefits.<sup>15</sup>

<sup>&</sup>lt;sup>15</sup> https://www.calpers.ca.gov/page/about/laws-legislation-regulations/public-employees-pension-reform-act.



### **Firefighter Selection Process**

The firefighter selection process consists of six distinct phases: pre-recruitment, recruitment, application and testing, evaluation and selection, Fire Academy, and probation. The figures on the following pages show the purpose of each phase, its inclusion, equity, and diversity aspects, and potential obstacles to success. Additional details about the selection process may be found following the figures.

#### Figure 69: LBFD Firefighter Selection Process



Purpose: to raise individuals' awareness of the job opportunities with the LBFD and the community's awareness of the Department and the services it provides.

Purpose: to attract a diverse pool of qualified applicants who aspire to become

Purpose: to accept applications from prospective fire recruit candidates and conduct initial assessments of their qualifications.

#### **Evaluation and Selection Phase**

Purposes: to conduct more in-depth assessments of the qualifications of candidates who have met or exceeded the initial criteria for the job of fire recruit and select those who will be invited to attend the Fire Academy.

Purpose: to train the fire recruits to be Long Beach firefighter/EMTs.

Purpose: to continue training the new Long Beach firefighters on the job under

# **AP TRITON**

#### Figure 70: LBFD Firefighter Pre-Recruitment Phase





**Purpose**: to raise individuals' awareness of the job opportunities with the LBFD and the community's awareness of the Department and the services it provides.

#### Inclusion / Equity / Diversity Aspects

- Cast a wide net
- "Pipeline" programs like LB Junior Lifeguards result in more diversity
- Many opportunities to interact with diverse LBFD personnel
- Wide exposure of LBFD to communities citywide
- Many programs teach important life skills to young people

- Language barriers
- Inadequate funding
- One-time funding of long-term initiatives
- Unrealistic expectations that diversity-enhancing programs produce immediate results
- High call volumes limit the availability of LBFD personnel to teach courses and/or staff events



#### Figure 71: LBFD Firefighter Recruitment Phase



**Purpose**: to attract a diverse pool of qualified applicants who aspire to become Long Beach firefighters.

#### Inclusion / Equity / Diversity Aspects

- Reach out to underrepresented groups
- Equitable opportunities for prospective applicants to learn about the LBFD
- Encourage participants in prerecruitment activities to apply
- Provide information and feedback so prospective applicants know what to expect

- Inability to reach some groups
- Limited funding for materials and outreach
- Ineffective recruitment marketing plan
- Overlook potential target audiences
- Ineffective communication outlets
- Lack of responsiveness to questions from potential applicants



#### Figure 72: LBFD Firefighter Application and Testing Phase

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# **Application and Testing Phase**



**Purpose**: to accept applications from prospective fire recruit candidates and conduct initial assessments of their qualifications.

#### Inclusion / Equity / Diversity Aspects

- Everyone takes the same test at an independent testing center
- The Civil Service Department has the option of lowering the test's cut score by one point if it increases the pool of qualified and diverse applicants
- Physical agility test scores are reported by a unique number assigned to each applicant, not by name or demographic characteristics

- Many applicants fail the human relations section of the qualifying test
- Equally good applicants who don't test well may end up in the B band and not be considered
- Physical agility test results may include some demographic characteristics



#### Figure 73: LBFD Firefighter Evaluation and Selection Phase

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# Evaluation and Selection Phase 僅當

**Purpose**: to conduct more in-depth assessments of the qualifications of candidates who have met or exceeded the initial criteria for the job of fire recruit and select those who will be invited to attend the Fire Academy.

#### Inclusion / Equity / Diversity Aspects

- Candidates have the same opportunity to present their credentials
- Standardized interview questions ensure equitable treatment of all candidates
- Job-related criteria for evaluating resumes ensure all candidates are evaluated on the same bases

- Resume disqualification criteria that are not job-related
- Inadequate and/or inconsistent training of interviewers
- Nepotism or favoritism of candidates who are friends of LBFD personnel or of elected or appointed officials
- Ineffective process for evaluating conflicting interview evaluations
- Vague or inconsistent criteria for selecting "most qualified" candidates
- Possible rater error



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#### Figure 74: Fire Academy Phase





Purpose: to train the fire recruits to be Long Beach firefighter/EMTs.

#### Inclusion / Equity / Diversity Aspects

- Everything is standardized: training, practices, tests, access to trainers, the number of "performance points" for various mis-cues
- Videotaped hands-on tests ensure equitable and consistent treatment and evaluations
- Trainers' job is to help all recruits be successful in meeting or exceeding the performance standards
- Recruits have multiple opportunities to succeed when they stumble

#### Potential Obstacles to Success

- Outside pressure to pass recruits who fail all opportunities for retests and/or who accumulate excessive "performance points"
- Outside pressure to lower the Department's performance standards by prioritizing demographic characteristics over ability and performance

## **AP TRITON**

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#### Figure 75: Probationary Phase





**Purpose**: to continue training the new Long Beach firefighters on the job under close supervision.

#### Inclusion / Equity / Diversity Aspects

- Standardized probationary performance criteria ensure equity
- Firefighters' primary interest: the rookies' ability to perform and willingness to work hard
- Firefighters have a personal stake in the success of all rookies regardless of what they look like: these are the people who will have their backs on the fire ground

#### Potential Obstacles to Success

- A toxic workplace e.g., hazing, bullying, discrimination, favoritism
- Captains who are lax about training their rookies
- High call volume may reduce time available for training
- Rater error or bias in rookies' performance evaluations
- Rookies may be reluctant to ask questions or raise concerns

The following sections provide additional information that includes ways the LBFD has stepped up its efforts to recruit quality applicants from groups that traditionally have been underrepresented in the Department (and in the fire-rescue service in general).

#### **Pre-Recruitment**

Timeline: The pre-recruitment phase is ongoing, with various activities throughout the year. Most programs are targeted at teenagers, so it will be several years before the Department begins to see a return on its pre-recruitment phase investments.

Sample programs designed to increase the Department's diversity:

- Fire Pathways: a fire science program at Jordan High School started in 2019 and taught by LBFD firefighters. Its purpose is to introduce young people to the Department, teach them some basic skills, and prepare them for a possible career in the fire service. The intention is to have the program serve as a pipeline for LBFD fire recruits.
- LBFD Girls Fire Camp: provides information and hands-on opportunities to encourage teenagers to consider a career at the LBFD. Forty teenagers ages 14 to 18 participated in the first class in 2019.
- Long Beach Junior Lifeguards: this program has been a pipeline for young people in the community who aspire to a career at the LBFD or another department.
   Participants now come from every Council district in the city, making the program much more diverse than it was previously.

#### Recruitment

Timeline: The timeline begins when the City Council allocates funding for a Fire Recruit Academy and ends the date of the application deadline, usually a period of several months.

Sample programs or activities designed to increase the Department's diversity:

- Prospective Recruit Exercise Program (PREP): a free exercise program offered twice on Saturdays during the recruitment months that allows potential applicants to learn what the fire service is about and to experience and prepare for the physical demands of recruit training. Activities simulate or replicate tasks performed on the fireground.
- Practice physical agility tests (PAT): an optional opportunity for prospective candidates to prepare themselves for the Department's PAT. The practice test mimics the real test, including the proctors who provide feedback and advice to participants. During the 2021 recruit season, when the Department started tracking the impact of holding the practice sessions, it found that those who took the PAT after attending the practice session almost always improved their scores, some of them significantly (i.e., by more than two minutes).



#### **Application and Testing**

Timeline: The timeline begins when the application period closes and ends when candidates have been selected to move forward to the evaluation and selection phase, typically a period of several weeks.

Required tests:

- National Testing Network (NTN) Fire Team Exam consists of four video-based assessments designed specifically for the firefighter job: reading, math, mechanical aptitude, and human relations. The test is administered by the NTN at its offices around the country; the scores of LBFD applicants are sent directly to the Long Beach Civil Service Department along with the NTN's recommended cut score. Based on that score, the Director creates two lists for the LBFD: those in the "A" band and those in the "B" band. Everyone on both lists has passed the test, although the scores of those in the A band were higher than those in the B band. Department personnel do not see the scores, so they have no way of knowing how much (or little) difference there is in the two sets of scores. According to Civil Service protocol, the Department must contact everyone on the A band list before it can move to those on the B band list.
- Physical agility test (PAT) assesses candidates' physical fitness by having them complete a series of tasks regularly performed by firefighters within a designated time frame while wearing turnout gear, safety equipment, helmet, breathing apparatus (empty), and gloves. Those who do not complete the test within the stated time are disqualified from the selection process. Test results are reported by a unique number assigned to each participant on test day; neither applicant names nor demographic characteristics are associated with the results at that point.

Other relevant information:

 Some concerns have been raised about the NTN exam because many applicants, including experienced firefighters from other departments seeking to make a lateral career move, have failed the human relations section. The LBFD and City Civil Service Department are investigating this situation and will make a change if necessary.


There have been rumors that the Department increases the PAT cutoff time so more women will "pass" the test. Training Center staff who oversee the selection process report that the same standard applies to everyone. However, given the Department's desire to increase the number of female firefighters, it is likely that all women who pass the test will move on to the next phase. Data from the 2014A to 2019A recruit processes indicate that a very small number of women were invited to the interview: 3, 4, 5, 7, and 9. Not everyone who completes the PAT before its designated cut-off time is invited to the captain/community interview process; other selection criteria are considered.

#### **Evaluation and Selection**

Timeline: The timeline begins when candidates successfully pass the testing phase and ends when successful candidates receive a conditional offer of employment that is contingent on passing a thorough background investigation and job-related physical and psychological exams.

#### Assessments:

- Resume and/or online survey of qualifications.
- Captain/community interview is comprised of one LBFD captain and one community member. The Captains have undergone implicit bias training, while the community members are provided with an orientation. Both people ask standardized interview questions, write their evaluations independently of one another, then typically compare their ratings, which do not have to agree. Evaluation forms are returned to on-site LBFD Support Services staff who are managing the interview process.
- Chiefs' interview is comprised of two chief officers, typically a Deputy Chief and a Battalion Chief.

#### **Fire Academy**

Timeline: The timeline begins when candidates receive and accept an invitation to become Long Beach Fire Recruits and ends when successful candidates graduate from the Academy and are sworn in as Long Beach Firefighter/EMTs. The Academy lasts 16–18 weeks; Recruits attend classes four days a week for ten hours a day.



#### Curriculum:

- EMS training days 1–12
- Operations-related training days 13-70

#### Assessments:

- Periodic written quizzes
- Hands-on performance tests

All content, tests, activities, and processes are standardized; every Recruit has the same opportunity to succeed. The process repeats itself throughout the program with the various content: teach, practice, show how, test. Recruits who fail a test are given two more opportunities to take it. They either can choose to repeat a failed test immediately, or they can opt to get feedback from the Training Cadre and/or try to improve on their own before their next attempt. After two failures, recruits receive detailed feedback and are told exactly what they must do to pass. Those who fail a test three times are dropped from the Academy. Once Recruits pass a skills test, they are held accountable for their competency in it for the remainder of the Academy through a "performance points" system. If they fail to execute a procedure correctly, for example, they receive a predetermined number of performance points. Recruits who accumulate 110 points are dropped from the Academy. However, there are multiple check-in points well before anyone gets to that point during which the Training Captains sit down with the Recruits to discuss what the issues have been and provide feedback about how they can do better going forward. All hands-on tests are videotaped. If there are any questions about a Recruit's performance on a given test, the Training Cadre reviews the video and either confirms or changes the evaluation.

# Probation

Timeline: The timeline begins when Recruits graduate and are sworn in as Long Beach Firefighter/EMTs and ends after they successfully pass their 2,912-hour probationary period, about one year.



Assessments: Probationary Firefighters are under a constant microscope as they begin to use the skills they learned at the Academy and acquire new ones. They spend six months at a station with an engine company and six months at one with a truck company so they can learn about these two very different kinds of apparatus. When not out on calls, they can be found undergoing additional training and drills, studying, and/or seeking advice and information from more senior Firefighters. Their Captains evaluate their performance every shift.

The following figures note the number of positions of LBFD's uniformed and administrative support staffing, operational staffing, and non-uniformed administrative and support staffing from 2017 through 2021.

Position	2017	2018	2019	2020	2021
Fire Chief/Administrator/Director	1	1	1	1	1
Deputy Chiefs	3	3	3	3	3
Assistant Chiefs	2	3	3	3	3
Division Chiefs	0	0	0	0	0
Administrative Battalion Chiefs*	5	4	4	4	4
Administrative Captains*	8	8	8	8	8
Administrative Lieutenants*	0	0	0	0	0
Fire Inspectors	8	8	8	8	7
Plan Reviewers (note if combined position)	0	0	0	0	0
Public Educators	1	1	1	1	1
PIO (note if combined position)	0	0	0	0	0
Fire Investigators (note if combined position)	2	2	2	2	3
Investigators on-shift assigned to Operations	0	0	0	0	0
Total:	30	30	30	30	30

#### Figure 76: LBFD Uniformed & Administrative Support Staffing



Position	2017	2018	2019	2020	2021
Assistant Chiefs (operations only)	1	1	1	1	0
Deputy Chiefs (operations only)	1	1	1	1	0
Battalion Chiefs	9	9	9	9	9
Captains	75	75	75	75	75
Lieutenants	0	0	0	0	0
Engineers/Apparatus Operators	84	84	84	84	84
Firefighter/Paramedics	92	92	94	94	90
Firefighters/EMTs	102	102	108	108	108
EMS Single Role EMR	0	0	0	0	0
EMS Single Role EMT	26	26	26	26	26
EMS Single Role Paramedic	0	0	0	0	0
Others: Fire Boat Pilots	6	6	6	6	6
Total:	396	396	404	404	398

# Figure 77: LBFD Operational Staffing

#### Figure 78: Non-Uniformed Administrative & Support Staffing

Position	2017	2018	2019	2020	2021
Management Analyst	5	5	5	6	7
Information Technology Technician	0	0	0	0	0
Executive Assistant	1	1	1	1	1
Administrative Assistant	15	15	15	15	14
Office Manager	0	0	0	0	0
Board Secretary	0	0	0	0	0
Billing Specialist/Assistant	1	1	1	1	1
Others: Storekeeper	1	1	2	2	2
Others: Stock and Receiving Clerk	1	1	1	1	1
Others: Payroll/Personnel Assistant	2	2	2	2	2
Total:	26	26	27	28	28

# **Staffing Structure and Vulnerabilities Analysis**

Every organization has single points of failure—i.e., functions that, if not staffed or staffed adequately, will cause it to fail or will have significant negative impacts on its ability to operate. Smart leaders identify those points and take proactive steps to address them.

The assessment of the Department's single points of failure focuses on the *functions* for which each job is responsible, NOT on the people performing those jobs or functions. (Staffing vulnerabilities, which address the number of people available to fill jobs, are the subject of an earlier set of charts.)

To identify the single points of failure throughout the Department, the Fire Chief and Command Staff assessed the functions performed by the various jobs in their respective areas and categorized them using the criteria listed below. The question they were asked to answer was this: "If this *function* is not staffed, could the *Department* continue to protect lives, property, and the environment?" The key point: the function cannot be delegated to someone else; it simply ceases to operate or be performed.

- Critical (red): If this function is not staffed, the Department would be unable to achieve its mission of protecting lives, property, and the environment. This is a very high standard that characterizes very few functions.
  - Example: Payroll is a critical function because if people do not get paid they stop going to work, and the Department cannot operate.
- Very important (yellow): If this function is not staffed, the Department could achieve its mission but it would be very ugly. Typically many functions fall into this category.
  - Example: While the functions performed by the Fire Chief are very important, in their absence, the Department still could (and would) achieve its mission.
    However, it would be like an orchestra without a conductor: capable of great things yet unable to realize its potential without overall direction and coordination. Important elements such as trust and relationships with key partners, the community, and City leaders would be lost or damaged severely, to the detriment of public safety and service delivery.



- Important (green): If this function is not staffed, the Department could achieve its mission but the quality and/or number of services would be greatly diminished.
  - Example: While the functions performed by clerk/typists are important, in their absence, the Department still could (and would) achieve its mission. However, the ability of the organization to operate effectively and efficiently would be lost. When invoices do not get paid, correspondence is ignored, purchase orders are not completed, memos go unwritten, and a myriad of tasks that the Department relies on to operate smoothly goes unperformed, there are serious consequences that affect the quality of its service delivery.

Note: There are no categories below "important." If a given function is not at least important, why would an organization support it?

Once the functions throughout the Department designated as representing single points of failure have been assessed and categorized, as seen in the following figures, leaders must find ways to ensure the failures do not occur and mitigate them when they do. The challenges that arose in the LBFD payroll function last year when one long-time staff member transferred to another City department and the remaining person was new and not trained was a wake-up call for the Department. Unfortunately, that situation has yet to be addressed appropriately. It should be noted that the two staff members are Payroll/*Personnel* Assistants, meaning they are responsible for much more than just ensuring that employees are paid every two weeks. In addition, we were told by multiple individuals that these two personnel regularly recruited volunteers from other areas, including firefighters on light duty, to help them with data entry every pay period. That hardly seems like an effective or sustainable model, especially for a critical function.

When asked about threats to the LBFD, the Department's Administration Manager cited the fact that there are multiple single points of failure in functions performed by civilian personnel that need to be addressed. The examples he provided were that only one person pays all the Department's bills and that only two Payroll/Personnel staff are responsible for personnel-related matters as well as for payroll. As noted earlier, requests have been made for a Clerk-Typist position as well as a temporary person to support the payroll function. The Bureau is studying the need for an additional full-time staff member.

In the following figures, the first image depicts the functions by category for the entire Department. As is evident, there are single points of failure throughout the organization. Subsequent charts represent each bureau individually.



# Figure 79: LBFD Vulnerabilities: All Departments

















# Figure 84: LBFD Vulnerability—Operations (Primary Functions & Major Programs)

BATTALIO	DN CHIEF	CAPTAIN		
Manage all-risk incidents	Manage Telestaff program (staffing)	Oversee fleet	Incident command (all-risk	
Maintain adequate staffing	Coordinate with MS operations	Supervise station personnel	incidents)	
Coordinate airport operations	Coordinate with Port operations	Oversee station and apparatus	Serve as PM coordinator	
Manage Training Center	Manage airport program	maintenance and repair	Maintain adequate staffing	
Manage fireboat program	Manage communications program	Staff Training Center	Conduct arson investigation	
Manage HazMat program	Manage low-level discipline	Communicate BC's information	Develop personnel	
Manage USAR program	Communicate AC Ops information &	Conduct fire inspections	Develop personner	
Manage swift water rescue program	intent to station captains	Serve as PIO	Evaluate probationary employees (all ranks)	
Manage Tac Medic program	Manage Incident Management Team program	Manage diversity recruitment	Manage special events	
Report significant events to Command Staff & city officials	Serve as advisor for chief officer continuing education			
Manage Regional Training Group	Review and update policies and	ENGINEER		
Manage wildland operations	procedures	Assist other personnel obtain	Transport crews saety to/fro	
Manage diversity, equity, and	Evaluate probationary positions	equipment from apparatus	incident scenes	
inclusion programs	Coordinate district drills	Operate aerial ladder on trucks	Perform pump operations or	
Ensure P&P consistency	Conduct facility inspections		engines	
		All-risk incidents response	EMT	
	FIREFIGHTER	FIREBOAT PILOT	AMBULANCE OPERATO	
All-risk incidents EMT response Arson Paramedic Eire Inspection	SPECIAL OPERATIONS - Hazardous Materials Search & R Airport Operations Swift Water	escue Fire suppression on water	Transport patients EMT	





# **Succession Management**

The LBFD Fire Chief states that succession planning is a very high priority for him. He meets regularly with all Battalion Chiefs to discuss their career plans, and he asks them to identify personnel at any rank who they believe would make good leaders and/or who appear interested in promotional opportunities. He encourages them to suggest to personnel that they consider the possibility of promotion themselves, and to ask the Department's Captains to do the same with their crews or teams.

Although those efforts are admirable, an effective succession management process requires much more structure and a variety of elements. A formal written plan identifies key elements necessary for success, assigns responsibility, provides accountability mechanisms, and specifies measures of progress and achievement. It identifies critical jobs and functions and ensures there are enough people trained to step in when necessary so that the Department does not stumble. Unlike most sworn personnel, civilian staff can transfer easily to another City department without having to start all over again there. Often they leave because they can get promotions or higher pay not available at the LBFD. An LBFD executive verified this point during an interview, saying that civilian staff have been leaving the Department due to workload, stress, and lack of career paths. Often they take lateral positions to address these issues. The Department reported that staff who left for other City departments from 2018-2020 include two Administrative Analysts, one Storekeeper, one Payroll/Personnel Assistant, and one Secretary.

A formal succession process can address many issues related to real and perceived inequities among Department staff that have arisen in the absence of a written and wellcommunicated plan. For example, civilian and sworn personnel both report favoritism in filling open positions or in promotional processes. It is an open secret that desirable committee assignments or opportunities and promotions are far more likely to go to personnel from "apex" stations (3, 10,11) than those from other stations. One person reported the ability to predict who would pass any given Battalion Chief exam simply by looking at the list of candidates. Although it is true that a plausible alternative explanation could be that this "ability" arises from the fact that candidates for this position are well known and highly respected, this individual's discussion centered on the extent to which promotions are based on favoritism rather than on performance. Other personnel stated that a Command Staff member is willing to speak only to certain people who seek advice about an upcoming promotional opportunity and to ignore others' requests.



Another benefit of a formal succession process is that it tends to foster standardization in key areas such as training and development, policies and procedures, performance evaluations, and promotional processes. One of the primary issues raised by both civilian and sworn personnel is that a lack of standardization in training often trips them up during promotional exams because the Captains and/or Battalion Chiefs they learn from often do things differently. Depending on who grades the exams and the basis for their ratings, some candidates do not pass. That is a tough pill to swallow for employees who believe they otherwise have done all the "right" things to pass. The experience(s) often discourages them from further attempts to promote. This outcome is particularly problematic given the impending staffing needs at virtually all ranks above Firefighter.

One other major benefit to implementing an effective succession management process is that it addresses civilian positions that too often are overlooked by leaders. The fact is that there are critical or very important functions performed by staff whose jobs appear in the middle or at the bottom of a typical hierarchical organization chart. In addition, good employees have transferred to other City departments because they do not see any career paths for them in the Department. Others report dissatisfaction with their inability to attend training or professional development programs that would help them in their current or future jobs. A succession management process could help the Department retain valued employees by addressing those and any similar issues.

# **Recruitment Diversity Strategy**

In 2019, the LBFD developed and presented a strategic recruitment diversity plan with an accompanying implementation plan to the City Council. The plan's purpose was to increase the diversity of the Department by focusing on the point of entry to the selection process: recruitment. The plan addresses five strategic categories: selection process, staffing needs, communication strategies, data collection, and recruitment programs. Because firefighters typically have a 30-year career, it necessarily will take some time for the demographic make-up of the Department to change, and for results from the initiatives addressed in this strategy to manifest themselves. However, the fact that a significant number of LBFD personnel are at or very close to retirement age and could leave in the near future may provide an opportunity for the change to occur somewhat sooner. The strategy outlined in this document is designed to increase the Department's diversity in ways that will ensure continued high levels of professionalism and service.



In an April 8, 2021, memo to City leaders, Chief Espino listed the progress made in implementing the strategic diversity plan during the past two years, despite major COVID-19-caused disruptions and challenges. Without going into detail here, suffice it to say that the Department had completed 12 of the 14 objectives it had identified and was on track to complete the remaining two during 2021.

Here are some additional observations and suggestions:

- The strategic plan is sound, with short-, medium-, and long-term objectives that are very likely to enable the Department to increase the diversity in its ranks over time, IF it has the resources to do so. Conducting research before writing the plan about what strategies and tactics are effective for other fire departments and then selecting those most likely to work in Long Beach was an effective way to begin this project.
- Providing an accompanying implementation plan most likely is the key to the Department's success to date. Strategies of all kinds tend to be forgotten once they are written because people do not know how or where (or sometimes why) to begin. Specifying time frames for each step is a great accountability mechanism. Another is to identify (a) an advocate or "champion" for the overall plan who has the ability to ensure the necessary actions are taken and (b) a specific individual by name, not by anonymous rank or position—who has responsibility for each step. Periodically communicating the progress to the Department and the City would keep people in the loop and keep the diversity goal out front.
- Delivering implicit bias training to Department members is a great first step in increasing situational awareness of how the LBFD can become more inclusive, equitable, and diverse. Our understanding is that cultural competency training is under development and should be rolled out later this year. Several personnel have commented that while the implicit bias training (a UCLA program available virtually) is a good start, the fact that it is generic makes its application less useful than if it were tailored to the Department or even the fire service in general. Cultural competency is the ability to develop relationships, communicate, and work effectively with people from different groups. Such Department-tailored training could reduce mistakes due to miscommunication, inaccurate perceptions, conflict, and not understanding how to meet others' needs.



- A major obstacle to further inclusion, equity, and diversity (I/E/D) training raised by many LBFD personnel is the lack of time to attend training, even if offered virtually. Service demands are high, and civilian staff workloads very heavy. Plans to increase downtown's density has the potential to increase demands for service impacting unit hour utilization and available time for training.
- The strategic plan's data collection objectives, especially tracking engagement (4.1) and validating the selection process (4.2) are vital to the Department's ability to demonstrate the progress it is making toward achieving the designated I/E/D goals, to show results eventually (this type of change represents a long-term process), and to make adjustments when it becomes apparent that a program, initiative, or practice is not achieving its intended purpose.

The recruitment programs identified in the recruitment diversity strategic plan represent a good mix of short- and long-term tactics. Over time, the long-term tactics, such as the Jordan High School Fire Pathways Program, will begin to pay off in the form of a consistent pipeline of qualified applicants for the LBFD. The challenge is to keep these programs going given the lack of structural funding and increasing call volumes that will allow less time for LBFD staff to teach or participate in the various programs.

# **LBFD Staffing Findings**

- Results of a staffing vulnerabilities exercise showed clearly a large gap between very experienced and much less experienced personnel that suggests where the Department might focus its succession management efforts.
- An analysis of the Department's firefighter selection process in light of the dual goals of maintaining high performance standards and attracting candidates of diverse backgrounds shows what the organization is doing well and where it might improve.
- The fact that key elements of the Department's diversity strategy are grant funded and might not survive the promised near- and long-term significant budget cuts represents a potential obstacle to the organization's ability to achieve its diversity goals.
- The level of transparency provided by an in-depth explanation o the Department's firefighter selection process should address some of the equity concerns that have persisted due to the opaqueness of many elements of the process.



- There is a general consensus that while the Department does an excellent job of training its recruits during their Academy and probationary period, that's when opportunities for additional professional development and, to a lesser extent, some non-mandatory operations training are few and far between.
- A functional vulnerabilities exercise revealed a number of functions that represent single points of failure throughout the Department that should be addressed. Many of them are functions staffed by civilian personnel.
- The Department's succession management process could become significantly more effective if it were formalized and connected many of the elements that already are in place.
- The Department's diversity strategic plan provides a solid structure within which to make decisions that will enable it to achieve its desired outcomes.



# LBFD'S EXTERNAL CONSTRAINTS

This section identifies and describes several important external constraints under which LBFD personnel operate, over which the Department has no control, and that have a significant negative impact on their ability to provide the service levels the community and City management expect.

# **Homelessness**

Long Beach's homeless population requires the LBFD to direct an increasing percentage of its resources—personnel, apparatus, equipment, and time—to incidents involving people in that demographic group. The sections that follow specifically apply to the impact of homelessness-related responses.

According to existing medical protocols, the LBFD is required to respond to "person down" or "person in a blanket" calls that come in through the City's 9-1-1 or non-emergency numbers. Some callers genuinely are concerned about the physical or mental well-being of the individuals they encounter, while others simply want someone to get one or more people who appear to be homeless to move to a different location. Dispatchers direct those calls to the LBFD, sending an engine and/or an ambulance or rescue unit to investigate. More often than not, the subjects of the calls are merely sleeping and do not take kindly to Firefighter/EMTs or Firefighter/Paramedics waking them up. For example, Firefighters report that "person down" calls occur regularly every weekday between 7 and 9 a.m. as residents going to work see people sleeping in or very close to the street and are concerned about their safety.

# Impacts on Service Delivery

#### Longer Response Times

When fire engines and/or ambulances or rescue units and their personnel are responding to homelessness-related responses calls, they are not available for other incidents, such as structure fires, traffic accidents, or medical emergencies. This results in longer response times because the apparatus and personnel from another service area must travel a longer distance. To the extent that multiple units are responding to these "person down" calls throughout the city, the Department's ability to meet its response times shrinks accordingly. Given that structure fires double in size every minute and that people who suffer cardiac arrests have about an 11-minute survival "window," extended delays could have tragic consequences.



The Department's emergency medical resources (personnel and apparatus) frequently are tied up for extended periods of time, often hours, at local hospitals. When responding Firefighter/EMTs or Firefighter/PMs determine that an individual has a medical condition that needs more treatment than they can provide, or if they are unable to make that determination (such as when a person is intoxicated or otherwise impaired), they are required by state law to transport the individual to a hospital emergency room. It is very common for the responders to "hold the wall" at the receiving hospitals (i.e., wait with the patient until the hospital has a bed to admit the individual) for several hours, especially when emergency rooms are very busy with people whose medical needs take precedence. Conducting the research necessary to do the research required to conduct a study about the impacts of these wait times is beyond the scope of this project. The LBFD Medical Director noted in an interview that there are cities that are pilot testing technology alternatives that would mitigate the need to transport people unnecessarily to hospitals. However, those technologies likely are expensive and as new programs, there are not enough data to determine their effectiveness.

#### Ambulances are Not Available for Medical Emergencies

Ambulances and rescue units whose personnel are "holding the wall" are not available to respond to medical emergencies. Currently, there are three BLS ambulances available 24 hours a day, two BLS ambulances available during the day, and nine ALS units. Once all the ambulances have been dispatched, the rescue units must begin transporting patients and are unavailable, sometimes for hours, to respond to residents who need advanced emergency medical care.

# Fire-Type Incidents Increase

Outdoor fires have skyrocketed in Long Beach. These include brush, grass, dumpster, trash, and tree fires as well as responses triggered by calls about illegal burning and exterior fires. The map below shows the locations of outdoor fires by freeways and rivers between January 2018 and August 15, 2021. Such fires occur within 500 feet of the 710, 405, and 605 freeways as well as along the Los Angeles River, the San Gabriel River, and Coyote Creek. These locations largely or entirely coincide with Long Beach's homeless encampments, which have been documented by the Department's now-disbanded HEART (Homeless Education and Response Team) unit. Figure 87 depicts the number of outdoor fires by freeways and rivers and the percentage of such calls compared to the number of outdoor fires at other locations.





#### Figure 86: Outdoor Fires by Freeway and Rivers (1/2018–8/2021)

# **AP TRITON**



Figure 87: Percentage of Outdoor Fires by Freeway and Rivers (1/2018-8/2021)

Outdoor fires, especially those close to freeways and in the riverbeds, generally trigger a large response because such incidents represent potentially serious threats to people and property. Many of these locations are relatively inaccessible, which increases response times and enables greater damage to occur unchecked. Getting sufficient water resources to those scenes poses a huge challenge, as there are no fire hydrants to which fire engines can connect. Although each engine is equipped with a 500-gallon tank, that seldom is sufficient to put out the fires, even when there are several engines on scene. As a result, additional engines are required to "shuttle water." That is, once they give their water to the initial attack engines, they then must drive to a fire hydrant, fill up, and drive back. These situations significantly reduce the Department's ability to respond to fire and medical calls in the rest of the city.

#### **Dangers to Firefighters Increase**

Outdoor fires pose significant dangers to firefighters as well as people in nearby residences and businesses and those traveling on the affected freeways. As the number of homeless encampments has grown since 2018, so have the possibilities that firefighters and others will be affected by a variety of dangers presented by such fires. For example, in addition to the challenges posed by the need to get people, water, and equipment to difficult-toaccess areas, firefighters have no idea what potential obstacles or hazards might be present or whether there are people who might need to be rescued. In the absence of such information, they are forced to conduct searches in which they put themselves in danger. Aside from the fire threat to area structures and the people who live there is the possibility of toxic smoke or particulates released into the air. Traffic delays are a nearcertainty at freeway fire locations.

Structure fires in vacant properties that likely are caused by people living there illegally and perhaps tapping into surrounding residential or commercial sources of electricity or other utilities have risen dramatically. LBFD Arson investigators estimate that over 60% of all structure fires in Long Beach now are caused by or related to people experiencing homelessness. However, they are unable to say definitively whether that is the case because the Department lacks a sufficient number of Arson personnel to conduct the necessary thorough investigations. In addition, because the Department only recently began tracking this category of fires, the 60% estimate is based on the extensive expertise of LBFD firefighters and arson investigations. Other fire departments in the Los Angeles area, including the Los Angeles County Fire Department, report similar experiences.



#### Homes and Business Risks Increase

Nearby homes and businesses are at risk from structure fires. Based on the data in Figure 130 above that indicate the number of fires related to homeless encampments in Long Beach have increased since 2018, it is reasonable to conclude that the risks to nearby homes and businesses also have increased. Quantifying that information would require researching a variety of objective and subjective factors that contribute to the level of risk. When firefighters arrive at the scene of a fire, their job is two-fold: to protect the lives and property of the building's occupants and of those in adjacent structures. Fire engines, trucks, and ambulances that respond to these structure fires are not available for other calls, leaving the rest of the city vulnerable. For example, a recent outdoor fire south of the 405 and east of the 710 freeways (Council district 7) that burned three acres required 26 units to respond, which is the equivalent of a third alarm structure fire. Units were on-scene for up to five hours from initial attack to mop-up, which meant they were unavailable for other calls in other parts of the city for a significant period of time. All southbound lanes on the 405 except for the HOV lane were shut down, as were the nearby off-ramps. In addition, 9-1-1 dispatchers fielded multiple calls throughout the following day, as large fires such as that one may smolder for multiple days.



#### **Special Operations Incidents Increase**

Homeless encampments in and along the San Gabriel River, the Los Angeles River, and Coyote Creek are vulnerable to flash flooding from October through March every year. The LBFD Swift Water Rescue (SWR) team is deployed when rainfall of more than one-half an inch over a 12-hour period or over 1 inch during a 24-hour period is forecast. The team consists of three trucks equipped with inflatable rescue boats and staffed with two Marine Safety personnel or one Marine Safety Captain or Officer and one Firefighter. Every Marine Safety Rescue Boat Operator, Officer, and Captain is required to be certified in swift water deployment. Working in 12-hour shifts, six-person teams remain on duty 24/7 until the river levels drop. SW units 1 and 3 patrol the riverbeds while SW 2 remains at Marine Safety headquarters so it can respond quickly when and where needed. The teams actively seek out homeless encampments as well as individuals and smaller groups to warn them of the imminent flooding danger and urge them to seek higher ground. When the flooding occurs, the dry riverbeds become raging torrents very quickly. While some people heed the warnings, others do not. As a result, the SWR team makes a lot of rescues. River rescues are complex and dangerous, requiring the presence and coordination of all three SW units and personnel as well as multiple LBFD fire engines and crews. Resources are positioned upstream as spotters, downstream for safety in case the rescue attempt fails, and at the anticipated rescue site. The SWR teams often deploy their inflatable rescue boats. The LBFD SWR team is one of only a few teams that attempts rescues through direct person-toperson contact. It frequently is called upon to provide mutual aid to L.A. County's SWR team given that rescue attempts may span multiple fire department jurisdictions. In return, L.A. County's team responds to the LBFD's team for such assistance.



The Marine Safety Division records show that the SWR team was activated 15 times in 2018, 11 times in 2019, and 16 times in 2020. Records prior to 2019 were not digitized, so we reviewed log sheets from 2019 and 2020. Because deployments are triggered by rainfall amounts, they generally occur in the early and late months of the year. Multiple deployments very close in time are not unusual. For example, in 2019 the team was deployed 11/27-11/28 (Thanksgiving Day), 12/03-12/04, 12/22-12/23, and 12/25-12/26 (Christmas). Similarly, the SWR team was deployed four times in March 2020 and twice in April. In addition to carrying water rescue equipment, each of the three SWR units (trucks) is stocked with dive and fire equipment as well as BLS-level medical equipment and an AED (automated external defibrillator). If the team had a job description, in addition to patrolling the City's river beds and adjacent bike paths to advise people of imminent danger from flooding, it probably would say "Other duties as assigned." SWR logs show the team assisting other City agencies (e.g., clearing drains with Public Works), alerting other agencies to situations or incidents in their jurisdiction (e.g., LBPD for abandoned vehicle, LBFD HEART for person with mental health issue), and tending to a sick or injured dolphin on the beach.

# **Overtime and Personnel Workloads Increase**

In-city water deployments stretch the Marine Safety Division really thin because they are very labor-intensive. Having six personnel work 12-hour shifts, usually over multiple days, means that staff must be asked to work overtime. This means the trucks and staff are not available to perform their regular duties, such as staffing the City's special events held nearly every weekend in or near the beach or waterways. Similarly, the LBFD engines and personnel are unavailable to take other calls. When there is more than one call for a water rescue, which has happened, the team must call the Los Angeles County Fire Department to respond. That department often calls on the LBFD SWR team for mutual aid as well.



# Population Density Throughout the City

Another of today's realities is that there is a shortage of affordable housing in California, including in Long Beach. In an effort to meet the demand, and to generate additional streams of revenue in the form of sales tax (commercial properties) and property taxes (commercial and residential properties), Long Beach created a long-term economic development plan that calls for a significant increase in its current density, especially in the downtown area. SB 9, which was signed into law by the governor in mid-September, enables and encourages significantly greater density throughout the city.

# Impact on Service Delivery

#### **Population Density and Fire Prevention**

In an effort to increase fire safety and accountability in California cities in the wake of Oakland's 2016 "Ghost Ship" fire, the State required fire departments to provide annual reports that document the completion rates of previously mandatory inspections at all schools, hotels, motels, lodging houses, apartment buildings, and certain dwellings. The LBFD currently is unable to complete the volume of inspections for these structures due to the lack of civilian staffing, the increase in call volume that provides little time for firefighters to conduct those inspections, and the paper inspection forms the City requires inspectors to use. In a report to the City Council dated August 24, 2021, the Fire Chief acknowledged that the Department is struggling to comply with the inspection mandates, and he presented a plan to address the deficiencies. It is unknown whether the plan is meant to address the significant increase in density throughout the city.

When buildings are not inspected regularly to ensure they remain compliant with relevant codes, the safety of residents and/or occupants is at risk. In addition, the City would face serious financial liability should there be a fire or other emergency that results in injury or destruction of property at a building that should have been inspected.



#### **Population Density and Fire Suppression**

Although new buildings are required to use fire-retardant materials and install devices such as sprinklers and smoke alarms to mitigate the danger of fires, populating taller and taller buildings increases the odds that fires will occur. Long Beach has seen its share of high-rise fires, such as at the Galaxy Towers (twice) and Cooper Arms. There have been at least three fatalities associated with high-rise fires in Long Beach. Because firefighters have to carry their hoses and other equipment up the stairs during a fire, taller buildings mean longer delays in getting water on the fire, especially when the ladders on the trucks do not extend far enough to allow firefighters to conduct a defensive attack. The tallest ladder on an LBFD truck can reach 107 feet. That will reach about the seventh floor—or lower, depending on what is on the first floor of the building, such as a parking garage or retail establishment. LBFD officials report that the Department currently lacks the resources necessary to respond adequately to a high-rise fire and continue to provide emergency services to the rest of the city.

Structure fires double in size every minute, so getting the appropriate number and types of personnel and apparatus on the scene in a timely manner can save lives and protect property. Evacuating building occupants quickly and safely will be important. Structures that are constructed very close to one another are at risk of having a fire in one building jump to the one next to it, thus requiring additional resources and evacuations.

# **Population Density and EMS**

As is the case with fire departments across the country, a significant majority of the LBFD's calls are for medical services (approximately 78% from 2018–2020; see Figure 93: Response by Incident Type).

Though many of those calls are not time-critical, some of them are. For example, people who suffer a heart attack, stroke, or cardiac arrest have a very small window of opportunity to receive treatment before they suffer irreversible damage or die. Although historically the Department (like other fire-rescue departments) has calculated response times according to when the "first in" units arrive, the more important statistic that it now is tracking is the length of time it takes to get the right number of people and equipment to a patient to start treatment.



A number of studies have documented correlations between survival rates of cardiac arrest patients and their location in high-rise residential buildings. A 2016 article in the *Canadian Medical Association Journal*<sup>16</sup> describes the outcomes of a review of 7,842 cases of out-of-hospital cardiac arrests. Lower floors were defined as those below the third floor; third floor and up were designated higher floors. Among the findings: survival was significantly greater on the lower floors (4.2% vs. 2.6%), as was survival to hospital discharge. Researchers found a 0.9% survival rate above the 16<sup>th</sup> floor and no survivors above the 25<sup>th</sup> floor. Longer EMS response times (than those experienced by patients in non-high-rise buildings and by those on lower floors) were cited as a factor that contribute to lower rates of survival.

A 2021 article in the Journal of Clinical Medicine reports the results of a review of 23 articles that addressed factors that affect the outcomes of cardiac arrest patients in high-rise buildings.<sup>17</sup> Researchers cited the lower availability of bystanders and AEDs in high-rise buildings as well as building height constraints that lead to delays in EMS interventions, scene access, and patient extrication as well as suboptimal CPR as factors that affect cardiac patients' outcomes. The conclusions researchers drew from the results of the 23 studies are that high-rise settings result in poorer clinical outcomes for cardiac arrest patients who reside in such buildings compared to those who do not.

<sup>&</sup>lt;sup>17</sup> Cardiac arrest occurring in high-rise buildings: A scoping review (2021). https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8539960/



<sup>&</sup>lt;sup>16</sup> Out-of-hospital cardiac arrest in high-rise buildings: Delays to patient care and effect on survival (2016). https://pubmed.ncbi.nlm.nih.gov/34682806/

Even if firefighters are able to use the elevators in high-rise buildings, time still is not on their side in cases of serious medical issues, especially when they occur in very tall structures. Having to travel to the 8th or 9th (or 24<sup>th</sup> or 35<sup>th</sup>) floor in an elevator takes much more time than walking through the front door of someone's home. By the same token, taking a patient out of the building is more challenging. The loss of patient privacy and suboptimal CPR are two likely scenarios, such as cases in which responders are providing active CPR while the patient is being moved to an ambulance or rescue unit for transport to a hospital. There is a risk of contamination in elevators and hallways by patients who have COVID or other communicable diseases. Crowd control, which also can hinder efforts to transport patients, can be a delaying factor both inside and outside the building, especially in a mixed-use structure where the first floor is comprised of restaurants, retail outlets, or other businesses where there are likely to be customers present. In addition, there are human costs to LBFD personnel: Firefighter/EMTs and Firefighter/PMs whose mission is to protect lives often feel they have failed when they are not able to save a patient's life, even when they've done everything possible to do so. That is a very heavy burden to carry.

# **Population Density and Marine Safety**

Although people may take Lifeguards for granted and/or think they have an easy job, their title indicates that, in fact, it is deadly serious: to "guard" (save) lives. The fact that there are no waves in Long Beach is immaterial: each year, LBFD Lifeguards rescue thousands of beach-goers who do not know how to swim, or who go into the water while they are intoxicated, or who lose their footing on one of the several drop-offs in the water. (See chart below.) Although the three summer months typically see the largest numbers of Marine Safety activities because those are the peak times for beach attendance, that's not always the case. For example, a breakdown of the data by month (not provided here) indicates that over 50% of the medical emergencies that require a paramedic response occur during the other nine months of the year. Similarly, about 55% of boat assists are made during the "off season." as the chart below indicates. For major medical emergencies, Marine Safety personnel must stabilize the patients, load them onto the bed of a lifeguard truck, and transport them across the sand to a waiting LBFD engine crew and ambulance or rescue unit for further care and transport. All Marine Safety Officers, Captains, and Rescue Boat Operators are EMTs. Lifeguards also help reunite lost children with their families, although the Division does not track those statistics.

Activity	2018	2019	2020		
Swim rescues	4,268	5,103	3,147		
Drownings	1	6	4		
Beach hazards (e.g., used syringes, broken glass from alcoholic beverages)	58,129	58,164	49,593		
Boat assists/# of people on board	827/1,496	868/1,605	906/2,887		
Boat rescues/# of people on board	325/711	292/602	351/963		
Medical Assists:					
Minor ("Band-Aid" and sting ray injuries)	7,276	8,501	6,797		
BLS-level injuries (require EMT transport)	67	50	36		
ALS-level injuries (require paramedic response)	236	167	158		
Dive responses	17	22	32		
Swift water rescue responses	15	11	16		
Enforcement advisories (e.g., warnings for municipal code violations)	275,334	331,027	325,582		
Estimated beach attendance	3,169,526	2,570,285	2,659,211		

Figure 88: Marine Safet	v Division—Selected Activities	2018-2020
rigule oo. Mulline Suler	y Division—selecieu Achvilles,	2010-2020

Among other tasks, Marine Safety Rescue Boat Operators assist or rescue people on boats, both those used for recreational purposes and those whose owners live on their boats in one of the City's two large marinas.<sup>18</sup> More often than not, Marine Safety personnel must staff the City's special events held on or near the beach or waterways year-round. For example, the Grand Prix, usually held in April, requires two rescue boats and four lifeguards for each of the three days it is in town. That event also requires 60 Firefighters. The Regatta held in the spring requires one rescue boat and two operators. Events like the Legacy Triathlon, a three-day event, require two rescue boats, one truck with a Marine Safety Officer, and 12 paddlers. The Catalina Ski Race requires one Marine Safety Captain, two rescue boats, and four personnel. Film and commercial shoots, which are regular occurrences, have a variety of requirements that vary from one lifeguard to one rescue boat and two operators. Finally, the staffing for the City-owned WiBit playground at Bay Shore is 14 to 20 lifeguards each day. The City reportedly has plans to build a similar, much larger playground at a beach location that lifeguards also will have to staff.

<sup>&</sup>lt;sup>18</sup> https://www.longbeach.gov/press-release-archive/?cid=6697



Increased density, especially since downtown is within easy walking distance of the beach, is sure to result in City beaches and waterways becoming even more crowded than they are now. Having an adequate number of lifeguards and rescue boat operators available will become more critical than it is today. A larger beach playground, should it be built, will require significantly more lifeguards to staff it.

### **Population Density and Specialty Operations**

Some emergency incidents require specialized skills in areas such as hazardous materials, swift water rescue, search and rescue, extrication from confined spaces, rope rescues, and the dive team. With thousands more people moving to Long Beach and coming here to visit or do business, there will be an increased need for at least some of these services.

With new businesses come additional potential hazards that will require responses, such as from the HazMat team. Denser population areas mean wider evacuation areas in the event of incidents such as a chemical spill or fire in a business with toxic chemicals. The City must be prepared to assist residents, businesses, and visitors during these types of incidents.

# **Gun Violence**

As is the case with other cities, parts of Long Beach are plagued by gun violence. In reviewing the LBPD's press release archives, which contain releases from 2015 (or earlier) through the present, data show that a disproportionate number of shootings, including fatalities, occur in districts in the downtown, western, and northern parts of the city.<sup>19</sup> In his July 20, 2021, recommendation to the City Council to allocate an additional \$5 million to the existing \$3.63 million approved for violence prevention programs, the City Manager acknowledged the need to address increased levels of violent crime in Long Beach, including 2021's significant jump in gun violence. Other cities have experienced similar realities, which have been attributed to a number of different causes.

<sup>&</sup>lt;sup>19</sup> https://www.longbeach.gov/press-release-archive/?cid=6697



#### Impact on Service Delivery

Except for situations in which no people are hit, the LBFD is called to treat those who are injured or killed by guns or other weapons. Responding to those calls takes an emotional toll on Firefighters, especially those whose stations are in the most heavily impacted districts. They report that being confronted with children injured or killed by gun violence is especially difficult, as they (children) are innocent bystanders and many Firefighters are parents themselves, often with children the same ages as those they are treating. The secondary impact is that increased calls in response to gun violence require additional apparatus and personnel that become unavailable for other types of medical emergencies.



# **Financial Limitations**

Like virtually every city in the U.S., Long Beach decision-makers face tough choices about how to allocate scarce resources. Also like communities across the country, Long Beach residents do not understand what resources are needed for their Fire Department to provide the level and range of services they, City management, and City Council members expect. Couple those realities with the fact that LBFD Firefighters feel compelled to get the job done regardless of the circumstances or lack of resources, and you end up with personnel who have reached the point at which they just do not have anything more to give. To then be told yet again they must "do more with less" is demoralizing. The physical and mental repercussions of their inability to meet the community's, City management's, and City Council members' expectations are serious and pervasive. Two of the LBFD's core values, pride in the level of service they are able to provide and commitment to serving their community no matter what, are double-edged swords. Even when their inability to meet expectations is outside of their control, LBFD personnel feel they are not living up to the standards they have set for themselves.

Aside from the known outcomes of inadequate financial resources such as slower response times to fires and medical emergencies, here are a few other likely consequences of cutting resources in the face of increased density:

# **AP TRITON**

# Impact on Service Delivery

#### Personnel are at Capacity

Currently, both sworn and civilian personnel are stretched to their physical and mental limits. For people who take pride in the work they do to serve their community, telling them yet again to "do more with less" puts them in untenable positions. Because moving from one fire department to another entails a great deal of uncertainty and risk for firefighters (e.g., the hiring process often takes over a year and they would have to start from the bottom and work their way up) and because LBFD firefighters have such a strong sense of pride in their work and commitment to the community they serve, leaving is not a decision they can make lightly. Instead, as we have described earlier in this report, they are running themselves into the ground in an attempt to maintain their own high performance standards even at tremendous personal, physical, and mental health costs. Civilian staff, on the other hand, find leaving relatively easy, especially when they have access to opportunities in other departments due to their status as city employees. We have been told that civilian personnel have been leaving the Department for other City departments, where they report they experience more reasonable workloads and less stressful environments. Although comparing workloads across City departments is outside the scope of this project, our findings are based on what we have heard consistently from the more than 80% of the LBFD's civilian staff who we interviewed. In addition, an LBFD executive told our team that workload and stress are obstacles to keeping civilian staff, and in fact they have been driving people away. Some staff are taking lateral positions to reduce the stress they are under. We see no reason to question the veracity of these sources.

# **COVID-19's Impact on Physical and Mental Wellness**

Coming on top of the existing conditions under which LBFD personnel work, the pandemic has taken—and continues to take—an extremely heavy toll on Firefighters' physical and mental wellness. During interviews with LBFD staff, several commented that "On March 20, 2020, 5,000 City employees went home and over 300 firefighters [and some civilian staff] continued to go to work every day." While it is not accurate that 5,000 City employees went home and an estimated 50% of the City's 6,000 staff were not eligible for telecommuting, the sentiment expressed was real that Fire employees were not able to work from home which took a toll on them and their families. Caring for patients during a pandemic about which little was known, fearing they would bring it home to their families, setting up and initially running the COVID response for the City when other departments needed assistance while continuing to respond to calls for service despite not having the proper personal protective equipment (PPE), being required to work additional days, often back-to-back with little notice as their colleagues contracted COVID or were injured on the job, and the lack of sleep all added to the normal stresses of their job. Many have reached the point at which they must take the time to take care of themselves and their families or they will not be able to continue to take care of others. A clinician who specializes in working with first responders and whose patients include Long Beach firefighters expressed serious concerns about the poor state of LBFD Firefighters' physical and mental wellness.

# Possibility for Errors has Increased

Firefighters are human. Overwork, exhaustion, and a heightened level of stress in the workplace significantly increase the possibility of errors. Driving large apparatus and rescue units at high rates of speed after not having slept for one or two days is a recipe for tragedy. The ability to make sound decisions about medical treatment that could affect their own or others' lives or health is greatly diminished. The odds that Firefighter/Paramedics or Firefighters/EMTs overlook an important aspect of their patients' conditions increase as well. Data related to the number of mandatory shifts that personnel in these ranks were forced to work from 2018 to present were provided earlier in this report. What they do not indicate is how many of those shifts required personnel to work 48 or even 72 consecutive hours. An LBFD official told us that the Department does not track that information, and it would be difficult to determine without a hand count. Many of the personnel at these ranks reported that they and their colleagues have been required to work at least 48 consecutive hours. We did not ask them about the frequency of those situations.
#### Occurrence of Injuries has Increased

Increased workloads and stress have resulted in increased injuries. As a result, Firefighters must fill in for their incapacitated colleagues either through overtime or by mandatory hold overs. Although we requested data that would indicate the connection between increased workloads and stress and increased injuries, the LBFD has informed us that the data is unavailable. As a result, we relied on anecdotal data as well as published reports about the physical toll that firefighters' jobs take on them. There also are published reports that indicate stress can have physical as well as mental consequences.

#### **Retirees May Exit Sooner Rather than Later**

As evident in the staffing figures presented in this report, a significant number and percentage of LBFD personnel are eligible to retire between now and July 2022. Even more can go in the next one to three years. Many could leave today. Although most firefighters opt to remain on the job past their retirement date, the coming year presents many challenges—e.g., drastically reduced funding, labor negotiations, being told to do more with fewer resources than ever, and the heavy toll on their physical and mental health— may cause many to walk out the door at the earliest possible moment. For example, Engineers undergo specialized training to drive the engines and trucks to transport firefighters safely to and from incidents and to perform key roles on-scene, such as managing pump operations on engines and operating aerial ladders on trucks. Half of them are eligible for retirement between now and July 2022.

#### **Recruitment Efforts May be Hampered**

The Department may find it harder to recruit new members. For years, the LBFD has earned and maintained the enviable reputation as being among the best fire departments in the country. However, the inability to continue to perform to expectations is likely to tarnish that image among prospective firefighter candidates. Civilian staff report that employees from other City departments choose not to apply for open positions at the Fire Department because of the level of stress, the workload, and the lack of career paths.

The following figure displays the number of applicants for the position of Firefighter in the LBFD from 2014 through 2020:



Year	# of Applicants			
2014	4,282*			
2016	0*			
2017	2,724			
2018	2,930			
2019	3,126			
2020	3,132			

#### Figure 89: Number of Firefight Applicants, 2014–2020

\* The 2014 recruitment was the first in several years. Applicants who did not make the cut for the 2014 Academy were re-considered for the 2016 Academy (i.e., there was no additional recruitment conducted for the 2016 Academy).

### Paper-centric Reporting Systems

Significant inefficiencies arise from the fact that the City requires the Department to use paper-based reporting systems. For example, some fire inspectors report that they spend one-third of every work day transferring information from the paper documents they must complete in the field to one or more City digital systems back at the office, then making copies of the paper reports, filing them, and mailing some to the business and residence owners. Although most of the payroll reporting for sworn personnel is done digitally, civilian staff still are required to use paper time cards.

#### Impact on Service Delivery

The hours that inspectors spend every day duplicating their reports represent time they could be inspecting additional properties. Their current ability to inspect some structures only once every three years instead of annually as required by the state puts residents at risk and creates significant financial liabilities for the City. In addition to causing personnel to duplicate their efforts unnecessarily, having to transfer information from paper to digital systems increases the likelihood of inspection and payroll errors. Although a paper-based payroll system will not affect service to the community, mistakes that arise are a form of inequity to staff.

### **Special Events**

The City hosts a wide variety of special events nearly every weekend of the year. Some of the larger annual special events include the Grand Prix, the Long Beach marathon, the jazz festival, and the MLK, Pride, and Christmas parades. All of those events require LBFD personnel and apparatus, and many Marine Safety personnel as well. For example, 60 additional firefighters, two rescue boats, and four lifeguards are required every day of the three-day Grand Prix. In addition, the LBFD will be responsible for assisting with preparations for and then staffing events related to the 2028 Los Angeles Olympic Games. Since most of the events scheduled to be held in Long Beach are water-based, the Department's Marine Safety Division will be impacted heavily.

### Impact on Service Delivery

Firefighters and Marine Safety personnel who work these events are not available for other assignments. If there are calls for service in areas affected by these events, street closures, and large crowds will cause delayed response times. Massive numbers of people on the City's beaches and waterways are likely to slow response times for lifeguards and rescue boat operators.

### **California Wildfire Season**

Wildfire "season" in California now is nearly year-round. As a result, greater numbers of firefighters are needed to combat them. The LBFD, along with most fire departments in the state, sends personnel to fight those fires and assist with administrative duties as part of its mutual aid agreement with the State. In return, when Long Beach suffers an incident that the Department cannot handle alone, such as an earthquake, first responders from other jurisdictions will come to help.

Deployments generally last two weeks, meaning, as is the case with several other fire departments throughout California, LBFD personnel are away from their families for an extended period. The skills and experiences that LBFD firefighters gain during those deployments are put to good use back in the city. Most recently, their wildland fireground expertise enabled the LBFD to set up and initially manage the City's COVID-19 response, set up and initially help run the City's vaccination centers, and advising the City on setting up the migrant children's shelter at the Convention Center.



### Impact on Service Delivery

When the LBFD sends strike teams to fight wildfires, those firefighters and apparatus are not available locally. Even though the City is reimbursed for costs and some overhead expenses for these teams, their absence requires other firefighters to backfill their positions. Typically this is done through personnel volunteering to work overtime or, more recently, through those forced to work additional 24-hour shifts. These individuals, who cannot sleep yet, are required to make decisions that often have life or death implications.<sup>20</sup> They are put in untenable positions that also represent financial liabilities for the City and inequities to the community.<sup>21</sup> The following figure provided by LBFD shows the financial and staffing impact on mutual aid deployments for 2017–2021.

Year	Number of Deployments	Total Reimbursement Amount	Average Days per Deployment	Average # of Staff per Deployment
2017	29	\$3,430,720	9.8	5.1
2018	27	\$3,309,110	7.7	3.4
2019	8	\$673,994	5.3	8.3
2020	18	\$3,336,081	9.3	11.6
2021	21	\$3,524,593	10.6	7.6

#### Figure 90: Mutual Aid Deployments (2017–2021)

The previous figure supports previous discussions regarding the significant commitment and burden required to support mutual aid deployed to outside jurisdictions. The reimbursement amounts are all-inclusive for services provided but may not reflect all the costs associated with deployment activities. Additionally, Appendix B shows the impact of Fire Callback Mandatories (Force Hiring) on the organization's operational staffing. The data support the observation that current staffing numbers are inadequate and are placing a burden on the existing staff.

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5947110/. And Harrison, Y. & Horne, J.A. (2000). The impact of sleep deprivation on decision-making: A review. Journal of Experimental Psychology: Applied, Vol 6(3), September 2000, 236–249. https://psycnet.apa.org/buy/2000-02426-006



<sup>&</sup>lt;sup>20</sup> See: Elliot, D.L. && Kuehl, K.S. (2007). Effects of sleep deprivation on fire fighters and EMS responders. International Association of Fire Chiefs Final Report. https://www.iafc.org/docs/defaultsource/1safehealthshs/progssleep\_sleepdeprivationreport.pdf?sfvrsn=f9e4da0d\_2.

<sup>&</sup>lt;sup>21</sup> See: Kujawski, S. et al. (2018). The impact of total sleep deprivation upon cognitive functioning in firefighters. Neuropsychiatric Disease and Treatment. 2018:14, 171–181.

#### **External Constraints Findings**

- The number of incidents arising from LB's homeless population requires the LBFD to devote an increasing percentage of its resources—personnel, apparatus, time, and equipment—to incidents involving people in this group. This fact negatively impacts the Department's ability to provide equitable service levels to all parts of the community.
- Similarly, the Marine Safety Swift Water Rescue team, comprised of six individuals, is deployed for extended periods of time during periods of high rain to advise people living in or near river beds to evacuate before the area is flooded. They then must rescue those who choose not to take their advice.
- Increased population density in the downtown area will stretch already thin
  resources. For example, it currently takes Fire Prevention inspectors three years to
  complete a mandatory annual inspection of some structures. Thousands of
  additional downtown residents will result in increased calls for service. Research
  shows there is a correlation between the height of high-rise buildings and the time it
  takes EMS providers to reach patients who live in those buildings, particularly those
  on higher floors.
- Personnel in the Marine Safety Division do more than staff the lifeguard towers on the beach. Data indicate they perform thousands of swimming and boat rescues each year as well as respond to a significant number of major medical emergencies on the beaches and in boats and issue hundreds of thousands of warnings to people who violate City codes. An increase in beach attendance will result in greater demands for services.
- As is the case in other cities, gun violence in Long Beach is increasing. Dealing with the trauma associated with responding to such incidents, especially when children are the victims, takes a heavy toll on firefighters' mental and emotional well-being. Increasing levels of violence exacerbate the frequency of these traumatic events.
- For a department whose personnel point to a wide array of decisions by City leaders over the years as evidence they must "do more with less," the impacts can be seen in the physical and mental tolls those decisions have taken. Many LBFD personnel have stated or indicated that they are at or near their physical or mental limits, and they question the intentions of those who would push them still harder.



- LBFD Firefighter/Paramedics, who are certified to provide advanced life support services such as administering injections and medication and performing invasive procedures, also must make informed decisions about patient care. Many of them report being so sleep deprived due to high call volumes that they must keep each other awake while driving their ambulance at high speeds through traffic while also tending to the patient in their care.
- The same fire inspectors who have taken three years to complete one cycle of inspections that the state mandates be done annually report spending about onethird of every working day doing paperwork because the City requires them to use paper forms instead of allowing them to use readily available technology that eliminates most of the paperwork.
- The City solicits and hosts a wide variety of special events throughout the year, including many that are held at or near the beach. Contracts for those events typically require the City to provide a given number of LBFD personnel, usually firefighters and/or Marine Safety personnel. When LBFD personnel are working those events, they and their apparatus are unavailable to respond to incidents in the rest of the City.
- Like many/most fire departments in California, the LBFD enters into mutual aid agreements with agencies throughout the state as well as with the state directly that require them to respond when needed. Given that wildfires have become nearly a year-round phenomenon, LBFD firefighters frequently are deployed to fires across the state. During the normal two-week deployment period required of each person, they are not available to cover any shifts in Long Beach. Many have reported that it's not unusual from them to return from a two-week deployment and must report to work the next day.

# Section IV: SERVICE DELIVERY & PERFORMANCE



# SERVICE DELIVERY & PERFORMANCE

In analyzing the service delivery and performance of the LBFD, incident and unit response data were requested by the study team for the calendar years of 2018–2020. The Department provided data from its records management system (RMS) and Electronic Patient Care Reports (EPCR) for EMS-specific data points. Both data sets were utilized in this section's assembly of analysis.

### **Emergency Communications Dispatch**

Dispatch services (9-1-1) are provided to the LBFD by the City of Long Beach Department of Disaster Preparedness & Emergency Communications. This facility serves as the primary Public Safety Answering Point (PSAP) for both Long Beach Fire and Long Beach Police Departments. Although dispatchers from both departments are housed within the same facility and managed by the City of Long Beach, the communication centers are segregated, staffed by discipline-specific personnel, some are cross-trained to serve both Police and Fire dispatch functions.

#### **Communication Center Staffing**

The Disaster Preparedness & Emergency Communications Center is staffed with 20 Public Safety Dispatchers, eight of whom serve in supervisory roles. The Center has a team of three systems support personnel on staff, as well as City of Long Beach TI personnel available to assist as needed. In addition, the Fire Communications Center is managed by the Communications Coordinator and the Communications Center Officer.

Dispatchers work a traditional 4/10 schedule (4 days per week/10 hours per day), utilizing a three-shift platform: 7:00 a.m.–5:00 p.m., 5:00 p.m.–3:00 a.m., and 9:00 p.m.–7:00 a.m. Days off for Center personnel vary per employee.

The Fire Communications Center utilizes Emergency Medical Dispatch (EMD) protocols, and each of the dispatchers is trained and certified in EMD.



### LBFD Call Volume

The following figure shows the number of calls dispatched through the Fire Communications Center, 2018–2020:



Figure 91: Fire Communications Center Volume (2018–2020)

### **Service Demand**

The following figure shows the response workload by general type for the last three years. The total response workload has increased by less than 2% (1.38%) over the three-year period. Interestingly, mainly due to fire call types that rose 40.6% (from a very small base) over the period, EMS still shared the vast majority of the total volume; however, it only increased by 4% but slowed in 2020 due to the pandemic effects of less traffic and less personal interaction to net a 2% increase over the three years. There was a reluctance in the pandemic months of 2020 to seek medical treatment by many who feared that medical workers were a source of exposure. All other types of calls had decreased by 12.3%.

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Figure 92: Response Workload History, 2018–2020

The LBFD responded to over 182,000 incidents over the three-year period. From the previous figure, it can be seen that total responses have been relatively stable. The following figure shows the response by type more specifically. Emergency medical responses and motor vehicle collisions are the most common type of incidents, comprising 77.64% of the total responses.



### **Temporal Analysis**

This analysis shows how responses change in volume over various measures of time. The following figure shows the change in volume over the months during the study period, which can indicate seasonality in the response pattern.



#### Figure 94: Monthly Response Workload

The busiest month for the LBFD has been July, after which total monthly volume generally declines until the December–January months. Next, response workload is shown by the day of the week. Mondays and Fridays tend to have the most responses.



Figure 95: Daily Response Workload

Response workload by the hour of the day typically shows fire department activity higher during daytime hours, as it is in the case of LBFD incidents. Response workload correlates with the more active time of people's daily lives. In Long Beach, the Department's activity begins to increase from 4:00 to 5:00 a.m. until it reaches its first peak at 10:00 a.m. This level is maintained until the 5:00 p.m. hour, when it begins to decrease.



Figure 96: Hourly Response Workload

#### **Response Unit Workload**

The response workload for each of the LBFD apparatus is shown in the following figure. Many incidents like structure fires and severe motor vehicle collisions require more than one unit to respond. Grouped by type, engines handle the most workload; however, there are more of them than the other types of apparatus. The rescues are next, followed by the BLS units, which are even fewer, and lastly, the truck companies, which are the fewest in number and more specialized than other apparatus types. BLS2 is the busiest unit in the Department. Rescue 3 is the busiest rescue unit, while engine 11 is the busiest Engine Company Truck 17 is the busiest ladder company.



### Figure 97: Response Unit Workload

The amount of time spent on the scene can affect the workload of the firefighters present and the availability of resources for the next, or concurrent, incident. The following figure details the average amount of time each unit type was committed to a scene type. Understandably for fire incidents, the amount of time committed to the scene by a unit is longer than for the other call types.





BLS units spend the least amount of time at the fire scene but more time than rescues on EMS-type calls. Engine, truck, and Airport firefighting crews spend a similar amount of time, depending upon the incident type.

### **Spatial Analysis**

We also examined response workload geographically. The distribution of heavier service demand can be evaluated against the location of the fire station. The following figure shows the density of response workload during the study period.



Figure 99: Workload Demand Density

The previous figure was reflective of the predominance of emergency medical incidents within the dataset. Note that most of the demand is located near the Willmore and East Village Area, expanding north and east. There is a moderate level located near Station 11 as well. The following maps show the differences in demand between day (9 a.m.–9 p.m.) and night (9 p.m.–9 a.m.) incidents.





Notice that during the day, the pattern closely mimics the overall demand, with higher intensity increases in the areas of Willmore, Alamitos Beach, and the Washington neighborhoods. This is expected due to the rise in the volume of incidents during the day.



As noted previously, workload during the evening is lower, but the heavier demand density intensifies in the neighborhoods previously mentioned.



Because of the predominance of EMS-type incidents in the workload data, this map mimics the map of overall demand density.

The following figure shows the level of structural fire density within the City.



Figure 103: Structure Fire Incident Density

The previous figure reveals that most of the structure fires occurred near the Willmore, Alamitos Beach, and Washington neighborhoods as well as near Station 11 during the afternoon and early evening hours, as shown in the following figure.



The following figure details the Long Beach streets to which the Department responded to calls most frequently.

### Figure 104: Structure Fires by Hour of Day

Location	Count
Long Beach Bl	1,185
E 7 <sup>th</sup> St	1,092
Atlantic Av	944
E Pacific Coast Hy	839
E Anaheim St	836
Sb 405 Fy	636
Cherry Av	629
E Ocean Bl	612
33xx Pacific Pl	581
28xx Atlantic Av	565
21xx E Ocean Bl	558
NB 405 Fy	521
E 10 <sup>th</sup> St	497
E 4 <sup>th</sup> St	485
W Pacific Coast Hy	476
26xx Redondo Av	475
Pacific Av	464
12xx Bellflower Bl	464
59xx E 7 <sup>th</sup> St	447
Orange Av	444
21xx Williams St	441
E 2 <sup>nd</sup> St	423
W Anaheim St	404
E Artesia Bl	396

### Figure 105: Frequent Response Addresses

### **Projected Service Demand**

Over the last three years, the utilization rate of the fire department per 1,000 population generally had been stable, as shown in the following figure. However, the COVID-19 pandemic in 2020 reduced this rate slightly. Many EMS systems across the country experienced a reduction in demand due in part to reduced traffic incidents with work-from-home situations and the fear of transmission of the virus when going out in public, including the hospital. The rate during 2019 increased from 2018 (131.9 and 127.7, respectively). In 2020, the rate was 130 incidents per 1,000 population. Despite the recent dip in utilization, if the utilization rate trend resumes, it could reach 161 per 1,000 population by 2040.



Figure 106: Utilization Rate

A forecast for a future population can be calculated using the growth rate data based on the U.S. Census Bureau statistics. This forecast was very close to the population projections provided for Long Beach by the Southern California Association of Governments (SCAG) report.<sup>22</sup> Census-based forecast calculated a population of 488,893 in 2040, while the SCAG projected 484,500 residents. This averages to about 1.2% over the period shown in the following figure.

<sup>&</sup>lt;sup>22</sup> https://scag.ca.gov/sites/main/files/file-attachments/2016\_2040rtpscs\_finalgrowthforecastbyjurisdiction. pdf?1605576071





Figure 107: Population Projections

The increased utilization rate, plus expected population growth, will potentially increase LBFD's workload, as shown in the following figure. Response workload could reach over 77,000 incidents per year by 2040, driven primarily by requests for emergency medical services.



#### Figure 108: Workload Projections

### **Resource Distribution**

The LBFD operates out of 23 fire stations, including a dedicated Aircraft Rescue & Firefighting (ARFF) station at the Long Beach Airport, and four fire stations at the Port of Long Beach. Other facilities include four lifeguard stations, including three that contain rescue boats, an administrative headquarters, a regional training center, and a supply depot. The following figure illustrates the street sections that can be reached in 4 minutes of travel time by stations with a first response engine apparatus. The 4-minute travel time is an NFPA 1710 standard, which is a goal but not a requirement. The data are based on posted road speeds modified to account for turning, stops, and acceleration. They do not take into account congestion, construction, weather, darkness, and other non-controllable factors.



#### Figure 109: Fire Engine Travel Time

Note the gap near the former Station 9. The overall coverage of fire incident demand is 90.8%, presuming engines are available and responding from their assigned stations. The coverage of EMS incidents was 92.5%.

Because all stations do not have the same apparatus but respond to the same types of incidents, the following maps convey the travel time for those unit types as the first arriving apparatus. The following figure illustrates the stations at which rescue units are stationed. Not only do these units perform technical rescues during fire incidents, they also respond to EMS incidents. The travel time of 4 minutes represents the first arrival time capability, while the 8-minute travel time represents the secondary arrival for paramedic care (ALS) capability purposes.



Figure 110: Rescue Unit Travel Time

Because they do not have water carrying capability, the rescue units are not intended to be the first arriving units to fire incidents. Nonetheless, the rescue units are capable of reaching the fire service demand 69.8% if they are available and in their assigned stations within 4 minutes of travel. The rescue units are first due within 4 minutes of travel time from their stations to 72.5% of EMS-type incidents. As a paramedic (ALS) staffed unit, first responder or EMT level (BLS) units usually are first due to assess the need for advanced care paramedics. In this case, the rescue units, as second due to arrive, are allotted an additional 4 minutes of travel according to national standard recommendations. Rescue units can reach 99+% of fire or EMS calls within 8 minutes of travel. It must be kept in mind that since they have patient transport capabilities, they could be responding from an area hospital rather than from their station.

The LBFD operates five Basic Life Support (BLS) ambulances staffed with single-role nonsafety EMTs. Two of these units only operate for 12-hour shifts (as opposed to 24 hours like all other units); one (Station 12) begins at 8 a.m., and the other (Station 13) starts at 10 a.m. The following figure illustrates the stations to which these units are assigned, along with the 4 and 8-minute travel time capabilities from those stations.



Figure 111: BLS Unit Travel Time

A larger amount of coverage can be seen at the 8-minute travel time. This is for instances when other first responder medical units have arrived ahead of the BLS unit. Note that BLS units may be responding from other locations, including hospitals.

Because there is a varying number of BLS units in service over a 24-hour period, the following figure details the coverage of incidents.

Station Unit Type	Fire Demand Coverage 4-Min Travel Time	EMS Demand Coverage 4-Min Travel Time	EMS Demand Coverage 8-Min Travel Time	Notes
BLS 5 Units 10a–8p	40.4%	38.7%	94.5%	
BLS 4 Units 8a–10a	29.8%	22.1%	83.3%	No BLS 12
BLS 4 Units 8p–10p	33.2%	33.2%	87.9%	No BLS 13
BLS 3 Units 10p-8a	21.7%	23.0%	71.3%	No 12 or 13

#### Figure 112: BLS Unit Coverage Details

The LBFD designates certain engines and all fireboats as "Paramedic Assessment Units" (PAUs). The PAU unit is a first medical responder dispatched in addition to a rescue unit. The PAUs make the initial patient size up for the rescue unit. A BLS unit will transport to a medical facility if a rescue unit is not available. The following figure shows the Engine PAU stations and the extent of their travel reach within 4 minutes.



The PAUs can reach 40.4% of EMS calls in the city within 4 minutes of travel from their respective stations.

The following figure demonstrates the 4-minute travel time coverage from all LBFD fire stations with rescues and PAUs.



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### **Effective Response Force Capability Analysis**

Effective Response Force (ERF) is the number of personnel and apparatus required to be present on the scene of an emergency incident to perform the critical tasks in such a manner to effectively mitigate the incident without unnecessary loss of life and/or property. The ERF is specific to each type of incident and is based on the critical tasks that must be performed.

The response time goal for delivering the full ERF to a building fire is within 9 minutes, 20 seconds, 90% of the time. The LBFD has defined the minimum full effective response force for low-rise building fires as four fire engines, one ladder, one paramedic unit, and two Battalion Chiefs for a total of 24 firefighters. For high-rise and commercial building fires, six engines, two truck/ladder apparatus, two Battalion Chiefs, a paramedic unit, and an air supply unit are requested, bringing the total number of firefighters to 39. More firefighters can be summoned by declaring a second alarm. While several units are dispatched when a fire is reported, once the first unit arrives and the scene is assessed, responding units may be canceled while en route.

#### Impact of Mutual Aid

The LBFD relies upon mutual aid from adjacent agencies during a structure fire and other incidents when needed. These are very important relationships that enable the Department to ensure it has sufficient staff and apparatus to fight the fire. The following figure details the mutual aid capabilities from the adjacent agencies.

Dept.	Station #	Station Address	Engines	Aerials	Other	Staff
OCFA	2	3642 Green Ave. Los Alamitos 90720	1			3
OCFA	17	4991 Cerritos Ave. Cypress 90630	1	1		3–4
OCFA	44	718 Central Ave. Seal Beach 90740	1			3
OCFA	48	3131 North Gate Rd. Seal Beach 90740	1		Patrol	3–2
OCFA	64	7351 Westminster Blvd. Westminster 92683	1			4
OCFA	65	6061 Hefley St. Westminster 92683	1			4
OCFA	84	12191 Valley View St. Garden Grove 92845	1			Ś
OCFA	85	12751 Western Ave. Garden Grove 92841		1		Ś
LACo	10	1860 E. Del Amo Blvd. Carson 90746	1		Squad	4–2
LACo	31	7521 Somerset Blvd. Paramount 90725	1		Squad	4–2
LACo	45	4020 Candlewood St. Lakewood 90712		1	Squad	4–1
LACo	60	2300 E. 27 <sup>th</sup> St. Signal Hill 90755	1			4
LACo	105	18915 S. Santa Fe Compton 90221			HazMat	Ś
LACo	116	755 E. Victoria St. Carson 90745			Squad	2
LACo	122	2600 Green Meadow Paramount	1			3
LACo	127	2049 E. 222 St. Carson 90810	1			4
LACo	34	21207 Norwalk Blvd. Hawaiian Gardens 90716	1			3
LACo	94	6421 E. Turnergrove St. Lakewood 90713			Squad	2

### Figure 115: Mutual Aid Agency Capabilities

There also is a mutual aid agreement in process with Los Angeles Fire Boat in that department's Station 112. The LBFD reciprocates by providing aid to its adjacent agencies when requested. According to the LBFD data, fewer than 1% of the incidents were recorded as providing mutual aid. Most were to addresses with a Long Beach postal address but identified by the fire crew as outside the city. The next most mutual aid was given to Lakewood postal addresses, with Hawaiian Gardens addresses the third most. When a structure fire is reported, the reality may be something else, perhaps less threatening. Many times an engine arrives and handles the fire threat, canceling the other units dispatched. The following figure details the structure fire responses that achieved the effective firefighting force of apparatus and staffing compared to the Department's alarm assignment protocol.

Description	2018	2019	2020
Structure Fires	168	182	172
Structure Fires with ERF	35	55	38
First alarm ERF response time (Count)	14:00 (26)	14:45 (44)	14:42 (30)
High-rise ERF response time (Count)	38:27 (2)	24:07 (4)	17:08 (1)
Second alarm EFR response time (Count)	21:14 (6)	17:55 (5)	17:25 (6)
Third alarm ERF response time (Count)	43:58 (1)	20:09 (2)	17:08 (1)

### Figure 116: Effective Firefighting Force Response Performance

The concentration analysis reviews the physical capability of LBFD's resources to achieve its target ERF travel time to its service area. The following figures depict the physical capability of LBFD to assemble apparatus and firefighters by area within an 8-minute travel time. The modeled analysis below assumes that all response units are available.

The first figure shows the area that can be reached by the various numbers of firefighters. Eight minutes of travel time is allowed to assemble the defined full effective response force on-scene. The minimum complement of 24 firefighters needed for a low-rise residential fire can reach the entire city. The areas of higher risk can be reached by more firefighters as needed according to the critical tasking levels established by the LBFD.



#### Figure 117: Effective Response Force—Firefighters

The next figure shows the area to which the first alarm apparatus can respond within 8 minutes of travel time. The model indicates these resources can be delivered within 8 minutes of travel to areas of the city-based upon the apparatus needs to various risk levels as established by the LBFD in the alarm assignments. The most limiting factor is the requirement for two Battalion Chiefs; without them, there are wider areas where the apparatus types can assemble and begin with the incident command system procedures.



### Figure 118: Effective Response Force—Apparatus
### **Resource Reliability**

In this section, the workload is analyzed at the unit level rather than at the Department level as previously shown. Unit-level workload analysis can reveal further insights into the level of stress the firefighters and apparatus are experiencing. For instance, units are only effective if available within their station. If they already are handling an incident when another incident is reported, a unit from further away must respond, increasing the response times.

Unit Hour Utilization (UHU) calculates the percentage of time a unit is not available for a response because it is committed to an incident during a calendar year. This is important because the higher percentage, the more time that the unit is not available to respond to another incident. This is especially important for agencies like the LBFD that measure their performance at the 90<sup>th</sup> percentile. A unit with greater than 10% utilization cannot provide on-time performance to a 90% target within its response area. This analysis only measures response incidents and does not include other activities that are unmeasured in the dataset, such as training time and station duties.

The following figure details the UHU for each of the LBFD units by calendar year. Many of the units exceeded the 10% mark, indicating resources are not necessarily readily available to handle incidents as they arise in Long Beach. Collectively, the BLS units have the highest UHU, followed by the rescue units. The engines and the trucks have both lower average UHUs when grouped.



When evaluating the effectiveness of any resource deployment plan, it is necessary to evaluate the workload of the individual response units to determine to what extent their availability for dispatch is affecting the response time performance. In simplest terms, a response unit cannot make it to an incident across the street from its station in four minutes if it is unavailable to be dispatched to that incident because it is committed to another call.

### Concurrency

One way to look at resource workload is to examine the number of times multiple incidents occur within the same time frame. Incidents during the study period were examined to determine the frequency of concurrent incidents. This is important because concurrent incidents can stretch available resources and delay response to other emergencies. This factor significantly impacts total response times to emergencies in the jurisdiction.

The following figure shows the number of times during the study period that one or more incidents occurred concurrently.



### Figure 120: Concurrent Incident Percentage

Calls Concurrent	Percent		
Single	17.73%		
2	16.92%		
3	13.13%		
4	9.51%		
5	7.21%		
6	5.92%		
7	4.90%		
8	4.17%		
9	3.63%		
10	3.09%		
11	2.57%		
12	2.10%		
13	1.74%		
14	1.30%		
15	1.05%		
16	0.85%		
17	0.66%		
18	0.53%		
19	0.43%		
20	0.35%		
21	0.29%		
22	0.24%		
23	0.20%		
24	0.17%		
25	0.14%		
26	0.12%		
27	0.10%		
28	0.09%		
29	0.08%		
30	0.07%		

It also is useful to review the number of times that one or more response units are committed to incidents at the same time. The following figure shows the number of times one or more LBFD response units were committed to incidents. It is more common than not for multiple response units to be simultaneously committed to incidents, with two to four concurrent responses occurring in significant numbers.



		-
Units/Incident	Count	Percent
1	33,239	18.04%
2	87,090	47.27%
3	39,847	21.63%
4	12,856	6.98%
5	3,604	1.96%
6	2,050	1.11%
7	906	0.49%
8	522	0.28%
9	271	0.15%
10	154	0.08%
11	76	0.04%
12	55	0.03%
13	64	0.03%
14	36	0.02%
15	28	0.02%
16	27	0.01%
17	16	0.01%
18	13	0.01%
19	12	0.01%
20	6	0.00%
21	8	0.00%
22	3	0.00%
23	6	0.00%
24	5	0.00%

### Figure 121: Unit Concurrency

How reliably a station crew responds within its assigned area is important not only to its ability to handle the incident, but to its response time performance as well. When busier units are on assignment, other stations must handle incidents outside their own response zones. This is especially true during fire events that require multiple units from several stations. The following figure measures the percentage of time that a station was able to respond to an incident in its assigned area.



Figure 122: Response Reliability within Assigned Response Zones

Note that Station 18 has one rescue unit assigned to this station. Other stations' engines nearby would respond into this area to assist with incidents.

### **Response Performance**

Incident data for the period between January 1, 2018, and December 31, 2020, were evaluated in detail to determine the LBFD's current performance.

Only priority incidents occurring within the LBFD service area are included in the analysis. Non-emergency public assistance requests were excluded. Performance is reported based on the type of incident as reported. Three categories are used to report performance:

- Fire—Responses to a report of a fire
- Emergency medical—All emergency medical incidents
- Other—Any other incident to which the Department responded

Each phase of the incident response sequence was evaluated to determine current performance. This allows an analysis of each phase to determine where opportunities might exist for improvement.

The total incident response time continuum consists of several steps, beginning with the initiation of the incident and concluding with its appropriate mitigation. The time required for each of the components varies. The policies and practices of the Department directly influence some of the steps.

The LBFD's response performance was compared to the national consensus standard for response performance found in the National Fire Protection Association's Standard 1710, Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Volunteer Fire Departments, 2020 Edition. The dispatch center's performance was compared to standards found in the National Fire Protection Association's Standard 1221, Standard for the Installation, Maintenance, and Use of Emergency Services Communications Systems, 2019 Edition.

The following figure summarizes the performance standards used in this section to evaluate performance compared to NFPA 1710's standards.

Incident Interval	Performance Goal	
9-1-1 call answer time (time from the first ring to answer).	Within 15 seconds, 90% of the time	
Call process time (time from acceptance at the dispatch center until notification of response units).	Within 60 seconds, 90% of the time	
Turnout time (time from notification of response personnel until the initiation of movement towards the incident).	Within 60 seconds, 90% of the time (EMS) Within 80 Seconds, 90% of the time (Fire)	
First unit travel time (time from initiation of response until the arrival of the first unit at the incident).	Within 4 minutes, 90% of the time	
First unit response time (time from dispatch until the arrival of the first unit at the incident).	Within 5 minutes, 90% of the time (EMS) Within 5 minutes, 20 seconds, 90% of the time (Fire)	
Full effective response force travel time (time from dispatch until all units initially dispatched arrive at the incident. Response resources needed for a moderate risk building fire are used for the evaluation).	Within 8 minutes, 90% of the time	

### Figure 123: Summary of Performance Goals

In keeping with NFPA Standards 1710 and 1221 and the LBFD's desired performance goals, all response time elements are reported at a given percentile. Percentile reporting is a methodology by which response times are sorted from least to greatest, and a "line" is drawn at a certain percentage of the calls to determine the percentile. The point at which the "line" crosses the 90th percentile, for example, is the percentile time performance. Thus, 90% of the times were at or less than the result. Only 10% were longer.

LBFD included performance measures in the Fire Department section of the City's FY 22 Budget document. The following shows performance for structure fires and medical responses.

Key Measure	FY 20 Actual	FY 21 Target	FY 21 Estimate
Percent of on-scene arrival of the first appropriate unit for structure fire calls within 6 minutes, 20 seconds, or less (from call initiation to arrival on-scene)	86%	90%	83%
Percent of structure fires confined to the room of origin	81%	80%	75%

### Figure 124: LBFD Department Performance Measures (2020–2021)

Based on the above analysis, LBFD was not projected to meet the target performance for fire response in 2021.



Percentile differs greatly from average. Averaging calculates response times by adding all response times together and then dividing the total number of minutes by the total number of responses (mean average). Measuring and reporting average response times is not recommended as it does not identify the number and extent of events with times beyond the stated performance goal. Specific standards for performance are determined by community expectations. Most organizations utilize the Center for Public Excellence (CPSE) accreditation standards and the National Fire Protection Association (NFPA) as baselines for developing local standards.

What follows is a detailed description and review of each phase of the response time continuum.<sup>23</sup> All phases will be compared to the LBFD's performance goals.

### Detection

The detection of a fire (or medical incident) may occur immediately if someone happens to be present or if an automatic system is functioning. Otherwise, detection may be delayed, sometimes for a considerable period. The period for this phase begins with the inception of the emergency and ends when the emergency is detected. It is largely outside the control of the fire department and not a part of the event sequence that is reliably measurable.

#### **Call Processing**

The call processing phase has two parts. Most emergency incidents are reported by telephone to the 9-1-1 center. Call takers must elicit accurate information quickly about the nature and location of the incident from persons who are apt to be excited. Lay people well-trained in how to report emergencies can reduce the time required for this phase. The dispatcher must identify the correct units based on incident type and location, dispatch them to the emergency, and continue to update information about the emergency while the units respond. Step one of this phase, labeled "call processing time," begins when the 9-1-1 call is answered at the primary public safety answering point (PSAP) and ends when response personnel are notified of the emergency.

The National Fire Protection Association Standard 1221 recommends that 9-1-1 calls be answered within 15 seconds, 90% of the time (within 20 seconds, 95% of the time).

<sup>&</sup>lt;sup>23</sup> Outliers Removed: Call Processing & Turnout Time > 5 minutes, Travel Time > 15 minutes, Dispatch to Arrival > 25 minutes, Call Received to Arrival > 30 minutes.



The second part of the call processing phase, called "dispatch time," begins when the call is received at the ECC and ends when response units are notified of the incident. NFPA 1221 standards prescribe that this phase should occur within 60 seconds, 90% of the time.

The following figure illustrates the City EEC's performance from the time it receives the call until it notifies response units. Overall performance during the study period was well over the NFPA guideline.



#### Figure 125: Call Processing by Incident Type

The workload at the dispatch center can influence call processing performance. The following figure illustrates performance at different times of the day compared to the LBFD's response workload. Given that call process time appears to decrease with higher call volumes and increase during periods of lower call volumes, perhaps overnight staffing is impacting the dispatch center's performance. There is a sharp drop in call processing time after 7 a.m. and a sharp increase after 7 p.m.



#### Figure 126: Call Processing by Hour of Day

### Turnout Time

The turnout time response phase is controllable by the LBFD. This phase begins with the notification of an emergency in progress by the dispatch center and ends when personnel and apparatus begin to move toward the incident location. Personnel must don appropriate equipment, assemble on the response vehicle, and begin traveling to the incident. Good training and proper fire station design can minimize the time required for this phase.

The performance goal for turnout time is within 60 seconds, 90% of the time for priority emergency incidents. The following figure lists turnout time by incident types. Turnout times for all incident types exceed standards. During the study period, turnout time for priority incidents was within 2 minutes, 2 seconds, 90% of the time.

**AP TRITON** 



Turnout time can vary by the hour of the day. In this case, turnout time varied by 74 seconds between the early morning hours and daytime hours, as shown in the following figure.



### Figure 127: Turnout Time by Incident Type

The following figure illustrates the turnout time by unit at the 90<sup>th</sup> percentile performance measure.



Figure 129: 90<sup>th</sup> Percentile Turnout Time by Unit

### Distribution and Initial Arriving Unit Travel Time

Travel time potentially is the longest of the response phases. The distance between the fire station and the location of the emergency influences response time the most. The quality and connectivity of streets, traffic, driver training, geography, and environmental conditions also are factors. This phase begins with the initial apparatus movement toward the incident location and ends when response personnel and apparatus arrive at the emergency location. According to NFPA 1710, the performance goal should be 4 minutes for the first response unit to arrive at an incident.

The following figure lists travel times for all priority incidents as well as incident types. The LBFD's travel times exceeded its goal in all incident types. Travel time for all incident types was within 7 minutes, 27 seconds, 90% of the time.



#### Figure 130: Travel Time by Incident Type

Travel time can vary considerably by the time of day. Heavy traffic during morning and evening rush hours can slow the Department's response. Concurrent incidents also can increase travel time since units from more distant stations would need to respond. Morning commuter traffic appears to affect travel time more than evening commuter traffic. The following figure shows the travel time performance and the hourly workload.



To provide an on-time response, a response unit must be available and within 5 travel minutes of the incident. During the study period, 90% occurred within 4 travel minutes of a fire station.

### First Arriving Unit Response Time

Response time is defined as that period between the notifications of response personnel by the dispatch center that an emergency is in progress until the arrival of the first Fire Department response unit at the emergency. When turnout time and travel time are combined, the performance goal for response time is within 5 minutes, 20 seconds, 90% of the time for fire and special operations incidents, and within 5 minutes, 90% of the time for all other priority incidents.

The following figure illustrates the response time for priority incident types. Overall, response time for all priority incidents was within 8 minutes, 44 seconds, 90% of the time.

**AP TRITON** 



### Figure 132: Response Time—Dispatch to Arrival by Incident Type

The next figure shows response times and the number of incidents by the hour of the day for all incidents. Response time is slowest during the nighttime hours and fastest during the day. Generally, the LBFD's best response times occur during the day when response activity is at its highest.



Figure 133: Response Time—Dispatch to Arrival by Hour of Day

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### First Arriving Unit Received to Arrival Time

From the customers' standpoint, response time begins when the emergency occurs. Their first contact with emergency services is when they call for help, usually by dialing 9-1-1. The received to arrival time phase combines the answer/transfer, call processing, turnout, and travel time phases. When the performance goals are combined, received to arrival time should be within 6 minutes, 90% of the time for all priority incidents. The following figure shows received to arrival performance for priority incidents within the LBFD service area. Overall, the received to arrival time was within 10 minutes, 25 seconds, 90% of the time during the study period.



Figure 134: Response Time—Received to Arrival by Incident Type

The next figure shows received to arrival performance by time of day compared to incident activity by time of day. Received to arrival, from the customers' standpoint, is quickest during the day and slowest during the early morning hours.



Figure 135: Response Time—Received to Arrival by Hour of Day

### **EMS Transportation Analysis**

According to the incident data, 42% of EMS-type incidents result in transportation to a hospital. When patients are transported, the additional time spent on the related activities are measured. One is the time spent from the scene to the hospital. This can vary depending not only on factors such as the traffic, weather, and time of day, but also on the patient's choice of hospital or the patient's condition that warrants a specialized facility. The following figure shows the travel time variance during the hour of the day against the level of EMS incident workload.



Figure 136: Scene to Hospital Travel Time Duration

Travel time for transport-capable units increases during the daytime and peaks in the late afternoon hours, presumably due to increased traffic inhibiting the transport unit. The following figure measures the time spent for a unit to arrive at the hospital, deliver the patient, and prepare the unit to be declared available for service. This is measured by the hour of the day against the EMS incident workload.



Figure 137: Hospital Arrival to Unit Available Duration

Units become available for service most quickly during the morning hours. This time increases as the midday and evening approach. There can be several causes for this trend. Busier emergency rooms may take longer to accept the patient from EMS crews. Shift change hours relative to workload may impact the length of time available from the hospital. The actual cause takes further internal investigation by the LBFD.

# **PERFORMANCE OBJECTIVES & MEASURES**

### **Dynamics of Fire in Buildings**

Most fires within buildings develop with predictable methods unless influenced by highly flammable materials. Ignition, or the beginning of a fire, starts the sequence of events. It may take several minutes or even hours from the time of ignition until a flame is visible. This smoldering stage is dangerous, especially when people are sleeping, given that large amounts of highly toxic smoke may be generated during this phase.

Once flames do appear, the sequence escalates rapidly. Combustible materials adjacent to the flame heat and ignite, which heat and ignite other adjacent materials if sufficient oxygen is present. As the objects burn, heated gases accumulate at the ceiling of the room. Some of the gases are flammable and highly toxic.

The spread of the fire from this point continues quickly. Soon the flammable gases at the ceiling and other combustible material in the room of origin reach ignition temperature. At that point, an event termed "flashover" occurs: the gases and other material go up in flames, which in turn ignites everything in the room. Once flashover occurs, damage caused by the fire is significant, and the environment within the room no longer can support human life. Flashover usually occurs about five to eight minutes from the appearance of flame in typically furnished and ventilated buildings. Since flashover has such a dramatic influence on a fire event's outcome, any fire agency's goal is to apply water to the fire before flashover occurs.

Although modern building and fire codes tend to make fires in newer structures more infrequent, today's energy-efficient construction (designed to hold heat during the winter) also tends to confine the heat of a contents fire. Research has shown that modern furnishings generally ignite more quickly and burn hotter due to the synthetic materials from which they are made. In the 1970s, scientists at the National Institute of Standards and Technology found that building occupants had about 17 minutes to escape before being overcome by heat and smoke after a fire broke out. Today, that estimate is as short as three minutes. The necessity of effective early warning (smoke alarms), early suppression (fire sprinklers), and firefighters arriving on a fire scene in the shortest time is more critical now than ever.



The prompt arrival of at least four personnel is critical for structure fires. Federal regulations (CFR 1910.120) require that personnel entering a building involved in fire must be in groups of not less than two firefighters. Further, before personnel can enter a building to extinguish a fire, at least two personnel must be on scene and assigned to conduct search and rescue if the fire attack crew becomes trapped. This is referred to as the "two-in, two-out" rule.

However, if it is known that victims are trapped inside the building, a rescue attempt can be performed without additional personnel ready to intervene outside the structure. Further, there is no requirement that all four firefighting personnel arrive on the same response vehicle. Many fire departments rely on more than one unit arriving to initiate an interior fire attack. LBFD utilizes 4-person staffing on engines and truck companies. The labor memorandum of understanding (MOU) stipulates "consistent staffing." Currently, the department has 128 sworn/operational positions. The number of staffing on suppression apparatus determines the number of units required to have an effective response force (ERF) on the fireground. The following figure shows the percentage when LBFD was able to meet the ERF on structure fires requiring critical tasking.

Level	Percent ERF within 9 minutes, 20 seconds	Count
1 <sup>st</sup> Alarm Fire	47%	100
2 <sup>nd</sup> Alarm Fire	41%	7
3 <sup>rd</sup> Alarm Fire	0%	4
Highrise Fire	14%	7

#### Figure 138: Percentage of ERF on Structure Fires (2021)

Based on the above analysis, LBFD is facing challenges achieving an EFR to working structure fires. Decreasing staffing on engines and trucks would most likely exacerbate the issue.

Perhaps as important as preventing flashover is the need to control a fire before it damages the structural framing of a building. Materials used to construct buildings today are often less fire-resistive than the heavy structural skeletons of older frame buildings. Roof trusses and floor joists of structures now commonly are made with lighter materials that weaken quickly during a fire. "Lightweight" roof trusses fail after five to seven minutes of direct flame impingement. Plywood I-beam joists can fail after as few as three minutes of flame contact. The direct flame impingement creates a dangerous environment for firefighters.

Also, today's contents have a much greater potential for heat production than in the past. The widespread use of plastics in furnishings and other building contents rapidly accelerates fire spread and increases the amount of water needed to control a fire effectively. All of these factors make the need for early application of water essential to a successful fire outcome. The following figure illustrates the sequence of events during the growth of a structure fire over time.



Figure 139: The Dynamics of Fire Growth vs. Reflex Time

As is apparent by this description of the events' sequence, water application in time to prevent flashover is a severe challenge for any fire department. It is critical, though, as studies of historical fire losses demonstrate.

The National Fire Protection Association found that fires in buildings that can be contained to the room of origin (typically extinguished before or immediately following flashover) resulted in significantly lower rates of death, injury, and property loss when compared to fires that had an opportunity to spread beyond the room of origin (typically extinguished post-flashover). As evidenced in the following figure, fire losses, casualties, and deaths rise significantly as the extent of fire damage increases.

Extension	Civilian Deaths <sup>1</sup>	Civilian Injuries <sup>1</sup>	Average Loss per Fire
Confined to the room of origin or smaller	1.8	24.8	\$4,200
Confined to floor of origin	15.8	81.4	\$36,300
Confined to building of origin or larger	24.0	57.6	\$67,600

<sup>1</sup>Rates per 1,000 fires.

### **Emergency Medical Event Sequence**

Cardiac arrest is the most significant life-threatening medical event in emergency medicine today. A victim of cardiac arrest has mere minutes to receive lifesaving care if there is any hope for resuscitation. The American Heart Association (AHA) issued a set of cardiopulmonary resuscitation guidelines designed to streamline emergency procedures for heart attack victims and increase their likelihood of survival. The AHA guidelines include goals for the application of cardiac defibrillation to cardiac arrest victims. Cardiac arrest survival chances fall by 7 to 10% for every minute between collapse and defibrillation. Consequently, the AHA recommends cardiac defibrillation within five minutes of cardiac arrest. As with fires, the sequence of events that lead to emergency cardiac care can be graphically illustrated, as shown in the following figure.



The percentage of opportunity for recovery from cardiac arrest drops quickly as time progresses. The stages of medical response are similar to the components described for fire response. Recent research stresses the importance of rapid cardiac defibrillation and the administration of certain medications to improve the opportunity for successful resuscitation and survival.

### People, Tools & Time

Time matters a great deal in the achievement of an effective outcome to an emergency event. Time, however, is not the only factor. Delivering the correct number of properly trained, appropriately equipped personnel within the critical period completes the equation.

For medical emergencies, this can vary based on the nature of the emergency. Many medical emergencies are not time-critical. However, for severe trauma, cardiac arrest, or conditions that may lead to cardiac arrest, a rapid response is essential.

Equally critical is delivering enough personnel to the scene to perform all of the concurrent tasks required to deliver quality emergency care. For a cardiac arrest, this can be up to six personnel: three to perform cardiac arrest management (CPR), one to set up and operate advanced medical equipment, one to record the actions taken by emergency care workers, and one to direct patient care.

Thus, for a medical emergency, the real test of performance is the time it takes to provide the personnel and equipment needed to deal effectively with the patient's condition, not necessarily the time it takes for the first responders to arrive.

Fire emergencies are even more resource critical. Again, the true test of performance is the amount of time it takes to deliver sufficient personnel to initiate water application to a fire. Reducing the time it takes to apply water on a fire is the only practical method to reverse the continuing internal building temperature increase and ultimately prevent flashover. The arrival of one person with a portable radio does not provide fire intervention capability and should not be counted as "arrival" by the fire department.

# COMPLIANCE METHODOLOGY

The preceding sections of this report provide a detailed analysis of the historical performance of LBFD. For this analysis to prove beneficial to agencies and policymakers, performance analyses should continue regularly. The collection of data for system analysis is essential for monitoring current performance and adapting the systems to the trends portrayed by such data and analytics. The types of data and how they are collected are critical elements to effectively and efficiently evaluate what the Department is doing and how it is performing.

The LBFD is committed to a continual process of analyzing and evaluating actual performance against the adopted standards of cover and will enhance the data collection procedures of field operations personnel. A periodic review of the Department's records management system reports will be necessary to ensure data compliance and reliability. Compliance methodology is an essential process for organizations seeking continuous improvement in service to the community.

#### **Compliance Model**

Compliance achievement improves through a systematic approach. The following fivestep compliance model has proven to be very effective.



### Figure 142: Five-Step Compliance Model



### Phase 1—Establish/Review Adapt Performance Metrics

Complete the initial Standards of Cover process. Conduct a full review of the performance measures every five years:

- Identify services provided
- Define levels of service
- Categorize levels of risk
- Develop performance objectives and measures:
  - By incident type
  - By geographic demand zone
  - Distribution (first on scene)
  - Concentration (arrival of full first alarm)
- Conduct an annual review and evaluation:
  - Performance by unit
  - Performance by first due
  - Overall performance
  - Assessment of performance by the governing body
  - Adjustment of performance standards by governing body as necessary
- Update the Standards of Cover data regularly:
  - Performance by unit
  - Performance by first due
  - Full effective response force
  - Overall performance
  - Adoption of performance measures by the governing body
- Establish management processes to deal with future changes in the Department's service area

### Phase 2—Determine the Type & Methods of Collecting Data

- Apply performance measures to the actual service provided:
  - System-level
  - First Due Area level
  - Unit level
  - Full effective response force (ERF)

- Select effective methods of collecting data:
  - Report Management System
  - Personnel responsible for collecting and submitting data
  - Quality Assurance program
  - Timeline for data submittal

### Phase 3—Communicate & Train the Department

- Communicate expectations:
  - Explain the method of measuring compliance with personnel who perform the services
  - Provide feedback mechanisms through quality assurance processes
  - Define the consequences of noncompliance, both organizationally and for personnel management
- Train personnel:
  - Provide appropriate levels of training/direction for all affected personnel
  - Communicate consequences of noncompliance
  - Adapt business processes, business application systems, and technical infrastructure as necessary to comply

### Phase 4—Evaluate the Metrics

Develop and deploy verification tools and techniques that sub-sections of the Department can use on an ongoing basis to verify that they are meeting the requirements:

- Monthly evaluation:
  - Performance by unit
  - Overall performance
  - Review of performance by division/section management
- Quarterly evaluation:
  - Performance by unit
  - Performance by first due
  - Overall performance
  - Review of performance by executive management
- Annual evaluation and report:
  - Performance by unit
  - Performance by first due
  - Overall performance
  - Assessment of performance by executive management

### Phase 5—Develop Compliance Strategies

Determine gaps and opportunities:

- Determine how best to close the gaps
- Determine if resources can/should be reallocated
- Seek alternative methods to provide service at the desired level
- Develop budget estimates as necessary that provide a complete benefit analysis
- Seek additional funding commitments as necessary

# Section V: COMMUNITY RISK ASSESSMENT



# COMMUNITY RISK IN LONG BEACH

### **Population & Density**

According to the 2019 5-year U.S. Census American Community Survey, the population of Long Beach was 466,776. This is an increase from 461,823 in 2010. The population reached a high of 470,489 in 2017 before beginning the downward trend to the current level. Information from the California Department of Finance confirms a downward population trend from 2017.<sup>24</sup> The population density per square mile is 8,487.



### Figure 143: Long Beach Population (2010–2019)

### **At-Risk Populations**

An area's population will have different types of residents at higher risk of fires and other unintentional injuries. The LBFD's response area is urban, ranging from single-family homes to high-rise apartment buildings. The NFPA has identified groups with an increased risk of injury or death from a fire, as indicated below.<sup>25</sup>

<sup>&</sup>lt;sup>25</sup> National Fire Protection Association, 2007; Urban Fire Safety Project, Emmitsburg, MD.



<sup>&</sup>lt;sup>24</sup> State of California, Employment Development Department website.

- Children under five years and adults over 65 years of age
- People with disabilities
- People facing language barriers
- People in low-income communities

Data from the 2019 U.S. Census American Community Survey 5-year estimates identified several groups in these categories that are more likely to need emergency services, specifically EMS, than other populations.<sup>26</sup>

### **Demographics**

### Age

Service demands due to fires or unintentional injuries are related directly to people's age. The median age of Long Beach residents is 34.9 years, compared to California's median of 37 years. The medical needs of older adults results in increased demands for EMS services, even when those individuals comprise a relatively small percentage of the population. For example, the percentage of Long Beach residents over the age of 65 is 11.4%. They will receive more medical services as they age. Older adults are 2.6 times more likely to die in a fire than the United States' overall population.<sup>27</sup>

Children under the age of five are at more risk than other age groups because of their inability to care for themselves and their need for additional assistance during an emergency. Recent trend data (2018) from the U.S. Fire Administration indicate that this age group's relative risk from dying in a fire has dropped 30% in the last ten years, a result that possibly could be credited to increased fire prevention and education. The percentage of Long Beach children younger than five is 6.5%.

 $<sup>^{\</sup>rm 27}$  U.S. Fire Administration website



<sup>&</sup>lt;sup>26</sup> U.S. Census Bureau.



### Figure 144: Percentage of Population by Age Risk

### Disabilities

The need for people to self-evacuate a building during an emergency creates risks for those with a disability. 10.2% of Long Beach residents have a disability. According to the U.S. Census, 35.7% of Long Beach adults age 65 and older have a disability, compared to 3.4% of those under the age of 18. The lack of access to adequate health care may exacerbate the medical problems experienced by people with disabilities.



Working smoke alarms that can provide early warning of a fire are vital for people with a disability. Such notification can allow people to implement their home evacuation plan and leave the building. Smoke alarms for people who are deaf or hard of hearing can provide notification even when they (people) are sleeping.

#### Language Barriers

People who speak a language other than English may be at greater risk during an emergency incident than English speakers because of their inability to communicate in that situation. 46.1% of Long Beach residents reportedly speak a language other than English at home. First responders must be prepared to utilize a different communication type, whether in verbal or written form, when language barriers present themselves during an incident.



### Figure 146: Language Spoken at Home Other than English

#### **Poverty and Income**

Low wages create problems in any community and can lead to poverty. People living below the poverty level are considered at the highest risk when combined with other factors such as low education levels, disabilities, lack of health insurance, housing conditions, and/or the inability to work. 16.8% of Long Beach residents reportedly live in poverty, which is significantly higher than California's 11.8% rate. The median household income in Long Beach is \$63,017 compared to the California median of \$80,400.



#### Figure 147: Population in Poverty

### **Additional Demographics**

Other demographic characteristics provide additional information about Long Beach residents. Although they do not fall into the NFPA-defined high risks populations, they can impact the community's risks.

### **Education Levels**

According to the U.S. Bureau of Labor Statistics, there is a positive correlation between educational levels and wages: the higher the education level, the higher the wages. In 2018, the median weekly earnings of Long Beach residents with only a high school diploma were \$730, which is 39% less than someone with at least a bachelor's degree who earned \$1,198.<sup>28</sup> In Long Beach, 7.7% over the age of 25 have at least a 9th through 12th-grade education, with no diploma. The percentage of residents older than 25 with a bachelor's degree or higher is 31.1%.

<sup>&</sup>lt;sup>28</sup> U.S. Bureau of Labor Statistics website.




#### Figure 148: Education Levels Over the Age of 25

## Health Insurance

Populations without adequate health care place an additional burden on service delivery and increase the rate of medical incidents. Lack of health insurance may affect lowerincome populations at a higher rate since they cannot pay for medical visits. Long Beach has more people without insurance under the age of 65 (9.4%) when compared to California at 8.9%.



### Housing Characteristics

Housing types, which vary in a community, can provide insights into ownership, age of the home, and the number of units in the building. In 2019, the occupancy rate of housing units in Long Beach was 94.9%, leaving a vacancy rate of 5.1%. Risks increase when structures are vacant, posing problems for the Fire Department and the community. Empty buildings that are not maintained will lose their structural integrity, creating safety hazards for people who may stay there illegally as well as for responding personnel during a fire. Buildings that are left unsecured are likely to experience vandalism, which creates additional problems for the community and for law enforcement as well as for the Fire Department.

#### Home Ownership

Homeownership in Long Beach reportedly is 39.8%. The mobility of the population and lack of residential construction may explain such a low percentage.



## Figure 150: Owner-Occupied & Renter-Occupied Housing

## Age of Housing

Although most buildings are constructed to last a period of time, they require regular maintenance if they are to reach their expected life times. More than 55% of the homes in Long Beach were built before 1960. These homes, along with any built before smoke alarm requirements, present higher risks to occupants, especially if they are not maintained properly.



Figure 151: Long Beach Age of Housing

## **Housing Units**

The percentage of people living in one or two-family dwellings in Long Beach is slightly less than that of people who live in multiple-unit apartment buildings.



## Race & Ethnicity

According to various sources, Long Beach is considered one of the most diverse cities in the United States.<sup>29</sup>

Race and Ethnicity	Long Beach	California			
White alone	51.2%	59.4%			
Black or African American alone	12.7%	5.8%			
American Indian & Alaskan Native alone	1.1%	0.8%			
Asian alone	13.1%	14.5%			
Native Hawaiian & Other Pacific Islander alone	0.8%	4.0%			
Some other race alone	16.5%	13.2%			
Two or more races	4.7%	13.7%			
Hispanic or Latino (of any race)	42.6%	39.0%			
White alone, not Hispanic or Latino	28.2%	37.2%			

## Figure 153: Long Beach Race & Ethnicity

<sup>&</sup>lt;sup>29</sup> Long Beach Post website.



## **Environmental Hazards**

All communities are threatened by physical hazards that can range from earthquakes to flooding from heavy rains, to droughts. Mitigation plans provide information for the public and emergency responders to understand the risks of such hazards and to prepare for them.

## Weather Conditions

### Temperature

The temperature can impact not only the fire department but the entire Long Beach area. The average high temperatures range from a low of 68°F during December to a high of 84.4°F in August.<sup>30</sup> Although the overall temperatures are considered mild, there are occasions when hotter conditions occur. Between 1958 and 2012, the temperature reached 111°F during September 2010 and October 1961.<sup>31</sup>



Figure 154: Long Beach Average Monthly High Temperatures (2011–2020)

<sup>&</sup>lt;sup>31</sup> Western Regional Climate Center website.



<sup>&</sup>lt;sup>30</sup> Iowa State University, Iowa Environmental Mesonet website.

The heat index measures how hot it feels when the humidity and air temperature are combined and can quickly impact unprepared residents without air conditioning and emergency responders.<sup>32</sup> Extreme heat will affect firefighters during extended incident operations and require additional resources for rehabilitation to prevent heat exhaustion.

ws	He	at Ir	ndex			Te	empe	ratur	e (°F)							
	80	82	84	86	88	90	92	94	96	98	100	102	104	106	108	110
40	80	81	83	85	88	91	94	97	101	105	109	114	119	124	130	136
45	80	82	84	87	89	93	96	100	104	109	114	119	124	130	137	
50	81	83	85	88	91	95	99	103	108	113	118	124	131	137		
55	81	84	86	89	93	97	101	106	112	117	124	130	137			
60	82	84	88	91	95	100	105	110	116	123	129	137				
65	82	85	89	93	98	103	108	114	121	128	136					
70	83	86	90	95	100	105	112	119	126	134						
75	84	88	92	97	103	109	116	124	132							
80	84	89	94	100	106	113	121	129								
85	85	90	96	102	110	117	126	135							-	-
90	86	91	98	105	113	122	131									RRD
95	86	93	100	108	117	127										
100	87	95	103	112	121	132										

## Figure 155: National Weather Service Heat Index Chart

#### Winds

Data from Long Beach Airport provides the average monthly wind speed. The winds begin increasing in February, with the highest in April and May, and slowly subsides until November. Prevailing winds are from the north-northwest and south.<sup>33</sup> The area can observe Santa Ana winds which can cause damage to utility poles and other infrastructure during these events. The Long Beach Hazard Mitigation Plan (HMP) considers a 50 miles per hour windstorm as a big event, and the annual probability is highly likely.

Danger

Extreme Danger

Extreme Caution

Caution

<sup>&</sup>lt;sup>33</sup> Ibid.



<sup>&</sup>lt;sup>32</sup> NOAA, National Weather Service website.



## Drought

The effects of an extended drought directly impact the replacement of groundwater supplies. Droughts may last for an extended period and create secondary problems during peak wildfire conditions as the vegetation becomes dry and highly combustible. Although there is no wildland-urban interface problem in Long Beach, it is impacted when surrounding communities' resources are depleted. Long Beach is currently in moderate drought conditions.

## Earthquakes

There is a high risk of an earthquake occurring in Long Beach, and several faults are within the jurisdiction. Damage from an earthquake depends on the location, intensity, type of fault, soil conditions, and building construction.

The Newport-Inglewood fault follows a northwest to southeast direction near the Long Beach Airport and towards the coast. In 1933, the Newport-Inglewood fault ruptured and caused a 6.4 magnitude earthquake in Long Beach. The quake occurred in the early evening, and the epicenter was three miles south of Huntington Beach at a depth of eight miles and did not cause a surface fault rupture. There were 120 people killed, including 52 in Long Beach. Many schools in the area were damaged, and 70 were destroyed. The earthquake's time prevented many deaths because schools were out for the day.<sup>34</sup>

<sup>&</sup>lt;sup>34</sup> The 1933 Long Beach Earthquake, California Department of Conservation website.



The 1933 earthquake caused the California State Legislature to pass the Field Act that authorized the Division of the State Architect to review and approve construction and specifications for all public schools. Since the passage of the Field Act, no schools have had a loss of life or collapse.

The probability of an earthquake occurring from this fault over the next 100 years ranges from 15% to 50%. The HMP states ground shaking from a 6.5 magnitude earthquake could last 12–18 seconds.

The highest risk of an earthquake in the region is the San Andreas fault in the next 100 years. Indications from geological surveys suggest a 50% chance a major earthquake will occur within 30 years, and shaking would be strong to severe. Other blind-thrust faults in the area are a threat, but little data is available since surface displacement is not indicated, such as the 1983 Coalinga and 1987 Whitter events.

The earthquake shaking potential in Long Beach is considered high based on data from the California Geological Survey. Ground shaking potential is based on the 2% chance of an earthquake occurring in 50 years. The probability is based on multiple factors to include topography, soils, groundwater, if the shaking is strong enough to cause landslides or liquefaction.



Figure 157: Earthquake Shaking Potential & Area Faults

## Landslides

The risk of a landslide is low in Long Beach, with the only areas of concern in the Signal Hill area and along the southern coast. The 2016 HMP removed four action items relating to earth movement because of the minimal risk.



## Tsunami

A tsunami at Long Beach could create significant damage along the southern coast and impact the port's operations and infrastructure. An earthquake is the most likely cause of a tsunami that would affect Long Beach. Although the probability is low, a tsunami can impact the community with low-lying areas inundated with water, wave actions, or erosion. The University of Southern California created models that anticipate "*maximum run-up*" from a tsunami at 42 feet above the high tide for that day and time and would impact residential neighborhoods, commercial areas, and infrastructures, such as buildings, utilities, and transportation systems. The HMP suggests other associated issues include economic impacts such as loss of jobs and tax revenue and disruption of businesses requiring temporary locations for continued operations.





## Flooding

Portions of Long Beach are in FEMA flood zones along the southern coast and small tributaries that intersect with the river. There are "AE" regulatory floodways in Long Beach, according to FEMA's website. The AE designation is considered "Areas subject to inundation by the 1-percent-annual-chance flood event determined by detailed methods." and is further defined as a 26% chance of a flood occurring in 30 years. An area classified as "A" zone is exposed to a 1-percent chance of a flood event but does not have a "...detailed hydraulic analysis." Zone "AH" is subject to a 1-percent chance of shallow flooding where ponding may occur with average depths of 1'–3' and base flood elevations result from a detailed hydraulic analysis. Zone "VE" areas are along the immediate coast and are "... subject to inundation by the 1-percent-annual-chance flood event with additional hazards due to storm-induced velocity wave action."<sup>35</sup>

Rainfall is the highest from December through March, and localized flooding can occur during heavy rain events. The following chart represents the average monthly precipitation for the ten previous years.



Figure 160: Average Monthly Precipitation (2011–2020)

<sup>35</sup> FEMA Flood Map Service Center website.





#### Levees

Levees provide additional protection during flooding events to maintain the water within its established boundaries. There are numerous levees for the primary stormwater system in Long Beach that ultimately discharge into the Pacific Ocean along the southern coastline. The Los Angeles County Flood Control District (LACFCD) decertified the Compton Creek and Dominguez Channel levees after determining they were structurally sound but could not contain FEMA's 100-year flood. These levees' decertification will place these areas in a FEMA flood zone, requiring mandatory flood insurance. LACFCD is undertaking an analysis to improve flood capacity and includes "... habitat restoration, aesthetic, and recreational improvements."<sup>36</sup>

<sup>&</sup>lt;sup>36</sup> Long Beach Public Works Department, Flood Hazards/Floor Zone Information website.







#### **Hazardous Materials**

If a building or facility stores or produces hazardous materials, it may require special personal protective clothing and equipment to control or mitigate the event. Locations that have hazardous materials on-site for any time during the year exceeding the limits established by the Environmental Protection Agency are required to file Tier II reports. These reports to local jurisdictions, local emergency planning committees, and the State's Emergency Response Commission are required by the Emergency Planning and Community Right-to-Know Act of 1986, also known as SARA Title III. These thresholds require submission:

- Ten-thousand pounds for hazardous chemicals
- Lesser of 500 pounds or the threshold planning quantity for extremely hazardous chemicals

California requires additional reporting quantities through a five-tier system that authorizes the treatment and storage of hazardous waste. This reporting is completed online and is available for viewing by emergency responders during an incident through the California Environmental Reporting System. California also requires reporting of the following products:

- Gasoline in underground storage tanks at retail gas stations with more than 75,000 gallons (all grades combined)
- Diesel fuel underground storage tanks at retail gas stations with more than 100,000 gallons (all grades combined)



Figure 163: Hazardous Materials Sites

## **Critical Infrastructure**

There are buildings, facilities, and other assets considered essential to society and the economy to function in every community. Critical infrastructure is defined as,"... assets, systems, and networks, whether physical or virtual, considered so vital to the United States that their incapacitation or destruction would have a debilitating effect on security, national economic security, national public health or safety, or any combination thereof." There are sixteen defined Critical Infrastructure Sectors (CIS).<sup>37</sup>

- Chemical
- Commercial Facilities
- Communications
- Critical Manufacturing
- Dams
- Defense Industrial Base
- Emergency Services
- Energy

- Financial Services
- Food and Agriculture
- Government Facilities
- Healthcare and Public Health
- Information Technology
- Nuclear Reactors, Materials, & Waste
- Transportation Systems
- Water and Wastewater Systems

## Highways

Traveling from one location to another via local streets and highways is the primary form of transportation in Long Beach. The transportation network consists of collector streets fed by residential roads throughout the City. Controlled-access highways such as I-405, I-605, I-710, and State Highway 91 transverse the City and create problems for emergency responders when the apparatus cannot access an incident.

Traffic signal preemption is available at an estimated 400 of the 650 intersections throughout the City. The current system utilizes the older Opticom infrared technology to change the traffic signal to green for the responding apparatus to receive controlled access through an intersection. There is not a replacement program for existing technology.

<sup>&</sup>lt;sup>37</sup> United States Department of Homeland Security website.



Potential funding opportunities to begin replacing the current system are available through the Southern California Association of Governments Sustainable Communities Program (SCAG) or Caltrans. One of the program's goals for SCAG is to "Support a resilient region that looks to climate adaptation and public health preparedness as key strategies to address community prosperity, transportation safety, economic recovery, and sustainability."

A second option is the Surface Transportation Block Grant Program (STBGP) which provides funding for "... states and localities for a wide range of projects to preserve and improve the conditions and performance of surface transportation, including highway, transit, intercity bus, bicycle, and pedestrian projects." Caltrans administers the STBGP.

#### Rail

Commercial rail lines cross numerous roadways in Long Beach. Both Union Pacific and BNSF operate rail traffic that originates and terminates at the Port of Long Beach. These rail lines transport shipping containers for export, but primarily products imported into the United States. These trains transport large quantities of products, including hazardous materials that pass through the city daily.

The Los Angeles Metro services more than 9.6 million customers annually and provides service to Long Beach. There are seven passenger stations along the A-Line (Blue) in Long Beach to serve the City. There are multiple uncontrolled rail crossings on Long Beach Blvd. and other major roads as the line travels in a northwest direction towards Los Angeles. These uncontrolled crossings create special hazards for emergency responders when sharing the rails and roads with motor vehicles. The Metro line can derail and cause injuries to its commuters or cars involved in the incident.



## Airport

The Long Beach Airport provides commercial airline service to Long Beach and the southern portion of Los Angeles County. The property encompasses 1,166 acres and has five runways, with the longest at 10,000 feet. American, Delta, Hawaiian, and Southwest Airlines provide service to the airport daily to 16 cities. The effects of COVID-19 continue, but the number of commercial flights increased from 542 to 1,168 between October 2020 and October 2021, while the number of passengers more than tripled. Air cargo through October 2021decreased by 11% compared to 2020. As restrictions are lifted, flight operations will continue to increase.<sup>38</sup>

Airport property includes more than 200 businesses that include mid-rise buildings and hotels. There is a Gulfstream Aerospace service facility and several fixed-based general aviation providers at the airport to service private aircraft. Fueling for commercial and private aircraft is provided at the airport by a local vendor and stored on site.

## Port

The Port of Long Beach is the second busiest container port in the United States, covering 2,700 acres of land and 4,500 acres of water. The port can service the largest container ships and is a destination for 173 shipping companies and 217 other ports of call.

The port prides itself on a \$4 billion capital improvement plan creating a modern and efficient trading location for the world's products. The recent completion of the new Gerald Desmond Bridge now allows the largest ships to reach the inner channel. In 2021, the Middle Harbor Terminal Redevelopment will be completed and will have an annual volume of 3.3 million TEUs (20-foot equivalent units). This expansion will double the capacity of the previous terminals it is replacing and can service three ships concurrently. Expanding Pier B On-Dock Rail Support Facility will improve and simplify rail operations at the port and allow the assembling of longer trains faster to improve efficiencies.

In 2020, more than 8.1 million container units were processed at the port. The number of TEUs increased by 113% in March 2021 compared to 2020 and was the busiest month on record.

<sup>&</sup>lt;sup>38</sup> Long Beach Airport, Commercial Flight Activity Report, October 2021.



The port recently completed the new Fire Station 15 to house the fireboat Vigilance in an 11,200 square-foot bay for the boat. The Vigilance and Protector are new boats recently placed into service and can deliver 41,000 gallons of water per minute.

## Energy

The ability to provide energy is a necessary component for a thriving community. The need for power includes communications to traffic signals to normal operations, which requires energy use. Whether it is electricity generation and transmission systems, fuel distribution and storage tanks, or natural gas pipelines and regulator stations, the community depends on energy sources. Southern California Edison (SCE) electrical provides power for Long Beach, and Long Beach Energy Resource Department distributes natural gas.

## Electricity

High voltage transmission lines provide electrical service distribution for Long Beach. Several of these lines cross the City supplying 66 Kilovolts (kV) to 230 kV to electrical substations. The 230 kV lines terminate at the Port of Long Beach. All incidents involving an electrical substation require extreme caution and assistance from the utility provider.

The AES Los Alamitos electrical power plant is fueled by natural gas and is located on the City's southeastern side. This facility produces 2,000-megawatts of electricity. The Haynes Generating Station produces 1,600 megawatts with natural gas and is across from AES Los Alamitos. Lastly, the Southeast Resources Recovery Facility on Terminal Island produces electricity by processing solid waste from the Long Beach and City of Los Angeles sanitation districts.

## Natural Gas

Transmission and high-pressure lines provide a system of natural gas distribution throughout the City. These lines from SoCalGas provide 93% of the natural gas to Long Beach Energy Resources through four interconnected sites in the City for distribution to local commercial and residential customers. The pressure reduces to 40 pounds per square inch after the connections for the City. The remaining 7% is received from private crude oil producers.

## Crude Oil

The City of Long Beach Energy Resources Department operates the Oil Properties Bureau that manages the oil interests of the City. The bureau oversees the subsidence control measures established to stop the sinking of the land around Long Beach. In the 1950s, the subsidence process of injecting water into the underground pools began and stopped further sinking and increased in some areas by two feet.



Four islands were built to drill oil in the Long Beach Harbor. These ten-acre islands are accessible by boat and provide a contained location for crude oil production and transfer by pipelines to onshore facilities for refining.

#### Water

The Long Beach Water Department (LBWD) provides water to more than 500,000 people in its service area and can produce 62 million gallons per day. Groundwater wells supply 60% of the water for Long Beach, while the remaining is imported from the Metropolitan Water District of Southern California (MWDSC), consisting of 26 different agencies. The Colorado River is the primary source of water for MWDSC through the Colorado River Aqueduct. Approximately 18 million gallons of treated wastewater reduces the amount of potable water used. This water is used for irrigation, recharging the groundwater basin, and cleaning streets.

LBWD provides all fire hydrant inspections and maintenance. The hydrant group within LBWD inspects the hydrants on a three-year rotating basis and conducts hydrant flow testing as needed. During the most recent ISO inspection, LBFD received 5.6 credits out of 7.0 available.





### Communications

When an incident occurs, essential facilities to receive and transmit alarm information require a dispatch center to communicate with emergency responders properly. Other types of communications are critical to the community, such as cellular phones, Voice over Internet Protocol (VoIP) telephone systems, or transmission lines from the local telephone company. Each of these systems allows the public to notify emergency services of an incident. Internet services are considered essential for the public, commercial establishments, and emergency services to conduct business daily. Whether the internet services are through cellular access or an internet service provider, the failure of these communication systems will significantly impact emergency services and the public.

## **Governmental Facilities**

Managing services provided to the public is a necessary component of government. The ability of customers to contact the public services they need is crucial for a well-run society. These buildings operated by local, State, or Federal are part of the critical infrastructure in Long Beach.



## Land Use

Land use for a community is designed to classify properties within a geographical area generally under governmental control. The concept of land use regulation provides attractive social and environmental outcomes to assist in managing development efficiently. Zoning areas may vary from one portion of the service area with a mixture of low-, moderate-, and high-risk properties.

- Low Risk: Areas for agricultural purposes, open and vacant spaces, low-density residential, and other low-intensity uses.
- **Moderate Risk:** Medium-density one and two-family dwellings, minor commercial and office uses, minimal intensity retail sales, and similarly size business activities.
- **High Risk:** Higher concentrated business districts, high-rise buildings, mixed-use areas, high-density residential, industrial, storage facilities, and significant mercantile development.

The Long Beach Development Services Department is responsible for managing new developments and ensuring they meet all zoning and land use requirements. These planning design requirements allow Long Beach to grow efficiently and to manage the local environment.

Since most of Long Beach has been developed, the majority of new construction is a redevelopment of existing properties. The Land Use Element adopted in 2019 "... directs the long-term physical development of the City by guiding use, form, and the characteristics of improvements on the land. It designates the location, types, and intensity of housing, businesses, industries, open spaces, public buildings, airports, ports, marinas, and other uses in Long Beach."

How the City grows directly impacts the Fire Department and the services it provides. Most new growth occurs in the downtown area and south of 19<sup>th</sup> Street, with other projects scattered throughout the City. A review of publiCity, the website that provides information on new development projects under review, entitlements approved, under construction, or completed, indicates many of these are along or near the light rail following Long Beach Blvd.

Many of these new developments are multi-story and will increase the population density, thus will create additional incident responses by LBFD. According to the U.S. Census, Long Beach's population has decreased since 2017; the 2019 Land Use Element estimates the number of people living in the City to increase to 484,485 by 2040.

The Land Use Element established a goal to "Provide Reliable Public Facilities and Infrastructure to Encourage Investment." As growth continues, the City must enhance LBFD by following Strategy No. 17, which "Improves public infrastructure to serve new development, established neighborhoods, commercial center, industry, and regionalserving facilities."

The following are policies to meet this goal:

- LU Policy 17-1: Coordinate land use development and infrastructure investment.
- LU Policy 17-2: Maintain adequate and sustainable infrastructure systems to protect the health and safety of all Long Beach residents, businesses, institutions, and regional-serving facilities.
- LU Policy 17-3: Prioritize improvements in underserved neighborhoods to remedy deficiencies in infrastructure, public facilities, and services.
- LU Policy 17-4: Continue to make improvements that advance technology and innovation to enhance City services, promote greater civic engagement, and improve efficiencies.
- LU Policy 17-5: Serve a wide range of community needs by providing increased access to community uses at schools (i.e., health clinics, counseling centers, recreational and other social services) outside of school hours, starting in neighborhoods with a lack of sufficient public facilities, infrastructure, and services.<sup>39</sup>

Future development will impact LBFD with increasing call volume for fire and emergency medical services, specifically in areas where population density is increasing. As the City grows, it is incumbent to forecast how a growing community will affect the Fire Department's operations based on land use and changing demographics.

<sup>&</sup>lt;sup>39</sup> Land Use Element, City of Long Beach General Plan, December 2019.





## **Occupancy Types**

#### **Educational & Childcare Facilities**

The Long Beach Unified School District operates the public education facilities for 70,000 students located in 85 schools. Other locations include private schools throughout the City. These buildings create additional risks, primarily for mass casualty incidents, and are potential target hazards.

Post-secondary education is available through California State University Long Beach, with more than 37,000 students, and Long Beach City College enrolls almost 24,000 undergraduate students.<sup>40</sup> Although there are other colleges in Long Beach, these are the largest campuses in the City. Much like public schools, these locations present similar risks.

Childcare facilities create unique risks. Infants and pre-school-age children require additional attention because of their inability to self-evacuate during an emergency. Childcare workers will need to assist them in leaving the building or physically remove them.

<sup>&</sup>lt;sup>40</sup> Univstats.com website.





Figure 168: Public & Private Schools



## Assembly

Assembly occupancies are at higher risk because of the number of people allowed to gather for worship, entertainment, or special event in a single location. Special events include large sporting venues or outside festivals. Each of the occupancies may require many emergency responders during an incident involving a fire or an active shooter.

Significant outdoor events may require submission of a public safety plan to include emergency vehicle access and egress, fire protection, emergency medical services, public assembly areas, directing of vehicular traffic and attendees, vendor, and food concessions, need for law enforcement, fire, or EMS personnel, and weather monitoring.

#### **Hospitals & Medical Facilities**

A primary service in any community is the ability to provide medical care to its citizens. Patients in these facilities may need assistance during an incident. These buildings require additional life safety requirements such as fire sprinklers and alarm systems because of the occupants' inability to evacuate the facility quickly. During a significant event, a high number of responders will be necessary to control the incident. Medical offices or clinics typically surrounding hospitals may deliver a lower level of protection because of the type of care they provide. These buildings generally are classified as business occupancies.



## Hotels

Hotels can pose hazards to the occupants because they may be unfamiliar with the building and exit locations, they are sleeping when an incident occurs, or from a large number of people in the facility. Although the fire code requires posting evacuation routes in each room, the occupant may not follow the directions during a fire. Most new hotels have built-in fire protection systems to stop or slow the spread of a fire or provide notification through the building's fire alarm system.



#### Figure 171: Hotel Locations

### Institutional

Although already discussed, hospitals are classified as institutional. Institutional occupancies provide care or supervision to persons unable to self-preserve, present additional risks, and include skilled nursing. Other occupancies include detention and correctional centers, group homes, and nursing homes. These locations may have occupants unable to evacuate without assistance or detained at the facility.



#### Figure 172: Skilled Nursing Facilities
## **Multi-Family**

The demographics overview determined that many people (50.7%) in Long Beach live in multi-family buildings and is much higher than the state at 29%. Multi-family residential properties create a higher risk for occupants than most commercial buildings. These locations can create special hazards and increase the chance of fire fatalities and represent numerous risks such as occupants with accessibility issues or structures built without fire sprinkler protection.

New buildings now require fire sprinklers to reduce the risk in these occupancies. Considering most dwellings (81.6%) in Long Beach were built before 1980, most multi-family buildings may not have fire sprinkler protection. The common areas of these occupancies are required annual inspections to ensure fire code compliance.



#### Figure 173: Multi-Family Housing

### **Buildings Three or More Stories**

The number of needed ladder-service trucks depends on the number of buildings three stories (or 35 feet) or more in height, buildings with a Needed Fire Flow greater than 3,500 gpm, and the method of operation. LBFD currently has four ladder companies in service. These companies are needed to provide fire suppression services to areas to meet NFPA 1710 criteria or within 2½ miles and the number of buildings with a Needed Fire Flow over 3,500 gpm or three stories or more in height, or the method of operation. The following figure shows the locations of buildings three or more stories in height that may require an aerial ladder with an elevated master stream during an incident since most ground ladders cannot reach these heights.



### Large Square Foot Buildings

Large buildings, such as warehouses, strip malls, and large mercantile occupancies, require higher fire flow needs and more firefighters to advance hose lines long distances into the building during fireground operations. Fire flows may be greater for smaller buildings because of construction type, distance to exposures, and lack of built-in fire protection systems such as fire sprinklers. The following figure is based on data from ISO and shows the locations for buildings 10,000 square feet and larger.



### Figure 175: Buildings Greater Than 10,000 Square Feet





## **Comparison of Fire Risk in Other Communities**

Reviewing data from LBFD and recent reports from the National Fire Protection Association, Triton compared fire risks with communities of similar size if the data was available. This information is for benchmarking or illustrative purposes only and can vary from year to year based on the number of incidents.

### Fire Loss

In 2019, fire departments in the United States responded to more than an estimated 1.3 million fires and 3,700 civilian fire deaths. Estimated property damage was \$14.8 billion. The NFPA report stated that one in five fires involved a one- or two-family or multi-family dwelling, but 65% of the civilian fire deaths occurred in these occupancies. Nationwide, the dollar loss from fires was 24% lower after adjustment for inflation since 1980.<sup>41</sup>

### Figure 177: LBFD Number of Fires & Loss per Capita (2019)

Community Size 250,000 or more	No. of Fires per 1,000 Population	Property Loss per Capita
Long Beach	2.9	\$35.62
United States	2.6	\$45.64

## **Intentionally Set Fires**

Intentionally set fires, or in many cases considered as arson, is defined as "any willful or malicious burning or attempt to burn, with or without intent to defraud, a dwelling house, public building, motor vehicle or aircraft, personal property of another."<sup>42</sup>

<sup>&</sup>lt;sup>42</sup> Crime Data Explorer, Federal Bureau of Investigation.



<sup>&</sup>lt;sup>41</sup> National Fire Protection Association, Fire Loss in the United States During 2019.



### Figure 178: Intentionally Set Fires per 100,000 Population

## Insurance Services Office (ISO)

The Insurance Services Office, Inc. (ISO®) is an independent organization that collects and analyzes data from fire departments in communities throughout the United States to determine fire insurance rates. According to its report, the ISO's Public Protection Classification program, or PPC, "is a proven and reliable predictor of future fire losses." As the classification lowers, reduced commercial property insurance rates in areas with lower (better) ISO PPC Class ratings.

The ISO Fire Suppression Rating Schedule (FSRS) measures four primary components of a community's fire protection system: Emergency Communications (max 10 points); Fire Department (max 50 points); Water Supply (max 40 points), and Community Risk Reduction (max 5.5 points) for a maximum possible total of 105.5 points. ISO then assigns a grade using a scale of 1 to 10, with Class 1 representing the highest degree of fire protection. Class 10 designates a fire suppression program that does not meet ISO's minimum criteria.

In 2016, LBFD received an ISO classification of 2. LBFD is one of 158 communities out of 890 communities surveyed across the State to achieve the rating as shown in the following figure. LBFD received 87.49 credits, and it converts to their assigned classification. A review of the Public Protection Classification Summary Report revealed only 21.83 credits out of 30 for the water supply system, which offers an area for improvement.



## Section VI: FUTURE OPPORTUNITIES FOR FIRE & EMS SERVICE DELIVERY



## **INTRODUCTION & FINANCIAL FORECAST**

## Introduction of Recommendations

The following sections detail Triton's recommendations and options for the Long Beach Fire Department. The recommendations are divided by topic (e.g., Staffing Opportunities, EMS Opportunities, etc.). Within these topics, they are further divided into short-, mid-, and long-term recommendations, where appropriate. Each recommendation contains a description, the estimated costs/savings (where available), outcomes, and impacts.

## **Financial Forecast**

Long Beach has adopted its budget for the fiscal year ending September 30, 2022. The budget expects a deficit of approximately \$30 million in the current fiscal year. This deficit is expected to be offset with funds from the federal government's American Rescue Plan Act and the Long Beach Recovery Act. Deficits are projected to occur in FY 23 and FY 24 and are expected to be offset with similar fundings. In FY 25, revenues are projected to recover to the level necessary to provide for anticipated general fund expenditures.

Description	Budget FY 22	FY 23	FY 24	FY 25	FY 26
Property taxes	199,544,921	203,535,819	207,606,536	211,758,667	215,993,840
Sales tax	140,616,256	145,076,309	149,677,825	154,425,291	159,323,337
Other revenues	250,855,458	272,103,073	301,455,171	348,035,184	419,098,789
American Rescue Plan Act	30,000,000	27,000,000	8,000,000	_	—
Total Revenues	621,016,635	647,715,201	666,739,532	714,219,142	794,415,966
Total Expenditures	620,659,180	645,339,624	666,313,162	687,968,339	710,327,310
Increase (Decrease)	357,455	2,375,577	426,370	26,250,802	84,088,655
Beginning Fund Balance	137,183,056	137,540,511	139,916,088	140,342,458	166,593,260
Ending Fund Balance	137,540,511	139,916,088	140,342,458	166,593,260	250,681,916

#### Figure 180: Projected General Fund Revenues and Expenditures

## **STAFFING OPPORTUNITIES**

## **Short-Term Recommendations**

# Recommendation 1. Create a Facilities Division in the Support Services Bureau that is responsible for the timely repair and maintenance of LBFD's capital facilities and new construction.

**Description**: Currently, the maintenance and repair of the LBFD's fire and marine stations is the responsibility of the City's Public Works Department, where they frequently languish due to workload and competing priorities. Having the Fire Department take the lead on the stations' needed repairs and maintenance and possible re-modeling would ensure their timely and cost-effective completion. The Fire Department and the City would keep and maintain a "small works" roster of qualified outside vendors that could conduct station repairs costing under \$5,000.00 without going to bid.

**Estimated Financial Costs/Savings**: See Recommendation 2 for a breakdown of staffing costs for a newly created Facilities Division.

**Outcomes**: Enabling the LBFD to exercise greater control over its facilities would ensure that needed repairs and maintenance on infrastructure are made in a timely manner. The Department would work with the City to obtain funding for outstanding and ongoing projects based on a priority system of repair and maintenance. Station location, relocation, co-location, and possible consolidation would be provided by a dedicated and single source with consistent outcomes. Importantly, creating a single source of contact and information to work with the City on its long-term master plans would ensure the community has equitable access to adequate fire and EMS services.

**Impacts:** The health and safety of the City's emergency response personnel must be considered when facility repairs are identified in the budget process. The history of personnel health issues, and the related cost thereof, experienced at Station 9 should serve as an indicator of the potential liability of deferred maintenance issues. Deferred repairs and maintenance may cost more in the future than if addressed in a timely manner, particularly if their neglect results in more significant repairs.

## Recommendation 2. Staff the proposed Support Services Bureau's Facilities Division.

**Description**: The Department should staff the proposed Support Services Bureau's Facilities Division with one Battalion Chief, one Captain, two maintenance-qualified civilian positions, and one civilian support to manage the upkeep, repair, and maintenance of the LBFD's fire and marine stations. These individuals would need skills in carpentry, electrical, plumbing, and HVAC repair and maintenance. The Department has many talented individuals in-house who can manage these projects in a cost-effective and efficient manner. The Battalion Chief or Captain would work with the City Permit Center to ensure the proper permitting for relevant repairs, maintenance, and new construction.

**Estimated Financial Costs/Savings**: The cost is dependent on whether the five FTEs would be internal transfers from Fire and/or Public Works, external hires, or a mixture. Recommended staffing is one Battalion Chief, one Captain, two civilian maintenance workers, and one civilian administrative support position. The associated wages and benefits of those who transfer from the Public Works Department would follow them. Other staffing costs could be offset by the efficiencies realized by completing maintenance, repair, and new construction projects on time and under budget.

Description	Costs	
Battalion Chief w/benefits	335,648	
Captain w/benefits	274,998	
Maintenance workers w/benefits (2)	175,059	
Administrative w/benefits	122,949	
Totals	908,654	

### Figure 181: Projected Costs based on FY 22 Budget

**Outcomes**: Personnel staffing the new Facilities Division would have financial decisionmaking authority with the City Finance Department. This would include the ability to bid projects, award, and pay vendors to complete repair and maintenance work as identified. The increased focus of this staff on ensuring timely and necessary station repairs and maintenance would enable the Department to restore and maintain effective and healthy workplaces. These personnel also would identify potential station site locations, manage the purchase of approved land, and oversee the design, building, and occupation of any new facility in timely and cost-effective ways. **Impacts:** Absent the additional proposed staff, aging stations in desperate need of repairs and maintenance would continue to be unmet or assigned a low priority. Personnel would continue to work in stations with sub-standard conditions, some of which could endanger their safety or health, as was the case at Station 9. Deferred repairs and maintenance likely would cost more down the road than they would if addressed in a timely manner, particularly if their neglect results in greater needs.

## Recommendation 3. Add one Battalion Chief and one Administrative Assistant to the Support Services Bureau's Fleet section.

**Description**: Currently, there is one Captain on a "temporary" assignment (that has lasted seven years) responsible for managing the Department's large inventory of apparatus and equipment. Adding one Battalion Chief and one Administrative Assistant would enable the Department to transform into a sustainable operation.

**Estimated Financial Costs/Savings:** Cost is dependent on whether the recommended addition of a full-time Battalion Chief would be filled by an existing BC or require a new position. Funding would be required for the recommended Administrative Assistant. See Figure 182.

Description	Costs
Battalion Chief w/benefits	335,648
Captain w/benefits	274,998
Administrative w/benefits	122,949
Totals	733,595

#### Figure 182: Costs of Staffing the Fleet Section of the Support Services Bureau

**Outcomes**: The Fleet section would operate at a sustainable and effective level. Current single points of delay and failure would be negated or mitigated as additional staff are trained and the Fleet Captain shares his years of institutional knowledge before he retires. Fulfilling the Department's apparatus and equipment-related needs would be more certain and timely because they are not dependent on delegating assignments to other personnel who have their own full-time jobs. The Battalion Chief would focus on all steps in acquiring replacement apparatus and refining the reserve apparatus to eliminate surplus equipment per the Department's and City's surplus policy requirements. The workload would become manageable for all personnel. As a result, the Department could do a better and more equitable job of serving the community and keeping them and its personnel safe. The City's financial liability would decrease accordingly. City leaders would be able to keep their commitment to providing equitable services to all parts of the community.

**Impacts:** Absent additional staffing, critical tasks would remain single points of failure, and years of specialized institutional knowledge may be lost when the Captain assigned to this function exits.<sup>43</sup> The significant risks associated with one or more failures would remain, and the Department's ability to help City leaders keep their commitment to providing equitable services would continue to depend on one person's ability to keep all the functional areas working on his own.

## Recommendation 4. Add one full-time Accountant III position and one full-time Clerk/Typist position to the Support Services Bureau's grant staffing.

**Description**: Although significant opportunities exist at the federal and state levels to obtain grant funding for various needs throughout the organization, the Department's ability to pursue them is limited by the fact that only one staff member handles all grant-related matters. To pursue those opportunities requires that, at a minimum, the Department add a Grants Accountant and a Grants Clerk. The positions should be "housed" in a new Grants Division in Support Services whose sole purpose is to provide grant funding to help meet Department needs. Note: City added 1 FTE to the 2022 Budget.

**Estimated Financial Costs/Savings:** Savings, which could be substantial, would come in the form of external funding of Department needs. Costs include adding one full-time Accountant III position and one full-time Clerk/Typist position.

<sup>&</sup>lt;sup>43</sup> The Captain currently assigned to this function currently is eligible for retirement.



Description	Costs
Accountant III w/benefits	146,748
Clerk/Typist w/benefits	92,994
Totals	239,742

### Figure 183: Costs of Staffing a Grants Division

**Outcomes**: Having an accounting expert focus on the financial details and reporting requirements and a Clerk-Typist to handle the extensive paperwork generated throughout the grant cycle would enable the existing Administrative Analyst to spend more time on tasks such as researching grant opportunities and administering the existing grant-funded programs. Success in obtaining grant funding would enable the Department to continue to provide services that otherwise would be cut, and to maintain service levels that otherwise would be degraded for budgetary purposes.

**Impacts:** Absent the additional staff, opportunities to apply for funding would go unrealized because it takes time to research and then apply for grants. Continued reliance on one Administrative Analyst to wear a wide variety of "hats" (e.g., financial, compliance, program management) would leave the Department vulnerable to the possibilities of inadvertent, avoidable errors that, in the worst-case scenario, could result in the agency's losing or having to re-pay funding due to non-compliance with grant requirements.

# Recommendation 5. Re-structure the Administration Bureau by consolidating relevant existing staff into a Financial Services Division and adding one Financial Services Officer and one Administrative Analyst.

**Description**: Consolidating the Warehouse and Finance sections into a single Financial Services Division would enhance the Bureau's ability to provide the level of financial control and oversight that it is hard-pressed to do now. The new Financial Services Officer, who would report to the Manager of Administration, would oversee the budget, purchasing, accounts payable, and warehouse functions. The existing Administrative Analyst, who would be part of the new division, would continue to focus on the Department's budget. An additional Administrative Analyst would be responsible for fiscal controls, purchasing, and accounts payable.

**Estimated Financial Costs/Savings:** Unknown savings could be realized by the more efficient use of resources that a consolidation would allow. Costs include the addition of one Financial Services Officer and one Administrative Analyst.

Description	Costs
Financial Services Officer w/benefits	198,905
Administrative Analyst II w/benefits	149,143
Totals	348,048

#### Figure 184: Costs of Staffing a Financial Services Division

**Outcomes**: The recommended re-structuring and additional staffing would result in more efficient operations and the ability to do a better job of managing the Department's financial responsibilities. LBFD leaders and the City could be more confident that the many finance-related issues, including the budget, would get the attention they need. There would be less likelihood of important issues falling through the cracks because of inadequate staffing.

**Impacts:** Absent the recommended re-structuring and additional staffing, current inefficiencies, including the insufficient level of oversight, would continue. Because the budget takes up the preponderance of current staff's time, other finance-related needs go unaddressed or do not get the attention they require. The Bureau would continue to be hard-pressed to provide requested and/or required information on a timely basis.

## Recommendation 6. Add one Payroll/Personnel Assistant III to support the Administration Bureau's payroll function.

**Description**: Despite the fact that payroll is a critical function (i.e., if the Department does not pay its employees, they will stop coming to work and the agency would be unable to provide services), the current staffing of the Administration Bureau's payroll function is inadequate. The existing two Payroll/Personnel Assistants (PPA) have responsibility for both payroll and personnel tasks for the entire Department. Adding one PPA means that they could stop requesting personnel in other areas who have no experience in payroll to step in every two weeks to enable them to compile and enter the data required to pay all personnel accurately and on time.

**Estimated Financial Costs/Savings:** Costs include adding one full-time Payroll/Personnel Assistant III position devoted to the payroll function.

Description	Costs
Payroll/Personnel Asst III w/benefits	97,110
Totals	97,110

#### Figure 185: Cost of One Additional Payroll/Personnel Assistant III

**Outcomes**: Adding a full-time Payroll/Personnel Assistant III to support the payroll function would mitigate an existing key point of vulnerability that threatens the Department's ability to achieve its mission. The payroll function would be able to operate more efficiently and reduce the potential for errors, as it would not have to rely on the willingness and availability of other, inexperienced Department staff to ensure that employees get paid correctly and on time every two weeks. In addition, the PPAs would have more time to devote to other personnel issues.

**Impacts:** Absent the addition of a full-time Payroll/Personnel Assistant III, the payroll function would remain a single point of failure. Although payroll is not a function that can be deferred or taken lightly, the quality and accuracy of the work would continue to depend on the willingness and ability of other Department personnel to put their own heavy workloads aside to assist with the data entry and other clerical tasks required to meet the LBFD's legal obligation to pay its employees. The lack of time for cross-training means there would continue to be no one to cover for a PPA who needs or wants to take time off. The City would have financial liability for any legal repercussions that could arise from an inadequately staffed payroll function. Maintaining such an unsustainable situation is grossly unfair to Department personnel, some of whom could choose to seek employment elsewhere.

## EMERGENCY MEDICAL SERVICES OPPORTUNITIES

## **Short-Term Recommendations**

Recommendation 7. Restructure the EMS Division by moving it from the Support Services Bureau to the Operations Bureau which adds two Captains, a Battalion Chief or an Assistant Chief, and a third Nurse Educator.

**Description**: The proposed structure would combine all EMS functions (EMS education and oversight, quality improvement, continuing education, medical oversight, and basic and advanced life support operations) as the EMS Division under the Operations Bureau. Including existing and proposed new staff; the Division would include one Battalion Chief or Assistant Chief, three Captains, three Nurse Educators, one Medical Director, and one Administrative Assistant. If accepted, these changes would affect the current duties and possibly the staffing of an existing administrative Battalion Chief in Operations.

**Estimated Financial Costs/Savings**: Much of this recommendation would be cost neutral, as it mostly involves transferring existing personnel from one bureau to another. There would be costs associated with the addition of two Captains, a Battalion Chief or an Assistant Chief, and a third Nurse Educator. Any costs associated with the re-alignment that would affect the duties of an existing administrative Battalion Chief in Operations are unknown.

Description	Costs
Battalion Chief w/benefits	335,648
Captain w/benefits	274,998
Nurse Educator w/benefits	201,629
Totals	812,275

### Figure 186: Cost of Additional EMS Administrative Staff

**Outcomes:** A realignment of this function into one Bureau under an identified EMS Division could see cost savings (as yet to be identified) in the recruitment, hiring, and retention of existing Paramedic and EMS staff, and coordinate the function of this important part of the delivery model for LBFD. Moving the EMS Division to the Operations Bureau would have the immediate effect of enabling the Department to analyze EMS services utilization to identify possible cost savings. It also would enable the Department to deploy Firefighter/ Paramedics in a cost-effective and impactful manner, and work with any re-alignment the Fire Department has regarding station relocations, co-locations, or potential station closures. The impact on the Department's budget, staffing, and service delivery of this change may take one to two years to realize.

**Impacts:** Absent the relocation of the EMS Division to the Operations Bureau, the training aspects of EMS would remain in Support Services, where all other Department training is housed, and the deployment of Firefighter/Paramedics would remain under the direction of the Operations Bureau. If the Department chooses to make this change, it would have to resolve the resulting span of control issues that necessarily would result from adding another division to the already very large Operations Bureau.

### Recommendation 8. Add one Nurse Educator in the EMS Division.

**Description**: The two current Nurse Educator positions are insufficient to manage all of the duties and tasks assigned to them. These include, but are not limited to, all EMT training and recertification, Quality Improvement and Quality Assurance, attending meetings at the County level related to EMS issues, maintaining an inventory of training equipment, and scheduling on-going mandatory EMS training for the Department's approximately 400 Firefighter/Paramedics, Firefighter/EMTs, and civilian EMTs.

**Estimated Financial Costs/Savings:** The same as the cost of the existing Nurse Educators, including benefits.

Description	Costs	
Nurse Educator w/benefits	201,629	
Totals	201,629	

#### Figure 187: Cost of an Additional Nurse Educator



**Outcomes:** The addition of a Nurse Educator would better distribute the current heavy workload by providing an additional training resource. The City's planned increase in density, particularly in downtown Long Beach, certainly will make proportionately significant demands for EMS services, which currently comprise 77.64% of the LBFD's call volume. The Department's ability to provide EMS services depends on its personnel keeping their certifications current.

**Impacts:** Absent the hiring of an additional Nurse Educator, the existing two Nurse Educators would continue to be responsible for the ongoing training and recertification of over 400 Department personnel who provide EMS services. They would continue to struggle to keep up with their other responsibilities, as the certifications and up-to-date training are their highest priority.

# Recommendation 9. Request that the LBFD Medical Director research, report the findings, and make recommendations about alternative EMS deployment models that would enable the Department to match patients with non-life-threatening needs with appropriate EMS services.

Description: Like fire departments around the country, the LBFD faces a serious problem that has a negative impact on its ability to provide timely and appropriate EMS responses to 9-1-1 calls: its Firefighter/EMTs and Firefighter/Paramedics are out of service for long periods of time (one Firefighter/Paramedic described a five-hour wait) because they must stay with their patients until the receiving hospitals accept them. The pandemic has exacerbated this problem, as hospitals are overwhelmed with COVID patients. Alternative response models or approaches that either are being pilot tested or have been implemented include both educational and response options. For example, the former include the Tuscaloosa (AL) Fire Department's implementation of a communication and marketing plan to educate communities about their healthcare options and their appropriate use, and the formation of a policy committee to advocate for policy changes at the state level for mandatory 9-1-1 transports. Operational examples include the deployment of special units typically staffed by one Paramedic and one advanced provider (e.g., Nurse Practitioner, Physician Assistant), such as the Los Angeles Fire Department's (LAFD) Advanced Provider Response Unity (APRU) that was fully launched in 2018 and the Los Angeles County Fire Department's implementation of a pilot APRU program in 2019. The Tuscaloosa Fire Department's ACTION program deploys two units: one as just described and another staffed by behavioral health providers. The LAFD has been testing a telemedicine program whose preliminary results, which were documented in a 2020 study co-authored by the current LBFD and LAFD Medical Directors and other researchers, suggest that dispatch-initiated telemedicine can be integrated safely into EMS programs. Other possible options include a Nurse/Paramedic triage hotline or a revision of EMS dispatch protocols.

**Estimated Financial Costs/Savings**: Staff time to conduct the research, report findings, and make recommendations.

**Outcomes:** Research and data about fire departments that have implemented effective EMS deployment models would provide the concrete information the LBFD needs to make informed decisions about what options, if any, would enable it to match the needs of patients with non-life-threatening medical conditions with the appropriate services. Using the experiences of departments with successful programs, the LBFD would be able to determine which options, if any, would be appropriate to meet the needs of the entire Long Beach community equitably and in a timely manner. For example, reducing the hospital transport of people with low-level medical conditions would decrease the costs of those transports as well as the wear and tear on the fire engines, fire trucks, and personnel that currently respond to 9-1-1 EMS calls. Concurrently it would increase the availability of responders and apparatus for 9-1-1 callers who truly require urgent and often advanced medical care. These outcomes would support City management's and elected officials' stated commitment to providing equitable services to every part of the community. The potential financial liability that the City would face for any serious adverse consequences of the existing situation would decrease.

**Impacts:** Absent specific information about what other fire departments have done effectively to align their resources and services to their patients' needs, the Department would continue the current mismatch of resources and needs. It might waste time and resources trying to re-invent the wheel, or it might retain the status quo—i.e., taxpayers would continue to fund the unnecessary expenses incurred by maintaining current EMS response protocols, and individuals who live, work, and visit Long Beach would continue to experience long wait times due to the unavailability of EMS responders. This would be particularly costly for patients with urgent medical needs who are unable to receive timely treatment. The status quo is not aligned with City management's and elected officials' stated commitment to ensure the equitable delivery of services to all parts of the community. The City would continue to be liable financially for any resulting negative consequences arising from the current situation.

## Recommendation 10. Conduct an analysis of the amount of time EMS responders must wait with their patients at receiving hospitals.

Description: Wall times have been an issue in California for the last decade. The pandemic magnafied these issues dramatically, and hospitals have used the pandemic as an excuse for wall time issues even though these have been occurring for the last decade. As such, the California Fire Chiefs Association and the California Metropolitan Fire Chiefs have been working on tracking the problem statewide and striving to come up with realistic solutions. In late 2021 and early 2022, California State's new Interim Director for the Emergency Medical Services Authority (EMSA) formed a steakholder group to study and develop solutions for this problem. Both CalChiefs and MetroChiefs have representatives on this working group and hope to have recommendations mid to late 2022. This still nessecitates a need for local agencies to track this issue in their communities. Data is required for stakeholders to work independently on solutions at the local level as the state process can take time. When units are stuck on the wall beyond the 20–30 minute acceptable standard for patient offloads, they are really supplementing the hospitals with taxpayer-funded labor and at the same time reducing the protection of their communities by these units being out-of-service for sometimes hours and unavailable for additional calls. A potential remedy would be to bill the hospitals based on a Prop 26-compliant fee study for the time that the units are out of service beyond the 20-30 minute standard. This we believe will hit the hospitals financially and will incentify them to appropriately staff their Emergency Rooms and second, it will at least recover some of the costs associated with this problem. There are discussions statewide of a fine structure; however, note that this has not worked successfully in dealing with private-sector ambulance contracts as in most cases the fines are far below what they should be and as businesses, it is cheaper to pay the fines than put more units and personnel on the streets. AP Triton recommends that Long Beach obtain its local data and set up a fee structure that can be used to recover costs.

**Estimated Financial Costs/Savings**: Staff time to report the information during the study period and cost for researchers to conduct the study. To mitigate the cost of conducting the study, consider approaching a local college or university to find a faculty member or graduate student who can conduct this study. Researchers often are willing to conduct studies pro bono in exchange for permission to publish the results (anonymously, if desired) in an academic journal.



**Outcomes**: Tracking and analyzing data related to the wait time at hospitals would provide accurate information about how much time the Department's EMS responders are out of service, unavailable to other patients. Reliable data about the size and scope of the problem would guide decisions about how to address it. This is especially important given the significant surge in the City's population density: increased demands for EMS services affect the Department's performance throughout the community. An analysis that includes non-financial costs (e.g., the effects on employee morale) and benefits (e.g., critical patients get the timely care they need) also would be instructive.

**Impacts:** Absent accurate data about the long wait times at hospitals experienced by EMS responders, the Department would continue to use subjective, anecdotal data to account for the negative effects on its EMS service delivery. Lacking the necessary level of detail, it likely would be unsuccessful in applying for City or grant funding to address this problem. As a result, EMS responders would continue to be unavailable for long periods of time every day, resulting in longer wait times for patients who truly need their assistance and in greater reliance on neighboring fire departments to take care of Long Beach patients.

### Recommendation 11. Relocate the BLS unit from Station 16 to Station 9.

**Description:** The response times of the BLS unit at Station 16 are longer than those for other units due to the limitations of its airport location. Although the travel time from Station 16 to the nearest access point on a city street (Cherry Avenue) may take only a few minutes, it still causes a delay in service. A move to Station 9 on a temporary basis would reduce its response time.

**Estimated Financial Cost/Savings**: None, if Station 9 facilities can accommodate the unit. The cost to house the unit should be included in the Station 9 development costs.

**Outcomes**: If BLS 16 were relocated to Station 9, its response times would decrease. In addition to enabling the Department to provide better service delivery, this move could help mitigate the call volumes on other BLS units and ALS units, which must step in when BLS units are not available. Assuming the rescue unit from Station 18 is relocated to Station 19, it would be able to service the airport terminal and nearby businesses more effectively than a unit responding from the opposite side of the airfield that must travel the airport perimeter to reach those locations.

**Impacts**: Absent the relocation of BLS 16 to Station 9, patients in need of medical care and/or transport to a hospital would continue to experience longer wait times than could be provided by a different configuration.

## **WORKFORCE INITIATIVES OPPORTUNITIES**

## **Short-Term Recommendations**

## Recommendation 12. Require all supervisory and managerial personnel to participate in training that will enable them to manage conflict effectively.

**Description:** During the course of our team's interviews, LBFD personnel described how some offices and stations have become toxic due to bad or inappropriate behaviors that are tolerated, ignored, or sometimes engaged in by those in leadership positions. Training to address this issue should include topics such as how to hold difficult conversations, how to work with people who exhibit difficult behavior, and a review of existing Department policies about the responsibilities of supervisory and management personnel. For example, LBFD Policy 1.3.20.0 dated January 1992, "All Officers' General Duties and Responsibilities," addresses several relevant issues such as officers' responsibility for the discipline of their command and for ensuring the maintenance of high morale and positive attitudes of subordinates (Policy 1.3.20.2) and for being "just, firm, fair, and dignified in their dealings with subordinates" (Policy 1.3.20.16). Proficiency in conflict management and related skills are particularly important in the fire service, whose leaders commonly find themselves "the boss" of their long-time "buddies" or peers. Training that includes role-playing is highly recommended, as is the use of an experienced facilitator.

**Estimated Financial Costs/Savings**: Cost of paying an experienced facilitator and staff time to attend the training. Savings potentially are significant, depending on the extent to which the training results in the desired behavioral changes.

**Outcomes**: Requiring the suggested training of all supervisory and managerial personnel would enable Department leaders at all levels to address conflicts in timely, appropriate, and effective ways by learning new skills and/or honing existing ones. Their behavior would be noticed and likely replicated by non-management personnel. The ability to address conflicts at an early stage would provide a level of accountability that could preclude an unnecessary escalation that could result in disciplinary action. When leaders are proficient in conflict-related skills and have a clear understanding of their duties as defined in the Department's policies and procedures, the agency is likely to experience a decrease in the need for serious disciplinary actions, an increase in employee morale, more inclusive work environments in which people can disagree while remaining respectful of others, and greater perceptions of fairness. The City's financial liability for workplace misbehavior would decrease as well.



**Impacts:** Absent training in conflict management-related skills and reminders of LBFD policies, Department leaders would remain unprepared to handle disputes in their work units. Work environments that personnel currently experience as toxic due to bad or inappropriate behaviors and divisiveness that lead to conflict would remain. Employee morale would continue to be low, and perceptions and experiences of inequity due to favoritism and a lack of accountability would persist. Over time, the LBFD's current status as a highly desirable department would diminish as word gets out that its valued "family" environment no longer exists. More personnel are likely to look for jobs elsewhere, which staff told us would be unprecedented. The City would continue to have liability for any legal and/or financial consequences of bad or inappropriate behaviors.

# Recommendation 13. Revise the Command Staff selection process so it is transparent, free of bias, provides meaningful opportunities for input by those affected, and is easily accessible by all personnel.

**Description:** Sworn and civilian LBFD personnel reported their long-standing belief that favoritism rather than merit is the primary criterion for selection as a member of the Command Staff. It is true that some LBFD Fire Chiefs have chosen at least some of their top staff based on their personal and/or professional relationships. To address some of the morale issues that have arisen from perceptions of unfairness and the lack of confidence in the abilities of those who are promoted due to their relationship to the Fire Chief, the Department, in collaboration with City Human Resources or Civil Service personnel as appropriate, should ensure its selection process is procedurally fair. This means it is perceived by employees as transparent, free of bias, and non-discriminatory, and it provides meaningful opportunities for input by those affected by the results. Including an appeals process would be ideal.

For example, the Department could increase transparency by taking actions such as creating and making easily accessible current, accurate, and complete Command Staff job descriptions to all employees; by communicating the steps in the process and who (by rank) is involved at each one; by communicating the news about open jobs and the timelines for filling them; by specifying what decision criteria, if any, are considered in addition to the tasks and responsibilities documented in the job description; by identifying whether the decision criteria are weighted (e.g., the Fire Chief's decision can override that of a panel's recommendation), and if so, how and by whom; and by clarifying who makes the final decision.



If the Fire Chief has the authority to choose his/her own Command Staff members, that information should be communicated clearly. Research and experience demonstrate that even when people do not like or agree with a decision, to the extent they believe the rules by which the decision was made are fair, they will accept the results.<sup>44</sup>

**Estimated Financial Costs/Savings**: Staff time to review the Command Staff selection process, revise it, and communicate the results.

**Outcomes**: Based on what LBFD personnel told our team during the interview process, it is likely that creating greater transparency in the Command Staff selection process would result in one of two outcomes. Explaining the process in some detail could alleviate many of the perceptions of inequity when favoritism or personal choice is not permitted by Civil Service or other City regulations. When there is no such prohibition, communicating to employees in advance that the Fire Chief has the discretion to choose his/her own Command Staff, even if those choices appear to by-pass candidates whose credentials indicate they are more qualified, would increase the likelihood that staff would accept the final decision even if they do not like it. Another likely benefit is that personnel who aspire to the Command Staff level would be able to prepare for that role/those roles because the job qualifications would be clear.

**Impacts:** Absent a Command Staff selection process that is perceived by personnel as procedurally fair, employees would continue to believe it is inequitable. As a result, they would continue to be distracted by conversations about the qualifications of those leaders who they see as having obtained their jobs by favoritism rather than because they are the most qualified candidates. Perhaps they would lack confidence in those leaders as well.

<sup>&</sup>lt;sup>44</sup> https://scholar.google.com/scholar?hl=en&as\_sdt=0,5&as\_vis=1&qsp=11&q=%22acceptance+of+the+decision%22+procedural+fairness&qst=br.



## **Mid-Term Recommendations**

# Recommendation 14. Develop, communicate, and implement disciplinary guidelines that are transparent, fair, free of bias, ensure accountability at all levels, and provide meaningful opportunities for input by those affected.

**Description:** Both LBFD leaders and City officials have stated that the consequences of disciplinary cases are determined on a case-by-case basis, with City department managers having the sole responsibility for making the final decisions. In the LBFD, that sanctioned approach has resulted in outcomes that personnel perceive and experience as biased, unfair, and dependent on who the offender knows rather than on the nature of the errant behavior. To remove or significantly mitigate the frequency of decisions that are perceived as inequitable, the Department, in consultation with the appropriate labor groups, should develop guidelines by which disciplinary cases are handled and within which consequences are imposed. We recommend "guidelines" rather than detailed "criteria" or specific "rules" because the latter cannot possibly address all current and future situations. Whatever else the guidelines address, they must focus on the errant behavior(s) rather than only on the severity of the outcome(s).

**Estimated Financial Costs/Savings**: Staff time to negotiate, identify, and approve appropriate guidelines and to communicate them throughout the Department. Potential savings would include avoiding legal and administrative costs related to inequitable processes or outcomes.

**Outcomes:** Providing guidelines for the disciplinary process, including potential consequences, would ensure greater equity. Employees' experiences and perceptions of inequity, favoritism, and bias would decrease as they witness greater and/or more consistent accountability across ranks and positions. Increased confidence in the Department's treatment of personnel likely would increase morale. Greater accountability is likely to deter behaviors that could be subject to discipline. Communicating the guidelines to all personnel and then implementing them would send a clear signal that LBFD leaders will hold employees at all ranks and positions to the same standards of behavior. Focusing on behaviors rather than considering only or primarily the seriousness of the outcomes would banish the misguided "no harm, no foul" approach that personnel reported they have experienced or witnessed. The LBFD could become a role model for other City departments, encouraging them to replace the current case-by-case approach with guidelines for their own disciplinary processes.



**Impacts:** Absent the development, communication, and implementation of clear guidelines for handling disciplinary cases, Department personnel would continue to experience and perceive that process as biased and unfair. Their current belief is that at the LBFD, whether or not people who engage in bad or inappropriate behavior are held accountable depends more on who they know (e.g., a Firefighter who reportedly avoids consequences for his bad behaviors because he allegedly has a chief officer on his phone's "speed dial") than on whether they followed the rules. Personnel will continue to despair at the inequity and lack of accountability that they experience and perceive under the current process, and to believe that LBFD leaders' inaction in addressing this issue confirms their concurrence that bad or inappropriate behaviors can be ignored or condoned if the offenders know the right people.

# Recommendation 15. Department leaders and personnel should re-visit the LBFD's core values to assess the extent to which they remain valid, and take action as needed.

**Description:** To the extent that the core values Department personnel identified and defined in 2013 no longer represent the LBFD as an organization, they need to be changed to reflect reality. Two aspects, in particular, must be addressed: (1) whether behaviors of personnel and leaders throughout the agency remain consistent with the clearly designated behavioral indicators, and (2) how to overcome or mitigate the fact that some of the values have become double-edged swords that are causing significant harm. For example, as documented in this report, Department personnel consistently reported their strong individual and collective commitment to providing the best possible service to the Long Beach community. Unfortunately, their determination to exemplify that core value exacts exceptionally heavy personal and professional prices (e.g., forced overtime shifts due to inadequate staffing, little to no "down time" to process traumas, increased injuries, broken relationships, divorces) due to the significant obstacles such as insufficient resources (documented throughout this report) that stand in the way of their ability to honor their core value of commitment.

**Estimated Financial Costs/Savings**: Staff time to conduct a Department-wide review of the core values, make changes and/or take action as needed, and communicate the results. Savings in the form of avoiding costs related to bad or inappropriate behaviors, workers' compensation claims, and sick leave may accrue to the extent that personnel demonstrate the behaviors representative of the core values to which they aspire.



**Outcomes:** Reviewing the Department's core values would remind personnel of who they say they are as an organization. It would cause them to focus on the behavioral standards they set for themselves in 2013, and allow for a realistic self-evaluation of their performance relative to those criteria. This review process could result in a renewed commitment to demonstrating the existing core values and/or in revisions that include behaviors that safeguard personnel's physical and mental well-being while enabling them to provide the excellent service expected of themselves as well as by the community and City management. It could enable the Department to maintain its status as a fire department of choice by living up to its reputation for excellence and for providing a family environment, two qualities that many Firefighter candidates cite as the top reasons they want to become Long Beach Firefighters. Given that the existing core values contain behaviors that support inclusion, equity, and diversity, adherence to them would help advance the Department's diversity goal. There would be fewer instances of bad or inappropriate behavior, broken work relationships could heal, and personnel could decide to remain with the agency rather than seek jobs elsewhere. Staff would experience less stress and fewer negative effects as professional and respectful behaviors replace the disrespectful and inappropriate behaviors described over the past couple of years.

**Impacts:** Absent a thorough review of the Department's core values and implementation of positive actions to address the current misalignment of behaviors and values, conduct that is incongruent with the behavioral standards will continue. Flagrant behaviors that are opposite of those that were designated in 2013, such as the examples provided in this report, will continue unabated. Instead of looking forward to going to work and doing the job they love, staff would continue to dread the toxic environments in which many report they now work. Both sworn and civilian staff are likely to continue to seek employment opportunities elsewhere. The loss of key talent would have a negative impact on the Department's staffing, thus affecting the level of services it could provide the community. To the extent the LBFD's reputation is tarnished, the agency is likely to have trouble recruiting new personnel and retaining existing staff. Meeting the Department's diversity goal would be more challenging as potential candidates learn how personnel treat one another. Such negative outcomes would be at odds with City management's and elected officials' stated promises to provide equitable services throughout the community.

# Recommendation 16. Adopt service performance goals that will guide service delivery improvement and be consistent with City leaders' resource allocation decisions.

**Description:** Adopting performance goals that reflect the levels, range, and quality of services and programs that the Department realistically can provide while remaining within the boundaries of the resource allocation decisions made by City leaders will support their (City leaders') job of balancing the community's needs and expectations carefully when deciding how to distribute taxpayer funds.

Estimated Financial Costs/Savings: No financial cost.

**Outcomes**: The adoption of service performance goals would allow LBFD leaders to report progress toward their achievement, and to identify conditions that are impeding progress and the resources necessary to improve services so that City leaders could make informed decisions about their resource allocation choices. It also would enable the Department to plan the effective use of the resources it is given.

**Impacts:** Absent the adoption of service performance goals, the Department would have a harder time planning how to mitigate the inequities in service and service delivery to residents and businesses throughout the community that necessarily would accompany the reality of inadequate resources.

# Recommendation 17. Maintain job descriptions that are accurate, up to date, and complete for each job in the Department and make them easily accessible by employees.

**Description:** Because job descriptions are intended to serve as the basis for many key Human Resources purposes and decisions (e.g., hiring, performance evaluation, compensation), it is critical that all employees have a copy of their respective job descriptions. The Department should ensure that its employees receive a copy of their job descriptions when they are hired. In addition, it should require supervisory and managerial personnel to review the descriptions at least annually, such as during the performance evaluation meeting, and to report any changes or updates to the Administration Bureau to pass them along to the appropriate City staff. Major changes in job responsibilities or focus also should trigger a review of the relevant job description(s).



**Estimated Financial Costs/Savings:** Staff time to review, develop, or amend, distribute job descriptions, and respond to questions regarding the current job descriptions.

**Outcomes:** Accurate, complete, and updated job descriptions would enable the Department to make defensible personnel-related decisions that are perceived as equitable. Employees would be able to make informed decisions about the fairness of those processes.

**Impacts:** Absent the existence and accessibility of accurate, up-to-date, and complete job descriptions, employees would continue to report that they do not know exactly what their jobs entail, and/or what the expectations are of their performance. Similarly, many of their supervisors would continue to be unaware of job requirements, which could result in them inadvertently assigning work that is outside of a given employee's classification. Perceptions of inequity and favoritism would continue, as would the lack of confidence in personnel-related decision-making processes such as promotions.

## Recommendation 18. Request that the City replace its paper-centric fire inspection and payroll reporting systems with digital systems.

**Description:** Currently, the City requires the LBFD's Fire Prevention code enforcement personnel to write and issue reports using a paper system, then return to the office and reenter the information into one or more of the City's digital systems. These personnel report they spend about one-third of every day on paperwork, thus slowing the pace of inspections and putting people's lives and property at risk. They have been requesting an upgrade to readily available technology-based tools for years.

**Estimated Financial Costs/Savings:** Savings that result from multiple personnel who would have up to three more hours every day to conduct inspections would be substantial, enabling the Department to fund at least one additional position that it has requested. Costs would include the purchase price of tablet-like devices and staff time of the City's Technology and Innovation personnel to make the transition possible. If City personnel are unable to handle this request, there would be an additional cost to hire outside technology experts.



**Outcomes:** Making this transition would enhance the Department's ability to comply with the state mandate for annual inspections. Department leaders and personnel reported that it took inspectors three years to complete what should be a one-year inspection cycle of these occupancies. Following this recommendation would increase safety, provide more equitable service, and reduce the City's financial liability in the event of a fire or other disaster in an occupancy that is overdue for inspection.

**Impacts:** Absent the adoption of readily available technology to enable LBFD inspectors to be significantly more productive, the City would continue to expose residents, business owners, and workers in these occupancies to unnecessary safety risks, and would itself continue to face potentially large significant legal and financial liabilities should a fire or another incident occur at an occupancy that is years overdue for inspection.

### Recommendation 19. Complete and implement the LBFD Strategic Plan.

**Description:** Per fire department staff, the Department is in the process of finalizing the LBFD-specific strategic plan. The LBFD strategic planning process should include the Fire Chief, Command Staff, and internal stakeholders with the goal of developing a clear vision, inclusive of mission, vision, and value statements that set goals and objectives related to performance as well as to inclusion, equity, and diversity.

Estimated Financial Costs/Savings: If completed by staff, limited additional cost.

**Outcomes:** A strategic plan, which typically covers the coming 3–5 years, provides a framework within which the Department can make decisions that are aligned with its designated goals. A single plan encompasses strategic goals in all areas of the organization, such as those related to inclusion, equity, and diversity. A plan that includes measures of progress and achievement, necessary resources, accountability mechanisms, and a review process would enable the Department to stay on track. The result would be a clear picture of the Department's public safety vision for the community and the specification of the steps necessary to achieve it.

**Impacts:** Absent a clear vision of the desired outcome and an implementation plan to achieve its goals, the Department would likely waste money and resources on ineffective and/or misaligned tactics or strategies. Service performance goals as well as those related to other desired outcomes, such as those that support inclusion, equity, and diversity, likely would remain unrealized or delayed. The existing lack of clarity about the Department's direction would continue, giving rise to unmet expectations and dissatisfaction. It also could be a deterrent to potential future applicants.



### Recommendation 20. Audit the Department's promotional processes to ensure they are compliant with Section 12 of the City's Civil Service Rules and Regulations, which requires transparency and fairness, communicate the results of the audit to all personnel, and make any necessary changes.

**Description:** Processes that are procedurally fair are transparent, free of bias, offer meaningful opportunities for input by those affected, and have an appeals process (unless prohibited by City policy or relevant MOU). Despite language in Department and City Civil Service Commission documents indicating an intention to provide equitable promotional processes, both sworn and civilian personnel described their perceptions of serious inequities in many of the promotional processes to our interview team. Examples include lack of communication about opportunities, favoritism in selection, and tests or assessments that are not seen as representative of the job or can be manipulated in favor of a desired candidate.

**Estimated Financial Costs/Savings:** Staff time to assess the various promotional processes, consult with other City departments, engage in meet and confer sessions with relevant unions, and take action as necessary.

**Outcomes:** Procedurally fair promotional processes would ensure that all employees have the same opportunity to present their credentials and to have them evaluated based on their fit with the job requirements as stated in the relevant job description. As a result, it would be more likely that the best people for the jobs would be selected. In addition, longstanding research<sup>45</sup> and experience demonstrate that even when people are disappointed in the result of a decision, such as the selection of a candidate for promotion, they will accept it so long as they perceive that the process by which the decision was made was fair. Auditing the promotional processes could provide the data that personnel need to be assured that they truly are fair. To the extent the Department chooses to ensure the procedural fairness of other decision-making processes, it could avoid unnecessary conflict or dissatisfaction related to those choices.

<sup>&</sup>lt;sup>45</sup> Tyler, T.R. Procedural justice research. *Social Justice Research* 1, 41–65 (1987), https://link.springer.com/article/10.1007/BF01049383.



**Impacts:** Absent an audit of the Department's promotional processes with respect to the level of equity they embody, personnel would continue to perceive and/or be affected by inequitable decisions. Maintaining the status quo would increase the likelihood of continued low morale and of selecting candidates based on favoritism or other non-job-related factor(s), thereby overlooking or passing up more qualified candidates. Civilian staff likely would continue their exodus to other City departments, causing greater inefficiencies due to staff turnover. Sworn personnel could be deterred from seeking promotions. This outcome would be particularly problematic given the Department's impending leadership gap.

# Recommendation 21. Create and implement an updated and formal process to develop new policies and procedures and update existing ones throughout the Department.

**Description:** A review of LBFD policies and procedures revealed that many of them are outdated. Elements of an effective formal process to address this finding would include auditing current documents to identify where there are gaps and/or outdated information; identifying the steps required to submit, review, and approve requests for new or updated policies or procedures; assigning an individual or forming a committee to monitor and administer the process; establishing the frequency of, and mechanisms for, on-going future reviews; developing a tracking system; creating an easily accessible and searchable central repository; and communicating changes and additions to the relevant parties in a timely manner. AP Triton was informed that a policy and procedures review committee was established recently, which is a positive sign that the relevant issues will be addressed. Such a committee should be formalized and its work supported.

Estimated Financial Costs/Savings: Staff time to create and implement the process.

**Outcomes:** The Department would be able to operate more equitably, consistently, and efficiently with a formal process that includes the elements listed in this recommendation. All personnel would be able to access the policies and procedures and be confident that they are viewing those that are most current. This outcome would reduce the confusion resulting from staff referring to or acting on different iterations of the same policy. Department policies and procedures would be very clear.



**Impacts:** Absent the development and implementation of a formal policies and procedures process, the Department would be unable to operate as efficiently and effectively as possible. Outdated policies would continue to provide direction that is no longer accurate or even safe, or misaligned with that provided in related policies. Such inconsistencies would have a negative impact on training, personnel matters, and other areas of the Department. The City could face financial liabilities if serious mistakes are found to have been caused by outdated policies.

## Recommendation 22. Standardize training and operations throughout the Department.

**Description:** Interviews with LBFD personnel revealed a widespread lack of consistency across the Department in terms of training and, as a result, in field operations. Efforts to create the desired levels of standardization should include the following actions: (1) Conduct an audit to identify specific areas of concern; (2) Identify and describe clearly the desired outcome of every training program and operation; (3) Specify the content of training programs or classes (e.g., learning objectives, curriculum, methodologies, evaluations of learning); (4) Ensure instructors/facilitators are subject matter experts in their assigned topic areas; (5) Identify Department-level measures of progress toward standardization and its achievements; (6) Assess the application of training content back on the job through behavioral changes (i.e., level 3 learning<sup>46</sup>); and (7) Implement an ongoing review process. To the extent the Department establishes performance standards. There currently is a workgroup comprised of LBFD sworn personnel whose focus is on standardizing the curricula for upcoming officer and chief officer training classes.

Estimated Financial Costs/Savings: Staff time to implement the above steps.

**Outcomes:** Standardizing training and holding personnel accountable for following desired operations procedures would increase personnel and community safety because of the consistency and accountability that would result. Fewer candidates would fail promotional exams due to inconsistencies in the advice or guidance they receive. This point is especially important given the Department's impending leadership gap. The City's financial liability would decrease to the extent that there were fewer inconsistencies that could give rise to mistakes or inequities.

<sup>&</sup>lt;sup>46</sup> https://www.kirkpatrickpartners.com/the-kirkpatrick-model/.


**Impacts:** Absent Department-wide standardization of training programs and accountability mechanisms to ensure standardized operational procedures, procedures that recruits learn during their Academy could continue to erode over time, potentially leading to confusion during incidents when crews do things differently and/or officers give different orders, as has been reported to our team. Personnel would continue to experience promotional processes as inequitable when failure is caused by officer-advisors who do things differently. These outcomes are likely to continue to discourage viable candidates from trying again, which is a particularly problematic outcome given anticipated challenges in staffing the Department's leadership positions. Costs associated with having to offer more exams to obtain the necessary number of candidates for promotion also would increase. Personnel and community members would remain at potential risk due to inconsistent service delivery.

# Recommendation 23. Integrate the LBFD's core values into every aspect of the organization, including its performance expectations, policies, practices, and decision-making processes.

**Description:** In 2012, LBFD personnel engaged in a process by which they selected the core values that describe who they are, and they identified the behaviors that would demonstrate those values. Over the past two years, the myriad of COVID-generated negative factors that personnel have had to address and the exacerbation of many of the constraints under which they must operate, such as an increasing population of people experiencing homelessness, have caused behavioral changes that are creating toxic work environments and that are vastly different from the standards to which they aspire.

**Estimated Financial Costs/Savings:** Staff time to develop and implement a plan to make the Department's core values a cornerstone.

**Outcomes:** Reminding personnel of who they are as a department and of the behaviors they committed to demonstrating would help them re-focus on the bigger picture and provide a way to repair existing relationships that have become dysfunctional. The LBFD is known for its excellence and its family culture. This focus would enable those characteristics again to become the rule rather than the exception. It also would reduce the need for discipline by restoring accountability mechanisms that have been successful in the past, and reduce the City's liability for any negative actions or outcomes that otherwise may arise.



**Impacts:** If the Department declines to re-focus on its core values, the current lack of accountability and bad or disrespectful behaviors reported in some stations and between sworn and civilian personnel would continue, enabling toxic workplaces to exist and thrive while tarnishing the Department's reputation and making it less attractive to qualified potential applicants as well as to its existing employees.

#### Recommendation 24. Continue the Engineer's Academy.

**Description:** LBFD leaders and personnel told our team that developing and offering an inhouse, standardized Engineer's Academy to aspiring Engineers in the Department nearly tripled the average pass rates of pre-Academy Engineer exams. The Department should conduct a cost-benefit analysis of the Academy to demonstrate the value it provides. In addition to the direct financial outlays, the analysis should include any relevant cost reductions (e.g., reducing the frequency with which the Engineer exam must be offered because of significantly higher pass rates of Academy graduates) and indirect costs such as the financial, morale, and physical and mental impacts that result when Engineers must be mandatoried because the existing staffing is inadequate. Perhaps offering this training to other fire departments, who are experiencing similar shortages in their Engineer ranks, could help offset some of the Department's financial costs of offering the Academy to its own personnel.

**Estimated Financial Costs/Savings:** LBFD leaders estimated a cost of \$500,000 per Academy, including labor. Possibly the costs could be offset by holding Academies for personnel from other departments in the region, which are experiencing similar shortages. For example, Los Angeles County Fire Department is said to have had 50 openings for Engineers as of Fall 2021.

**Outcomes:** Continuing to offer the Engineer's Academy would enable the Department to staff a relatively large number of Engineer positions expected to be vacated in the coming year and beyond. (See Impacts section that follows for details.) Engineers perform critical tasks such as driving the engines and trucks that transport their colleagues safely, performing pump operations on engines, managing the aerial ladder, and providing important support tasks on-scene. Continuing the Engineer's Academy would enable the Department to ensure those positions are filled with well-qualified personnel. Offering the course to other fire departments could benefit Long Beach residents because it increases the possibility those departments would be able to provide mutual aid when requested by the LBFD.



**Impacts:** Absent the continuation of the Engineer's Academy, it is highly likely there would be a significant shortage of Engineers in the near term due to attrition and on-the-job injuries. As indicated by the staffing vulnerabilities charts in the Staffing Analysis section of this report, approximately half of the Department's Engineers are eligible for retirement between now and July 2022. At the time of this study (Summer/Fall 2021), LBFD Engineers were being mandatoried every week due to a staffing shortage. Members of the LBFD Peer Support Advisory Board provided the sobering news that LBFD Engineers have been making unprecedented statements to them such as "I'm done" and "I can't take it anymore." Those kinds of declarations are likely to continue. Despite their (Peer Support Team's) description of the Engineer rank as a "coveted and respected position, oftentimes considered the best position in the Fire Service," they cite the cases of two Engineers in the past year who retired prematurely or requested to withdraw from the rank and to seek other opportunities within the Department due to the profound impact that their jobs were having on their personal lives and family relationships. Their exits are likely to be followed by others. In addition, in the absence of the Academy it is extremely likely that the pass rates for the Engineer exam would plummet to pre-Academy levels. The Department would be unlikely to fill gaps by requesting mutual aid from neighboring fire departments, which also are experiencing shortages in their Engineer ranks. These outcomes would have a negative impact on service delivery and possibly create financial liability for the City if mistakes were made by sleep-deprived and overworked Engineers. Because service levels would suffer, it is unlikely that City management and elected officials would be able to meet their commitment to providing equitable services to people throughout the community.

## Recommendation 25. Develop and implement a formal mentoring program open to all Department personnel.

**Description:** In addition to preparing staff for success in their current and possible future jobs, a formal mentoring program supports the Department's inclusion, equity, and diversity efforts. Effective mentoring programs share these characteristics: (1) Formal structure and process; (2) Eligibility extends to staff throughout the organization; (3) Training and on-going support for mentors is provided; (4) There is a "matching" process—i.e., staff do not have to identify their own mentors; (5) A communication process provides information about the program including how to apply; (6) Clear expectations are established for both parties; (7) There are measures of progress and achievement for the program; and (8) There is an on-going evaluation of the program so improvements can be made as needed.



**Estimated Financial Costs/Savings:** Staff time to design, communicate, and implement a formal program. The cost of providing basic training for mentors would depend on whether the Department relies on trained personnel or contracts with an outside vendor.

**Outcomes:** The development and implementation of a formal mentoring program accessible to all personnel would send a strong signal that it supports its employees' career and professional development. It would be an important part of a formal succession management process, should the Department choose to develop and implement one. It also would help advance the Department's inclusion, equity, and diversity goals. Mentoring experiences could open doors for people, prepare them for future positions, and help them become more effective in their current positions. Civilian staff who are in, or perceive themselves to be in, dead-end jobs would benefit greatly from career advice. A mentoring program potentially could increase the pass rate on promotional exams, which is especially important in light of the near-term staffing shortages the Department expects to experience. Providing some basic training for mentors could enhance participants' experiences. Offering the program to all staff would increase perceptions of fairness and inclusiveness. It also would enhance the readiness of Department personnel to service the community in their respective roles.

**Impacts:** Absent the implementation of a formal mentoring program open to all personnel, individuals who could benefit greatly from such an opportunity would continue to be on their own, particularly those who are unable, or do not know how, to identify and approach a potential mentor on an informal basis. Personnel who have been talking about the benefits of a mentoring program for years would continue to be disappointed that the Department does not offer this opportunity. Given the anticipated upcoming leadership gap, the Department would be missing a critical tool to mitigate that shortfall. It also would forego the opportunity to advance its inclusion, equity, and diversity goals.

# Recommendation 26. Improve transparency between HR, Civil Service, and LBFD about every step in the Firefighter selection process by making relevant information available to Department members and to the public (as appropriate).

**Description:** Personnel interviewed as part of this project shared concerns about the fairness of the Department's firefighter selection process, due in part to fears that the LBFD is lowering its performance standards in favor of developing a more diverse workforce. Upon review of the entire firefighter selection process, from the pre-recruitment stage through the end of firefighters' probationary period, our team discovered that much of the process in fact is shrouded in mystery. Some elements, remain unknown even to Command Staff members. A more transparent process would include developing and sharing materials such as the steps in the process, who is involved at each one, and what the criteria are for passing various tests. Greater communication between personnel and the Training Captains and Chief would enable a better understanding of the process and the reasons why some information must be kept confidential. Perhaps identifying opportunities for personnel to participate in the process at appropriate points, such as attending job fairs to help recruit prospective firefighters, or serving as a facilitator at a recruitment presentation or as a preceptor during the Physical Ability Test would result in better understanding that then could be shared with colleagues.

**Estimated Financial Costs/Savings**: Staff time to research the knowledge gaps, document the steps in detail, and make the information easily accessible.

**Outcomes:** Providing greater transparency in the Department's Firefighter selection process could help attract qualified and diverse applicants if it can demonstrate its selection process is inclusive and equitable. This is a key step in working toward achieving the Department's diversity vision. Since firefighting typically is a 30-year career, change necessarily will be very slow, and adopting this recommendation will not change that fact. However, establishing a reputation as an organization that treats people fairly and provides a welcoming environment for applicants who are qualified and willing to work hard could help move the timeline along more quickly. Greater transparency also could help put to rest rumors about issues like lowering test standards and hiring candidates based on favoritism or personal relationships.

**Impacts:** Absent increasing the transparency to its Firefighter selection process, the Department would continue to remain unable to counter rumors and perceptions of inequity such as lowering its standards. To the extent that prospective recruits cannot understand the process, they could decide not to apply at the Department.



## Recommendation 27. Initiate ongoing inclusion, equity, and diversity (I/E/D) training that is specific to the Department.

**Description:** Despite the Department's stated goal of having its personnel "look like" the Long Beach community, there is no clear picture of what that very vague phrase means in reality. As a prelude to providing inclusion, equity, and diversity training, the Department first must create a shared understanding of those terms. How they are applicable to individuals personally and to the organization, and the benefits of creating a welcoming environment, providing equitable working conditions, and creating and maintaining a diverse workforce. Conducting a training needs assessment would provide valuable insight into the types of Department-specific training that is required, who should participate, and perhaps how the training should be prioritized. As with other types of training, I/E/D-related training should be aligned with LBFD's core values, which themselves contain significant elements of I/E/D. Given this information, the Department can identify, develop or obtain the relevant training, and deliver it to all personnel. The training plan should include relevant measures of learning and of behavioral changes after the fact and of individual and overall effectiveness. There should be an on-going process to make improvements and changes as needed.

**Estimated Financial Costs/Savings:** Savings would accrue to the extent to which personnel respect and value one another and behave accordingly. Potential cost savings also may be obtained by minimizing the risk of legal actions caused by employees whose behavior is not consistent with required expectations. Training costs would vary according to the frequency of the training, how it is delivered (e.g., virtually or in-person), whether it is developed in-house or purchased, and whether it is facilitated by Department personnel or by outside consultants.

**Outcomes:** This type of training not only would clarify the distinct differences among the three terms and what they mean for personnel, it would provide them with the skills they need to work with and effectively serve people of various backgrounds. Developing a common language and a better understanding of one another would enable more, and more productive, communication among staff throughout the Department. It would teach personnel how to be inclusive of people who are different from them. It could increase empathy and help to close the divisions between individuals and among groups, such as the gap between civilian and sworn staff. Teaching personnel the skills they need to avoid unintentional comments that are offensive to some groups would help people feel more welcome and would support the Department's core values.

**Impacts:** Absent the provision of effective I/E/D training for all personnel, staff would continue to lack the information and skills that would enable them to interact easily with diverse groups of people. Unnecessary conflict, including that which could require disciplinary action, would continue, as would the intentional or unintentional comments made by some individuals that others experience as offensive, thus harming relationships and likely contributing to a toxic work environment. Captains at stations who tolerate and perhaps even participate in bad behaviors likely would continue to do so—possibly because they do not have the skills to manage conflict. It is likely that personnel would continue to behave in ways that are contrary to the core values they chose to represent.

# Recommendation 28. Consolidate the inclusion, equity, and diversity (I/E/D) initiatives under Support Services and provide adequate staffing and structural funding.

Description: Bringing all I/E/D initiatives under the Support Services Bureau instead of splitting them with the Operations Bureau would likely result in greater program effectiveness. At some future date, when the Department has the resources to increase its I/E/D efforts, such a consolidation could become more important. Because one Captain is the only person whose full-time responsibilities are to the Department's I/E/D initiatives, specifically Firefighter recruitment, it makes sense that the related programs are located in the Support Services Bureau, which manages the Firefighter selection process. It should be noted that this Captain's position is financed by "one-time" funds from the City, which will expire in October 2022. When AP Triton interviewed the Captain in August 2020, he was uncertain about the future of this position. When we asked a City management person whether the City would renew the funding going forward, especially in light of the City's stated plans to cut the Department's budget in the next fiscal year and beyond, the response was an emphatic "no." The reason provided was that other departments do not get City funding for diversity-related initiatives, so why should Fire be treated any differently? At this point, AP Triton is unaware of the possible options for keeping the Department's I/E/D initiatives going.

**Estimated Financial Costs/Savings:** Labor costs to replace the "one-time" funding that expires in October 2022 and to hire additional staff. Unknown program costs related to future I/E/D initiatives. These estimates will depend on the extent to which Department resources will enable these initiatives to continue, which is unknown at this point.



**Outcomes:** Consolidating the Department's I/E/D initiatives in one place and providing adequate staff funded from structural sources would significantly increase the likelihood of achieving its diversity vision. The end result, after many years, would be Department personnel who "look like" the community. The range and scope of I/E/D initiatives could expand dramatically, thus hastening the journey toward the desired outcome. These actions would signal that the Department is serious about achieving its diversity vision. Active support of City management and elected officials would contribute to the desired result.

**Impacts:** Absent the consolidation of the Department's I/E/D initiatives and the provision of adequate staffing and structure funding, the timeline for achieving measurable results would stretch for decades. To the extent that the Department is unable to obtain the funding necessary to staff a dedicated I/E/D position and to continue these initiatives, they would have to be deferred until some future date.

## Recommendation 29. Develop and implement a formal succession management process that encompasses the entire Department.

**Description:** A formal succession management plan is critical in maintaining continuity and excellent customer service within the organization. The Department should develop a plan that identifies its critical staffing and function vulnerabilities and identifies and supports personnel at all ranks who possess the recognized attributes necessary to be successful at the next level in the organization. The following are among many possible elements to include in an effective succession management process that ensures the availability of qualified candidates who can step into key positions when needed:

- Effective personnel-related programs and processes (e.g., recruiting, hiring, promotion, performance evaluation)
- Clear career paths
- Opportunities for training and professional development, especially leadership development
- A process for collecting and sharing institutional knowledge



**Estimated Financial Costs/Savings:** Savings would come in the form of avoiding the negative financial and reputational costs that accompany the failure of key functions and mistakes made by new leaders who are ill-equipped to succeed in their new roles. Costs include staff time to develop a succession management and implementation plan and related materials, such as career paths for civilian and sworn staff. Costs related to implementing the process depend on whether the Department develops internal training and development programs or uses external resources, and the funds needed to back-fill positions while people attend training.

**Outcomes:** Implementing succession management that includes accountability mechanisms, as well as measures of progress and achievement, would make it somewhat more likely that the Department leaders will prioritize succession management and that personnel will perceive they are serious about it. The expected impending leadership gap lends urgency to the need to implement such a plan. To the extent the Department is successful in identifying and capturing employees' institutional knowledge in the near-term, it would not have to re-invent as many wheels as it otherwise would. A transparent and equitable succession process would help dispel any misperceptions of favoritism or racism and provide accountability mechanisms that minimize the likelihood that favoritism or bias would be the deciding factor in work-related decisions.

**Impacts:** Absent the implementation of an effective succession management process, the Department could be uncomfortably close to a scenario in which the quality of service community members receive when they call 9-1-1 would depend on who happens to respond—i.e., an experienced or inexperienced leader and/or crew. If this situation were to occur, the City's potential financial liability risk would be extremely high. In addition, spotty and/or substandard service would be inconsistent with City management's and elected officials' stated commitments to provide equitable services throughout the community so every person can thrive. Without ensuring that every position is staffed by fully qualified individuals, the Department would put the safety and health of its community as well as its own personnel at risk.



## Recommendation 30. Create a policy that requires supervisors and managers throughout the Department to conduct annual performance evaluations.

**Description:** AP Triton could not locate a Department policy that addresses the frequency of performance evaluations during our review of the Department's policies and procedures. The governing City Civil Service regulation, Section 51, states that "...the Commission shall, at regular intervals, request the appropriate appointing authority to evaluate and report the performance levels of such employees [in the classified service] in the manner prescribed by the Commission." In light of the lack of evidence that the Commission requires annual performance evaluations and the fact that both sworn and civilian staff agree that it is unusual for them to have their performance evaluated after their probationary period is over, the Department must step up and create a policy establishing such a requirement. There are many important purposes that an effective performance evaluation process can serve as well as benefits that accrue to supervisors, employees, and the Department.

**Estimated Financial Costs/Savings:** Savings could come in the form of cost avoidance, such as having to pay for the negative consequences of bad behaviors or unacceptable performance, or real or perceived discrimination and/or favoritism. Assuming that evaluating their personnel's performance is a requirement for those in supervisory and managerial positions, no costs are associated with this recommendation.

**Outcomes:** Implementing a formal performance evaluation process would enable the Department to address many existing concerns reported by personnel, such as the lack of accountability for bad behavior. It could reduce the current perceptions of inequity fostered when employees see that accountability for poor behavior or performance depends on who people know or what their rank is. This also would result in greater confidence in Department leaders at all levels.

**Impacts:** Absent the requirement that Department supervisory and managerial personnel conduct formal annual performance evaluations, its leaders essentially would be signaling that accountability throughout the agency is not a priority. This "message" also would be inconsistent with statements that succession planning is a high priority in the Department, given that performance evaluation is integral to many elements of an effective succession management process. Leaders' credibility could be questioned as a result, and perceptions of inequity would remain. Behaviors that should have been addressed through the performance evaluation process could escalate until they rise to the level of requiring disciplinary measures.



## Recommendation 31. Confer with the City about its (City's) employee performance appraisal form.

**Description:** Although the Department's performance evaluation (PE) form for its sworn personnel requires a discussion of each individual's job description, the City's PE form does not. Instead, it has supervisors list their employees' major job assignments and/or projects for which the employees are being evaluated. This language could result in a number of serious inequities, such as employees being evaluated on unknown criteria that are not related to those in their job descriptions or working out of class and not realizing it.

**Estimated Financial Costs/Savings:** Staff time to engage in discussions with City officials. This issue may be resolved by a simple yet critical change in language.

**Outcomes:** Employees who know their exact duties and responsibilities and are told their performance standards before they are evaluated would perceive that they are being treated fairly. They would be better able to assess their career goals and make plans based on the feedback they receive. They also would be able to determine whether their supervisors knowingly or unknowingly are violating the 25% rule about working out of their classification. Supervisors who are very familiar with the tasks and responsibilities spelled out in each employee's job description would be able to conduct more accurate performance evaluations and staffing analyses. They also would be in a much better position to advise their employees about how they might continue their professional development.

**Impacts:** Absent a change to the language in staff performance evaluation forms that specify employees must be evaluated on the basis of their job descriptions, supervisors could continue to evaluate their staff on projects or assignments that fall outside the scope of their job description. More importantly, given that it is highly likely a supervisor would not communicate formally the performance expectations of an assignment or project that does not fall under the job description, it would be inequitable of them to subsequently evaluate the employee for performance on the assignment or project. In addition, personnel might not be getting the feedback they need to be able to improve their performance in the areas for which they were hired and are responsible.



### SAFETY, PHYSICAL HEALTH, AND MENTAL WELL-BEING

## Recommendation 32. Take immediate, proactive steps to address the mental health needs of LBFD personnel.

**Description:** The following quotes from members of the LBFD's CISD/Peer Support Team and/or its Advisory Board demonstrate the need for urgency in addressing this recommendation. These examples were provided to our team in January 2022. All team members have undergone extensive training. Many have been serving in the peer support capacity for years, enabling them to provide important context for their observations and experiences.

"We are constantly dealing directly with affected employees. We are the crying shoulder, the Peer Counselor, the Debriefer, and the conduit to professional resources. We also are the receiver of the call in the middle of the night from an employee that says, 'I cannot take another step.' The past couple of years, our team has fielded this call around 20 times. Fortunately, we have not checked that box yet."

"Recently, our brothers from the Long Beach Police Department suffered a tragic loss of a well-respected officer by suicide. This is an area we too are fearful of occurring within our own ranks, and one that is incredibly complex to get ahead of."

"...at any given time, our 8-member board is fielding numerous personal calls daily from department members requesting services. These numbers are collectively higher than we have ever seen, spreading our current counseling resources incredibly thin. Today, in fact, I had a member reach out for counseling services. Unfortunately, all of our resources were unable to accept this person due to being so impacted. We are in the process of reaching out to our counterparts in other departments for help because we cannot manage with our own resources."<sup>47</sup>

"Because of my involvement with our Peer Support Team, I'm involved in regular and direct communication with the contracted Clinicians provided to our members. Overwhelmingly the response is our members 'are hurting.' A response I've heard over and over from Clinicians is we are a broken group and intervention is critical."

<sup>&</sup>lt;sup>47</sup> Note: this individual has served on the CISD/Peer Support Team for 15+ years.



"Firefighters and Paramedics in large numbers are seeking opportunities with other Departments and/or considering other professions because of stress and working conditions. This is unprecedented. Individuals are considering new career paths regardless of time on the job. Employees are being faced with tough decisions of preserving their family relationships or maintaining this lifestyle because the two are incompatible. Sleep deprivation, extreme exhaustion, stress, and time away from family are contributing to unsustainable working conditions. It's overwhelming the number of people reaching out to me requesting referrals to Clinicians for themselves, spouses, significant others, and kids because of the impact of our job. I'm aware of individuals voluntarily admitting themselves to treatment facilities to ensure their own personal safety and attempt to save their family."

"Firefighters are a hypervigilant group, constantly evaluating conditions and developing resolution. We are in a vulnerable state, and without the support and preserving resources to restore physical and mental health for our employees, the Department and community will suffer the ramifications of unhealthy employees."

Immediate, proactive steps should include investigating the possibility of contracting with a reputable outside vendor that can move quickly to ensure that personnel who need assistance are able to receive it in a timely manner. This also would provide some relief to overwhelmed Peer Support counselors. Our team was advised that some time ago, the Department had engaged in discussions with The Counseling Team International about contracting for their services.<sup>48</sup> Yet nothing came of those discussions—despite the fact that the Long Beach Police Department has (or recently has had) a contract with this company. Neither the Peer Support team members nor Local 372 Board members, who apparently had some involvement in those discussions, know why this effort stalled.

**Estimated Financial Cost/Savings:** Dependent upon what action steps are taken. Adequate staffing and resources (apparatus) are required to support current and increasing demands for service.

<sup>&</sup>lt;sup>48</sup> https://thecounselingteam.com/.



**Outcomes:** Taking concrete and immediate action to alleviate the poor state of LBFD personnel's mental well-being and to mitigate their effects going forward would send a clear signal that the Fire Chief was serious when he informed the City Council on August 17, 2021, that the safety, health, and well-being of his personnel are his top priority. Those whose mission and sworn duty are to protect lives, property, and the environment in the Long Beach community would continue to be able to do so without endangering themselves or others. Such decisive action would make the LBFD a model for other fire departments, whose employees face similar crises.

**Impacts:** Absent taking immediate steps to address the mental health needs of LBFD personnel, the impacts of unaddressed needs are likely to affect their performance and/or their safety or that of the public. The City would be faced with potential financial liabilities that would harm its budget. Department personnel told our team members in interviews that there is a widely shared perception that City leaders, who rely on them to go above and beyond when needed while continuing to fulfill their regular duties, do not care about the significant personal costs of their efforts to meet or exceed those expectations, even when they are unreasonable. An affirmation of this perception would lower morale considerably. As an LBFD Peer Support Advisory Board member stated, large numbers of Firefighters and Paramedics actively are seeking opportunities elsewhere as a result of the work conditions at the LBFD. In addition, assigning a low priority to their employees' health and well-being likely would make it more difficult for the Department (and possibly other City departments) to attract quality applicants now and in the future, slow the Department's progress toward achieving its diversity vision, and be inconsistent with City leaders' stated commitment to provide equitable access to services in all areas of the community.

## Recommendation 33. Create and implement a plan to address LBFD personnel's safety, health, and well-being.

**Description:** Community Risk Reduction (CRR) is a process used by fire departments to help identify the risks in their communities and develop a plan to prioritize and reduce those risks. The LBFD can apply the CRR process as a framework to create and implement a plan to identify, address, and mitigate the risks to their own safety, health, and well-being. Here are the relevant steps: (1) identify the risks; (2) prioritize the risks; (3) develop strategies and tactics to mitigate the risks; (4) write the plan; (5) implement the plan; and (6) monitor and evaluate the plan, making improvements as needed.



**Estimated Financial Costs/Savings**: Staff time to develop and implement the plan. The cost of implementation depends on the details of the plan and the extent to which tasks can be completed internally or contracted out. Successfully mitigating personnel's health-related risks can lead to substantial financial savings in the form of cost avoidance or reduction, such as reduced workers' compensation claims, fewer job-related injuries, and fewer errors due to healthy personnel.

**Outcomes:** Creating and implementing a plan to address LBFD personnel's safety, health, and well-being would enable employees to get the help they need when they need it. It could take some of the pressure off the Department's CISD/Peer Support team by identifying other resources to share the load. This would allow individuals to live healthy lives and have long careers, ensure the Department can continue to provide the quality of service that City leaders and the community expect, and enable the City to honor its commitment to ensuring all residents have equitable access to services to help them thrive. It also would enable the Department and the City to demonstrate their alignment with the International City/County Manager Association's (ICMA) description of a healthy local government organization as one that "....promotes and protects the healthy, safety, and well-being of employees in the workplace."

**Impacts:** Absent the implementation of the plan described in this recommendation, the Department likely would waste valuable time and resources, thus allowing the situation to continue, with the previously identified significant potential negative impacts on personnel, the Department, and the community. It also could damage City leaders' credibility with respect to keeping their equity-related commitments. The lack of such a plan also would signal that the Department and the City do not meet the ICMA's description of a healthy local government organization.

## Recommendation 34. Regularly assess the effectiveness of the Department's current wellness program and make adjustments as necessary.

**Description:** Although Local 372 members receive monthly incentive pay for participating in the Department's wellness program in conjunction with Santa Ana College, and additional monthly incentive pay for reaching designated individual goals, the governing language in the MOU suggests there is no formal, on-going process to determine the effectiveness of the program in achieving the Department's goals. Section VD of Local 372's MOU (which expires in September 2022) allows a "limited re-opener on April 1, 2021, to meet and discuss program components..." based on metrics that "...may include sick leave usage and work-related injury claims." Identifying specific health criteria for the program itself to meet (vs. individuals' personal results), then evaluating them on a regular basis and communicating the results will enable the Department to determine the effectiveness of the overall program and make choices accordingly. If it is effective, a marketing program could be developed and presented to increase awareness and participation. The Department should designate a specific individual to take responsibility for implementing this recommendation. Perhaps the LBFD's Safety Officer would be a better choice than the station Captain tasked with the current plan despite having fulltime responsibility for his station. Because the wellness program is a mandatory bargaining issue, the Department should be prepared to address any desired changes during negotiations for the contract that will become effective on October 1, 2022. At the very least, the effectiveness should be evaluated every year instead of once every three years.

**Estimated Financial Costs/Savings:** Potential savings could result from greater participation in the existing program if it can be shown to reduce the number and/or severity of injuries or illnesses. If adjustments are called for, staff time will be necessary to conduct meetings with Santa Ana College and to meet and confer with Local 372 because the monetary incentives related to the program are a benefit provided under its MOU that expires September 30, 2022.

**Outcomes:** Local 372 members would continue to have access to a program that benefits their health. Perhaps a clarification of and a renewed focus on those benefits would increase participation. Maintaining or increasing their overall health would enable personnel to experience fewer injuries, which could result in cost savings for the Department. Personnel also would be more likely to have long, productive careers, which would benefit the community as well as themselves.



**Impacts:** Absent an on-going formal assessment of the effectiveness of its wellness program, the Department would continue to remain unable to determine to what extent, if any, it has been successful in meeting the organization's goals. A lack of data about the program's outcomes would prevent the Department from being able to justify the resources devoted to the program. Perhaps most importantly, program participants who believe they are realizing benefits from the program may be mistaken.

#### Recommendation 35. Identify and evaluate the services currently offered to Department personnel, including the Department's Employee Assistance Program (EAP), the three clinicians to whom LBFD staff are referred, and the coverage offered by existing health insurance carriers and workers' compensation insurance providers.

**Description:** Department personnel need to know what resources are available to them, how they can be accessed, and how responsive they are. By researching the information, the Department can educate its staff as well as determine whether it needs to ask the City to negotiate any changes to the contracts with any of the listed organizations.

**Estimated Financial Costs/Savings:** Staff time to conduct the research described in this recommendation and to communicate the results. Changes to existing contracts, if any, likely would result in additional costs. Potential savings could come in the form of cost avoidance as personnel are able to take advantage of the resources available to them and learn to address the stressors in their lives.

**Outcomes:** Researching and communicating information about mental health-related services available to Department personnel would enable them to get the help they need to ensure they are physically and mentally prepared when responding to emergency calls. It would ensure equitable treatment of community members and increased safety of both personnel and the City's patrons. Additionally, these resources can significantly reduce the City's potential financial liability for errors caused by LBFD staff whose performance has been impacted by their physical or mental condition.

**Impacts:** Absent information about the mental health-related services available to them, LBFD personnel would remain unable to access the treatment they need. The impact would be particularly severe for those with serious immediate needs who are unable to find relief. A common fear voiced by Department personnel during Triton's team interview was that people who have been pushed to their limits would "go over the edge." The quotes from LBFD CISD/Peer Support Team members noted previously illustrate what they mean by that phrase. The potential for significant negative impacts would remain very high for personnel and the community.

#### Recommendation 36. Comply with the requirement of the City's Injury and Illness Prevention Program to address safety deficiencies immediately.

**Description:** The Department's heavy workloads have given rise to conditions among its personnel, such as sleep deprivation, that threaten the safety of both its staff and the community. For example, interviews with personnel revealed that it is not uncommon for Firefighter/Paramedics who regularly are required to work additional 24-hour shifts, often back-to-back, to have to keep each other awake during their calls because they are exhausted. This situation appears to be in violation of Provision 8.6.2 of the December 27, 2007, City document titled "Injury and Illness Prevention Program," which states, "Supervisors shall ensure that known safety deficiencies are appropriately addressed...." According to the City's "Hazard Correction Work Order Matrix" in this document, when deficiencies are serious or imminent, the period for correction is "immediate (ASAP)."

#### Estimated Financial Costs/Savings: Unknown.

**Outcomes:** Compliance with this City directive would result in greater levels of safety for its personnel and the community. It also would reduce the City's potential financial liability associated with allowing known unsafe working conditions to continue.

**Impacts:** Absent the Department's compliance with the City's directive to ensure safe working conditions, its personnel and the community would continue to be at risk of serious harm or injury. The City's financial liability for any negative consequences would continue to exist.



## Recommendation 37. Implement a program or process to measure the physical impacts of Firefighters' workloads at the individual level.

**Description:** The LBFD is far from unique in its inability to assess the physical impacts of individual Firefighters' workloads. The LBFD should review and monitor the research being conducted by the Fire Department of New York's (FDNY) Mental Performance Initiative, whose purpose is to use the results to develop ways to mitigate the negative effects of Firefighters' jobs on their minds and bodies during their typical 30-year careers.<sup>49</sup> Phase one of the initiative reportedly has produced data documenting substantial strains such as highly elevated heart rates during structure fires.

**Estimated Financial Costs/Savings:** Staff time to review and monitor the progress of the FDNY study and develop a similar process for measuring the workload impact on personnel.

**Outcomes:** To the extent that the Department can identify the physical impacts of specific aspects of Firefighters' jobs, it can learn and apply effective techniques to mitigate their negative effects. As a result, LBFD personnel would be more productive, less injury- and illness-prone, and more likely to be able to have long careers serving the Long Beach community. Costs related to physical injuries, such as workers' compensation and overtime incurred by having to back-fill positions, would be likely to decrease.

**Impacts:** Absent the development and implementation of a program or process to measure specific physical impacts of Firefighters' jobs, work-related injuries would continue to take a physical toll on LBFD personnel and a financial toll on the City. Early retirements due to injuries would continue to diminish the ranks of experienced, knowledgeable staff and require additional hiring. Qualified potential applicants could choose to pursue opportunities at other fire departments. Progress toward achieving the Department's diversity vision could be slowed.

<sup>&</sup>lt;sup>49</sup> https://www.definingmomentsllc.com/mental-toughness-on-the-battlefield-and-the-fireground-w-fdny-firefighter-and-us-marine-corps-major-jason-brezler/.



### FIRE SUPPRESSION OPPORTUNITIES

### **Short-Term Recommendations**

## Recommendation 38. Consider conducting a minimum of two to three recruit academies over the next two years.

**Description:** The attrition of personnel at all ranks and levels throughout the Department in the coming year and beyond will create additional stresses on the Department's personnel and their ability to deliver expected services. Given that the 16-week Recruit Academy can accommodate 24 to 27 recruits at a time, replenishing the ranks will take years. The upcoming leadership gap will be a significant challenge as the need for more leaders will far outstrip the ability of relatively inexperienced Firefighters to fill those positions. Note: The City has programmed academies to meet this recommendation.

**Estimated Financial Costs/Savings:** Unknown at this time, though significant due to the cost of labor. The proceeds from Measure A, which was passed specifically because "In 2016, Long Beach voters recognized a pressing need to maintain and enhance public safety services and invest in City infrastructure," could be used to fund some of these costs.<sup>50</sup> The financial costs and hiring processes can be spread over approximately 2–3 years as the attrition rate becomes clearer and the selection process can be planned more specifically.

**Outcomes**: Avoiding the need for mandatory overtime and callback for the existing workforce would likely decrease injuries and enable personnel to address their own physical and mental health needs. The Department would be able to plan the promotional processes required to fill vacant leadership positions at all levels. The next few selection cycles could result in a more diverse pool of applicants as the Department's diversity recruitment efforts could begin to see results.

<sup>&</sup>lt;sup>50</sup> City of Long Beach, "Measure A FAQ" posted on the City Manager's website and accessed 9/27/21: https://www.longbeach.gov/citymanager/measure-a/about-measure-a/.



**Impacts:** Absent the hiring of additional Firefighters and Paramedics, there would be significant short- and long-term constraints on the Department's ability to continue to provide services and maintain acceptable service levels. Given the City's planned increased density and other realities, the Department simply would not have the people it needs to continue to protect lives, property, and the environment. The inequities that necessarily would result from such cutbacks would be inconsistent with City management's and elected officials' commitments to provide equitable services. The lead-up to the actual hiring of these positions is at least one year out and will have to be a budget item.

### **FACILITY OPPORTUNITIES**

### Analysis of Potential Station Closure Candidates

Discontinuing the use of a fire station is a difficult decision when fiscal constraints dictate that the potential exists. The closure of a station can potentially impact the entire community because calls in its district must be picked up by other stations that are further away. Unless the affected apparatus and crews are re-located to another station, the closure could result in the Department's inability to provide the resources necessary for an effective response force in the case of a structure fire or in cases of concurrent medical calls and/or other emergencies.



### **AP TRITON**

To evaluate options as to which of the 23 stations might be candidates for potential closure, Triton utilized a methodology to assess and rank the station response areas by several metrics, including fiscal, demographic, socioeconomics, and critical facilities.

The following metrics were ranked by station service area. The higher the numerical score, the lower the ranking.

- Fiscal
  - Sales Tax Revenue
  - Businesses per square mile
  - Jobs per square mile
- Demographics & Socioeconomics
  - Population per square mile
  - Poverty percentage<sup>51</sup>
- Demand for services
  - Incidents per square mile
- Critical Facilities per square mile
  - Metro Stations
  - Multi-storied buildings
  - Buildings with > 10,000 square feet
  - Buildings with > 2,000 gallons per minute needed water flow in case of fire
  - Designated Target Hazards
  - Hospitals
  - Multiple resident dwellings (apartments, condominiums, quads, etc.)
  - Hotels
  - Hazardous materials facilities
  - City-owned buildings
  - Schools

<sup>&</sup>lt;sup>51</sup> Though unfortunate, higher poverty levels typically occur in minority populated areas.



Each rank in each fire station response area was summed and ranked according to its potential for closure. The lower the summed rank, the less potential for closure of that facility. The following figure summarizes the results of the analysis. Note that Stations 15, 21, and 23 (Marina) do not have land-based responsibility but have water-based responsibility. They are located within other station areas because they are committed to marine response. Station 23 "area" refers to Signal Hill that also includes areas within the city.

Station	Summed Ranks	Final Rank
1	56	1
10	67	2
3	68	3
2	87	4
7	100	5
4	107	6
17	119	7
23	134	8
9	137	9
13	146	10
12	158	11
11	161	12
14	165	13
19	167	14
8	168	15
16	199	16
6	209	17
18	210	18
22	225	19
5	235	20
20	235	20
24	260	22
15		
21		

#### Figure 189: Ranking of Stations for Discontinuance

### **AP TRITON**

Since the station areas in the Harbor are paid by the Port of Long Beach, discontinued use would not provide the City with any fiscal relief. Additionally, Station 16 is assigned to the airport via contract and due to the Long Beach airport's classification as an index facility flying large commercial passenger aircraft, the Federal Aviation Agency (FAA) requires it to provide on-site fire protection. For these reasons, the harbor and the aircraft rescue and firefighting stations are exempt from potential closure. Station 21 houses a Marine Safety rescue boat located at the marina. A fire at the marina or in the Naples area would spread quickly and require such a specialty unit. Otherwise, the nearest would be in the harbor.



#### Figure 190: Map for Station Area for Facility Closure

### **AP TRITON**

According to the total rankings, Station 5, Station 18, and Station 22, all on the east side, have the highest potential for considering discontinued use based on financial constraints. The study team advises not to consider Station 22 since it provides coverage for California State University at Long Beach and a major power facility. The next station area in consideration is Station 8.

The study team examined the poverty percentage in all station areas. Those of Station 5 and Station 18 have the lowest relative poverty percentage compared to the other station areas. Station 8's area has a higher poverty rate. In addition, a diversity index was applied to all station areas.<sup>52</sup> According to the index scores, an area closer to zero is less diverse, while areas scored closer to 100 have an equally diverse population. According to this index, Station 8 is the least diverse, followed by Station 18 and then Station 5.

Station 5 has the highest summed ranking for potential closure. Large parts of the area are used for a park and a golf course. It is an older station, built in 1968, that was reportedly renovated 7–8 years ago. It is a two-bay station with one engine company. Station 18 was reportedly built in 1936 and has one bay housing a rescue unit in a densely populated area. Station 8 is a historic two-bay station built in 1930 and renovated a decade ago. It houses one engine company.<sup>53</sup>

The Triton team conducted a subsequent analysis to determine which of the service areas covered by these three stations would be impacted the least by a closure. Calculations for the surrounding stations' travel time capability are based on NFPA 1710 standard (4 minutes). This was compared to the percentage of incidents and the estimated percentage of the population that would have to wait longer for help in an emergency. Because Station 18's area was the least impacted, it has the highest potential for closure.

Diversity Index	Station	Asset	Poverty %	Poverty Rank	% Demand outside 4 mins travel time nearest Stations	% est. population outside 4 mins travel time from nearest stations
48	8	Historic	7.66	16	75%	69%
61	18	Rescue Unit only	4.79	17	13%	20%
63	5	Engine Unit only Park/Golf course	4.27	19	37%	18%

#### Figure 191: Impact Analysis for Facility Closure

<sup>52</sup> https://downloads.esri.com/esri\_content\_doc/dbl/us/J10170\_US\_Diversity\_Index\_2020.pdf.

<sup>53</sup> See Capital Facilities and Apparatus Section for details.



A queuing analysis was conducted to calculate the reduction in wait time probability during daytime (9 a.m. to 9 p.m.) and nighttime (9 p.m. to 9 a.m.). Station 18's area demand was divided among its responding neighboring stations' workloads. There was little impact on Station 22, which showed a slight increase. Both Station 5 and Station 19 had a reduction in wait time probability with the addition of the rescue unit in their stations, though Station 19's area benefitted more.

However, it is critical to maintain a rescue unit on the east side of the city. The nearest other rescue or BLS unit is either Station 22 to the south or on the west side of the airport. Considering the unit hour utilization of rescue and BLS units in the city and the effect upon them should Rescue 18 be discontinued, this unit needs to be reassigned to a nearby station, either Station 19 or Station 5. Closure of Station 5 or Station 8 would potentially create a loss of an engine company in the city since the same asset is found in every other station (except Station 18 & Marine-only stations). This resource reduction would negatively impact initial response capability and effective firefighting force assembly in the affected zones.

Both Station 5 and Station 19 are two-bay stations with a single engine company, so either station can accommodate the addition of the rescue company. Rescue companies are afforded a longer travel time under NFPA 1710 (8 minutes) when first responding units such as engine companies are used to respond initially. The travel time, in this case, is 8 minutes. Housed in Station 5, the rescue unit would have more travel time capability outside of the city than within it. Rescue 18 within Station 19 can reach most of Station 5's area within the 8-minute travel time. Therefore, it is recommended that if Station 18 is discontinued, Rescue 18 be reassigned to Station 19.

## Recommendation 39. Require the developers of large complexes and high-rise buildings to fund necessary infrastructure.

**Description**: A Fire Facilities Impact Fee should be reviewed and updated every 3–5 years. The last review and update were in 2007. During the next review process, the City should consider requiring developers of large complexes and high-rise buildings to fund necessary infrastructure. To help offset the increased demand for services by the LBFD and other City departments that their projects will generate (including fire stations and apparatus), the City should require developers to pay an impact fee. For developers, impact fees are a cost of doing business. State law allows cities to require developers to "pay their fair share" of the expected impacts their projects will have on the community's infrastructure rather than force taxpayers to subsidize them. The planned increased density in the downtown area alone will increase demands significantly not just for LBFD services, but for water, utilities, public works, and other City services and departments.

**Estimated Financial Costs/Savings**: Unknown at this time. The Mayor and City Manager have presented an aggressive growth plan for the next ten years that will result in an influx of new residents and businesses that will increase the LBFD's call volume significantly. This growth should translate into significant additional property, sales tax, and emergency response revenues for the City, and, potentially, the LBFD that may offset a significant portion of capital and operating costs.

**Outcomes**: Requiring developers to pay their fair share to mitigate the impact of their construction projects would add to the community's infrastructure would reduce the financial impact on LBFD and other City departments. Taxpayers would not have to subsidize these costs. The inequities that would (and currently do) affect some parts of the community more than others when developers do not pay their fair share would be mitigated, as taxpayers' money could be used for other purposes.

**Impacts:** Absent the requirement that developers pay impact fees, the status quo would remain, the cost of increased service demands to the LBFD and other City departments caused by their large construction projects would continue to be borne by taxpayers.

### **AP TRITON**

### **Mid-Term Recommendations**

## Recommendation 40. Upgrade the existing structures and facilities at the Captain David Rosa Regional Training Center (RTC).

**Description**: The existing facilities at the RTC should be upgraded to add office space for the training staff and gender-compliant bathroom, locker, and shower facilities. The RTC structures housing these facilities are deplorable and in need of significant remodeling. The current office space housing the Training staff is in extremely poor condition and inherently is unsafe. The shower, locker, and bathroom facilities are not gender-compliant.

**Estimated Financial Costs/Savings:** The facilities in question should be torn down and replaced. Given the current economic and supply chain uncertainties. The cost to rebuild a facility that includes office space and gender-compliant facilities is hard to project. It is conceivable that the cost could be as much as \$800 per square foot.

**Outcomes**: Upgrading the structures and facilities at the RTC would provide a safer work environment for Training staff and those who attend its programs. Providing gendercompliant facilities would send the message that the LBFD is serious about providing an equitable and welcoming workplace. This is especially important since the Department wants to attract more qualified female applicants. An upgrade could prevent potential litigation from those affected by the lack of gender-compliant facilities. Given that the RTC is utilized by fire department personnel from around the Los Angeles region, an upgrade would benefit them by providing a professional working and learning environment. If this recommendation is accepted, the Department would not see any short-term effects, as the process from planning to occupancy would take approximately two to three years. The true effects would be found in the medium- and long-term, as the facilities would increase the health and safety of the Training staff and provide a welcoming environment to women as well as to visitors and participants in RTC training programs.

**Impacts:** Absent an upgrade of the structures and facilities at the RTC, Training staff and participants would continue to work and learn in sub-standard buildings that could pose risks to their safety and health. The lack of gender-compliant facilities would continue to send the clear message that, regardless of its statements insisting it wants to recruit more qualified female candidates, the Department is not serious about doing that. Affected individuals could file a lawsuit to compel renovations, as a previous LBFD member did. The current situation would continue to represent an inequitable situation.



## Recommendation 41. Adhere to the Department's fire station renovation and replacement or relocation plan.

**Description**: The station renovation and replacement plan was developed to provide a pathway to maintaining safe, modern, functional, and appropriately located stations as well as a plan to provide for the costs associated with those activities. Renovating and building new fire stations are expensive propositions, representing multi-year endeavors mostly due to budgetary considerations, which is why having a plan to keep the projects on track is important. Step one is to analyze the stations that will remain in service for the next 25 years or more and take any necessary actions to ensure they will be healthy and safe workplaces. The next step is to plan and budget for stations that are slated for closure, relocation, or colocation over the next 10–25 years. Information in this and prior studies can help plan for new or renovated fire stations.

**Estimated Financial Costs/Savings**: The anticipated cost of renovating the designated fire stations is between \$10 and \$20 million over the next five years. Constructing two to three new fire stations to replace, relocate, or collocate fire operations based on the Department's fire station renovation and replacement plan is estimated to cost up to \$100 million spread out over the next ten years. This time frame will allow the City to budget the funds necessary to complete this program. Perhaps Measure A revenues or developer fees could be used for this purpose.

**Outcomes:** Adhering to this plan would allow the City and the Department to plan longterm for the necessary fire station locations based on the increased demands for service that necessarily will accompany the City's planned significant upsurge in population density in the downtown area. It also would allow planning for the increased density that would result from the 2021 passage of California SB-9. This law encourages much greater density in most areas of Long Beach, including residential properties.

**Impact:** Absent the adherence to the Department's fire station renovation and replacement or relocation plan, the Department's facilities will continue to experience deferred maintenance, and facilities will exceed their capability to expand to accommodate the increased demand for services,

### **AP TRITON**

### Long-Term Recommendations

## Recommendation 42. Should a station closure be considered as an option for fiscal relief, Station 18 should be the first choice, relocating Rescue 18 to Station 19.

**Description:** Discontinuing the use of Station 18 would have the least significant negative impact upon the surrounding community for fire protection and medical services among all fire stations in the city. Details of how this and the next two recommendations were prioritized may be found in the *Analysis of Potential Station Closure Candidates* earlier in this section of the report.

**Estimated Financial Cost/Savings**: Savings would result from reducing the facility's operating costs. The City estimated an operational savings of \$30,000 per year. Potential revenue from the sale of the property will be based on market value at the time of the sale. Given the recommendation to move the rescue unit to Station 19, there are no labor or unit operation cost savings.

**Outcomes:** If the Department accepts this recommendation, City management would be partially successful in achieving its goal of cutting the Department's budget. To maintain ALS availability on the east side, the rescue unit would be moved to Station 19, where it would be capable of reaching more of the community than it would if placed in Station 5. This move would not impact the unit hour utilization of other medical units. In addition, the Station 19 location would enable the unit to serve as the airport medical unit since most medical incidents occur in the terminal. The rescue unit would be able to reach the vast majority of Station 5's area within NFPA 1710 standards. Station 19's area would experience improved rescue unit response times.

**Impacts**: The implementation of this option, would result in half of Station 18's area and all of Station 5's area experiencing longer response times from the next closest rescue coming from Station 19.

## Recommendation 43. If station discontinuance is considered an option for fiscal relief, Station 5 should be the second choice.

**Description:** Although Station 5 is the highest-ranked station area for closure, its discontinued use would impact its community more than the closure of Station 18.

**Estimated Financial Costs/Savings**: Savings would result from the reduction of operating costs of the facility. Additional potential one-time revenue could come from the sale of the property. If the City chose to close the Station 5 engine company rather than relocate it, savings would include the costs of operating that engine company, including labor.



Description	Costs
Captain w/benefits	\$962,024
Engineer w/benefits	\$824,359
Firefighter w/benefits	\$639,197
FF/Paramedic w/benefits	\$756,201
Total cost savings (3 Shifts)	\$3,181,781

#### Figure 192: Labor Cost Savings of Station Closure

**Outcomes:** If the City implements this option, City management would be partially successful in achieving its goal of cutting the Department's budget.

**Impacts:** The closure of Station 5 results in the reliance of initial response from other stations, resulting in response times in excess of NFPA 1710's standard response guidelines. This could create a concurrency issue that would cause a ripple effect at nearby Stations 19 and 22. There also would be a negative impact on the effective response force assembly performance times. In addition, the unit hour utilization of nearby engine companies would increase, creating an additional burden on crews.

## Recommendation 44. If station discontinuance is considered an option for fiscal relief, Station 8 should be the third choice.

**Description:** Station 8 has a lower ranking for consideration of discontinued use than other stations but the highest impact upon the community it serves among those station areas ranked highest and not excluded.

**Estimated Financial Costs/Savings:** Savings would result from the elimination of operating costs of the facility. Additional potential one-time revenue could be generated from the sale of the property. If the City chooses to close the engine company located there, savings could include eliminating personnel costs associated with operating one engine company.

Description	Costs
Captain w/benefits	\$962,024
Engineer w/benefits	\$824,359
Firefighter w/benefits	\$639,197
FF/Paramedic w/benefits	\$756,201
Total cost savings (3 Shifts)	\$3,181,781

#### Figure 193: Labor Cost Savings of Station Closure

**Outcomes:** If the Department chooses this option, City management would be partially successful in achieving its goal of cutting the Department's budget.

**Impacts**: The closure of Station 8 results in the reliance of initial response from other stations, resulting in response times in excess of NFPA 1710's standard response guidelines. This could create a concurrency issue that would cause a ripple effect at nearby Stations 4 and 14. There also would be a negative impact on the effective response force assembly performance times. In addition, the unit hour utilization of nearby engine companies would increase, creating an additional burden on crews.

### **AP TRITON**

### FIRE APPARATUS OPPORTUNITIES

Fire apparatus are typically unique pieces of equipment, often very customized to operate efficiently in a narrowly defined mission. A pumper may be engineered such that the compartments fit specific equipment and tools, with virtually every space on the truck designated in advance for functionality. This same vehicle, with its specialized design, cannot be expected to function in a completely different capacity, such as a hazardous materials unit or a rescue squad. For this reason, fire apparatus are very expensive and offer little flexibility in use and reassignment. Thus, communities across the country have sought to achieve the longest life span possible for these vehicles.

Unfortunately, no mechanical piece of equipment can be expected to last forever. As vehicles age, repairs tend to become more frequent, parts more difficult to obtain, and downtime for repair increases. Given that the emergency mission is critical to the community, this downtime factor is one of the most frequently identified reasons for apparatus replacement.

Because of the large expense of fire apparatus, most communities find the need to plan for the cost of replacement. To properly do so, agencies often turn to the long-accepted practice of establishing a life cycle for the apparatus that results in a replacement date being anticipated well in advance. Forward-thinking organizations then set aside incremental funds during the life of the vehicle to provide replacement dollars when needed.

### **Mid-Term Recommendations**

#### Recommendation 45. Add additional watercraft resources.

**Description**: In anticipation of the planned increased public utilization of waterways, including a potential 2028 Olymipics, in the downtown area and other parts of the city, the Department should add watercraft resources (e.g., Zodiacs, outboard motors, boat trailers). There is no anticipated replacement of the large-ticket cost Seaway Rescue boats. Replacement of the smaller Zodiacs, outboards, and associated trailers are scheduled on an as-needed basis with an annual review of this equipment and planned budgeting for replacement.

**Estimated Financial Costs/Savings:** Unknown at this time as this is an evolving, dynamic, and annual review program.



**Outcomes:** Long Beach Fire Department is heavily invested in the marine aspect of its community and provides the best equipment to accomplish the tasks of rescue, dive rescue, firefighting, spill mitigation, law enforcement, harbor security (in some instances), and lifeguard services. Currently, there are no anticipated large ticket replacement items related to Rescue boats or smaller watercraft which may result in inadequate resources.

**Impacts:** Long-range planning brings into focus the need for watercraft in a waterfront community. The 2028 Olympics will bring an increased demand for water rescue and other services provided by the fire department and the planning of these events with the construction of new facilities may drive the need for additional rescue boats and smaller watercraft.

### Long-Term Recommendations

## Recommendation 46. Develop and adhere to an Apparatus and Equipment Replacement Schedule.

**Description:** The Department should develop an Apparatus and Equipment Replacement Schedule based on industry best practices, NFPA 1901-16: Standard for Automotive Fire Apparatus, NFPA 1911-17: Standard for the Inspection, Maintenance, Testing, and Retirement of In-Service Emergency Vehicles, but with the flexibility to extend operational lives based on certain conditions, and with a funding plan to provide for the systematic replacement of apparatus and equipment. An example schedule can be found in Appendix C at the end of this report.

**Estimated Financial Costs/Savings:** The funding of such a plan may be developed using a range of alternatives, including implementing an apparatus and equipment replacement reserve fund into which an annual amount, based on the timing and projected future costs of apparatus and equipment included in the program, or including apparatus purchase funding in debt offerings or capital lease programs. Potential cost savings may be realized from minimizing costs associated with major repairs to apparatus resulting from operating the vehicle for periods longer than the best practices or recommendations contained in the standards. Planned retirement of apparatus may result in higher cost recovery from direct sale or trade-in of the apparatus at the time of new acquisition.

**Outcomes:** Frontline apparatus may be more reliable and less costly to maintain than older apparatus.

**Impacts:** Failure to adopt and adhere to an apparatus replacement could result in increased maintenance costs and the potential for equipment failures during emergency operations.



### FIRE PREVENTION BUREAU OPPORTUNITIES

### **Analysis of Fire Prevention Recommendations**

A change in title from Fire Prevention to Community Risk Reduction better represents the scope and work of the Bureau. Prevention and mitigation are the two strategies for addressing community risks. Despite the "prevention" title, most fire department activities focus on mitigation: rescuing occupants, keeping a fire small, stopping the spread of a hazardous materials spill, etc., *minimizing* the loss of life and property. Even within Fire "Prevention" bureaus, most efforts focus on ensuring smoke alarms, fire alarms, extinguishing systems, exiting systems, fire walls, etc., are designed, installed/constructed, and maintained correctly, which keeps fires small and often eliminates or greatly reduces loss of life and property. Although *reducing* deaths, injuries, and structural damage is most certainly a goal of any fire department, the efforts are mitigating the impacts of a fire, rather than preventing the fire itself.

Community Risk Reduction is community-focused and employs the full spectrum of riskreduction tools. It allows you to identify your high-risk neighborhoods, determine your hazards, build partnerships, improve safety, and form effective strategies with limited resources. It includes programs, actions, and services used by a community that prevent or mitigate the loss of life, property, and resources associated with life safety, fire, and other disasters within a community. This name change can also assist in increasing the focus of efforts on prevention strategies, as discussed in the *Performance* section of this report.

The Fire Prevention Bureau (FPB) is divided into sections by area of responsibility which includes Community Services, Investigations, Fire Prevention/Inspections, Life Safety/CUPA, and City Hall/Permit Center.

There is an Assistant Fire Chief and Secretary assigned to each Bureau/Deputy Fire Chief. The role of the Assistant Chief is to support the Deputy Chief and manage projects for the Bureau. However, in FPB, the Assistant Chief is assigned to the Harbor and has little time to devote to overall Fire Prevention efforts. This leaves the Deputy Chief/Fire Marshal with a challenging span of control.


Three of the sections, Community Services, Investigations, and Fire Prevention/Inspections, are led by Fire Captains who rotate in from fire station positions for a minimum of two years. The other two sections, Life Safety/CUPA and City Hall/Permit Center, are led by Deputy Fire Marshals (DFM), who are career FPB staff. The three Captains and two Deputy Fire Marshals report directly to the Deputy Chief/Fire Marshal.

There are a total of 40 FTEs and two interns assigned to the FPB. Of the 40 positions, 16 are safety positions and 19, including five clerical positions, are career professional staff (professional staff). Currently, there are five vacant positions in the Bureau: one Clerk Typist, one PC II, one FF/Inspector, and two Combination Building Inspector Aide IIs. One other FF/Inspector is filled with a retired annuitant and is, therefore, a part-time position.

Before making a case for reclassifying positions in the FPB, it should be noted that the 2005 study by TriData made the same recommendation. It is also noted that the current staff, both safety and professional staff, are extremely dedicated and hard-working. They are all driven to handle the workload, and the inability to meet all goals has nothing to do with motivation. In addition, knowledge development and exchange with rotational safety positions are recognized.

The Department made some changes after the 2009 report, reclassifying a Battalion Chief to a Deputy Fire Marshal and reclassifying the CUPA staff to career fire prevention positions. LBFD also hired new professional staff classified as "Combination Building Inspector Aide II," "Hazardous Materials Specialist," and "Fire Plan Checker." A second Deputy Fire Marshal now oversees four professional "Fire Plan Checkers" at the City Permit Center.

The recommended organizational chart makes three significant changes. One is to reclassify 11 of the 16 remaining safety positions to career professional staff, leaving the three Fire Investigators and the Fire Captain PIO and Firefighter/CERT positions in Community Services as safety staff. The second is to move the Deputy Fire Marshal from Development Services to LBFD Headquarters, and the third is to create a general job classification for all professional staff.



The following information provides the reasons for these changes and explains how making them will result in a more stable, cohesive, and productive workforce.

- **Span of Control.** An Assistant Chief, three Fire Captains, two Deputy Fire Marshals, and a clerical staff member reporting directly to the Deputy Chief/FM is less efficient and more cumbersome than if one Fire Marshal directly supervised three management-level positions in addition to the clerical staff. This is especially helpful because of the CCRB Assistant Chief's very limited ability to assist in the Bureau, given that the position is assigned full time to the Harbor.
- Alignment of Duties. To improve communication and coordination between like functions, it is recommended all plan review and inspection staff (for new and existing occupancies) report to a common manager, the Deputy Fire Marshal for Engineering & Enforcement. That leaves the CUPA, Investigations, and Community Services staff, with similar functions, reporting to the other Deputy Fire Marshal, Education & Environment. The Harbor positions would move to Engineering & Enforcement in the Construction Inspection section.
- **Complexity.** Like in fire operations, with added firefighting and EMS standards, broadened scope, and more emphasis on customer service and health and safety initiatives, so too has the fire prevention field grown more complex. The codes continue to become larger in size and more technical in content. Interpretation can be challenging, and a strong understanding of code elements, issues, and technologies improves application and productivity. Career professional staff have the time, experience, and motivation to develop the expertise needed to meet professional standards, requirements, and demands.<sup>54</sup>
- **Communication.** Staff state they often consult the Deputy Fire Marshal with technical questions and for problem resolution, but this is not the ideal communication structure, and it decreases the efficiency of the Deputy Fire Marshal and the credibility of the Captain.

<sup>&</sup>lt;sup>54</sup> Note: NFPA published the first edition of NFPA 1730: Standard on Organization and Deployment of Fire Prevention Inspection and Code Enforcement, Plan Review, Investigation, and Public Education Operations in 2016. Standards on professional qualifications for FP staff are currently being combined into a single document (NFPA 1030, 1031, and 1037).



- Inefficiency. A two-year rotation for some of the most complex inspection types (e.g., high rise, care facilities, jails) does not provide the time necessary for personnel to become proficient. Too much time is lost training rotational staff, who are simultaneously required to keep up their professional firefighting and medical credentials.
- **Disruption.** Maintaining long-term internal and external relationships critical to effective and efficient operations is difficult when staff rotate.
- Flexibility & Career Ladder. There is little opportunity for career development and promotions among professional staff. Developing a common job classification creates a career ladder for professional staff and provides managers/supervisors flexibility for managing fluctuating workloads.
- **Cost.** Although not the main reason for the recommendations, position reclassifications also will result in cost savings.

The Fire Captain positions in Community Services and Investigations are appropriate, given the duties and importance of connection with fire station personnel, if the selected Captain has good management skills (e.g., responsible, goal-driven decisionmaker), as is the current case.

The recommended job classification series, Community Risk Reduction Specialist (CRRS), would encompass all career professional personnel except the Deputy Fire Marshals and clerical staff. The Administrative Analysts can be added if they are required to have technical knowledge and are part of the CRRB career ladder. A new job series would need to be recreated with CRRS Trainee, CRRS I, CRRS II, and Sr. CRRS (supervisory).

The following figure indicates which positions are recommended for reclassification.

Current Job Title	Recommended Job Title	# Positions/ Location	Comments			
Combination Building Aide II	Community Risk Reduction Specialist I/II	6 in Inspections* (2 vacant)	<ul> <li>The current "Aide" job classification does not match job duties</li> <li>"Inspector" working title may remain</li> </ul>			
Firefighter Fire Engineer Investigator/Inspector	Community Risk Reduction Specialist I/II	3 in Inspections 4 in Life Safety/MMJ 1 in Community Services	<ul> <li>2 move to Engineering &amp; Enforcement/Risk Reduction Inspections*</li> <li>5 move to Engineering &amp; Enforcement/New Construction Inspections</li> <li>1 in Education &amp; Enforcement/Community Services remains</li> </ul>			
Assistant Admin Analyst I/II	Community Risk Reduction Specialist I/II	1 in Community Services 1 in CUPA	Based on type of work			
Fire Plan Checker I/II	Community Risk Reduction Specialist 1/II/Sr	3 in CUPA 1 in Life Safety (MMJ) 1 in Inspections (Harbor) 4 in Permit Center	<ul> <li>"Plan Reviewer" working title may remain</li> <li>Move 2 (Harbor and MMJ) to Engineering &amp; Enforcement/ New Construction Inspections with MMJ</li> <li>4 remain in Permit Center, 1 reclassed as Sr/Supervisory</li> </ul>			
Haz Mat Specialist I/II	Risk Reduction Specialist II	2 in CUPA	Coordinate with Health			
Fire Captain	Sr. Risk Reduction Specialist	1 in Fire Prevention/ Inspections	<ul> <li>Sr/Supervisory</li> <li>Move to Engineering &amp; Enforcement/Risk Reduction Inspections*</li> </ul>			

#### Figure 196: Recommended Job Classification in Prevention Bureau

NOTE: No changes to 5 positions in Investigations or 2 positions in Community Services recommended. \*All 8 positions under Sr positions do all inspection types assigned to the FPB.

Ideally, a job classification study would be conducted. Alternately, since duties are not changing significantly, the duties and pay ranges for the current classifications (Combination Building Aide, Fire Plan Checker, Hazardous Materials Specialist, and Administrative Analyst) may be used to create the new position series.

Finally, vacant positions should be filled immediately. The workload is significant, and the positions are supported by fees. The City hiring process is cumbersome and lengthy and should be revised for non-safety/career CRRB positions.

In addition to filling vacancies as soon as possible, the section should consider a change in response models. Currently, all four Investigators and their Captain are on duty during the day and rotate on-call duty for evenings, weekends, and holidays. It may be more efficient to have three Investigators assigned to shifts and the fourth and Captain working days with the LBPD Detective. The shift Investigators would have more time for reports and would develop a rapport with the crews on their shift, assisting with cross-training, call-out, and scene preservation protocols. The day Investigator would handle most of the follow-up on arson fires, working with the Detective and Captain.

#### **Short-Term Recommendations**

# Recommendation 47. Rebrand the Fire Prevention Bureau as the Community Risk Reduction Bureau (CRRB).

**Description:** The Fire Prevention Bureau should be rebranded as the Community Risk Reduction Bureau (CRRB). A name change is often the first step in change management because it would challenge personnel to refocus on what they do and why they do it. The name change may also cause community members to reconsider what they believe about the Department and its staff.

**Estimated Financial Costs/Savings:** Costs include expenses incurred by changing the Bureau's name on relevant reports, legal documents, business cards and stationery, websites, and other areas as needed. These costs should be negligible compared to the Bureau's annual budget. Should the Department choose to educate its personnel, City management, elected officials, and the community about the name change and the reasons for it, unknown additional costs would be incurred.

**Outcomes:** Community and Department-wide expansion of focus relative to risk reduction throughout the jurisdiction. If the intent of the name change is grasped, a more targeted approach to current mitigation efforts, as well as an expansion to include more prevention efforts, would ensure throughout the department and community. The change is a growing national trend, and LBFD has an opportunity to help lead the charge.

**Impacts:** Absent the rebranding of the Fire Prevention Bureau as the Community Risk Reduction Bureau, the more traditional name would remain, and LBFD would have more of a challenge in refocusing efforts on prevention activities than current mitigation activities.

# Recommendation 48. Create a new job classification—Community Risk Reduction Specialist (CRRS).

**Description:** This unclassified job series would describe the qualifications and duties of career CRRB staff. The series would create a progression beginning with CRR Trainee, CRR I, CRR II, and a supervisory position, Senior CRRS, describing the qualifications and duties of each level, as well as requirements of each Section: Plan Review, Construction Inspections, Risk Reduction Inspections, Community Services, and CUPA. Working titles of Inspector, Plan Reviewer, and HazMat can be retained, if desired.

**Estimated Financial Costs/Savings:** The cost of conducting job classification studies for compensation purposes. Alternatively, use the pay ranges currently associated with Combination Building Aide, Plan Checker, Inspector, HazMat Specialist, and Administrative Analyst.

**Outcomes:** Results of creating the new classification could include a simplification of recruitment (e.g., over time, a single recruitment list can rotate among sections), the provision of career ladder/promotional opportunities, flexibility in managing workloads, and variety and opportunities for staff to learn new skills or information, or to use existing knowledge and/or skills. These positive outcomes would be consistent with the Department's succession management efforts. They also would mitigate the number and/or the impacts of single points of failure that currently exist in the Bureau.

**Impacts:** Absent the creating of the new job classification, the potential benefits listed above would not be realized and services to the community would not be maximized. The existing inefficiencies would continue to result in unnecessary costs, and the current lack of career paths and promotional opportunities within the Department would continue to encourage staff to transfer to other City departments, creating instability in the Bureau that could have negative impacts on the public's safety. In addition, staff would not have the career-developing challenges and flexibility to assist with work in other sections, resulting in fewer completed inspections than if the change is implemented.

**Recommendation 49.** Create job descriptions for safety staff positions in the CRRB. Description: Job descriptions for PIO, Community Services Captain and Specialist, and Investigation Services Captain and Investigator should be created by the City. All duties, educational requirements, and expectations should be included, as well as incentive pay and time commitments.



**Estimated Financial Costs/Savings:** Minimal costs, as staff understand their positions and need and can assist in creating the job descriptions. Compensation and benefits programs would be comparable to existing positions.

**Outcomes:** The positions are complex in terms of expertise and/or breadth of scope, so the job descriptions would enhance understanding and assist with establishing and communicating clear performance expectations and with conducting accurate performance evaluations. Job descriptions also would simplify and shorten the recruitment process and facilitate staff's ability to prepare for success in their respective positions. Dissemination of the descriptions would educate field staff about the requirements for these rotational jobs and enable them to make informed decisions about whether to apply and what they must do to prepare.

**Impacts:** Absent the creation of job descriptions for the CRRB's safety staff positions, existing confusion and misunderstandings about what a given job entails and the performance standards are would continue to be the norm. The purpose and requirements of these jobs would remain a mystery to those who have not done them, which could make recruitment efforts for these jobs more challenging. Personnel who otherwise might like to take advantage of the opportunities these jobs could offer (e.g., to make use of existing skills or interests, or to learn new skills) likely never would know they exist. Should the Department be unable to fill these specialty jobs in a timely manner, the service quality would be degraded.

# Recommendation 50. Regularly update fees for CRRB services to recover the projected total cost of services.

**Description:** The fee schedule, created in 2005 and currently being updated, results in the recovery of only 66% of the costs of providing CRRB services to users and the public. This year it is estimated that the Department will recover only 53% of its costs. Because there have been several changes in positions, services, and activities since 2005, this update is prudent. The resulting new fee schedule should be updated every two years, with adjustments based on COLA or other known increases in the intervening year. Except for costs recovered from other sources (e.g., Harbor/Port, CUPA, Development Services), 100% of costs for service delivery should be charged.

**Estimated Financial Costs/Savings:** A significant increase in fee-based revenue would offset (or in some cases cover) the costs of positions that provide the relevant services. The cost of creating and updating a fee schedule can and should be included in the fees for services.



**Outcomes:** Regularly updating fees for CRRB services would enable relevant positions in the Bureau to become 100% fee-funded even as positions are added or deleted, and service levels are adjusted. CA Government Code Section 66014 allows fees to be assessed to recover costs of providing services to the user. Charging 100% of the cost for service delivery could result in recovering the remaining 47% of costs, additional revenue of \$3,055,018.

**Impacts:** Absent regular updates of fees for CRRB services, the Bureau (and by extension the Department)would continue to devote part of its budget to labor costs that are fully recoverable. The amount of the deficit between allowable fee recovery and fee revenue would continue to increase, resulting in an unnecessary impact on the general fund.

#### Recommendation 51. Create an Enterprise Fund for CRRB cost recovery fees.

**Description:** Creating an Enterprise Fund similar to the one used in Development Services would make it easier for the CRRB to budget for services and account for the revenue from applicable cost recovery fees, such as those for inspections, false alarms, and fire restitution. It would ensure an accurate matching of services and fees that would demonstrate that their fees pay only for services provided.

**Estimated Financial Costs/Savings:** Creating an Enterprise Fund for these services would remove associated costs from the fire department budget. Revenue generated from the accurate matching of fees to services provided could be a significant source of revenue for the new fund. Such revenue is likely to more than cover the cost to establish and maintain an Enterprise Fund.

**Outcomes:** Creating an Enterprise Fund for CRRB cost recovery fees would put the Department in a much better position to match relevant services with their associated and recoverable costs. Such a fund acts as a strong accountability mechanism that would prevent such service-based fee revenue from being diverted for other inappropriate uses and assure customers that the fees are an accurate reflection of the services rendered.

**Impacts:** Absent the creation of an Enterprise Fund for CRRB cost recovery fees, the benefits of having a strong accountability mechanism would be lost. Customers likely would be less confident that the fees they are charged cover the costs of providing the services they receive. The Department could lose, or continue to lose, revenue that is diverted to other uses that are unrelated to the services provided.



# Recommendation 52. Consider an alternate response model for the Investigations section.

**Description:** Investigations staff currently work regular day shifts and rotate on-call duty to cover nights, weekends, and holidays. Alternatively, three Investigators could be placed on shift duty, and the fourth and Captain remain on days to work criminal follow-up with the LBPD Detective.

**Estimated Financial Costs/Savings:** Savings would result from the elimination of routine oncall and overtime pay. There would continue to be some call-back overtime if a shift Investigator requires assistance.

**Outcomes:** Implementation of an alternate response model would enable Shift Investigators to develop a rapport with crews on their shift that would result in improved scene preservation and quality of investigations and reports. Investigators would have more time for reports, which would reduce the current backlog and mitigate future backlogs. The day Investigator would handle most of the follow-up on arson fires, working with the detective and the Captain.

**Impacts:** Absent the adoption of an alternate response model, personnel would continue to work overtime. The existing backlog of cases would remain, and important cases would go uninvestigated. Potential crime scenes would continue to be compromised because crews would not have the expertise to help preserve them. To the extent that there are arsonists who continue to set fires because there are no consequences, the safety and well-being of the community and Department personnel would continue to be at risk unnecessarily.

#### Recommendation 53. Increase staffing in the Community Risk Reduction Inspection Section to complete state-mandated inspections.

**Description:** As documented in this report, there are not enough personnel to conduct all state-mandated inspections. LBFD should increase staffing in the Community Risk Reduction Inspection Section to remedy this situation. Because fees can be charged for recovering costs of conducting the multifamily and assisted living inspections, positions should be added to complete this annual inspection workload. It is difficult to estimate the required FTEs without first addressing the current inefficiency of the City-required paper-based reporting system by automating the relevant processes and, in the interim, adding temporary clerical staff. The three vacant positions should be filled, and the workload reassessed. Recommendations in this report are to staff the Risk Reduction Inspection Section with 8 CRS staff and 1 CRS supervisor. All positions should collaborate on the workload rather than be limited to specific inspection types. Note: The Fire Department increased non-sworn Combination Building Inspector Aide II positions by 3.0 FTE in the FY 22 budget.

**Estimated Financial Costs/Savings:** Costs of additional positions should be 100% fee-offset. Staff time for the City's IT staff to enable the Inspectors to transition from a paper-based reporting system to a digital one, as is common practice of other fire departments.

**Outcomes:** Increased staffing in the CRRB Inspection Section would enable the Department to meet the state-mandate inspection schedules. Completing inspections of these high-risk occupancies would increase residents' safety as well as that of the community overall. Although the impact of the state's new automated Priority Building Inspection Program, which tracks the completion of mandated inspections in local jurisdictions, is unknown, the LBFD would be well served by completing these inspections. There is little doubt these reports will go public. The increased flexibility of a more collaborative approach to work assignments would provide variety for staff and broaden the knowledge base in the Section.

**Impacts:** Absent increased staffing of the CRRB's Inspection Section, the safety of residents of multi-unit buildings that are subject to the state mandate would continue to be at unnecessary risk. The City would continue to be open to financial liability should there be an incident that results in significant damage and/or injury. City management and elected officials would not be living up to their stated commitment to provide equitable services to all parts of the community.



# Recommendation 54. Request City management and elected officials to reconsider their 2007 decision not to require property owners to retrofit their high-rise buildings with fire sprinkler protection.

**Description:** In the late 1990s, the California Office of the State Fire Marshal led the push to urge jurisdictions to require owners of buildings over 75' in height and built before 1975, when fire sprinklers were required, to retrofit their structures with these life and property saving systems. The City last considered the requirement in 2007, following a fire and death in one such high rise building and two deaths in another high rise building the previous year. The Coronavirus Economic Stabilization (CARES) Act of 2020 amends the 2017 Tax Cuts and Jobs Act (TCJA) to provide a small window of opportunity (before January 1, 2023) for a 100% deduction of the costs of a sprinkler system retrofit. An amendment to Chapter 18.48.420 of the Long Beach Municipal Code adopting California Fire Code Section 903.1.2 already contains enabling language, citing "existing buildings."

**Estimated Financial Costs/Savings:** Costs paid by property owners would be allowed as business deductions associated with the retrofits completed before the January 1, 2023, deadline. This would allow for an estimated 35% cost recovery based on a reduction in income taxes.

**Outcomes:** If the Department successfully persuades City management and elected officials to agree to reverse the previous decision, City residents would experience the highest level of protection for life and property possible in one of the highest risk occupancies in the country. If properly maintained, high-rise structures and occupants would be protected for the life of the building. There could be a backlash from property owners who may not understand the incentive.

**Impacts:** Absent the inability of the Department to persuade City management and elected officials to require high-rise owners to retrofit their buildings with sprinklers, residents of pre-1975 buildings would continue to be at risk of injury or death in case of fire. Firefighters would be less likely to confine structure fires to the room of origin, thus increasing the potential for greater property damage. The City would continue to be at risk for lawsuits related to damage, injury, and/or deaths that result from un-sprinklered high rise buildings, such as it did in 2007.



# Recommendation 55. Revise Fire Code amendments by January 1, 2023, during the current code adoption cycle. Note: Revised Fire Code amendments by January 1, 2023, during current code adoption cycle.

**Description:** Long Beach Municipal Code Chapter 18.48 adopts the California Fire Code. LBFD works with Building & Safety to amend the code to the extent necessary to meet local climatic, geologic, and topographic needs. Most amendments made to the fire code are well thought out and necessary improvements to safety and/or administrative needs. However, the following amendments should be revisited by January 1, 2023, for the stated reasons.

- 18.48.130—CFC Chapter 1, Section 105.6, adds 15 permits to the fire code. The language designating that these permits be required should be revised to *authorized*. This change would provide flexibility for staff in situations in which their workloads delay or prevent the inspections needed to issue or renew permits.
- 18.48.440—Chapter 9, Section 903.2.8, requires fire sprinkler protection in single family homes and in duplexes greater than 4,000 sq. ft. or more than two stories in height. This amendment should be deleted so that the California code requirement for sprinklers in all homes would apply in Long Beach.
- 18.48.010—The adopting language deletes Section 308.1.4, which prohibits openflame cooking on combustible balconies or within 10 feet of combustible construction except in one and two-family dwellings or where the balcony has fire sprinkler protection or where the propane container is not greater than 2.5 pounds. LBFD fire data should be reviewed to ensure there is no associated fire history.

#### Estimated Financial Costs/Savings: N/A

**Outcomes:** Revising the Fire Code amendments by January 1, 2023, would increase the level of safety in the community immediately and meet the statewide adoption deadline. The Department could increase its flexibility with permit issuance/reissuance. The City would be in compliance with a state code that provides greater protection for new single-family homes. There would be greater assurance that there is no fire problem associated with a prohibition prior to being less restrictive than the model code. The next opportunity to amend and adopt codes is 16 months from now.



**Impacts:** Absent the revision of the designated Fire Code amendments by January 1, 2023, would prevent the expected increase in the level of public safety. City residents would not benefit from the greater safety that a California law provides. Open-flame cooking on balconies would continue to jeopardize the property and safety of residents and their neighbors.

#### **Mid-Term Recommendations**

Recommendation 56. Reorganize the Fire Prevention Bureau so that it can allocate its resources more effectively to focus on Community Risk Reduction.



**Description:** Replace the Bureau's current structure in which two managers and three Captains report to the Bureau's Deputy Chief/Fire Marshal with two management level (Deputy Fire Marshal) direct reports. Reorganize positions so that those handling construction activities and issues in existing buildings report to one Deputy Fire Marshal, and those addressing fires, crimes, and environmental issues report to the other Deputy Fire Marshal. Revise the Section titles to reflect work activities.

#### Estimated Financial Costs/Savings: N/A

**Outcomes:** The benefits of reorganizing the Fire Prevention Bureau would include an improved span of control for the Fire Marshal, who does not have the support of the Assistant Chief, who is committed to the Harbor; improved communication and control for supervisors with direct access to a manager; better coordination and communication of related activities; improved customer service for the development community and those in the built environment as all staff would work together and report to a common manager; ease of cross-training potential and resulting flexibility to address peak workloads. The challenge would be the relocation of the Deputy Fire Marshal at Building & Safety to the Bureau. Objections to this move could be overcome by promoting a Plan Reviewer to the newly created supervisory/lead position (Sr. CRRS) and maintaining close communication with the Deputy Fire Marshal.

**Impacts:** Absent a reorganization of the Fire Prevention Bureau, current inefficiencies caused by the existing span of control and reporting relationships would continue. The rotational nature of the three Captains would further hinder the Bureau's effectiveness as three of the Fire Marshal's seven direct reports are Captains who typically supervise two to three staff with similar duties who report to a lower level manager very familiar with their duties.

# Recommendation 57. Reclassify 11 of the 16 safety positions in the FPB to career CRRs and fill all existing vacancies.

**Description:** There are 40 FTEs in the FPB. After the 2005 TriData study recommended reclassifying all safety positions to career CRRB positions, the LBFD did make changes. However, there are positions assigned to work in the construction field, as well as others assigned to conduct some of the most challenging annual inspections, that remain rotational safety positions. Currently, there are five vacant positions in the Bureau: one Clerk/Typist, one Plan Checker II, one Firefighter/Inspector, and two Combination Building Inspector Aide IIs. One other Firefighter/Inspector is staffed by a retired annuitant and is, therefore, a part-time position.



**Estimated Financial Costs/Savings:** Reclassifying these positions could result in cost savings of approximately \$80,000/position or \$880,000 total. Because current fees cover approximately 50% of CRRB costs, the actual cost savings would be closer to \$440,000. However, if the Department adopts the previous recommendation to update the fee structure so that users pay the full cost inspections, those fees would cover the cost of all positions. In that case, the savings would be in training costs and productivity/downtime as those rotating into the CRRB for a two-year period learn the new duties and continue to train to retain the safety certifications required in the field. The Captain position in CRR/Inspections could staff the dedicated PIO position described in an earlier recommendation.

**Outcomes:** Reclassifying 11 of 16 safety positions in the FPB would improve the Bureau's stability. Retention would lead to increased expertise, efficiency, and productivity. The expertise and consistency of staff would increase the professionalism of the CRRB. The Bureau's credibility and service levels would improve as customers develop relationships with the Inspectors and understand expectations. Additionally, a more robust career ladder would be created. Maximizing flexibility for both managers and staff could help with morale, cohesion, and retention of career CRRB staff who currently are frustrated and looking elsewhere for careers. This change could be challenged by incumbents and/or their respective unions. If so, it may be overcome by pointing out opportunities in Investigations, Community Services, and PIO and, if necessary, an agreement to reclassify by attrition.

**Impacts:** Absent the reclassification of 11 or 16 safety positions, the Department would not realize the significant savings the reclassification would have brought. Current inefficiencies would remain. Staff would continue to have no opportunities for professional development and/or to use their existing skills in other capacities that would benefit the Department and the community. The other benefits described in the recommendation would not materialize.

# Recommendation 58. Adopt a Community Risk Reduction philosophy/process and create a Community Risk Reduction Plan championed by the Fire Chief.

**Description:** Community Risk Reduction is a process to identify and prioritize local risks and to reduce their occurrence and impact by the integrated and strategic investment of resources (e.g., emergency response, CRR professional staff, and other City agencies). In addition to their inherent benefits, enabling the LBFD to identify high-risk neighborhoods, determine hazards, build partnerships, improve safety, and form effective strategies with limited resources would be consistent with City management's and elected officials' stated commitment to provide equitable services throughout the community. Details about how CRR employs the strategies of prevention and mitigation may be found in the *Organizational System Review* section of this report.

**Estimated Financial Costs/Savings:** Costs are unknown. Because the CRR process requires community involvement, external assistance will be needed. Partnering with other City agencies could enable effective resource sharing. Incorporating the plan into the Department's strategic plan, currently under development, could result in efficiencies of scale. There are free training programs and guidelines, such as USFA's Best Practices in Community Risk Reduction (F0635) and Essentials of CRR by Vision 20/20, are two.<sup>55</sup>

**Outcomes:** Implementing a community-based approach to mitigate risks would increase the general level of public safety because of the collective work with the community and City partners to understand, assess, and provide inclusive solutions to community safety issues. The full integration of all fire protection strategies and the community's active involvement in problem-solving and strategic implementation would result in a plan that increases public safety by attacking risks, and that helps prevent line-of-duty deaths and injuries. Empowered field crews could begin to take targeted actions, based on provided risk maps, to reduce the risks in their service areas. Over time, identifying and reporting relevant CRR metrics to assess progress and making adjustments as needed would ensure that resources are being used as effectively as possible. The City's financial liability for related to unaddressed community risks would decrease. Adoption of this recommendation would support City management's and elected officials' stated commitment to provide equitable services across the community.

<sup>&</sup>lt;sup>55</sup> https://www.iafc.org/docs/default-source/1crrconf/crr19\_message\_matters\_handout\_p-carson.pdf?sfvrsn=26f6820d\_2.



**Impacts:** Absent the adoption of a CRR philosophy, the Department would continue to be unable to partner with City departments and the community to systematically identify and address risks to public safety. The City would continue to be open to financial liability resulting from damages or injuries that could have been prevented by a systematic approach to addressing them. City management's and elected officials' stated commitment to providing equitable services throughout the community would continue to remain unfulfilled in this area.

# Recommendation 59. Develop a process to ensure the quality of both fire and EMS incident data.

**Description:** Incident data must be accurate and reliable, as they are used for federal, state, and local reports, plans, and metrics. Having Battalion Chiefs review key elements of their crews' reports such as heat source, item first ignited, equipment involved, and contributing factors for fire incidents, and the mechanism of injury as well as the quality of the narratives in EMS reports would increase the quality of the data the Department reports. In addition, the fire cause "undetermined" should be challenged. Alternatively, a position in Investigations could be dedicated to reviewing reports. A checkbox field should be added to the fire and EMS report modules to track calls related to people experiencing homelessness (PEH). In addition, fire reports should be added to the tablets used by fire crews.

**Estimated Financial Costs/Savings:** Staff time for the field Battalion Chiefs to conduct the reviews. If a dedicated position is added to Inspections, its cost could be covered as overhead in CRRB fees as there is a nexus to construction and inspections and what is targeted for prevention/mitigation efforts and how programs are measured.

**Outcomes:** Developing a process to ensure the quality of fire incident data would enable the accurate reporting of quality incident data needed to create a clear picture of the LBFD's services and their results as well as facilitate accurate program development and measurement. The addition of the PEH field would provide important information that could help inform City management's and elected officials' decisions about what intervention strategies could be effective in decreasing PEH-related incidents, particularly the sharp increase in intentional and accidental outside rubbish and vegetation fires and the high volume of EMS responses to PEH-related calls that do not involve medical emergencies. Data collection at the scene would result in more timely and accurate reports. Over time, targeted programs could reduce deaths, injuries, and property losses. There would be a synergistic impact if Recommendation 58 is also implemented.



**Impacts:** Absent a process to enable the quality of fire incident data, the quality of fire incident reports would remain substandard, and the creation of performance benchmarks would not be possible. Incomplete and/or inadequate information likely would result in errors in reports submitted to relevant local, state, and federal agencies. The benefits listed within this recommendation would not be possible. Any liability the City currently has related directly or indirectly to poor quality reporting would continue.

#### Recommendation 60. Add a Communication Specialist position to the Community Services Section and limit messaging to one campaign per quarter. Alternatively, have Community Services staff choose quarterly high-risk messages and discontinue monthly blast-outs.

**Description:** A Communication Specialist is necessary to help link incident data to community risks and use priority risks to develop targeted, Department-wide messages and campaigns. All personnel should focus on a maximum of four safety messages a year, linked to the community's' highest risks, and employ the 6 E's described in the *Organizational System Review* in the tactical distribution of the messages. This position also would handle social media for the department, which is largely neglected.

**Estimated Financial Costs/Savings:** Indeed.com averaged 12 positions working for public safety in the Los Angeles area at \$57,000/year. Total cost is dependent on overhead and benefits.

**Outcomes:** If the Department chooses to adopt this recommendation, it would be able to motivate change and reduce community risks more quickly and effectively by concentrating on fewer, more relevant messages that are communicated by a wider audience (e.g., the Department and its partners) and that target a specific population. Incorporating results (i.e., risk reduction statistics) into the messages could increase community motivation and involvement. This initiative would support the adoption of a Community Risk Reduction mindset and plan development described in an earlier recommendation and enhance their effectiveness.

**Impacts:** If the Department declines to adopt this recommendation, the status quo prevails (multiple generic messages that may not be relevant to the public receiving are often perceived a "noise"). The community would continue to be deprived of opportunities to increase its level of public safety due to the continued lack of education that the targeted messages would provide. The community would continue to be in the dark about the variety of ways in which the LBFD keeps them safe and mitigates hazards. The community would continue to be uninformed about simple steps individuals and families could take to keep themselves individually and collectively safer. The continued inability to communicate directly and specifically with targeted populations is inconsistent with City management's and elected officials' stated commitment to provide equitable services to every area of the community.

# Recommendation 61. Convert the existing Public Information Officer (PIO) position to one staffed by a full-time individual who reports to the Fire Chief and is assigned to the CRRB.

**Description:** Currently, three staff in the Community Services Section rotate PIO duties. These are three of the busiest personnel in CRRB due to their multiple other on-call and overtime duties. If Recommendation 57 is implemented, one of these positions would be reclassified to a career CRRB position. This Captain would also handle social media for the LBFD if the department declines to implement Recommendation 60, which would create a position whose duties include social media.

**Estimated Financial Costs/Savings:** Cost of hiring a full-time CRRB Fire Captain with rotating on-call status, and two existing staff captains with rotating on-call status for evening, weekend, and holiday coverage. Net cost is a Captain position at \$272,750, fully loaded. Alternatively, train two Captains on each shift in PIO duties to cover nights, weekends, and holidays. Net cost with this option is a Captain, minus on-call and overtime pay associated with three Captain positions. This position could replace the CRR/Inspection captain reclassified as a Senior CRRS (Recommendation 57).

**Outcomes:** Converting the existing PIO position as described in this recommendation would result in a well-informed designated spokesperson who would help ensure the Department's messages are highlighted and heard. Assigning this function to the CRRB while reporting to the Fire Chief would facilitate effective messaging of both risk and command strategies. In addition, the Captain and Firefighter/PM in Community Services would be more productive carrying out their other duties and in the development and implementation of relevant and targeted messages and programs.



**Impacts:** Absent the conversion of the PIO position as described above, the PIO function, which provides a key communication link between the LBFD and a wide variety of stakeholders both inside and outside the community, would continue to be staffed on a rotating basis. The potential for miscommunication among the three individuals who share this position would continue, as would the possibility of mixed or inconsistent messages. The opportunity for people inside and outside the Department to be able to identify the LBFD's spokesperson at any given time would be lost. Alternatively, PIOs have reported that some stakeholders, such as elected officials, default to calling them for everything, regardless of their schedules and other functions they may be performing at the time. This behavior would continue. Time would continue to be wasted as people seeking to provide or obtain information from the PIO would first have to identify which person is on duty on any given day.

# Recommendation 62. Monitor the inspection workload associated with the increased development in the City and hire additional CRRS FTEs, as necessary.

**Description:** Construction is important to the City, as well as developers/builders, and has been ramping up significantly, especially in the downtown area. Recently enacted state laws will allow and encourage additional density throughout all City neighborhoods. It is important to maintain 48-hour turnaround times for construction inspections to avoid construction delays and customer complaints. The Department should ensure that the number of personnel who conduct those inspections is sufficient, and that the fees established for construction activities cover the full cost of providing the services rendered.

#### Estimated Financial Costs/Savings: Fee offset.

**Outcomes:** If the Department adopts this recommendation, the LBFD would be able to continue the established and expected level of service to contractors and developers. If construction declines in the coming years, the FTEs would be reduced through attrition.

**Impacts:** If the Department declines to adopt this recommendation, it is highly likely that it would be unable to maintain a promised 48-hour turnaround for construction inspections. This would slow construction and development and, depending on the severity of the shortage of staff, could result in costly delays of projects. Developers who may have looked positively at Long Beach as a potential site for their projects could think twice about it should they perceive that the timeliness of required inspections is questionable.



#### Recommendation 63. Set and communicate widely to City stakeholders, including City management and elected officials, clear boundaries for the Community Services Section.

**Description:** The Community Services Section is the designated location for all requests and projects that have no "home" in other areas of the Department. Personnel in that Section report that it is not uncommon for them to get requests from individuals who want to short-circuit a laborious or time-consuming process rather than play by the rules. In the spirit of "getting the job done," whatever that job may be, section personnel have taken on just about everything that is sent their way. This practice creates heavier and unsustainable workloads for staff.

**Estimated Financial Costs/Savings:** Savings would accrue as Community Services personnel are able to spend their time on their designated (and substantial) duties rather than also being tasked with requests and projects that are outside of their scope of responsibilities and often require overtime.

**Outcomes:** Setting and communicating clear boundaries for the Community Services Section would require that its personnel learn to re-direct requests and tasks to the appropriate City departments and how to say "No" to those who are trying to bypass a system or procedure. Its leaders would have to communicate this new procedure to City management, elected officials, and the community, and then stand firmly behind it. Doing so would enable the Department to use its resources as they were intended. It also would mitigate the workload of personnel in an already understaffed area.

**Impacts:** Absent the setting and communicating of clear boundaries for the Community Services Section, individuals would continue to make requests that would allow them to circumvent existing procedures or that should be made to other City departments (or not at all). The Department's scarce resources, which City management and elected officials have said will become even more scarce in the coming years, would be diverted to purposes far removed from its mission of protecting lives, property, and the environment. This could result in the degradation of the Department's service delivery, a situation that would be inconsistent with City management's and elected officials' stated commitment to provide equitable access to services throughout the community. It also could be embarrassing for the Department if someone challenges its current practice of prioritizing non-safety issues and/or activities for an individual or select group over those directly related to its mission.



#### Long-Term Recommendations

# Recommendation 64. Purchase or develop a records management system (RMS) for CRRB that integrates/communicates with other City systems and includes tablets for all staff.

**Description:** With the exception of automation provided by the Health and Development Services Departments, there is no automation in the current Fire Prevention Bureau. Instead, staff must rely on pencil and paper, looking up owner information in databases, and making copies of their handwritten inspection reports for customers. The inefficiency costs are significant, close to a full FTE for the four apartment inspection staff alone. The system should communicate with systems in Building & Safety, Health/CUPA, Admin/Fees, Assessor, and the Command Center. Consideration of an interface with the state inspection tracking system should also be considered. Until a new system is operational, temporary clerical staff should be hired to handle the administrative workload.

**Estimated Financial Costs/Savings:** Costs are unknown, although they should be all or partially offset by the 6.2% surcharge added to all fees. The new fee schedule described in a previous recommendation should include the surcharge to cover the full costs of automation. Temporary clerical support costs would be offset by fees and vacant positions (until filled), as well as the significant savings that would result from the reclassification of safety positions described in Recommendation 56. The cost of not automating is significant, as staff are forced to use an inefficient system that translates to a "loss" of positions.

**Outcomes:** If the Department adopts this recommendation, and if the City allows it to be implemented, Long Beach residents would be safer because inspections of their buildings would be conducted as required by state law. Staff efficiency would improve as they would be able to spend less time on paperwork and more time on completing a large backlog of state-mandated inspections and meeting the mandated inspection requirements going forward. The increased efficiency would enable the Department to fund one additional FTE to assist in the completion of the backlogged state-mandated inspections. The positive impact of automation would increase over time as a historical database is created.



**Impacts:** If the Department declines to adopt this recommendation, or if the City does not allow it to implement it, the status quo would prevail. Long Beach residents would continue to be at risk because residential inspections that should be conducted once a year would continue to be done every three years. Personnel would continue to be frustrated by having to spend one-third of each day doing paperwork instead of conducting inspections. The Department would continue to be in violation of the state law that mandates annual inspections. The City would continue to have financial liability should an incident cause significant damage or injury in an uninspected building. The status quo is, and would remain, inconsistent with City management's and elected officials' stated commitment to providing equitable services to people throughout the community.

### MARINE SAFETY DIVISION OPPORTUNITIES

#### Short-Term Recommendations Recommendation 65. Hire 6–12 FTE Lifequards.

**Description**: The Department should hire 6–12 FTE Lifeguards to prepare for the planned surge in downtown residents/visitors, increased density in other parts of the city, and the steady attrition of incumbent Lifeguards.

In an interview with the Marine Safety Chief, the Marine Safety Division is responsible for the Lifeguards, Rescue Boats, Search and Rescue, and other waterfront safety functions. There is a need for additional staff to manage surge staffing, increased waterfront rescue capacity, and the anticipated visitors from tourism and local community use of the beach and waterways. There are planned large-event, water-based activities in the next several years in addition to high-rise developments along the waterfront corridor bringing additional downtown residents to the beach area. Hiring 6–12 more FTE Lifeguards would help the Marine Safety Division manage the anticipated surge of visitors to the beach and tourists place an increased demand on services, necessitating the addition of FTE lifeguards to the seasonal lifeguards on staff.

**Estimated Financial Costs/Savings:** The City incurs minor cost associated with overhead costs (HR, finance) and should be considered when determining administrative fees. Minimal impact to the General Fund, as Marine Safety is funded from a separate source and is not part of the LBFD's budget.

**Outcomes:** Hiring the additional Lifeguards would enable the Division to be prepared for the planned surge of residents and visitors in the downtown area.

**Impacts:** Failure to enhance staffing could negatively impact safety to the waterfront for those residents and tourists utilizing the waterfront features and the quality of life for Long Beach Residents.

## HARBOR OPERATIONS OPPORTUNITIES

#### **Short-Term Recommendations**

## Recommendation 66. Negotiate a restructuring and reorganization plan with the Port of Long Beach.

**Description:** The LBFD's current staffing of Harbor positions includes two Assistant Chiefs, one Battalion Chief, four Captains, boat and engine crews; 6 of the Firefighters are rated as Pilots, (approximately 20 Firefighters inclusive of the Captains). Four stations in the Port are staffed by LBFD personnel whose salaries are paid by the Port. In addition, staff include <sup>1</sup>/<sub>2</sub> FTE Plan Checker, a fire review position, and <sup>1</sup>/<sub>4</sub> FTE Deputy Fire Marshal. The reorganization should be moved to the Operations Bureau as the Harbor Division, placing all Marine Operations under one bureau.

**Estimated Financial Costs/Savings:** No financial impact on the Department for sworn personnel because the Port is responsible for funding the four stations and their crews. There may be some increase in costs as certain positions may need to become full-time, especially with the Plan Checker and Deputy Fire Marshal now assigned <sup>1</sup>/<sub>4</sub> time to the Port.

**Outcomes**: An adequately staffed and mission-specific organizational structure would mitigate any life safety issues that present themselves in an efficient and expeditious manner. Because the Port's economic impact extends across the Los Angeles region, maximizing the efficiencies of the Department's Port operations would have a positive impact on all of its operations there, on the City, and on the region.

**Impacts:** If the Department declines to act on this recommendation, or if the Port chooses to work on such a plan, the full benefits listed above could not be achieved. In addition, as the Port's size and/or scope grow, there likely would be an increase in fire and life safety risk on the Port property as well as on its container and warehouse facilities. The decision not to maximize the Department's Port resources could have a negative impact on its service levels.

## Section VII: APPENDICES



### APPENDIX A: HAZARD VULNERABILITY RISK TABLES

	AP TRITON HAZARD AND VULNERABILITY ASSESSMENT TOOL									
	NON-STRUCTURE FIRES									
	PROBABILITY		SEVERITY = IMPACT - MITIGATION)							
EVENT		CO	COMMUNITY IMPACT			MITIGATION CAPACITY				
	Likelihood this will occur	HUMAN IMPACT	PROPERTY IMPACT	BUSINESS IMPACT	PREPARED- NESS	INTERNAL RESPONSE	EXTERNAL RESPONSE	Relative threat*		
SCORE	0 = N/A 1 = Low 2 = Moderate 3 = High 4 = Very High	0 = N/A 1 = Low 2 = Moderate 3 = High 4 = Catastrophic	0 = N/A 1 = Low 2 = Moderate 3 = High 4 = Catastrophic	0 = N/A 1 = Low 2 = Moderate 3 = High 4 = Catastrophic	0 = Very High 1 = High 2 = Moderate 3 = Low 4 = None	0 = Very High 1 = High 2 = Moderate 3 = Low 4 = None	0 = Very High 1 = High 2 = Moderate 3 = Low 4 = None	0 - 100%		
High Risk Urban	4	3	3	3	2	1	1	54%		
Moderate Risk Urban	3	3	3	3	2	1	1	41%		
Low Risk Urban	2	3	3	3	2	1	1	27%		
Urban/Wildland Interface	1	1	1	1	1	1	1	6%		
AVERAGE SCORE	2.50	2.50	2.50	2.50	1.75	1.00	1.00	29%		

	AP TRITON HAZARD AND VULNERABILITY ASSESSMENT TOOL									
EMS-MEDICAL ASSISTS										
			DISK							
EVENT	FRODADIEITT	co		кст	МІТ	Niak				
	Likelihood this will occur	HUMAN IMPACT	PROPERTY IMPACT	BUSINESS IMPACT	PREPARED- NESS	INTERNAL RESPONSE	EXTERNAL RESPONSE	Relative threat*		
SCORE	0 = N/A 1 = Low 2 = Moderate 3 = High 4 = Very High	0 = N/A 1 = Low 2 = Moderate 3 = High 4 = Catastrophic	0 = N/A 1 = Low 2 = Moderate 3 = High 4 = Catastrophic	0 = N/A 1 = Low 2 = Moderate 3 = High 4 = Catastrophic	0 = VeryHigh 1 = High 2 = Moderate 3 = Low 4 = None	0 = VeryHigh 1 = High 2 = Moderate 3 = Low 4 = None	0 = VeryHigh 1 = High 2 = Moderate 3 = Low 4 = None	0 - 100%		
High Risk	4	3	1	1	2	1	2	42%		
Moderate Risk	3	2	1	1	1	1	2	25%		
Low Risk	2	1	1	1	1	1	2	15%		
AVERAGE SCORE	3.00	2.00	1.00	1.00	1.33	1.00	2.00	26%		

	AP TRITON HAZARD AND VULNERABILITY ASSESSMENT TOOL										
			A	RESCUE							
			DIG!								
EVENT	PRUBABILITY	CO		аст	MITIGATION CAPACITY			RISK			
	Likelihood this vill occur	HUMAN IMPACT	PROPERTY IMPACT	BUSINESS IMPACT	PREPARED- NESS	INTERNAL RESPONSE	EXTERNAL RESPONSE	Relative threat			
SCORE	0 = N/A 1 = Low 2 = Moderate 3 = High 4 = Very High	0 = N/A 1 = Low 2 = Moderate 3 = High 4 = Catastrophic	0 = N/A 1 = Low 2 = Moderate 3 = High 4 = Catastrophic	0 = N/A 1 = Low 2 = Moderate 3 = High 4 = Catastrophic	0 = Very High 1 = High 2 = Moderate 3 = Low 4 = None	0 = Very High 1 = High 2 = Moderate 3 = Low 4 = None	0 = Very High 1 = High 2 = Moderate 3 = Low 4 = None	0 - 100%			
Rescue - MVA	4	2	1	1	2	1	1	33%			
Rescue - Structural Collapse	2	3	3	2	2	1	1	25%			
Rescue - Trench	2	2	2	1	2	1	1	19%			
Rescue - Low/High Angle	2	1	1	1	2	1	1	15%			
Rescue - Confined Space	2	1	2	1	2	1	1	17%			
Rescue - Swiftwater	2	1	2	1	2	1	1	17%			
Rescue - Stillwater	2	2	2	1	2	1	1	19%			
Rescue - Beach Rescue	4	3	1	1	1	1	1	33%			
Rescue - Other	2	1	4	2	2	1	1	23%			
AVERAGE SCORE	2.44	1.78	2.00	1.22	1.89	1.00	1.00	23%			

AP TRITON HAZARD AND VULNERABILITY ASSESSMENT TOOL									
HAZARDOUS MATERIALS									
	PROBABILITY		SEVERITY = IMPACT - MITIGATION)						
EVENT	Robabierri	COMMUNITY IMPACT			MITIGATION CAPACITY			Non	
	Likelihood this will occur	HUMAN IMPACT	PROPERTY IMPACT	BUSINESS IMPACT	PREPARED- NESS	INTERNAL RESPONSE	EXTERNAL RESPONSE	Relative threat*	
SCORE	0 = N/A 1 = Low 2 = Moderate 3 = High 4 = Very High	0 = N/A 1 = Low 2 = Moderate 3 = High 4 = Catastrophic	0 = N/A 1 = Low 2 = Moderate 3 = High 4 = Catastrophic	0 = N/A 1 = Low 2 = Moderate 3 = High 4 = Catastrophic	0 = VeryHigh 1 = High 2 = Moderate 3 = Low 4 = None	0 = VeryHigh 1 = High 2 = Moderate 3 = Low 4 = None	0 = VeryHigh 1 = High 2 = Moderate 3 = Low 4 = None	0 - 100%	
High Risk Hazmat - Urban	3	2	2	3	2	1	1	34%	
Moderate Risk Hazmat - Urban	2	2	2	3	2	1	1	23%	
Low Risk Hazmat - Urban	2	2	1	2	2	1	1	19%	
AVERAGE SCORE	0.78	0.67	0.56	0.89	0.67	0.33	0.33	25%	

	AP TRITON HAZARD AND VULNERABILITY ASSESSMENT TOOL									
	NATURALLY OCCURRING EVENTS									
			DICK							
EVENT	PROBABILITY	COMMUNITY IMPACT			міті	RISK				
	Likelihood this will occur	HUMAN IMPACT	PROPERTY IMPACT	BUSINESS IMPACT	PREPARED- NESS	INTERNAL RESPONSE	EXTERNAL RESPONSE	Relative threat*		
SCORE	0 = N/A 1 = Low 2 = Moderate 3 = High 4 = Very High	0 = N/A 1 = Low 2 = Moderate 3 = High 4 = Catastrophic	0 = N/A 1 = Low 2 = Moderate 3 = High 4 = Catastrophic	0 = N/A 1 = Low 2 = Moderate 3 = High 4 = Catastrophic	0 = Very High 1 = High 2 = Moderate 3 = Low 4 = None	0 = Very High 1 = High 2 = Moderate 3 = Low 4 = None	0 = Very High 1 = High 2 = Moderate 3 = Low 4 = None	0 - 100%		
Tornado	1	1	1	1	2	2	2	9%		
Severe Thunderstorm	2	2	2	2	2	2	2	25%		
Earthquake	4	4	4	4	1	1	1	63%		
Tsunami	2	2	3	3	2	2	2	29%		
Temperature Extremes	2	3	3	2	2	2	2	29%		
Drought	4	3	3	3	2	2	2	63%		
Flood, External	2	2	2	3	2	2	2	27%		
Wild Fire	2	2	2	2	2	1	1	21%		
Landslide	1	2	2	1	2	2	2	11%		
Dam Inundation	2	2	2	2	1	1	1	19%		
Epidemic	3	4	4	4	2	2	2	56%		
AVERAGE SCORE	2.27	2.45	2.55	2.45	1.82	1.73	1.73	16%		

	AP TRITON HAZARD AND VULNERABILITY ASSESSMENT TOOL									
			TECHN		INTS					
			SI	everity = Imp/	ACT - MITIGATIC	ON)				
EVENT	PROBABILITY	co		аст	МІТ	MITIGATION CAPACITY				
	Likelihood this will occur	HUMAN IMPACT	PROPERTY IMPACT	BUSINESS IMPACT	PREPARED- NESS	INTERNAL RESPONSE	EXTERNAL RESPONSE	Relative threat*		
SCORE	0 = N/A 1 = Low 2 = Moderate 3 = High 4 = Very High	0 = N/A 1= Low 2 = Moderate 3 = High 4 = Catastrophic	0 = N/A 1 = Low 2 = Moderate 3 = High 4 = Catastrophic	0 = N/A 1= Low 2 = Moderate 3 = High 4 = Catastrophic	0 = VeryHigh 1 = High 2 = Moderate 3 = Low 4 = None	0 = Very High 1 = High 2 = Moderate 3 = Low 4 = None	0 = Very High 1 = High 2 = Moderate 3 = Low 4 = None	0 - 100%		
Electrical Failure	3	3	2	3	2	2	3	47%		
Generator Failure	2	2	2	2	2	2	3	27%		
Transportation Failure	2	2	2	2	2	2	2	25%		
Fuel Shortage	2	2	1	3	3	2	2	27%		
Natural Gas Failure	2	2	2	3	3	2	2	29%		
Water Failure	2	3	2	3	2	2	3	31%		
Sewer Failure	2	3	2	3	2	2	3	31%		
Fire Alarm Failure	2	2	1	2	2	2	2	23%		
Communications Failure	2	3	2	2	2	2	2	27%		
Medical Gas Failure	2	4	1	1	2	2	3	27%		
Medical Vacuum Failure	2	4	1	1	2	2	3	27%		
HVAC Failure	2	2	1	2	2	2	3	25%		
Information Systems Failure	2	3	2	4	2	2	3	33%		
Fire, Internal	2	2	3	4	2	2	2	31%		
Flood, Internal	2	2	3	3	2	2	2	29%		
Hazmat Exposure,	2	2	3	4	3	2	2	33%		
Supply Shortage	2	2	2	3	2	2	2	27%		
Structural Damage	2	2	3	4	2	2	2	31%		
AVERAGE SCORE	2.06	2.50	1.94	2.72	2.17	2.00	2.44	26%		

AP TRITON HAZARD AND VULNERABILITY ASSESSMENT TOOL									
	HUMAN RELATED EVENTS								
			DICK						
EVENT	PROBABILITY	со	MMUNITY IMPA	кст	MITIGATION CAPACITY			RISK	
	Likelihood this will occur	HUMAN IMPACT	PROPERTY IMPACT	BUSINESS IMPACT	PREPARED- NESS	INTERNAL RESPONSE	EXTERNAL RESPONSE	Relative threat*	
SCORE	0 = N/A 1 = Low 2 = Moderate 3 = High 4 = Very High	0 = N/A 1 = Low 2 = Moderate 3 = High 4 = Catastrophic	0 = N/A 1 = Low 2 = Moderate 3 = High 4 = Catastrophic	0 = N/A 1 = Low 2 = Moderate 3 = High 4 = Catastrophic	0 = Very High 1 = High 2 = Moderate 3 = Low 4 = None	0 = VeryHigh 1 = High 2 = Moderate 3 = Low 4 = None	0 = Very High 1 = High 2 = Moderate 3 = Low 4 = None	0 - 100%	
Mass Casualty Incident (trauma)	2	2	1	1	2	2	2	21%	
Mass Casualty Incident (medical/infectious)	2	2	1	1	2	2	2	21%	
Terrorism	1	2	2	2	2	2	2	13%	
VIP Situation	2	1	3	2	2	2	2	25%	
Infant Abduction	1	2	2	1	3	3	3	15%	
Hostage Situation	1	2	3	2	3	3	3	17%	
Civil Disturbance	2	2	3	2	3	3	3	33%	
Labor Action	1	2	3	2	3	3	3	17%	
Forensic Admission	1	1	2	1	2	3	3	13%	
Bomb Threat	1	2	2	2	2	3	3	15%	
AVERAGE SCORE	1.40	1.80	2.20	1.60	2.40	2.60	2.60	19%	

### APPENDIX B: FIRE CALLBACK MANDATORY STUDY (FORCE HIRING)

Fire Callback Mandatories or Force Hiring adjust every year based on staffing levels, longterm injuries, wildland deployments, isolation/quarantine (2020 & 2021), and Fire Callback signups or lack thereof. The number of retirements/resignations, long-term injuries, and Fire Callback signups were not collected in this data study.

#### 2017

- 6,549 FCMs (Approx. 14% of all positions filled for the year)
- Staffing shortage required a double recruit academy
- Highest level of paramedic and Firefighter FCMs in the last 5 years (return of resources from 2013 budget cuts)
- As of 2017, most destructive wildfire season on record in California. Multiple striketeams and overhead deployed

#### 2018

- 6,064 FCMs (Approx. 13% of all positions filled for the year)
- Staffing shortage required two recruit academies
- 2017A/B academy ineligible to work FCs until 6 months of probation completed
- Deadliest and most destructive wildfire season ever recorded in the state. Multiple striketeams and overhead deployed
- Provisional engineer academy due to staffing shortage
- Firefighter and Paramedic FCMs decreased by approximately 400+ each rank

#### 2019

- 4,625 FCMs (Approx. 10% of all positions filled for the year)
- One recruit academy
- 2018 academy ineligible to work FCs until 6 months of probation completed
- Engineer Academy to help with the staffing shortage
- Significant FCM decrease in all ranks

#### 2020

- 4,027 FCMs (Approx. 8.5 % of all positions filled for the year)
- One recruit academy
- Engineer FCMs increased 29% (retirement vacancies and long term SI's)
- Largest wildfire season recorded in California's modern history. Multiple striketeams and overhead deployed
- COVID fatigue, lack of FC sign-ups

#### 2021

- 5,493 FCMs (Approx. 12% of all positions filled for the year)
- 36% increase from the previous year's FCMs (significant in Engineer, Paramedic, and Firefighter ranks)
- One recruit academy
- Engineer academy to help with the staffing shortage
- Major staffing shortages due to Omicron isolations
- COVID fatigue, lack of FC sign-ups

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Figure 197: Apparatus Replacement Plan											
Description	Manufacturer	Year	Estimated Original Cost	Replace. Year	Estimated Replacement Cost	Cash Reserve Required in FY 2022					
Engines											
E1	Seagrave	2018	700,000	2028	1,140,226	456,090					
E2	KME	2016	650,000	2026	1,058,782	635,269					
E3	KME	2016	650,000	2026	1,058,782	635,269					
E4	Seagrave	2018	700,000	2028	1,140,226	456,090					
E5	Seagrave	2005	550,000	2023	893,397	804,057					
E6	Seagrave	2001	500,000	2023	893,397	804,057					
E7	Seagrave	2018	700,000	2028	1,140,226	456,090					
E8	Seagrave	2018	700,000	2028	1,140,226	456,090					
E9	KME	2016	650,000	2026	1,058,782	635,269					
E10	KME	2016	650,000	2026	1,058,782	635,269					
E11	Seagrave	2018	700,000	2028	1,140,226	456,090					
E12	KME	2016	650,000	2026	1,058,782	635,269					
E13	КМЕ	2016	650,000	2026	1,058,782	635,269					
E14	Seagrave	2018	700,000	2028	1,140,226	456,090					
E15	Seagrave	2005	550,000	2023	893,397	804,057					
E17	Seagrave	2005	550,000	2023	893,397	804,057					
E19	Seagrave	2005	550,000	2023	893,397	804,057					
E20	Seagrave	2005	550,000	2023	893,397	804,057					
E22	Seagrave	2005	550,000	2023	893,397	804,057					
E24	Seagrave	2005	550,000	2023	893,397	804,057					

Description	Manufacturer	Year	Estimated Original Cost	Replace. Year	Estimated Replacement Cost	Cash Reserve Required in FY 2022
R1	Ford	2019	200,000	2024	255,256	153,154
R3	Ford	2019	200,000	2024	255,256	153,154
R4	Ford	2019	200,000	2024	255,256	153,154
R9	Ford	2019	200,000	2024	255,256	223,349
R10	Ford	2019	200,000	2024	255,256	153,154
R11	Ford	2019	200,000	2024	255,256	223,349
R12	Freightliner	2017	175,000	2022	223,349	223,349
R18	Ford	2019	200,000	2024	255,256	223,349
R22	Freightliner	2017	175,000	2022	223,349	223,349
BLS2	Dodge	2009	145,000	2022	223,349	223,349
BLS12	Dodge	2009	145,000	2022	223,349	223,349
BLS13	Dodge	2009	145,000	2022	223,349	223,349
BLS14	Dodge	2009	145,000	2022	223,349	153,154
BLS16	Dodge	2009	145,000	2022	223,349	223,349
			Ladder Truck	S		
T1	Pierce	2019	1,200,000	2034	2,494,714	498,943
T7	Pierce	2019	1,200,000	2034	2,494,714	498,943
T11	Seagrave	2013	925,000	2028	1,923,009	1,153,805
T17	Seagrave	2008	800,000	2023	1,663,143	1,552,266
		Total F	Required			9,320,094
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Attachment B

# Emergency Medical Services DELIVERY SYSTEM STUDY Phase Three





# City of Long Beach Fire Department Long Beach, California

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**Maura Ventura** Fire Administration Manager Deputy Cr

#### City of Long Beach

Linda Tatum Assistant City Manager **Kevin Riper** Director of Finance

...and each of the firefighters, officers, paramedics, and support staff who daily serve the citizens and visitors of Long Beach, California, and the surrounding communities they serve.



# Section I: OVERVIEW OF THE LONG BEACH FIRE DEPARTMENT & EMS SYSTEM



### The City of Long Beach

Long Beach is a coastal city and port in Southern California. It is located in Los Angeles County, and is home to the retired ocean liner and museum ship RMS Queen Mary moored in its Queensway Bay. The City was incorporated in 1897 and today consists of 80.3 square miles (50.7 land and 29.6 water). Long Beach is the seventh most populous city in California and the 43<sup>rd</sup> most populous city in the United States.

Long Beach has an urban downtown with multiple high-rise buildings. The downtown area is under continuous re-development with additional high-density mid to high rise buildings currently under construction and planned.

Pre-COVID-19 pandemic, the City hosted multiple high-attendance events annually. It will also be part of the 2028 Olympics that the Los Angeles region will host.

The Port of Long Beach is one of the few U.S. ports that can welcome today's largest vessels, serving 175 shipping lines with connections to 217 seaports around the world. Goods moving through the Port of Long Beach originate in or are destined for every congressional district in the United States. In 2022, the Port handled more than 9.1 million container units, achieving the second-busiest year in its history.<sup>1</sup>

#### **Geographic & Topographic Features**

Long Beach is located 20 miles south of Los Angeles, California, at an elevation 52 feet above sea level, along the Pacific coast. The topography is generally level, with rising terrain to the west.

The area's geology provides for considerable accumulations of petroleum known as the Long Beach Oil Field. The site is also near an active portion of the Wilmington Blind-Thrust Fault, where earthquakes are frequent. On March 10, 1933, the Long Beach 6.4 Earthquake occurred on the Newport-Inglewood fault causing extensive damage (\$50 million in 1933 dollars) throughout the City of Long Beach and surrounding communities and causing 120 fatalities.



The following figure displays the Long Beach Fire Department study area.



Figure 1: Long Beach Fire Department Study Area

### **Overview of the Long Beach Fire Department**

As this is the third phase of AP Triton's project for the City of Long Beach, the general overview of the Long Beach Fire Department is abbreviated. In addition, since this project phase focuses on Emergency Medical Services (EMS), information related to non-EMS activities has been omitted.

#### **Fire Department General Operations**

Long Beach Fire Department (LBFD) is the sole provider of Advanced Life Support (ALS) services within the City of Long Beach. This is accomplished by a combination of ALS transport ambulances and Paramedic Assist Units, which are engines staffed with paramedics (PMs). LBFD also provides Basic Life Support (BLS) services within the City using BLS transport ambulances and BLS suppression apparatus.

These services are offered in addition to fire suppression, hazardous materials response, marine response, airport rescue and firefighting, and urban search and rescue (USAR), among others.

#### **EMS Transportation**

LBFD provides all ALS and BLS transportation to local area hospitals, some of which have designated specialties such as trauma care services. The hospitals utilized for the EMS destinations are St. Mary Medical Center, Long Beach Memorial, College Medical Center, Lakewood Regional Medical Center, and Los Alamitos Medical Center. Only the first two hospitals provide base station/on-line medical control for the department's EMS program. These hospitals are designated for direct on-scene patient care.

LBFD also provides interfacility transport for ALS critical transports. It does not have any arrangements with private ambulance companies to provide additional EMS resources.

### Other Elements & Services of LBFD

#### **Communications & Dispatch Procedures**

Emergency Medical Dispatching (EMD) and Medical Priority Dispatching Systems (MPDS) play a crucial role in the pre-hospital care of patients. It involves the coordination of resources and the appropriate allocation of EMS to patients in need. EMD is the initial point of contact between patients needing emergency medical assistance and the EMS system. The EMD process involves receiving emergency calls, assessing the nature and severity, and dispatching the appropriate resources to the scene. As emergency units are en route, dispatchers provide pre-arrival instructions to the caller to begin treating the patient.



The speed and accuracy of EMD can significantly impact the outcome of a medical emergency, making it a critical component of the EMS system. It begins the lifesaving process by providing pre-arrival instructions to the caller, basically converting the caller into a first responder. Response determinant is defined by the International Academy of Emergency Dispatch (IAED) in non-linear response levels based on Capability (BLS vs. ALS), single vs. multiple resources, and response priorities based on the general acuity of the patient and resources needed.

Long Beach uses the Clawson system and response levels are categorized based on information obtained during the call screening process into one of four levels (Omega, Alpha, Bravo, Charlie). It should be noted that these codes are used in the call-taking process but only Alpha, Bravo, and Charlie are used in field dispatch. Some non-emergent calls are referred to private ambulance companies in the area.

Long Beach's communications and dispatch center is run through the Department of Disaster Preparedness and Emergency Communications Center. The agency dispatches both Fire and Police, serving approximately 500,000 people. The dispatchers utilize EMD procedures certified by the Los Angeles County Local Emergency Medical Services Agency (LEMSA). The Communications Center Manager oversees 21 call takers/dispatchers, and three system support members. The Communications Center is funded through the City's General Fund.

#### **Records Management**

Maintaining thorough EMS and Electronic Patient Care Reports (ePCRs) is critical to providing the basis for EMS operational and clinical quality management. It is also a resource for defending and protecting the department and its personnel in the unlikely event of a lawsuit from a former patient or member of the public.

Patient care reports are the basis of an affirmative defense for the department, which can show that appropriate treatment was delivered. Records also provide an institutional recall that can be used years after its creation as historical evidence and knowledge of EMS (and other) activities and patient decisions.



EMS records management at the administrative level includes identifying, classifying, storing, securing, retrieving, tracking, and destroying or permanently preserving records under the State of California Local Government Records Management Guidelines.<sup>2</sup> Other recordkeeping guidelines under ISO call for the management of information from creation to its eventual disposition through the destruction of those records.<sup>3,4</sup>

LBFD uses Digital EMS Solution's Medic Clipboard for its ePCRs. The program is currently National Emergency Medical Services Information System (NEMSIS) compliant. LBFD should be made aware of the upcoming NEMSIS 3.5 transition. The last day NEMSIS 3.4 data will be accepted is December 31, 2023, in California.

#### **EMS Public Education & Outreach**

EMS Public Education provides guidelines for prevention, emergency access, initial treatment options and initiatives supporting emergency medical response. The function is primarily the responsibility of the Long Beach Health and Human Services Department. However, LBFD uses its website to inform the public of its activities through press releases, a Public Information Officer, and other media outlets.

### **Staffing & Personnel**

The following section outlines Long Beach's current staffing levels and their relevance to EMS delivery. Any staffing recommendations based on this review will be in the Recommendations section of this report.

#### **Staffing Introduction**

The size and structure of a fire department's staff depend on its specific needs. These must directly correlate to the needs and funding capacity of the community, and a structure that works for one department may not necessarily work for another. As an emergency response department, the staffing for LBFD is critical to delivering safe and efficient services.

Several national organizations recommend standards to address staffing issues. The Occupational Safety & Health Administration (OSHA) Respiratory Protection Standard and National Fire Protection Association (NFPA) Standard 1710 are frequently cited as authoritative documents. The Center for Public Safety Excellence (CPSE) publishes benchmarks on the number of personnel recommended on the emergency scene for various risk levels. The staffing and personnel needs depend heavily on the type of system, call volume, and overall needs of the department and community.

Organizations must commit to consistency, fairness, safety, and growth opportunities. These values will be the foundation of the overall organizational culture. There are always challenges as organizations grow. Leadership and staff will face ambiguity, an environment of change, and the need for collaboration. Creating a positive culture is an opportunity to build a long-term sustainable organization.

One essential component of a healthy organization is balancing administration, support staff, and operational resources. Both the Phase II EMS Study and this analysis review the current ratio for each part of the organization and provide recommendations for a combined staffing model. Staffing considerations could result in improved service delivery. This process will evaluate various organizational charts and provide a framework for future staffing.

#### Administrative Support Staffing

The following figure illustrates the operational support staffing. Some personnel are parttime or seasonal, but all have specific roles in delivering emergency services at LBFD.

Positions	FTE/PTE	Hours Worked/Week	Work Schedule
Assistant and Administration Analyst	10	40 hours	Full-Time
Executive Assistant	1	40 hours	Full-Time
Bureau Secretary	4	40 hours	Full-Time
Clerk Typist and Admin Aides	11	40 hours	Full-Time
Accounting Personnel	2	40 hours	Full-Time
Communications Specialist III	1	40 hours	Full-Time
Storekeeper	2	40 hours	Full-Time
Stock and Receiving Clerk	1	40 hours	Full-Time
Payroll/Personnel Assistant	3	40 hours	Full-Time
Public Affairs Assistant	1	40 hours	Full-Time

#### Figure 2: Administrative Support Staffing

#### **Operational Staffing Levels**

Organizational success is based on a safe working environment, equitable treatment, the opportunity for input, and recognition of the workforce's commitment and sacrifice. Organizational priorities should correlate to the community. This section overviews LBFD's current staffing configuration, particularly in delivering EMS.

The operational staff is typically the face of any fire service organization due to its increased interaction with the citizens they serve. This group is involved with nearly every facet of the organization's operations.

For LBFD, this includes fire suppression, emergency medical response, technical rescue, vehicle equipment extrication, fire investigations, fire safety inspections, public education, burn permits, building plan reviews, and hazardous materials response.

The next figure summarizes LBFD's budgeted operations staff positions. This includes full-time and part-time employees who are primarily assigned to provide emergency services at the operational level.

Positions	FTE/PTE	Hours Worked/Week	Work Schedule
Assistant Chief	1	40 hours	Full-Time
Deputy Chief	1	40 hours	Full-Time
Battalion Chiefs	9	56 hours	Full-Time
Battalion Chiefs	2	40 hours	Full-Time
Captains	75	56 hours	Full-Time
Captains	2	40 hours	Full-Time
Engineers/FBOP*	84	56 hours	Full-Time
Firefighters/EMTs**	108	56 hours	Full-Time
Firefighter/PMs***	90	56 hours	Full-Time
Fire Boat Pilots	6	56 hours	Full-Time
Total:	374		

#### Figure 3: Operational Staffing

\* Fire Boat Operator

\*\* Emergency Medical Technician

\*\*\* Paramedic

#### Staff Scheduling Methodology

Staff scheduling refers to creating a schedule for employees to work, including determining the days and times each employee will work and the tasks and duties. There are several different staff scheduling methodologies that organizations can use, including:

- Fixed schedule (40-hour work week/56-hour work week)
- Rotating schedule (36-hour/48-hour, typically seen in 12-hour shifts)
- Flexible schedule (Adjusts for schedules, seen in ambulance operator models)
- On-Call scheduling (On-Call or Standby for emergency response)
- Part-time scheduling (Under 1,000 hours per year, typically not a set schedule)

The current staff scheduling uses fixed shifts when dealing with EMS resources. There are 128 personnel staffed daily, all with EMT licenses and 10 non-sworn EMTs that staff the department's BLS ambulances. Focusing on paramedic staffing, LBFD has 31 paramedics assigned to each shift working on engines, rescues, fire boats, and the rescue boats. Many departments nationwide are dealing with increased call volumes with similar staffing levels.

Many departments nationwide are dealing with increased call volumes with similar staffing.

"In November 2021, the Fire Chief of Wausau County, Wisconsin, Bob Bartek went in front of city officials to ring the alarm bells. "The public needs to be aware of the weaknesses inside the Wausau Fire Department," he said. In 2020, the department received 6,318 calls, compared to 2,138 in 1970. But over that same period of time, the department gained only 2 staff.

Fire companies across the country are in similar situations: Workloads are increasing but staff and funding are not. From Wisconsin to San Diego to Virginia, there are not enough firefighters. This leaves communities vulnerable to fires and other kinds of emergencies. Fire departments have come to serve as crucial EMS first responders. According to the Federal Emergency Management Agency (FEMA), cross-trained firefighters make up 38 percent of EMS first responders in the U.S.

The U.S. Forest Service – who is responsible for managing wildfires on federal lands, which comprise about 8.5% of the total land area of the U.S. – is also warning of dangerously low numbers of firefighters in their ranks. This is deeply worrying. Climate change has turned "fire season" into "fire years," said Forest Service Chief Randy Moore in a testimony to the House in the fall. Last year, California had its worst fire season in recorded history. More firefighters are needed not just to contain the fires but to undertake preventative measures like trimming undergrowth that can mitigate the severity of the blazes once they start."<sup>5</sup>

No matter which staffing or scheduling methodology an organization uses, it is essential to consider factors such as the organization's needs, employee preferences, increasing call volumes, and legal or regulatory requirements when creating schedules. It is also encouraged to reevaluate the programs routinely to adapt to changes in the industry and meet the community's needs. Peak-hour staffing would be an example of adapting to the conditions in the community.



#### **Development & Mentorship**

As stated previously, the personnel are an organization's greatest asset. A comprehensive training program is a significant factor in ensuring the delivery of safe and effective emergency services. Firefighters, officers, and EMS providers must acquire and maintain appropriate initial training, ongoing training, and continuing medical education (CME) to effectively meet their mission.

Well-trained personnel contribute directly to improved emergency incident outcomes and community services. Without necessary training, personnel and citizens could be exposed to preventable dangers and the fire department could be liable.

Setting up the department for future success means investing in the development and training of the individual. LBFD currently uses Vector Solutions (formerly Target Solutions) for online training and completes in-person training monthly. Fire training is conducted annually in six-week blocks.

As an all-hazard department, LBFD completes at least 240 training hours annually. This training covers several topics and specialties, including, but not limited to, incident command, personnel accountability, formal Standard Operating Guidelines (SOG), firefighter safety, special rescue, hazardous materials, wildland firefighting, vehicle extrication, defensive driving, small tools use and care, and radio communications to name a few. According to information gathered from the department, most training for the department is conducted and evaluated at the company level by the company officer.

Keeping current on the newest medical policies and procedures is essential. EMS training follows a minimum standard of 24 hours per year minimum for paramedics and 12 hours per year for all EMTs. This training is performed by various speakers, including fire personnel, the department's medical director, EMS educators, as well as video training. Currently, the company officer tracks all company level training on a daily basis on Vector Solutions, and the individual tracks all personnel training, mostly dealing with EMS education.



#### Firefighter/EMS Staff Distribution

Keeping current on the newest medical policies and procedures is essential. EMS training follows a minimum standard of 24 hours per year minimum for paramedics and 12 hours per year for all EMTs. This training is performed by various speakers, including fire personnel, the department's medical director, EMS educators, as well as video training. Currently, the company officer tracks all company level training on a daily basis on Vector Solutions, and the individual tracks all personnel training, mostly dealing with EMS education.

The current model emphasizes getting the most qualified person to the scene quickly. Although this model gets the most qualified personnel to the scene quickly on each call, it also has them continuing patient care to the hospital on most calls, regardless of whether the call is determined to be an ALS or BLS transport. This model also typically pulls resources off the fire engines to fulfill staffing needs for the transport vehicles.

To facilitate the continued training of firefighter/paramedics and to prevent additional burnout, paramedics are rotated from busy Rescue ambulances to slower Paramedic Assessment Units (PAU) engines on a regular basis.

#### **First Battalion**

Battalion 1 covers stations 1, 2, 3, 6, 10, 15, 20, and 24. There are eight engines in the battalion, three of which have a PAU status (at least one paramedic). There are three rescues with two paramedics each, one BLS ambulance, two hazmat units and two fire boats. Battalion 1 is covered by one BLS truck company.

Unit	BC	Captain	Engineer	Firefighter	FF/Medic	Single Role
Station 1						
Battalion Chief	3					
Engine		3	3	6		
Truck		3	3	6		
Rescue					6	
Station 2						
Engine (PAU)		3	3	3	3	
BLS Ambulance						
Station 3	•		•	•		
Engine		3	3	6		
Rescue					6	
Station 6						
Engine (PAU)		3	3	3	3	
USAR			3			
Station 10						
Engine		3	3	6		
Rescue					6	
Station 15*						
Engine/Fire Boat		3	6	3	3	3
Station 20*						
Engine/Fire Boat		3	6	3	3	3
Station 24						
Engine (PAU)		3	3	3	3	
Haz Mat						
Haz Mat Support						

#### Figure 4: Battalion 1 Staffing Model

\*Cross-staffed depending on call type and location. Single Role is Fire Boat Pilot.

#### **Second Battalion**

Battalion 2 covers Stations 4, 5, 8, 14, 17, 18, 19, 21, and 22. There are seven engines in the battalion, five of which have a PAU status (at least one paramedic). There are three rescues with two paramedics each, one rescue boat, and one BLS ambulance. Battalion 2 is covered by one BLS truck company.

Unit	BC	Captain	Engineer	Firefighter	FF/Medic	Single Role
Station 4						
Engine		3	3	6		
Rescue					6	
Station 5						
Engine (PAU)		3	3	3	3	
Light Air						
Station 8						
Engine (PAU)		3	3	3	3	
Station 14	•					
Battalion Chief	3					
Engine (PAU)		3	3	3	3	
BLS Ambulance						6
Station 17						
Engine (PAU)		3	3	3	3	
Truck		3	3	6		
Station 18						
Rescue					6	
Station 19						
Engine (PAU)		3	3	3	3	
Station 21*						
Rescue Boat (PAU)		3				3
Station 22						
Engine		3	3	6		
Rescue					6	

#### Figure 5: Battalion 2 Staffing Model

\*Single Role is Rescue Boat Operators.



#### **Third Battalion**

Battalion 3 covers stations 7, 9, 11, 12, 13, and 16. There are five engines in the battalion, two of which have a PAU status (at least one paramedic). There are three rescues, three airport crash/rescue apparatus, and three BLS ambulances. Battalion 3 is covered by two BLS truck companies.

Unit	BC	Captain	Engineer	Firefighter	FF/Medic	Single Role	
Station 7							
Engine (PAU)		3	3	3	3		
Truck		3	3	6			
Station 9							
Engine		3	3	6			
Rescue					6		
Station 11							
Engine		3	3	6			
Truck		3	3	6			
Rescue					6		
Station 12							
Engine		3	3	6			
Rescue					6		
BLS Ambulance						6	
Station 13							
Engine (PAU)		3	3	3	3		
BLS Ambulance						6	
Station 16							
Battalion Chief	3						
Crash 1		3		3			
Crash 3			3	3			
Crash 5			3				
BLS Ambulance						6	

#### Figure 6: Battalion 3 Staffing Model

# Section II: ASSESSMENT OF THE LBFD EMS DIVISION



### **Overview of the Los Angeles County EMS System**

The California Emergency Medical Services Authority (EMSA) has stated very clearly that all medical control will be the responsibility of the County of Los Angeles Department of Health Services to the Local Emergency Medical Service Agency (LEMSA).

To this extent, all procedures, protocols and patient care treatments and transportation decisions rest within the LEMSA. These processes reside within the direct 'online' medical control or standing patient care orders.

Some LEMSA responsibilities are to identify all receiving hospitals and the capabilities of these facilities. This is to also include 'alternative destination facilities' to better meet the needs of the patients. Currently within Los Angeles County there are pilot alternative destination facilities being used. These facilities are attempting to reduce the Emergency Department (ED) overcrowding and reduce the Ambulance Patient Offload Time (APOT). Both the receiving and alternative facilities must be approved through the LEMSA.

The LEMSA also has within its area of responsibility and authority to establish private provider ambulance billing rates within Los Angeles County. These rates are to be directed to the non-governmental ambulance providers in their established Exclusive Operating Areas (EOA).

In the state of California, the local governmental agencies providing these services have the responsibility for setting their own reimbursement rates for all EMS services it provides. These rates, fees and itemized charges are established using the specific agencies costing methods.

The operational control of these responsibilities for providing these services rests with the specific agency providing them, in this case LBFD. These responsibilities include everything that is involved in providing these prehospital EMS services: dispatching, method of patient care transportation, EMS education, monitoring of service delivery to patient through the billing and collections processes.



### **EMS Division Organization**

The Emergency Medical Services (EMS) Division has administrative and operational responsibility for the design and delivery of all EMS system activities, including the certification of all uniformed personnel. Aside from operational oversight, the Division is also responsible for training and certification of all personnel and ensuring services are delivered in accordance with adopted standards.

The Division is staffed by an Operations Fire Captain, an Emergency Medical Education Coordinator, and two Emergency Medical Educators, an Assistant Administrative Analyst, and a Clerk Typist. The EMS Educators provide paramedic, EMT, and dispatcher continuing education and quality improvement. A Medical Director, who is an emergency medicine physician, reports to the Deputy Chief.

LBFD Firefighter/Paramedics and Firefighter/EMTs operate under the Los Angeles County EMS Division's approved protocol guidelines, which have been adopted by the Long Beach Fire Department for field application.

#### **EMS Division Management**

Currently, the EMS Division is managed by two different bureaus. One Battalion Chief and one Captain in the Operations Bureau are responsible for ALS and BLS services and paramedic schools. In the Support Services Bureau, the Medical Director, who is an emergency room physician, is under contract with LBFD to provide medical control and direction. Three civilian positions, two Nurse Educators and an EMS Coordinator, round out the staff. Day-to-day operations fall under the Operations Bureau's EMS Battalion Chief.

### Financial Analysis of the EMS Division

As stated previously, Los Angeles County LEMSA has adopted ambulance rates for Exclusive Operating Areas (EOAs) that do not apply to 1797.201 cities and special fire districts. The City of Long Beach is one of these cities that LEMSA adopted ambulance rates should not affect. The City has been providing these services prior to 1980 and is exempt from the Los Angeles LEMSA ambulance fee structures. These rates do not consider the actual cost that the City of Long Beach incurs in providing emergency ambulance patient transport nor all EMS readiness and responses. Rates also do not take into account a local government mandate to comply with Proposition 26 in determining a fee versus a tax. The City uses the Los Angeles County costing rates for Advanced Life Support (ALS) rate and Basic Life Support (BLS) rate for ambulance transport.

California is unique in that public entities are bound by Proposition 26 which established the difference between "taxes" and "fees." Proposition 26 requires that the charges for service (fees) must not exceed the cost for the services. Conversely, charges for services that are in excess of the costs are considered "taxes" and require a vote of the residents. Thus, there are two important considerations for the City regarding this discussion of rates for service since the EMS and ambulance services provided by the City are fee-based services.

While using the county's ambulance rate structure does not violate Proposition 26 (unless the rate exceeds the City's costs), it is not tied to the actual cost of services, which exposes the City to a challenge regarding the Proposition 26 requirements. The best protection against a challenge of the rates used by Long Beach is to conduct a thorough cost analysis to be used to establish a Proposition 26-compliant rate structure.

Establishing the rates for service is often a daunting task for an agency. Unless intimately involved with establishing rates for healthcare, the average personnel may not fully understand the relationship between the payor mix and health care cost-shifting.

The City can restructure the rates already established to determine the benefit in terms of cost recovery. AP Triton has used this approach in recent months when working with other large fire departments throughout the State, including San Bernardino County, Santa Barbara County, and Sonoma County.

The First Responder fees and Non-Transport rate of \$250 are amongst the lowest for a department of this size and salary base. First Responder fees along with treat and non-transport, should account for the costs of the response as well as all supplies and associated services that are used throughout the department.

The City currently participates in the Public Provider Ground Emergency Medical Transport (PP-GEMT) cost recovery program as well as the Quality Assurance Fee (QAF) program. Both programs use approved costs to draw down federal supplemental reimbursement. These funds allow for a guaranteed reimbursement rate from the State.

•					•	
Payer	Rates* FY 22/23	Reimburse. Rates	Collection Rates	Payer Mix	Transports	Base Revenue
Medicare	\$2,550 ALS \$1,702 BLS	\$506 ALS @ 80% \$427 BLS @ 80%	\$404 ALS \$341 BLS	34%	8,833	\$1,427,332 \$1,806,959
Medi-Cal	\$2,550 ALS \$1,702 BLS	\$339 @ 93%	\$315	34%	8,833	\$2,782,395
Commercial Insurance	\$2,550 ALS \$1,702 BLS	78%	\$1,989 ALS \$1,327 BLS	12%	3,117	\$2,479,885 \$2,481,490
Self-Payer	\$2,550 ALS \$1,702 BLS	5%	5%	20%	5,196	\$442,179

#### Figure 7: Insurance Base Rates & Revenue for Patient Transport

\*Current LA County ambulance rates for private provider EOA rates FY 22/23.

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Insurance	Proposed Rates FY 23/24	Reimburse. Rates	Collection Rates	Payer Mix	Transports	
Medicare	\$3,187.50ALS \$2,127.50 BLS	\$506 ALS @ 80% \$427 BLS @ 80%	\$404 ALS \$341 BLS	34%	3,533 5,299	
Medi-Cal	\$3,187.50ALS \$2,127.50 BLS	\$704	Adjusted- Fixed rate	34%	8,833	
Commercial Insurance	\$3,187.50ALS \$2,127.50 BLS	\$3,187.50 ALS \$2,127.50 BLS	78%	12%	1,246 1,870	
Self-Payer	\$3,187.50ALS \$2,127.50 BLS	\$3,187.50 ALS \$2,127.50 BLS	5%	20%	5,196	

#### Figure 8: Insurance Rates & Revenue Transport—Proposed 25% Adjustment

#### Figure 9: Standard & Customary charges—Proposed FY 23/24

Itemized Billing	Current Rates	Proposed Rates (FY 23/24)	Increases
Mileage	\$18.50	\$66.02	+ \$ 47.52
Supplies	Bundled*	\$250 ALS \$200 BLS	+ \$250 + \$200
Oxygen	\$76	\$114	+ \$38
Night Charge	0	\$144.50	+ \$144.50
EKG/Pulse Ox/Adv. EKG	\$194.95	\$225	+ \$30.05
FR Non-Transport Treat & Release	\$250	\$400	+ \$150

\*Currently LBFD does full itemized billing, currently Center for Medicare & Medicaid Services (CMS) prefers bundled ambulance billing. To determine the average patient billing is very difficult.

Itemized Billing	Proposed Rates FY 23/24	Collection Rate	Transports	Potential Revenue
ALS Base Rate-Commercial	\$3,87.50 ALS	\$2,485.25 78%	1,246	\$3,097,867.50
BLS Base Rate–Commercial	\$2,127.50 BLS	\$1,659.45 78%	1,870	\$3,103,171.50
Medi-Cal-PP GEMT	\$1065	\$704	8,833	\$6,218,432.00
Medicare	\$506 ALS @ 80% \$427 BLS @ 80%	\$404 ALS \$341 BLS	3,533 5,299	\$1,427,332.00 \$1,806,959.00
Mileage	\$66.02	100%	Avg./mile: 4	\$1,715,265.62
Supplies	\$250	100%	ALS only 10,392	\$2,598,000.00
Oxygen	\$114	100%	10,392	\$740,458.50
Night Charge	\$144.50	100%	6,495	\$938,527.50
EKG/Pulse Ox/Advanced EKG	\$225	100%	10,392	\$2,338,200.00
First Responder Fee	\$400	78%	3,117	\$972,504.00

#### Figure 10: Standard & Customary Charges—Potential Revenues

#### The California EMS Authority

The California EMS Authority (EMSA) is one of 13 California Health & Human Services departments. The Authority was created as a result of the Emergency Medical Services System & Prehospital Emergency Care Personnel Act (SB 125). After that, Division 2.5 was added to the Health & Safety Code (Sections 1797–1799).<sup>6</sup>

#### **Primary Program Responsibilities**

EMSA has a wide range of responsibilities pursuant to Emergency Medical Services. These include the following:<sup>7</sup>

- EMS systems planning & development.
- Trauma care system planning & development.
- Emergency medical services for children.
- Poison control system.
- Prehospital emergency medical care personnel standards.

- Emergency medical dispatcher standards & EMS communications systems.
- First aid & CPR training programs for child day care providers & school bus drivers.
- Paramedic licensure & enforcement.
- Disaster medical services preparedness & response.
- Prehospital data, injury prevention, & public education.

#### **EMSA Mission & Vision Statements**

The mission statement of EMSA is as follows: "The mission of EMSA is to prevent injuries, reduce suffering, and save lives by developing standards for and administering an effective statewide coordinated system of quality emergency medical care and disaster medical response that integrates public health, public safety, and healthcare."<sup>8</sup>

EMSA's vision: "EMSA is a leader in innovative, effective, and collaborative emergency medical services. We inspire EMS systems to advance the quality, safety, and satisfaction of healthcare in their communities."<sup>9</sup>

#### Applicability to LBFD

According to the Local Emergency Medical Services Agency (LEMSA), this rate structure does not apply to the City of Long Beach because they are a 1797.201 provider.

The City of Long Beach has the option of adopting a rate structure for the services it provides. The current rates for Los Angeles County fall within the average for California. However, unlike the private sector, which tailors their deployments against the rates they can charge, LBFD has adopted a deployment model based not on system revenue but system demand. Under this scenario, the private sector would reduce costs through salaries and benefits or reduce the number of ambulances operating to remain solvent.

Reimbursement at the ALS level and BLS level is determined by Medicare and Medi-Cal, based on the services provided. As emergency ambulance services are rarely, if ever, provided by contract, commercial insurance generally pays the covered amount less copays and deductibles, with a reimbursement of between 75%–85% being normal.

### **Medical Direction & EMS Quality Management**

This section examines LBFD's EMS program, including medical control and quality management. Like most fire departments in the United States, the overwhelming percentage (about 89%) of LBFD's service demand consists of EMS calls. This is particularly important to understand as AP Triton evaluates the structure and inner workings of the department's EMS Division.

#### **Medical Direction**

LBFD falls under the general control of California EMSA and specifically under the local control of Los Angeles EMSA, which is the LEMSA. The LEMSA Medical Director is a Clinical Emergency Medicine and Pediatrics Professor at the David Geffen School of Medicine at UCLA and serves as Clinical Faculty at Harbor-UCLA Medical Center. When indicated, online medical control is provided by the Base Station MICN/MD at St Mary's Medical Center, and LEMSA protocols are followed.

#### Fire Department Medical Director

Although the LEMSA Medical Director governs the overall medical control for the paramedics and EMTs, most departments, similar in size and complexity, hire their own medical director. The department's Medical Director works under a contract for the City at a rate of \$2,800 per week and 20 hours per week in EMS overview, including ride-along; no field response is provided. Including a department medical director in training can dramatically increase the department's scope and manner of training and give the City an active voice with the local and State EMS Authority.

#### **Quality Improvement Program**

LBFD has a quality management program—in some cases referred to as quality assurance (QA) or quality improvement (QI)—to evaluate the EMS system and clinical performance. The program has established key performance indicators (KPIs) and follows Los Angeles County's QI program, EMS Quality Improvement Program (EQUIP), and Policy 620-EMS Quality Improvement Program.<sup>10</sup> The LBFD program uses the acronym FOCUS-PDSA:

- F—Find a process to improve
- O-Organize an effort to work on improvement
- C—Clarify current knowledge of the process
- U-Understand process variation and capabilities
- S—Select a strategy for further improvement

- P—Plan a change or test aimed at improvement
- D—Do-carry out the change or the test
- S—Study the results, what was learned, what went wrong
- A—Act-adopt the change, or abandon it, or run through the cycle again

EMS staff for the department, including Andrew Reno, RN, who is the EMS Division manager, are responsible for the department's internal Continuous Quality Improvement (CQI) process. This includes approximately 90% review of patient refusals (AMAs) and overseeing the Homeless Education and Response Team (HEART) program which provides a rapid response as a working part of the overall homelessness continuum of care in Long Beach. The team, made up of firefighters/paramedics, went to classes in Washington, D.C., to receive mental health first aid training for Fire and EMS. The program has been very successful for the City and has shown the need for alternative response models.

Each shift Paramedic Lieutenant is responsible for reviewing electronic patient-care reports (ePCRs) generated on their shift for completeness and accuracy, as well as conducting clinical review of severe trauma cases, cardiac arrests, ST-Elevation Myocardial infarctions (STEMIs), other significant EMS cases, and the documentation of patient refusals of care.

### **EMS Training & Continuing Medical Education**

#### **General Training**

Training is the cornerstone of the fire service and is designed to provide safe and effective delivery of emergency services to the community. Understanding that most emergencies are low frequency and high risk for responders, robust training programs have become a mainstay in most departments from coast to coast. Training refers to the specific programs, resources, and capabilities of the personnel within a fire department. A training program should be comprehensive based on the needs of the department.

Although the number of incidents varies from jurisdiction to jurisdiction, the types of incidents may be similar. Developing initial and maintaining ongoing fire, EMS, rescue, and hazardous materials training is critical for LBFD to be effective and safe during an incident. A well-designed and comprehensive training program creates team dynamics, cohesiveness, improved incident outcomes, and can lower liabilities for the LBFD.

#### **Continuing Medical Education**

EMS licensing of EMTs and paramedics is regulated by the state and covered under the California Health and Safety Code, Division 2.5, 1797.172 – EMT-P: Standards, Licensure, Renewal and 1797.184 – EMT-I and EMT II Certification, Recertification, Discipline. Although these sections establish the requirement, there is a more detailed explanation of what is expected during training and continuing education outlined in Title 22, Chapter 9.

Over the last few years, the development of online and distant learning opportunities has increased dramatically. There are multiple online platforms that not only allow for a hybrid form of training but also standardize the tracking and distribution of continuing education. LBFD utilizes Vector Solutions® (formerly Target Solutions®) for online continuing education. They complete approximately 8,000 hours annually. The State of California requires all paramedics to complete 24 hours per year of continuing education for their license management, and additional hours with their department props and manikins, including training in trauma, CPR, supplies, splinting, bandaging, and cardiac management. On average, EMTs will complete 12 hours of continuing education each year.


### Training & Safety Division

LBFD supports all-hazard training in the department. All personnel participate in ICS100, ICS200, S130, S190, and S215. These baseline classes in the incident command system and wildland firefighting are critical for all fire departments. All department members participate in an extensive 16-week academy at the beginning of their career at LBFD after which each candidate receives their Firefighter 1 certification.

LBFD's officers that are Captain level and above participate in additional incident command training with:

- Company Officer 2A: Human Resource Management
- Company Officer 2B: General Administrative Functions
- Company Officer 2C: Fire Inspections and Investigations
- Company Officer 2D: All Risks Command Systems
- Company Officer 2E: Wildland Incident Operations
- Instructor 1: Instructor Methodology Opened CICCS Engine Boss Task Book S-290:
  Intermediate Wildland Fire Behavior

The Chief Officers in the department complete AR-330 or AH-330 Strike Team Leader (All Risk) S-290 Intermediate Wildland Fire Behavior, S-270 Basic Air Operations, S-234 or S-219 Ignition Operations, I-300 Intermediate ICS.

The National Fire Protection Association (NFPA) has created several standards relating to the training and certification of fire personnel. These standards are designed as minimum recommendations for firefighters, fire officers, prevention staff, fire investigators, public education staff, and other position-specific personnel.

NFPA 1410: Standard on Training for Initial Emergency Scene Operations provides fire departments with an objective method of measuring performance for initial fire suppression and rescue procedures used by fire department personnel engaged in emergency scene operations.

LBFD meets these standards as well as requirements set forth by State Fire Training (SFT), a division of the California State Fire Marshal's Office, the California Division of Occupational Safety and Health (Cal OSHA), the California Department of Motor Vehicles (DMV), and recognized standards outlined within the National Wildfire Coordinating Group (NWCG) curriculum for the department's response to wildland and interface incidents.



In addition, LBFD utilizes policies, procedures, and standard operating guidelines (SOGs) developed and adopted by the department to meet training requirements.

To deliver a comprehensive training program, fire departments must have access to qualified instructors and resources. These resources can typically be found within the organization, externally with regional partners, through contract services, or a combination of all three. LBFD has the benefit of utilizing a Battalion Chief in Training as their Director of Training. The training facility is on a five-acre training site with equipment and classrooms on-site.

# Section III: EVALUATION OF EMS OPERATIONS



# Service Delivery & Performance

The elements of service delivery for the Long Beach Fire Department (LBFD) were addressed in Phase II of this study but included fire and other responses. For Phase III of this project, AP Triton asked the LBFD to provide additional data from January 2020 through December 2022 so that a broader data set could be examined. Overall, Emergency Medical Services (EMS) demand and performance were analyzed for the five-year period of January 1, 2018, through September 2023.

## **Service Demand**

As reported in the previous phase of this study, EMS incidents continue to comprise approximately 89% of LBFD's overall service demand. The following figure shows EMS demand over the five-year data period.



Figure 11: Overall EMS Service Demand (2018–September 2023)

\*Partial year only.

#### **Temporal Analysis**

In addition to overall demand, it is also useful to determine when incidents are occurring. This may allow for the organization to "flex" units so that more are available during peak demand times of the day. The following temporal analysis shows EMS incidents over the data period by month, day of week, and hour of day.



Analysis of incidents by month indicates that late summer is the busiest time for LBFD for consecutive months while December and January are also among the busiest months.



Figure 13: EMS Service Demand by Day of Week

Analysis by day of week shows that Friday and Saturday are the busiest days for LBFD medical response. This may indicate that additional units could be necessary on these days rather than earlier in the week.



#### Figure 14: EMS Service Demand by Hour of Day

As expected, LBFD's service demand by hour of day follows the normal pattern of increased demand as the day begins and commuters head to work, peaking mid-day, and then declining into the evening and overnight hours. Many EMS systems employ peak demand units during the day to offset this increased demand.

Although temporal analysis shows when incidents occur, spatial analysis allows organizations to see where incidents are occurring. This enables departments to determine if units are appropriately located to serve the highest percentage of the population. The following figure illustrates the overall service demand for the data period noted above.



Figure 15: Geographic Distribution of EMS Service Demand

Based on geographic modeling of LBFD's EMS service demand, the highest density of demand remains in the vicinity of Station's 1, 2, 3, and 10 with additional pockets of high demand just north of Station 7.



#### **Unit Hour Utilization & Reliability**

Unit Hour Utilization (UHU) calculates the percentage of time a unit is not available for a response because it is committed to another incident over a certain period. This is important because the higher percentage, the more time that the unit is not available to respond to another incident. A unit with greater than 10% utilization cannot provide on-time performance to a 90% target within its response area. This is especially important for agencies like the LBFD that measure their performance at the 90<sup>th</sup> percentile.

The following figure details the overall average UHU for LBFD Basic Life Support (BLS) and rescue units. This analysis only measures response incidents and does not include other activities that are unmeasured in the dataset, such as training time and station duties.

Fourteen of the 15 units exceed the 10% threshold, indicating resources are not necessarily readily available to handle incidents as they arise in Long Beach.

Unit	Average UHU
BLS2	44%
BLS12	18%
BLS13	21%
BLS14	32%
BLS16	32%
R1	24%
R3	27%
R4	26%
R9	27%
R10	27%
R11	23%
R12	18%
R17	12%
R18	18%
R22	6%

#### Figure 16: Overall Unit Hour Utilization

As shown in the preceding figure, collectively, BLS units have the highest UHU, followed by rescue units. The engines and the trucks have both lower average UHUs when grouped.



#### **Response Performance**

Although when and where incidents occur is critical to the deployment of resources, the most visible component of service delivery, particularly to the public, is how quickly units are responding to calls for service. Response time can be broken down into individual components to evaluate each aspect that could impact overall performance. Total response time includes call processing time, turnout time, and travel time. Each of these components is reviewed below.

#### **Call Processing**

Call processing time is the interval between when the 9-1-1 call is answered in the communications center until field units have been made aware of the incident or are "dispatched." NFPA 1710 recommends a processing time of 64 seconds at the 90<sup>th</sup> percentile.

Year	Average Processing Time	90 <sup>th</sup> Percentile Processing Time
2018	01:21	02:07
2019	01:24	02:12
2020	01:27	02:16
2021	01:15	02:24
2022	01:31	02:24
2023*	01:22	02:15

#### Figure 17: Call Processing Time by Year

\*Partial year only.

As illustrated, 90<sup>th</sup> percentile processing time performance is well above the NFPA recommendations and measures should be implemented to improve this performance metric.

#### **Turnout Time**

Turnout time is the interval between when a unit is dispatched and when that unit checks en route to the incident. NFPA 1710 recommends a turnout time of 60 seconds at the 90<sup>th</sup> percentile for medical emergencies. The following figure illustrates the LBFD's historical turnout time performance.



Year	Average Turnout Time	90 <sup>th</sup> Percentile Turnout Time	
2018	00:59	01:53	
2019	01:00	01:56	
2020	01:05	02:03	
2021	01:07	02:08	
2022	01:12	02:19	
2023	01:17	02:26	
*Partial year only.			

#### Figure 18: Turnout Time by Year

As shown above, the department's turnout time for medical emergencies is well above the NFPA recommendation. Staff should continually monitor these performance metrics to ensure expectations are being met. The following figure reviews LBFD's turnout time by rescue unit.

### Figure 19: Turnout Time by Unit (2018–2023\*)

Unit	90 <sup>th</sup> Percentile Turnout Time	
BLS1	02:14	
BLS2	01:56	
BLS12	01:05	
BLS13	01:33	
BLS14	01:42	
BLS16	02:12	
R1	02:18	
R3	01:54	
R4	02:12	
R9	02:13	
R10	02:17	
R11	02:33	
R12	02:32	
R17	02:15	
R18	02:46	
R22	02:10	
*Partial year only.		

The 90<sup>th</sup> percentile turnout time performance for rescue units is more than double the NFPA recommendation for most units, Measures should be implemented to improve this performance metric.

#### **Travel Time**

Travel time is the amount of time an apparatus is moving toward an incident scene and begins when the unit checks en route. The clock stops when the unit arrives at the incident scene. NFPA 1710 recommends a travel time of 240 seconds at the 90<sup>th</sup> percentile for medical emergencies. The following figure shows the department's overall travel time.

Average Travel Time	90 <sup>th</sup> Percentile Travel Time
04:30	06:55
04:33	06:58
04:35	07:03
04:36	07:04
04:41	07:15
04:29	06:55
	Average Travel Time        04:30        04:33        04:35        04:36        04:41        04:29

### Figure 20: Travel Time by Year

\*Partial year only.

Although LBFD's travel time is outside NFPA recommendations for first responders, NFPA 1710 also allows for a 480 second travel of an Advanced Life Support (ALS) ambulance if BLS first responders are on scene within the 240 second travel time. The following figure illustrates overall travel time by unit.

Unit	90 <sup>th</sup> Percentile Travel Time
BLS1	13:26
BLS12	14:13
BLS13	09:24
BLS14	11:16
BLS16	09:41
BLS2	11:41
R1	07:42
R3	07:36
R4	07:14
R9	09:43
R10	07:27
R11	10:40
R12	09:59
R17	08:21
R18	09:26
R22	09:48

#### Figure 21: Travel Time by Unit (2018–2023\*)

\*Partial year only.

In most cases, LBFD's 90<sup>th</sup> percentile travel time performance is outside NFPA recommendations but within most nationally accepted response performance for ALS ambulances when BLS first responders are on scene within 240 seconds of travel time.

### **Total Response Time**

Although total response time is the total of the previously discussed components of performance, this item is commonly used for public facing publications for agencies. It is simpler to use this combined metric rather than attempt to explain the various parts to the public. The following figure illustrates LBFD's total response performance from dispatch to arrival of the first response unit.



Year	Average Total Response Time	90 <sup>th</sup> Percentile Total Response Time	
2018	05:28	07:59	
2019	05:33	08:04	
2020	05:40	08:15	
2021	05:43	08:19	
2022	05:54	08:38	
2023	05:55	08:39	
*Partial year only			

#### Figure 22: Total Response Time by Year

\*Partial year only.

It appears from the preceding analysis that total response time is increasing from year to year. This could be a result of increased service demand without an associated increase in available units.

#### Figure 23: Total Response Time by Unit (2018–2023\*)

Unit	90 <sup>th</sup> Percentile Total Response Time	
BLS1	13:52	
BLS2	12:35	
BLS12	14:58	
BLS13	10:18	
BLS14	12:14	
BLS16	11:06	
R1	08:57	
R3	08:39	
R4	08:46	
R9	11:41	
R10	08:19	
R11	13:06	
R12	11:15	
R17	09:45	
R18	11:35	
R22	10:59	
*Partial year only.		

In general, the BLS units have longer total response times to emergency incidents. However, there is no response time standard for BLS transport units. As would be expected, the units in the more outlying stations have longer total response times to emergency incidents. This could be due to units from outlying stations responding into higher service demand areas when units assigned to those areas are already busy with other incidents.

Although response performance analysis indicates that many incidents are outside NFPA recommendations for response time, a vast majority of the City is within 4 minutes of travel from existing stations. This is based on the deployment of resources shown in the following figure.



Figure 24: Four-Minute Travel Time

### **Population Growth & Service Demand Projections**

The process of forecasting growth within any given community begins with an overview of historical and current populations, demographics, and risk categories. This section will review each of these factors to forecast future service delivery and performance.

According to the 2020 U.S. Census, the population of the City of Long Beach was 466,742. The 2021 Census estimate places this number at 456,063. Using the latest estimates, this represents a 0.54% change since the 2010 census when a population of 462,257 was recorded.

#### **Historical Population Growth**

The average growth rate over the last decade has been 0.03% but has been as high as 2.62% (2016 census estimate). Overall, the growth rate has fluctuated over the last two decades, as depicted in the following figure.



Figure 25: Historical Population Growth

How this population is composed by age group can have a significant effect upon EMS systems. The following figure distributes the population into age groups based on available U.S. Census information.



Figure 26: Population by Age Range

Approximately 2.8% of the population is under the age of five and 3.9% is over the age of 65, placing a total 6.7% City's population within the significant target age groups that pose the highest volume of workload for most EMS systems.

The next figure examines the housing by occupancy types in the area. Numerous rentals and vacancies can signal negative economic conditions, which correlate with higher rates of emergency incidents.



#### Figure 27: Occupancy Rates

Although rental properties comprise a majority of the City's housing stock, this could be due in part to the high cost of owner-occupied housing in the area, signaling a stable economic environment that would attract higher-income wage earners.

In addition, based on available data, 10.4% of the population of Long Beach do not work in the City. This indicates that a large percentage of the population commutes to another community for work and has found more affordable housing in Long Beach.

Demographics can heavily influence service demand. However, history has shown that the density of the population also has a direct impact on incident volume. The following figure illustrates the population density for the City of Long Beach.



#### **Projected Population Growth**

The population of the City of Long Beach has increased only slightly this decade and planning officials believe this trend will continue without substantial residential redevelopment. In developing forecasts for population growth, AP Triton typically develops a forecast based on several years of census experience.



For the City of Long Beach, AP Triton used U.S. Census data from 2000 through 2020 to create a mathematical forecast through the year 2040. In addition, information obtained from the Southern California Association of Governments (SCAG) Integrated Growth Forecast for the 2016/2040 Regional Transportation Plan was adjusted based on an extrapolated rate of population growth. Population figures used by SCAG suggest that the 2040 population of Long Beach will reach 484,485.

The following represents the mathematical, SCAG, and the average population growth projections for the City of Long Beach.



### Figure 29: Published Population Growth Projections

It is not the intent of this study to be a definitive authority for the projection of future population in the service area, but rather to base recommendations for future service delivery needs on a reasonable association with projected service demand. Since it is known that the service demand for emergency agencies is based almost entirely on human activity, it is important to have a population-based projection of the future size of the community.

While variations in population projections have been discussed here, one thing that can be certain is that LBFD will continue to be an emergency service provider to a growing and likely aging population through at least 2040. Planning should begin now to maintain the resources needed to meet the continuing demand for services.

#### **Service Demand Projections**

In evaluating facilities, resources, and staffing, it is imperative that potential changes in workload that could directly affect deployment be considered. Any changes in service demand can require changes and adjustments in the deployment of staff and resources to maintain acceptable levels of performance.

For purposes of this study, AP Triton utilized population projections obtained through community development research and multiplied these by a forecasted incident rate derived from a five-year history of incident per capita rates to identify workload potential through the year 2040. The results of the analysis are shown in the following chart.



Figure 30: Future Service Demand Projection

Based on population projections, EMS service demand for LBFD will continue to increase gradually through 2040.

#### **Patient Care Records**

Patient care records are completed for all contacts with those seeking medical attention. LBFD provided access to blinded patient care records in electronic format to analyze levels of acuity and ratios of BLS versus ALS responses and transports. The entire dataset was used to determine an overall picture of the differences in service levels and begins with an analysis of the original dispatch priority.



LBFD medical resources are dispatched based on an internationally accepted Emergency Medical Dispatch (EMD) system that uses a standardized method to receive and process calls for medical assistance. EMD software automatically selects the most appropriate dispatch code based on case entry questions and provides the telecommunicator with the ability to give pre-arrival instructions to the caller if necessary. In most cases, EMD will assign a chief complaint followed by a letter: A (Alpha), B (Bravo), or C (Charlie). In some cases, E (Echo) and O (Omega) are also used.

Originally, Alpha and Bravo determinants were intended for BLS responses while the Charlie a determinant generated an ALS response. This has changed somewhat over the years and varies from agency to agency. The following figure illustrates the overall distribution across these determinants for LBFD after case entry questions.



### Figure 31: Original Dispatch Determinant

As illustrated, most of the original determinants are Charlie (presumably ALS) while only 37.2% are Alpha and Bravo. After additional questions are asked by the telecommunicator, it is not uncommon for the determinant to change. The following figure illustrates the final determinant over the data period.



Figure 32: Final Dispatch Determinant

As shown, a small percentage of incidents are upgraded to a higher level of acuity between the original case entry questions and additional information received from the caller.

Within the patient care data provided by LBFD, there were two codes that defined how the patient was transported to a definitive care facility: Code 3 Transport (Yes or No), and Mode of Transport (ALS or BLS). Code 3 is widely accepted as "Transport using Lights and Sirens." Over the data period, LBFD transported with lights and siren approximately half the time as illustrated in the next figure.



### Figure 33: Code 3 Transports

Although one could presume that the method of transport would also correlate to patient treatment, this is not always the case. Based on the "Mode of Transport" code within the patient care records provided, over 60% of transports were reported as ALS, as shown in the next figure.



While this analysis provides a glimpse into how incidents are distributed across the various levels of acuity, it does not provide insight into final patient outcomes. AP Triton recommends that LBFD begin working with local medical facilities to determine patient outcomes so that field-level treatment can work through a process of continuous quality improvement.

# **Capital EMS Apparatus & Equipment**

As discussed in previous phases of this overall project, capital facilities, vehicles, and equipment are critical for a department to accomplish its mission and provide appropriate services to its community. This section reviews the EMS-specific resources available to LBFD.

### **EMS Apparatus & Vehicles**

In previous phases, AP Triton requested that LBFD provide an inventory of its frontline fleet. For each vehicle, it was asked to rate its condition utilizing the criteria in the following figure.

Evaluation Components	Points Assignment Criteria		
Age:	One point for every year of chronological age, based on		
-	the in-service date.		
Miles/Hours:	One point for every 10,000 miles or 1,000 hours		
Service:	1, 3, or 5 points are assigned based on service type		
	received (e.g., a pumper would be given a 5 since it is		
	classified as severe duty service).		
Condition:	This category considers body condition, rust interior		
	condition, accident hist	ory, anticipated repairs, etc. The	
	better the condition, the lower the assignment of points.		
Reliability:	Points are assigned as 1, 3, or 5, depending on the		
	frequency a vehicle is in for repair (e.g., a 5 would be		
	assigned to a vehicle in the shop two or more times per		
	month on average, while a 1 would be assigned to a		
	vehicle in the shop on average of once every 3 months or		
	less.		
Point Ranges	Condition Rating	Condition Description	
Under 18 points	Condition I	Excellent	
18–22 points	Condition II	Good	
23–27 points	Condition III	Fair (consider replacement)	
28 points or higher	Condition IV	Poor (immediate replacement)	

### Figure 35: Criteria Used to Determine Apparatus & Vehicle Condition Evaluation



The following figure is an inventory of EMS specific apparatus and vehicles for LBFD.

Unit	Туре	Manufacturer	Year	Condition
R1	Ambulance	Ford	2019	Excellent
R3	Ambulance	Ford	2019	Excellent
R4	Ambulance	Ford	2019	Excellent
R9	Ambulance	Ford	2019	Excellent
R10	Ambulance	Ford	2019	Excellent
R11	Ambulance	Ford	2019	Excellent
R12	Ambulance	Freightliner	2017	Fair
R18	Ambulance	Ford	2019	Excellent
R22	Ambulance	Freightliner	2017	Fair
BLS2	Ambulance	Dodge	2009	Poor
BLS12	Ambulance	Dodge	2009	Poor
BLS13	Ambulance	Dodge	2009	Poor
BLS14	Ambulance	Dodge	2009	Poor
BLS16	Ambulance	Dodge	2009	Poor

Figure 36: Frontline Rescue Ambulance & Apparatus Fleet Inventory (2021)

As of the date of the data obtained for this project phase, no changes are presumed to have been made to the EMS fleet for LBFD.

### **Capital Medical Equipment Inventory**

As a provider of ALS-level emergency medical transport services, LBFD must maintain its capital medical equipment, which tend to be relatively expensive items. The costliest piece of capital medical equipment for an ALS provider is likely the cardiac monitor/defibrillator.

LBFD currently maintains 29 ZOLL® X Series® Monitor/Defibrillators acquired in 2019. Aside from the typical features of most cardiac monitors, the X Series® includes 12-lead capabilities, oxygen saturation (SpO<sub>2</sub>), end-tidal carbon dioxide (etCO<sub>2</sub>), carbon monoxide (CO), blood pressure monitoring and temperature. LBFD has an inventory of 15 Stryker MTS Power Load ambulance cots purchased in 2022.

In addition to this equipment, the department also maintains a Resusci Anne® simulator and Vector Solutions<sup>™</sup> training software.



# Section IV: FINDINGS & RECOMMENDATIONS



# Findings & Observations

This section of the report contains various findings and observations with the specific intent of providing the Long Beach Fire Department (LBFD) with recommendations developed to improve the effectiveness, efficiency, and long-term sustainability of its EMS delivery system.

## Financial Issues & Cost Recovery

AP Triton has conducted numerous transport and First Responder fee studies throughout California and the United States. Based on this experience, AP Triton believes that changes in the current ambulance fee structure and the addition of adjusted First Responder fees could produce a substantial increase in revenue.

The City conducts in-house billing and collection services. and has significantly strong policies in place to maintain an effective collection effort.

Ambulance Transport Fees

- Although not required to do so, the City of Long Beach adopted Los Angeles County's fees for ambulance transport, which may result in the loss of potential revenue.
- Reimbursement at the Advanced Life Support (ALS) level and Basic Life Support (BLS) level is determined by Medicare and Medi-Cal, based on the services provided. These fees are established with a national rate structure, where the reimbursement is capped that their specific rates.
  - Since emergency ambulance services are rarely, if ever, provided by contract, commercial insurance generally pays the covered amount less co-pays and deductibles, with a typical reimbursement of between 75%–85%.
- The City currently participates in the Public Provider Ground Emergency Medical Transport (PP-GEMT) cost recovery program as well as the Quality Assurance Fee (QAF) program. Both programs use approved costs to draw down federal supplemental reimbursement.

**First Responder Fees** 

• When determining a rate for first response, AP Triton believes that establishing the cost of services using acceptable accounting principles coupled with documented time on task, including the ancillary time spent on incidents, is a proven method for calculating this rate.

- Absent a rate study to determine the actual charge that should be applied, AP Triton strongly believes that the Long Beach rate is neither accurate to the actual cost nor based on generally accepted accounting principles for EMS.
- The current First Responder and Non-Transport fee is \$250, and the allocated costs associated with these fees appear to need to be reevaluated.

Miscellaneous Fees & Revenue

- Like many areas of the country, hospital wait times have been an issue in California for the last decade.
- When units are stuck waiting at the hospital beyond 20–30 minutes, which many in the industry consider as the standard for patient offloads, they are supplementing the hospitals with taxpayer-funded labor and, at the same time, reducing the protection of their communities by these units being out-of-service for sometimes hours and unavailable for additional calls.

### General Emergency Medical Services (EMS) Administrative Functions

EMS Division Staffing & Infrastructure

- EMS calls represent the highest demand for service in the City of Long Beach. However, the resources devoted to managing and administering EMS functions appear to be limited and insufficient.
  - AP Triton believes that EMS should be viewed as a primary service of the department.
  - AP Triton believes the EMS Division is underfunded and understaffed and does not have adequate personnel to manage the EMS delivery system effectively and efficiently in Long Beach.
- The EMS Division is currently managed by an Assistant Chief and a Deputy Chief.
  - There are mandatory and substantial legal and regulatory requirements necessary to effectively manage the EMS administrative functions in an organization the size of LBFD. The assignment of an Assistant Chief and a Deputy Chief does not allow adequate time to effectively manage the program.
- The two EMS Educators and the EMS Coordinator are required to perform numerous tasks and maintain multiple responsibilities. Due to the variety of tasks and expectations, staff are unable to devote the necessary time and resources to fulfill the positions' primary functions efficiently and effectively.



Mobile Integrated Healthcare

- There likely would be a future benefit to the community if LBFD were to implement a targeted Mobile Integrated Healthcare (MIH) Community Paramedicine program or Advanced Practitioner unit.
- Due to limited staffing in the EMS Division, LBFD is not currently in a position to develop such a program.
- Presently, LBFD is not tracking patients who might meet the criteria necessitating the services of a Community Paramedic provider.

## **EMS Operations & Deployment**

The response times of the BLS unit at Station 16 are longer than those for other units due to the limitations of its airport location.

• Although the travel time from Station 16 to the nearest access point on a City street (Cherry Avenue) may take only a few minutes, it causes a delay in service.

Like fire departments around the country, LBFD faces a serious problem that hurts its ability to provide timely and appropriate EMS responses to 9-1-1 calls: its units are out of service for long periods because they must stay with their patients until the receiving hospitals accept them.

• Alternative response models or approaches that are either being pilot-tested or implemented include educational and response options.

## Health & Safety

- To the extent that LBFD can identify the physical impacts of specific aspects of firefighters' jobs, it can learn and apply effective techniques to mitigate their negative effects.
- Absent the development and implementation of a program or process to measure specific physical impacts of firefighters' jobs, work-related injuries would continue to take a physical toll on LBFD personnel and a financial toll on the City.

# **Recommendations & Strategies for Sustainability**

The Phase II study completed by AP Triton contained certain short-, mid-, and long-term recommendations. These recommendations cover administration and management improvements and Emergency Medical Services opportunities. During interviews with City staff, it was revealed that these recommendations have not been implemented.

AP Triton has reviewed and updated the previous recommendations in the Phase III study to emphasize the EMS-related topics and base them on current conditions. In addition to the previous study suggestions, AP Triton will also review the implementation of MIH options and ways to implement alternative deployment models that would enable LBFD to match lower-acuity patients with the most appropriate EMS services.

#### **EMS Division Recommendations**

Many departments in California are updating their delivery models as legislation is introduced and passed, state leadership changes, and new programs are put into service to adjust cost recovery. Like many public and private agencies, LBFD has seen a dramatic increase in EMS-related call volumes pre- and post-pandemic. The following recommendations highlight improvements to the EMS section that will help accommodate increased volume.

# **Recommendation 1:** Restructure the EMS Division by moving it from the Support Services Bureau to the Operations Bureau, adding two Captains, a Battalion Chief or an Assistant Chief, and a third Nurse Educator.

**Description**: The proposed structure would combine all EMS functions (EMS education and oversight, quality improvement, continuing education, medical oversight, and basic and advanced life support operations) as the EMS Division under the Operations Bureau. Including existing and proposed new staff, the Division would then consist of one Battalion Chief or Assistant Chief, three Captains, three Nurse Educators, one Medical Director, and one Administrative Assistant. If accepted, these changes would affect the current duties and the staffing of an existing administrative Battalion Chief in Operations.

**Estimated Financial Costs/Savings**: A portion of this recommendation would be cost-neutral as it mostly involves transferring existing personnel from one bureau to another. There would be costs associated with adding two Captains, a Battalion Chief, or an Assistant Chief, and a third Nurse Educator. Any costs associated with the re-alignment that would affect the duties of an existing administrative Battalion Chief in Operations are unknown.



Description	Costs
Battalion Chief w/benefits	335,648
Captain w/benefits	549,996
Nurse Educator w/benefits	201,629
Total:	\$1,087,273

#### Figure 37: Cost of Additional EMS Administrative Staff

**Outcomes:** A realignment of this function into one Bureau under an identified EMS Division could see cost savings (yet to be identified) in the recruitment, hiring, and retention of existing paramedic and EMS staff, and coordinate the function of this important part of the delivery model for LBFD. Moving the EMS Division to the Operations Bureau would immediately enable LBFD to analyze EMS services utilization to identify possible cost savings. It also would enable the department to deploy firefighters/paramedics cost-effectively and work with any realignment LBFD has regarding station relocations, co-locations, or potential station closures. The impact on LBFD's budget, staffing, and service delivery of this change may take one to two years to realize.

**Impacts:** Absent the relocation of the EMS Division to the Operations Bureau, the training aspects of EMS would remain in Support Services, where all other department training is housed. The deployment of firefighters/paramedics would remain under the direction of the Operations Bureau. If LBFD chooses to make this change, it will have to resolve the resulting span of control issues that necessarily would result from adding another division to the already very large Operations Bureau.

#### Recommendation 2: Add one Nurse Educator in the EMS Division.

**Description**: The two current Nurse Educator positions are insufficient to manage the duties and tasks assigned to them. These include all EMT training and recertification, quality improvement and quality assurance, attending EMS meetings at the county level, maintaining an inventory of training equipment, and scheduling ongoing mandatory EMS training for LBFD's approximately 400 firefighter/paramedics, firefighter/EMTs, and civilian EMTs. In addition to the Phase II recommendation of hiring one new Nurse Educator, AP Triton would also like to suggest splitting up the cost of one person with benefits into a contract Educator position with up to four nurses/paramedics sharing the contract. This model is used in Orange and Los Angeles counties to provide the same related training and education but utilizes highly desirable contract Nurse/PM positions.

**Estimated Financial Costs/Savings:** The same as the cost of the existing Nurse Educators, including benefits or contract Educators at prevailing hourly wages.

Description	Costs
Nurse Educator w/benefits	\$201,629
or	
Contract Nurse/PM Educator (Four Educators)	\$200,000
Total:	\$200,000-\$201,629

## Figure 38: Cost of an Additional Nurse/PM Educator

**Outcomes:** Adding one Nurse/PM Educator would provide an additional training resource to better distribute the current heavy workload. The City's planned increase in density, particularly in downtown Long Beach, certainly will make proportionately significant demands for EMS services, which currently comprise 77.64% of the LBFD's call volume. LBFD's ability to provide EMS services depends on its personnel keeping their certifications current.

**Impacts:** Absent the hiring of an additional Nurse/PM Educator, the existing two Nurse Educators would continue to be responsible for the ongoing training and recertification of over 400 department personnel who provide EMS services. They would continue to struggle to keep up with their other responsibilities, as the certifications and timely training are their highest priority.

#### **Recommendation 3:** Develop a process to ensure fire and EMS incident data quality.

**Description:** Incident data needs to be accurate and reliable, as it is used for federal, state, and local reports, plans, and metrics. Having Battalion Chiefs review key elements of their crews' reports for completeness, as well as the quality of the narratives in EMS reports, would enhance the quality of the department's data. In addition, there are changes that could be made to ensure more accurate data. The fire cause "undetermined" should be challenged. A checkbox field should be added to the fire and EMS report modules to track calls related to people experiencing homelessness (PEH). Finally, fire reports should be added to the tablets used by fire crews.

**Estimated Financial Costs/Savings:** Staff time for the field Battalion Chiefs to conduct the reviews.

**Outcomes:** Developing a process to enhance the quality of fire and EMS incident data would help to create a clearer picture of the LBFD's services and their results and facilitate accurate program development and measurement. The addition of the PEH field would provide important information that could help inform City management and elected officials' decisions about what intervention strategies could be effective in decreasing PEH-related incidents.

Data collection at the scene would result in more timely and accurate reports. Over time, targeted programs could reduce deaths, injuries, and property losses. There will be a synergistic impact if a Community Risk Reduction Plan is also implemented.

**Impacts:** Absent a process to increase the quality of fire and EMS incident data, the quality of incident reports would remain in question, and the creation of performance benchmarks would not be possible. Incomplete and/or inadequate information likely would result in errors in reports submitted to relevant local, state, and federal agencies. Without a process, the benefits listed within this recommendation would not be possible.

### **EMS Operations**

# **Recommendation 4**: Conduct an analysis of the time EMS responders must wait with their patients at receiving hospitals (Ambulance Patient Offload Time [APOT]).

**Description:** Longer hospital wait times (referred to as wall times) have been an issue in California for the last decade, and the pandemic magnified these issues dramatically. The California Fire Chiefs Association and the California Metropolitan Fire Chiefs have been working on tracking the problem statewide and striving to come up with realistic solutions.

In late 2021 and early 2022, California State's new Interim Director for the Emergency Medical Services Authority (EMSA) formed a stakeholder group to study and develop solutions for this problem. The CalChiefs and MetroChiefs had representatives in this working group and were successful in developing legislation that is working its way to the Governor's desk. This still necessitates a need for local agencies to track this issue in their communities. Data is required for stakeholders to work independently on solutions at the local level, as the state process can take time.

A potential remedy would be to bill the hospitals based on a Prop 26-compliant fee study for units out of service beyond the 20–30-minute standard. This, we believe, will impact the hospitals financially and incentivize them to staff their emergency rooms appropriately. In addition, it will at least recover some of the costs associated with this problem. Although there are discussions statewide of enacting some sort of fine, this has not worked when dealing with private-sector ambulance contracts since, in most cases, it is cheaper for ambulance companies to pay the fines than to put more units and personnel on the streets. AP Triton recommends that LBFD collect its local data and establish a fee structure that can be used to recover costs.

**Estimated Financial Costs/Savings**: Staff time to report the information during the study period and cost for researchers to conduct the study. To mitigate the study's cost, consider approaching a local college or university to find a faculty member or graduate student who can conduct this study. Researchers often are willing to conduct studies pro bono in exchange for permission to publish the results (anonymously, if desired) in an academic journal.


**Outcomes**: Tracking and analyzing data related to hospital wait time would provide accurate information about how much time LBFD's EMS responders are out of service and unavailable to other patients. Reliable data about the size and scope of the problem would guide decisions about how to address it. This is especially important given the significant surge in the City's population density—increased demands for EMS services affect the department's performance throughout the community. An analysis that includes nonfinancial costs (e.g., the effects on employee morale) and benefits (e.g., critical patients get the timely care they need) would also be instructive.

**Impacts:** Absent accurate data about the long wait times at hospitals experienced by EMS responders, LBFD would continue to use subjective, anecdotal data to account for the negative effects on its EMS service delivery. Lacking the necessary level of detail, it likely would be unsuccessful in applying for City or grant funding to address this problem. As a result, EMS responders would remain unavailable for long periods every day, resulting in longer wait times for patients needing their assistance and greater reliance on neighboring fire departments to take care of Long Beach patients.

#### Recommendation 5: Relocate the BLS unit from Station 16 to Station 9.

**Description:** The response times of the BLS unit located at Station 16 (referred to as BLS 16) are longer than those for other units due to the limitations of its airport location. Although the travel time from Station 16 to the nearest access point on a City street (Cherry Avenue) may take only a few minutes, it still causes a delay in service. A move to Station 9 would reduce its response time. This would not impact ALS response time but will improve overall response time to applicable calls.

**Estimated Financial Cost/Savings**: If the Station 9 facilities cannot accommodate the unit. The cost to house the unit should be included in the Station 9 development costs.

**Outcomes**: If BLS 16 were relocated to Station 9, its response times would decrease. In addition to enabling LBFD to provide better service delivery, this move could help mitigate the call volumes on other BLS and ALS units, which must step in when BLS units are unavailable. Assuming the rescue unit from Station 18 is relocated to Station 19, it could service the airport terminal and nearby businesses more effectively than a unit responding from the opposite side of the airfield that must travel the airport perimeter to reach those locations.



**Impacts**: Absent the relocation of BLS 16 to Station 9, patients in need of medical care and/or transport to a hospital would continue to experience longer wait times than could be provided by a different configuration.

#### **Alternate EMS Delivery Methods**

**Recommendation 6:** Request that the LBFD Medical Director research, report the findings, and recommend alternative EMS deployment models that could enable LBFD to match patients with lower-acuity needs with the most appropriate EMS services.

**Description:** Like other fire departments around the country, LBFD faces a serious problem that harms its ability to provide timely and appropriate EMS responses to 9-1-1 calls: its firefighter/EMTs and firefighter/paramedics are out of service for long periods (one firefighter/paramedic described a five-hour wait) because of long hospital wait times. The pandemic exacerbated this problem, as hospitals continue to receive COVID-19 patients and remain short-staffed.

Alternative response models or approaches that are either being pilot-tested or implemented include educational and response options. For example, the Tuscaloosa (AL) Fire Department implemented a communication and marketing plan to educate communities about their healthcare options and the appropriate use of 9-1-1 services. They also formed a policy committee to educate and advocate for policy changes at the state level for mandatory 9-1-1 means of transport.

Operational examples include the deployment of special units typically staffed by one paramedic and one advanced provider (e.g., Nurse Practitioner, Physician Assistant), such as the Advanced Provider Response Unit (APRU) that both the Los Angeles Fire Department (LAFD) and the Los Angeles County Fire Department implemented.<sup>11</sup> The Tuscaloosa Fire Department's ACTION program deploys two units, one like what was just described and another staffed by behavioral health providers.

LAFD has also been testing a telemedicine program. The preliminary results, documented in a 2020 study coauthored by the current LBFD and LAFD Medical Directors and other researchers, suggest that dispatch-initiated telemedicine can be integrated safely into EMS programs. Other operational options include a nurse/paramedic triage hotline or a revision of EMS dispatch protocols.

**Estimated Financial Costs/Savings:** Staff time to research, report findings, and make recommendations.



#### Fire & EMS Optimization Study—Phase Two Long Beach Fire Department 362 Outcomes:

Research and data about fire departments that have implemented effective EMS deployment models would provide LBFD with concrete information needed to make informed decisions about what options, if any, would enable it to match lower-acuity patients with the most appropriate services. Using the experiences of departments with successful programs, LBFD could determine if any options would be appropriate to meet the needs of the entire Long Beach community equitably and in a timely manner.

For example, reducing the hospital transport of people with low-level medical conditions would decrease the costs of those transports and the wear and tear on the fire engines, fire trucks, and personnel that currently respond to 9-1-1 EMS calls. Concurrently it would increase the availability of responders and apparatus for 9-1-1 callers who require urgent and often advanced medical care. These outcomes would support City management and elected officials' stated commitment to providing equitable services to every part of the community.

The potential financial liability that the City would face for any serious adverse consequences of the existing situation would decrease.

**Impacts:** Absent specific information about what other fire departments have done effectively to align their resources and services to their patient's needs, the department would continue the current mismatch of resources and needs.

#### Health & Safety

# **Recommendation 7:** Implement a program or process to measure the physical impacts of firefighters' workloads at the individual level.

**Description:** LBFD is far from unique in its inability to assess the physical impacts of individual firefighters' workloads. LBFD should review and monitor the programs conducted by entities such as Leadership Under Fire and others that are focused on developing ways to mitigate the negative effects of high-stress jobs on their minds and bodies during their typical careers.<sup>12</sup>

**Estimated Financial Costs/Savings:** Staff time to review and monitor the progress of the Leadership Under Fire data and develop a similar process for measuring the workload impact on personnel.

**Outcomes:** To the extent that LBFD can identify the physical impacts of specific aspects of firefighters' jobs, it can learn and apply effective techniques to mitigate their negative effects. As a result, LBFD personnel would be more productive, less injury- and illness-prone, and more likely to have long careers serving the Long Beach community. Costs related to physical injuries, such as workers' compensation and overtime incurred by having to back-fill positions, would likely decrease.

**Impacts:** Absent the development and implementation of a program or process to measure specific physical impacts of firefighters' jobs, work-related injuries could continue to take a physical toll on LBFD personnel and a financial toll on the City. Early retirements due to injuries could continue to diminish the ranks of experienced, knowledgeable staff and require additional hiring. Qualified potential applicants could choose to pursue opportunities at other fire departments. Progress toward achieving the department's diversity vision could be slowed.

#### Finance & Billing

**Recommendation 8**: Discontinue utilizing the Los Angeles County private ambulance rate structure as it does not apply to LBFD and conduct a rate study that takes into consideration the full and accurate cost of providing ambulance transport.

**Description:** Included in the Operations Bureau revenues is the billing for emergency medical services provided by LBFD. These receipts are a function of the "Payor Mix," the source of the proceeds from the billings for the EMS services. The payor mix is typically a function of the demographics of the area served by the agency.

A February 23, 2023, letter from the Long Beach Department of Financial Management to AP Triton identified a historical payor mix for FY18 through FY22, collection rates, and approved billing rates for Medi-Cal and Medicare commercial insurance along with self-pay. These revenues to be collected derive from the number of patients from each category that use the services multiplied by the effective and accepted billing rate and multiplied again by the percentage at which the collection effort is successful in collecting the billing.

The City conducts billing and collection services "in-house" that appear to be doing a competent job. The City of Long Beach has significantly strong policies in place to maintain an effective collection effort. However, the cost of billing services is unknown when compared to the cost of outside third-party billing companies.

**Outcomes:** AP Triton believes the City should consider a comprehensive rate analysis of its EMS services and adjust all prehospital EMS costs accordingly. The City should conduct regular reviews comparing patient records with a corresponding reimbursement to determine proper documentation is being done, maximize UHU on non-firefighter staffed units, and institute an annual rate adjustment based on a healthcare CPI that reflects healthcare inflation costs.

**Impacts:** Continuing to use Los Angeles County's private ambulance rate structure will prevent the department from achieving the revenue necessary to meet the costs of the EMS services provided. Also, the City has to work within Proposition 26 expectations on service delivery costs and reimbursement.

**Recommendation 9:** Establish a rate structure that attempts to maximize the recovery of costs within Proposition 26 guidelines, establish a single base rate for all transport regardless of BLS or ALS status of the transport unit, and establish a "package bundle" rate for supplies.

**Description:** While using the county's ambulance rate structure does not violate Proposition 26 (unless the rate exceeds the City's costs), it is not tied to the actual cost of services.

**Outcomes:** The best protection against a challenge of the rates used by LBFD is to conduct a thorough cost analysis to be used to establish a Proposition 26-compliant rate structure. Absent a complete rate study, the City can restructure the rates already established to determine the benefit as it relates to cost recovery.

**Impacts:** Continuing to use Los Angeles County's rate structure exposes the City to a challenge regarding Proposition 26 requirements.

# **Recommendation 10**: Increase First Responder fees to more accurately reflect the cost of services provided.

**Description:** AP Triton has completed numerous studies across the state and country in developing fees for first response agencies. In California, for a charge to be considered a fee, the rate must be consistent with the cost of providing those services. It's unclear when the fire department last updated its First Responder fee. Since that time, the cost of operations has increased significantly.

**Outcomes:** When determining a rate for first response, AP Triton believes that establishing the cost of services using acceptable accounting principles coupled with documented time on task, including the ancillary time spent on incidents, is a proven method for calculating this rate. Absent a rate study to determine the actual charge that should be applied, AP Triton can state with 100% confidence that the LBFD rate is neither accurate to the actual cost nor based on generally accepted accounting principles for EMS. These First Responder fees average for fully paid/career departments between \$450 to \$675 per EMS response.

**Impacts:** Unit Hour Utilization (UHU) Recommendations establish a system-wide maximum UHU or not to exceed 0.45–0.50. Determine actual time on task for each ambulance using CAD data. Establish maximum acceptable UHUs for ALS (0.35) and BLS (0.45). Reposition low UHU units to higher UHU locations to meet established UHUs.

There is no standard or requirement for what the best UHU for a system is, and from a practical standpoint, it is cultural as well. Paramedics who have a history in busy systems can become bored when the call volume is significantly low, while paramedics in very slow systems can become overwhelmed with a call volume that some would consider tolerable. Ambulances that are staffed with firefighters should typically have lower UHUs than nonfirefighter-staffed units. This is due to the other tasks and jobs they perform as firefighters, such as inspections, drills, and responding to fires and other emergencies.

Because these units have higher demands with ancillary duties, static UHUs are best kept below 0.35. Non-firefighter-staffed units typically do not have the same ancillary duties outside of the EMS role. Therefore, it is not uncommon for these non-firefighter-staffed units to have higher UHUs around 0.40–0.50. This UHU would suggest the workload experienced by the transport units is reasonable for the demand. These UHU figures do not include the additional time necessary for report writing and restocking the unit. Given that the response units are documented to have spent less than 30 minutes per request on average for service, these UHU figures are currently reasonable given the workload.

Reducing the units on hand would push the firefighter-staffed BLS units and Rescue ALS units to the upper acceptable utilization rate. Certain units have higher UHUs than others, however, all are currently within an acceptable level.

# **Implementation Plan**

Recommendations	Assigned To	Short Term 91 days–1 year	Mid Term 1–3 years	Long Term 3–5 years
<b>Recommendation 1:</b> Restructure EMS Division by moving it from Support Services Bureau to the Operations Bureau, adding two Captains, a Battalion Chief or an Assistant Chief, and a third Nurse Educator.		Х		
<b>Recommendation 2:</b> Add one Nurse Educator in the EMS Division.		х		
<b>Recommendation 3:</b> Develop a process to ensure fire and EMS incident data quality.		Ongoing		
<b>Recommendation 4:</b> Conduct an analysis of the time EMS responders must wait with their patients at receiving hospitals (Ambulance Patient Offload Time [APOT]).		Х		
<b>Recommendation 5:</b> Relocate the BLS unit from Station 16 to Station 9.			Х	
<b>Recommendation 6:</b> Request LBFD Medical Director to research, report findings, and recommend alternative EMS deployment models that could enable LBFD to match patients with lower-acuity needs with the most appropriate EMS services.				Х
<b>Recommendation 7:</b> Implement a program or process to measure physical impacts of firefighters' individual workloads.			Х	
<b>Recommendation 8:</b> Discontinue utilizing the LA County private ambulance rate structure as it does not apply to LBFD & conduct rate study that takes into consideration the full and accurate cost of providing ambulance transport.		Х		

#### Figure 39: Implementation Plan Worksheet



Recommendations	Assigned To	Short Term 91 days–1 year	Mid Term 1–3 years	Long Term 3–5 years
<b>Recommendation 9:</b> Establish a rate structure that attempts to maximize the recovery of costs within Proposition 26 guidelines, establish a single base rate for all transport regardless of BLS or ALS status of the transport unit, and establish a "package bundle" rate for supplies.		Х		
<b>Recommendation 10:</b> Increase First Responder fees to more accurately reflect cost of services provided.		Х		

# Section V: APPENDICES



## **Appendix A: Mobile Integrated Healthcare**

#### Introduction to Mobile Integrated Healthcare

Mobile Integrated Healthcare (MIH) is an alternative approach to handling low-acuity calls. It is on the leading edge of fire-based EMS and should be considered the future of Emergency Medical Services. The need for alternative treatment modalities and transport options is apparent with rising call volumes. Fire departments across the U.S. have risen to lead public safety efforts during the COVID-19 pandemic and in the years since to address those needs. Under MIH models, firefighters and other responders can be equipped with additional training and medical equipment to help treat and possibly release or differ the rising number of low-acuity calls that have plagued some systems.

The motivation to explore the use of MIH would be to reduce the number of low-acuity medical aids that did not result in transport to the hospital. An analysis of 2018-2022 responses in Long Beach showed that, on average, 50% of all medical responses were non-emergencies, and patient-disposition data showed that approximately 43% of LBFD EMS responses—where they arrived on the scene—did not result in ambulance transport.



#### Figure 40: Call Volume vs. Low-Acuity Call Volume

Triton will discuss four avenues with viable solutions for integrating mobile healthcare into a system in California and, specifically, Long Beach. Fire departments nationwide are experiencing a drastic increase in response to patients experiencing homelessness and psychiatric (behavioral) emergencies.

Although these call types are not explicitly considered when developing an MIH program, there are potential options that can assist in addressing this growing problem. Several variations of provider-led responses exist. The following four programs in California and surrounding states have proven successful options: Community Paramedicine, Advanced Practice Provider Care Units, Responder-led Telemedicine, and Behavioral Health Response Units. Each of these programs has unique qualities that can serve the residents of Long Beach in different ways while maintaining excellent patient care, flexibility, and sustainability.

These programs are also not exclusive, and multiple departments in the State have adopted variations of multiple programs to address the needs of a diverse population. The following briefly describes each model and an example of current departments with working programs.

#### **Community Paramedicine**

A Community Paramedicine (CP) program would free up emergency response units to be available for higher-level calls while addressing the community's needs. CP programs should be considered the next step in delivering patient-centered care cost-effectively and efficiently.

The concept is straightforward: utilize current paramedics working in the field, train them on the safe treatment and care of patients with non-acute illnesses or injuries, and develop strategies to get them to the most appropriate receiving center for their condition (e.g., Urgent Care Facility, Behavioral Health evaluation facility, etc.).

Nationwide Community Paramedicine is on the leading edge, with legislation being developed collaboratively with state, county, and local EMS professionals. In California, EMSA has been working on Community Paramedicine since 2014.

"The Affordable Care Act (ACA) was designed to reform the health care system with expanded eligibility for coverage, reduced out-of-pocket costs for health plan consumers with lower incomes, and coverage with essential benefits that include no- or low-cost preventive care. A key principle of the ACA is the so-called "triple aim" framework developed by the Institute for Healthcare Improvement, which determined that healthcare managers should:

- Improve overall patient care, quality, and satisfaction.
- Enhance the health of populations.
- Reduce per capita health care costs.

Recognizing that the spiraling cost of health care was not translating to better patient outcomes and that a well-trained workforce was available to provide more effective care in the community, the California EMS Authority launched the California Paramedicine Pilot Project in 2014. The objective was to evaluate the feasibility of paramedics expanding their roles beyond emergency response. In all, 53 California cities received a variety of nontraditional services from community paramedics, including hospice support, post-discharge care, direct observation of daily tuberculosis treatment, and transportation to alternative non-emergency sites such as sobering centers, urgent care centers, and psychiatric facilities.

The Healthforce Center at UCSF analyzed the project and concluded that community paramedics collaborated effectively with numerous healthcare partners, provided services safely and efficiently, reduced medically unnecessary transports to hospital emergency departments, and saved more than \$3 million during a short time span.<sup>13</sup>"

The current direction of CP programs is highly dependent on the approval and collaboration of the LEMSA in LA County. Although a CP program is based around the firefighter and private paramedic, it has proven to be the most difficult to navigate in California. A working group of EMS professionals is assembling a toolkit to use when starting a program to streamline the initiation and management.

#### **Community Paramedicine Toolkit**

The Version 2.0 of the Community Paramedicine Toolkit<sup>14</sup> was released in December of 2022. This toolkit is a collaborative effort by all the major contributors in California and led by the Acting Director of EMSA, Elizabeth Basnett. The main purpose of the toolkit is to assist local LEMSAs and their community partners in the creation of Community Paramedicine (CP) programs to:

- Reduce the burden on individual partners to create programs from scratch,
- Decrease duplication of effort across the State, and
- Enhance CP program participation and approval efficiency.

This toolkit has produced a starting point for new programs to get started in CP and existing programs to align with new regulations in Assembly Bill (AB) 1544.

The toolkit is broken down into eight steps to bring the provider and the LEMSA in alignment in the development of a program:

- Step 1—The Planning Process
- Step 2—Identification of the Community need and Recommended Solutions
- Step 3—Program Medical Protocols and Policies
- Step 4—Service Provider Approval
- Step 5—Collaboration with Public Health or Community Resource Entities
- Step 6—Curriculum for Program-Focused Training
- Step 7—Program Review & Approval Process
- Step 8—How to Evaluate the Program

#### Overview

Community Paramedicine (CP) is primed to be the future of EMS in California, specifically dealing with the diverse demographics in play. Regulations must continue to be adjusted at the State level to bring CP in line with regional and local needs.

#### Advanced Practice Provider Care Unit

Advanced Practice Provider (APP) Care Units have shown to be a viable and successful alternative in several California Fire Departments, including but not limited to Anaheim, Beverly Hills, and Los Angeles City. These programs combine Advanced Practice Providers (Nurse Practitioners or Physician Assistants) with first responders to low-acuity medical aids to "treat and release" or "treat and refer" the patients.

A significant difference between an Advanced Care provider unit and a Community Paramedic unit is the ability to make physician-level decisions in the field, such as: writing prescriptions, referrals to other physicians, referral to alternate destinations, and completing follow-up visits when necessary. An APP could respond to a low-acuity injury, suture the patient, prescribe antibiotics, leave the patient with care instructions, and make a followup appointment to remove the sutures in five days. All of this could be done without having the patient leave their house. These programs have successfully treated various low-acuity medical aids without transporting the patient to the hospital. Beverly Hills Fire Department, for example, is one of several departments leveraging the APP model and taking patientcentered care to the next level.



"The City of Beverly Hills Fire Department (BHFD) is proud to announce the launch of its Nurse Practitioner Program. The program is a unique and innovative Emergency Medical Service (EMS) model designed to deliver advanced, efficient, and effective healthcare in the pre-hospital setting.

BHFD's vehicle, 'Nurse Practitioner 1' (NP1), will respond to calls for service in the field. Staffed with a Nurse Practitioner and Firefighter Paramedic with oversight from a board-certified Emergency Medicine physician, NP1 is equipped with various medications, select laboratory diagnostics, and technical, medical equipment.

Whether responding to 911 calls or following up on 'In home' patient referrals, NP1 will provide mobile urgent care as well as collaborate with primary care providers in order to optimize greater long-term health and wellness within our community.

With a focus on improving patient outcomes and connecting healthcare resources to patients' specific needs, the program defines the future of Mobile Integrated Health.<sup>15</sup>"

Using Beverly Hills FD as an example, at the time of dispatch, calls are screened by a trained Emergency Medical Dispatcher (EMD) to identify non-emergency patients who meet the classification of an "Alpha or Bravo" call (low acuity). Clinically appropriate, legally compliant, pre-determined dispatch protocols created in collaboration with the department's Medical Director would be followed. The NP would determine the patient's final disposition in collaboration with their physician when available.

If applicable, the APP Unit will then be dispatched to the patient location to provide on-site evaluation, treatment, and coordination of care and referral. A paramedic-level response can be accessed whenever the APP Unit crew determines the patient would benefit from transport to the emergency department or a higher level of care. Conversely, the AP crew, as an option, could be called by an emergency unit on the scene if, after a paramedic assessment, the paramedic determined the patient is a good candidate for treatment by the Advanced Practice provider unit.



#### Overview

An Advanced Practice provider response dramatically benefits the community and offers a practical, appropriate alternative in addressing low acuity calls for service. This unique response model aims to reduce total costs to the overall healthcare system and deliver relevant and timely healthcare service on the scene, thereby preventing costly transport to the emergency department in Long Beach.

Even with a limited supply of funding, an Advanced Practitioner Provider program could add value and service to the department. An APP has the unique quality of utilizing Nurse Practitioners or Physician Assistants, who can bill for their services, regardless of transportation. There is also a partnership possibility with local hospitals to share personnel, and residents released in Long Beach could be followed up on to prevent potential readmits.

#### First Responder Telemedicine

First Responder-led Telemedicine is a newer option that became popular in multiple agencies during COVID-19. Under specific guidelines, after the initial assessment, the patient could be allowed a Telemedicine appointment with an NP or doctor in an emergency dispatch center or contracted as an on-call service. As the Nation adapted to virtual meetings (e.g., Zoom, Teams, and other video conferencing mediums), talking to a medical professional on an iPad or similar device does not seem as foreign as it would be three years ago. California AB 133 will require the continued use of new modalities to address healthcare in the state,

"This bill would require the department to seek any federal approvals it deems necessary to extend the approved waiver or flexibility implemented pursuant to those provisions as of July 1, 2021, that are related to the delivery and reimbursement of services via telehealth modalities in the Medi-Cal program, and, subject to approval by the Department of Finance, would require the department to implement those extended waivers or flexibilities for which federal approval is obtained for a specified period of time ending December 31, 2022. The bill would also require the department to convene an advisory group to provide recommendations to inform the department in establishing and adopting billing and utilization management protocols for telehealth modalities to increase access and equity and reduce disparities in the Medi-Cal program. The bill would authorize the department to enter into contracts, or amend existing contracts, for the purposes of implementing these provisions and would exempt those contracts or amendments from specified provisions of law.<sup>16</sup>"



In this model, the evaluation of the patient begins in the emergency dispatch center and first contact. A patient is triaged using EMD protocols, and the closest and most appropriate resources are dispatched. As units are dispatched en route, a trained dispatcher gives pre-arrival medical instructions until first responders arrive and take over patient care.

Upon arrival, firefighter/EMTs and firefighter/paramedics begin immediate treatment, and after determining the patient's status, expedited transport to the nearest, most appropriate receiving center. However, as is often the case, some patients' condition does not require immediate treatment and transportation to a local area hospital emergency department (ED). Once determined by first responders, if the patient does not warrant transport to a local area hospital ED the Telemedicine program could become the most appropriate treatment for a patient.

This program positively affects the system by allowing the first response and evaluation, then pivoting the call, when appropriate, to a dedicated telemedicine option to better serve the patient's needs. The paramedics or EMTs would remain on the scene to relay pertinent medical conditions and findings to the Physician/NP/PA. The Telemedicine Physician will then be able to engage the patient directly to determine the most appropriate treatment plan to provide the best outcome.

After a thorough telemedicine interview and patient assessment are conducted, the medical professional and patient will determine the next steps as one of the following: the patient is transported to the hospital via ambulance, the patient is referred to a clinic or urgent care center for treatment, advice to contact their physician, or the patient may determine on their own after a consultation that they will remain at home and monitor themselves. In addition to the final resolution, the Telemedicine Physician can prescribe medications to the patient's pharmacy, provide detailed care records to the physician, provide follow-up Telemedicine appointments, or reassure the patient and provide a care plan. These calls are typically triaged in the emergency dispatch center at an Alpha or Omega dispatch level.

The Contra Costa County (California) Fire-EMS Alliance with American Medical Response contracted with a new Tele911 company in November of 2021 to help deliver a unique and innovative solution to the growing needs in the field.



"CCCFPD is working with Tele911 to help make the system more efficient and increase readiness for emergency calls. To accomplish this goal, Tele911 integrates telemedicine and patient navigation into the EMS system to better serve Contra Costa County patients and place much-needed resources back into the system.<sup>17</sup>"

#### Overview

Although Telemedicine typically uses existing ALS resources and equipment to administer the program, so costs are low, the overall system could be impacted. Having an ALS unit stay on the scene while a Physician group is contacted, and a thorough medical exam could delay additional responses in the system. This and other factors need to be evaluated if a Telemedicine program were to be initiated.

#### **Behavioral Health Response Unit**

Behavioral Health units are being used in multiple areas in California and surrounding states. Most units are associated with the Police departments and used to curb the overuse of police resources for psychiatric and homeless calls. There are many variations of this model, including the CAHOOTS (Crisis Assistance Helping Out On The Streets) model being used in Eugene, Oregon.

"CAHOOTS provides support for EPD personnel by taking on many of the social service type calls for service to include crisis counseling. CAHOOTS personnel often provide initial contact and transport for people who are intoxicated, mentally ill, or disoriented, as well as transport for necessary non-emergency medical care."<sup>18</sup>

Other models have various connections to public and private organizations in the local areas they serve; P.E.R.T (Psychiatric Emergency Response Team), used in Orange and LA County, and Be Well, a private organization working with Cities to deploy mental health professionals to deal with the overwhelming number of psychiatric emergencies encountered in by police and fire units.

"The Be Well OC Mobile Crisis Response Team comprises two crisis intervention specialists who provide in-community assessment and crisis stabilization services to individuals experiencing mental health or substance use challenges. The mobile response team provides information, referrals, transportation, additional follow-up support, and case management. The mobile crisis response program helps improve outcomes for those in need while also supporting law enforcement and EMS so they can focus on calls where they are needed most urgently. The net result is improved mental health care for Orange County residents, at a lower cost to the community<sup>19</sup>."



These units are typically dispatched by the Primary Safety Answering Point (PSAP) and respond to non-medical patients experiencing homeless or psychiatric issues. The units evaluate the situation and offer resources and potential transport to psychiatric facilities or homeless outreach centers. The programs are often a public/private partnership that does not require additional fire personnel and would supplement the three response models discussed earlier. There is a large amount of Federal grant funding available for programs dealing with the homeless, which should be carefully explored.

#### Overview

Alternative methods to deal with the changing face of healthcare are needed as departments adjust to a new paradigm in EMS. Behavioral Health Units fill this gap and will continue to become more mainstream. The Community Crisis Response Team in Long Beach is a good example of adapting to the need. This five-person team will respond to calls for mental health support.<sup>20</sup> There is a large amount of Federal grant funding available for programs dealing with the homeless, and if Long Beach chose this model, this should be thoroughly explored.

#### **MIH Summary**

As stated previously, MIH is on the cutting edge in California. Each model described in this chapter is a viable option for Long Beach. Each model has its benefits and constraints, and the City must consider these and each model's costs when moving forward with a new program.

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