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## **Appendix I3**

### Supplemental Housing Needs Assessment for Modified Project Commercial Space



## Memorandum

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Senior Project Manager  
Dudek

**From:** Raymond Kennedy  
Director of Research  
BAE Urban Economics

**Date:** July 21, 2023

**Re:** Housing Needs Assessment for Newly Proposed Commercial Space in the 123 Independence Project

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### Introduction

In 2022, BAE Urban Economics, Inc. (BAE) completed a housing needs assessment for the proposed 123 Independence Drive development project (the “Project”). At that time, the Project consisted entirely of residential and open space uses, with a total of 432 housing units. Recently, however, the developer has proposed the addition of a small 2,000 square-foot commercial component. The following memorandum functions as an addendum to BAE’s prior analysis of housing needs for the residential component. In order to maintain consistency with BAE’s prior analysis, the timeframe for the data sources used is the same. The discussion of potential impacts at the end of the memorandum considers the overall impact of the project, including both the previously proposed components and the newly proposed commercial space.

### Description of New Project Component

As noted above, the Project now includes a 2,000 square-foot commercial/retail space. No specific tenant or use has been proposed for this space. The analysis here assumes the space will be occupied by a high-turnover (sit-down) restaurant, as this would provide a high employment density combined with retail-level wages, thus showing a high impact scenario relative to other uses, such as conventional retail.

### Impacts on Housing Supply and Demand by Income Level

This section estimates the net impacts of the new commercial space in the Project on housing supply and demand, by income level. This estimate steps through estimations of the following components:

- Net direct change in worker housing demand
- Indirect and induced job impacts and related regional worker housing demand
- Net effect on housing demand/supply

As part of the analysis, BAE has estimated the indirect and induced housing demand generated by the workers in the new commercial space based in part on an IMPLAN analysis. The model estimates the number of jobs that would be supported in suppliers to the tenant of the space and supported by the increased spending of new workers on goods and services within the Two-County Region. BAE has used Public Use Microdata Sample (PUMS) data from the U.S. Census American Community Survey to estimate the household income levels associated with projected workers within the relevant industry sectors and to estimate the number of workers per household by income category. A more complete description of IMPLAN and the methodology can be found in BAE's previous analysis of the Project.

Based on a review of various sources regarding employment densities for full-service restaurants, this analysis assumes 150 square feet per employee, for an estimate of 13 workers<sup>1</sup> for the 2,000 square-foot space. The next step is to estimate the current household incomes for the workers. The worker households would have a range of earnings and household incomes, thus likely occupying housing across a broad range of rents and house values. Following the same methodology used in BAE's prior analysis of the Project. BAE developed a matrix of worker household income ranges to estimate the income distribution of these workers using Public Use Microdata Sample (PUMS) data specific to workers in the restaurant industry from the American Community Survey (ACS). The data set allows for detailed cross-tabulations not available through the published ACS data, using the standard income limits by household size as published by the California Department of Housing and Community Development. The analysis here uses PUMS data for the Two-County Region (San Mateo and Santa Clara County) to estimate the distribution of household incomes and workers per households by income category to apply to the restaurant workers. These distributions are shown in Table 1 below and applied to the estimated number of workers in the new commercial space. As shown, it is assumed that the thirteen workers would be in 7.39 households across a broad range of incomes, from extremely low income to income levels above 150 percent AMI.

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<sup>1</sup> Rounded to nearest whole number.

**Table 1: Distribution of Workers and Worker Households by HCD Income Level**

Census NAICS Code	Industry	Estimated Household Income as a Percent of AMI						Total
		Extremely Low	Very Low	Low	Moderate	Above Moderate	Above 150%	
722Z	Restaurants and Other Food Services	18.3%	19.2%	28.1%	11.6%	9.0%	13.6%	100.0%
	<b>Total Jobs</b>	2.38	2.50	3.66	1.51	1.17	1.77	13.00
	Workers per Households (a)	1.40	1.71	1.89	1.93	1.94	1.96	1.76
	<b>Number of Households</b>	1.71	1.46	1.93	0.79	0.60	0.90	7.39

Notes:

Based on a cross tabulation of Public Use Microdata Samples (PUMS) from the 2015-2019 American Community Survey. These incomes were compared to household income limits published by the State of CA Department of Housing and Community Development (HCD) to determine the percentage of households falling into each income category. The analysis controlled for household size, to address the varying HCD income limits for each household size.

(a) Average number of workers per worker household by income category calculated based on American Community Survey PUMS Analysis, 2015-2019.

Sources: Census, American Community Survey Public Use Microdata Sample (PUMS) 2015-2019; HCD; BAE, 2023.

The estimated gain of direct jobs at the Project site in the commercial space will lead to *indirect* job gains in the supply chain for the impacted businesses, and to *induced* job gains due to increased spending in the region by the new workers employed in the area. IMPLAN has been used to estimate these gains in employment, using the same approach as utilized in BAE's previous analysis of the Project. Overall, the indirect and induced job gains are minimal; the on-site impacts are only responsible for generating partial indirect and induced jobs by industry, for a total of 1.99 jobs and .08 households across all income categories (see Table 2).

The table also shows the distribution of jobs and households by income and industry, based on the distribution matrix of income by major industry as shown in BAE's previous analysis of the Project. None of the income categories show even half of a household of demand created due to indirect and induced impacts.<sup>2</sup>

<sup>2</sup> See BAE's prior analysis of the Project for detail on the IMPLAN model.

**Table 2: Indirect and Induced Employment by Household Income Level**

NAICS Code	Industry	Total Jobs (b)	Estimated Jobs by Percent of AMI (a)					
			Extremely Low	Very Low	Low	Moderate	Above Moderate	Above 150%
11, 21	Agriculture & Natural Resources	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	Construction	0.02	0.00	0.00	0.01	0.00	0.00	0.00
31-33	Manufacturing	0.02	0.00	0.00	0.00	0.00	0.00	0.01
42	Wholesale Trade	0.06	0.00	0.01	0.01	0.01	0.01	0.02
44-45	Retail Trade	0.21	0.02	0.03	0.05	0.03	0.02	0.06
	Transportation, Warehousing, & Utilities	0.11	0.01	0.02	0.03	0.02	0.01	0.03
48-49, 22	Utilities							
51	Information	0.05	0.00	0.00	0.01	0.00	0.01	0.03
52-53	Finance, Insurance, & Real Estate	0.40	0.02	0.03	0.06	0.04	0.05	0.20
54-55	Professional, Scientific, & Technical Services, & Mgmt of	0.22	0.01	0.01	0.02	0.02	0.03	0.13
56	Admin, Support, & Waste Mgmt	0.18	0.03	0.03	0.04	0.02	0.02	0.03
61	Educational Services	0.06	0.00	0.01	0.01	0.01	0.01	0.02
62	Health Care & Social Assistance	0.26	0.02	0.03	0.05	0.03	0.03	0.09
71-72	Leisure & Hospitality	0.22	0.03	0.04	0.06	0.03	0.02	0.04
81	Other Services Except Public Government Enterprises	0.16	0.02	0.03	0.04	0.02	0.02	0.03
		0.01	0.00	0.00	0.00	0.00	0.00	0.00
	<b>Total Jobs</b>	<b>1.99</b>	<b>0.17</b>	<b>0.24</b>	<b>0.39</b>	<b>0.24</b>	<b>0.23</b>	<b>0.72</b>
	Workers per Households (c)	1.84	1.40	1.71	1.89	1.93	1.94	1.96
	<b>Number of Households</b>	<b>1.08</b>	<b>0.12</b>	<b>0.14</b>	<b>0.20</b>	<b>0.12</b>	<b>0.12</b>	<b>0.37</b>

Notes:

(a) Based on 2019 HCD Income Limits in order to match PUMS data vintage.

(b) Job estimates are the output of the IMPLAN model. Columns to right may not sum to Total Jobs due to independent rounding.

(c) Average number of workers per worker household by income category calculated based on American Community Survey PUMS Analysis, 2015-2019.

Sources: American Community Survey, 2015-2019, including the Public Use Microdata Sample; CA Department of Housing and Community Development (HCD); IMPLAN; BAE, 2023.

As shown in Table 3, the addition of the workers associated with the commercial space and its impacts results in a small overall increase in the number of worker households from BAE's prior analysis. The 14.99 additional workers would result in 8.57 additional households, 6.48 of them in the extremely low to moderate income range.

**Table 3: Summary of Job and Worker Household Impacts by Income Level**

	Estimated Household Income as a Percent of AMI						Total
	Extremely Low	Very Low	Low	Moderate	Above Moderate	Above 150%	
<b>Total Jobs</b>	2.56	2.74	4.05	1.75	1.40	2.49	14.99
<b>Number of Households</b>	1.83	1.60	2.14	0.91	0.72	1.27	8.47

See previous tables for sources.

## Net Housing Demand/Supply Effect

Aggregating the direct, indirect, and induced job impacts from the preceding tasks, the impacts on housing demand from the commercial component of the Project are extremely small. The following analysis for the entire project including the newly proposed commercial space compares the overall net housing demand to supply.

Overall, the Project by itself is estimated to result in a net demand increase of three housing units (see Table 4). By income, the net demand is concentrated in the two lowest income categories and the moderate income category, with a net increase in demand for 11 units combined for extremely low and very low-income households and 22 moderate income households; this demand is largely offset by the increased supply of low income and market-rate units provided in the Project. Most of the demand is generated by direct jobs in Menlo Park, but the workers would not necessarily live in the city. This demand estimate is extremely small; if the space were occupied by a different use, such as a small retail store with a lower employment density, the overall net demand could be negative (i.e., the Project generates more housing supply than household demand)

**Table 4: Net Housing Demand/Supply**

Change in Number of Households (a)	Estimated Household Income as a Percent of AMI						Total
	Extremely		Above		Above		
	Low	Very Low	Low	Moderate	Moderate		
Due to Closure of Existing Businesses	-9	-11	-17	-12	-12	-42	-103
New Onsite Employment	1	1	1	1	0	1	5
From New Housing (b)	12	35	41	187	124	126	525
Less New Units (c)	0	-22	-44	-154	-114	-98	-432
From New Commercial Space (d)	2	2	2	1	1	1	8
<b>Net New Housing Demand</b>	<b>6</b>	<b>5</b>	<b>-17</b>	<b>22</b>	<b>-1</b>	<b>-12</b>	<b>3</b>

**Notes:**

- (a) Job estimates are the output of the IMPLAN model. Totals may not sum from jobs by income categories due to independent rounding.
- (b) Includes households occupying Project and additional households for workers associated with the induced impacts of the project.
- (c) Some of the market rate rental units have rent levels affordable to the Moderate and Above Moderate income categories.
- (d) Includes households of project workers, workers associated with indirect impacts, and workers associated with induced impacts.

Source: BAE, based on sources as cited in previous tables and previous report.

## Menlo Park Share of Housing Impacts

The following discussion also looks at the entire project, not just the new commercial component, presenting a revised version of the analysis for the entire project as previously analyzed by BAE. This analysis follows the methodology used in BAE's prior analysis of the Project, conservatively assuming that all the housing demand would occur as if the indirect and induced jobs would be in Menlo Park or East Palo Alto rather than assuming the jobs could be anywhere in the Two-County Region.

As shown in Table 5, the American Community Survey reports that 8.9 percent of persons working in Menlo Park are Menlo Park residents. Similar data directly from ACS is not available for East Palo Alto residents working in Menlo Park; however, 2012-2016 ACS data processed for the Census Transportation Planning Package<sup>3</sup> estimates that 3.0 percent of Menlo Park workers live in East Palo Alto.

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**Table 5: Proportion of Jobs in Menlo Park Held by Menlo Park Residents**

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	<u>2015-2019</u>
Total Jobs/Persons Working in Menlo Park	44,958
Persons Living and Working in Menlo Park	4,021
Percent of Persons Living and Working in Menlo Park	8.9%

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Sources: U.S. Bureau of the Census American Community Survey, 2015-2019. 5-Year sample data, Tables B08604 and B08008; BAE, 2022.

Table 6 shows the estimated net lower income housing demand attributable to Menlo Park and East Palo Alto based on the current proportion of Menlo Park workers residing in the two cities, as well as at higher proportions. It is important to note again that this conservatively assumes that all of the households of workers whose jobs are associated with the Project, including the indirect and induced jobs that could occur elsewhere in the Two-County Region, would seek housing in Menlo Park and East Palo at the same rate as for the workers whose jobs are created within Menlo Park itself. Even given this conservative assumption, the impacts in Menlo Park or East Palo Alto are negligible. Overall, the demand and supply of housing generated by the Project are in balance, with almost no net change in overall housing demand from the direct, indirect, and induced jobs generated by the project.

Even increasing the proportion of workers who would seek housing in Menlo Park and East Palo Alto to 25 percent would not result in demand for additional extremely low, and very low, housing, and there would still be a net positive number of low-income units. Going to 50 percent would result in demand for only two or three additional units at each of the two lowest income levels, with a net positive number of low-income units..

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<sup>3</sup> U.S. Census Bureau, American Community Survey 2012-2016 Five-year estimates. Special Tabulation: Census Transportation Planning. This is the most recent data available.



**Table 6: Sensitivity Analysis of Housing Needs in Menlo Park and East Palo Alto**

Change in Number of Households	Household Income Category		
	Extremely Low	Very Low	Low
<b>Net New Housing Demand</b>	6	5	-17
<b>Demand in Menlo Park and East Palo Alto (a)</b>			
Based on ACS (Menlo Park + East Palo Alto)	11.9%		
Needs in Menlo Park and East Palo Alto (b)	1	1	-2
<b>Percent of Workers HHS in Two Cities</b>	25%		
Needs in Menlo Park and East Palo Alto (b)	1	1	-4
<b>Percent of Workers HHS in Two Cities</b>	50%		
Needs in Menlo Park and East Palo Alto (b)	3	2	-8

Notes:

(a) This assumes that the proportion of workers housed in Menlo Park and East Palo Alto would be the same even for the indirect and induced jobs that could be anywhere in the region.

(b) Rounded to nearest whole number.

Source: BAE, based on sources as cited in previous tables.

## Analysis of Impacts on Local and Regional Housing Markets

This section uses the information provided previously in this memorandum, along with BAE’s original analysis, to evaluate the potential impacts that the Project could have on the local and regional housing supply, jobs-housing balance, and displacement pressures. The Project will result in a minimal impact on employment in Menlo Park and will also have only a minimal impact on employment at the regional level. The jobs removed (including direct, indirect, and induced) due to the redevelopment of the project site will be balanced out by the very small number of new jobs onsite including those in the added commercial space and the resulting extremely limited indirect and induced employment linked to those jobs, along with the induced jobs resulting from the local and regional expenditures of the new residents of the Project. As a result, based on the analysis presented in this report, the Project is likely to have a negligible impact on the regional housing market, jobs-housing balance, and displacement pressures.

## Potential Impacts on Housing Supply

The Proposed Project has an estimated overall negligible negative net impact on the regional housing supply (three units), in large part due to the removal of the demand from several job-generating businesses on the project site which is roughly balanced by the number of additional jobs generated by the project combined with the new units produced by the Project. Just within Menlo Park, there are approximately 3,900 units, including the Project, in the pipeline (as shown in the original BAE report). It is likely that many of the new jobs linked to the project would actually be elsewhere in the Two-County Region, so the continued expansion of the housing supply just in Menlo Park, while critical to addressing regional housing challenges, could easily absorb demand from workers attributable to the Project seeking

housing in Menlo Park, even without accounting for units made available through turnover of existing units.

However, it should be noted that the overall net increase in demand is because the potential “oversupply” of low-income and market rate units in the project is greater than the “undersupply” of extremely low, very low, and moderate income units; the analysis shows a net need for an additional 11 units of extremely low and very income housing and 22 units of moderate income housing. This minimal net demand would in reality be spread across the region, but the impacts in Menlo Park and East Palo Alto would still be negligible even if they are all attributed to the two cities.

### **Potential Impacts on Jobs-Housing Balance**

The Project overall is estimated to create slightly fewer units than the net demand from worker households, but the change in demand would not be significantly different from the change in supply, thus resulting in little change in the overall jobs housing balance in the region. Even if the workers in the created offsite jobs all chose to reside in Menlo Park, there would be no meaningful change in the jobs-housing balance in the city. The net difference in housing demand is negligible.

It should be noted again that at the two lowest income levels, there is a very slight net demand for more units, but this net demand is extremely small (11 units) in the context of the overall jobs-housing balance for Menlo Park or especially the region.

### **Potential Displacement Impact Findings**

Displacement and gentrification are a key issue locally and throughout the region and addressing the cumulative impact of the Project and other projects that generate new housing demand will be essential to assessing housing needs and mitigating displacement pressures over the long term. However, given the very limited potential impacts of the Project on the local and regional housing supply and jobs-housing balance, the project is not likely to have a perceptible impact on local and regional displacement pressures. Furthermore, the Project is located in an area that is transitioning from commercial and industrial uses to mixed use development including residential, rather than being located in existing residential neighborhoods in Menlo Park such as Belle Haven, or in East Palo Alto, where lower income households are currently concentrated. Due to the regional nature of the housing market, the Project is unlikely to have any measurable impact on displacement pressures in Menlo Park and East Palo Alto.

## **Limiting Conditions**

This study presents an assessment of current and potential future housing needs in Menlo Park, based on the identified data sources. It has been prepared to inform the decisions of the City regarding the Project and is not intended to be used to support any decision regarding the feasibility of the project or any other proposed development. Because of the limitations of the scope of this study, available data including any errors by data providers, and the methodologies used, along with the uncertainty inherent in long-term projections, actual future conditions may vary considerably from what is presented here. Market conditions are dynamic, and the analysis and findings presented in this study are subject to change at any time after the publication of this study, based on changes due to macroeconomic conditions at the global, national, and regional level; changes in legislation, regulations, and public policy actions; and decisions by developers, investors, firms, lenders, and other parties that may impact local market conditions and development potential.



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# **Appendix L1**

## Menlo Park Fire Protection District Emergency Services and Fire Protection Impact Fee Nexus Study



# Menlo Park Fire Protection District Emergency Services and Fire Protection Impact Fee Nexus Study



February 2016

## Executive Summary

The Menlo Park Fire Protection District (MPFPD) was created in 1916 as an independent Special District. MPFPD provides emergency services consisting of fire protection, prevention, emergency medical, technical rescue, hazardous materials, disaster preparedness and public education, as well as other important, related emergency services. MPFPD provides these services to the Town of Atherton, the Cities of East Palo Alto and Menlo Park and to portions of unincorporated areas of San Mateo County.

New development and the intensification of existing land uses are expected to occur within the MPFPD's service area boundaries over the next few years. The population and employment growth will lead to increased numbers of service calls and will create a need for additional facilities and equipment to maintain MPFPD's level of service. Additionally, new development and intensification of existing land use will likely lead to the construction of taller buildings, increased traffic congestion, and greater service call volume. These changes will result in the need for additional apparatus, new/specialized equipment and further personnel, all of which will require either an expansion or relocation of existing fire stations.

MPFPD has limited funding sources to upgrade or expand existing resources. The primary objective of the proposed Emergency Services and Fire Protection Impact Fee Program is to ensure that new development funds its fair share of the costs of needed capital facilities to serve growth within MPFPD's boundaries. These capital facilities include fire stations and buildings, emergency response vehicles and other fire protection and emergency equipment.

This Emergency Services and Fire Protection Impact Fee Nexus Study provides the necessary technical documentation to support the adoption and implementation of a District-wide Emergency Services and Fire Protection Impact Fee Program that will fund the fire protection capital facilities for the MPFPD. This study demonstrates the relationship, or nexus, between the need for capital facilities to serve new development and the type and amount of impact fees that would ensure new development pays its fair share of capital facilities. The Emergency Services and Fire Protection Impact Fee (Impact Fee) calculated in this study represents the maximum supportable fee burden (the "fair share") that could be charged on new development for which there is a reasonable nexus and proportional relationship. Due to economic and/or policy considerations, the MPFPD may elect to adopt fees that are below the maximum supportable level.

The proposed Impact Fee could be adopted under the authority allowed by Assembly Bill 1600 (the "Mitigation Fee Act"), contained in Section 66000 and subsequent section of the California Government Code as described in **Chapter I** of this study. Assembly Bill 1600 established a process for local governments and districts to formulate, adopt, impose, collect and account for impact fees. Per Assembly Bill 1600, cities hold the legal authority to impose fees on behalf of MPFPD within their city limits. Similarly, San Mateo County has the authority to impose impact fees on its unincorporated areas.

The proposed Impact Fee would be levied on new residential and non-residential development within MPFPD's boundaries. This study presents why capital improvements will be needed to accommodate new development and describes the types of capital improvements to be funded by the fee. The fee computation utilizes the Standards of Cover (SOC) Assessment prepared for the District and presented



to the Board for review in June 2015 to help identify facilities required by new development,<sup>1</sup> the District's current CIP (adopted by the Board of Directors on 6/16/2015), and the MPFPD FY2015-16 budget.

The proposed Impact Fee could be levied on all new development (including the intensification of land use, such as secondary housing units) leading to an increased demand for services. The proposed Impact Fee on residential and non-residential development of various types is summarized in Executive Summary Table S-1, below.

Because future development and fire service costs may vary from the projections in this report due to future events not fully known at this time, implementation of the impact fee includes periodic review and update to assure that the fee amounts and fees collected are sufficient to fund improvements, and that the fees do not exceed new development's proportionate share of the costs. These reviews may require that the amount of the fees be modified.

**Table S-1**  
**Summary of Proposed Fire Protection Impact Fee by Land Use**  
**2016 Fire Protection Fee Nexus Study - MPFPD**

<b>Land Uses</b>	<b>Rates based on Planned Growth (1)</b>	
<b>Residential Uses</b>		
Base Rate	\$299	per service population
Single Family	\$879	per dwelling unit
Multi Family	\$655	per dwelling unit
2nd Unit	\$655	per dwelling unit
Other Unit Types	\$299	per service population
<b>Non-Residential Uses</b>		
Base Rate	\$173	per employee
Retail	\$433	per 1,000 gross sqft
Hotel	\$347	per 1,000 gross sqft
Office - R&D	\$572	per 1,000 gross sqft
Industrial	\$217	per 1,000 gross sqft
Other Unit Types	\$173	per employee

(1) Allowable fee rates are based on growth as projected by ABAG, Placeworks for Menlo Park; and AECOM for East Palo Alto. See Table 1 for detailed growth projections. Employment is counted as 58% of resident for purposes of study

Sources: AECOM; Placeworks; ABAG; Menlo Park Fire Protection District.

<sup>1</sup> Standards of Cover Assessment, Citygate Associates (June 16, 2015).

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## I. Introduction

The Menlo Park Fire Protection District (MPFPD) provides emergency and fire protection services to the Town of Atherton, the Cities of East Palo Alto and Menlo Park, and to portions of unincorporated areas in San Mateo County. This Emergency Services and Fire Protection Impact Fee Nexus Study, also referred to as the “Nexus Study” provides the necessary technical documentation to support the adoption and implementation of a District-wide Emergency Services and Fire Protection Impact Fee Program to ensure that new development funds its fair share of the cost of MPFPD’s fire protection facilities and emergency response vehicles.

### A. Organization of the Nexus Study

- **Chapter I** of this study provides an overview of legislative requirements of the Mitigation Fee Act (MFA) and describes the purpose of the proposed Emergency Services and Fire Protection Impact Fee (Impact Fee). It describes the methodology used to calculate the fee and lists the key assumptions and sources for the Nexus Study.
- **Chapter II** describes the relationship between impact fees and demographic data and summarizes population and employment growth projections (expected service population) for areas served by MPFPD and its capital facilities.
- **Chapter III** describes MPFPD fire protection response time service standards, describes MPFPD’s capital improvements needed to serve demand from new development, and estimates new development’s share of the cost of those facilities.
- **Chapter IV** describes the types of development (land use) on which the fee will be imposed and calculates fees for each use.
- **Chapter V** describes program implementation issues, including fee adjustments and credits for in-kind construction and contributions.
- **Chapter VI** summarizes the nexus findings from this study as required by the MFA. The Appendices provide supporting information and calculations for the findings.

### B. Overview of Legislative Requirements

Impact fees are governed by the California Government Code Sections 66000-66008, commonly referred to by their 1987 authorizing legislation Assembly Bill 1600 or the title provided by the legislature, “the Mitigation Fee Act (MFA).” The MFA establishes a process for local governments and districts to formulate, adopt, impose, collect and account for impact fees. The Town of Atherton, Cities of East Palo Alto and Menlo Park and San Mateo County (the jurisdictions within the MPFPD boundaries, collectively referred to as Local Agencies in this study) have the legal authority to impose fees on development projects on behalf of the MPFPD within their jurisdictional limits. Each local agency will consider the adoption of the proposed fee.

Under the MFA, an “impact fee” is a monetary exaction (other than a tax or assessment) used to defray all or a portion of the cost of additional public facilities needed to provide service to new development. The MFA stipulates that local governments and districts may only charge fees on new development for which public facilities and improvements are needed and that the amount of the fee must be in reasonable proportion to that need.

In order to adopt the proposed Impact Fee, a “nexus” (or, a reasonable relationship) must be demonstrated between the amount and type of the fee and the need for additional public facilities in order to serve new development. This study provides the necessary documentation for the Local Agencies to adopt the proposed fee, including the following required components:

- Purpose of the fee;
- Description of the use or improvements for which the fee will be used; and
- Demonstration of a reasonable relationship between:
  - Use and the type of development on which the fee is imposed,
  - Need for the public improvements/facilities and the type of new development which will benefit from them, and
  - Amount of the fee and the cost of the public facility attributable to the new development on which the fee is imposed.

The proposed fee will fund fire protection capital facilities that will serve projected growth within the MPFPD boundaries. These capital facilities include fire stations and buildings, fire protection vehicles and other fire protection and emergency equipment for MPFPD (for purposes of this Nexus Study, these capital facilities are collectively referred to as fire protection facilities).

### **C. Purpose of the Emergency Services and Fire Protection Impact Fee**

MPFPD was created in 1916 as an independent Special District that is currently governed by five Board of Directors who are elected and delegate authority to the Fire Chief to manage the organization. MPFPD provides emergency services consisting of fire protection, prevention, emergency medical, technical rescue, hazardous materials, disaster preparedness and public education as well as other important, related emergency services. MPFPD provides these services to the Town of Atherton, the Cities of East Palo Alto and Menlo Park and to portions of unincorporated areas of San Mateo County (see Figure 1, MPFPD service area).

MPFPD has seven stations, which are currently staffed at the minimum levels needed to provide adequate fire services. Based on information provided by MPFPD, the District’s current service level is approximately 0.87 fire safety personnel positions per 1,000 population served and the District’s daily safety front line staffing is comprised of 25 Firefighters and 1 Battalion Chief. MPFPD’s current average response time for the arrival of the first due engine is 6.34 minutes.<sup>2</sup> In 2013, the Insurance Services Organization (ISO) completed the Public Protection Classification (PPC) survey, which evaluates structure fire suppression capabilities for fire agencies. MPFPD received a Class 2 classification.<sup>3</sup> MPFPD’s fire protection facilities are the critical factor to maintain its service standards.

“The Fire District’s deployment system meets the current system demands but is becoming strained, especially east of Highway 101 and needs adjustment soon, as growth occurs. Traffic congestion is also an increasing problem as communities the District protects continue to evolve. The District’s growing employment base and regional post-recession economic recovery is yielding intense traffic congestion at

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<sup>2</sup> Per Standards of Coverage Final Report Executive Summary.

<sup>3</sup> Among approximately 47,000 fire agencies nationwide, 61 are designated as Class 1 agencies, 592 are designated as Class 2 agencies and the remaining fire agencies received a Class 3 or higher classification. While MPFPD has not formally adopted the ISO as a standard, it serves as a national measuring tool to evaluate MPFPD’s capabilities.

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rush hours. The GIS travel time analysis in the Standards of Cover study and prior incident travel time data for the District responses clearly show the substantial hindrance this causes to emergency response travel in the District.”<sup>4</sup>

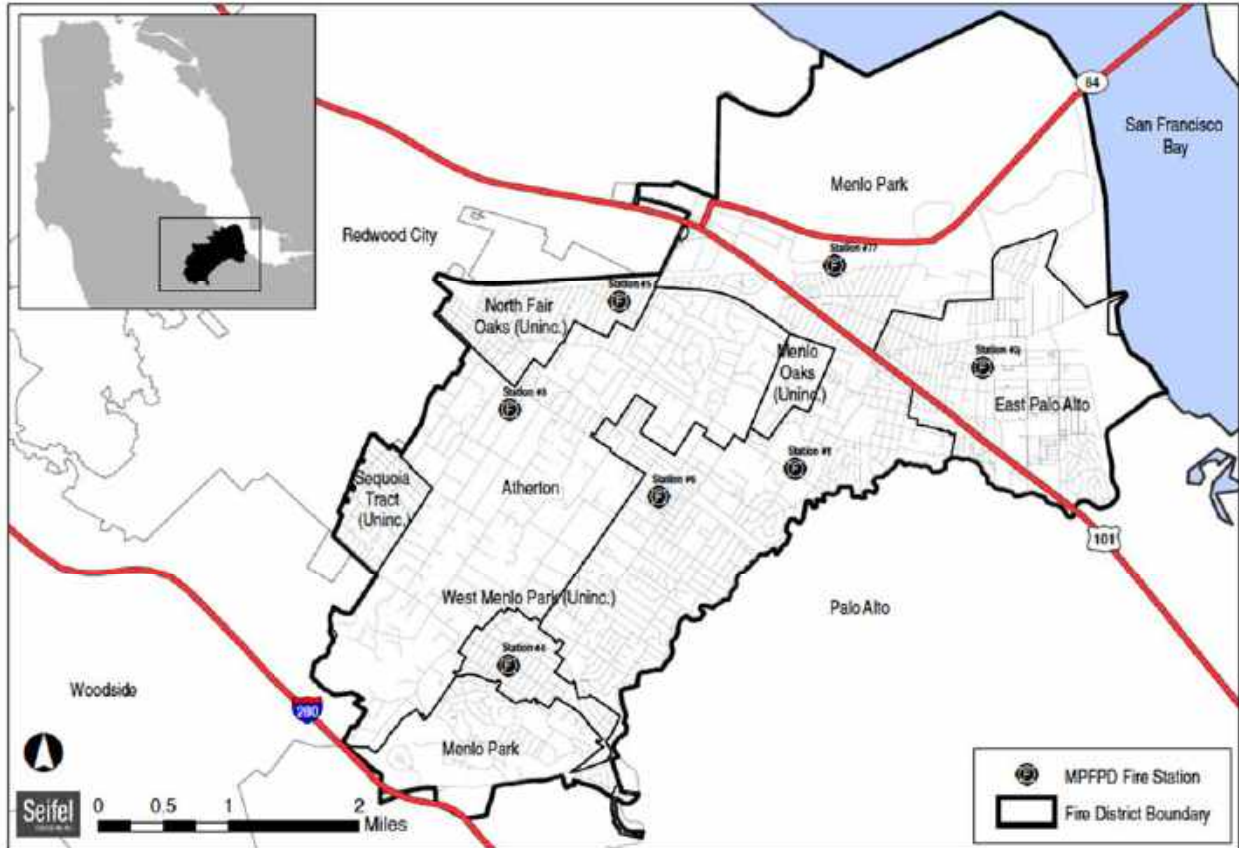
MPFPD faces operational challenges as a result of ongoing and increasing traffic congestion, most notably along Marsh Road, Willow Road and University Avenue. In order to navigate through congestion during peak hours, MPFPD vehicles drive against the flow of traffic with increasing frequency. Traffic congestion also affects non-emergency operations, decreasing the efficiency of everyday travel for routine activities such as fire prevention inspections, maintenance and supply purchases. In order to provide adequate cover for the entire district, MPFPD re-positions resources to prevent gaps in coverage, however as traffic congestion increases so does the time it takes for reposition apparatus which leads to longer response times. Greater challenges exist when units from the City side (West side of 101) respond to the Bay side (East side of 101).

As described in **Chapter II**, new development and the intensification of existing land uses are expected to occur within the MPFPD boundaries. Population and employment growth will increase service call volume and traffic congestion which will create a need for additional facilities and equipment to maintain MPFPD response time goals and staffing ratios. New development and intensification of existing land use will also result in increased development and the construction of taller buildings. These changes will result in the need for additional apparatus, new and specialized equipment and additional personnel, all of which will require either an expansion or relocation of existing fire stations in order to maintain MPFPD’s current service standards.

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<sup>4</sup> Per Standards of Coverage Final Report section 5.2 Service Demand for 2014

**Figure 1**  
**MPPFD Service Area**  
**Emergency Services and Fire Protection Impact Fee Nexus Study**  
**Menlo Park Fire Protection District**



MPFPD's capital improvement projects have been funded primarily by the General Fund and Certificates of Participation (COPs). For example, the recent reconstruction of Fire Station 2 and construction of the Administration/Fire Prevention Building were partially funded General Fund and partially funded by the Certificates of Participation. However, these funding sources are not sufficient alone to upgrade or expand fire protection facilities to serve new development.

MPFPD is dependent upon property tax for revenues to the General Fund, which have fluctuated significantly during the past decade. While the annual growth rate of property tax revenues increased annually through FY 2008/09, the recent economic recession slowed the rate of growth to less than 1 percent in fiscal year 2010/2011, according to the adopted Fiscal year 2015/16 MPFPD budget. Although the local economy has significantly recovered in the past two fiscal years, future property tax growth is not guaranteed, as it is dependent upon local economic climate and activity. However, in recent years assessed values have increased more than expected.

MPFPD budgeting philosophy states that ongoing expenditures will be funded by ongoing revenues. Therefore property tax revenues are used to fund ongoing operating expenditures such as salaries and benefits, training, small tools and equipment, maintenance and repair services and supplies, fuel, utilities, insurance, as well as other operating expenses. Property tax revenue depends on economic conditions and has varied over time. The MPFPD has been able to build up reserves in recent years as a result of increased property tax revenue from the recovered economy and strong growth in real estate values. These reserves can help to partially fund capital improvements, including the share of improvement costs attributable to existing development. The use of impact fees equitably allocates a share of new facility costs to new development to help assure the facilities can be provided without adverse impacts on existing residents. New development will also generate the need for additional personnel and increased operating expenditures which are not funded by impact fees. However, to the extent new development results in increased property tax revenues, these revenues can be used to pay, in part, increases in ongoing operating expenditures not covered by an impact fee.

The primary objective of the Emergency Services and Fire Protection Impact Fee Program is to ensure that new development helps to fund the one-time costs of expanding fire protection capital facilities to serve growth within the MPFPD boundaries. These capital facilities include fire stations and buildings, fire protection vehicles and other fire protection and emergency equipment, as further described in **Chapter III**. MPFPD's emergency services are operated and maintained on a district-wide basis to assure consistent level of service to all areas. Thus, it is reasonable to establish an impact fee program that is consistent throughout the MPFPD boundaries, as described further below.

#### **D. Methodology for Emergency Services and Fire Protection Impact Fee Calculation**

In order to determine the amount of the impact fee to be charged to new development, MPFPD must determine baseline conditions (existing resident and employee populations) and the total projected new growth in population and employment, and intensification of existing land use within the MPFPD boundaries. The difference between the two reflects the amount of new development on which an impact fee may be levied. The fee methodology creates one fee rate per service population, which equals 100% of population and 58% of employment. This study establishes the nexus between the impacts stemming from new development and the amount of the fee imposed based on the following steps:



- **Step 1** – Estimate existing and expected future levels of population and employee growth, based on data available from Placeworks (a planning consultant for the City of Menlo Park that has provided development, population and employment growth projections to the City), the Association of Bay Area Governments and local jurisdictions.
- **Step 2** – Estimate the service population served based on new development and intensification of use projections. The service population served is the aggregate population that generates demand for MPFPD’s services and is comprised of new residents and new employees that will be served by MPFPD.
- **Step 3** – Establish the new and/or expanded facilities needed by new development and estimate the total capital cost needed to provide these facilities.
- **Step 4** – Determine new development’s fair share of capital costs to maintain fire protection service standards in the future as the population served increases as a result of new development and estimate a base cost per service population rate.
- **Step 5** – Determine the appropriate impact fee level for each development type based on the future population served and new development’s proportionate allocation of the cost of needed facilities and/or improvements.

## E. Key Assumptions and Sources

The impact fee calculations are based on a variety of conditions and assumptions regarding growth projections, as well as the inventory and cost of recently constructed fire protection facilities, such as fire stations and buildings, fire protection vehicles, and other fire protection equipment. These assumptions are discussed in detail in later chapters and are summarized below:

- **Growth Projections** – The base year for this study is 2015. The future year is 2035 or a 20-year horizon. The base year and future population and employment for the City of Menlo Park are from the proposed ConnectMenlo General Plan Update. The proposed General Plan Update has been in processing over a year and is scheduled to be considered by the City Council for adoption in August 2016. Therefore, the District believes the proposed land use changes and associated development in General Plan Update represent reasonable assumptions regarding future service population growth in the City of Menlo Park. The City of East Palo Alto’s base year for population and employment is based on ABAG Projections 13 and future population and employment is based on data from the “Development Impact Fee Program Nexus Study” prepared for the City of East Palo Alto by AECOM in 2013. Base year and future population and employment for the Town of Atherton and unincorporated areas of San Mateo County are based on California Department of Finance and ABAG Projections 13.
- **Capital Improvement Program** –The MPFPD’s FY2015-16 Capital Improvement Program includes an annual plan for facilities and equipment needed to serve both existing and future development. Land value and improvement cost of fire stations and buildings are primarily based on the recent land acquisition and construction costs associated with Fire Stations 2 and 6, and the Administration/Fire Prevention Building. Costs of new vehicles and equipment are calculated based on the average replacement costs for the current stock of vehicles and equipment. All figures are presented in constant 2015 dollars.
- **Standards of Cover (SOC)** – The SOC document identifies current and future facilities and equipment needed to serve existing and future development, while achieving its recommended

levels of service. The cost of those facilities and equipment provide the basis for the impact fee calculation.

The analysis presented in this study has been gathered from the most reliable sources available to MPFPD staff. The estimates and projections of current and future information assembled and provided herein are intended solely for the purpose of establishing reasonable estimates for use in this study. While the MPFPD believes these estimates are reasonable and are based on the best available information at the present time, future population, employment, service and facility requirements may vary based on numerous factors not fully known at this time. Implementation of the impact fee will include provisions to review and update the fee in the future in order to adjust for future changes in assumptions every five years.

Some of the costs and calculations shown in this study are rounded. All numbers are expressed in constant 2015 dollars.

## II. Growth Projections

**Chapter II** describes the relationship between impact fees and demographic data, as well as summarizes population and employment growth projections and estimates expected service population served by MPFPD's capital facilities.

### A. Relationship between Impact Fees and Demographic Data

Demographic data for existing and projected new development provide the foundation for the computation of impact fees. This section describes the ways in which data presented in this study are used in calculating the Impact Fee.

Demographic data is essential in apportioning the costs of needed services and facilities to future residents and employees. For the purpose of this analysis, existing development is defined as development built as of 2015. Future development is development planned to occur from 2015 onward. For planning and forecasting purposes, the planning horizon for this study is the time period from 2015 through 2035 or a 20-year period, consistent with most general plan planning horizons.

The Impact Fee is calculated using baseline statistics for existing residential and employee population for 2015 and projected residential and employee population in 2035. "Resident Population" is the measure of total population within the MPFPD boundaries. Employee Population refers to existing and projected jobs by location. "Population Served" (or "Service population") is the measure of the aggregate population and employment that will generate demand for the MPFPD services, including all residents in the MPFPD boundaries and those employees who work within the MPFPD boundaries but reside elsewhere. For this study, Service Population is equal to 100% of population and 58% of employees. That is, employees are not assumed to generate as much demand for services as residents given that they only spend a portion of their time in the District working. Demographic data for both residential and employee populations within the MPFPD boundaries in 2015 and 2035 are used to calculate current and projected service demand populations, as further described below.

### B. Growth Projections

This section summarizes existing residential population and employment and provides projections of future growth. Estimates of the existing residents and employment and projections of growth are critical assumptions used throughout this study. These estimates and projections are used as the basis for the following:

- 1) Estimating fire protection facilities to accommodate growth;
- 2) Allocating facility costs per unit of development (for fee schedules);and
- 3) Estimating future fee revenues.

MPFPD is anticipated to face significant new development within its boundaries through 2035. In addition to Facebook's recently opened West Campus, additional planned projects include Facebook's planned new development on the TE site and old Prologis Site, the Menlo Gateway project (all east of 101), the Commonwealth Corporate Center project, and downtown development allowed by the Menlo Park Downtown Specific Plan, all located in Menlo Park, and future development at the Ravenswood/Four Corners Plan area in East Palo Alto. Furthermore, the Cities of East Palo Alto and

Menlo Park are working towards the completion of the update of their General Plans that will intensify land use development, especially within the M-2 zoning area in Menlo Park east of Highway 101.

Base year and future residential population and employment for the City of Menlo Park is based on data from the proposed "ConnectMenlo General Plan Update." The proposed General Plan Update for Menlo Park has been in processing over a year and is scheduled to be considered by the City Council for adoption in August 2016. Therefore, the District believes the proposed land use changes and associated development in General Plan Update represent reasonable assumptions regarding future service population growth in the City of Menlo Park. For the City of East Palo Alto, base year is from ABAG Projections 13 and future residential population and employment is based on the "Development Impact Fee Program Nexus Study" prepared for the City of East Palo Alto by AECOM in 2013. For the Town of Atherton and the unincorporated areas of San Mateo County (within the MPFPD boundaries), base year and future residential and employment population is based on ABAG projections.

### **Residential Growth**

**Table 1** summarizes the growth of residential population within the MPFPD boundaries between 2015 and 2035. As shown, approximately 26,900 additional persons are expected to reside within the MPFPD boundaries during the planning horizon as a result of new residential development. The City of Menlo Park is estimated to experience the greatest total residential population growth, accounting for nearly 52 percent of all new residents that will be added within the MPFPD boundaries through 2035.

### **Employment Growth**

As shown in **Table 1**, existing employment within the MPFPD boundaries is estimated at 41,000. Based on adjusted 2035 projections, employment is estimated to grow by 25,300 jobs over the planning horizon. The City of Menlo Park is estimated to experience the greatest total employment growth, accounting for nearly 70 percent of all new jobs that will be added within the MPFPD boundaries through 2035.

**Table 1**  
**Population and Employment Estimates - 2015 and 2035**  
**2016 Fire Protection Fee Nexus Study - MPFPD**

Projections/City-Area	Population				Employment				Service Population (5)			
	2015	2035	Growth	% Inc.	2015	2035	Growth	% Inc.	2015	2035	Growth	% Inc.
<b>Proposed New Projections</b>												
Atherton (1)	7,100	7,700	600	8.5%	2,730	3,080	350	12.8%	8,683	9,486	803	9.2%
East Palo Alto (2)	29,200	37,100	7,900	27.1%	2,920	9,171	6,251	214.1%	30,894	42,419	11,526	37.3%
Menlo Park (3)	32,900	46,860	13,960	42.4%	30,910	48,678	17,768	57.5%	50,828	75,093	24,265	47.7%
Unincorporated San Mateo (4)	18,630	23,054	4,424	23.7%	4,410	5,386	976	22.1%	21,188	26,178	4,990	23.6%
<b>Total District</b>	<b>87,830</b>	<b>114,714</b>	<b>26,884</b>	<b>30.6%</b>	<b>40,970</b>	<b>66,315</b>	<b>25,345</b>	<b>61.9%</b>	<b>111,593</b>	<b>153,177</b>	<b>41,584</b>	<b>37.3%</b>

(1) Population and employment estimates for Atherton are from ABAG Projections 13.

(2) Population and employment estimates for East Palo Alto are from:

"Development Impact Fee Program Nexus Study" prepared for City of East Palo Alto by AECOM (December 12, 2013).

See Table 1, page 16; figures are for entire city with RBD, and adjusted from 2010 to 2035 to 2015 to 2035, on a prorata basis.

Population and employment base year estimates are from ABAG 13.

(3) Population and employment estimates for Menlo Park are from:

"ConnectMenlo General Plan Update" project description, Table 3-2 Existing and Planned 2040 Horizon Year Buildout Projections

Figures have been adjusted for 2015 to 2035, on a prorata basis. From City Council Staff Report 15-149-CC, page 49 of PDF.

(4) Population and employment estimates for the unincorporated areas projections were derived from

ABAG Projections 2013 and CA State Dept. of Finance estimates dated January 1, 2015.

Figures have been reduced on a prorata basis, to 2035 or by 5 years.

(5) Service Population shown equals Population + Employment x 0.58

Sources: AECOM; Placeworks; ABAG; CA Dept of Finance; Menlo Park Fire Protection District.

## Summary of Existing and Future Service Population

The previous sections described the existing development within the MPFPD boundaries in 2015 and the projected foreseeable residential population and employment growth through 2035. This section presents estimates of the "Service Population" in 2015 and in 2035. Service Population is a reasonable indicator of facility demand because fire facilities support fire protection services for both residential and non-residential development. As described in **Chapter I**, the impact fee nexus is determined based on new development's fair share of capital costs to maintain MPFPD's existing fire protection service standards in the future as the population served increases as a result of new development.

This nexus study uses a factor (or ratio) of 0.58 employees per resident to calculate the employee component of service population (based on analysis of MPFPD staff hours that were spent on service calls to residential and non-residential property types).<sup>5</sup> For the purposes of having a common measurement of resident and non-resident employees, the term "resident equivalent" is also used in this study (i.e. an employee is considered to be the equivalent of 0.58 residents).

As shown in **Table 1**, the service population in 2015 is approximately 111,600 with a forecasted increase of approximately 41,600 between 2015 and 2035 or an increase of about 37%.

<sup>5</sup> Citygate Associates analyzed annual MPFPD staff hours for 2013 and 2014 by incidents and by property use.

### III. New Development's Share of Needed Facility, Vehicle and Equipment Costs

**Chapter III** discusses the MPFPD fire protection service standards, capital improvement costs, and estimates new development's fair share of capital costs to maintain service standards in the future.

**Chapter III** also describes MPFPD's capital improvements needed to accommodate new development.

#### A. Existing Fire Facilities

MPFPD currently has seven fire stations, a mechanical repair and water rescue facility, and an administrative office building spread throughout the 33-square mile service area, as shown in **Figure 1** in **Chapter I**. MPFPD's facility distribution averages one Fire Station every 4.7 square miles within the service area. The nearest MPFPD Fire Station to any one MPFPD Fire Station is less than 2 miles away. The quantity, location and proximity of Fire Stations is important as it is a reasonable indicator of MPFPD's ability to serve the district. At a minimum, MPFPD maintains a ratio of three personnel to one fire engine at each of the seven fire stations. In addition, the District staffs a Battalion Chief and a single ladder truck, which is staffed with four personnel. MPFPD is currently staffed at the standard levels needed to provide adequate fire services. MPFPD also staffs approximately 20 support personnel comprised of Administrative personnel, Fleet services and other support related positions.

MPFPD responds to approximately 8,547 incidents in 2015, or about 23.41 incidents per day. Of those incidents, approximately 2.16% were fires, 64.72% were emergency medical service calls (EMS), and 33.12% were other types of incidents.<sup>6</sup> MPFPD's current average response time for the arrival of the first due engine is 6:34 minutes, while the County's standard and the recommended average response time per the Standards of Coverage report is 7:00 minutes. In 2013, ISO completed the Public Protection Classification (PPC) survey, which evaluates structure fire suppression capabilities for fire agencies. MPFPD received a Class 2 classification.<sup>7</sup> MPFPD's fire protection facilities vehicle and equipment are the critical factor in meeting service standards and MPFPD will need additional fire protection facilities, vehicles and equipment to accommodate new development to maintain its current service standards.

The following section summarizes the recent SOC document prepared for the MPFPD. The SOC document recommends a response time standard, and identifies facilities and vehicles necessary to serve additional service needs from new development, while maintaining the response time standards.

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<sup>6</sup> Per District's internal incident tracking software: Firehouse.

<sup>7</sup> Among approximately 47,242 fire agencies nationwide, 61 agencies are designated as Class 1, 592 agencies are designated as Class 2 and the remaining fire agencies received a Class 3 or higher classification. While MPFPD has not formally adopted the ISO as a standard, it does serve as a measuring tool to evaluate MPFPD's capabilities.

## **B. Fire Protection Service Standards and SOC Report**

The SOC study prepared in 2015 for the MPFPD recommended service standards subsequently adopted by the MPFPD:

**The goal of first response unit shall be to arrive on the scene of all code 3 emergencies within 7 minutes, 90% of the time from the receipt of the 9-1-1 call in the dispatch center and the goal of multi-unit responses shall be to have all units on scene within eleven minutes from the time of the 9-1-1 call in the dispatch center.<sup>8</sup>**

The SOC study also identified a number of improvements that would be necessary to serve demand created by new development. These improvements included the following:

1. To ensure the District can also add other units as needed east of Highway 101, Station #77 should be rebuilt and expanded to accommodate at least two fire crews.<sup>9</sup> The station currently houses one crew that serves existing development. The Fire Station #77 property is not owned by the District. The rebuilding and expansion of Fire Station #77 will likely require acquisition of property for the new Station.
2. If expansion of Station #77 is not enough to maintain adopted response times, the SOC proposes longer-term that the District should plan to add a reliever unit (e.g., a 2-firefighter Fast Response Rescue Squad) to assist with peak hour incidents inside traffic-congested areas.<sup>10</sup>
3. The SOC study also recommended options for adding ladder truck coverage on the east side of Highway 101 to respond to increased demand; this option would add a second front line ladder truck and would require the relocation of the existing ladder truck from Station 1 to provide broader coverage on the west side of Highway 101 which could lead to the expansion of Station #4.<sup>11</sup>

These improvements have been included by the MPFPD in their Capital Improvement Plan, and a share of the cost of these facilities and apparatus has been allocated proportionately to new development. The following sections describe these improvements and costs in greater detail.

## **C. Capital Improvement Projects and Use of Fee Revenues**

MPFPD has assessed future facility needs to maintain its existing fire protection service standards and has prepared a capital improvement plan including short- and long-term capital improvement projects and the estimated costs associated with these improvements, considering the cumulative impact of new development and intensification of land use projected through 2035. Land values and building improvement costs are primarily based on the recent land acquisition and construction costs associated with Fire Stations 2 and 6 and the Administration/Fire Prevention Building.

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<sup>8</sup> MPFPD Board of Directors Resolution 1818-2015, Meeting Date: 9/15/2015.

<sup>9</sup> Standards of Cover Volume 2 of 3 Technical Report: Section 7 Next Steps – Short Term Steps #4

<sup>10</sup> Standards of Cover Volume 2 of 3 Technical Report: Section 7 Next Steps – Long Term Steps #2

<sup>11</sup> Standards of Cover Volume 1 of 3 Executive Summary: Section 1.4

**Table 2** shows the MPFPD’s Capital Improvement Plan (CIP) and **Table 3** identifies the proportionate share of costs for facilities and vehicles attributable to new development.<sup>12</sup> The impact fee is calculated based on the costs attributed to new development, and will be used to fund new development’s proportionate share of the costs of those facilities. Proposed new improvements include the following:

- **New Apparatus** (1 additional ladder truck/quint and 1 smaller apparatus such as a Rescue squad or Heavy rescue vehicle, including equipment) – MPFPD currently has one front line ladder truck. However, MPFPD will require a second ladder truck due to increasing population and the addition of proposed elevated structures. With only one ladder truck, MPFPD would locate the ladder truck near the middle of MPFPD’s service area, which can lead to longer response times. If an emergency required a second ladder truck, a neighboring jurisdiction would provide the second ladder truck through “automatic aid.”<sup>13</sup> Having two front line ladder trucks would allow MPFPD to strategically place the ladder trucks on the east side and west side of the District at stations located near existing and proposed elevated structures, thus improving response times. A new squad vehicle will help to address increased service demand from incidents related to worsening traffic congestion due to increased employees and residents. These vehicle costs are attributable 100 percent to demand generated by new development.
- **Relocation, Expansion, Remodeling and/or New Construction of Fire Stations** – While MPFPD currently does not have a plan to increase its number of fire stations, most of the existing fire stations will need to be upgraded and/or expanded within the next 25 years due to population growth and building age. MPFPD has identified at least two fire stations (Station #4 and Station #77) which are proposed to be rebuilt and potentially relocated in order to respond to demand from new development and maintain service standards including response times. The costs for these expansions have been allocated 50 percent to new development; the expansions effectively double the capacity of the stations, and the additional capacity is needed for additional vehicles and staff to serve new development.

The total cost of the Capital Improvement Plan from 2015 to 2035 is \$82,089,500. The share of costs attributable to new development is 15% or a total \$12,068,500 as shown in **Table 3**. The allocation factors by project were estimated by District staff and represent the share of each project triggered by planned new Service Population. These costs are allocated to projected service population in the MPFPD to calculate the fee, as described in the following section.

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<sup>12</sup> The MPFPD’s CIP was developed using the MPFPD adopted five year CIP plan, the District’s vehicle and apparatus replacement schedule and the 2012 facilities condition assessment developed by CH2Mhill.

<sup>13</sup> MPFPD has working agreements with the City of Palo Alto Fire Department, the City of Redwood City Fire Department, Woodside Fire District, along with others to provide automatic aid.

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**Table 2**  
**2015-2035 Capital Improvement Plan Summary - 2015 Dollars**  
**2016 Fire Protection Fee Nexus Study - MPFPD**

Capital Improvement Plan Summary- 2015 Forecasted Expenditures									
Facility	2015-16	2016-17	2017-18	2018-19	2019-20	2020-25	2025-30	2030-35	Total
<b>Buildings</b>									
Admin. & Fire Prevention	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Station 1 & Training Facility	\$0	\$75,000	\$250,000	\$3,000,000	\$5,000,000	\$4,678,472	\$0	\$0	\$13,003,500
Station 2	\$4,363,422	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$4,363,400
Station 3	\$0	\$0	\$0	\$0	\$0	\$0	\$1,000,000	\$5,292,842	\$6,292,800
Station 4	\$0	\$0	\$0	\$0	\$75,000	\$9,993,548	\$0	\$0	\$10,068,500
Station 5	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$6,292,842	\$6,292,800
Station 6	\$1,500,000	\$3,300,000	\$3,300,000	\$1,500,000	\$0	\$0	\$0	\$0	\$9,600,000
Station 77	\$0	\$0	\$0	\$0	\$0	\$0	\$10,068,548	\$0	\$10,068,500
Station 77 Ancillary Bldgs	\$0	\$0	\$0	\$0	\$0	\$0	\$1,000,000	\$0	\$1,000,000
<b>Subtotal</b>	<b>\$5,863,422</b>	<b>\$3,375,000</b>	<b>\$3,550,000</b>	<b>\$4,500,000</b>	<b>\$5,075,000</b>	<b>\$14,672,020</b>	<b>\$12,068,548</b>	<b>\$11,585,684</b>	<b>\$60,689,500</b>
<b>Apparatus</b>									
Fire Engine	\$595,000	\$0	\$1,190,000	\$1,190,000	\$0	\$1,190,000	\$2,975,000	\$1,190,000	\$8,330,000
Ladder Truck	\$0	\$0	\$0	\$1,700,000	\$0	\$0	\$0	\$3,400,000	\$5,100,000
Ladder Truck (New)	\$0	\$0	\$0	\$1,700,000	\$0	\$0	\$0	\$0	\$1,700,000
Squad (New)	\$0	\$0	\$0	\$0	\$0	\$0	\$300,000	\$0	\$300,000
Patrol Pumper	\$190,000	\$0	\$0	\$200,000	\$0	\$0	\$0	\$390,000	\$780,000
BC Command Vehicle	\$0	\$0	\$0	\$110,000	\$0	\$0	\$110,000	\$110,000	\$330,000
Airboat	\$0	\$0	\$0	\$0	\$80,000	\$0	\$0	\$80,000	\$160,000
Other Vehicles and Equip.	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000	\$1,000,000	\$1,400,000	\$1,300,000	\$4,700,000
<b>Subtotal</b>	<b>\$985,000</b>	<b>\$200,000</b>	<b>\$1,390,000</b>	<b>\$5,100,000</b>	<b>\$280,000</b>	<b>\$2,190,000</b>	<b>\$4,785,000</b>	<b>\$6,470,000</b>	<b>\$21,400,000</b>
<b>Grand Total</b>	<b>\$6,848,422</b>	<b>\$3,575,000</b>	<b>\$4,940,000</b>	<b>\$9,600,000</b>	<b>\$5,355,000</b>	<b>\$16,862,020</b>	<b>\$16,853,548</b>	<b>\$18,055,684</b>	<b>\$82,089,500</b>

Source: Menlo Park Fire Protection District.

**Table 3**  
**Capital Improvements Needed to Service New Development and Cost Allocations**  
**2016 Fire Protection Fee Nexus Study - MPFPD**

Facilities	Net Cost to District	Percent of Cost Allocated to New Development	Cost Allocated to New Development	Remaining Portion to be Offset by Other Funding Sources
Admin. & Fire Prevention	\$0	0%	\$0	\$0
Station 1 & Training Facility	\$13,003,500	0%	\$0	\$13,003,500
Station 2	\$4,363,400	0%	\$0	\$4,363,400
Station 3	\$6,292,800	0%	\$0	\$6,292,800
Station 4	\$10,068,500	50%	\$5,034,250	\$5,034,250
Station 5	\$6,292,800	0%	\$0	\$6,292,800
Station 6	\$9,600,000	0%	\$0	\$9,600,000
Station 77	\$10,068,500	50%	\$5,034,250	\$5,034,250
Station 77 Ancillary Bldgs	\$1,000,000	0%	\$0	\$1,000,000
<b>Subtotal</b>	<b>\$60,689,500</b>	<b>17%</b>	<b>\$10,068,500</b>	<b>\$50,621,000</b>
<b>Apparatus &amp; Equipment (# of items)</b>				
Fire Engine (14)	\$8,330,000	0%	\$0	\$8,330,000
Ladder Truck (3)	\$5,100,000	0%	\$0	\$5,100,000
Ladder Truck (1)	\$1,700,000	100%	\$1,700,000	\$0
Squad (1)	\$300,000	100%	\$300,000	\$0
Patrol Pumper (4)	\$780,000	0%	\$0	\$780,000
BC Command Vehicle (3)	\$330,000	0%	\$0	\$330,000
Airboat (2)	\$160,000	0%	\$0	\$160,000
Other Vehicles and Equipment	\$4,700,000	0%	\$0	\$4,700,000
<b>Subtotal</b>	<b>\$21,400,000</b>	<b>9%</b>	<b>\$2,000,000</b>	<b>\$19,400,000</b>
<b>Grand Total</b>	<b>\$82,089,500</b>	<b>15%</b>	<b>\$12,068,500</b>	<b>\$70,021,000</b>

(#) Indicates the quantity to be purchased over the next 20 years which includes replacement per the District's replacement schedule.

Source: Menlo Park Fire Protection District

## D. Calculation of Impact Fee

**Table 4** shows the resulting fire fee per Service Population, which totals \$298.92 including a 3% administrative charge added to cover costs of annual reporting and periodic updates. **Chapter IV** describes the application of this fee to specific types of land uses.

**Table 4**  
**Estimated Fire Impact Fee per Service Population**  
**2016 Fire Protection Fee Nexus Study - MPFPD**

Item	Table Ref.	Amount
<b>New Facility Costs associated with New Development</b>	See Table 3	\$12,068,500
<b>Net New Growth Service Population</b>	See Table 1	41,584
<b>New fee based on Facility Costs</b>		<b>\$290.22</b>
<b>Fee Administration</b>	3.0%	<b>\$8.71</b>
<b>New Fire Fee per Service Population</b>		<b>\$298.92</b>

Source: Menlo Park Fire Protection District.

## IV. Proposed Emergency Services and Fire Protection Impact Fee

### A. Type of Development on Which the Fee Is Imposed

The Emergency Services and Fire Protection Impact Fee (Impact Fee) will be assessed on all types of development within the MPFPD boundaries that results in the addition of new residents and/or jobs, and thereby increases demand on services, as new residents and employees from future development will utilize facilities funded through the Impact Fee. The Impact Fee will be levied on all new development and also on the intensification of land use (such as secondary residential units) that may result in an increased demand for MPFPD's services.

The fee schedule is differentiated between residential and non-residential land use types to reflect the differences in facility need among types of new development, as shown below. Each land use has a density factor<sup>14</sup> that is applied to the base Service Population cost estimated in **Table 4**.

- Residential Development:
  - Single-Family - 2.94 persons per household
  - Multi-Family - 2.19 persons per household
  - Secondary Unit – 2.19 persons per household
  - Other – 1.0 times number of estimated residents (includes mobile homes units, group homes, nursing homes, etc.)
- Non-Residential Development:
  - Retail – 400 sq. ft. per employee or 2.5 employees per 1,000 sq. ft.
  - Hotel – 500 sq. ft. per employee or 2.0 employees per 1,000 sq. ft.
  - Office – R&D – 300 sq. ft. per employee or 3.3 employees per 1,000 sq. ft.
  - Industrial – 800 sq. ft. per employee or .25 employees per 1,000 sq. ft.
  - Other – 1.0 times number of estimated employees for any other non-residential use not included in the above

The need resulting from residential development is based on the number of new residents per unit or persons per household. Projections of the number of new residents are based on estimates of the average person per household for each unit type. The need resulting from non-residential development is based on the number of jobs generated by new development or per 1,000 sq. ft. of building space. Projections of new jobs are based on the estimated number of employees per square foot for each type of non-residential land use within the MPFPD boundaries. The maximum supportable fee for each land use is calculated based on relevant ratios for residents (per unit) for residential uses and based on relevant ratios for employees (per 1,000 square foot) for non-residential uses.

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<sup>14</sup> Persons per dwelling unit ratios were calculated using data from the US Census: Table B254. A weighted average of the three communities for each residential type was used. Employee ratios were developed from the review of EPA's 2013 nexus study, MP Bohannon mixed use Project (KMA Housing Need Study), Ravenswood/4 Corners TOD Specific Plan, Bohannon FIA by BAE, Facebook FIA by BAE, and MP Downtown Specific Plan FIA by Strategic Economics.

## B. Cost Allocation and Fee Schedule

Capital costs to serve new development will be allocated to individual development projects based on the fee schedule shown in **Table 5**. As described above, the fee is calculated based on the MPFPD capital cost allocated to new development per new persons served, which is then allocated by land use based on the relevant ratios for residential (per unit or resident) and for non-residential (per square foot or employee). The fee for each development is calculated by multiplying the number of units and/or size of development for each land use in the development project to determine the total fee for that project.

MPFPD's emergency services are operated and maintained as a district-wide system. Thus, it is reasonable to establish an impact fee that is consistent throughout the MPFPD boundaries, although new development may occur more intensively in some areas. In essence, each land use pays the same fee regardless of where it is located within the District boundaries.

**Table 5** shows the maximum supportable Impact Fee that can be charged based on the methodology and assumptions in this Report.<sup>15</sup> For both residential and non-residential uses, a base rate of \$299 per service population is calculated by taking the total CIP cost attributable to new development (\$12,068,500) and dividing it by the total growth in service population between 2015 and 2035 of 41,458 and then adding 3 percent to the base fee to cover administrative costs of the impact fee program. As these calculations are in 2015 dollars, the District plans to include in the proposed fee program an annual adjustment to the fee amount each year to account for inflation and to maintain the fee's purchasing power over time.

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<sup>15</sup> The MPFPD may elect to adopt fees at or below the maximum supportable level based on economic or policy considerations.

**Table 5**  
**Proposed Fire Protection Fee Rates by Land Use**  
**2016 Fire Protection Fee Nexus Study - MPFPD**

Land Uses	Unit of Measure		Rates based on Planned Growth (1)	
<b>Residential Uses</b>				
Base Rate	1.00	per service population	\$299	per service population
Single Family	2.94	persons per unit	\$879	per dwelling unit
Multi Family	2.19	persons per unit	\$655	per dwelling unit
2nd Unit	2.19	persons per unit	\$655	per dwelling unit
Other Unit Types (2)	1.00	per resident	\$299	per resident
<b>Non-Residential Uses</b>				
Base Rate	0.58	per service population	\$173	per employee
Retail	400	sqft per employee	\$433	per 1,000 gross sqft
Hotel	500	sqft per employee	\$347	per 1,000 gross sqft
Office - R&D	300	sqft per employee	\$572	per 1,000 gross sqft
Industrial	800	sqft per employee	\$217	per 1,000 gross sqft
Other Unit Types (2)	1.00	per employee	\$173	per employee

(1) Allowable fee rates are calculated using growth as projected by ABAG, Placeworks for Menlo Park; and AECOM for East Palo Alto. See Table 1 for detailed growth projections. Employment is .58% of population rate.

(2) For all other units, fee would equal base rate times number of estimated residents/employees.

Sources: AECOM; Placeworks; ABAG; Menlo Park Fire Protection District.

**Table 6** shows a comparison of the new proposed rates based on planned growth to the current fees in the City of Palo Alto, which recently adopted a new fire impact fee. Overall, the new proposed fees are slightly lower than those in Palo Alto, except for the proposed industrial fee which is slightly higher.

**Table 6**  
**Proposed Fees by Land Use Compared to Palo Alto Fire Impact Fees**  
**2016 Fire Protection Fee Nexus Study - MPFPD**

Land Uses	Unit of Measure		Proposed Fees		Palo Alto Fees	MPFPD as % of Palo Alto
<b>Residential Uses</b>						
Base Rate	1.00	per service population	\$299	per service population	NA	NA
Single Family	2.94	persons per unit	\$879	per dwelling unit	\$996	88%
Multi Family	2.19	persons per unit	\$655	per dwelling unit	\$797	82%
2nd Unit	2.19	persons per unit	\$655	per dwelling unit	NA	NA
Other Unit Types	1.00	per service population	\$299	per resident	NA	NA
<b>Non-Residential Uses</b>						
Base Rate	0.58	per service population	\$173	per employee	NA	NA
Retail	400	sqft per employee	\$433	per 1,000 gross sqft	\$560	77%
Hotel	500	sqft per employee	\$347	per 1,000 gross sqft	\$560	62%
Office - R&D	300	sqft per employee	\$572	per 1,000 gross sqft	\$740	77%
Industrial	800	sqft per employee	\$217	per 1,000 gross sqft	\$190	114%
Other Unit Types	1.00	per service population	\$173	per employee	NA	NA

Sources: ABAG; Menlo Park Fire Protection District.

## C. Revenue Estimate

Based on the proposed fee levels shown in **Table 5** and the amount of projected development, MPFPD estimates it will receive approximately \$12,068,500 in fee revenue between 2015 and 2035 if the projected rate of development and resident and employee growth occurs.<sup>16</sup> Future fee revenue represents new or intensified development's fair share contribution, consistent with the nexus principles described in this report, toward the anticipated cost of the proposed capital improvement projects included in MPFPD's Capital Improvement Plan which are necessary to maintain fire protection standards as service population increase. The remaining capital improvement costs estimated at \$70,021,000 will need to be funded by other revenue sources such as through contributions from the General Fund, the issuance of COPs or cost efficiencies. Implementation of the impact fee includes periodic review and updates to assure that the fee amounts and fees collected are sufficient to fund improvements, and that the fees do not exceed new development's proportionate share of costs. These reviews may lead to a modification of the fee.

<sup>16</sup> The fee revenue projections are based on the projected number of residents and employees through 2035, and assume that the Impact Fee is adopted at the maximum supportable level. The MPFPD may elect to adopt fees below the maximum supportable level.

## V. Program Implementation

The Impact Fee will be collected at the time of building permit issuance in each jurisdiction, along with all other fees charged to new development. As MPFPD does not have the statutory authority to adopt a fee, it must rely on the legislative bodies of the Local Agencies to adopt a new impact fee. Each jurisdiction would then transfer fee revenue to the District. The following items should be addressed during the implementation of the fee.

### A. Annual Escalation/Periodic Updates

The facility costs are in 2015 dollars, but every year, construction costs have generally increased (i.e. on average, construction costs have increased by 7.1 percent from 2010 to 2013 – Turner Building Cost Index). To account for this construction cost inflation, impact fees must be adjusted commensurately each year. As an escalation mechanism, impact fees will be automatically increased each year by the change in the San Francisco Construction Cost Index (CCI) as reported in Engineering News Record.

The Nexus Study should be updated every five years to account for changes in the project list, the scope of projects, other funding sources, changes in growth and development, and land use in each jurisdiction. The cost of these regular updates is encapsulated in the 3 percent administrative cost added to the fee rates.

### B. Ongoing Administration

The Government Code requires the MPFPD to report certain information to the MPFPD Board and forward a copy to each local jurisdiction every year and update the nexus study and fee calculations every five years. The District must make the following information from the previous fiscal year available within 180 days after the last day of that fiscal year.

A brief description of the type of fees in the account or fund;

- The amount of the fee revenue;
- The beginning and ending balance in the account or fund;
- The amount of the fee collected and the interest earned;
- An identification of each public improvement for which fees were expended and the amount of the expenditures;
- A description of each inter-fund transfer or loan made from the account and when it will be repaid; and
- Identification of any refunds made once it is determined that sufficient monies have been collected to fund all fee-related projects (as needed).

The MPFPD must make this information available for public review and present it at the next regularly scheduled public meeting not less than 15 days after this information is made available to the public. For the 5th year following the first deposit into the account or fund, and every five years thereafter, the



MPFPD must make the following findings with respect to any remaining funds in the fee account, regardless of whether those funds are committed or uncommitted.

- The purpose to which the fee is allocated;
- A reasonable relationship between the fee and the purpose for which it is charged;
- All sources and amounts of funding anticipated to fill any financing shortfalls;
- The approximate dates on which funding is expected to be deposited into the fee account; and
- The nexus study should be updated with new costs, service assessments, facility needs and growth data. If this update results in a new base fee rate, the fee resolutions and ordinances in each jurisdiction should be updated as well.

The five-year report must be made public within 180 days after the end of the MPFPD's fiscal year, and must be reviewed at the next regularly scheduled public meeting. If the MPFPD does not disclose these findings, the law may require that the MPFPD refund the money, on a prorated basis, to the then current-record owners of the development project.

### **C. Fee Credits or Reimbursements**

The MPFPD may provide fee credits to developers who dedicate land and/or construct facilities included in the nexus study and fee program. Fee credits may be provided up to the planned cost of the improvement cited in the MPFPD improvement plan, subject to periodic inflation adjustments or the actual cost paid by the developer, whichever is lower. Prior to approving a credit for work constructed by the developer, the MPFPD shall approve the plans to ensure consistency with the MPFPD's engineering, design, and planning standards. For construction cost overruns, only that amount shown in the applicable MPFPD improvement plan, subject to periodic inflation adjustments, will be credited, unless otherwise determined to be justifiable and unavoidable by the MPFPD. The MPFPD will evaluate the appropriate fee credit or reimbursement based on the value of the dedication or improvement. Fee credits will be determined on a case-by-case basis.

## VI. Nexus Findings

This chapter describes the necessary nexus between new development within the MPFPD boundaries and the proposed capital improvements, as required under the MFA (Government Code Section 66000). The MFA requires local governments to document five findings (described below) when adopting an impact fee.

### A. Purpose of Fee

The purpose of the Impact Fee is to provide an ongoing funding source for fire protection facilities, vehicles and equipment that serves new development. The proposed fee will help MPFPD fund the costs of fire protection facilities and services for new development within the District boundaries. Section C of **Chapter I** details the purpose of the fee.

### B. Use of Fee Revenues

Revenue from the proposed fee will be used to fund fire protection facilities, vehicles and equipment to serve new development, as described in **Chapter III**. All planned facilities will be located within the MPFPD boundaries.

The use of fee revenues is restricted to funding fire protection facilities, vehicles and equipment to serve new development. More specifically, allowable use of fee revenues includes:

- Land to expand existing stations or for new stations;<sup>17</sup>
- New development's fair share of the total cost of land for relocation of existing stations (net of funds received from the sale of any land associated with existing stations that are relocated);
- Expansions (additional building square feet) to existing stations;
- New and/or expanded facilities to house administration, support fire prevention and provide for mechanical needs, as well as specialized equipment to support future growth.
- New development's share of the total cost of a relocated station (associated with buildings that are larger than the existing station size);
- Station remodeling and renovations that result in improved service (for example, remodeling to accommodate new apparatus or to improve radio communications);
- Apparatus and vehicles with equipment that expand or upgrade the current fleet (not replacement of existing apparatus or vehicles);
- Equipment that expands or upgrades the current stock of equipment (not replacement of existing equipment);
- Equipment that results in improved service (for example, traffic preemption devices);
- Costs of financing associated with any of the above expenditures;

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<sup>17</sup> No additional new stations are currently anticipated by MPFPD, but some stations may require significant upgrading and/or expansion.

- Costs of administering the Emergency Services and Fire Protection Impact Fee Program, including the cost of fee updates and related legal and consultant fees;<sup>18</sup>
- Other capital improvements (yet to be determined) that would be needed as the result of new development.

Impact fee revenue is not allowed to be used for annual operating and maintenance or staff costs except administrative costs associated with the fee program. MPFPD has assessed its future facility, vehicle and equipment needs and estimated the cost to maintain existing fire protection service standards as part of its capital improvement planning efforts. MPFPD's preliminary list of long-term capital improvement projects and estimated costs is described in **Chapter III** and shown in **Table 2**. MPFPD will continue to update its Capital Improvement Plan to provide additional details, updated cost estimates, and proposed timing for acquisition of land and construction of facilities.

### **C. Benefit Relationship**

New development and intensification of land use within the MPFPD boundaries will increase the demand for fire protection facilities, vehicles and equipment utilized for district-wide service provision. Revenues from the proposed fee will be used to finance the acquisition of land, construction of fire protection buildings and the purchase of related equipment and vehicles that serve new development. These facilities will contribute to the district-wide network of services accessible to the additional residents and employees associated with new development.

### **D. Burden Relationship**

The need for the proposed fee is based on the projected growth in MPFPD's service population served through 2035 (see **Chapter II**) the fire protection service standards (determined in **Chapter III**) and the Capital Improvement Plan. New development will increase the overall demand for fire facilities, vehicles and equipment. The estimated cost to provide new fire protection facilities is used as the basis to determine how much funding would be required for facilities in order to determine new development's share of these facility costs as described in **Chapter III** and **Chapter IV**.

### **E. Proportionality**

The costs of facilities, vehicles and equipment are allocated proportionately between new and existing development based on the proportionate demand and need for fire protection facility needs, as described in **Chapters III** and **IV**. These costs are similarly allocated between land uses in proportion to their relative demand generation as measured by the population served. Thus, the relationship between the proposed impact fee, new development and the costs of new facilities, vehicles and equipment is reasonable and proportional to the impact or demand generated.

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<sup>18</sup> The updates of the impact fee program are periodic reviews, which involve in-depth analysis necessary to fairly balance the burden of costs attributable to new and existing development. This detailed analysis and subsequent setting of fee levels maintains equity in the fee program. Activities related to the comprehensive updates include reviews of the methodology used to calculate fees, updates of project costs, amendments to the program, forecasts for demographic and financial data and reviews of facility standards.

## APPENDIX TABLES

**Table A-1**  
**Fire Protection Facility Inventory**  
**2016 Fire Protection Fee Nexus Study - MPFPD**

Fire Stations/Buildings	City or Town	Land Area (Sq. Ft.)	Building Size (Sq. Ft.)	Date Constructed	Proposed Replacement Completion Year	Proposed Building Size (Sq. Ft.)	Replacement Cost/Sq.Ft. (1 & 2)	2015 Replacement Value @ Proposed Sq. ft.
Admin. & Fire Prevention Offices	Menlo Park	11,230	6,094	2009	2048	7,000	\$219	\$1,533,700
Fire Station 1	Menlo Park	43,158	11,869	1955	2022	14,000	\$839	\$11,746,683
Station 1 Classroom, Gym & Shop	Menlo Park	Included above with Station	2,855	1976	2022	Included above with Station	\$839	na
Station 1 Training Tower	Menlo Park	Included above with Station	2,063	1955	2022	5,586	\$225	\$1,256,850
Fire Station 2	East Palo Alto	24,570	12,562	2015	2016	12,562	\$781	\$9,809,683
Station 2 Communications Bldg.	East Palo Alto	Included above with Station	185	2012	2052	185	\$6,844	\$1,266,130
Fire Station 3	Atherton	11,250	3,600	1997	2033	7,500	\$839	\$6,292,866
Fire Station 4	Menlo Park	22,560	3,969	1949	2025	12,000	\$839	\$10,068,586
Fire Station 5	Menlo Park	7,125	3,200	1997	2035	7,500	\$839	\$6,292,866
Fire Station 6	Menlo Park	15,676	5,303	1953	2018	10,700	\$897	\$9,600,000
Fire Station 77	Menlo Park	43,412	4,400	1996	2030	12,000	\$839	\$10,068,586
Station 77 Mechanics Shop, Washbay, Classroom & Water Rescue Bldgs.	Menlo Park	Included above with Station	9,259	1998	2030	10,000	\$100	\$1,000,000
<b>Total</b>		<b>178,981</b>	<b>65,359</b>			<b>99,033</b>		<b>\$68,935,950</b>

(1) Admin bldg cost replacement estimate based on remodel cost of existing admin bldg., Fire Stations 1, 3, 4, 5, 77 based on average construction costs as detailed in Appendix table A-2, Station 2 based on actual costs and estimated cost to complete the station, Station 6 based on cost estimate provided by design firm, and Station 77 ancillary buildings based on a cost estimate to construct butler style buildings.

(2) The Station 2 Communication Building cost per sq. ft. includes cost of comm. bldg, monopole and surrounding site improvements. The cost per sq. ft. is high due to soft and hard costs being distributed over a smaller sized building.

Source: Menlo Park Fire Protection District

**Table A-2**  
**Estimated Construction Costs for Station 2 and 6**  
**2016 Fire Protection Fee Nexus Study - MPFPD**

Station #	Land Acquisition Costs	Construction Costs (1)	Total Estimated	Sq. Ft Per Station	Total cost per sq. ft. (2)
2	\$ 1,288,093	\$ 9,809,683	\$11,097,776	12562	\$ 781
6	\$ 1,508,302	\$ 9,600,000	\$11,108,302	10700	\$ 897
<b>Average</b>					<b>\$ 839</b>

(1) Costs associated with the construction of the Station 2 Communication Bldg are not included in the estimate.

(2) Cost per square foot is based on Construction costs only.

Source: Menlo Park Fire Protection District.

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## **Appendix L2**

### Menlo Park Fire Protection District Emergency Management and Community Preparedness Assessment





# **MENLO PARK FIRE PROTECTION DISTRICT EMERGENCY MANAGEMENT AND COMMUNITY PREPAREDNESS ASSESSMENT**

November 5, 2021



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# Executive Summary

Constant Associates, Inc. (CONSTANT) was contracted by the Menlo Park Fire Protection District (MPFPD) in the July of 2021 to conduct a 360-degree assessment of the District's disaster preparedness and emergency management efforts, in order to address varying perspectives on the successes of its efforts to date and possible recommendations for improving community resilience. This assessment collected data from MPFPD staff, the Board of Directors, staff within the cities/towns involved with emergency management, and finally community-based volunteer neighborhood preparedness groups. Data was collected via a digital survey, multiple key stakeholder interviews, and a comprehensive review of current plans, policies, and procedures. The consultant team also participated in virtual meetings of the MPFPD Board of Director's Emergency Preparedness Subcommittee and conducted two case study reviews of comparable fire districts and their operations with regard to emergency preparedness.

Overall, there were five main themes of feedback identified throughout the data collection process:

- 1. Support for MPFPD's Community Emergency Response Team (CERT) Program and other volunteer neighborhood preparedness groups**
- 2. Exercise Participation**
- 3. Clarification of Responsibilities with Cities/Towns and the County Department of Emergency Management**
- 4. Staffing for the Office of Emergency Management within MPFPD**
- 5. Clarification of Objectives for the Emergency Preparedness Subcommittee**

This assessment aims to provide feasible, measurable, and specific strategies that will immediately improve the success of the District's emergency preparedness efforts. The purpose of this assessment is *not* to address each and every piece of commentary or feedback given throughout the data collection phase. Instead, the contracting team has identified the themes and patterns emerging most often from multiple stakeholders. Each recommendation provided is based on compliance with emergency management best practices identified at the federal level (e.g., in alignment with the National Incident Management System and FEMA's Whole Community Approach) and at the state level (e.g., California Emergency Services Association and the California Standardized Emergency Management System). The contracting team has focused on recommendations which are feasible for the MPFPD *given current resources and staff time available which have the highest likelihood of success.*



A summary of the recommendations can be found in the table below, along with recommended priority levels and timelines. A further, in-depth analysis of each recommendation and the data that contributed to each can be found in the Recommendations section of this assessment.

Table 1: Recommendations Summary by Priority and Timeline

Recommendation	Priority Level	Recommended Timeline for Implementation
1. Clearly define the scope of MPFPD’s CERT Program in a dedicated CERT program support plan or Standard Operating Procedure (SOP).	High	1 – 3 Months
2. Increase MPFPD presence at County, City, Town, and other local exercises to re-enforce understanding of roles, build relationships with community groups and City Emergency Management, and identify ongoing needs for community preparedness.	Low	1 – 2 years
3. a. Convene a meeting with the Menlo Park City Manager and Emergency Management staff to re-assess a Memorandum of Understanding (MOU) which clearly identifies roles for MPFPD and the City.  b. Advocate for County DEM to lead efforts to hold signatories on the newly updated Joint Powers Agreement (JPA) accountable for their responsibilities (and to ensure adoption).	High	6 – 9 months
4. As part of JPA and MOU discussions, determine a consistent policy for designating volunteers within the District as Disaster Service Worker (DSW) volunteers and establish mutual aid agreements that would allow the deployment of DSW volunteers as part of mutual aid deployments.	Medium	6 – 9 months
5. Hire additional administrative and support positions within the Office of Emergency Management (OEM) at MPFPD to alleviate concerns regarding lack of resources and to bring new perspectives to communication	High	3 – 6 months



Recommendation	Priority Level	Recommended Timeline for Implementation
between the Board, Fire District staff, and the community.		
6. Revisit the Emergency Preparedness Subcommittee’s mission, goals, and objectives and update the Board of Director’s Policy and Procedures Manual accordingly to ensure due process is followed and adhered to.	Medium	6 - 9 months

The contracting team would like to applaud the efforts of the MPFPD in commissioning this assessment to provide an opportunity for multiple voices and perspectives in the community to be heard, as well as to identify opportunities to directly improve community preparedness and resilience within the District.

### **Acknowledgements**

The contracting team would like to thank the MPFPD staff, city personnel, members of the MPFPD Board of Directors, and members of the community volunteer groups for providing their time, input, and energy into this assessment. Members of all of these groups are deeply committed to the overall resiliency of the District, and we appreciate the work that you all do on a daily basis.



# Introduction & Background

## Background

The Menlo Park Fire Protection District is one of the oldest special protection districts in the State of California, having recently celebrated its 100-year anniversary in 2017. The District serves three cities/towns: Atherton, East Palo Alto, and Menlo Park, in addition to some unincorporated areas within San Mateo County. The community served by the District is a diverse community serving the Silicon Valley region that has grown significantly with the technology boom that began in the 1990s and each city/town varies in geography, population, and diversity.

As of 2020, the District had 148 full time employees with 109 employees providing direct fire services. The additional 39 staff members provide day-to-day administrative support. This group of employees includes those that oversee emergency management, preparedness, and the coordination of the Community Emergency Response Team (CERT) Program along with support for other community-based volunteer neighborhood preparedness organizations.

In addition to fire prevention and suppression duties, the District has expanded to assist local communities with their emergency preparedness and response efforts. Through multiple Memorandums of Understanding (MOUs) and joint agreements, the District has worked to use its subject matter expertise and staff time to improve overall emergency response capabilities across all three cities/towns. The District has assisted some of the jurisdictions with the creation and maintenance of their emergency operations plans and hazard mitigation plans, established an agreement with the Federal Emergency Management Agency (FEMA) to serve as the sponsoring agency for California Task Force 3 (CA-TF3) Urban Search and Rescue (US & R) Team, and continued to manage the local CERT program by providing training and exercise opportunities.

The District is overseen by a Board of Directors, comprised of 5 resident community members who are elected to four-year terms. The elections are staggered and thus held every two years. The Board's purpose is to provide strategic leadership, policy and direction, fiscal oversight, and support to the Fire Chief and the District staff. According to established policies and procedures for the Board, the communication between the Board and MPFPD staff is meant to pass through the Fire Chief in order to ensure that the correct staff are engaged and to maintain the organizational chain of command.

## Methodology

The purpose of this assessment is to conduct a 360-degree analysis of the Fire District's Disaster and Emergency Preparedness Services and provide recommendations based on feasible and measurable strategies. As the Board of Directors searches for a new Fire Chief for the first time in nearly 15 years, they have actively recognized that a breakdown in communication and trust had occurred between many of the stakeholders with an interest in



the District's emergency preparedness services and this may be an opportunity to address these issues. The Board and District Staff hired a contracting team to provide an independent, third-party assessment to provide an unbiased review of the strengths, areas of improvements, and overall operations of the District's emergency preparedness plans, policies, and initiatives.

Constant & Associates, Inc. (CONSTANT) is an emergency management consulting firm that has been serving clients at all levels of government since August 2004. The recommendations included in this document were reached by a team of subject matter experts with more than 60 years of experience in the fields of fire department operations, emergency management, and local government operations. From July 1, 2021 to October 31, 2021, the contracting team conducted 15 virtual interviews with key stakeholders; developed a survey which was completed by 39 stakeholders; conducted a thorough documentation review of current plans; policies, and procedures; conducted a case study review of two comparable fire districts (see Appendices B and C); and researched additional best practices from special districts across the country to develop the recommendations discussed in this document. The recommendations reflect reoccurring themes and patterns, and while they are comprehensive, they do not reflect each individual piece of feedback received.

The FEMA Whole Community Approach as a concept, whole community is a means by which residents, emergency management practitioners, organizational and community leaders, and government officials can collectively understand and assess the needs of their respective communities and determine the best ways to organize and strengthen their assets, capacities, and interests.

As the effects of natural and manmade disasters become more frequent and far-reaching, preserving the safety and security of local communities is becoming more complex and more difficult every year. The need to bring together a diverse set of stakeholders from across communities to develop a whole community approach<sup>1</sup> to emergency preparedness, response, and recovery is more critical than ever. This assessment represents the collective and shared understanding of emergency preparedness needs for the District across a wide-range of these stakeholders.

For the purposes of this assessment, the term "emergency management" will refer to the managerial function charged with creating a framework within which communities can reduce vulnerability to hazards and cope with disasters. Emergency management must be comprehensive, progressive, risk-driven, integrated, collaborative, coordinated, flexible, and professional. It recognizes community capabilities and needs and creates a unified structure to meet those needs and address likely hazards. The term "community preparedness" will also appear frequently within this assessment, and will refer to the ability of a community to prepare for, withstand, and recover from natural or man-made disasters.

The unprecedented nature of the ongoing COVID-19 pandemic cannot be understated, and it has forced local government agencies to pivot their focus over the past year and a half to responding to this public health emergency. That in addition due to a tenuous political environment that has led to the public's growing mistrust of government on all levels

<sup>1</sup> FEMA. "A Whole Community Approach to Emergency Management: Principles, Themes, and Pathways for Action." 2011.



exacerbating some of the communication and trust issues that already existed between District staff and other stakeholders. The inability to conduct trainings, hold exercises, and interface outside of the virtual environment due to social distancing measures put in place by county, state, and federal governments has also presented a challenge for emergency preparedness services. These operations are critical to readiness and relationship building and given that these restrictions have been in place for a majority of the OEM division's existence it has hindered the ability to build these relationships and accomplish some goals set in 2019 during its formation.

To properly implement the recommendations provided in this document, the new Fire Chief and partners will need to bridge the growing gaps in perspective between the district staff, Fire Board members, partner cities/towns, and community members in order to continue to build a whole community approach to emergency management and community preparedness. Based on a shared understanding of actual needs and achievable next steps, the District can continue to facilitate a transparent discussion of priorities and required resources.

## **Current State of the Fire District**

In the Menlo Park Fire Protection District's 2020-2025 Strategic Plan, there are 6 key pillars that establish the foundation for how the District will continue to guide its decision-making process. Those pillars are Responsive, Professional, Trust, Ethical, Visionary, and Technology. The District believes that if they are able to successfully embody these foundational values in their decision-making, they will be directly contributing to the improvement of the community's resiliency, preparedness, and safety.<sup>2</sup>

In most of its current service areas, the District is exemplifying the pillars outlined in their strategic plan. The District is well-funded, has built trust with their partner jurisdictions, has employed the use of the latest technologies to improve response capabilities, and has begun to build its own Office of Emergency Management (OEM) over the past year to further organize emergency management efforts. The recommendation to create OEM came from a report in 2019 that identified that neither the municipalities nor the District had a department that was solely responsible for emergency management. While not legally mandated, the District noted an ethical responsibility to their community to establish a department that could "properly coordinate an effective inter-governmental standardized emergency management system."<sup>3</sup> In addition, the communities the District serves are heavily invested in disaster response and preparedness and OEM would provide further infrastructure to assist these organizations as well as the municipalities. Their participation and engagement in this assessment alone signals community appetite to study and discuss challenging risk management problems. These can all be considered significant assets to the District in emergency management and community preparedness.

However, the most difficult challenge facing the District currently is that the communication and trust between the District staff, Board members, and community members has eroded over the past decade due to ***a lack of clear emergency management roles and responsibilities for***

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<sup>2</sup> Menlo Park Fire Protection District "2020-2025 Strategic Plan"

<sup>3</sup> "Establish an Office of Emergency Management: Recommendation Report". February 12, 2019.



***MPFPD, a lack of capacity at the city/town level for emergency management, and conflicts of interest between stakeholders.***

This inability to properly communicate roles and responsibilities and a breakdown in community trust is not unique to MPFPD and is frequently seen in other special protection districts across the country, as priorities, legal requirements, and organizational structures differ from how typical public service agencies typically operate. The endemic communication issues specific to the District's emergency management efforts have existed for long enough that they have now drifted from professional differences into the political and personal realm. In the interviews and the survey analysis, nearly every respondent mentioned communication as the major area for improvement, yet many were unsure of how to fix these fractured relationships.

This communication issue is multi-faceted and complex, given the nature of the organizational structure of the District. One factor has been the role of the Fire Chief. The structure as it exists now relies on the Fire Chief as the communication focal point for the public and the District staff. While other staff members interact directly with the community and partner jurisdiction representatives, the Chief must approve these communications. Using the Fire Chief as the main focal point of communication for the Board, community, and District staff is intended to create a structure in which the Chief can collect necessary situational awareness and lead as the visionary for the District. However, it has inadvertently created an hour-glass type communication process leading to a backlog in responsiveness to the community groups, which has caused some individuals to attempt to circumvent this structure. During the interview process we found a number of individuals who violated the organizational structure and engaged with District staff or Board members directly on a frequent basis without informing the Chief.

Staff turnover for the cities/towns and for the volunteer neighborhood preparedness groups has also contributed to these communication issues and a lack of understanding regarding the emergency management roles and responsibilities of MPFPD. Varying perspectives and departmental priorities have contributed a wide spectrum of expectations for MPFPD's level of commitment to local emergency preparedness programs.

Another contributor to the widespread miscommunication on the roles and responsibilities of the District in emergency management is the various agreements and contracts it has entered into with the each partner jurisdiction. One of the greatest strengths of the Fire District is that it has been flexible and adaptable to assist the lower-resourced municipalities in varying emergency preparedness and readiness services, but there has been a failure to communicate with the public and community volunteer groups regarding the unsustainable nature of these arrangements. These arrangements are also very different depending on the municipality. It has also led to an over-reliance on MPFPD by these municipalities in areas such as emergency plan development and maintenance, among other duties.

The District has, however, succeeded in creating three distinct, but overall positive relationships with their partner cities/towns. During the interview process each partner jurisdiction's representative described the District as a positive part of their emergency services and a partnership that they valued. However, these relationships are distinct from



each other given their varying levels of support based on their own needs, goals, and objectives.

**East Palo Alto** prefers a more distanced relationship with the District and have not heavily leaned on the District for emergency preparedness assistance outside of their provision of CERT training to local volunteer groups. East Palo Alto's emergency preparedness liaisons with the District operate out of their police department, but their disaster preparation falls under "Community & Economic Development."<sup>4</sup> While East Palo Alto does not directly offer any emergency management training, their website includes a number of links to CERT groups, San Mateo County agencies, and the Menlo Park Fire Protection District's website. East Palo Alto has a diverse population and it was noted by City staff, District Staff, and community group representatives that these populations are more difficult to reach due to government mistrust for a myriad of political reasons outside of the City's control<sup>5</sup>. That is why one of their main volunteer groups rEPACT (formerly known as EPA CERT), has taken a leading effort in providing neighborhood-based teams with CERT training who provide assistance with preparedness activities. During the data collection process for this assessment, the East Palo Alto stakeholders noted that they are appreciative of their relationship with the District and for the essential fire and medical services they provide. Given the geographic location of East Palo Alto, the city also has Joint Power Agreements (JPAs) with the bordering Santa Clara County and the City of Palo Alto which they also rely on. The City of East Palo Alto described the communication from the District as helpful but sometimes somewhat disjointed and, from their viewpoint, believed the cause to be internal communication challenges between the Chief and staff.

The Town of **Atherton** also noted a strong relationship with the Menlo Park Fire Protection District, noting that the District is highly responsive to requests from Atherton and has been willing to help when called upon. Atherton representatives did note that there seemed to be communication issues at the District and that staff and executive leadership at the District did appear to struggle to communicate properly with each other, Atherton officials, and the community groups. The District and some volunteer neighborhood preparedness groups in the area have tended to disagree with the direction of emergency management and response services, which impacts a small town such as Atherton heavily since they are more likely to rely upon community volunteers than the other two municipalities, which are larger in size and resources. Emergency preparedness services are run through the police department, but they noted that they are currently "in the midst of a rebuild as emergency management services [have] bounced around for awhile."<sup>6</sup> Atherton officials noted that they believed stronger internal communication and coordination between the Chief and his staff at the District could help to alleviate these challenges. In particular, the Town of Atherton has an active CERT-based volunteer group called A.D.A.P.T. (Atherton Disaster and Preparedness Team) which is a group of residents partnered with the Atherton Police Department to "educate, communicate with, and aid fellow Athertonians in preparing for major emergencies and natural disasters<sup>7</sup>." ADAPT has been incorporated as a 501(c)(3) organization and works closely with Town and

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<sup>4</sup> City of East Palo Alto Website, <https://www.ci.east-palo-alto.ca.us/econdev/page/overview-disaster-preparation>

<sup>5</sup> Interviews with District Staff

<sup>6</sup> Interview with Atherton Police Department Representatives

<sup>7</sup> ADAPT Website. <https://www.getreadyatherton.org/our-organization>.





District partners to conduct drills/exercises, disseminate emergency preparedness materials, empower neighborhood preparedness, and facilitate meetings to improve coordination of preparedness efforts. Atherton’s emergency management team relies heavily on the ADAPT team to assist with training and exercise and has activated them most recently to assist with COVID-19 related emergency preparedness and management activities, including identifying vulnerable and at-risk population in the town.

Of the three jurisdictions, the District has the closest relationship with the City of **Menlo Park** due to a Memorandum of Understanding (MOU) that contracted some District Staff, specifically the Disaster Response Manager, to assist the city with emergency management services. Included in the 2009 MOU was an agreement to assist with the development of the City’s Emergency Operations Plan (EOP), the identification of EOC personnel, and the development of a structured training plan to ensure activated staff were adequately prepared for emergency activation. Officers from the Menlo Park Police Department described their relationship with the District as one of “exemplary communication, [a] constant sharing of ideas, and have always been able to reach [them] and [they] have always provided assistance”.<sup>8</sup> The Emergency Preparedness services are handled by the City’s Police Department, but major financial decisions are made by the City Manager’s Office. During the interview with representatives from the Menlo Park Police Department they noted that the previous City Manager did not recognize emergency preparedness activities as a high spending priority, however that has changed with the new City Manager. It was noted that the COVID-19 pandemic has “slowed our recovery”, in reference to bolstering their emergency preparedness efforts<sup>9</sup>. The District’s interactions with community members in Menlo Park also extends to its volunteer groups, one of the largest of which is MPC Ready. MPC Ready is a volunteer-based organization aimed at building disaster preparedness capacity at the individual, household, and neighborhood level for the communities of Menlo Park<sup>10</sup>. MPC Ready is heavily involved in providing input on the District’s emergency management activities, particularly through the Emergency Preparedness Subcommittee and through input on the District’s emergency plans and policies.

One example of when the District has been able to assist a jurisdiction to fulfill their emergency management responsibilities occurred with the creation of the EOP for Menlo Park. Some district staff members were contracted to help write the EOP and shepherd its approval with the City Council, as well as provide assistance when it was time to update the EOP. Menlo Park representatives noted that the EOP had not been updated because the City Manager had not made emergency management a priority for the city. In this case, the City still had district staff members as contracted workers for the City of Menlo Park, which caused some community members to interpret this as the District and its staff not fulfilling the agreements of the MOU. This issue has caused some members of the community to believe that the District was using taxpayer funds without performing the services they were contracted to perform. The District has made it clear, both in interviews for this assessment and in the Strategic Plan, that they do not believe it is their responsibility to justify every decision to the public, but in this

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<sup>8</sup> Interview with Menlo Park Police Department Representatives

<sup>9</sup> Interview with Menlo Park Police Department Representatives

<sup>10</sup> MPC Ready Website. <https://mpcready.org/business/>



instance it may have alleviated tensions to explain how the District was assisting and that it should be a temporary measure.

Each jurisdiction expressed a unique perspective and relationship with the District, but all three commented on the same two challenges: communication and fractured relationships with community groups. The Town of Atherton relies more heavily on the use and activation of community groups to assist them with emergency response compared to East Palo Alto and Menlo Park, so their representatives distinctly noted that having the District and the volunteer neighborhood preparedness groups repair their relationship was critical to their mission. These volunteer groups would like additional funding, training, and resource support from the District, but are not inclined to incur additional oversight from the District in their operations or organizational structure.

Another critical factor in recent communication breakdowns has been the ongoing COVID-19 pandemic response. The unprecedented nature of the COVID-19 pandemic cannot be understated, and it has forced local government agencies to pivot their focus over the past year and a half to responding to this public health emergency. That in addition to a tenuous political environment that has led to the public's growing mistrust of government on all levels has exacerbated some of the communication and trust issues that already existed between District staff and other stakeholders. The inability to conduct trainings, hold exercises, and interface outside of the virtual environment due to social distancing measures put in place by county, state, and federal governments has also presented a challenge for emergency preparedness services. These operations are critical to readiness and relationship building and given that these restrictions have been in place for a majority of the OEM division's existence it has hindered the ability to build these relationships and accomplish some goals set in 2019 during its formation.

Another potential contributing factor to the ongoing issues for the District seems to be that some Board members are overstepping their role by assigning direct operational tasks for emergency management and community preparedness to District staff. In multiple instances including in Emergency Preparedness Subcommittee Meetings, survey responses, documentation review, and even interviews with Board members themselves, this overreach was noted. The role of the Board according to the Board of Directors' Policy and Procedures Manual is to provide oversight, approval of budget, approve major purchases, and the formulation and evaluation of major policy. It is clearly stated that "routine matters concerning the operational aspects of the District are delegated to professional staff members."

The Board members have a unique conflict in that they are meant to represent the communities and the public in providing oversight and policy development but in support of the District staff's operations. There is a vested interest expressed by Board members in further providing support to volunteer groups in the community, which has resulted in District staff feeling pressured to cater to the agendas of the volunteer groups, regardless of whether or not the requests were within the scope of MPFPD's responsibilities or whether the groups are part of the formal District CERT program or not. District staff believe that some of this time and energy spent on trying to better support the various volunteer groups, regardless of whether or not they are part of the District CERT program, could instead be spent on further building up



internal emergency preparedness projects, such as drills, internal response plan development, or community outreach to vulnerable communities outside of the community volunteer groups.

On the other side, however, many of the volunteer and community groups expressed frustration with the Chief and the OEM staff (both past and present) and felt that their voices were not being heard. There were repeated complaints that MPFPD staff ignore their feedback, refuse their offers of assistance, and do not respond to their concerns. There were also concerns about competition or favoritism between the volunteer groups, as members of each expressed concerns that other groups were being treated “better” than others. This resulted in community groups feeling that their only recourse was to go directly to Board members to enact change or to provide feedback to the District.

In recent years the District has provided CERT training and communication for each of their partner jurisdictions. However, they have also attempted to establish a Community Crisis Management Department (CCM), establish a broad Voluntary Organizations Active in Disaster (VOAD), and help community groups seek 501(c)(3) nonprofit status so that they could expand their roles. Survey data and interviews from District staff noted that these initiatives failed due to the lack of community support and staff turnover as well as a lack of resources to fully support them. Community members believed that these initiatives were unsuccessful because the District did not want to take on the responsibility and workload that it would take to more fully engage these community groups (both formal CERT and non-CERT) in emergency management and community readiness.

The District’s flexibility to assist partner jurisdictions upon request has created the appearance of “selective mission creep” into emergency management roles traditionally handled at the municipal level. Many survey respondents and interviewees noted that it sometimes feels as though the District “cherry picks” when to employ this dynamic flexibility and when not to. This is another example of a situation in the District moves from the professional realm to the political and personal due to miscommunication. While District staff have noted that their mission is to serve the community and partner jurisdictions, they cannot accommodate every request that is made of them by the community. A clear delineation of the roles and responsibilities of the District as well as the municipalities is needed and should be shared with the community.

District staff noted that under the newly established OEM, they will be returning to a CERT program more focused on “Train & Release”. The intention of CERT is to educate volunteers about disaster preparedness for the hazards that may impact the area and to provide basic disaster response skills such as fire safety, limited search and rescue, team organization, and disaster medical operations. This commitment to refocus the training provided around CERT education offers a consistent nationwide approach to volunteer training and organization that professional responders can rely on during disaster situations. In general, the continued expansion and establishment of OEM will likely help to alleviate some of the confusion around the responsibilities of MPFPD with regard to emergency management and offer more resources as the office grows.

The community volunteer groups have a clear desire for CERT volunteers to be able to take on more expansive roles with regard to disaster response. While CERT volunteers in these organizations play a critical role during disasters, they are not meant to be activated on a



regular basis and the ability to activate them as Disaster Service Worker (DSW) volunteers is predicated on the ability of the District to support them in the field as well as the status of the volunteer group within the Disaster Service Worker Volunteer Program (DSWVP). Federal and state guidelines require that CERT programs have a formal relationship with a local government entity and be supervised by a representative of the sponsoring entity in order to be covered under the DSWVP. CERT is meant to be utilized to assist when major incidents occur and emergency response resources in the District are overwhelmed. These community groups have also expressed a desire for less oversight from the District on their activities. This preference for less oversight yet expanded roles in disaster response has led to further conflicts and miscommunications. Clarifying the exact level of CERT support provided by the District will help to provide a stronger foundation for communication on both sides.

It is the opinion of the contracting team that the issues and challenges faced by the District are solvable, but that it will require reinforcing the organizational structure that is already in place. It will be the responsibility of the new Chief to ensure they have the respect and trust of the partner jurisdictions, the Board of Directors, the community, and most importantly the District staff. The goal of the recommendations on the following pages is to empower stakeholders at the city/town, District, Board, and community volunteer group level of the role the District plays, as well as the role of other partners in emergency management. By more clearly defining the roles and responsibilities to all stakeholders, the District will begin to better convey how they fit into the larger picture of emergency management in the area.



# Recommendations

**Recommendation 1:** Clearly define the scope of MPFPD's CERT Program in a dedicated CERT program support plan or Standard Operating Procedure (SOP):

- Continue to focus MPFPD emergency preparedness efforts around supporting CERT **education and training**. This includes continuing to offer regularly scheduled CERT classes (which are publicized throughout communities in all three partner jurisdictions as well as unincorporated areas), collaboration on drills and exercises (including offering CERT trainees the opportunity to participate in exercises hosted by MPFPD), and bringing other training resources (e.g., Red Cross course offerings) to the CERT trainees within these communities.
- Advocate for each individual **City/Town and the County/Operational Area Department of Emergency Management** to work directly with volunteer neighborhood preparedness groups and CERT trainees as part of their Community Outreach programs through their own emergency management programs, including Disaster Service Worker Volunteer Program (DSWVP) registration, DSW designation, and mutual aid agreements to cover cross-jurisdictional efforts.
- Advocate for the County's new VOAD to include the existing community volunteer groups and to further leverage them as resources across the county.
- Reassert, pursuant to MOUs with the Cities/Town and/or the Countywide JPA (see Recommendation 3a and 3b), the MPFPD Chief's (and/or the activated Incident Commander's) authority to decide when and if CERT volunteers will be activated and deployed during emergency response and/or recovery operations. This decision should be based on whether or not the appropriate resources, including liability protections for CERT Volunteers and the MPFPD are in place. MPFPD should consider utilizing strategies such as coordination with the City/Town DSWVP or MOUs with volunteer neighborhood preparedness groups in assuring an effective CERT volunteer activation and deployment.
- Initiate dialogue with each City/Town to develop an MOU (for more see Recommendation 3a), with supporting plans and procedures, that clearly defines emergency management expectations, needs, and support from the District to the partner jurisdictions and determining resource support from them to support the delivery of the District's emergency management support.

**Analysis:** This recommendation is already underway at the time of writing this assessment, as a CERT SOP is currently under development by OEM. Based on the feedback collected for this assessment, there is a wide spectrum of organizational capacity, roles, resources, and training across some of the most active CERT-related organizations currently within the District (e.g., ADAPT, MPC Ready, and rEPACT, to name a few). Only one municipality currently has a formal CERT program (which requires a formal relationship with a sponsoring government entity) and is incorporated as a 501(c)(3): the Town of Atherton with ADAPT. Some of the other volunteer neighborhood preparedness groups, such as MPC Ready and rEPACT, do not



currently have that formal designation as a formal CERT program or 501(c)(3) status. There is also a significant economic gap between these communities and varying support expectations amongst the volunteer neighborhood preparedness groups within each. This seems to be a result of varying perspectives, group size, and training between the volunteer groups. Some CERT volunteers and volunteer groups are more active or engaged than others in working directly with the MPFPD through the Board, through the Emergency Preparedness subcommittee meetings, or through personal relationships with individuals employed at MPFPD. This has resulted in inconsistent support provided to all volunteer groups from the District, and in some unclear and inconsistent definitions of what MPFPD can and is willing to provide in terms of support to these volunteer organizations. In addition, these groups seem to report to multiple different agencies and points of contact. They report to the MPFPD Board on occasion, to the Office of Emergency Management, to their respective City/Town's emergency programs, and may soon also be a part of the County's new efforts to establish a VOAD program. This has resulted in multiple inequities, miscommunications, and overlapping or duplicative efforts, as well as perceptions of inequality in the District's relationships with each.

The original intent of the CERT Program was to educate volunteers and community members about critical disaster preparedness skills, such as fire safety, light search and rescue, team organization, and disaster medical operations. CERT offers a consistent, nationwide approach to volunteer training and organization that professional responders can rely on during disaster situations, allowing them to focus on more complex tasks.<sup>11</sup> In many fire departments and districts across the U.S., CERT classes are offered to community members to build neighborhood resiliency and a local community-based volunteer program. In 2012, the City of Los Angeles Fire Department conducted a nationwide survey of fire department-sponsored CERT programs to identify how CERT volunteers were most frequently utilized.<sup>12</sup> Some of the most common ways that fire departments and districts utilize CERT volunteers for emergency preparedness or response support include but are not limited to:

- Community outreach
- Exercise or drill participation and support
- Traffic control and security at large gatherings or events
- Shelter support
- Language translation
- Commodity distribution (e.g., bottled water, supplies, sandbags, masks, etc.)
- Preparedness or safety fairs
- First aid booths at events
- Radio operators or communications backup (e.g., call center staffing)
- Scribes or minor support roles at EOCs
- Volunteer management and coordination

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<sup>11</sup> Ready.gov via FEMA. CERT Program Introduction. <https://www.ready.gov/cert>

<sup>12</sup> City of Los Angeles CERT Website. "Using CERT Volunteers" Survey Response Data. <https://www.cert-la.com/cert-programs-information/using-cert-volunteers/>



Similar uses for CERT volunteers were illuminated by a survey of Bay Area CERT programs conducted by Director Ralston in 2018 as part of preparation for a presentation to the Emergency Preparedness Subcommittee regarding the emergency preparedness program.<sup>13</sup>

The volunteer neighborhood preparedness groups within MPFPD's jurisdictions that utilize CERT training provide an invaluable source of support to MPFPD by representing their communities and building neighborhood resiliency, and it is imperative that MPFPD continue to support a local CERT training and education program in order to bolster emergency preparedness across the District. These volunteer groups are also a key part of FEMA's *Whole Community Approach*<sup>14</sup>, and can serve as a valuable source of community input for plans, policies, and needs in the communities they serve.

"FEMA left to each locale to shape the program [CERT] as they see fit from regimented army to simple awareness campaigns. MPFPD has gone somewhere in between."  
– Special Meeting Report, Lisa Chow, Sept 2018.

However, MPFPD has no legal responsibility or imperative to provide a minimum level of support to local volunteer neighborhood preparedness groups which self-organize after the class is offered. CERT is considered a "best practice" and a valuable way to organize community volunteers for emergency preparedness and response but is not a legal requirement or responsibility on the part of a fire district to provide to communities. "Each CERT is organized and trained in accordance with standard operating procedures developed by the sponsoring agency."<sup>15</sup> Therefore, the resources and labor spent by a fire district to support CERT programs is entirely up to the District as the sponsoring agency, which should be documented in *standard operating*

*procedures*. There may be grants or specially funded programs aimed at developing CERT programs which may have particular requirements that must be adhered to for grantees such as a fire district, but this will vary based on the grant or funding entity.

In 2018 as part of a special meeting for the Emergency Preparedness Subcommittee, the Board and the meeting attendees discussed the level of support provided to volunteer neighborhood preparedness groups by MPFPD. Director Carpenter and others at the time agreed that the level of volunteer group support had gotten out of hand, and that it would be better to "decouple" CERT training/education versus overall command and control. The District would keep some level of fiscal oversight over any monies or equipment provided to the groups, but that overall the groups would work semi-autonomously as their own volunteer organizations. The District would primarily be aimed at providing the training and occasionally a budget for equipment.<sup>16</sup> One potential problem, however, is the level of autonomy desired or exercised by each of the community volunteer organizations varies.

For a time, between 2015 and 2020, a separate advisory board for the CCM/CERT program made up of members of the various volunteer neighborhood preparedness groups was created

<sup>13</sup> Special Meeting Report from Lisa Chow. September 2018.

<sup>14</sup> FEMA. A Whole Community Approach to Emergency Management: Principles, Themes, and Pathways for Action. 2011. [https://www.fema.gov/sites/default/files/2020-07/whole\\_community\\_dec2011\\_2.pdf](https://www.fema.gov/sites/default/files/2020-07/whole_community_dec2011_2.pdf)

<sup>15</sup> CERT Program Basic Training Manual, Federal Emergency Management Agency, 2019. [https://www.ready.gov/sites/default/files/2019.CERT\\_Basic\\_PM\\_FINAL\\_508c.pdf](https://www.ready.gov/sites/default/files/2019.CERT_Basic_PM_FINAL_508c.pdf)

<sup>16</sup> Special Meeting Report from Lisa Chow. September 2018.



and operated to advise the Fire District on how to better support these programs. However, many of the members of this advisory board quit or were lost due to frustrations on both sides and mounting political pressure. This advisory group was eventually disbanded in 2020.

There also seems to be confusion over how and when these volunteer groups should be leveraged or activated during an emergency response. Some of the volunteer groups expressed frustration that they have not been used more frequently for disaster response, while MPFPD staff indicated that they do not always have the capability to protect and provide resources for volunteers in addition to their own staff when incident response is ongoing. In the MPFPD's Disaster Volunteer Management Annex (v.1.1); there is an established policy for conducting a needs assessment after a disaster to determine whether or not volunteers will be utilized.<sup>17</sup> This includes CERT-trained volunteers as well as other affiliated volunteers such as Red Cross, Salvation Army, County Search and Rescue volunteers, and more. It also applies to spontaneous and unaffiliated volunteers who express a desire to assist in the aftermath of a disaster. Ultimately, CERT volunteers will not be deployed for emergency response activities unless there is a formal request from the Incident Commander and/or the MPFPD Chief. This will be based on **the need** (either due to staffing shortages, the need for specialized skillsets, or the locality of an incident), and **the ability to support** volunteers (provide adequate resources, protective equipment, oversight, and liability protections). MPFPD may not always need to activate volunteers for their response efforts. However, the recent efforts by the County's Office of Emergency Services to create a VOAD will create another strong, cross-jurisdictional forum for these volunteer groups to better advocate for the use of their skillsets and contribute to more emergency response capabilities for multiple different agencies, not just MPFPD, which may result in greater activity and alignment for these groups.

A clear, concise, and shared (e.g., on the MPFPD website) ***MPFPD CERT Program Standard Operating Procedure (SOP)*** document or plan that clearly outlines the role of CERT within the communities represented by the District, as envisioned by the District, would help to further clarify roles and responsibilities. This document should outline some of the following:

- An inventory of MPFPD resources (staff time and funds) dedicated to the CERT program annually, both past and projected.
- A description of the training and education program, with annual goals for training and a multi-year training and exercise plan (which ideally incorporates some engagement from CERT volunteers where possible and productive in MPFPD exercises or drills, and/or MPFPD representation in local volunteer neighborhood preparedness group drills or exercises).
- A designated point of contact between MPFPD and the volunteer groups and previous CERT class trainees (this should be the CERT Program Coordinator and/or a designee) as well as communication protocols and procedures.
- A list of sample roles and responsibilities that CERT trainees may be asked to participate in by MPFPD both in the preparedness phase (e.g., safety and preparedness fairs, exercises) and in the response phase (e.g., shelter support, commodity distribution).

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<sup>17</sup> Disaster Volunteer Management Annex (v1.1) page 3. Last updated March 3, 2021.





- A description of roles and liabilities for CERT volunteers for activations by MPFPD independent of a DSWVP response sponsored/requested by a city or town.
- A description of the DSWVP registration/designation requirements and the authorities/points of contact which can implement DSWVP registration at each of the three cities/towns.
- A contact list of the designated community outreach and volunteer points of contact at the emergency preparedness offices for each city/town and for the County.
- A clear list of resources or equipment that MAY be purchased by MPFPD for use by volunteer neighborhood preparedness groups or formal CERT programs when funding is available (e.g., personal protective equipment, CERT field manuals, etc.), as well as a list of resources that will **not** be purchased (e.g., search and rescue equipment or medical devices). Include a process for these individuals or groups to identify when and how to apply for supplemental funding from specialized grant programs issued by MPFPD (e.g., a standard form, application, required status as a 501(c)(3), etc.).

**Estimated Financial Impacts:** Minimal, primarily labor-based for existing staff positions at OEM and additional time for input from key community and municipal stakeholders, efforts are already underway by OEM.

The development of a finalized SOP, including opportunities for review/revision/dissemination with stakeholders should take an estimated 60 – 100 staff hours over a period of a 3 – 6 months, depending on review cycles.



**Recommendation 2:** Increase MPFPD participation at County, City, Town, and other local exercises to re-enforce understanding of roles, build relationships with community groups and City Emergency Management, and identify ongoing needs for community preparedness.

**Analysis:** As part of the survey conducted for this assessment, respondents were asked who was responsible for leading and coordinating emergency preparedness, emergency response, and emergency recovery efforts within their community. The results strongly indicated that there is widespread confusion at all three levels (MPFPD staff, city/town staff, and community groups) over roles and responsibilities for each of these three phases. Respondents replied with answers ranging from the fire district, the city/town, law enforcement, the county, the volunteer groups and their leadership, and many simply answered they were unsure.

While it is important to document roles and responsibilities clearly in emergency operations plans, standard operating procedures, joint powers agreements, and memorandums of understanding, the reality of emergency management is that many stakeholders at all levels will not be familiar with written plans or be able to adequately interpret how policy and plans are implemented in the field during an emergency.

Experience gained during exercises is commonly cited in post-incident evaluations as the best and most effective way to prepare teams and organizations to respond effectively to an emergency<sup>18</sup>. Engaging actively in regular exercises with community groups, city/town leadership, and county-level organizations will help to solidify these roles and responsibilities and encourage a shared understanding of MPFPD's role.

“As yesterday's (9/11/21) drill showed, there is a great deal of cooperation between the Fire District, the Police Department and ADAPT. I think there is a good working relationship and mutual respect. The general feeling is that we are all in this together, and the better prepared we all are, the better off everyone will be.”

– Survey Respondent

During the interview phase for this assessment, multiple stakeholders commented that MPFPD's participation in local exercises (at the community, city, and county level) has been inconsistent and unpredictable and often simply based on availability and interest. However, respondents were adamant that when MPFPD actively participated as part of exercises, the results were extremely beneficial and reinforced the common mission of each organization. This not only helped to establish trusted relationships, but it also opened up discussion around areas of response, recovery, or preparedness that may not be covered by the fire district and may require additional resources from the city, town, county, or the community.

MPFPD's primary obstacle in participating in local exercises is staff time and availability. With so many volunteer groups conducting their own drills along with increased efforts at the city/town level and now at the county level by various departments to conduct exercises on a regular basis, the number of exercise invitations has steadily increased every year. MPFPD regularly receives invitations to participate in exercises from the following (not counting their own internal exercise programs):

<sup>18</sup> Federal Emergency Management Agency. “Emergency Planning Exercises for Your Organization.” Last Updated July 2020. AND Ready.gov “Exercises.” Last Updated October 2021.



- San Mateo County Department of Emergency Management
- San Mateo County Sheriff's Office
- San Mateo County Health
- Menlo Park Police Department
- Atherton Police Department
- East Palo Alto Police Department
- ADAPT
- MPC Ready
- rEPACT
- California Governor's Office of Emergency Services (particularly Urban Search and Rescue)

This does not include MPFPD's internal exercises or state and federal exercise programs which may also call for additional commitment. At this rate, participation and active engagement in every exercise is not possible for MPFPD alongside their other responsibilities. Therefore, the following steps are recommended in order to consolidate efforts and establish a consistent participation model when feasible:

- Identify an internal Exercise Lead at MPFPD under the supervision of OEM to serve as an official liaison for exercise participation requests. This could be separately assigned and not the Disaster Response Manager's role in order to free them up to focus on response coordination. If separately assigned, however, the lead should still report to OEM for these efforts.
- Document decision-making criteria and parameters for MPFPD participation in an exercise hosted by an external organization, such as:
  - Must receive the request at least 90 days in advance of conduct
  - Must be appropriate for the Fire District to participate and within the scope of practice and mission of MPFPD
  - Requires approval from the Chief
  - Must have a clear set of exercise objectives and scenario
  - Must involve active participation from more than one entity or organization
- Advocate with DEM for further alignment of countywide training and exercise planning efforts (as dictated by the JPA, see Recommendation 3b) to provide regular, coordinated opportunities for multiple agencies to exercise together and to consolidate efforts.
  - The County has a Training and Exercise Group which is meant to align training and exercise efforts. This Group will likely continue to be led by the newly formed County Department of Emergency Management (DEM). The Group should collaboratively develop a multi-year training and exercise plan which maps out shared exercise dates and opportunities over the next 3-5 years. Cities, towns, and community groups (through the County VOAD group) should also be encouraged to participate. This allows everyone to consolidate and combine exercise opportunities and reduce the frequency of separate invitations received by any given agency or group.



- Establish exercise goals annually for MPFPD in the Emergency Operations Plan and include exercises from outside organizations.
- Prioritize staff time at MPFPD to spend time on exercises and rotate participating individuals (avoid sending the same person every time to every drill or exercise).
- Avoid participating only on the day of the exercise. Engage in the planning process, clarify the realistic role of MPFPD early on in the exercise planning process to avoid confusion or assignment of response roles that would normally fall to other organizations.

**Estimated Financial Impacts:** Slight increase in staff labor hours at MPFPD allocated to exercise planning and participation for external stakeholders. However, advocacy efforts with the County to align multi-year training and exercise planning efforts will eventually streamline the number of hours required over the next 3 – 5 years.

Expect to rotate exercise participation duties amongst multiple MPFPD staff members, for a total of 40-60 hours per exercise per staff member (in order to be involved with planning as well as execution and evaluation). May also involved at least 60-80 hours annually for a designated Exercise Liaison to interact with and engage with external stakeholders on exercise participation requests and meetings of countywide training and exercise committee or workgroup efforts.



**Recommendation 3a:** Convene a meeting with the Menlo Park City Manager and Emergency Management staff to re-assess an MOU which clearly identifies roles for MPFPD and the City. Consider including a representative from the County Department of Emergency Management (DEM) as well to further delineate County-level responsibilities from those of the city and the fire district. The MOU should address:

- Primary responsibility for drafting and maintaining the city's Emergency Operations Plan and Hazard Mitigation Plan should be delegated to the emergency manager for the city.
- MPFPD should provide critical review and input on the plans in order to ensure alignment with MPFPD plans as well as federal and state regulatory requirements.
- Primary responsibility for coordinating emergency response training for city staff should fall to the city emergency manager. MPFPD can help provide critical training (e.g., SEMS, ICS, NIMS, EOC section training, etc.).
- Responsibility for maintenance of the City's CERT program should be defined within the agreement under MPFPD. This should also address authority to purchase supplies or provide funding for CERT purposes. The responsibility for providing Disaster Service Worker Volunteer designation (DSWV) for volunteers should also be addressed as part of the MOU.
- Responsibilities for disaster-related documentation for qualification for federal or state reimbursement funding should fall to the city emergency manager and/or County DEM with assistance from MPFPD where appropriate.
- EOC staffing for the city may be supplemented by MPFPD, but approval authorities and parameters from MPFPD and reimbursement should be included in the MOU.

**Recommendation 3b:** Advocate for County DEM to lead efforts to hold signatories on the newly updated Joint Powers Agreement (JPA) accountable for their responsibilities (and to ensure adoption), including but not limited to:

- Attendance at and active participation in Emergency Services Council meetings,
- Active leadership in the development of emergency operations plans and associated policies and plans for each municipality and response entity,
- Regular participation in the San Mateo County Emergency Managers' Association,
- Alignment of training and exercise planning efforts via the County's Training and Exercise Group.

**Analysis:** Each of the three municipalities within the District have varying levels of capability for emergency management and planning. In Menlo Park, emergency management is coordinated through the Police Department, who have historically maintained a liaison to work with MPFPD and the Disaster Services Manager to coordinate on emergency planning.

In 2009, there were efforts to establish an MOU between MPFPD and the City of Menlo Park regarding emergency response and management. The MOU required that MPFPD create and maintain the emergency operations plan for the City of Menlo Park as well as staff emergency operations center positions for the City and setup a structured training plan accordingly. The MOU led to an over-reliance on MPFPD for coordination of City of Menlo Park emergency



management, as well as a common misperception within the community that MPFPD was responsible for all things emergency and disaster-related within the City. The MOU also led to a relationship breakdown between MPFPD and the City of Menlo Park which has affected coordination efforts for the past decade. This agreement has expired, and a new MOU has not been established. In the process of collecting data for this assessment, both MPFPD and the City of Menlo Park staff have expressed an interest in renegotiating the terms of this agreement but have not been able to implement this effort. Currently, according to staff within Menlo Park, there is no single role or entity responsible for emergency management in the city. Staff within Menlo Park suggested that it might be helpful to have a designated emergency manager or coordinator within the City Manager's Office. They agreed that it would better benefit all parties involved if the City had a full-time capacity rather than relying on the fire district. While this is outside the scope of a recommendation that MPFPD can implement, the fire district can continue to advocate for further funding and resources at the municipal level for full-time emergency management staff at each municipality.

“The municipalities within the district have different levels of emergency management capabilities and commitment. There seems to be a belief that the district is responsible for supporting the response and recovery efforts of the municipalities by providing staffing and guidance during an event. It appears that some within the municipalities seem to have expectations of the role of the district that are not in line with State and Federal statutory requirements. It is not uncommon for municipal staff to refer citizen questions or concerns to district staff. This leads to unrealistic demands placed on district staff to address the needs and concerns of the various communities within the district, with a very limited staff and no ability to utilize or even engage the staff and/or resources of the local municipality having jurisdiction.”

– Survey Respondent

The overarching problem seems to be larger than simply the MOU between MPFPD and Menlo Park. There are larger misconceptions within the district regarding the role of the fire district for activities such as EOC staffing, plan development and maintenance, training implementation, and providing funding disaster preparedness activities, as a result of limited city/town capacity to take on these tasks. The level of expectations for MPFPD's emergency management duties for each municipality has steadily grown over the past decade. This is partially because of the Menlo Park MOU (which also affected expectations for other municipalities), as well as the lack of adoption or clear adherence to the latest Joint Powers Agreement within the county on the part of the cities/town within the District.

In 1997, an initial Joint Exercise of Powers Agreement (JPA) was signed to create a “San Mateo Operational Area Emergency Services Organization” between the County of San Mateo and the cities and towns within the County of San Mateo and other identified partners. Within the parameters of this JPA, the signatories agreed that all local governments within the geographic area of the County, special districts, unincorporated areas, and participating non-



governmental agencies would be a part of this 'emergency services organization.' The JPA called for coordination amongst signatories on public notification systems, emergency plans, exercises and drills, and more. It also called for each entity to have a designated local coordinator for regular participation in 'San Mateo County Emergency Managers Association Meetings' and other activities. This JPA was revised in 2015 (along with a small revision in 2021 to reflect the newly formed County Department of Emergency Management) with proposed language to include additional components such as an Area Emergency Services Council, local coordinator responsibilities (e.g., participation in multi-year training and exercises, operating department and emergency operations centers, overseeing updates to the local emergency operations plan and the local hazard mitigation plan, etc.), and an acceptance that the county and cities shall each accept primary responsibility for the readiness within their respective jurisdictions and development of disaster preparedness plans in alignment with area-wide emergency planning. However, in the data collection for this assessment, it appears that this JPA has only recently been signed/adopted by the City of Menlo Park (September 2021) and adherence to the responsibilities delineated for the municipalities has been loose and slow to progress over the previous few years. The recently formed County Department of Emergency Management will likely have a vested interest in the coming years in taking a more active role in leading adherence to the JPA on the part of the signatories. MPFPD should continue to advocate for DEM's leadership and refer municipalities to their responsibilities outlined within the JPA.

The lack of consistency in emergency management roles and responsibilities for the County, the Cities/Towns, and other entities such as MPFPD has further led to confusion at the community-level regarding who is responsible for which components. It is difficult for MPFPD to push back against community members who feel that key emergency management activities are not being accomplished, because the criticism is valid and if they respond that it is not MPFPD's responsibility, they are seen to be shirking responsibility, blaming the cities/towns, or ignoring the public. Now that the County has an established Department of Emergency Management and a brand new Emergency Operations Center facility, this may be perfect timing for a county-led effort to review the Joint Powers Agreement with all signatories and identify gaps, which could address many of the elements already discussed in this assessment – from plan development to EOC staffing to volunteer disaster service worker designation and volunteer usage across municipal boundaries.

With regard to plan development specifically, it should be noted that a fire department or district is not typically responsible for completion of tasks such as emergency operations or hazard mitigation plan maintenance for the cities and towns within their jurisdiction. Certainly a fire department or district is responsible for their own emergency operation plans and is encouraged to provide key input and review on city, town, and county plans in order to align efforts, but it is typically up to the city or town to complete these plans. In order to meet the requirements of Title 44 Code of Federal Regulations (CFR) 201.6 for FEMA approval and eligibility to apply for FEMA Hazard Mitigation Assistance grant programs (as well as qualify for FEMA reimbursement post-disaster), local governments (particularly cities and towns) have a responsibility to conduct hazard mitigation planning for their communities and to have a documented emergency operations plan. Section 322 of the Disaster Mitigation Act of 2000 (which amended the Stafford Act) requires state and local governments to prepare multi-hazard mitigation plans as a precondition for receiving FEMA mitigation project grants.



Counties typically create a multi-jurisdictional hazard mitigation plan and cities draft their own hazard mitigation plans to meet these requirements. In certain rural jurisdictions with far fewer emergency response resources, occasionally the fire district is tasked with these plans, however the municipalities within San Mateo County are comparable to other jurisdictions such as those in the case studies presented earlier, in which plan development and maintenance for the cities is left with the city emergency management coordinator role.

Ultimately, when compared with other fire districts, MPFPD seems to have taken on too many of the traditional roles and responsibilities of the county and/or the municipalities in emergency management. This has led to gaps in critical emergency preparedness functions and perceptions by the public of lack of effort and overwhelmed department staff. This will require multiple discussions amongst MPFPD, the municipalities, and County DEM to deconflict these roles and document them appropriately in newly established JPAs/MOUs.

**Estimated Financial Impacts:** Medium, primarily labor-based for existing staff positions at OEM and additional time for meetings with DEM and municipalities to negotiate terms of MOUs and review gaps in JPA adherence.

The development of updated MOUs (if deemed necessary), including opportunities for review/revision/dissemination with stakeholders, should take an estimated 120-150 MPFPD staff hours over a period of 6 - 9 months, depending on review cycles.





**Recommendation 4:** As part of JPA and MOU discussions, determine a consistent policy for designating CERT volunteers or other volunteers within the District as DSWVs and establish mutual aid agreements that would allow the deployment of these volunteers as part of mutual aid deployments.

**Analysis:** One particular area that was repeatedly addressed in survey responses and interviews with community groups was the Disaster Service Worker designation for CERT volunteers that are a part of the volunteer neighborhood preparedness groups, especially the members of ADAPT, MPC Ready, and rEPACT. These groups would like to determine the appropriate responsible agency for the swearing in of volunteers as DSWs and believe that MPFPD should be the authorized entity.

The State of California created a Disaster Service Worker Volunteer Program (DSWVP) to provide workers' compensation benefits to registered DSW volunteers who are injured while participating in authorized disaster-related activities.<sup>19</sup> It can also protect DSWs from certain liability while conducting disaster response activities in good faith and in line with their training. The Program defines disaster service as activities designed to aid in the response and recovery phases after a disaster. It does not include day-to-day emergency management activities or response activities, such as those conducted on a routine basis by law enforcement, fire, or EMS.

Becoming a part of the DSWVP entails a number of required activities:

1. The volunteer must take a loyalty oath. This can be administered either through "Officer Administration" (where a volunteer takes an oath before an officer with oath administration authority) or "Self-Certification" (where the volunteer reads the oath and self-certifies by signing the oath under penalty of perjury). The self-certification method is often used in a disaster when mass officer administration is not possible. *Note that county/city ordinances can dictate who has delegation authority as an officer.* If the Officer Administration method is used, note that the oath cannot be administered remotely online or via telephone or video call. It must be in-person if that method is used. The oath subscription is effective for the entire period that the DSW volunteer remains a member with the authorized registering entity.
2. The authorized registering entity must have the name and address of the registrant, date of enrollment, name of registering entity with signature and title of authorized person, classification, and status of oath subscription. This is typically done through a form or registration system.
3. Background checks are not always required but may be required by the registering entity at their discretion.
4. Supervision and training of DSWs is required for all authorized disaster service activities. Specific training requirements are determined by the registering authority, but typically include items such as ICS, NIMS, CERT, first aid, etc.
5. Volunteers may need to be registered in multiple jurisdictions or counties in order to be able to provide services. Since counties and jurisdictions have their own ordinances and registering requirements, someone registered as a DSW in one area may not be able to

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<sup>19</sup> CalOES. "Disaster Service Worker Volunteer Program." <https://www.caloes.ca.gov/cal-oes-divisions/administrative-services/disaster-service-worker-volunteer-program>



volunteer in another area with the same protections. However, DSWs can be eligible for protection when officially activated as part of a mutual aid deployment. This would need to be stipulated within the mutual aid agreement.

Most cities and all counties in California have established Accredited Disaster Councils (ADCs) that are accredited by the California Emergency Council to administer the program. Affiliation with an accredited Disaster Council and delegated authority from that council are required prior to a jurisdiction administering a DSWVP (Cal. Code of Regs., Title 19, 2571).

The County Manager and DEM in San Mateo County currently have the authority county-wide to administer the oath and to register DSWs (they are considered an authorized registering entity) or to designate that authority to other entities. Most recently, the County of San Mateo certified and registered multiple DSWs to serve at vaccination sites for COVID-19, for example. They also recently worked with Coastside CERT programs to provide DSW status to Coastside CERT volunteers in response to the recent CZU Lightning Complex fires. As part of this most recent effort, the County authorized uniformed Fire Chief officers (Battalion Chiefs and above) to swear in DSWs to swear in CERT volunteers as Disaster Service Workers as part of a Coastside MOU.<sup>20</sup> Of note, this only granted the authority to swear in DSWs, not to serve as the authorized registering entity. As of September 19, 2019, the San Mateo County Emergency Services Council approved a resolution to ‘allow for the San Mateo County Emergency Services Council (ESC), acting as the County of San Mateo’s Accredited Disaster Council (ADC), to make the following CERT host/sponsor agencies an authorized designee of the Disaster Service Worker program in support of CERT teams in unincorporated areas of San Mateo County: Coastside Fire Protection District, San Mateo County Fire Department; Kings Mountain Fire Brigade; and La Honda Fire Brigade.’ These fire departments now have authority to swear in CERT members as DSWs.

“When deployed, CERTs are expected to sign a liability release form, confidentiality agreement (if applicable), and be screened for suitability (e.g., license verifications, background checks). MPFPD prefers that CERT volunteers deployed for a disaster are registered by their City or Town as Disaster Service Workers (DSWs) in order to be covered through the worker’s compensation program”

– MPFPD Volunteer Management Annex

This led to the inevitable discussion as to whether or not MPFPD should have the same level of authority to swear in volunteers as DSWs (separate from serving as a registering entity). County DEM ultimately has the authority through the ESC to make a CERT host/sponsor agency an authorized designee of the DSWVP for swearing in volunteers. They can also give this designation to individual municipalities, including Menlo Park, Atherton, and East Palo Alto.

There is disagreement as to whether or not the authority for swearing in volunteers belongs with the municipalities or MPFPD and other fire departments. Clearly a precedent has already

<sup>20</sup> Ochavillo, Vanessa. “CERT delivered communications during evacuation.” Half Moon Bay Review. Feb 3, 2021.



been set in the Coastside region to work through fire departments for swearing in CERT program volunteers. However, it should be noted that in most other jurisdictions in California, counties most frequently delegate this authority to city emergency managers or municipal emergency management programs. While CERT programs are often hosted and sponsored by a fire department, the DSW designation is typically managed through the municipality. It should also be made clear that MPFPD cannot be given the authority to register DSWVPs. They can be given the authority to swear in the volunteers but registration is handled separately and most often by the municipalities or the County.

Either option may be feasible for MPFPD but must be coordinated with DEM and the municipalities. The previous recommendation outlined the need to revisit MOUs and the JPA with city/town and county stakeholders. This particular discussion of authorizing a designee should be part of those meetings. The JPA and/or future amendments to the JPA could address and list which entities have been designated as authorizing entities. It should also address the creation of a standardized mutual aid agreement that can be leveraged between the municipalities in order to provide DSWs as part of mutual aid deployments across area boundaries in the event of an emergency.

Whichever decision is made, the outcomes will require open and transparent communication with volunteer neighborhood preparedness groups on the part of MPFPD regarding how the decision was made and what parameters are required for a volunteer to be given DSW designation. The CERT SOP mentioned in an earlier recommendation should include a section on how and when DSW designation can be given to a CERT volunteer/trainee within the District. It should also include reminders of what a DSW volunteer can and cannot do under the designation, and how they may be leveraged as part of mutual aid deployments to other jurisdictions at the discretion of MPFPD and the affected area. A request for mutual aid must be made before deploying mutual aid resources. DSWs cannot and should not self-deploy to other affected jurisdictions without that mutual aid request and deployment from their authorized entity if they want to be covered by the necessary DSW liability protections.

**Estimated Financial Impacts:** Initially low, involves incorporating discussions of DSW designation authority into previous JPA and MOU discussions.

If MPFPD is given the ability to swear in volunteers as DSWVs, there may be additional labor costs associated with implementing this program. This will entail additional volunteer tracking and administration of the oath. It will require supervision and enforcement of training requirements for all DSW volunteers. It may also require coordination of requests for mutual aid to deploy these volunteers to other areas. It may also require reporting to DEM and/or other accrediting agencies. This may involve up to 60-120 MPFPD staff hours annually, depending on the number of DSWVs.



**Recommendation 5:** Hire additional administrative and support positions within OEM to alleviate concerns regarding lack of resources and to bring new perspectives to communication between the Board, Fire District staff, and the community.

**Analysis:** As described above, much of the Office of Emergency Management's (OEM) efforts and the Disaster Response Manager day-to-day role has been taken up by plan development (both for MPFPD and for local Cities and Towns), internal and external training implementation, and coordination of incident response by fire district personnel to emergencies such as the ongoing COVID-19 pandemic and the recent CZU Lightning Complex Fires).

OEM was created to begin to coordinate emergency management efforts for MPFPD as a whole, and mostly consists of the Disaster Response Manager position alongside another Emergency Services Specialist position. OEM works to develop local hazard mitigation plans and threat and hazard identification risk assessments, critical infrastructure protection assessments, and emergency preparedness public information and messaging campaigns. OEM helps to staff and coordinate efforts for local Emergency Operation Center response during emergencies and/or to deploy staff to active incident command. OEM organizes, implements, and evaluates training and exercises for MPFPD personnel in accordance with the Homeland Security Exercise and Evaluation Program (HSEEP) and ensures that staff are adequately trained in the Incident Command System (ICS) and the National Incident Management System (NIMS) as well as emergency alert notification systems and emergency response plans.<sup>21</sup> The Disaster Response Manager ensures that MPFPD is in compliance with federal and state regulatory requirements related to emergency management and provides review and input on emergency plans not only for MPFPD but also for cities and towns throughout the district. This role maintains key response relationships with other state and federal agencies and neighboring jurisdictions and applies for grant funding where applicable.<sup>22</sup>

In the past year alone, OEM has accomplished a number of vital activities, including the development of the Red Cross Ready training program for community members, participating in the update to the Hazard Mitigation Plan, the development of weekly COVID-19 Situational Reports, the creation of a new centralized database of CERT contacts and community response partners for the District, the implementation of the CERT Connect newsletter, the onboarding of a volunteer CERT Social Media Coordinator and additional training instructors, the conduct of a volunteer preparedness forum for community leaders, the completion of Urban Search and Rescue Emergency Management Accreditation Program (EMAP) accreditation training, and many other activities in addition to ongoing COVID-19 response and the CZU Lightning Complex response.

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<sup>21</sup> OEM Strategic Plan 2018-2020. Final Draft November 14, 2018.

<sup>22</sup> See Disaster Response Coordinator Job Description as of 2013. Available at <https://www.menlofire.org/media/HR/Job%20Descriptions/Unrep%20Management/Disaster%20Response%20Manager>



OEM and the Disaster Response Manager position fulfill vital emergency management functions for MPFPD on a day-to-day basis, but there are shared misconceptions by volunteer groups and the Fire Board regarding which functions should be a priority. Certainly, cities and towns taking a more active role in their own plan development and maintenance should help to free up some time for the OEM staff, however OEM may still not have enough dedicated time to meet the high standards and expectations of community groups and the Board with regard to active community outreach and engagement.

“The Fire District's Office of Emergency Management has given itself a very broad and sweeping role. Unfortunately, the job position lacks specifics. The role also focuses on activities during a disaster – rather than ongoing collaboration and capability building. The role makes broad claims without a strategy, metrics and a reporting mechanism. I've seen no description of actual responsibilities. The responsibility for disasters is driven by 1-2 people”

– Survey Respondent

It appears that many members of the Board and the community volunteer groups do not fully understand the demands of the emergency response coordination that is currently handled by OEM and the Disaster Response Manager position. This is not uncommon and frequently occurs with other emergency management professions, as there is a common misconception that a single individual can be responsible for all things emergency-related, despite the demands.

“The Fire District has limited staffing personnel to cover all the localities/communities needs whether its emergency planning, training, public education, or developing exercises. Local government has no resource capabilities to assist the Fire District with preparedness services. The staffing configuration Districtwide and at the local level is grossly unbalanced to keep up with workload, the spontaneous community requests, and the political pressures of preparedness needs. Fire District has no resources to interface with at the City level- no counterpart or capability. No partner. Our Public Education Division should also consider extending services that include emergency preparedness- many of the programs provided are limited in scope and labor resources idle or under-utilized”

– Survey Respondent

There is shared frustration that certain elements of emergency preparedness and public education are not being handled. MPFPD staff feel overwhelmed and under-resourced. Community groups feel ignored and do not see the day-to-day outputs and demands on OEM staff. The lack of active leadership (and staff resources) in emergency preparedness at the city and town level has left a gap in service which community groups feel should be filled by MPFPD, while MPFPD struggles to find the resources to cover them.



In addition, it seems that individual personalities and politics have begun to interfere with collaboration and coordination amongst all concerned parties. Almost everyone surveyed or interviewed for this assessment agreed that one of MPFPD's primary issues with regards to emergency preparedness or management was "politics." This is unfortunate, as it appears that most of the individuals involved in the volunteer groups, in the Board of Directors, and at MPFPD are well-intentioned and have a shared goal of improving community resilience and preparedness for the District. However, this does occur and occasionally it is worth considering bringing in additional staff and adding them to the team in order to bring new perspectives and to eliminate the possibility of passing blame from previous incidents onto individuals.

Many of the individuals at each level (Board, Volunteer Groups, MPFPD) have also been in their positions for a number of years, which can sometimes result in a stagnation of new ideas or the ability to compromise as relationships have been established which may alter or supersede documented communication protocols.

It may be beneficial, therefore, to hire or assign additional administrative and outreach support staff to the Disaster Response Manager and OEM in order to expand capacity and build new relationships. Efforts to bring in additional volunteer assistance for OEM are already underway at the time of the writing of this assessment, as OEM recently brought on a volunteer Social Media Coordinator to assist with communications with volunteer groups. However, OEM could still benefit from additional expansion of staff to help streamline overall programmatic efforts.

These new staff positions could take on roles such as:

- Liaison regularly with community volunteer groups (e.g., MPC Ready, ADAPT, rEPACT, etc.).
- Participate actively in the VOAD group at the county level and present on MPFPD training and exercise opportunities or volunteer needs.
- Provide targeted community outreach (coordinate with the Public Education Division) to traditionally underserved communities to understand needs and promote training opportunities.
- Serve as an exercise lead or liaison with external agencies.
- Engage with and provide subject matter expertise to city/town emergency managers.
- Produce regular reports (e.g., quarterly) of activities conducted by OEM to share amongst Board members, volunteer groups, and city/town/county personnel.
- Present to the Emergency Preparedness Subcommittee and the Board on ongoing efforts as well as present at other local meetings (e.g., County VOAD, healthcare coalition meetings, etc.).

It is recommended that these support personnel for OEM include individuals who represent the diversity of communities within the three cities/towns represented, who represent a fire background or experience with MPFPD, who have emergency management or response experience, and/or who have a history of public service and experience. However, if budgetary limitations preclude MPFPD from adding on more experienced support personnel to OEM, it may still be helpful to supplement OEM's resources with internships (students, trainees, etc.) as a backup option. It is the sincere opinion of this evaluation team that simply adding in new representatives and fresh perspectives will help, along with the new Chief, to "start from



scratch” and rebuild relationships that have suffered from previous experience over the last few years. It will allow the Disaster Response Manager to manage efforts more effectively, utilizing their emergency management expertise to guide overall required response activities for MPFPD, while increasing coordination and collaboration between the District and the volunteer groups, the Board, and city/town personnel by offering more available staff time and energy.

**Estimated Financial Impacts:** High, involves the creation of new positions (1-2) within OEM and addition of competitive salary-based positions. Comparative Emergency Services Analyst positions for other fire districts and departments typically range from \$60,000 - \$90,000 at a minimum. Another option is to provide OEM with .25 - .5 FTE time for other existing MPFPD staff members dedicated to assisting and supporting the OEM mission, though this would take them away from other duties and responsibilities.

**Alternatives:** MPFPD could instead invest in creating a trainee or student internship program in OEM to provide additional support capacity for these roles without investing significant salary funds. However, this internship program would entail additional hours to implement, including recruitment, management of turnover, and mentorship.



**Recommendation 6:** Revisit the Emergency Preparedness Subcommittee’s mission, goals, and objectives and update the Board of Director’s Policy and Procedures Manual accordingly to ensure due process is followed and adhered to.

**Analysis:** One contributor to some of the problems and miscommunications experienced over the past few years between the community groups, the Board, and the District staff has been a result of the inaccurate expectations involved in establishing emergency management priorities, based on the experiences and background of those involved.

As an example, many of the Board members come from a CERT background themselves. The two Board members who currently co-chair the Emergency Preparedness Subcommittee were both originally CERT trainees and volunteers. There is a vested interest expressed by Board members in further providing support to CERT volunteers and other volunteer neighborhood preparedness groups, which has resulted in District staff feeling pressured to cater to the agendas of the volunteer groups, regardless of whether or not the requests were within the scope of MPFPD’s responsibilities. District staff believe that some of this time and energy spent on trying to better support the volunteer groups could have instead been spent on further building up internal emergency preparedness projects, such as drills, internal response plan development, or community outreach to vulnerable communities outside of the volunteer groups.

Others stated that it has been problematic for the Board to directly dictate emergency management or volunteer management-related tasks to OEM rather than through the Fire Chief, who is designated as the Board’s point of contact for MPFPD operations. Per the Board of Director’s Policy and Procedures Manual (last approved and adopted in 2019), “the primary responsibility of the Board of Directors is the formulation and evaluation of policy. Routine matters concerning the operational aspects of the District are delegated to professional staff members of the District.” It was felt that certain volunteers or community groups were able to go directly to Board members to accomplish their objectives rather than working through the Office of Emergency Management staff.

On the other side, however, many of the volunteer neighborhood preparedness groups expressed frustration with the OEM staff (both past and present) and felt that their voices were not being heard. They expressed frustration that the CCM/CERT advisory committee group was created and then disbanded within five years, and clearly resulted in many advisory members quitting or leaving. There were repeated complaints that their feedback was ignored and their offers of assistance have been rejected. This resulted in community groups feeling that their only recourse was to go directly to Board members to enact change or to provide feedback.

This results in a unique conflict for the members of the Board of Directors. They are expected to provide a critical forum for public input and community involvement, particularly in their public meetings and through the Emergency Preparedness Subcommittee. They listen to feedback from the communities and in turn help to evaluate emergency preparedness activities and develop policy for MPFPD with regard to these programs. However, they must also respect the operational authority for the Fire Chief, OEM staff, and other MPFPD staff to make day-to-day implementation decisions such as how to use volunteers in response operations,





how to implement a training program, what resources can be reallocated towards preparedness activities, who to send to an exercise, etc.

Discussing the problem with city staff representatives offered another perspective. There was widespread city recognition that the relationship between some of the volunteer neighborhood preparedness groups and their respective cities has not been productive. This has been partially a result of high turnover on both sides and a lack of resource capability on the city/town side. As a result, many of the criticisms of gaps in emergency plans and whole community planning has fallen on MPFPD.

The Emergency Preparedness Subcommittee is an invaluable opportunity for MPFPD to continue to gather Board feedback on emergency preparedness activities while also offering public input opportunities. However, the parameters around the subcommittee meetings may benefit from additional clarification on what is and is not the role of MPFPD and these subcommittee meetings. In the Policy and Procedures Manual, the Emergency Preparedness subcommittee's main mission is to "work with the jurisdictions on policy guidance and planning to ensure readiness in the event of an emergency." However, this description may not be completely accurate (the subcommittee does not typically engage directly with the jurisdictions in these meetings, for example), and may not reflect the current activities or objectives of the committee. This may warrant a discussion between the entire Board, the new Fire Chief, and OEM to determine a specific set of objectives for this committee going forward, such as:

- Provide a regular progress update to the Board and members of the public on OEM activities conducted each month and progress towards annual plan development, training, and exercise goals.
- Provide a forum for members of the public (including community volunteer groups) to ask questions of OEM and the Board regarding emergency preparedness activities conducted specifically by MPFPD (rather than the cities/towns/county).
- Provide a forum for members of the public (including community volunteer groups) to present on activities completed to further develop community preparedness (e.g., local trainings, drills, safety fairs, community surveys, etc.) or to provide comments on preparedness activities conducted by MPFPD (e.g., exercises, safety fairs, public messaging campaigns).
- Provide recommendations to the Fire Chief on policy updates or resource allocation decisions directly related to the emergency preparedness activities under MPFPD's purview.

It is also important to note that the Policy and Procedures Manual stipulates that Fire Board members should "present personal criticisms, complaints, or problems regarding Fire District operation directly to the Fire Chief and discuss them at a regular meeting only after failure of an administrative solution." Opinions and concerns can be expressed but personal criticisms should be handled outside of these open forums, so that it does not discourage open dialogue and communication for new members of the public who participate. If a member of the public, who does have the right to speak their opinion on these meetings, has personnel concerns which are expressed during the meeting, it is the responsibility of the Chair to control the situation and refer the individual to the Fire Chief for their review. The Chair may request the concern be placed in writing and forwarded to the Fire Chief.



Having a more clearly defined set of objectives and parameters for the subcommittee may also help to keep meetings from straying into areas of emergency management and preparedness that are better addressed at the city/town level or the county's VOAD meetings as they may fall outside the scope of the District's responsibilities.

As of the writing of this assessment, the District is already reviewing applications for a new Fire Chief, and previous recommendations have outlined the need for additional staff to supplement OEM. Leveraging this momentum, it may be worth considering a special meeting with the new Chief and the Board and OEM to determine updated goals and objectives for this subcommittee.

**Estimated Financial Impacts:** Minimal, primarily labor-based for existing staff at OEM and Fire Board Members to convene a special meeting (or multiple special meetings) upon hire of new Fire Chief to determine future objectives of the committee.



## Conclusion

The Menlo Park Fire Protection District and its partners continue to show an exemplary commitment toward the preparedness, safety, and resiliency of their community. With the threats of complex natural and man-made disasters worsening each year it is becoming more likely that the District's disaster response capabilities will continue to be tested. The District itself will need to be prepared, but they will also need to be able to effectively collaborate and communicate with their partner jurisdictions and community volunteer groups in order to respond and surge effectively.

The Menlo Park Fire Protection District will soon have their first new Fire Chief in nearly 15 years and to be successful they will need to be an effective administrator, communicator, and diplomat. Over the past decade the relationship between District staff, the Board, partner jurisdictions, and community volunteer groups has faced significant communication challenges and in some instances a breakdown of trust and mutual expectations. One of the top priorities for the new Fire Chief related to emergency management and community preparedness will be to attempt to repair these relationships by expanding the capacity of OEM; revisiting the delineation of roles with the municipalities and the new County Department of Emergency Management; and establishing a clear vision for the level of CERT program support for MPFPD, among some of the other recommendations identified in this assessment.

The Menlo Park Fire Protection District's Chief is an executive position meant to act as the visionary for the direction of the District. When all district stakeholders are communicating according to the bylaws established by the organizational structure, the Fire Chief becomes not only the leader, but also the person in charge of effectively communicating stakeholder positions, weaving competing viewpoints together, and establishing one vision for the District.

The Harvard Business Review states that an effective administrator will have three skillsets.<sup>23</sup>

- **Technical**- this skillset includes possessing specialized knowledge, analytical ability within the specialized field, and the capability to use the tools and techniques of the discipline. This skillset is the most basic and states that the next Chief would have years of experience at a high level within a fire department and understand each area of service offered by the District.
- **Human**- this skillset will be vital for the next District Chief as they will need to understand the various viewpoints of the multitude of stakeholders involved with the District. Someone adept in this skillset should be able to communicate their viewpoint, opinions, vision, ideas, etc. to others eloquently and diplomatically, but will also be invested in spending the time to understand opposing viewpoints from other key

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<sup>23</sup> Katz, Robert. Harvard Business Review "Skills of an Effective Administrator"



stakeholder groups. They will also need to effectively communicate these differing viewpoints to District staff, Board members, municipal staff, or members of the community who may not be able to understand them. The District's Fire Chief will be key to improving communication and trust amongst all groups.

- **Conceptual**- this skillset involves the ability to see the District, partner jurisdictions, San Mateo County, and the communities involved as one enterprise and how they can work collaboratively to respond to emergencies. An effective conceptual administrator will be able to fuse all viewpoints together, see the bigger picture of emergency management needs across the District (including traditionally under-served areas) while understanding they are responsible for final decisions. They will be able to equitably evaluate the perspectives given and to take the action that is likely to achieve the maximum amount of good for the organization.

Given that the Board has final approval over the hiring of the new Fire Chief, it is also imperative of the Board to ensure the Chief and their staff have their support. The Board's support, guidance, and trust will be critical for the new Chief's success in earning the trust of the community members as well. The Board must be invested in the new Chief's success and assist in promoting their role within the communities they represent.

Finally, one of the key commonalities in the successes of the two fire districts chosen for the case studies in this assessment (see Appendices B and C) was their transparency with their communities on their day-to-day projects and operations. Aside from the recommendations within this assessment, the ability of the District to provide opportunities for community engagement and transparency on the progress made towards those recommendations, on the day-to-day operations of OEM and other partners, and the resource needs and gaps for the District (or for city/town emergency management) will have far-reaching impacts on helping to build back trusted relationships between the parties involved.



# Appendices

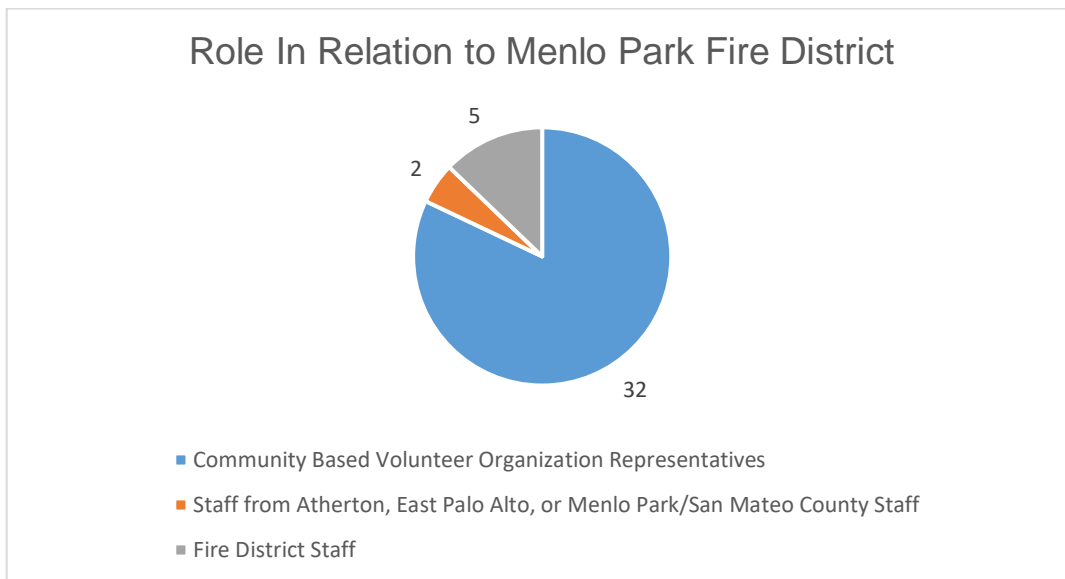
## Appendix A: Survey Analysis

### Overview

As part of the multi-pronged approach to collect stakeholder input, Menlo Park Fire Protection District in partnership with CONSTANT created the Menlo Park Fire Protection District Survey. Upon approval from the Board of Directors, the online survey was open from August 3, 2021, to September 17, 2021, and distributed to the following audiences:

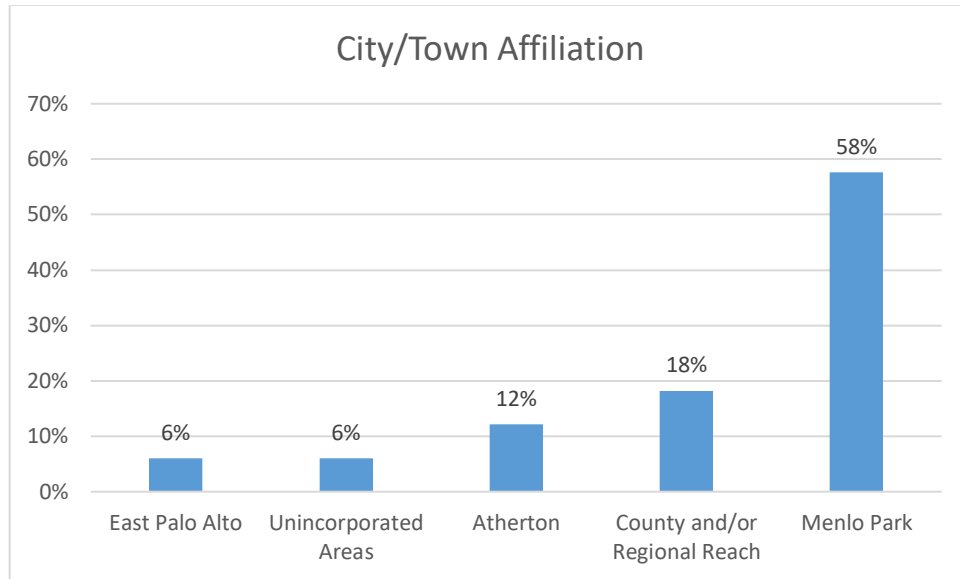
- Menlo Park Fire Protection District staff (i.e., District staff)
- Atherton, East Palo Alto, or Menlo Park/San Mateo County staff (i.e., municipal staff)
- Community Based Volunteer Organization representatives (i.e., CBO representatives)

Thirty-nine (n=39) people participated and provided feedback to the questions posed based on their role in relation to the Menlo Park Fire Protection District. Most respondents were CBO representatives and only two municipal staff completed the survey.



### Respondent Background

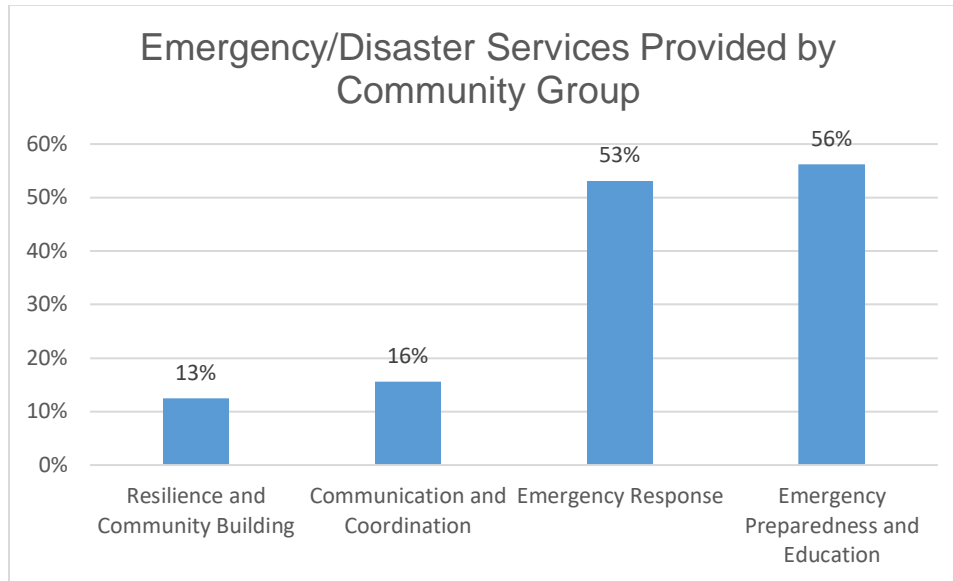
Out of the respondents who were not District staff, the city/town where they were employed or where their group primarily provided emergency/disaster services varied. More than half (58%) were affiliated with the City of Menlo Park and 18% indicated the area they served had a county or regional reach.



The 82% of respondents indicating they were CBO representatives were affiliated with one or more of the following community-based volunteer organizations:

- ADAPT
- ARES
- Blackberry REACT
- CERT
- Climate Ready North Fair Oaks
- EPA
- FAST
- Felton Gables
- MPC Ready
- Menlo Fire Community Crisis Management
- Red Cross

CBO members were asked to describe in an open-ended response the emergency/disaster services provided by their organization. Based on the brief descriptions, the types of services could be categorized as 1) Emergency Preparedness and Education, 2) Emergency Response, 3) Communication and Coordination, or 4) Resilience and Community Building. Many of the answers from respondents fell into more than one category, making percentages total more than 100%. However, all the responses given mentioned the organization either provided emergency preparedness and education or emergency response activities.



### Menlo Park Fire Protection District Capabilities

Two questions posed to District staff were focused on District capabilities and potential challenges/areas of improvement in providing services. They were:

1. What overall emergency/disaster capabilities does the Fire District contribute to the community?
2. What are the challenges/areas of improvement facing the Fire District in providing the community with emergency preparedness services and disaster response?

District staff indicated that, from their perspectives the District provides emergency preparedness and response services to the community. Multiple respondents listed community education and preparedness efforts as primary capabilities in addition to life-saving services such as fire response, search and rescue, and emergency medical services. Others stated that as a multijurisdictional entity, the District is in a “unique position to help facilitate the coordination of response and recovery efforts between the individual municipalities.”

While the District was seen as a coordination agency that can support preparedness and response activities in multiple municipalities, working with various jurisdictional agencies was seen as a challenge. Competing priorities between municipalities and government agencies, the lack of a joint EOC for the District, and low participation from partners were all noted as concerns from District staff. Multiple respondents also noted the issue of unrealistic expectations from the public and political entities. There was a reported perception that the community believes the District “is responsible for supporting the response and recovery efforts of the municipalities by providing staffing and guidance during an event.” However, District staff reported being understaffed and with limited resource capabilities to “keep up with workload, the spontaneous community requests, and the political pressures of preparedness needs.”



District staff respondents indicated that there was combined pressure from the Board of Directors advocating for volunteer groups rather than “disaster response and recovery capability building efforts” and from municipal staff referring citizen questions to the District. All these added responsibilities are placed on a District with “very limited staff and no ability to utilize or even engage the staff and/or resources of the local municipality having jurisdiction.”

### Relationships Between Partners

To gain the perspectives of CBO representatives and municipal staff on relationships between partners, three questions were asked:

1. CBO representatives - What are the strengths that impact the current relationship between your organization, your city/town, and the Fire District with regards to emergency preparedness and response?
2. CBO representatives - What are the challenges that impact the current relationship between your organization, your city/town, and the Fire District with regards to emergency preparedness and response?
3. Municipal staff - What are the challenges in obtaining support from the Fire District to city/town overall preparedness and response?

The most common strength reported was established relationships between partners. CBO representatives noted that they or their organization had strong relationships with fire departments, police departments, the District, and/or elected officials which assisted in “increased awareness of the need to prepare for disasters” and facilitates coordination. One respondent noted that their organization “coordinates our emergency quarterly drills with the Menlo Park Fire Station which encourages the residents and firemen to work together.”

Multiple respondents reported that a strength impacting their emergency preparedness and response relationships was a shared mission. All partner entities have a “strong desire to support the community in times of need” and believe that “we are all in this together, and the better prepared we all are, the better off everyone will be.”

Most respondents who reported a challenge impacting current relationships focused on the need to improve partner collaboration (e.g., coordination between the District, response agencies, municipal staff, and CBOs). Concerns included CBOs not being involved in response structures (e.g., command posts), that coordination is dependent upon governing boards and executives cooperating, and that some partners do not interact with or support others. Respondents specifically noted that volunteers were often engaged to fill in roles at response agencies and then their engagement and support was not seen as being respected. For instance, “volunteer trainers stepped up and were the saving grace of the [CERT] program” when CERT leadership was in transition and yet there is not a “well-articulated plan or model” for what CERT volunteers’ roles will be within the partner organization.

Another challenge raised was a lack of understanding or knowledge of response plans and a feeling that “there’s a big gap in connecting to and informing the residents” of preparedness and response planning efforts. Respondents noted a lack of transparency around emergency management programs and a lack of trust that plans were in place and preparedness





personnel were engaged in efforts to address emergency management issues in municipalities.

### Emergency Planning and Preparedness

Both District staff and municipal staff respondents were asked specifically about emergency planning and preparedness roles and responsibilities. The questions included:

1. Municipal staff - What do you understand is the role and responsibility of the Fire District in developing emergency plans and procedures and training as well as exercising staff for your city/town?
2. Municipal staff - What do you understand is the role of the Fire District in providing individual and community preparedness information, training and encourage emergency/disaster preparedness in your community?
3. Municipal staff - What are the significant strengths that the Fire District contributes to city/town emergency/disaster preparedness and response?
4. District staff - What do you understand is the role of the Fire District in providing individual and community preparedness information and training?

From the perspective of both District and municipal staff respondents, the District's role in emergency planning and community training/preparedness is to provide community education and support interagency collaboration. The District was described as having basic information that could be offered through community education programs such as "CERT training and individual/family preparedness training." However, respondents did not feel it was solely the District's responsibility to facilitate educational programs. One respondent noted that there is not a statutory requirement that the District provides community training but that "these programs were started years ago and have been continuously offered since then in one form or another." These programs were seen by respondents as being conducted "alongside our community partners" but that as the scope of the community education program grew, "expectations have also grown with little attention paid to assessing if the expectations are realistic."

Training and planning efforts were noted to be the responsibility of municipal agencies and that the District should be available to assist and support. Municipal staff noted that the role of District staff, and the strengths they contribute to disaster preparedness and response, are their expertise and the ability to advise municipalities. One respondent highlighted the efforts of a District employee stating that their "considerable experience [was] invaluable with assisting the city with emergency/disaster preparedness and response."

### Disaster Response and Recovery

All survey audiences were asked at least one question about disaster response and recovery roles and responsibilities in their jurisdictions. These included:

1. Municipal staff - Who in your city/town is responsible for leading and coordinating emergency/disaster response for your jurisdiction?



2. Municipal staff - Who is responsible in your city/town for leading and coordinating emergency/disaster recovery including requesting and receiving federal disaster relief for the public and reimbursement for government agencies?
3. CBO representatives - Who in your city/town/unincorporated county area is responsible for leading and coordinating emergency/disaster response and recovery for your jurisdiction?
4. District staff - What do you understand as the primary roles and responsibilities of the Fire District during an emergency/disaster response?
5. Municipal staff - What do you understand as the role and responsibility of the Fire District during emergency/disaster response in your jurisdiction?
6. Municipal staff - What do you see as the role of the Fire District in leading and coordinating emergency/disaster recovery in your city/town?
7. CBO representatives - What do you understand as the role and responsibility of the Fire District during emergency/disaster response in your jurisdiction?

Survey respondents listed a variety of groups and people that they believed were responsible for leading and coordinating disaster response and recovery in their jurisdiction. The most common response from CBO representatives was the name of their volunteer group or the leader of their organization. All municipal staff and some CBO representatives indicated it was the responsibility of local jurisdictional departments (e.g., fire, police) and a few CBO representatives reported that they believed the District was the lead agency.

The most common role for the District in emergency response and recovery reported by respondents was tactical on-the-ground activities. This included examples like “to protect life and property,” “assist citizens,” firefighting, emergency medical services, search and rescue activities, etc. The second most frequently described responsibility was interagency coordination and collaboration. District staff respondents all indicated either a tactical and/or interagency collaboration role. They described activities such as “EOC participation” and “[providing] subject matter EM experts to the localities...as part of the incident management support capabilities.”

Some CBO representatives stated that the District’s role in emergency response efforts was to “lead the response” or that “they are the ultimate authority.” Others were unsure what the District’s responsibilities were for response and recovery efforts in the community. One respondent said, “I have no idea” and wondered if the District would lead the response or if it was up to CERT teams to “help ourselves and our neighbors.” Another noted that the District’s emergency management duties are not clearly defined or described with a “limited public knowledge of [the] current state, including by elected officials making policy decisions.”

## Volunteers

CBO representatives and municipal staff were asked to provide perspectives on volunteer coordination and deployment.



1. Municipal staff - Who is responsible in your city/town for organizing, training and registering volunteers and coordinating with community volunteer groups such as the American Red Cross and Community Emergency Response Teams?
2. Municipal staff - What do you understand is the role and responsibility of the Fire District in organizing, training and registering volunteers and coordinating Community Emergency Response Teams?
3. CBO representatives - How is your group activated and deployed during an emergency/disaster?
4. CBO representatives - Have your group's members been registered as DSWVs with a city or county government? If so, which one?

The municipal staff respondents saw local jurisdictional agencies (e.g., police department, community development department) as being responsible for organizing volunteer groups and the District as coordinating the CERT program.

Two of the most common ways CBO representatives noted that they activated during a disaster was either through a volunteer coordinator or through self-deployment. "Block captains" or "neighborhood coordinators" were said by some to connect with volunteers and coordinate the citizen response. Other respondents noted that they "will self-activate and deploy to help our neighbors after first checking on our...household's safety" and then "gather at the assembly point and organize into teams to do reconnaissance, search and rescue, triage & medical treatment, etc." A few respondents indicated that they would activate after receiving emergency alerts or communications from local response agencies such as fire or police departments.

Most people asked if their group members had been registered as Disaster Service Worker (DSW) Volunteers were unsure if or who had been registered. Some stated that they believed those who were CERT trained/certified were registered but did not provide the name of a jurisdiction. One respondent was personally registered with a Disaster Medical Assistance Team (DMAT) under HHS and two stated they were a DSW for Santa Clara County but that the local San Mateo County did not have the option available. Feedback from CBO representatives was that "the bureaucracy on getting this [DSW] designation is a nightmare!" and that "nobody can give a clear explanation [about registering]."



## Appendix B: Comparative Case Study #1 - San Ramon Valley Fire Protection District

Appendices B and C provide comparative case studies of two California Special Fire Districts that serve similar communities (i.e. population, geographic size, state oversight, etc.). These case studies provide an introduction, background, reasoning for case study selection, legal requirements, organizational structure, and key findings that could benefit the Menlo Park Fire Protection District.

### Introduction

A spirit of transparency and collaboration strengthens the San Ramon Valley Fire Protection District (SRVFPD), exemplified in its mission statement, “One Team, One Mission.”

### Background

The SRVFPD is an autonomous Special District consisting of a service area of approximately 155 square miles, servicing the communities of Alamo, Blackhawk, the Town of Danville, Diablo, the City of San Ramon, the southern area of Morgan Territory, and the Tassajara Valley.<sup>24</sup> Overall, the District serves a population of approximately 193,000 people which grows by another 30,000 commuters to include personnel employed in the Bishop Ranch Business Park.<sup>25</sup>

The District began as a volunteer fire department in 1912, and grew to become a Special District out of several reorganizations and mergers. Today, the SRVFPD employs approximately 200 personnel and 50 volunteers.

The SRVFPD staffs 15 companies, and is comprised of 10 fire stations, nine quarters for paid firefighters, and one remote station in addition to 21 reserve firefighters. In addition, it maintains an administration building and a training facility. It facilitates training for a robust CERT, which trains citizen volunteers. Its service area contains expansive wildland areas, single-family homes, urban areas, a regional hospital, and a facility housing a low-level nuclear reactor.<sup>26</sup>

The SRVFPD developed and maintains its own Emergency Operations Plan. This Plan specifies the District’s responsibility during a disaster with the acknowledgement that it will serve as the primary provider of firefighting, medical services, rescue services, and hazardous materials release mitigation to the communities it serves, as specified by statutory authority

<b>San Ramon Valley Fire Protection District</b>	
Predecessor: 1912 - Danville Farm Defense Fire District	
Predecessor: 1921 - Danville Fire Protection District	
Predecessor: 1963 – East County Fire Protection District reorganized into San Ramon Fire Protection District	
Current: 1980 – LAFCO consolidated San Ramon Fire Protection District and Danville Fire Protection District into San Ramon Valley Fire Protection District	
Area	155 sq. mi.
Population	186,000
Employees	181

<sup>24</sup> Contra Costa County Local Hazard Mitigation Plan, approved in 2018

<sup>25</sup> San Ramon Valley Fire Protection District, Comprehensive Annual Financial Report, 2020

<sup>26</sup> Contra Costa County Local Hazard Mitigation Plan, approved in 2018.



and the Emergency Operations Plans for the City of San Ramon, the Town of Danville, and Contra Costa County.<sup>27</sup>

Executive staff within the SRVFPD are responsible for distinct operational functions of the District:

1. Deputy Chief-Operations/Emergency Medical Services – Delivery of emergency services to citizens and the public, and overseeing the training and education of District personnel
2. Deputy Chief-Training/Logistics/Fire Marshal – Delivery of training and ensuring essential District facilities, equipment, apparatus and vehicles are maintained and updated; ensures prevention services are efficient and effective; oversees code compliance, exterior hazard abatement and provides public education to citizens and customers of the District
3. Director of Emergency Communications – Acquisition and maintenance of districtwide information and communications systems, ensuring that citizens in need of emergency and non-emergency services are matched quickly and effectively with appropriate resources; monitors the location and status of emergency response resources in the District
4. Human Resources Director – Oversees personnel standards and procedures, recruiting and hiring District employees, risk management, labor negotiations and benefits administration
5. Chief Financial Officer – Responsible for the District's financial policies, systems, and procedures.

### Case Studying Reasoning

The SRVFPD was chosen as a case study for comparison to the Menlo Park Fire Protection District (MPFPD) due to its close proximity, similar historical background, and industry best practices. Both Districts have experienced significant growth in their respective service areas alongside booming population growth. Both the MPFPD and SRVFPD serve unincorporated areas, towns, and cities, making the municipal makeup of both districts similar.

In addition, both districts participate in active public engagement, awareness, and education opportunities. The SRVFPD has won 19 consecutive awards from the Government Finance Officers Association for its Comprehensive Annual Financial Reports (CAFRs), demonstrating a spirit of transparency and full disclosure that reaches beyond minimum requirements of accounting principles.

### Legal Requirements

The SRVFPD is an autonomous Special District as defined under the Fire Protection District Law of 1987, Health and Safety Code, Section 13800, of the State of California.<sup>28</sup> It is governed by a five-member Board of Directors, serving staggered four-year terms and elected

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<sup>27</sup> San Ramon Valley Fire Protection District Emergency Operations Plan, 2019

<sup>28</sup> Contra Costa County Local Hazard Mitigation Plan, approved in 2018



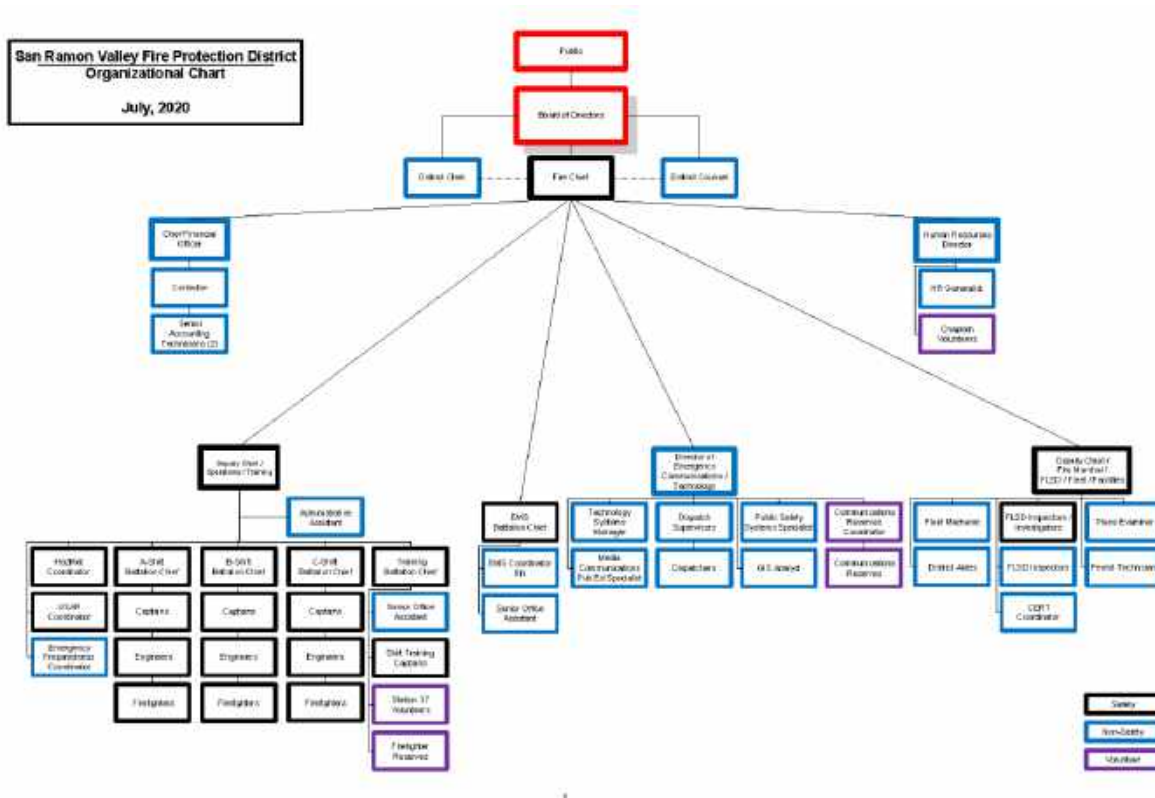
at-large by the populace. The directors provide financial oversight and strategic policy direction to maximize the public value of District services.<sup>29</sup>

### Organizational Structure

The Fire Chief serves as the CEO of the District. In collaboration with the Board of Directors and in partnership with all members of the organization, the chief provides direction, protection, and order to the District.<sup>30</sup>

According to the SRVFPD organizational chart, the public elects the Board of Directors, who interacts directly with the District Fire Chief. Alongside the Fire Chief operate the District Clerk and District Council. The organizational chart can be seen below:

Figure 1: SRVFPD Organizational Chart



The District can adequately staff the capacity to handle two simultaneous structure fires and two to three medical emergencies before requiring assistance from the regional mutual aid response system. The total population served by the District in 2009 exceeded 160,000 people.<sup>31</sup>

<sup>29</sup> San Ramon Valley Fire Protection District Website, “Board of Directors”  
<sup>30</sup> San Ramon Valley Fire Protection District Website, “Fire Chief”  
<sup>31</sup> San Ramon Valley Fire Protection District, “Standards of Cover,” August 2010



## Community Outreach

The SRVFPD takes part in the San Ramon Valley Emergency Preparedness Citizen Corps Council (SRVEPCCC) to promote public education and awareness related to all-hazards preparedness and response. The council includes city managers from the Town of Danville and the City of San Ramon, the fire chief, police chiefs, mayors, and emergency managers. This council includes running operations for programs such as CERT and Access and Functional Needs (AFN) training; it also supports a team versed in emergency communications.<sup>32</sup> This council works collaboratively as part of a Joint Powers Authority (JPA) that includes Contra Costa County, the San Ramon Valley Unified School District, the City of San Ramon, and the SRVFPD. The District's CERT program includes over 650 trained members, with pre-determined scope and capabilities.<sup>33</sup> Students that take part in CERT trainings are sworn in as DSWVs for the District and are used to augment first responder and rescue teams during disaster and emergency incidents, and may also assist in recovery activities.

The SRVFPD also hosts Be Ready SRV, which is a page on its website that provides recent information regarding emergency preparedness for all ages. It provides resources and guides for information gathering, preparation activities, awareness activities for children, supply checklists, and training opportunities.

The SRVFPD website hosts a community event calendar so that community members can stay up-to-date on activities offered by the District including class registrations and its HeartSafe activities. The HEartSafe Committee trains residents in the Hands-Only CPR method through booths at community events, presentations to civic groups, its CPR in the Schools program, and in trainings.

## Key Findings

The District gives more mutual aid than it receives from its partner agencies, and benefits from strong mutual aid agreements that assists the District in maintaining performance during times of resource strain or depletion.<sup>34</sup> During the COVID-19 pandemic, this strong foundation in mutual aid and transparent financial management allowed for the SRVFPD to maintain strong fund balances and even waive fees for small businesses without risking any changes to operations or safety.

Similar to the MPFPD, the Fire Chief acts as the main conductor of public concerns as filtered through the Board. The establishment of the SRVEPCCC may be a best practice, as it spreads responsibility for training, public initiatives, and awareness activities across several jurisdictions and agencies. This allows a collaborative approach to public engagement and keeps the District from being overwhelmed by demand from the public.

Overall, the District seems to benefit from strong relationships with the public, consistently showing District equipment and capabilities at local demonstrations, shows, and fundraisers in addition to training and preparedness opportunities. The District Facebook posts frequent

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<sup>32</sup> Contra Costa County Local Hazard Mitigation Plan, approved in 2018

<sup>33</sup> San Ramon Valley Fire Protection District Emergency Operations Plan, 2019

<sup>34</sup> Standards of Cover Deployment Analysis, August 2010



updates and includes comment replies to public inquiries and responses especially during emergencies. These small gestures demonstrate transparent communication and help to build community trust, fostering tight-knit community relationships.





## Appendix C: Comparative Case Study #2 - The East Contra Costa Fire Protection District

### Introduction

A fire district with strong Board of Director support and a dedication to transparent communication demonstrates how to address community concerns and bring focus to a shared mission of preserving and protecting life, property, and the environment.

### Background

The East Contra Costa Fire Protection District (ECCFPD) is a rural special district that protects approximately 128,000 residents within a 249 square mile radius. ECCFPD personnel respond to over 7,700 calls a year that depend on approximately 9,590 fire engine responses in urban, rural, and what is formally designated Frontier/Wilderness areas. It provides firefighting and emergency medical services to the residents and businesses of the cities, towns, and territories covered within its boundaries. There are a total of three fire stations with three firefighters staffing each of them (i.e., a total district staffing of nine firefighters) each day.<sup>35</sup>

Formally formed in 2002 by combining the Bethel Island Fire District, The East Diablo Fire District, and the Oakley Fire District, ECCFPD has been closing fire stations throughout the area to reduce costs and stay within budget. However, during a strategic planning data collection process, it was found that ECCFPD had response times significantly higher than recommended national averages.

Based on these findings and feedback from stakeholders, a Master Plan was developed to define ECCFPD's current capabilities and recommendations for the adequate level of staffing and resources for fire and rescue protection in the district. The ECCFPD's Master Plan called for nine stations to adequately provide coverage to the District's citizens and businesses and the district proposed opening strategic locations to enhance its response capacity.<sup>36</sup>

However, concern continued to increase around resource availability and its impacts on emergency response. ECCFPD shared finance and resource allocation information to the public through monthly reports, strategic planning documents, recorded Board presentations, and yearly budgets. Board members and the Fire Chief jointly validated the public's concerns about response times while also linking them back to financial limitations in public communications. Then, in 2021, a series of fire district annexation studies were reviewed.<sup>37</sup> The findings showed that resource limitations were projected to continue for ECCFPD. In September 2021, ECCFPD and Contra Costa County Fire Protection District (Con Fire) Boards of Directors approved the annexation of ECCFPD to Con Fire. This move was determined by

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<sup>35</sup> ECCFPD Website. <https://www.eccfpd.org/about-the-district>

<sup>36</sup> ECCFPD About and History Webpages. <https://www.eccfpd.org/about-the-district>

<sup>37</sup> Fire District Annexation Study. July 2021. [https://legistarweb-production.s3.amazonaws.com/uploads/attachment/pdf/968312/Fire\\_District\\_Annexation\\_Study\\_FINDINGS-\\_7-2021-2.pdf](https://legistarweb-production.s3.amazonaws.com/uploads/attachment/pdf/968312/Fire_District_Annexation_Study_FINDINGS-_7-2021-2.pdf)



both districts and its Boards to be the best way to increase response times and address resource shortages for ECCFPD.<sup>38</sup>

### Case Study Reasoning

ECCFP was chosen as a case study comparison due to both its similarities to Menlo Park Fire District and its industry best practices. Like the District, ECCFP covers both urban and unincorporated areas and it works in conjunction with distinct municipalities that have their own departments charged with coordinating disaster response efforts. It, along with its local municipal agency and community based organization partners, engages in community preparedness education and outreach. Additionally, like the District, ECCFP has sought to engage its various stakeholders when assessing its capabilities and defining its strategic objectives. In 2018, ECCFP conducted a strategic planning initiative that interviewed and surveyed partner agencies, ECCFP staff, and community members. This resulted in an outline of ECCFP's goals and strategies for 2019-2023.<sup>39</sup>

An area of best practice that drew ECCFPD to the fore as a case study is its transparency and public communication initiatives. It was even awarded the Special District Leadership Foundation Transparency Certificate of Excellence in 2019. This award recognized the outstanding efforts of ECCFPD in promoting transparency and good governance as well as being open and accessible to its stakeholders.<sup>40</sup> Some of efforts ECCFPD emphasizes on their webpage is openness about finances including where money for the district comes from, how it has been spent, and the pay ranges of its employees and the "We are Listening" initiative with a video series from ECCFPD's Chief. Additionally, ECCFPD Board members are shown within public communications to support the Fire Chief and the district's activities. Calls for increased resources and public support appear to be a joint effort between ECCFPD and its Board.

### Legal Requirements

The Fire Protection District Law (Health and Safety Code §13800 et seq.) is the source of statutory authority for ECCFPD. Under this law the district has the rights and power to carry out its function of providing fire protection and other emergency services.<sup>41,42</sup> As a designated special district under the California Constitution, ECCFPD is governed by an elected Board of Directors. This is a legislative body with centralized power that holds collective authority within the district and individual directors do not retain individual authority. Per Board policies, the directors are required to represent and act for the community as a whole, rather than towards

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<sup>38</sup> Kukulich, T. 2021. Fire District Vote Should Resolve Resource Shortage in East County. The Press. [https://www.thepress.net/townnews/institutes/fire-district-vote-should-resolve-resource-shortage-in-east-county/article\\_6d92d2bc-1c93-11ec-9fb6-973cb44ade3a.html](https://www.thepress.net/townnews/institutes/fire-district-vote-should-resolve-resource-shortage-in-east-county/article_6d92d2bc-1c93-11ec-9fb6-973cb44ade3a.html)

<sup>39</sup> ECCFPD Strategic Plan 2019 through 2023. [https://www.eccfpd.org/files/f774145fb/ECCFPD\\_Strategic\\_Plan\\_2018.pdf](https://www.eccfpd.org/files/f774145fb/ECCFPD_Strategic_Plan_2018.pdf)

<sup>40</sup> ECCFPD Press Release. 2019. <https://www.eccfpd.org/august-2019-eccfpd-awarded-the-sdlf-district-transparency-certificate-of-excellence>

<sup>41</sup> ECCFPD Strategic Plan 2019 through 2023. [https://www.eccfpd.org/files/f774145fb/ECCFPD\\_Strategic\\_Plan\\_2018.pdf](https://www.eccfpd.org/files/f774145fb/ECCFPD_Strategic_Plan_2018.pdf)

<sup>42</sup> Senate Governance and Finance Committee. The Fire Protection District Law of 1987. <https://sgf.senate.ca.gov/thefireprotectiondistrictlawof1987>



the good of “any fractional segment of the community.” Additionally, the Board is expected to delegate operational aspects of the district to ECCFPD staff members.<sup>43</sup>

ECCFPD Board Policy No. 241 stipulates that:

*It is the policy of the district to create and maintain an active emergency preparedness program to manage the district’s critical functions during any emergency and to protect district staff. The district will coordinate the emergency plan, function and response with those responders from the public and private entities and organizations charged with emergency services.*

According to this policy should an emergency declaration be needed within district boundaries, the Fire Chief, in consultation with the Board President, will contact city/county officials where the emergency exists. The Fire Chief may declare an emergency which must then be ratified by the Board and made public.<sup>44</sup>



Within its jurisdiction, ECCFPD has entered into various agreements with Contra Costa County, the City of Brentwood, and the City of Oakley for certain services and/or the provision of fire stations. However, it makes clear to the public on its website that ECCFPD is not funded by general funds of those entities, it does not drive their budget or policy decisions, nor vice versa. The district is also in a contractual relationship with CAL FIRE to serve as first responders in the Marsh Creek/Morgan Territory area and ECCFPD pays CAL FIRE to keep that station open in the non-wildfire season.

During a declaration of emergency with ECCFPD, the Fire Chief may request mutual aid in accordance with the emergency plan and the California Master Mutual Aid Agreement (Government Code §§ 8561-8619.5). This may include requesting aid from other agencies or committing district resources to agencies requesting aid.<sup>45</sup>

Of the eight cities, towns, and territories within ECCFPD’s boundaries, only three include emergency preparedness or response information on their websites. The Town of Discovery Bay provides links to health and safety information (including ECCFPD’s website)<sup>46</sup> while the City of Brentwood offers an emergency preparedness page with family disaster plan

<sup>43</sup> ECCFPD Board Policy No. 130: Basis of Authority. <https://www.eccfpd.org/files/64f46e01c/No.+130+-+Basis+of+Authority.pdf>

<sup>44</sup> ECCFPD Board Policy No. 241: Emergency Preparedness. <https://www.eccfpd.org/files/66d15ebfb/No.+241+-+Emergency+Preparedness.pdf>

<sup>45</sup> ECCFPD Board Policy No. 241: Emergency Preparedness. <https://www.eccfpd.org/files/66d15ebfb/No.+241+-+Emergency+Preparedness.pdf>

<sup>46</sup> The Town of Discovery Bay. Health & Safety. <https://todb.ca.gov/health-safety>



information<sup>47</sup> and notes in its 2019-2020 strategic plan that a focus area is improving disaster preparedness for the community.<sup>48</sup> Only the City of Oakley provides a publicly available emergency operations plan. Within this plan, ECCFPD is listed as one of multiple response agencies contributing to emergency procedures. There are also readiness and response checklists for ECCFPD which outline actions and responsibilities. These range from assuming incident command to coordinating and communicating with city agencies.<sup>49</sup>

## Organizational Structure

Division leads as well as key ECCFPD staff are introduced to the public on the website. These positions include the Fire Chief, Chief Administrative Officer, Fire Marshal, and three Battalion Chiefs.

While governed by the Board of Directors, the Fire Chief holds numerous responsibilities. In addition to those described above regarding disaster declarations, Board Policy No. 190 describes in detail the Fire Chief's Role. He/she/they is the administrative head of the district under the direction of the Board and is responsible for administration of all district affairs.

Specifically, he/she/they is responsible for:

The implementation of policies established by the Board of Directors for the operation of the district;

- The planning, direction, and coordination of the day-to-day operations of the District through the appropriate members of District management including administration, financing, maintenance, engineering, human resources, and others to effect operational efficiency;
- The appointment, supervision, discipline, and dismissal of the District's employees, consistent with the employment policies established by the Board of Directors;
- Attend and participate in District Board meetings, prepare and present reports as necessary, represent the Board before external organizations including other agencies, governmental and regulatory entities, business and community groups;
- The supervision of the District's facilities and services; and
- The supervision of the District's finances.

The Fire Chief is appointed by and serves at the pleasure of the Board. Board members deal with matters within their authority through the Fire Chief at convened Board meetings and not through other District employees. District employees other than the Fire Chief are not to be

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<sup>47</sup> City of Brentwood. Emergency Preparedness. <https://www.brentwoodca.gov/gov/police/emergency/default.asp>

<sup>48</sup> City of Brentwood Strategic Plan FY2018/19-FY2019/20.  
<https://www.brentwoodca.gov/civicax/filebank/blobdload.aspx?BlobID=24417>

<sup>49</sup> City of Oakley Emergency Operations Plan. <https://www.ci.oakley.ca.us/wp-content/uploads/2015/05/Emergency-Plan-2007.pdf>



requested by Board members to “undertake analyses, perform other work assignments, or change the priority of work assignments.”<sup>50</sup>

## Community Outreach

Primary outreach to the community is conducted through the public education division. ECCFPD hosts school presentations, participates in community events, contributes to news stories, and develops public service announcements to share injury and fire prevention information. Board Policy 430 encourages district staff to directly engage with the public through organized activities throughout the service area. Although community outreach cannot interfere with response and prevention duties, a variety of example activities are described in the policy (e.g., tours of facilities, community events, displaying district apparatus, ride-alongs).<sup>51</sup>

The ECCFPD website hosts a number of public facing materials and opportunities for engagement with the community. News and press releases are frequently updated and contact information for the PIO is provided. The Fire Chief hosts a video series available on both the ECCFPD website and on YouTube. This series is in response to the “We Are Listening” initiative of the district. A Board initiated initiative, it is focused on outreach to the public to understand their perspectives, concerns, and needs prior to implementing any new activities or plans within the district. The posted videos show the Fire Chief, district employees, Board members, and residents providing an overview of the district, discussing concerns, and answering frequently asked questions. The Fire Chief is often at the forefront of the videos addressing the biggest and most common questions posed by stakeholders.<sup>52</sup>

### “We Are Listening” Initiative Video Topics

- COVID-19 Response
- Fire District Response Times
- Resource and Service Levels
- Firefighter Compensation and Benefits
- A Day in the Life of ECCFPD

Although ECCFPD does not directly manage or lead community response programs, it did emphasize the importance of these efforts in relation to its strategic goal of developing a community risk reduction program. One of the strategies listed in the strategic plan was to “support and encourage the development of a CERT program for improved community-based self-help during a natural disaster.”<sup>53</sup> The Implementation Action Plan for January to September 2020 showed that ECCFPD has continued to cooperate with the Brentwood CERT program and the newly established Oakley CERT program. It also noted that there was an anticipated launch of CERT programs in Marsh Creek and Morgan Territory. Although it was not clarified what agency would be running these programs.<sup>54</sup>

<sup>50</sup> ECCFPD Board Policy No. 190: Overview of the Fire Chief’s Role. <https://www.eccfpd.org/files/c53c09cdd/No.+190++Overview+of+the+Fire+Chief%27s+Role.pdf>

<sup>51</sup> ECCFPD Board Policy No. 430: Outreach Activities. <https://www.eccfpd.org/files/a524535bd/No.+440++Outreach+Activities.pdf>

<sup>52</sup> The Chief’s Video Series. <https://www.eccfpd.org/the-chief-s-video-series>

<sup>53</sup> ECCFPD Strategic Plan 2019 through 2023. [https://www.eccfpd.org/files/f774145fb/ECCFPD\\_Strategic\\_Plan\\_2018.pdf](https://www.eccfpd.org/files/f774145fb/ECCFPD_Strategic_Plan_2018.pdf)

<sup>54</sup> ECCFPD Strategic Plan Implementation Action Plan Monitoring Report. January to September 2020. <https://www.eccfpd.org/files/9270d80d8/October+14+2020+Board+of+Directors+Regular+Meeting+Agenda+Packet.pdf>



## Key Findings

The ECCFPD faced concerns from residents and district personnel about service response times and the ability of the district to achieve its mission with the financial and resource constraints it was under. To better define existing and recommended capabilities, a strategic planning process was undertaken which encompassed ECCFPD staff and Board perspectives, partner agency input, and resident feedback. Then, before the district implemented initiatives designed to reach strategic goals, the “We Are Listening” campaign gathered and addressed concerns in the community. This was one example of how ECCFPD sought to enhance the relationship between the district and the community.

Part of public information dissemination included the Chief’s Video Series which demonstrated direct communication with stakeholders and displayed the support of Board members for the Chief and ECCFPD. Interviews with Directors showed their adherence to Board policies of prioritizing the good of the community while also demonstrating a united effort of the Board and the district. The good governance of ECCFPD was further demonstrated in the prioritization of transparency with webpages specifically dedicated to sharing administrative and budgetary information.

An emphasis on operational transparency can also be seen in the clearly defined roles and responsibilities on ECCFPD’s webpages regarding response activities. Partner agencies demonstrate this through the identification of district roles within emergency plans, where they exist. Agreements and mutual aid are outlined in official documents and articulated up front to the public. Board policies likewise offer clarity on role and behavior expectations. They outline ethical conduct from the Board and the Fire Chief as well the limitations of their authority in enforceable policies.

Although ECCFPD is expected to be annexed with Con Fire, it continues to make progress towards achieving its strategic goals. It is working to strengthen partnerships with CERTs and support resident preparedness and safety. In its openness about limited resources, ECCFPD creates strategies that are achievable and within the confines of its authority. Collaboration with and encouragement of volunteer groups and fellow response agencies strengthens partnerships to allow the district to meet its mission despite financial restrictions.

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## **Appendix L3**

### Menlo Park Fire Protection District Community Risk Assessment: Standards of Cover







# Menlo Park Fire Protection District *California*



## COMMUNITY RISK ASSESSMENT: STANDARDS OF COVER

## Introduction

The following report serves as the Menlo Park Fire Protection District's Community Risk Assessment: Standards of Cover. It follows the Center for Fire Public Safety Excellence (CPSE) 6<sup>th</sup> Edition *Community Risk Assessment: Standards of Cover* model that develops written procedures to determine the distribution and concentration of a fire and emergency service agency's fixed and mobile resources. The purpose of completing such a document is to assist the agency in ensuring a safe and effective response force for fire suppression, emergency medical services, and specialty response situations.

Creating a Community Risk Assessment: Standards of Cover document requires that a number of areas be researched, studied, and evaluated. This report will begin with an overview of both the community and the agency. Following this overview, the plan will discuss areas such as risk assessment, critical task analysis, agency service-level objectives, and distribution and concentration measures. The report will provide an analysis of historical performance and will conclude with policy and operational recommendations.

ESCI extends its appreciation to the elected officials, business members, and community members of the District and the cities they protect, the members of the Fire District, and all others who contributed to this plan.

### *Menlo Park Fire Protection District Board of Directors*

**Robert Jones**

*President*

**Jim McLaughlin**

*Vice President*

**Chick Bernstein**

*Director*

**Virginia Chang Kiraly**

*Director*

**Rob Silano**

*Director*

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## Executive Summary

The Menlo Park Fire Protection District (MPFPD) contracted with Emergency Services Consulting International in 2019 to conduct a Center for Public Safety Excellence, 6<sup>th</sup> Edition-compliant, Community Risk Assessment: Standards of Cover report. This *Community Risk Assessment: Standards of Cover* report quantifies community risks and recommends standards of service.

ESCI analyzed the data provided by MPFPD and others to determine the current levels of response performance. From this analysis, ESCI also identified factors influencing risk, response performance, and has identified opportunities for delivery system improvement. This document establishes response time objectives and standards for measuring the effectiveness of District resources and the deployment of those resources. This report is divided into sections generally based on the format recommended by the Center for Public Safety Excellence, *Community Risk Assessment: Standards of Cover, 6<sup>th</sup> Edition*.

MPFPD serves a resident population of approximately 95,263 people and protects an area of roughly 29 square miles. MPFPD operates from seven fire stations. The District currently utilizes ten response apparatus, not including reserve apparatus. San Mateo County Office of Public Safety Communications (PSC) provides emergency (9-1-1) answering. PSC is an accredited 9-1-1 center and utilizes Medical Priority Dispatch to prioritize requests for emergency medical services (EMS).

The analysis completed during this study revealed a number of important findings. These include:

- The total response workload has increased by 17.9% over the past seven years.
- The current fire department utilization rate is 91.7 incidents per 1,000 population. This is comparable to similar communities.
- Requests for emergency medical services are 65.3% of all responses.
- Response workload is the highest around Fire Stations 2 and 6.
- Engine 2 is very near 10% utilization (UHU).
- The addition of the second truck company has resulted in the current daily staffing being at the upper limit of the recommended span of control for the one Battalion Chief per shift configuration.
- MPFPD lacks a District-wide program that fully identifies and pre-plans responses to target hazards.
- The amount of time PSC takes to dispatch fire department response units exceeds the MPFPD performance goal and national standards.
- The amount of time that response personnel take to assemble on apparatus and initiate response exceeds the MPFPD performance goal and national standards.
- The amount of time that units spend traveling to an incident exceeds the MPFPD performance goal and national standards.
- MPFPD provided an effective response force to 27 building fires during the study period. It delivered the effective response force to only 9 of those fires within the time defined in the MPFPD performance goals.
- MPFPD is quite dependent on neighboring agencies to deliver an effective response force.
- MPFPD has adopted written financial guidelines and practices.

- Population density is increasing steadily with multiple families living in single-family residences. Training and effective response force assignments should consider difficulties encountered by overcrowding in residences.
- Traffic will continue to increase in the region, impacting MPFPD streets and roadways. Peak traffic times may decrease the MPFPD ability to gather an effective response force within the recommended guidelines.
- Buildings are increasing in vertical size. This will increase the response times to the incident as firefighters must travel vertically before they arrive at the patient or fire location.
- There are numerous large residential structures in the district, some of which lack residential fire sprinklers.
- Natural disasters can occur in the service area. MPFPD should continue to work with the local community to ensure community resilience and preparedness.
- While very few unreinforced masonry buildings still remain, these buildings remain a concern during seismic and fire activity.
- The District's financial statements are audited, and its submission of its Comprehensive Annual Financial Report (CAFR) has resulted in its receipt of the Certificate of Achievement for Excellence in Financial Reporting from the Government Finance Officers Association.
- The District has a detailed calendar for the preparation and adoption of its annual budget.
- The District follows sound business practices accounting for its operations through the use of four major funds; General Fund, US&R Special Revenue Fund, Capital Improvement Projects Fund, and Debt Service Fund.
- The District has established an Apparatus and Equipment Replacement Plan to ensure adequate funds are available for the replacement of apparatus and equipment.
- MPFPD has experienced an average of 6.1% increase in assessed property valuation between FY 17/18 and FY 08/09; increasing from \$20,911,498,219 in FY 08/09 to \$34,832,408,120 in FY 17/18.
- The CalPERS Classic pension plans were closed to new employees on January 1, 2013. Employees hired after January 1, 2013, are eligible to enroll in the PEPRAs plans.

The analysis conducted during the evaluation phase of this process identified a number of opportunities to improve service (Improvement Goals). The following recommendations are offered for consideration. These recommendations are described in more detail at the end of this report in the *Overall Evaluation, Conclusions, and Recommendations* section.

## RECOMMENDATIONS

### *Recommendation A: Continue to maintain adequate cash reserves to provide for emergency purchases or economic downturns.*

The Board of Directors should continue to place a high priority on closely monitoring the financial impact of changing economic conditions on the District's ability to maintain service levels, fund infrastructure needs, and maintain sufficient reserve balances. The Board should continue to follow its budget process of requiring recurring expenses to be paid with recurring revenue and to fund deferred compensation amounts annually.

### *Recommendation B: Continue to maintain the apparatus and equipment replacement plan and ensure sufficient funds are available to replace apparatus and equipment.*

The Board of Directors should continue with the established policies on the creation and maintenance of various capital expenditure plans and related reserve funds. Planning and setting aside funds for future capital expenditures allows for the replacements to be purchased with minimal impact on the funding for the delivery of services. These funds are currently in various accounting classifications, including "restricted," "committed," and "assigned," and can only be used for the stated purpose as determined by the Board of Directors.

### *Recommendation C: Continue to evaluate growth within the District to take advantage of opportunities to use specially designated tax revenues to fund stations or other capital assets.*

The Board of Directors should continue to seek alternative revenue sources, including grants or specially designated tax revenues. Funding assistance from any source outside the existing revenue stream reduces stress to improve service, replace apparatus, or build new stations on that existing revenue stream.

### *Recommendation D: Add a second Battalion Chief per shift for a total of three additional Battalion Chiefs.*

MPFPD currently staffs each operational shift with one Battalion Chief. The Battalion Chief's duties include coordination of all on-shift response personnel and supervision of response crews, ensuring coverage is balanced across the District, and assuming command of larger incidents. Typically, agencies staff with one Battalion Chief for every five response units. MPFPD's single on-shift Battalion Chief is managing nine response units. Adding a second Battalion Chief will improve overall shift management and enhance the District's effective response force.

### *Recommendation E: Implement a standardized program for pre-incident target hazard planning for operations personnel.*

Pre-incident planning is designed to provide information for responding personnel to assist with strategies and tactics during an event and provides building familiarization to operations staff. MPFPD should institute a standardized pre-incident target hazard planning program as soon as possible for operations personnel and develop a system to access the plans during an event.

***Recommendation F: Limit the use of traffic “calming” and other measures that increase travel time.***

Speed humps, hard medians, curb extensions, and other measures can slow traffic and improve highway safety—however, these also slow emergency response vehicles.

***Recommendation G: Work with the cities of Atherton, Menlo Park, and East Palo Alto to designate primary emergency access routes.***

The designation and marking of emergency access routes will enhance emergency response times during highly congested commute times.

***Recommendation H: Continue to work with the cities of Atherton, Menlo Park, and East Palo Alto to coordinate and, where appropriate, enhance emergency preparedness planning and response efforts.***

Where possible, the District should work to eliminate duplication of efforts and provide support to the City’s emergency preparedness planning and emergency operations center design and development.

***Recommendation I: Improve the efficiency of response to emergency medical incidents.***

MPFPD’s current practice is to send a fire engine to all emergency medical incidents regardless of severity. Response protocols should be modified to eliminate fire unit response to low-risk or ambulance-only responses.

***Recommendation J: Review dispatch processes to reduce call processing time.***

PSC’s call processing times are long as compared to national standards. Current overall call processing times are within 1 minute, 45 seconds, 90% of the time. For fire incidents, it is even longer within 2 minutes, 43 seconds, 90% of the time. National standards (NFPA 1221) recommend that call processing time for most calls should be within 64 seconds, 90% of the time. If medical dispatch triage questions are asked, as is the case here, the time is within 90 seconds, 90% of the time.

***Recommendation K: Reduce the turnout time interval.***

Turnout time is the period between when dispatchers notify response personnel of the incident and when response crews begin to travel towards the incident location. MPFPD’s performance goal for turnout time is currently within 2 minutes, 90% of the time. MPFPD’s overall turnout time performance is currently within 2 minutes, 3 seconds, 90% of the time.

***Recommendation L: Closely monitor the impact of new development on fire department workload.***

There exists developable land within MPFPD’s service area and areas that can and will be redeveloped to more intense uses. Response workload will increase because of rising population and service utilization rates.

***Recommendation M: Consider relocating Station 77 to a newsite.***

MPFPD is considering relocating Station 77 to a new location near the 1200 block of Willow Road in Menlo Park. Current and proposed first-due coverage was evaluated for both sites to determine if this relocation would provide a benefit.

***Recommendation N: Move Rescue 77 to Station 6.***

Rescue 77 was moved to Station 77 in January 2019. Moving this unit to Station 6 will provide a better result for the system. Station 6 is much busier than Station 77. Station 77 sits adjacent to two other stations (1 and 2) that house two response units each.

## Description of Community Served

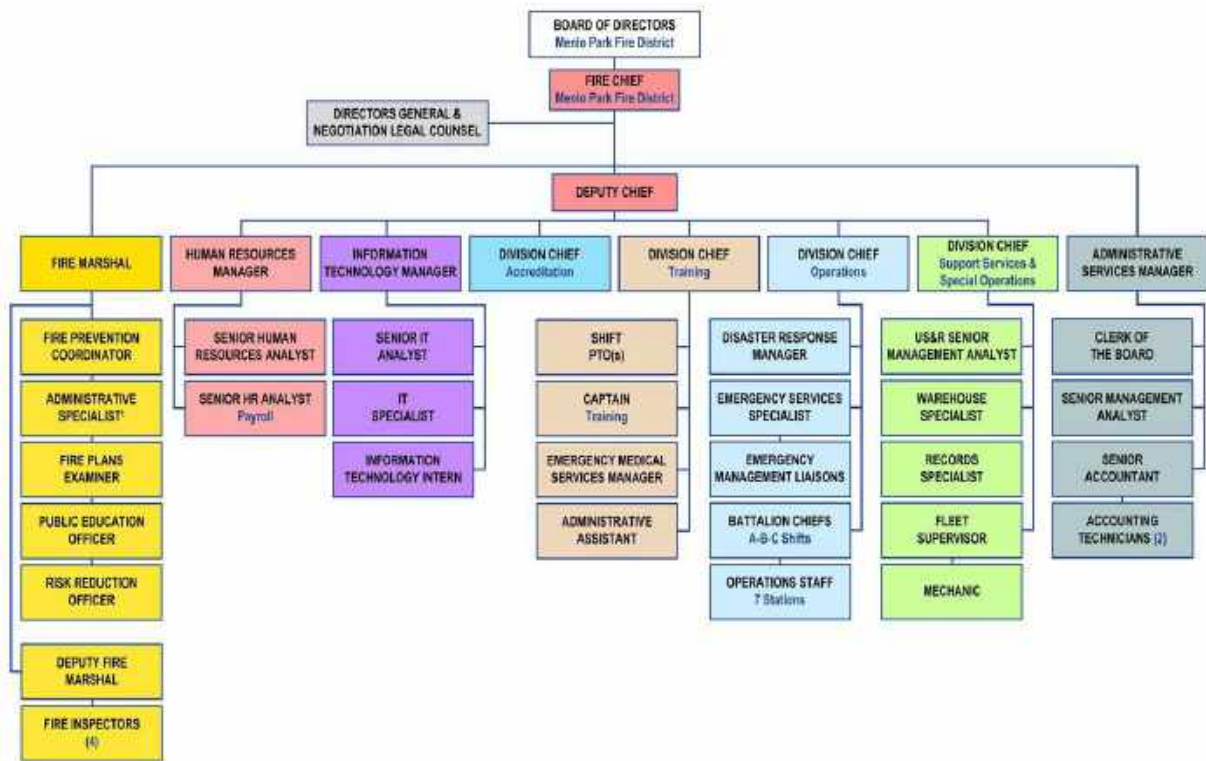
### ORGANIZATION OVERVIEW

This overview of the District focuses on the demographics, history, service delivery infrastructure, governance structures (and lines of authority), policies, and organizational design.

The Menlo Park Fire Protection District (MPFPD or District) was established in 1916; the District was reaffirmed and operates under the authority of the California Health and Safety Code Section 13800 et seq. (Fire Protection District Law of 1987). Located on the peninsula in the southernmost part of San Mateo County in the Metropolitan Bay Area, the District covers approximately 29 square miles that reach into the bay. The District's population is estimated at around 95,263. In addition, via a contract for services, the district provides fire and EMS response to the Stanford Linear Accelerator and National Department of Energy Laboratory.

MPFPD is a Special District governed by a Board of Directors comprised of five community members, duly elected by the citizens of the District and serving staggered four-year terms. As a Special District, MPFPD provides a full array of fire, rescue, and emergency medical services to the cities of East Palo Alto and Menlo Park, the Town of Atherton, and unincorporated areas of southern San Mateo County. The District employs 125 personnel and responds to approximately 8,743 calls for service annually. Currently, the District's assessed valuation is \$34.75 billion, with an approved budget for the fiscal year (FY) 2019–2020 of \$62,015,046. The Fire Chief is hired by and answers to the Board of Directors.

Figure 1: Menlo Fire Protection District Organizational Chart



\*Time split between Prevention, HR, & Administrative Services.

## Financial Overview

### Organizational Finance

The establishment of the financial policy for MPFPD is the responsibility of the Board of Directors with the Fire Chief responsible for fiscal administration. The District has an assessed valuation of approximately \$34.75 billion before the redevelopment increment.

The District uses a one-year budget cycle to prepare the operating budget and the capital improvement plan based on a July through June fiscal year. The general fund budget for all divisions of the fire department for FY 2020 is \$62,015,046.

The fire district's operating funds are generated primarily from property taxes. MPFPD generates additional revenue through billings for service, permit fees, redevelopment agency pass-throughs, homeowner property tax relief collections, and interest on invested funds.

The following figure lists the total actual revenue for MPFPD for FY 2014 through FY 2018.

**Figure 2: MPFPD Revenue, FY 2014–FY 2018**

Description	Actual 2013–2014	Actual 2014–2015	Actual 2015–2016	Actual 2016–2017	Actual 2017–2018
<b>Total Revenues</b>	<b>\$40,132,295</b>	<b>\$42,454,179</b>	<b>\$45,684,444</b>	<b>\$50,542,805</b>	<b>\$56,826,863</b>

The next figure shows the general operating expenditure history for the previous five fiscal years. During the five-year period, the District's operating expenditures increased by approximately 62%. Capital expenditures have increased dramatically as the District's Capital Improvement Program has rebuilt two stations and is continuing to execute its plan.

**Figure 3: MPFPD Actual Expenditures by Year, FY 2014–FY 2018**

Description	Actual 2013–2014	Actual 2014–2015	Actual 2015–2016	Actual 2016–2017	Actual 2017–2018
Operating Expenses	27,881,815	40,953,284	30,730,918	42,357,866	45,197,988
Capital Expenditures	1,909,554	4,340,850	4,591,325	12,521,567	22,364,246
Debt Service	1,001,585	1,002,210	1,020,489	1,017,766	1,002,685
<b>Total Expenditures</b>	<b>\$30,792,954</b>	<b>\$46,296,344</b>	<b>\$36,342,732</b>	<b>\$55,897,199</b>	<b>\$68,564,919</b>



The District has developed a comprehensive apparatus and equipment replacement program to plan for the obsolescence of its fleet of apparatus and equipment. This plan ensures that adequate funds are set aside for the replacement of old apparatus and equipment. Planning of this nature is important to the long-term financial and operational stability of any fire and emergency medical service organization. Such programs provide systematic development and renewal of the physical assets and rolling stock of the agency. The District has also created several Capital Improvement Projects Funds to pay for land acquisition, station improvement or replacement projects, and other major capital expenditures. These funds are derived from transfers from the General Fund or new debt instruments. The capital program must link with the planning process to anticipate and time capital expenditures in a manner that does not adversely influence the operation of the agency or otherwise place the agency in an unfavorable financial position. In 2012, MPFPD contracted with a facilities management firm to perform a detailed and comprehensive Facilities Condition Assessment of the District's Administration Building and its seven fire stations. As a result, the District commenced with a rebuilding project for its outdated fire stations.

### *Service Area Overview*

The Menlo Park Fire District is located on the peninsula in the southernmost part of San Mateo County in the Metropolitan Bay Area. It covers approximately 29 square miles that reach into the bay. The District's population is estimated at around 95,263.

**Figure 4: Menlo Park FPD**



### *Review of Services Provided*

MPFPD's service area includes the cities of East Palo Alto and Menlo Park, the Town of Atherton, the Stanford Linear Accelerator and the National Department of Energy Laboratory, and other unincorporated areas of southern San Mateo County. The District provides services from several strategically located fire stations housing seven enginefire companies, two Truck/Ladder Companies, one EMS Rescue, one Type 1 Heavy Rescue Unit, and several water rescue crafts (airboat, rigid bottom inflatable boat, jet skis). The District provides administrative support from one main administrative building and a secondary located behind the main building. These buildings house the offices of senior administrative staff and the Fire Prevention and Inspection Bureau. Additionally, MPFPD is the sponsoring agency for one of the CAL-OES Swift Water Rescue Task Forces and FEMA Urban Search and Rescue California Task Force #3.

MPFPD also provides and receives automatic and mutual aid to other agencies within the region. San Mateo County Office of Public Safety Communications (PSC) provides emergency (9-1-1) answering. PSC is an accredited 9-1-1 center and utilizes Medical Priority Dispatch to prioritize requests for emergency medical services (EMS).

### STAFFING INFORMATION

At the time of this study, there were 99 full-time shift personnel involved in delivering services to the jurisdiction. Staffing coverage for emergency response is through the use of career firefighters on 48-hour shifts. For an immediate response, no less than 32 personnel are on duty at all times. One of the 32 personnel on each shift is a Battalion Chief, who is responsible for commanding incidents and relieving company officers of that responsibility on multi-company emergency operations and more complex incidents.

The following figure illustrates administrative and staffing support for the Menlo Park Fire Protection District at the time of the study.

**Figure 5: Administrative and Support Staff**

Position	Number
Fire Chief	1
Deputy Chief	1
Division Chief	4
Fire Marshal	1
Deputy Fire Marshal	1
Fire Prevention Coordinator	1
Fire Inspectors	4
Administrative Support Staff	10
Administrative Captain	1
Fleet Mechanic (CSFirefighters)	2

The following figure illustrates response personnel by rank in the organization.

**Figure 6: Response Personnel by Rank**

Position	Number
Battalion Chief	3
Fire Captain	27
Firefighters cross-certified as Apparatus Operators	49
Firefighter—Career	20

## RESOURCES AS CURRENTLY DEPLOYED

The following figure provides basic information on each of the District's coreservices, its general resource capability, and information regarding staff resources for each service.

**Figure 7: Resource Staffing and Capabilities**

Service	General Resource/Asset Capability	Basic Staffing Capability per Shift
<b>Fire Suppression</b>	7 staffed engines 2 staffed ladder trucks 1 command response units 1 two-person rescue 1 Safety Officer  Additional automatic and mutual aid engines, aerials, and support units available.	32 suppression-trained personnel on-duty 24/7/365.  <b>Additional automatic and mutual aid firefighters available.</b>
<b>Emergency Medical Services</b>	7 Engines – ILS equipped 2 Ladder trucks – ILS equipped 1 Rescue – ILS equipped	32 minimum staffing 24/7/365 trained to BLS minimum, of those 10 full ALS Paramedics.
<b>Vehicle Extrication</b>	2 trucks equipped with hydraulic rescue tools, hand tools, airbags, cutting torch, stabilization cribbing, and a combination cutter-spreader hydraulic rescue tool.	32 minimum staffing 24/7/365, all firefighters vehicle rescue trained.
<b>High-Angle Rescue</b>	1 cross-staffed heavy rescue equipped with rescue-rated rope and all associated hardware.	66 personnel trained to RS1 level, no policy with respect to 24/7/365 minimum daily staffing. <sup>1</sup>
<b>Trench and Collapse Rescue</b>	1 cross-staffed heavy rescue equipped with pneumatic shoring jacks, cribbing, limited lumber, and hand tools for initial stabilization.	32 minimum staffing 24/7/365 trained to minimum Basic Trench Rescue and awareness.
<b>Swift-Water Rescue</b>	All engines and trucks equipped with throw bags, PFDs, and helmets. Two cross-staffed water rescue vehicles, two Air Boats (one is reserve), and one rigid hull inflatable.	42 certified as swimmers, 42 Swift Rescue Technicians, 20 Air Boat Drivers, 21 Rigid Bottom Inflatable Boats, and 20 Inflatable Rubber Boats. <sup>1</sup>

Service	General Resource/Asset Capability	Basic Staffing Capability per Shift
<b>Confined Space Rescue</b>	1 cross-staffed heavy rescue equipped with a tripod, cribbing, pneumatic shores, air monitoring equipment, basket stretchers, and rescue-rated rope.	32 minimum staffing 24/7/365 trained to a minimum, all personnel trained to the operations level.
<b>Hazardous Materials Response</b>	Hazardous Materials response vehicle equipped with personal protective equipment, gas and radiation monitoring equipment, containment supplies, and non-sparking tools.	32 minimum staffing 24/7/365 trained to minimum operations awareness level.

<sup>1</sup> Many District members are members of the CA-TF3 US&R Team and fully trained Larro, RS1, RS2, and RS3 in addition to supplementary training for each technician position.

### Apparatus/Vehicles

Other than firefighters assigned to stations, response vehicles are undoubtedly the next most important resource of the emergency response system. The delivery of emergency services will be compromised if emergency personnel cannot arrive quickly due to unreliable transportation or if the equipment does not function properly.

Fire apparatus are unique and expensive pieces of equipment, customized to operate efficiently for a narrowly defined mission. An engine may be built in such a way that the compartments fit specific equipment and tools. Virtually every space on a fire vehicle is designed for function. This same vehicle, with its specialized design, does not lend itself well to operate in a completely different capacity, such as a hazardous materials unit or a rescue squad. For this reason, fire apparatus offers little flexibility in use or reassigned purpose. As a result, communities across the country have sought to achieve the longest life span possible for these vehicles. Unfortunately, no piece of mechanical equipment can be expected to last forever. As vehicles age, repairs tend to become more frequent and more complex.

Parts may become more difficult to obtain, and downtime for repairs increases. Given the emergency mission that is so critical to the community, downtime is one of the most frequently identified reasons for apparatus replacement. Because of the expense of fire apparatus, most communities develop replacement plans. To enable such planning, communities often turn to the accepted practice of establishing a life cycle for apparatus that results in an anticipated replacement date for each vehicle. The reality is that it may be best to establish a life cycle for planning purposes, such as the development of replacement funding for various types of apparatus; yet, apply a different method (such as a maintenance and performance review) for determining the actual replacement date, thereby achieving greater cost-effectiveness when possible.

It is beyond the scope of work and the expertise of ESCI to provide a mechanical assessment of the apparatus. For a mechanical evaluation of the apparatus. The information that follows was provided by MPFPD staff.

The following figure lists the apparatus assigned to each of the seven MPFPD fire stations.

**Figure 8: MPFPD Fire Stations and Apparatus**

Station 1							
Apparatus Designation	Type	Year	Make/Model	Condition	Seating Capacity	Pump Capacity	Tank Capacity
<b>Battalion 1</b>	Pickup	2017	Chevy	Excellent	4	N/A	N/A
<b>Engine 1</b>	Type 1 Engine	2009	Pierce	Good	4	1,500	650
<b>Truck 1</b>	Truck	2003	Pierce	Good	4	N/A	N/A
<b>Engine 101</b>	Type 1 Reserve	2002	Pierce	Fair	4	1,500	650
<b>Training 101</b>	Type 1 Engine	2005	Pierce	Fair	4	1,500	650

Station 2							
Apparatus Designation	Type	Year	Make/Model	Condition	Seating Capacity	Pump Capacity	Tank Capacity
<b>Engine 2</b>	Type 1 Engine	2018	Pierce	Excellent	5	1,500	650
<b>Truck 2</b>	Truck	2018	Pierce	Excellent	5	N/A	N/A

Station 3							
Apparatus Designation	Type	Year	Make/Model	Condition	Seating Capacity	Pump Capacity	Tank Capacity
<b>Engine 3</b>	Type 1 Engine	2015	Pierce	Good	5	1,500	650

Station 4							
Apparatus Designation	Type	Year	Make/Model	Condition	Seating Capacity	Pump Capacity	Tank Capacity
<b>Engine 4</b>	Type 1 Engine	2019	Pierce	Excellent	5	1,500	650
<b>Engine 104</b>	Type 1 Engine	2002	Pierce	Fair	4	1,500	650
<b>Engine 504</b>	Type 6 Engine	2016	Pierce	Good	3	50	400

Station 5							
Apparatus Designation	Type	Year	Make/Model	Condition	Seating Capacity	Pump Capacity	Tank Capacity
Engine 5	Type 1 Engine	2018	Pierce	Excellent	5	1,500	650

Station 6							
Apparatus Designation	Type	Year	Make/Model	Condition	Seating Capacity	Pump Capacity	Tank Capacity
Engine 6	Type 1 Engine	2019	Pierce	Excellent	5	1,500	650

Station 77							
Apparatus Designation	Type	Year	Make/Model	Condition	Seating Capacity	Pump Capacity	Tank Capacity
Engine 77	Type 1 Engine	2009	Pierce	Fair	4	1,500	650
Engine 177	Type 1 Engine	2007	Pierce	Fair	4	1,500	650
Rescue 77	Type 5 Engine	2017	BME	Good	3	50	400
Engine 677	Type 6 Engine	2006	Ford	Fair	3	50	150
Quint	Quint	2016	Pierce	Good	5	2000	650

These are the types of apparatus shown in the preceding figure:

- **Engine**—Primary response unit from each station for most types of service requests equipped with a pump and ability to carry water.
- **Truck**—A specialized apparatus used for structure fires, rescues, and other service requests equipped with long ladders, salvage, overhaul equipment, and rescue tools.
- **Tender**—A vehicle used for fires in areas without fire hydrants that is designed to carry large quantities of water to a fire incident.
- **Wildland Engine**—A smaller vehicle with a pump and water tank designed to be used for brush and grass fires in wildland areas.
- **HazMat**—A vehicle that carries specialized equipment for use on hazardous materials emergencies.

### Apparatus Summary

Generally, fire agencies utilize the guideline as follows to establish capital equipment replacement programs:

- Engines: 15 years frontline and 5 years in reserve.
- Wildland Engines: 15 years frontline and 5 in reserve.
- Truck Companies: 15 years frontline and 5 to 10 years in reserve.

The level of activity, topography, and other factors may influence these guidelines.

## Review of Community Expectations

ESCI gathered community attitudes about the Menlo Park Fire Protection District and its services by direct interviews of stakeholders. ESCI completed 29 stakeholder interviews over a three-day period. Of the 29 interviewees, these stakeholders represented the Fire District Board, City and County Administration, Community Members, Business Community, MPFPD Labor, Administrative Staff Members, Human Resources, Chief Officers, and the Fire Prevention Bureau.

It is important to note that the information solicited and provided during this process was provided in the form of "individual inputs," some of which are perceptions as reported by stakeholders. ESCI accepted all information 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. The observations included in this report were confirmed by multiple sources, or the information provided was significant enough to be included. Based on the information review, the team was able to identify a series of observations, recommendations, and needs that are included in this report. The stakeholder responses are summarized next.

### STAKEHOLDER INPUT

#### *Citizen and Business Community Members*

##### ***Describe your expectations of the Fire District:***

- The Fire District should provide the community with an adequate response time.
- Be fiscally responsible.
- Have in place and follow, adequate and up-to-date policies and procedures.
- Be responsible to the ratepayers.
- Be transparent so that the public knows what is going on.
- Provide well-trained personnel that are thoughtful of the community's needs.
- That the District's website is informative, up-to-date, and provides the public an opportunity to fill out forms, communicate with the District, etc.
- That the Fire District is well organized and attract the right people to be members.
- Pleased with the direction the District is taking regarding accreditation and is aware of the Standards of Cover process.
- Provide the highest level/full spectrum of emergency services while protecting life and property.
- Be professional to the utmost degree.

##### ***Which of these expectations is not met to your satisfaction?***

- None! All expectations are being met.

***What do you think the Fire District is doing particularly well?***

- Fiscal planning is excellent.
- The growth of the District.
- Impressed that the District is a multi-city jurisdiction.
- East/West coverage.
- The website is updated, providing new information and is relatively easy to find whatever you are looking for, including being able to search for a form.
- Training is very good and is adapted to the Community.
- Members are trained as FEMA Search & Rescue Task Force 3 and Swift Water rescue.
- The District has the ability to obtain the appropriate equipment.

***Are there services that you think the District should be providing that they are not providing now?***

- Emergency Planning.
- The District should be more involved in training the citizens to be better prepared for emergencies, i.e., Disaster Preparedness.
- Improve community outreach.

***Are there services the District is providing that you think should be discontinued or done differently?***

- Eliminate duplication of services provided by the City and Fire District; it is not cost-effective.
- Improve the current process for inspections; perception is that it is taking too long.
- Members of the public have indicated there are too many fees charged by more than one agency. Possibly consider combining Fire, City, and Police fees.
- Implement a policy or protocol that governs whether or not the District will pilot equipment/new technology when approached by vendors and or from an internal source.

***When you dial 9-1-1 to report an emergency, how long should it take for help to arrive?***

- Immediately.
- Seven minutes, 90% of the time; however, if someone is not breathing 7 minutes isn't acceptable.
- Feel comfortable that they will get there as quickly as they can.

***Does that expectation change depending on where in the community you are located?***

- No, it does not, and it should not.
- Smaller quick-attack response units could decrease response time.



## *Administrative Support*

### ***What strengths contribute to the success of the Fire District?***

- The recruitment processes.
- The District's Rank and File, their training and skillsets.
- The District's current processes and procedures have resulted in the highest quality of workers in the District.
- Training Division.
- Good apparatus and rolling stock.
- Quality skillsets in the office.

### ***What does the District do well?***

- Recruitment and Retention.
- The Deputy Chief has buy-in from the line personnel.
- The relationship with line personnel is comfortable.
- The firefighters go the extra mile.
- Living in this community is better because of our Safety Officer's dedication.

### ***What are some areas in which you think the District could make improvements?***

- A Business Manager or position similar.
- Strategic Planning.
- The promotion or reclassifying process is focused on the individual rather than the position.
- There is a diversity problem; 90% of our employees are Caucasian.
- Explorer Program and Cadet Programs.

### ***What do you see as the top issues faced by the Fire District today?***

- Reorganization of Administration.
- Upgrade of the stations.
- Succession Plan—lack of.
- Growth Management/Vision/Traffic Management/etc.
- Consensus of the "buy-in"

### ***If you could change one thing in the Fire District, what would it be?***

- Fire Board-Fire District leadership relations.

### ***How would you describe the level of services provided by the District in particular by your division or section?***

- Extremely high.
- Everyone cares about what they are doing.
- A solid "A" or "A-."
- We do very well; there is always room for improvement.

## *Chief Officers, Labor Leaders, Rank & File*

### ***What strengths contribute to the success of the Fire District, and what does the District do well?***

- Manages emergencies well.
- Extremely strong Training Division.
- Trains at a high level.
- Provides a high level of service.
- Responds well.
- Deployment of apparatus and crews is strong.
- Solid members in the crew.
- The budget allows the District to attack a problem. Different from other fire agencies, funding is not a problem.
- The District fosters "Peer Review" and addresses issues before they get out of hand.
- We are very fortunate to attract and hire good people

### ***What are some areas in which you think the District could make improvements?***

- Succession planning.
- Improved communication with the Fire Chief.
- Gather together and stand true to our Mission Statement.
- Overtime is causing members to be overworked.
- A Strategic Plan is being prepared. At this point in time it is not adopted by the Board.
- Leadership training and Officer Development is needed.
- Improvement of communicating at the Senior Management level.
- The strained relationship with all jurisdictions including Atherton.

### ***What opportunities, from your viewpoint, are available in order to improve the District's services and capabilities?***

- Increased training at the Officer-level should be addressed.
- Consider developing an emergency management division and offer services to other agencies. A member of the District is highly qualified to create an Office of Emergency Services, manage training and exercises.
- Revisit the joint (Menlo Park Fire Protection District & Menlo City Police Department) Emergency Operations Center concept to prepare for disasters.
- Look at creating a Succession Plan and/or reviewing our structure top to bottom; reprioritize programs considering the process of elimination, when necessary.
- Complete a project before beginning a new one.
- Focus on mentorship for leaders.

***What challenges do you see in making those improvements?***

- The District's opportunities are endless; can we just focus on one or two items, complete them before moving forward?
- All ranks should get back into the Strategic Plan and learn it and do it.
- Increase Public Education by going into the neighborhoods.
- Consider developing a Community Classroom. Send a group of people into a neighborhood every weekend. Consider using Amazon's door-to-door program.

***What do you see as critical issues faced by the Fire District today?***

- The Mechanical Division is understaffed, has no Succession Plan, and has only two full-time mechanics.
- No set priorities.
- Increase communication with the Fire Chief.
- No County-wide HazMat team and no training for the County's Chief officers.
- Improve focus on what we are good at and what we want to be; cannot do everything.
- Relationship with the Town of Atherton.
- A staffing model is needed for the east/west traffic.
- Establish minimum daily staffing at 4 fire personnel.
- Focus on hiring new hires that are already Paramedics.
- Initiate Leadership training beginning at the Captain level.
- Improve internal relationships—top to bottom.
- A Management Staffing Study is needed.
- A Long-Range Plan, a Fiscal Master Plan, and a Succession Plan.
- Increased community engagement.
- Fire Board cohesion.

***Fire District Board, City & County Manager(s)******Describe your expectations of the Fire District.***

- Good partnerships that include a boundary-drop arrangement.
- Provide life and safety protection.
- Educate and provide emergency preparedness.
- Maintain an appropriate response time.
- Maintain partnership with other departments, i.e., Police, etc.
- Work with Public Works regarding traffic calming.
- The Fire District should provide the best emergency response services our residents deserve.
- View our residents as clients.
- The Fire District needs to promote itself.
- The Fire District needs to be innovative; think out of the box.
- Provide excellent quality service at an efficient cost.
- Cultivate high quality within the ranks while focusing on the future.
- Adapt to the changing environment utilizing current technology to improve the quality of services.

***Which of these expectations is not being met to your satisfaction?***

- Would like to see quicker response time(s).
- Need for more community outreach.
- Promote the District better—community outreach.
- Prepare for the future; several Officers will be retiring in the near future; no succession plan.
- Focus on controlling costs and being more efficient.
- The District is slow to adapt to changes in measuring how the change affects overall service.
- The District seems to lack the capacity for “planning.”

***Are there services that you think the Fire District should be providing that they are not providing now?***

- There exists a desire to have the District provide more community engagement.
- The Council wants more presence from the Fire District; there is no representation by the Fire District at their meetings.
- There is a need to mutually invest in an Emergency Preparedness Plan.
- Public Education is needed.
- The Fire District should be more visible; more community outreach. Be visible and approachable.
- District-based ambulance services.

***When you dial 9-1-1 to report any emergency, how long should it take for the help to arrive?***

- 5 to 7 minutes
- Less than 3 minutes; maybe longer on the west end.
- As quick as the ambulance; no longer.
- 6 to 8 minutes
- 4 to 5 minutes, depending on the time of day.
- As quickly as possible; pleased with current response time(s).

***Does that expectation change depending on where in the system service area you are located?***

- Yes.
- More staging should be considered during peak hours.
- There is a concern on the eastern side, that they will get there on time.
- Possibly; consider measuring demand levels and staffing efficiency in order to provide the appropriate service within an appropriate timeframe.

***There are two deployment strategies for fire service resources. The first suggests that all residents of the District should receive generally the same level of service (i.e., fire stations are spaced uniformly to equalize response time throughout the community). The other suggests resources should be deployed to serve the next most-likely emergency to occur (the more populated an area, the more likely an emergency will occur). One choice tries to create as much equity in the delivery of service to all residents. The other will concentrate resources in areas with higher incident activity, leaving other areas with slower service. Which strategy do you think makes the most sense for the community?***

- Where the next likely event could occur.
- Would like to see quick attacks—also known as “Peak hour units.”
- The second option as long as there is a protocol in place.

***Firedistrictshave no mandates for Disaster Preparedness. What are your expectations ofthe Fire District regarding Disaster Preparedness?***

- Fire and Policework together to get it accomplished.
- There is an Emergency Operations Center within the Menlo Park Fire Protection District's area of responsibility. There is an expectation that the District participate.

***Fire Prevention***

***What strengthscontributeto thesuccessofthe Fire District?***

- Other strengths: Community support—being able to do what weare doing!
- Small agency with several programs.
- Healthy finances.
- The level of service weprovide is exceptional!

***What doesthe District do well?***

- Continually providing a high level of service.
- Task-driven orientation "get it done, get it done," is amazing.

***What are someareas inwhichyouthink the District couldmakeimprovements?***

- Succession planning.
- Receiving good Management Training.
- Identify future Chiefs.
- Currently overloaded with programs, projects, etc. Need some time to dwindle down to the basics.
- Leadership Development.
- Mission Statement and stick to it.
- Identify primary objectives.

***What opportunities, fromyourviewpoint, areavailableto improvethe District's service and capabilities?***

- Externally: Improverelationships with other governmental entities.
- Consider liaison(s) that work with the cities we serve. We do not attend their meetings.
- How do they get involved and have some presence? We need to find away.
- Consider implementing an electronic plan submittal program, which is a City governmentmulti-use system.

***What do you see as the top critical issuesfacedbythe Fire District today?***

- Relationship withAtherton.
- Getting a true Risk Assessment.
- Evacuation Plan—the State is putting pressureon all communities to have the plan.
- Pre-plan maps.
- Investigations as well as vegetation mapping.

***How would you describe the level of services provided by the District in particular to your Division?***

- The process of modernization; we are better than most Prevention Bureaus.
- On a 1 to 10 scoreboard, a "10."
- Plan reviews and inspections; turnaround time for inspections is 1 to 2 days!

## Community Risk Assessment

There are numerous risk factors that can influence the types of services a community requires.

Hazard identification is the process of recognizing the range of natural or human-caused events that threaten an area. Natural hazards result from uncontrollable, naturally occurring events such as flooding, windstorms, and earthquakes, whereas human-caused hazards result from human activity and technological hazards. An example of a technical hazard is an accidental hazardous materials release.

Community risk is assessed based on several factors; service area population and its population density, the demographics of the population served, local land use and development, and the geography and natural risks present within the community. These factors affect the number and type of resources—both personnel and apparatus—necessary to mitigate an emergency. Each of these unique factors presents its own unique challenges to the District.

- Population density is a significant risk factor. In some parts of the jurisdiction, such as East Palo Alto, the number of single-family residential homes shared by multiple families is staggering. The number of persons living in a household is reported to be 3.91 persons compared to a California average of 2.96 persons.
- In parts of the District, traffic flow is severely impacted by commuter traffic and narrow streets.
- Language can be a barrier to emergency services. In East Palo Alto, over 70% of the population speak languages other than English at home (compared to a California average of 40%).
- The physical characteristics of the area and the resultant natural hazards are risk factors. Menlo Park is bordered on one side by a natural watershed and the other by wetlands and bay infill. The entire area has a significant risk of earthquakes and flash floods. The wildfire risk within Menlo Park Fire Protection District is low; however, the city is bordered by high wildfire risk to the east in the local mountains and hills.
- Land use and zoning can also affect risk. Risk can be characterized as low (e.g., agricultural and low-density housing); moderate (e.g., small commercial and office); or high (e.g., large commercial, industrial, and high-density residential).

### RISK CLASSIFICATION

Based on the narrative descriptions of the various hazards found throughout the MPFPD response area, ESCI has developed a numerical ranking of community hazards using historical incident data, as well as an assessment of the community and its vulnerabilities. Community hazards were grouped into broad categories, as follows:

- Structure Fires
- Hazardous Materials
- Non-structure Fires
- Natural Hazards
- EMS-Medical Assist
- Technological Hazards
- Rescue
- Human Hazards

Within each category, ESCI identified specific hazards and a probability (likelihood) score between zero (representing “Not Applicable”) and four (representing “Catastrophic”). Then, a severity score was developed for each of the subcategories using the same scale for impact and a reverse scale for preparedness and response. The overall scores were then used to generate a relative risk score as it applies to the MPFPD. The methodology of the Priority Risk Index (PRI) of categorical scoring is found in the following figure. The completed hazard vulnerability analysis, including relative community risk, is shown in the following figures.<sup>1</sup> Details of each risk category are in Appendix A.

**Figure 9: PRI Score Categories**

Risk Factor	Weighting Factor	Index Value	Level	Criteria
Probability	45%	1	Unlikely	< 0.1% annual
		2	Possible	0.1–1.0% annual
		3	Likely	1–10% annual
		4	Highly Likely	> 10% annual
Magnitude Severity	30%	1	Negligible	Negligible property damages, < 5% of critical and non-critical facilities and infrastructure. Injuries or illnesses treatable with first aid, no deaths. Negligible quality of life lost. Shut down of critical facilities for < 24 hours.
		2	Limited	Slight property damages > 5% and < 25% of critical and non-critical facilities and infrastructure. Injuries or illnesses no permanent disability, no deaths. Moderate quality of life lost. Shut down of critical facilities > 1 day and < 1 week.
		3	Critical	Moderate property damages > 25% and < 50% of critical and non-critical facilities and infrastructure. Injuries/illnesses result in permanent disability, at least 1 death. Shut down of critical facilities > 1 week and < 1 month.
		4	Catastrophic	Severe property damages > 50% of critical and non-critical facilities and infrastructure. Injuries or illnesses result in permanent disability and multiple deaths. Shut down of critical facilities > 1 month.

<sup>1</sup> Based on reported NFIRS data January 01, 2016, to December 31, 2018, the San Mateo Hazard Mitigation Plan, personnel interviews, and onsite visits.



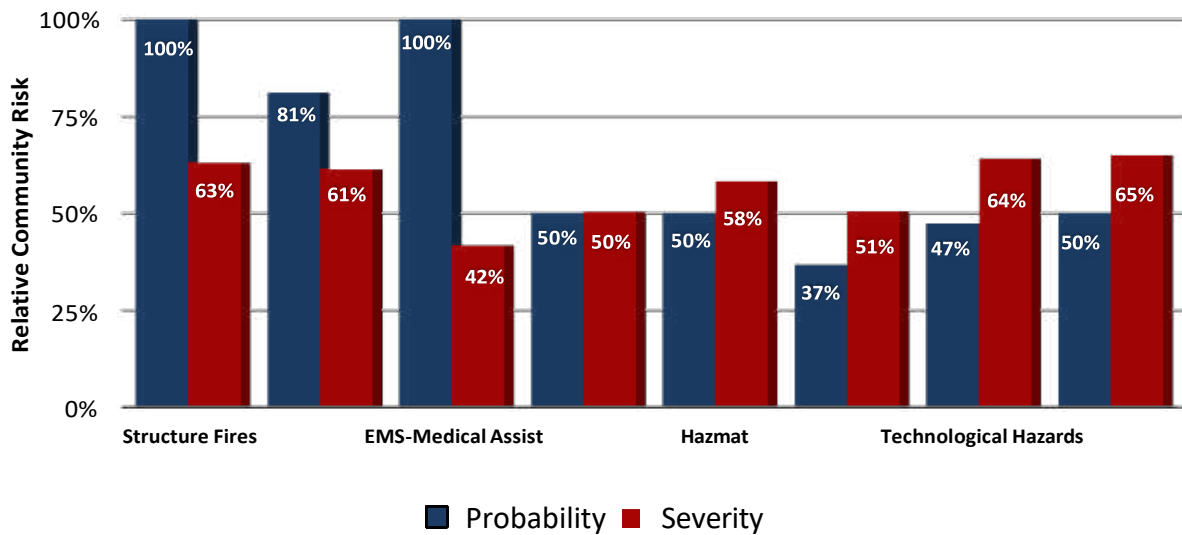
Risk Factor	Weighting Factor	Index Value	Level	Criteria
Warning Time	15%	1	Long	More than 24 hours
		2	Moderate	12 to 24 hours
		3	Short	6 to 12 hours
		4	Limited	Less than 6 hours
Duration	10%	1	Limited	Less than 6 hours
		2	Short	Less than 24 hours
		3	Moderate	Less than 1 week
		4	Long	More than 1 week

Note: The highest possible PRValue is 4.0.

Figure 10: Hazard Risk Summary

	Structure Fires	Non-Structure Fires	EMS	Rescue	Hazmat	Natural Hazards	Tech. Hazards	Human Hazards	Total
Probability	100%	81%	100%	50%	50%	37%	47%	50%	55%
Severity	63%	61%	42%	50%	58%	51%	64%	65%	57%
Relative Risk	63%	50%	42%	25%	29%	19%	30%	33%	31%

Figure 11: Relative Community Risk



ESCI also identified the following vulnerabilities specific to fire operations. Each is discussed in greater detail in the following pages.

- Population Density
- Physical Hazards
- At-Risk Populations
- Human-Caused Hazards



## POPULATION DENSITY

The United States Census Bureau classifies the Menlo Park Fire Protection District as an urban area, encompassing approximately 29 square miles. The estimated population of the District is 95,263, with an estimated population density from a low of 1,428 per square mile in Atherton to a population density high of 29,519 per square mile in East Palo Alto. This density, as compared to California’s average of 239 people per square mile, is significantly higher.

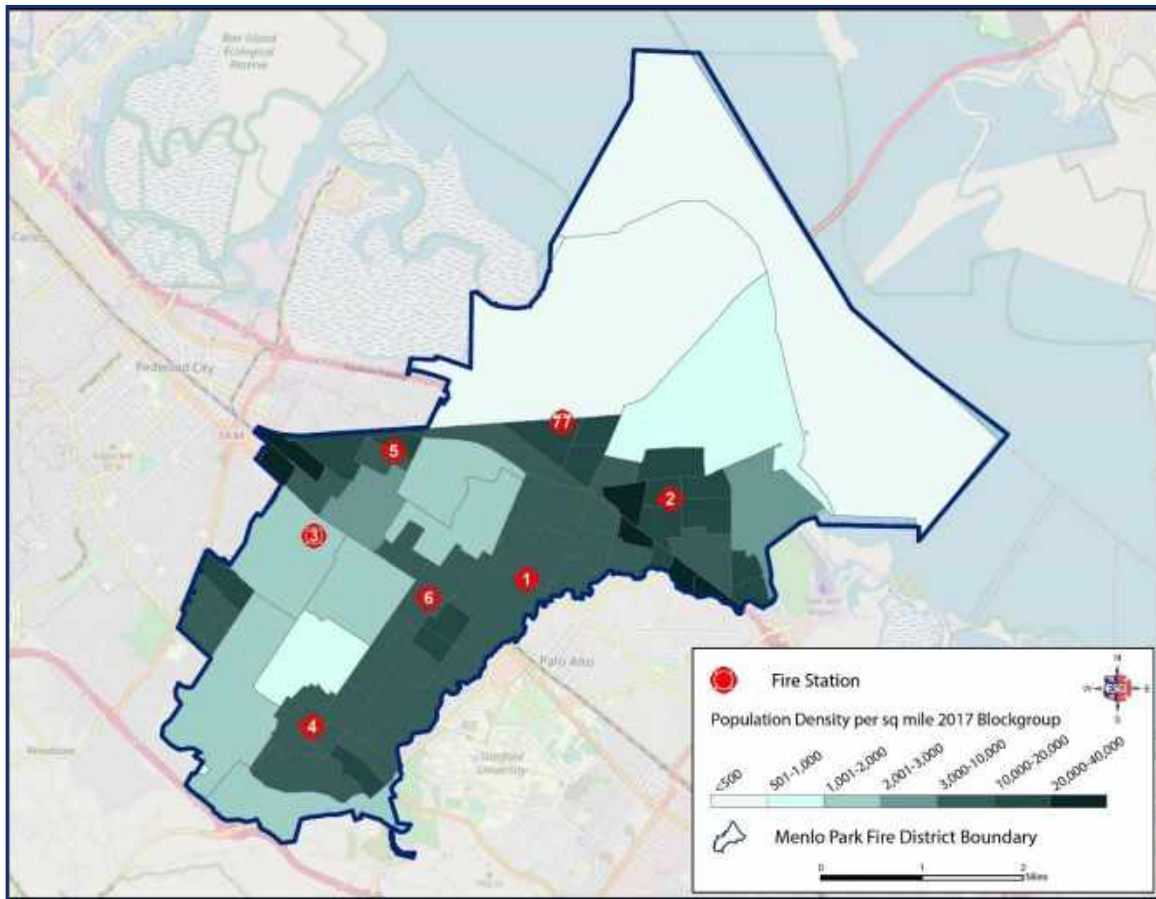
The population in East Palo Alto is much more concentrated than the other cities and communities in the Fire District. High-density single-family neighborhoods characterize the City. Many of these neighborhoods have multiple families living in single residents. The areas displaying the highest population density correspond to the areas with the highest service demand illustrated in the *Service Demand Analysis*, while lower-density areas are generally found to have a lower servicedemand.

Given the nature of commercial development within the MPFPD service area in the last few years, including the Facebook campus, the population density increases significantly during business and commuting hours. Still, it is appropriate for planning purposes to characterize the entire area as urban. To maintain consistency with well-established fire service classifications, MPFPD has chosen to use the population density classifications, as shown here.

**Figure 12: Population Densities Criteria**

<b>Urban</b>	<ul style="list-style-type: none"> <li>• Population over 30,000 people; and/or</li> <li>• Population density over 2,500 people per square mile.</li> <li>• Significant commercial/industrial development, dense neighborhoods, and some mid-rise or high-rise buildings.</li> </ul>
<b>Suburban</b>	<ul style="list-style-type: none"> <li>• Population of 10,000 to 29,999; and/or</li> <li>• Population density between 1,000 and 2,500 people per square mile.</li> <li>• Single/multi-family neighborhoods, smaller commercial developments.</li> </ul>
<b>Rural</b>	<ul style="list-style-type: none"> <li>• Population of less than 10,000 people; and/or</li> <li>• Population density less than 1,000 people per square mile.</li> <li>• Low density residential, little commercial development, and significant farm or open spaces.</li> </ul>

**Figure 13: Study Area Population Density**



**Figure 14: Population History, 2007–2018**

Year	Atherton	East Palo Alto	Menlo Park	Total MPFPD <sup>2</sup>
2018	7,257	29,845	34,398	<b>95,263</b>
2017	7,238	29,765	34,357	<b>94,758</b>
2016	7,207	29,684	33,888	<b>88,733</b>
2015	7,167	29,662	33,449	<b>90,883</b>
2014	7,147	29,530	33,309	<b>89,997</b>
2013	7,159	29,143	33,071	<b>89,254</b>
2012	7,191	28,867	32,881	<b>88,591</b>
2011	7,043	28,532	32,496	<b>87,921</b>
2010	6,914	28,155	32,026	<b>95,679</b>
2009	7,501	33,899	30,276	<b>94,647</b>

<sup>2</sup> Data provided from MPFPD includes the three incorporated cities shown and the unincorporated areas.

**Figure 15: Demographics for the MPFPD Service Area**

Category	Number/%			
	Atherton	East Palo Alto	Menlo Park	MPFPD Average
<b>Geography (estimates)</b>				
Population (2018)	7,257	29,845	34,398	95,263
Land area in square miles, 2010	30			
<b>Age and Sex (estimates)</b>				
Persons under 5 years, 2017	5%	6.9%	8.1%	7.1%
Persons under 18 years, 2017	21.7%	27.7%	25.6%	26.4%
Persons 65 years and over, 2017	22.5%	6.4%	13.7%	10.6%
Male persons, 2017	50.3%	50.6%	49.1%	49.8%
Female persons, 2017	49.7%	49.4%	50.9%	50.1%
<b>Race</b>				
Hispanic or Latino	5.3%	63.2%	15.4%	36.7%
White alone	75.4%	34.4%	68.9%	53.5%
Other Races or "two or more races"	4.3%	4.3%	4.8%	4.5%
<b>Population Characteristics</b>				
Veterans, 2013–2017	306	526	1,141	3%
Foreign born persons, 2012–2017	20.3%	42.5%	24.6%	32.5%
<b>Housing</b>				
Owner-occupied housing unit rate, 2013–2017	93.4%	36%	58.3%	49%
Median value of owner-occupied housing units, 2013–2017	\$2,000,000+	\$600,200	\$1,764,600	N/A
Median selected monthly owner costs—with a mortgage, 2013–2017	\$4,000+	\$2,596	\$4,000+	N/A
Median selected monthly owner costs—without a mortgage, 2013–2017	\$1,500+	\$645	\$1,028	N/A
Median gross rent, 2013–2017	\$3,500 +	\$1,613	\$2,111	N/A
<b>Families and Living Arrangements</b>				
Households, 2013–2017	2,320	7,534	11,861	21,715
Persons per household, 2013–2017	2.87	3.91	2.75	3.25
Living in same house 1 year ago, persons age 1 year+, 2013–2017	84.3%	89%	83.1%	85.7%
Language other than English spoken at home, persons age 5 years+, 2013–2017	20.6%	73.3%	31.4%	50%
<b>Education</b>				
High school graduate or higher, persons age 25 years+, 2013–2017	96.9%	68.1%	94.1%	82.4%
Bachelor's degree or higher, persons age 25 years+, 2013–2017	77.9%	18.2%	70.7%	47%

Category	Number/%			
	Atherton	East Palo Alto	Menlo Park	MPFPD Average
<b>Health</b>				
With a disability, under age 65 years, 2012–2016	3.3%	4.9%	4.7%	4.7%
Persons without health insurance, under age 65 years	.8%	12.8%	3.4%	7.5%
<b>Economy</b>				
In civilian labor force, total, population age 16 years+, 2013–2017	51.6%	73.1%	66.1%	68.9%
In civilian labor force, female, population age 16 years+, 2013–2017	40.8%	68.3%	59.2%	62.9%
Total retail sales, 2012	\$92,604,000	\$270,530,000	\$438,222,000	\$801,356,000
Total retail sales per capita, 2012	\$12,878	\$9,372	\$13,328	\$11,859
<b>Transportation</b>				
Mean travel time to work(minutes), workers age 16 years+, 2013–2017	24.5	24.5	25	24.67
<b>Income and Poverty</b>				
Median household income (in 2017 dollars), 2013–2017	\$250,000+	\$58,783	\$132,928	N/A
Per capita income in past 12 months (in 2017 dollars), 2013–2017	\$147,828	\$22,068	\$77,030	\$82,309
Persons in poverty	3.5%	13.7%	8.5%	10.7%
<b>Businesses</b>				
All firms, 2012	622	1,527	5,491	7,640
Women-owned firms, 2012	169	622	1,765	2,556
Men-owned firms, 2012	362	841	2,700	3,903
Minority-owned firms, 2012	85	1,226	1,172	2,483
Nonminority-owned firms, 2012	492	247	3,661	4,400
Veteran-owned firms, 2012	61	96	403	560
Nonveteran-owned firms, 2012	500	1373	4414	6287

## AT-RISK POPULATIONS

In addition to the distribution of residents, the demographics of the population can affect the amount of service demand, and the nature of risk within a community. In urban cities, several factors that place groups of people at risk have been identified. An NFPA report has identified the groups that face a higher risk of being injured or killed in a fire as follows:<sup>3</sup>

- Children under 5 years of age
- Older adults over 65 years of age
- People with disabilities
- Language barriers
- People in low-income communities

According to the 2017 Census Bureau estimate, a number of the residents within the MPFPD response area are in one or more at-risk population groups. These segments of the population are more likely to use fire department services, especially EMS, than other population groups.

### Age

The United States average for children under 5 years of age is 8.1% of the population as compared to an average of 7.1% in MPFPD. Older adults over 65 years of age in the United States make up 13.7% of the population compared to 10.6% in MPFPD. Neither of the factors is significantly higher or lower than the national average. Regardless, both of these populations affect the service demand and present a community risk profile that is significant.

### Disabilities

People under 65 years of age with disabilities make up 4.7% of the population. These people may have difficulty or be incapable of self-preservation during an emergency. Likewise, people under 65 years of age with no health insurance are more prone to chronic illness or exhibit poor physical condition simply because they do not seek treatment promptly. Almost 7.5% of the population is under 65 and has no health insurance; thus, they may require a higher level of fire-rescue response.

### Low-Income

Likewise, low-income people are more at risk from fire or medical condition; almost one-in-ten residents (or 10.7% of the total residents) are below the poverty level. The low-income category is often combined with other factors such as education, disability, and work status.

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<sup>3</sup> National Fire Protection Association, 2007; Urban Fire Safety Project, Emmitsburg, MD; retrieved from <http://www.nfpa.org/public-education/by-topic/people-at-risk/urban-fire-safety/reports-and-presentations>.

## PHYSICAL HAZARDS

Since 1965, the number of federally declared disasters in San Mateo County (20) is near average when compared to both the state (19) and national (16) averages.<sup>4</sup> The cause for each of these declarations is shown in the next figure. Although most of these declarations did not affect MPFPD, they are an indication of the hazards present throughout the county.

**Figure 16: Federally Declared Disasters, Jan. 1965–Mar. 2018**

Type	Type, Number	Type, Percent
Fire	1	6.7%
Flood	4	26.6%
Severe Storms	6	40%
Coastal Storm, Hurricane	1	6.7%
Freezing	1	6.7%
Earthquake	1	6.7%
Drought	1	6.7%
Tsunami	0	0%
<b>Total</b>	<b>15</b>	<b>100.0%</b>

### Earthquakes

Earthquakes occur throughout California, but certain areas, including MPFPD, have a higher probability of experiencing damaging ground motions caused by seismic activity. Since 1931, over 4,352 records exist of earthquakes within 30 miles of MPFPD.<sup>5</sup>

The Menlo Park area has an earthquake index of 20.46. This compares very similarly to a California average of 20.8, but much higher than the national average of 1.81. A large percentage of the Menlo Park planning area's population is located in a high shaking hazard area. A high-shaking hazard area is derived from the U.S. Geological Survey (USGS) seismic hazard map, which shows the distribution of earthquake shaking levels that have a certain probability of occurring.

There are several active faults in San Mateo County, including the San Andreas fault lines. According to the San Mateo Hazard Mitigation Plan, the San Andreas Fault has a 21% chance of generating a magnitude 6.7 or greater earthquake in the next 30 years.<sup>6</sup> The risk of earthquake activity in the Menlo Park area is significant. The probability of a 5.0 magnitude or greater earthquake within the next 50-years is 99.5%; the probability of a 6.0 is 91%.<sup>7</sup> The largest earthquake within 30 miles of Menlo Park was a 6.1 magnitude in 1984.

<sup>4</sup> FEMA Disaster Declarations Summary—Open Government Dataset, U.S. Department of Homeland Security, last updated March 5, 2018. Retrieved from: <https://www.fema.gov/media-library/assets/documents/28318>.

<sup>5</sup> Retrieved from: <https://www.homefacts.com/earthquakes/California/San-Mateo-County/Menlo-Park.html>.

<sup>6</sup> San Mateo County Hazard Mitigation Plan, July 2016.

<sup>7</sup> Retrieved from: <https://www.homefacts.com/earthquakes/California/San-Mateo-County/Menlo-Park.html>.



While no known faults are within the District limits, the Menlo Park area is vulnerable to seismic activity due to the presence of several active faults in the region. The closest and most prominent active fault is the San Andreas Fault, which is located about 2.5 miles west of Interstate 280. Several other faults in the region include the Monte Vista Fault, which lies roughly 3 miles to the south, the Hayward Fault, which lies roughly 13 miles to the east, and the Calaveras Fault, which is approximately 19 miles to the east.

Most losses of life and injuries resulting from an earthquake occur in or near structures. The potential for damage and collapse of structures is greatest in the downtown area due to the high number of masonry buildings. Given the history of seismic activity, the Menlo Park area has adopted several state and local regulations and codes to reduce seismic risk. As examples, the communities located within MPFPD has identified unreinforced masonry structures in the area and adopted standards to ensure each will be brought up to current standards as building permits are requested for improvements. According to MPFPD, more than 99% of unreinforced masonry buildings in the Menlo Park area have been retrofitted in this manner.

Building on soils subject to liquefaction is another concern. Liquefaction has been responsible for tremendous amounts of damage in historical earthquakes around the world. Generally, liquefaction occurs in areas where moist, fine-grained, cohesionless sediment or fill materials are found. When an earthquake occurs in these areas, the sediment can temporarily lose its stiffness and turn into an almost liquid state. The areas near the bay area of the Fire District are the most susceptible to liquefaction.

According to the 2010 San Mateo Hazard Mitigation Plan, the communities served by the MPFPD could have over \$1.5 billion in damage after a 100-year probabilistic earthquake. This equates to almost 9% of the total infrastructure value in the service area.

### Historical Earthquake Events

A total of 196 historical earthquake events that had recorded magnitudes of 3.5 or above were found in or near the Menlo Park area.<sup>8</sup> Of these, 17 of these measuring 5.0 or greater on the Richter Scale are shown in Figure 17.<sup>9</sup>

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<sup>8</sup> Retrieved from: <http://www.usa.com/menlo-park-ca-natural-disasters-extremes.htm>.

<sup>9</sup> Earthquakes that measure 6.0–6.9 on the Richter scale are considered to be strong earthquakes (VIII to X on the Mercalli intensity scale) and are expected to result in damage to a moderate number of well-built structures in populated areas. Earthquake-resistant structures survive with slight to moderate damage. Poorly designed structures receive moderate to severe damage. Strong to violent shaking in the epicenter, felt in wider areas, up to hundreds of miles/kilometers away.

**Figure 17: Earthquakes Measuring 6.0 or Greater Within 50 Miles**

Distance (miles)	Date	Magnitude	Depth (km)	Latitude	Longitude
27.0	1911-07-01	6.6	N/A	37.25	-121.75
26.9	1984-04-24	6.2	8	37.32	-121.7
44.2	1979-08-06	5.9	6	37.1	-121.5
21.6	1955-09-05	5.8	N/A	37.37	-121.78
31.1	1980-01-24	5.8	8	37.83	-121.79
19.9	1943-10-26	5.5	N/A	37.4	-121.8
30.4	1980-01-27	5.4	10	37.75	-121.71
34.3	1955-10-24	5.4	N/A	37.97	-122.05
40.6	1964-11-16	5.3	N/A	37	-121.72
45.8	1959-03-02	5.3	N/A	36.98	-121.6
45.9	1954-04-25	5.3	N/A	36.93	-121.68
48.5	1949-03-09	5.3	N/A	37.02	-121.48
37.9	1967-12-18	5.2	N/A	37.01	-121.79
47.6	1954-04-22	5.2	N/A	36.9	-121.68
30.6	1980-01-24	5.1	3	37.8	-121.76
34.1	1967-09-28	5	N/A	37.22	-121.62
34.6	1967-09-28	5	N/A	37.22	-121.61

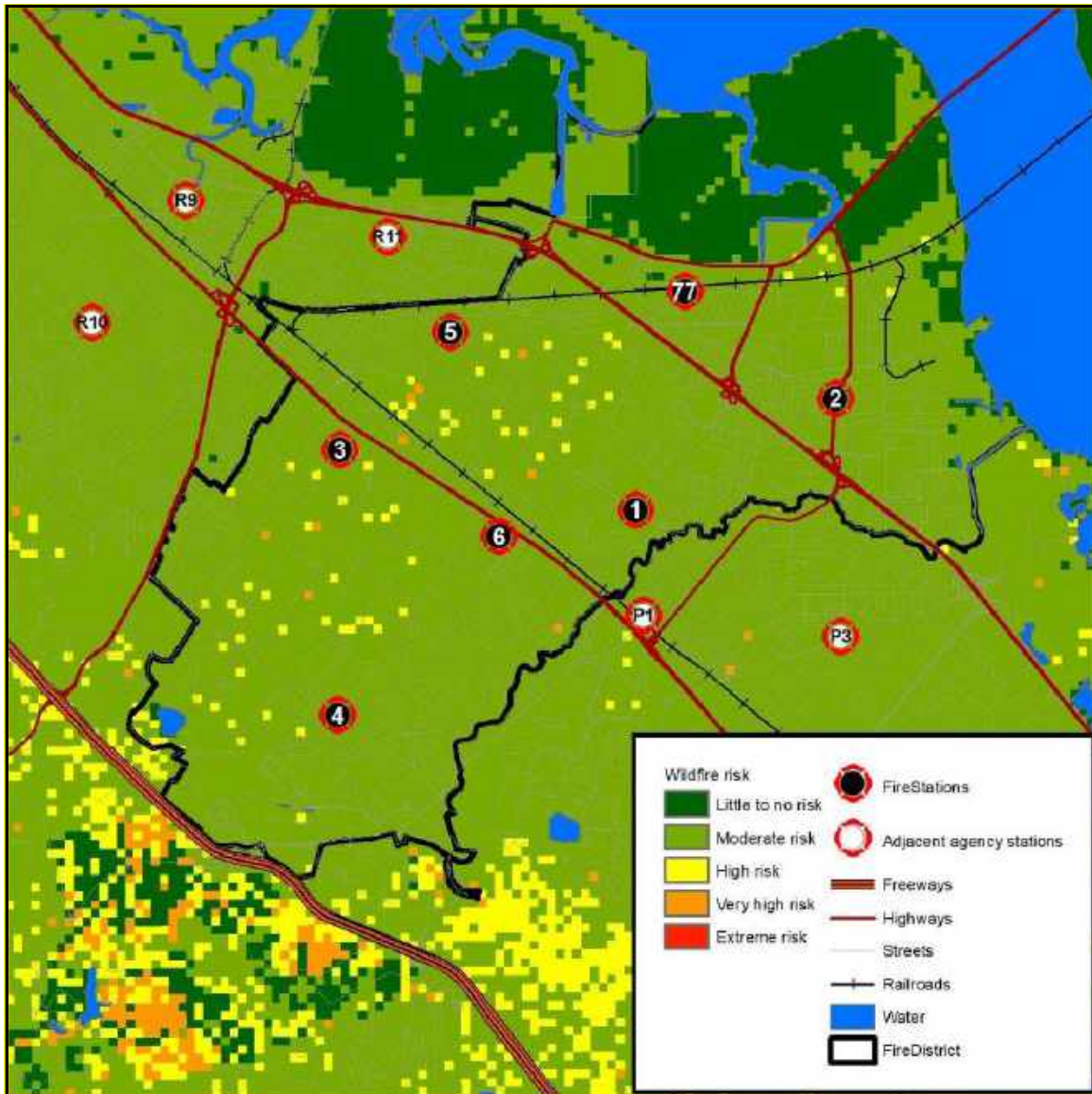
## Wildfires

Like many fire jurisdictions in the Western United States, especially California, wildland fire risk is a factor in the MPFPD service area. The following figure uses CAL FIRE GIS data to examine wildland fire risk in and around MPFPD. This model produced by CAL FIRE considers vegetation, topography, weather, crown fire potential, and ember production and movement to summarize fire hazard zones as little to no risk, moderate, high, or very high. This figure demonstrates that most of the District has a moderate risk of wildfire due to urbanization, but consideration should be given to any vacant areas with cured fuels (generally grass or shrubs). A very high wildfire risk characterizes the foothills located just outside of the District boundaries to the southwest. These foothills could readily burn but will likely not result in a major threat to the jurisdiction (other than poor air quality or small spot fires near the boundaries closest to the foothills).

The vast majority of the MPFPD is an urbanized community infilled with ornamental vegetation and season grasses. The greatest fire risk is that from within the community's buildings in the urban area or smaller grass fires that may develop next to structures and spread to infrastructure before fire resources can arrive. Structural and automobile fires are the most common fire risks for residents of MPFPD.

The Menlo Park Fire Protection District participates in State- and County-level mutual aid agreements, which provide additional resources to deal with wildland fire incidents.

**Figure 18: MPFPD Study Area Wildland Fire Risk**



**Severe Weather**

Tornadoes are created when warm, moist air near the ground interacts with cooler air above and rapidly increasing winds that change direction. Tornadoes are rare in California and even more so in the Menlo Park area: The expectation of a tornado in MPFPD is almost 10 times lower than the U.S. average.

Since 1951, only two tornados have been recorded within 30 miles of Menlo Park. While both events caused some damage, only one of these events caused injuries when a tornado touched down in the Chevy Chase residential area of Sunnyvale, California, near Hwy 85. This storm survey indicates that damage to 15 homes and a large church occurred, and one woman was injured when struck by flying debris. The storm was well documented on a video shot by a person from their backyard.

**Figure 19: Historical Tornado Activity**

Distance (miles)	Date	Mag.	Start Lat/Long	End Lat/Long	Length	Width	Fatalities	Injuries	Prop. Damage
<b>7.3</b>	1/11/1951	2	37°22'N/ 122°07'W	37°25'N/ 122°02'W	5.70 Miles	33 Yards	0	0	\$2.5M
<b>10</b>	5/5/1998	2	37°22'N/ 122°02'W	37°22'N/ 122°02'W	0.60 Miles	100 Yards	0	1	\$3.8M

The following figure describes the various tornado intensities on the Enhanced Fujita Scale.

**Figure 20: Tornado Intensity, Enhanced Fujita Scale**

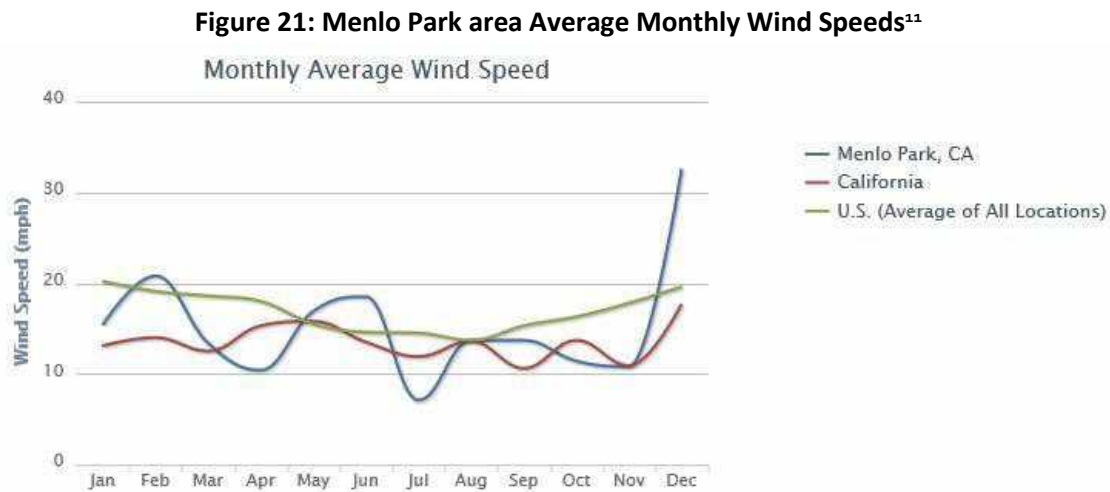
Designation	Wind Speed, mph	Typical Damage
<b>EF-0</b>	65–85	Minor or no damage. Peels surface off some roofs; some damage to gutters or siding; branches broken off trees; shallow-rooted trees pushed over. Confirmed tornadoes with no reported damage (i.e., those that remain in open fields) are always rated EF-0.
<b>EF-1</b>	86–110	Moderate damage. Roofs severely stripped; mobile homes overturned or badly damaged; loss of exterior doors; windows and other glass broken.
<b>EF-2</b>	111–135	Considerable damage. Roofs torn off well-constructed houses; foundations of frame homes shifted; mobile homes completely destroyed; large trees snapped or uprooted; light-object missiles generated; cars lifted off the ground.
<b>EF-3</b>	136–165	Severe damage. Entire stories of well-constructed houses destroyed; severe damage to large buildings such as shopping malls; trains overturned; trees debarked; heavy cars lifted off the ground and thrown; structures with weak foundations are badly damaged.
<b>EF-4</b>	166–200	Devastating damage. Well-constructed and whole frame houses completely leveled; cars and other large objects thrown, and small missiles generated.
<b>EF-5</b>	> 200	Extreme damage. Strong-framed, well-built houses leveled off foundations are swept away; steel-reinforced concrete structures are critically damaged; tall buildings collapse or have severe structural deformations; some cars, trucks, and train cars can be thrown approximately 1 mile (1.6 km).

**Microbursts** can cause devastation similar to that caused by a tornado, but the mechanism is different. A microburst is a strong, small-scale downdraft of wind that hits the ground and spreads out; there is no rotation as there is with a tornado. Microbursts are frequently associated with strong thunderstorms.

A **macroburst** is another form of straight-line winds similar to a microburst but spread out over a larger area. These damaging downdrafts do not occur very often in and around the Menlo Park area unless associated with significant and violent thunderstorms.

## Seasonal Winds

Generally, the Menlo Park area has mild winds (averaging 15.4 mph) with the month of December having a sharp increase in wind speeds.<sup>10</sup> Foehn winds can occur in the San Francisco Bay area in the form of Diablo Winds which occur in the spring and fall. Figure 21 shows typical seasonal winds.



## Dam Failure

Dam failure is ranked as the lowest concern in the San Mateo County Hazard Mitigation Plan. However, a dam failure would affect 10% of the population of the City of Menlo Park and almost 5% of the population of Atherton.<sup>12</sup> Dam failure is a structural collapse of a dam that releases the water stored in the reservoir behind the dam. A dam failure is usually the result of the age of the structure, inadequate spillway capacity, earthquakes, erosion, design flaws, or water overflow during large storms. According to the San Mateo County Hazard Mitigation Plan, almost \$1.5 billion in damages could occur during a dam failure.

## Flood Risk

In 1998, parts of East Palo Alto and Menlo Park experienced a significant flood along the San Francisquito Creek. This event impacted more than 1,100 homes and businesses and caused more than \$28 million in damages. Last year, significant improvements were completed along the creek to prevent future floods.

All populations currently residing in sea-level rise inundation areas would be exposed to the hazard of the ocean levels increasing. It is unlikely that exposure would result in death or injury because the sea-level rise is expected to occur gradually over the years and decades; however, residents in these areas would need to relocate. According to the 2010 San Mateo Hazard Mitigation Plan, 11,725 East Palo Alto residents and 1,964 Menlo Park residents would be displaced by sea-level rise.

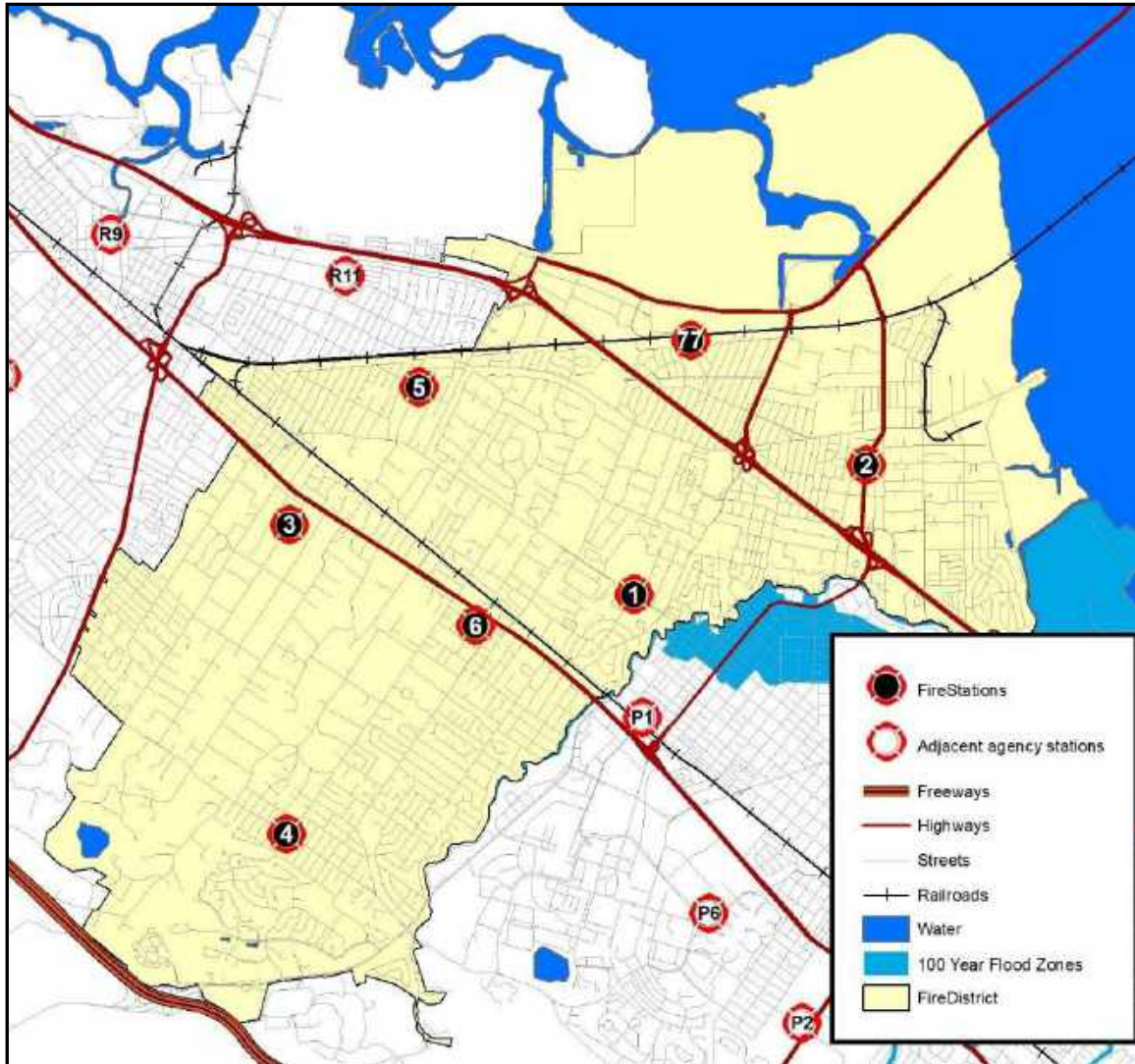
<sup>10</sup> Retrieved from: <http://www.usa.com/menlo-park-ca-weather.htm>.

<sup>11</sup> Retrieved from: <http://www.usa.com/menlo-park-ca-weather.htm>.

<sup>12</sup> This represents about 4,200 persons.

The flood risk is moderate within the MPFPD boundaries. Besides the risks described in the two preceding sections, much of the area adjacent to the coast is susceptible to floods. Figure 22 demonstrates that the jurisdiction is subject to 100-year flood zones. Existing flood infrastructure must be regularly maintained to allow water runoff and distribution to pre-planned flood areas. Sea-level rise could also be a distant future concern along the MPFPD adjacent to the Bay Area.

**Figure 22: Flood Zones**



### Extreme Heat

Extreme heat is any period when the temperature is high enough that overexposure can cause distress, including injury, heat-related illness, or death to humans and animals. Related to temperature is the heat index—an indicator of how hot it feels based on actual temperature and humidity. The higher the humidity, the hotter it feels due to the body’s inability to cool itself. The National Weather Service (NWS) publishes a Heat Index, shown in the next figure, to help local planners prepare for and mitigate the effects of extreme temperatures.<sup>13</sup>

Figure 23: NWS Heat Index

While extreme temperatures are known to occur, prolonged heat waves in the Menlo Park area are rare, with a historical average of only four extreme heat days per year. Generally, the area is known for relatively mild temperatures, with a very low variation in seasonal monthly temperatures.

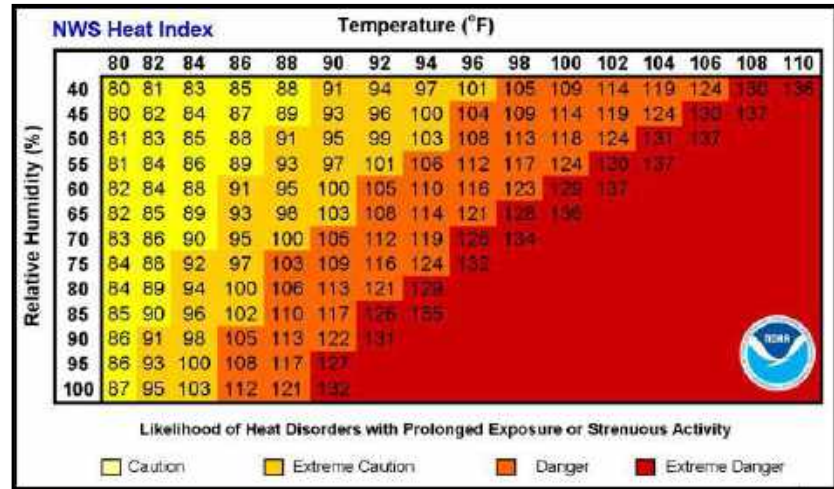
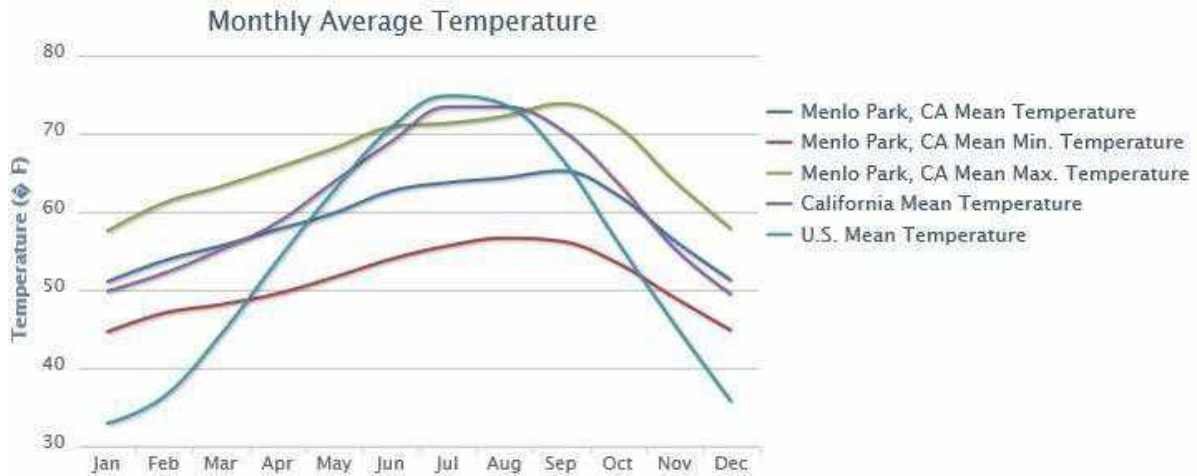


Figure 24: Menlo Park Area Monthly Temperatures<sup>14</sup>



<sup>13</sup> U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Weather Service. <http://www.nws.noaa.gov/om/heat/heat-images/heatindexchart.png>.

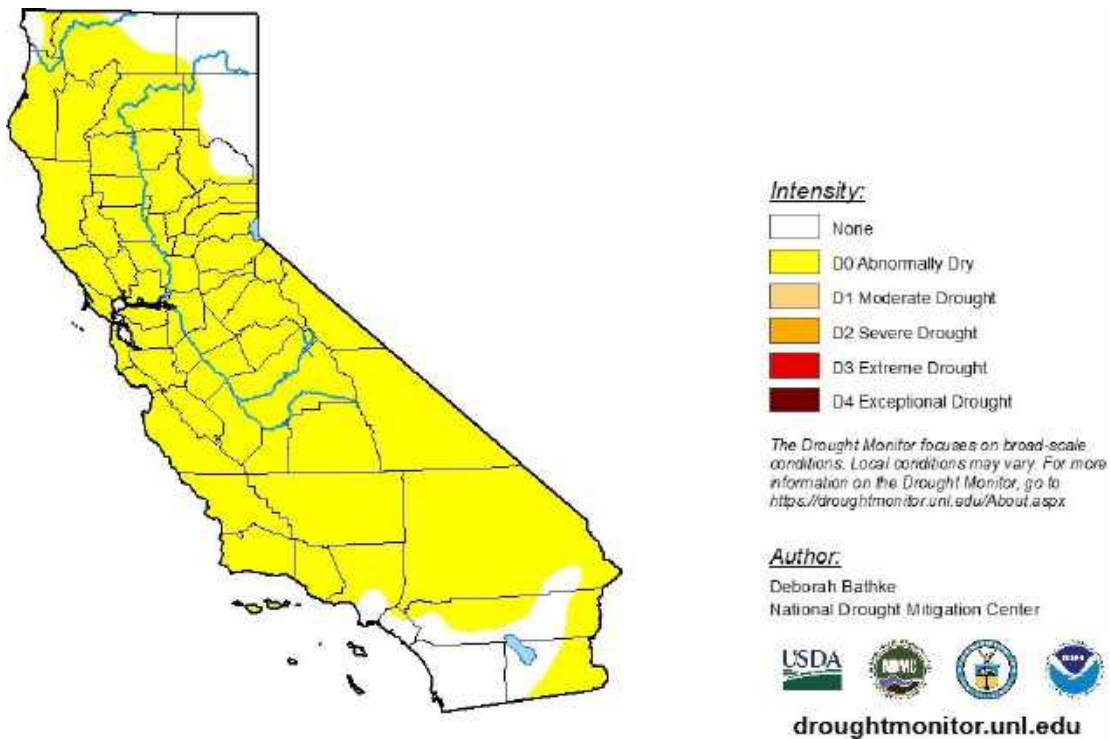
<sup>14</sup> <http://www.usa.com/menlo-park-ca-weather.htm>.

## Drought

Drought is any period of dry weather, characterized by insufficient rain to grow crops or replenish surface water supplies. Droughts are gradual and persistent with secondary impacts on wildfire, crop production, oil and gas production, and socio-economic impact. In recent years, much of California has been in a severe drought.

Last year there was a significant recovery of the drought index. In fact, by August 2019, only a few locales in the southern San Joaquin Valley and the far southern part of the state remained in drought. The drought index changes quickly in California. In November 2019, the drought index in Figure 25 showed much of California in an “abnormally dry” (the lowest drought level on the index) state.

**Figure 25: U.S. Drought Conditions, December 3, 2019**





## TECHNOLOGICAL (HUMAN-CAUSED) HAZARDS

The most prominent technological, or human-caused hazards faced by residents of the Menlo Park Fire Protection District include transportation emergencies, structural fires, long-time power outages, and hazardous material releases.

### *Transportation*

Transportation corridors provide necessary, but limited, access and egress for the District. The area lacks major highways that allow for the fast distribution of vehicles; instead, traffic must negotiate narrow streets. The configuration of the transportation system affects the response capability of emergency services. Limited access freeways and rail lines can interrupt street connectivity, forcing apparatus to negotiate a circuitous route to reach an emergency scene.

### **Roads**

Surface streets dominate the MPFPD service area. California State Route 101 is primarily a north-south highway with no major east-west connectors. The primary risk is related to over-the-road shipments of combustible and hazardous materials and vehicle accidents.

The balance of the District's service area has a mix of relatively well-interconnected street networks, but these streets are not designed for heavy traffic flows. Often, neighborhood streets are characterized by meandering roads and cul-de-sacs.

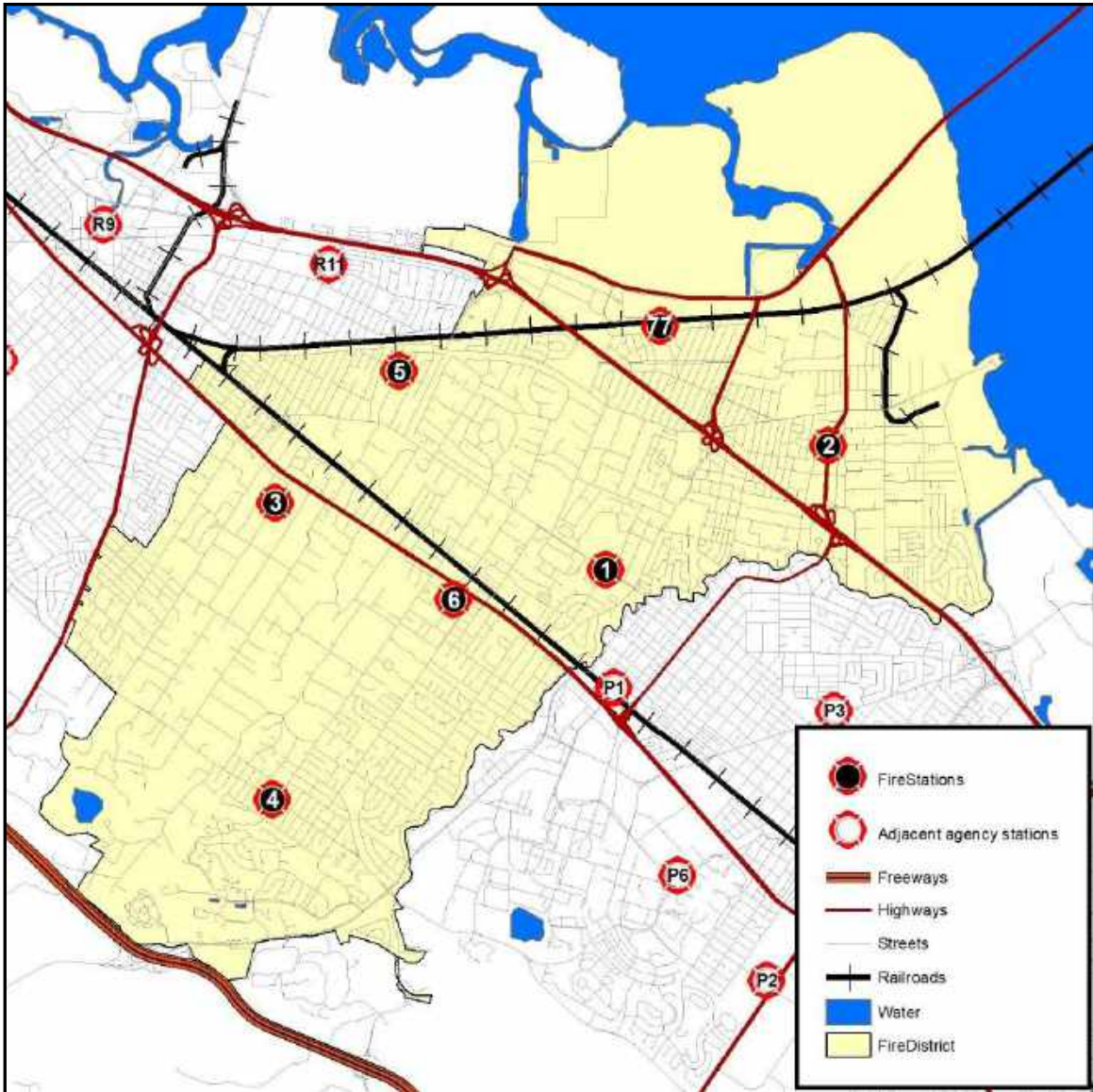
### **Railroads**

Caltrain provides commuter rail service along the San Francisco Peninsula, through the South Bay to San Jose and Gilroy. The Caltrain rail line passes through MPFPD's service area, which includes grade crossings. Caltrain maintains a passenger station in Menlo Park and one in Atherton that is active during weekends. This can create risks for train/vehicle collisions and mass casualty incidents in the event of a collision or derailment.

A proposed Dumbarton rail-line has been in the planning stages for many years. Two segments of this rail-line would cross through MPFPD. Segment A would utilize the existing two-track Dumbarton cut-off line as a single track system with centralized traffic control. This segment would include the proposed Willow Road and Redwood City (Second Avenue) stations. The Dumbarton Rail Corridor merges with the Peninsula Corridor in Redwood City at the Redwood Junction, which is a large wye roughly bounded by Middlefield Road, Woodside Road, El Camino Real, and Dumbarton Avenue.

Segment B would reuse the existing line established for the Dumbarton Cut-off in 1910. It would be a single-track line with two sidings, one industrial siding to serve the Cargill Salt Plant, and one future siding just east of the Dumbarton Rail Bridge.

Figure 26: Rail Lines



## INFRASTRUCTURE PROTECTED

Many buildings in the service area are used for purposes that create a more significant risk than others. High-occupancy buildings, facilities providing care to vulnerable populations, and others may require higher numbers of emergency response resources during an emergency. This section draws on information from MFPFD's records and other sources.

### *Target Hazards/Critical Infrastructure and Key Resources (CIKR)*

The definition of target hazards varies among jurisdictions. For continuity, ESCI uses the FEMA definition of target hazards as "facilities in either the public or private sector that provide essential products and services to the general public, are otherwise necessary to preserve the welfare and quality of life in the community, or fulfill important public safety, emergency response, and/or disaster recovery functions."<sup>15</sup>

Other buildings to consider listing as target hazards could include buildings with a potential for large loss of life—such as places of public assembly, schools and childcare centers, medical and congregate-care facilities, residential care facilities, multifamily dwellings, and high-rise office buildings—or those with substantial value to the community—economic loss, replacement cost, or historical significance—that, if damaged or destroyed, would have a significant negative impact. Responses to target hazards are expected to require a substantial number of MFPFD resources during an incident. The following figure lists the inventory of critical facilities as provided by the District. ESCI purposely did not identify the location of these facilities in the interest of homeland security. Detailed information about critical facilities is kept in the Emergency Operations Center.

**Figure 27: Critical Facilities**

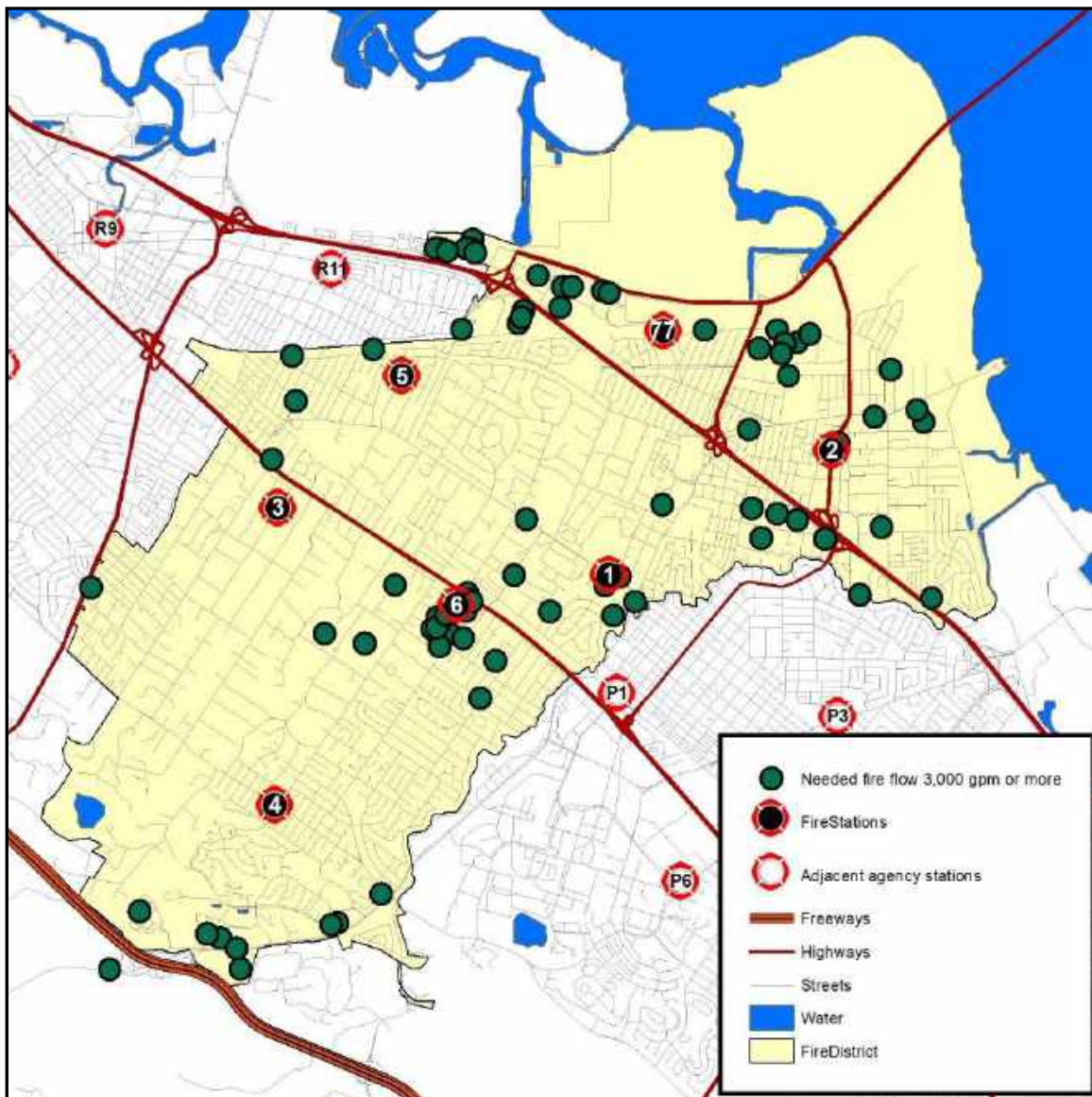
Type	Number
Airport	0
Communication Center	2
Detention Center	1
Emergency Command Center	0
Emergency Operation Center	3
Fire Department Stations	7
Health Care Facilities	3
Law Enforcement Facilities	5
Maintenance Yards	3
Residential Elderly Facilities	6
Library	6
Schools	9
Public Utilities	15
<b>Total</b>	<b>60</b>

<sup>15</sup> *Community Risk Assessment: A Guide for Conducting a Community Risk Assessment, Version 1.5, John Stouffer for Vison 20/20, 2016, page 12.*

Occupancies can be classified, according to the risk level, as low-, medium-, or high-risk factors used in assigning a risk classification to an individual occupancy include the size of the building(s), construction type, the presence or absence of fire suppression features such as sprinklers and standpipes, the needed fire flow, the risk to life, the presence of chemicals and/or hazardous processes, and the amount of water available in relation to the needed fire flow.

The ISO batch report lists the needed fire flow (the amount of water required to extinguish a fire if the building was fully involved) for every occupancy within MPFPD's service area. The following figure lists the properties with needed fire flows of 3,000 gallons per minute or greater.

**Figure 28: Buildings Requiring Fire Flow over 3,000 GPM or More**

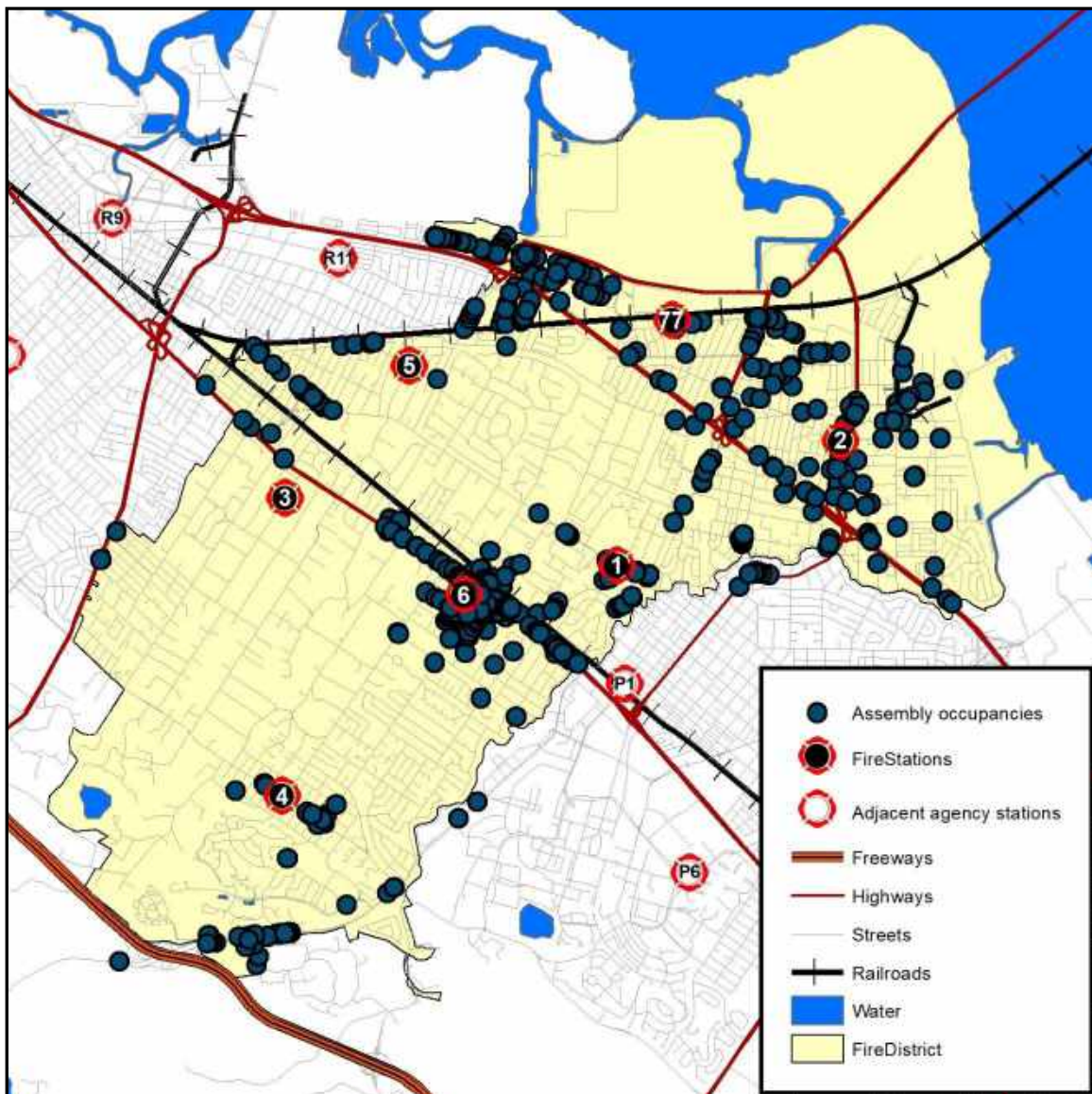


## Public Assembly

Numerous buildings lie within the District in which large numbers of people gather for entertainment, worship, and such. A variety of nightclubs, theaters, and other entertainment venues exist.

These facilities present additional risk, primarily for mass casualty incidents. Fire, criminal mischief, and potentially terrorism could cause a major medical emergency requiring significant emergency service resources. The following figure shows the locations of buildings identified as public assembly facilities within MPFPD's service area.

**Figure 29: Public Assembly Facilities**

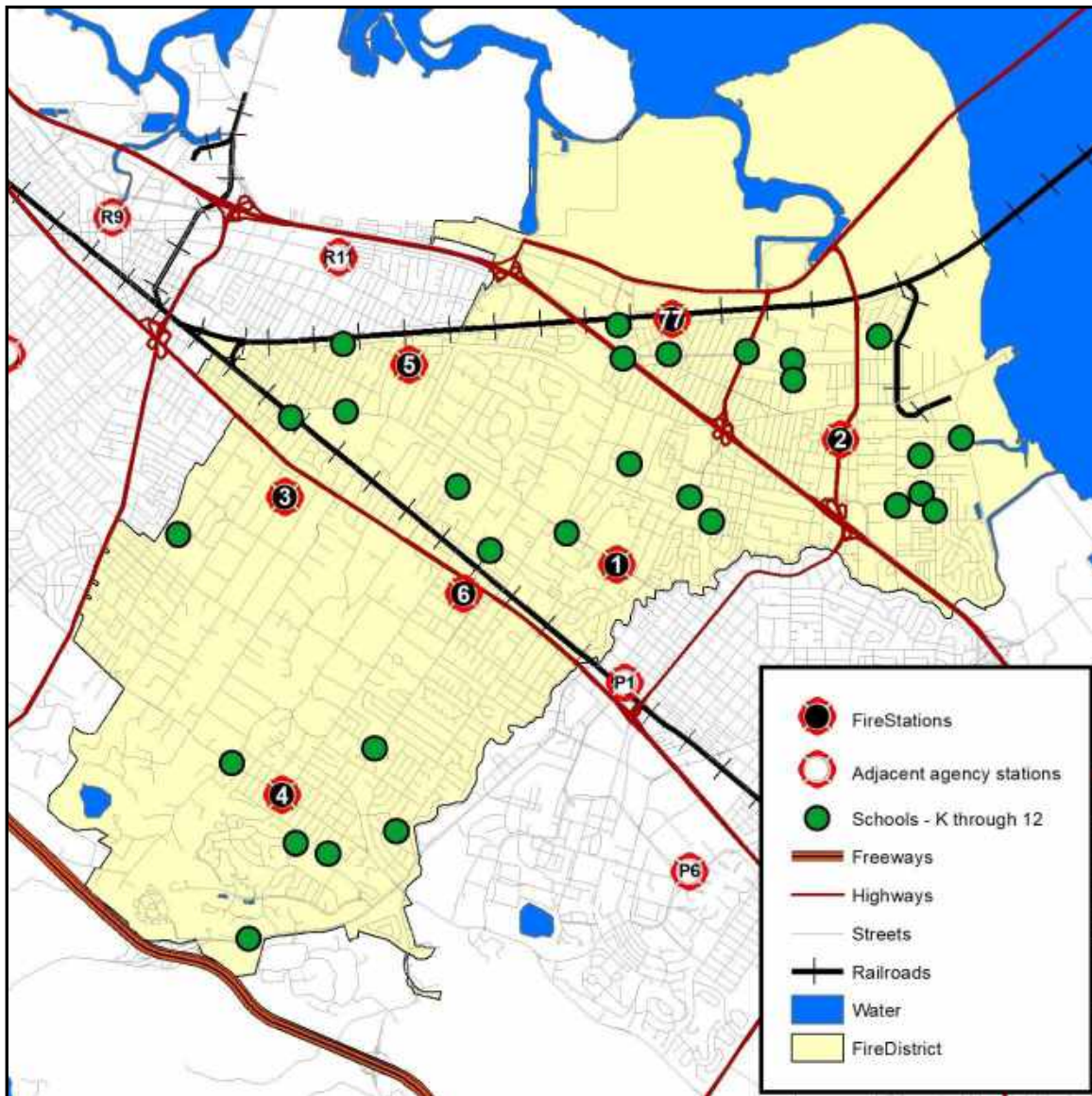


### Schools

The Menlo Park Elementary School District serves parts of Menlo Park, Atherton, and unincorporated San Mateo County. There are 2,930 students, preschool through 8th grade, enrolled in the four schools and the English Learning Center in the District. Menlo, Atherton, and East Palo Alto high school students are served by the Sequoia Union High School District annually serves 9th to 12th-grade students through its four distinguished comprehensive high schools, including Menlo-Atherton and a dependent charter school East Palo Alto Academy.

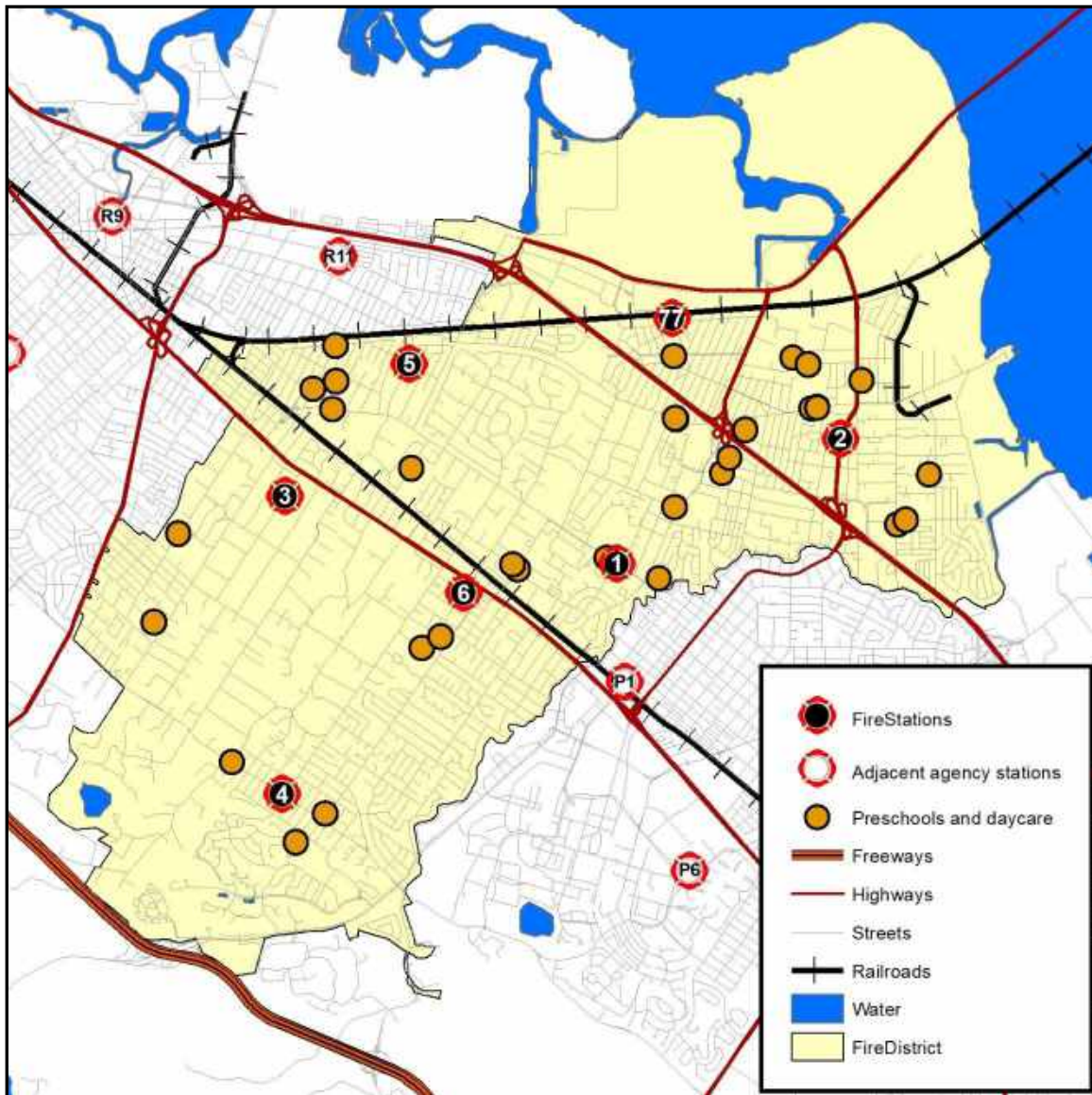
Several private institutions also exist in the service area, including the Eastside College Preparatory school and the Mid-Peninsula High School. The following figure shows the locations of public and private K-12 school facilities inside or nearby the MPFPD area.

**Figure 30: K-12 School Locations**



The next figure shows the locations of daycares and preschools.

Figure 31: Daycare and Preschools



## OTHER CRITICAL INFRASTRUCTURE

In this section, ESCI discusses other types of infrastructure critical to a community in general terms. It is important that the District plan for emergencies at any of these facilities.

### *Communications*

Emergency communication centers and the associated transmitting and receiving equipment are essential facilities for emergency response. The San Mateo County Office of Public Safety Communications dispatches the Menlo Park Fire Protection District. This communication center is equipped with a state-of-the-art computer-aided-dispatch system and has the primary responsibility to receive and process 9-1-1 calls for service and coordinate the response of emergency equipment and personnel.

The communication center staffs full-time dispatchers supplemented by professional firefighters. It provides emergency fire and medical dispatch service for the entire County, dispatching for 24 agencies (including 12 different fire agencies), one paramedic ambulance provider (AMR) as well as coordinates dispatch services for 11 other agencies.

The communication center is well prepared to answer calls from callers who speak various worldwide languages. The State of California provides transfer numbers for translation services for 9-1-1 telephone calls in foreign languages (Spanish, Vietnamese, and Mandarin Chinese) or via telecommunications devices for the deaf.

There are other communication facilities and equipment that are equally important to the community and government operations. These are the telephone company central offices and the transmission lines of local telephone service providers. Internet service providers, along with wireless cellular communication providers, provide essential communication capabilities for the community as well as emergency personnel through their facilities and equipment.

### *Energy*

Previously discussed community services, from communications to traffic signals to normal operations, require the use of energy. Whether it is electricity generation and transmission systems, fuel distribution and storage tanks, or natural gas pipelines and regulator stations, the community is dependent upon energy sources.



## *Water Distribution*

The most obvious concern to the fire department is the water reservoir, water main, and fire hydrant system. Providing enough storage, distribution, and access to this valuable firefighting resource through well-distributed fire hydrants is very important. As shown in the next figure, hydrants are generally well-distributed through portions of the area; however, it should be noted that many areas lack the necessary fire flow to support current infrastructure, let alone future developments.

Several water districts and systems exist in the MPFPD service area.

Menlo Park Municipal Water provides water to approximately 16,000 residents through 4,000 service connections within two service areas: the Upper Zone (providing water to the Sharon Heights area) and the Lower Zone (providing water to areas east of El Camino Real).

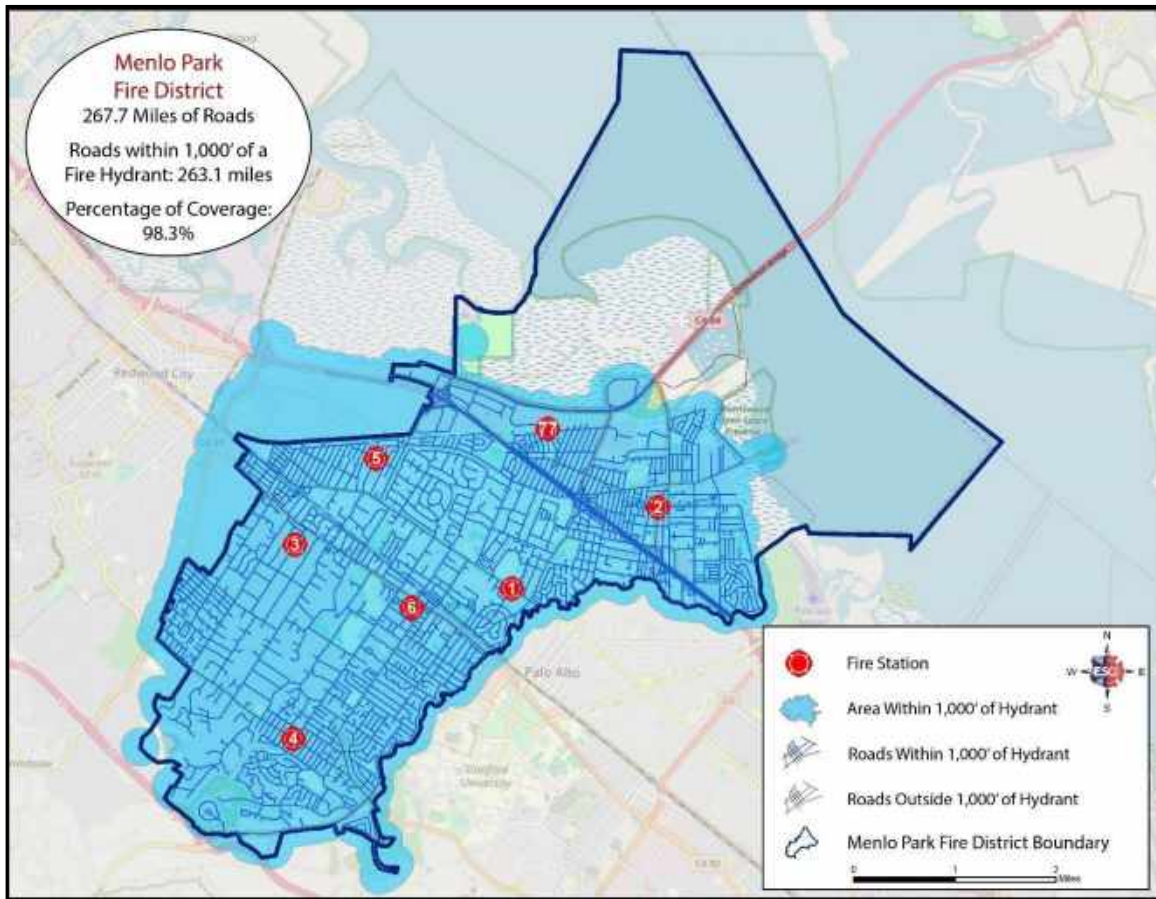
The American Water Enterprises supplies 3,985 connections and 26,000 residents in East Palo Alto.

The California Water Service provides service through its Bear Gulch District. This district is in southern San Mateo County and serves the communities of Atherton, Portola Valley, Woodside, parts of Menlo Park, parts of unincorporated Redwood City, and adjacent unincorporated portions of San Mateo County, including West Menlo Park, Ladera, North Fair Oaks, and Menlo Oaks.

O'Connor Tract Co-operative Water Company is a non-profit organization founded to supply water to certain areas of East Palo Alto and Menlo Park. The company serves 343 connections, of which 37 are apartment buildings.

The Palo Alto Mutual Water Company serves a few residents in the District. The Palo Alto Park Mutual Water Company is a privately held company serving about 680 connections in the MPFPD.

Figure 32: Fire Hydrants



## STRUCTURAL RISKS

Certain buildings, their contents, functions, and size present a greater firefighting challenge and require special equipment, operations, and training. ESCI drew information for this section from MPFPD records and the Insurance Services Office(ISO) database.

### *Very Large Homes*

Within the Town of Atherton and other areas of the District, there exists a significant number of very large homes. For years these homes—some the size of commercial buildings—were built without the benefit of fire sprinkler systems. Many of these homes have large basements, also not protected with fire sprinkler systems. Basements, because of limited accessibility, present a unique hazard to firefighters.

In 2007, the District implemented a District-wide residential sprinkler ordinance. Since the implementation of the ordinance, all new homes are protected with fire sprinkler systems greatly minimizing the risk to occupants and firefighters. However, a significant inventory of these large, unprotected homes still exists.

### *Hazardous Materials*

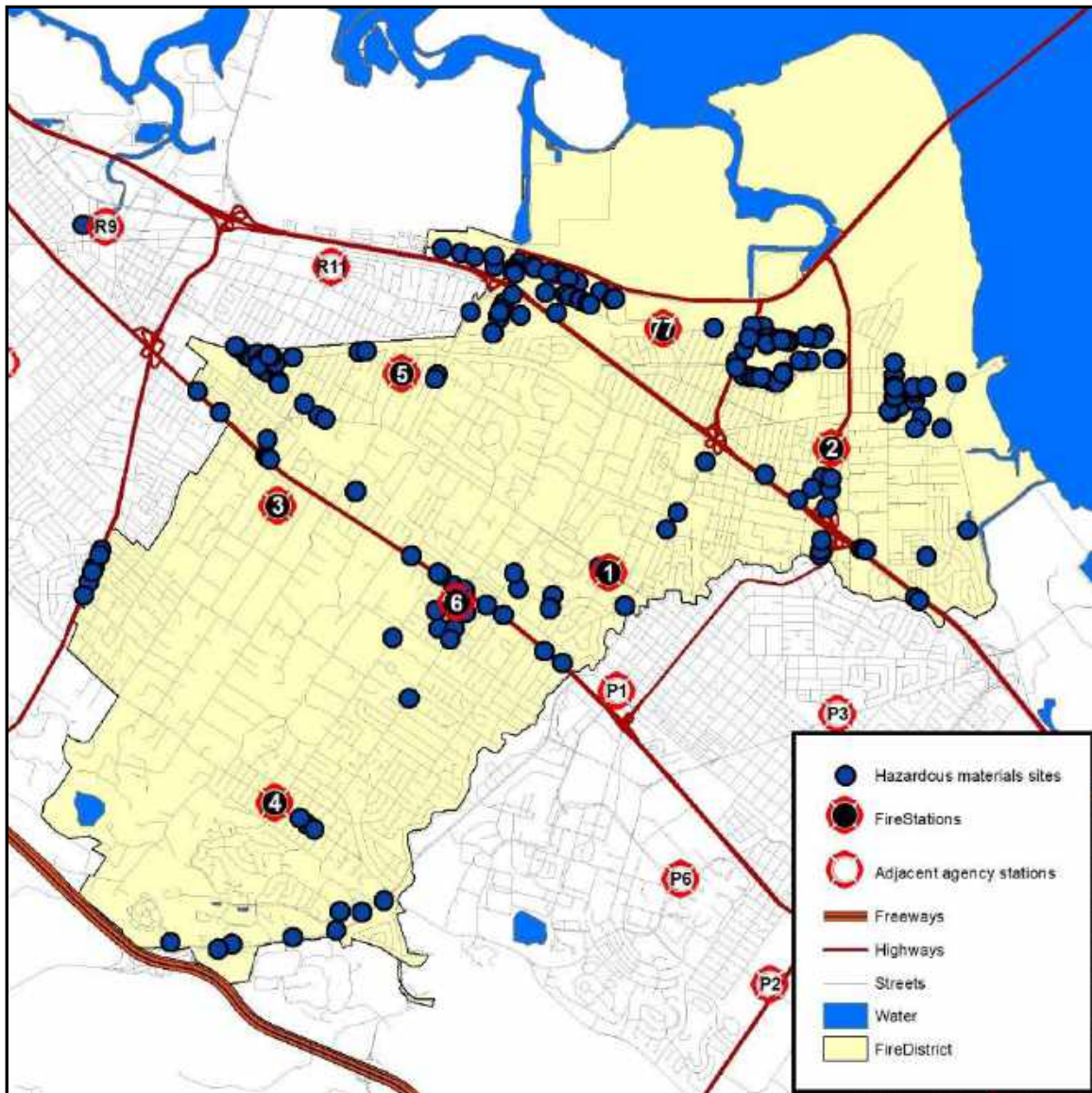
Buildings that have been identified as containing hazardous materials can create a dangerous environment for the community as well as the firefighters during a spill or fire. Special equipment, such as protective clothing and sensors, along with specialized training, are necessary to mitigate a hazardous materials incident successfully. Any location that has on-site, for any day in a calendar year, an amount of a hazardous chemical equal to or greater than the following threshold limits established by the EPA must file information, known as Tier II reports, about each material and the on-site amount with local authorities, planning committees, and the State's Emergency Response Commission under the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA), commonly known as SARA Title III:

- Ten-thousand pounds for hazardous chemicals
- Lesser of 500 pounds or the threshold planning quantity for extremely hazardous substances

The State of California established a five-tiered program for authorizing the treatment and storage of hazardous waste at many businesses required to have State authorization, but not federal authorization (i.e., authorization under the federal Resource Conservation and Recovery Act or RCRA). The Department of Toxic Substance Control (DTSC) regulates Full and Standardized Permitted facilities, and San Mateo County Environmental Health Services Division regulates facilities in the lower tiers: Permit by Rule (PBR), Conditionally Authorized (CA), and Conditionally Exempt (CE).

According to the San Mateo County Health Department, there are 964 facilities in the Menlo Park Fire Protection District area with Extremely Hazardous Substances (EHS); these EHS include only the 356 chemicals listed under Section 302 of the Emergency Planning and Community Right-to-Know Act. Most of these facilities store large amounts of ammonia; the following figure shows the location of those facilities. In addition to facilities with EHS, many Tier II facilities exist (not shown in the figure) that are required to have Safety Data Sheets (SDS) for products stored on site. Most of these facilities store crop management products—fertilizers, insecticides, and weed control. Normally, SDS are available both on-site and on the company’s website.

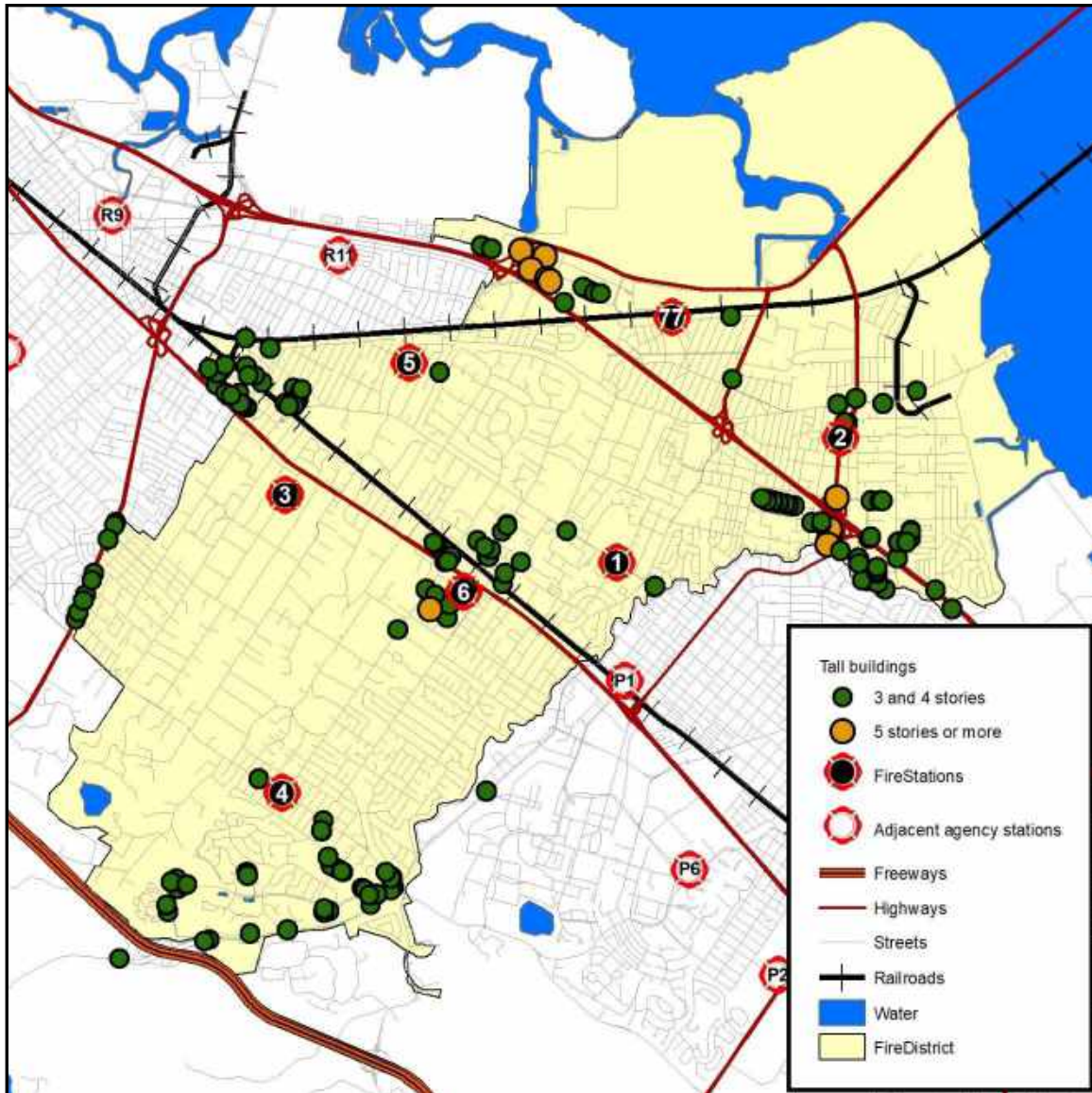
**Figure 33: Hazardous Material Tier II Locations**



### Buildings Three or More Stories in Height

The Insurance Services Office calls for a ladder truck within 2.5 miles of developed areas containing buildings three or more stories in height. Accessing the upper floors and roofs of buildings this tall typically requires ladder truck capability as ground ladders may not provide access. The following figure shows the locations of buildings that are three to more stories in height.

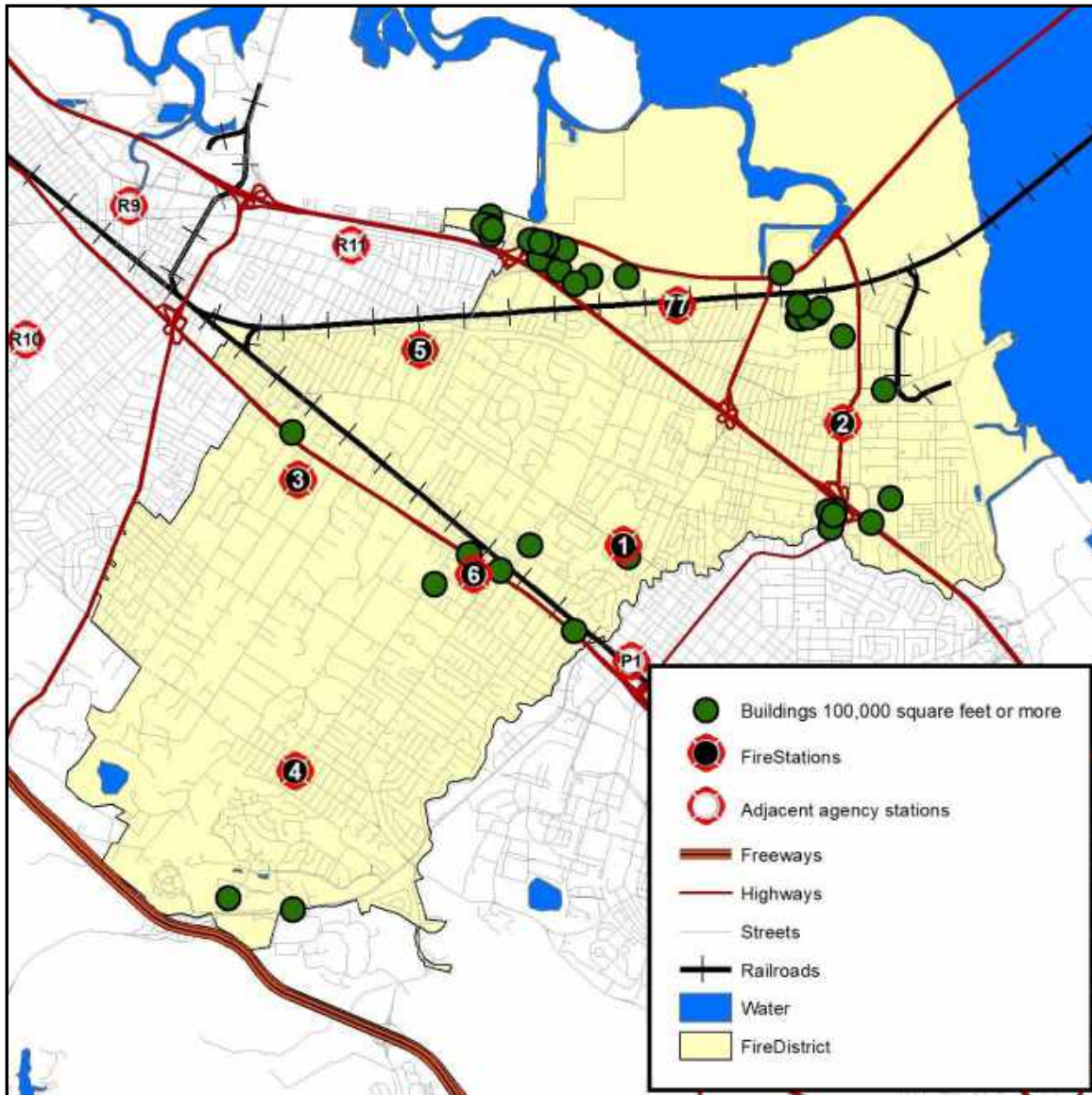
Figure 34: Buildings Three or More Stories in Height



### Large Square Footage Buildings

Large buildings, such as warehouses, malls, and large “box” stores, require greater volumes of water for firefighting and require more firefighters to advance hose lines long distances into the building. The following figure shows the locations for buildings 100,000 squarefeetand larger.

**Figure 35: Buildings 100,000 Square Feetand Larger**



## COMPARISON OF FIRE RISK IN OTHER COMMUNITIES

Using the information provided by MPFPD, recent NFPA reports, and other sources, ESCI compared fire risk in the District with fire risk of communities of comparable populations across the U.S. and in the Western Region. ESCI based the information contained in this section on the latest data reported to the NFPA and other sources. As such, the information **does not reflect recommended rates or some defined fire protection standard**, and is provided for illustrative, benchmark purposes only.

For additional context, United States fire departments responded to an estimated 1,319,500 fires in 2017. These fires resulted in 3,400 civilian fire fatalities, 14,670 civilian fire injuries, and an estimated \$23 billion in direct property loss (this figure includes a \$10 billion loss in Northern California wildfires). There was a civilian fire death every 2 hours, 34 minutes, and a civilian fire injury every 36 minutes in 2017. Home fires caused 2,630, or 77%, of the civilian fire deaths.

**Figure 36: Fire Losses by Region and Size of Community, 2017**

Community Size 150,000–199,999	Number of Fires Per Thousand Population	Property Loss Per Capita
Menlo Park Fire Protection District	1.8	\$28.75
West	2.3	\$46.90 <sup>16</sup>
U.S.	3.1	\$42.20

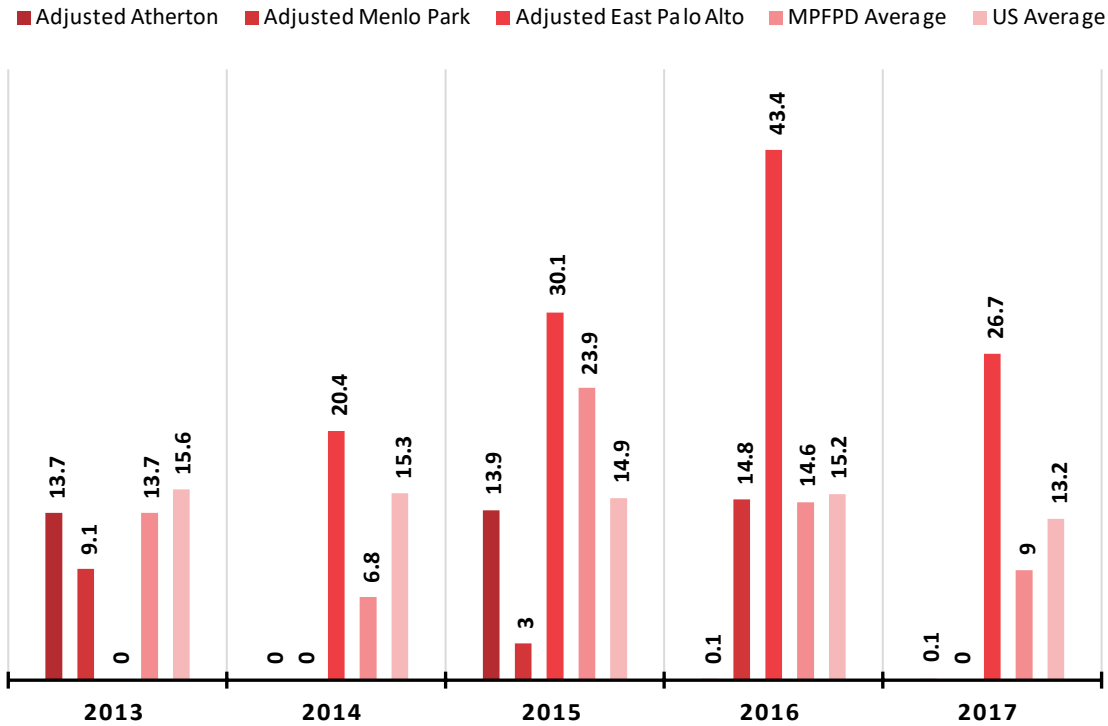
In smaller communities, even a single fire death can greatly affect the number of deaths per million population. Therefore, this large number should be considered in that context.

<sup>16</sup> West and U.S. data retrieved from "Fire Loss in the United States" October 2018, NFA.

### Arson

As a District, MPFPD nearly matches the national average of arson as measured per 100,000 population. However, when broken into cities, East Palo Alto has generally exceeded the average. This high arson rate in East Palo Alto greatly raises the average of the entirety of the District.

**Figure 37: Arson Rate per 100,000 Population<sup>17</sup>**



<sup>17</sup> Retrieved from the FBI crimedatabase found at <https://ucr.fbi.gov/crime-in-the-u.s/2017/crime-in-the-u.s.-2017/topic-pages/arson>.



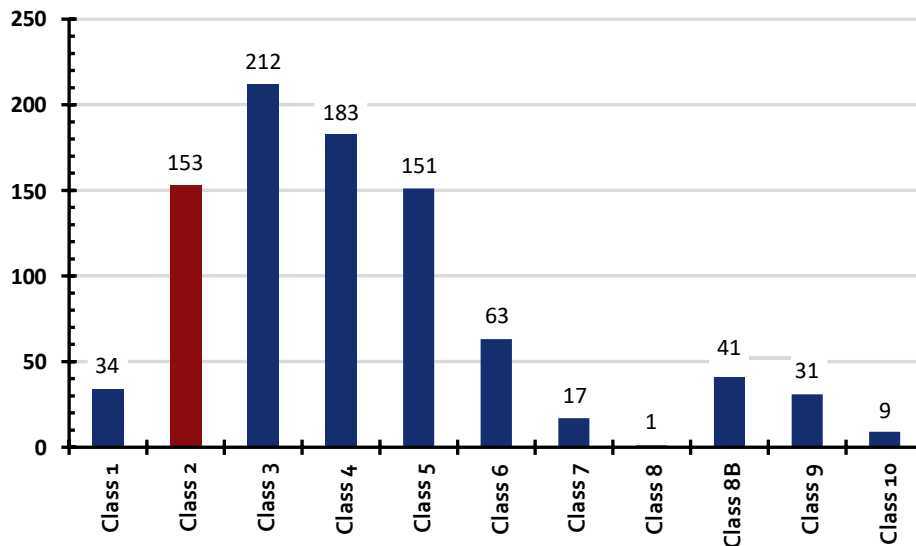
### ISO Fire Protection Class Rating

The Insurance Services Office (ISO), a subsidiary of Verisk Analytics, is a national data analytics provider that evaluates fire protection for communities across the country. According to ISO’s Public Protection Classification program, or PPC, its rating “is a proven and reliable predictor of future fire losses.” All other factors being equal, commercial property insurance rates are expected to be lower in areas with lower (better) ISO PPC Class rating.

At the time of the most recent ISO survey, the ISO Fire Suppression Rating Schedule (FSRS) measured three primary elements of a community’s fire protection system: **Emergency Communications** (max 10 points); **Fire Department** (max 50 points); and **Water Supply** (max 40 points). In addition, the ISO grants 5.5 points for **Community Risk Reduction** activities for a maximum possible total of 105.5 points. After the points are accumulated, the ISO then assigns a grade using a scale of 1 to 10, with Class 1 representing the highest level of fire protection, and Class 10 is a fire suppression program that does not meet ISO’s minimum criteria.

In 2014, the Menlo Park Fire Protection District was assigned an ISO rating of Class 2. MPFPD is one of 153 communities out of 895 communities surveyed across the State to achieve a Class 2 rating and ranks in the top quartile of all communities surveyed, as shown in the following figure.

**Figure 38: Comparison of ISO Class Ratings, California**

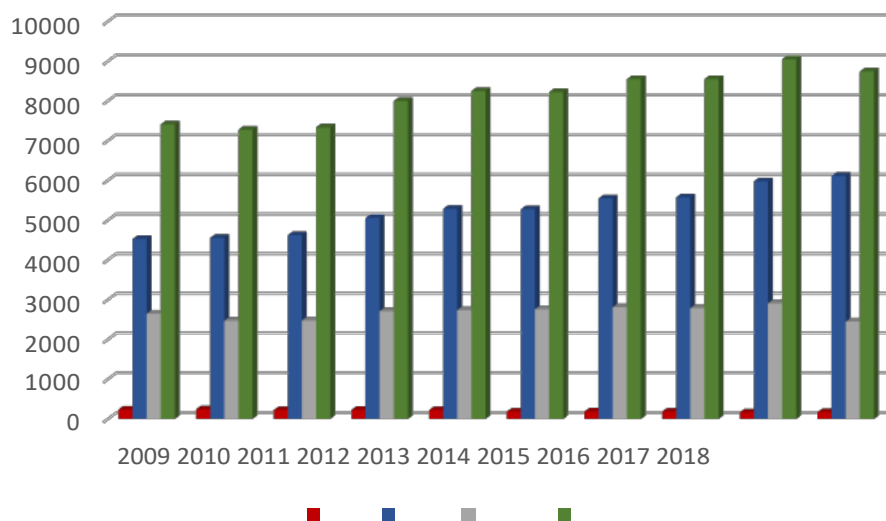


## Historic System Response Workload

Before ESCI conducts a full response-time analysis, it is essential to first examine the level of workload (service demand) that the fire department has experienced. Higher service demands can strain the resources of a department and can result in a negative effect on response-time performance.

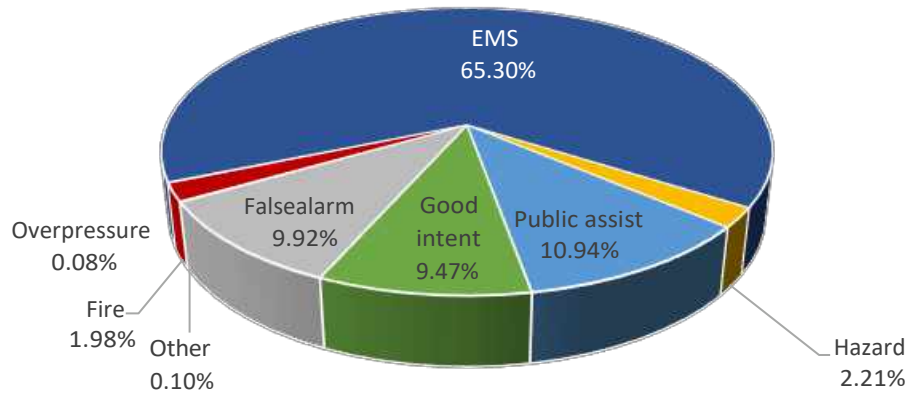
The following figure shows the response workload for the last 10 years. The total response workload has increased by 17.9% over the 10 years, primarily driven by the increase in emergency medical responses. As of 2018, MPFPD has a population of 95,263. The community utilization rate of District services was 91.7 incidents per 1,000 population.

**Figure 39: Response Workload History, 2009–2018**



The next figure shows responses by type of incident in 2018. Emergency medical type responses (EMS and motor vehicle accidents) are the most common at 65.3% of total responses.

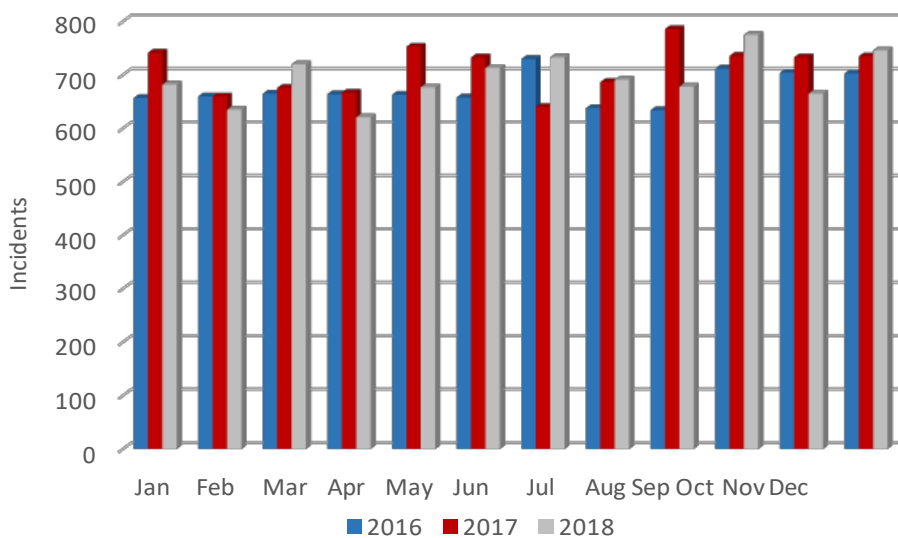
**Figure 40: Responses by Type of Incident, 2018**



**TEMPORAL ANALYSIS**

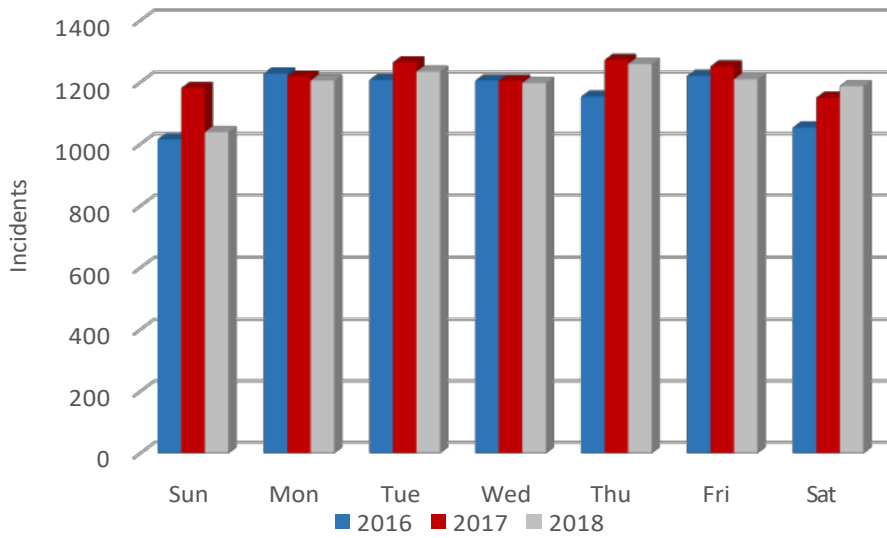
A temporal analysis also reveals when the greatest response demand is occurring. The following figures show how activity and demand change for MPFPD by month of the year, day of the week, and time of the day. The following figure shows response activity during 2016, 2017, and 2018 (the study period) by month. There is little variation by month.

**Figure 41: Monthly Response Workload, 2016–2018**



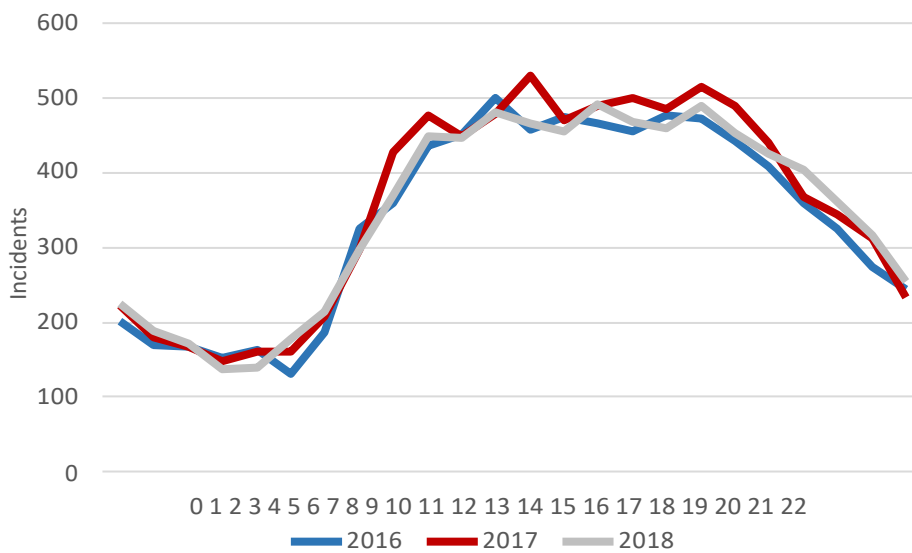
Next, response workload is compared by the day of week. Again, there is little variation in response workload by day of the week.

**Figure 42: Daily Response Workload, 2016–2018**



The time analysis that always shows a significant variation is response activity by the hour of day. Response workload directly correlates with the activity of people, with workload increasing during daytime hours and decreasing during nighttime hours, as shown in the following figure. Incident activity is at its highest between 9:00 a.m. and 9:00 p.m.

**Figure 43: Hourly Response Workload, 2016–2018**

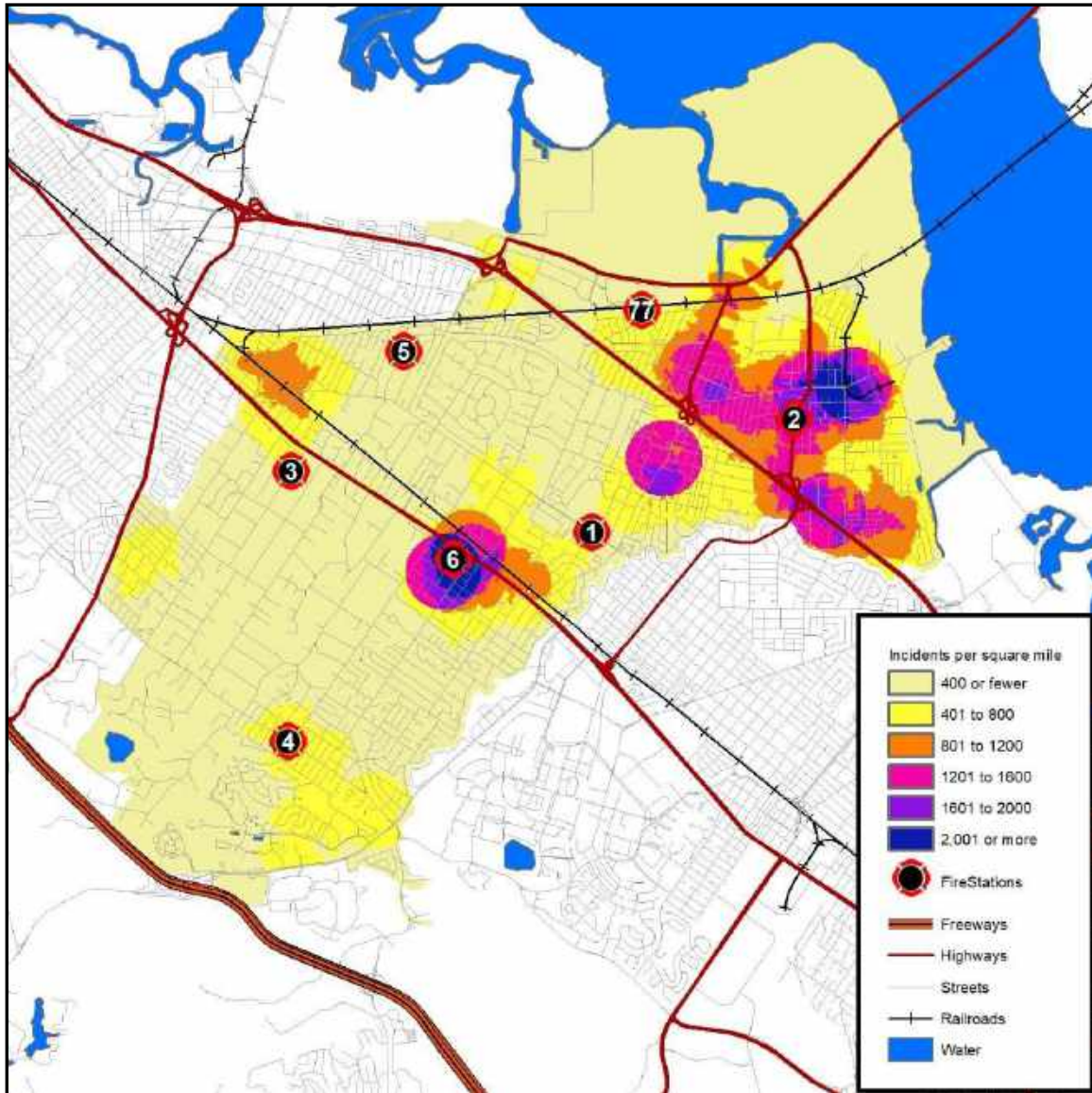


## SPATIAL ANALYSIS

In addition to the temporal analysis, it is useful to examine the geographic distribution of service demand. The following figures indicate the distribution of emergency incidents in MPFPD during 2018.

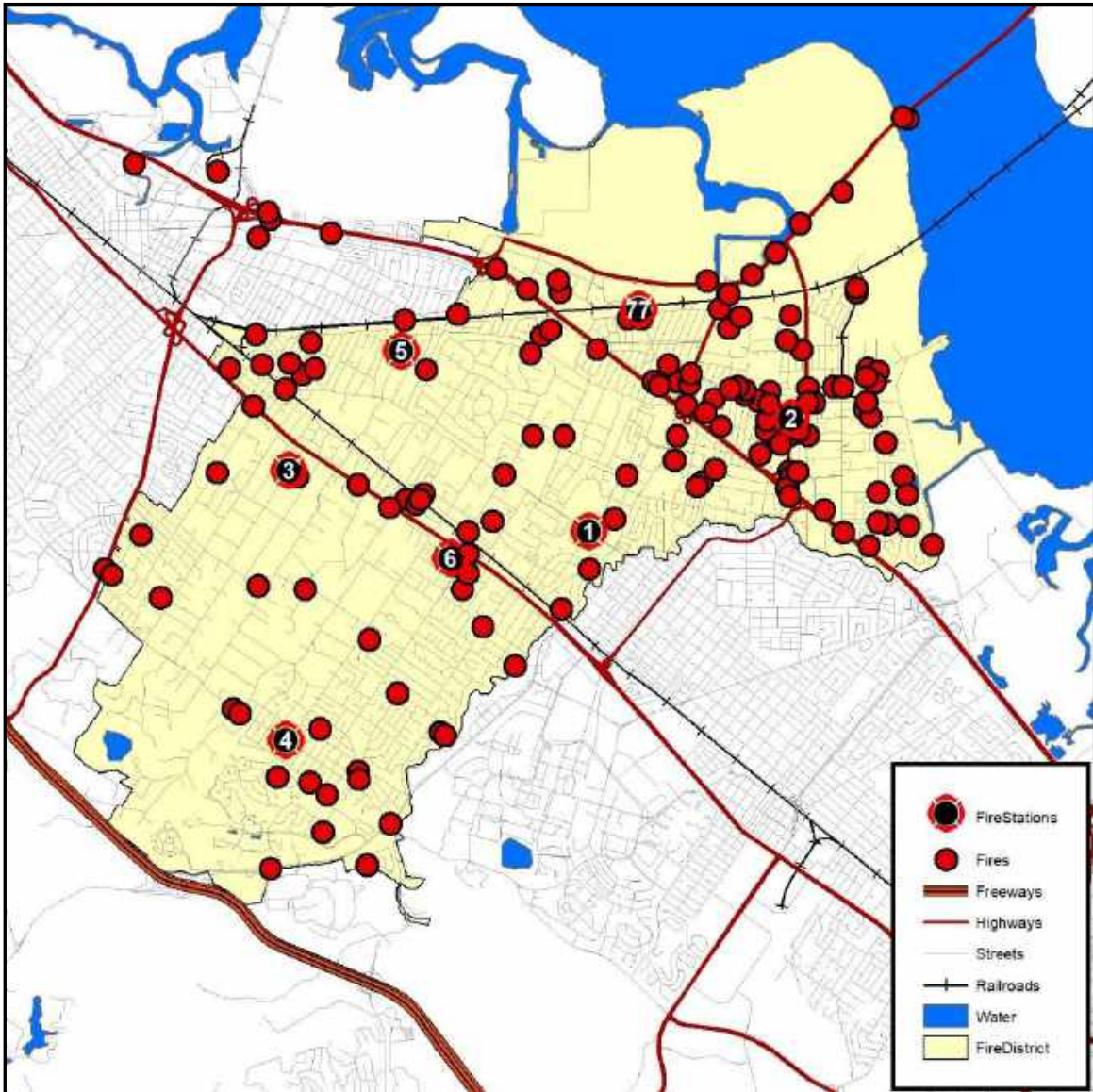
The first figure displays the number of incidents per square mile within various parts of the District.

**Figure 44: Incidents per Square Mile, 2018**



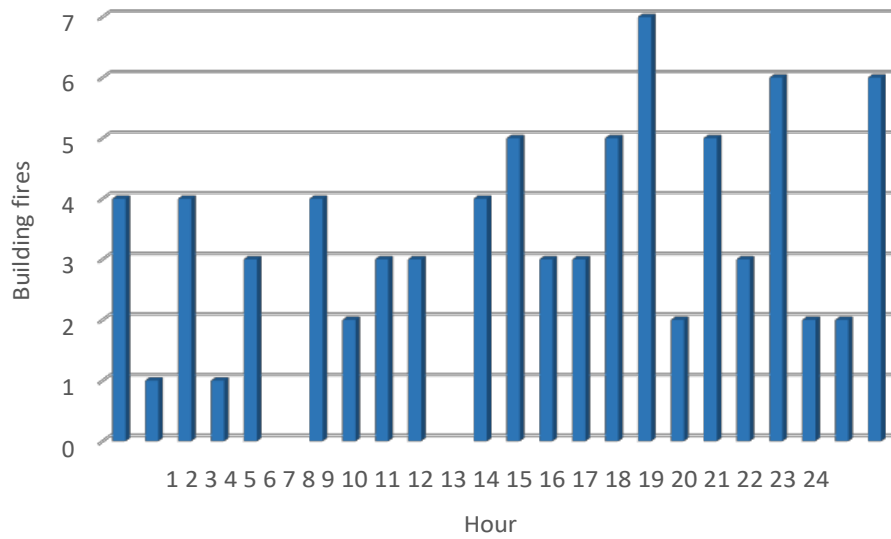
The preceding figure reflects all calls within the District. Service demand can vary by area based on incident type. The following figure displays the location of fires occurring within the MPFPD service area during 2018.

Figure 45: Fires, 2018



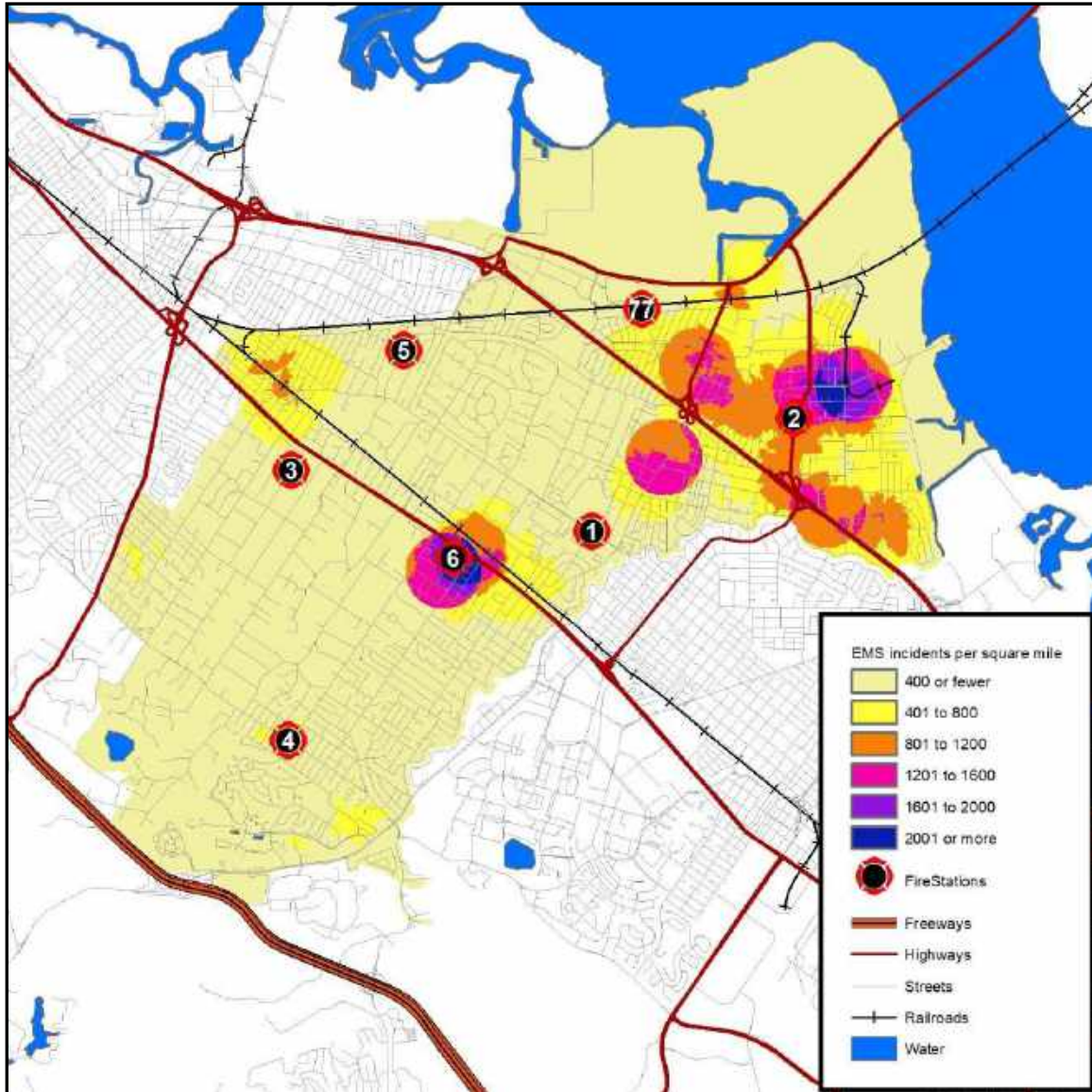
The following figure illustrates building fires by the hour of day during the study period.

**Figure 46: Building Fires by Hour of Day, 2016–2018**



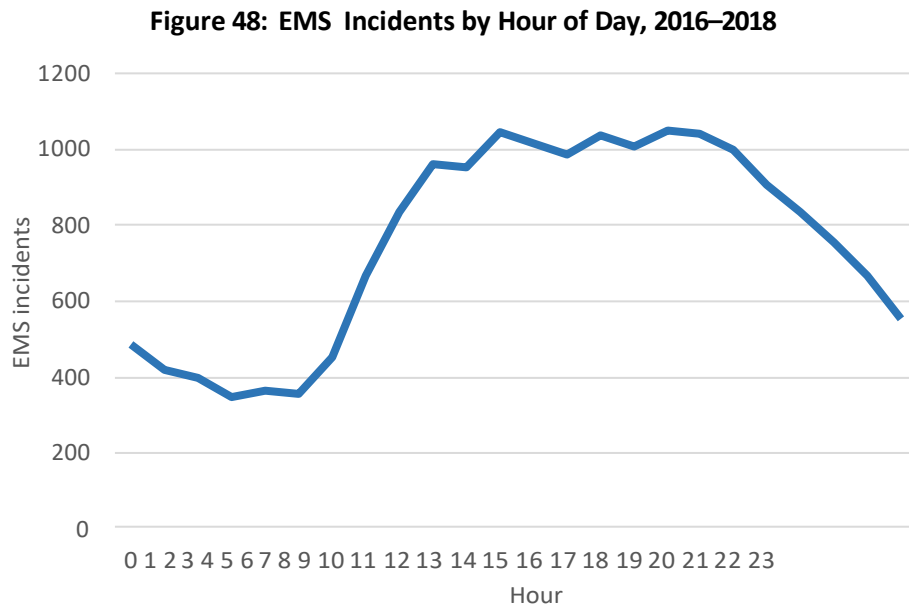
Similarly, emergency medical incidents also occur in greater concentration in areas of higher population density. The following figure displays emergency medical incidents per square mile during 2018. Incident concentration follows population density.

**Figure 47: EMS Incidents per Square Mile, 2018**





EMS response workload also varies by the hour of day. The following figure illustrates EMS incidents by the hour during the studyperiod. It closely follows the total workload bythe hour of day.



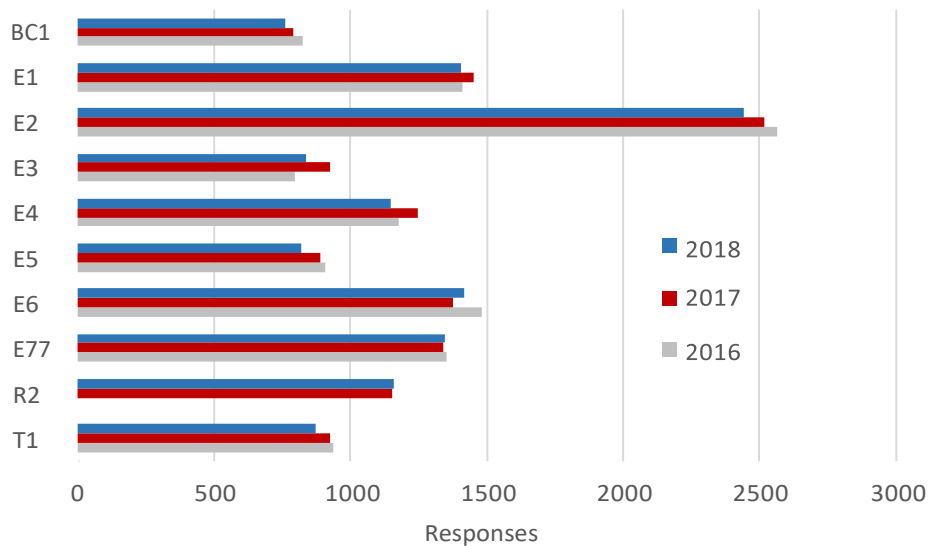
## UNIT WORKLOAD ANALYSIS

A review of workload by response unit can reveal much about response-time performance. Although fire stations and response units may be distributed in a manner to provide quick response, that level of performance can only be obtained when the response unit is available in its primary service area. If a response unit is already on an incident and a concurrent request for service is received, a more distant response unit will need to be dispatched. This will increase response times.

### *Response Unit Workload*

The workload on individual response units during the study period is shown in the following figure. The individual response unit workload can be greater than the workload in its home station area. Many incidents, such as structure fires, require more than one response unit. Engine 2 is the busiest engine in the system. In January 2019, the District placed a second truck in service at Station 2 and moved Rescue 2 to Station 77 as Rescue 77.

**Figure 49: Response Unit Workload, 2016–2018**



The amount of time a given unit is committed to an incident is also an important workload factor. The following figure illustrates the average time each unit was committed to an incident, from initial dispatch until it was available for another incident.

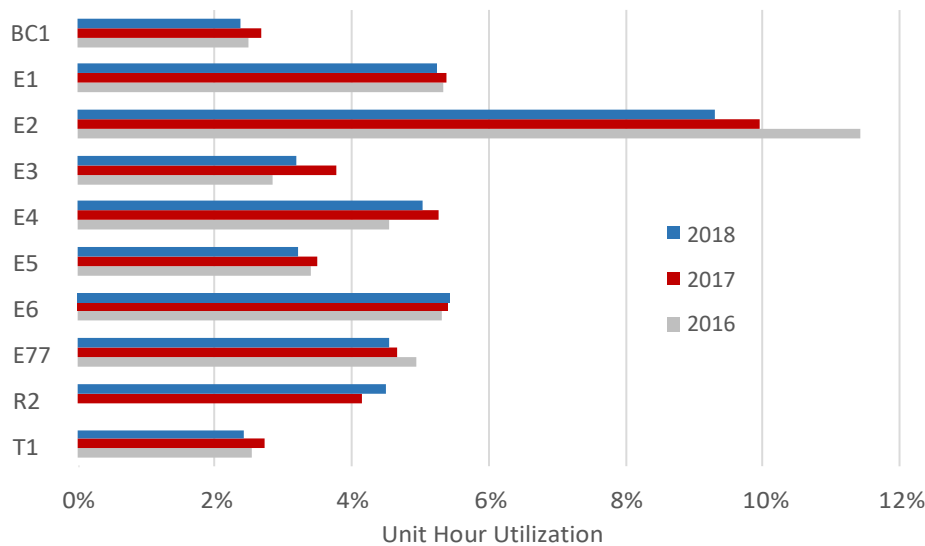
**Figure 50: Average Time Committed to an Incident by Unit, 2016–2018**

Unit	2016	2017	2018
BC1	15:53	17:55	16:28
E1	19:51	19:32	19:38
E2	23:26	20:49	20:03
E3	18:49	21:31	20:02
E4	20:18	22:12	23:03
E5	19:42	20:40	20:41
E6	18:51	20:40	20:11
E77	19:15	18:17	17:44
R2	N/A	18:57	20:20
T1	14:13	15:26	14:34

Unit-hour utilization (UHU) is an important workload indicator. It is calculated by dividing the total time a unit is committed to all incidents during a year divided by the total time in a year. Expressed as a percentage, UHU describes the amount of time a unit is not available for response because it is already committed to an incident. The larger the percentage, the greater a unit’s utilization, and the less available it is for assignment to an incident.

UHU is an important statistic to monitor for those fire agencies using percentile-based performance standards, as does MPFPD. In MPFPD’s case, where performance is measured at the 90th percentile, a response unit with greater than 10% utilization will not be able to provide an on-time response to its 90% target even if response is its only activity. Engine 2 is very near 10% utilization.

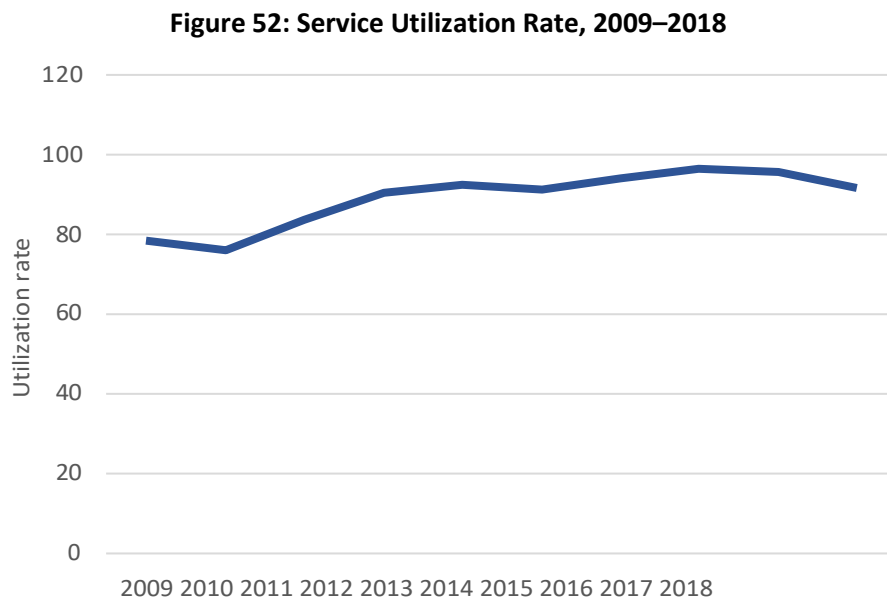
**Figure 51: Unit-Hour Utilization, 2016–2018**



## POPULATION AND INCIDENT WORKLOAD PROJECTIONS

The most significant predictor of future incident workload is population; 100% of requests for emergency medical services are people-driven. The National Fire Protection Association reports that approximately 70% of all fires are the result of people either doing something they should not have (i.e., misuse of an ignition source) or not doing something they should have (i.e., failure to maintain equipment). It is reasonable to use forecast population growth to predict future fire department response workload.

The current utilization rate for fire department services is 91.7 incidents per 1,000 population. This is comparable to similar-sized communities. The total utilization rate has increased by 2% per year over the past 10 years. The following figure illustrates that growth.



If the utilization growth rate of the past 10 years continues, the total utilization rate could reach 120.7 incidents per 1,000 population by 2040. The increased utilization rate, plus expected population growth, could increase the MPFPD's workload to over 12,700 incidents per year by 2040, driven primarily by requests for emergency medical services.

## Critical Tasking and Alarm Assignments

The MPFPD service area is a highly populated urban environment and, as such, contains an elevated number, density, and distribution of risk. As the actual or potential risk increases, the need for higher numbers of personnel and apparatus also increases. With each type of incident and corresponding risk, specific critical tasks need to be accomplished, and certain numbers and types of apparatus should be dispatched.

Tasks that the District must perform at a fire can be broken down into two key components: life safety and fire flow. Life safety tasks are based on the number of building occupants, and their location, status, and ability to take self-preservation action. Life safety-related tasks involve the search, rescue, and evacuation of victims. The fire flow component involves delivering sufficient water to extinguish the fire and create an environment within the building that allows entry by firefighters.

The number and types of tasks needing simultaneous action will dictate the minimum number of firefighters required to combat different types of fires. In the absence of adequate personnel to perform concurrent action, the commanding officer must prioritize the tasks and complete some in chronological order, rather than concurrently. These tasks include the following:

- Command
- Scene safety
- Search and rescue
- Fire attack
- Medical assistance
- Water supply
- Pump operation
- Ventilation
- Backup/rapid intervention

Critical task analyses also apply to non-fire-type emergencies, including medical, technical rescue, and hazardous materials emergencies. Numerous simultaneous tasks must be completed to control an emergency effectively. The District's ability to muster needed numbers of trained personnel quickly enough to make a difference is critical to successful incident outcomes.

The following figure illustrates the minimum emergency incident staffing recommendations of the Commission on Fire Accreditation International (CFAI). The following definitions apply to the figure:

- **Low Risk:** Minor incidents involving small fires (fire flow less than 250 gallons per minute), single patient non-life-threatening medical incidents, minor rescues, small fuel spills, and small wildland fires without unusual weather or fire behavior.
- **Moderate Risk:** Moderate-risk incidents involving fires in single-family dwellings and equivalently sized commercial office properties (fire flow between 250 gallons per minute to 1,000 gallons per minute), life-threatening medical emergencies, hazardous materials emergencies requiring specialized skills and equipment, rescues involving specialized skills and equipment, and larger wildland fires.
- **High Risk:** High-risk incidents involving fires in larger commercial properties with sustained attack (fire flows more than 1,000 gallons per minute), multiple patient medical incidents, major releases of hazardous materials, high-risk rescues, and wildland fires with extreme weather or fire behavior.

**Figure 53: Staffing CFAI Recommendations Based on Risk**

Incident Type	High Risk	Moderate Risk	Low Risk
Structure Fire	29	15	6
Emergency Medical Service	12	4	2
Rescue	15	8	3
Hazardous Materials	39	20	3

The MPFPD has developed the following Critical Task Analysis using the risk matrices included in the Critical Task Section for various incident types. Further, it has defined, based on current unit staffing levels, the number and type of apparatus needed to deliver sufficient numbers of personnel to meet the critical tasking identified. ESCI's review of the Critical Task Analysis concludes that all are generally in keeping with industry standards and provide the minimum number of personnel needed for effective incident operations.

Establishing resource levels needed for various types of emergencies is a uniquely local decision. Factors influencing local decisions for incident staffing include the type of equipment operated, training levels of responders, operating procedures, geography, traffic, and the nature of buildings and other risks protected.

## CRITICAL TASKING

Critical tasks are those activities that must be conducted early on and in a timely manner by firefighters at emergency incidents in order to control the situation, to stop loss, and to perform necessary tasks required for a medical emergency. MPFPD is responsible for assuring that responding companies are capable of performing all of the described tasks in a prompt, efficient, and safe manner. These are the minimum number of personnel needed by incident type. More personnel will be needed for incidents of increased complexity or size.

**Figure 54: Structure Fire**

Task	Number of Personnel
Command	1
Safety	1
Pump Operations	4
Attack Line	4
Backup Line	4
Search and Rescue	2
Ventilation	2
RIT	3
<b>Total</b>	<b>21</b>

**Figure 55: High-Rise Structure Fire (75+ Feet in Height)**

Task	Number of Personnel
Command/Safety	3
Pump Operations	2
Attack Line	6
Search and Rescue	4
Ventilation	4
RIC	3
Backup Line	5
<b>Total</b>	<b>27</b>

**Figure 56: Wildland Fire—Low Risk**

Task	Number of Personnel
Command/Safety	1
Pump Operation/Lookout	3
Attack Line	4
Exposure	2
<b>Total</b>	<b>10</b>

**Figure 57: Wildland Fire—High Risk**

Task	Number of Personnel
Command	2
Safety	1
Pump Operations/Lookout	6
Attack Line	6
Structure Protection/Exposures	6
Water Supply	2
<b>Total</b>	<b>23</b>

**Figure 58: Hazardous Materials—Low Risk**

Task	Number of Personnel
Command	1
Liaison	1
Decontamination	4
Research/Support	2
Entry Team and Backup Team	6
<b>Total</b>	<b>14</b>

**Figure 59: Hazardous Materials—High Risk**

Task	Number of Personnel
Command	1
Safety	1
Decontamination	3
Research Support	2
Team Leader, Safety, Entry Team, and Backup Team	6
<b>Total</b>	<b>13</b>

**Figure 60: Emergency Medical Aid (Life Threatening)**

Task	Number of Personnel
Patient Management	1
Patient Care	4
Documentation	1
<b>Total</b>	<b>6</b>

**Figure 61: Major Medical Response (10+ Patients)**

Task	Number of Personnel
Incident Command	1
Safety	1
Triage	3
Treatment Manager	1
Patient Care	4
Transportation Manager	1
Documentation	1
<b>Total</b>	<b>12</b>



**Figure 62: Motor Vehicle Accident(Non-Trapped)**

Task	Numberof Personnel
Scene Management/Documentation	1
Patient Care/Extrication	2
<b>Total</b>	<b>3</b>

**Figure 63: Motor Vehicle Accident(Trapped)**

Task	Numberof Personnel
Command	1
Safety	1
Patient Care	3
Extrication/Vehicle Stabilization	4
Pump Operator/Suppression Line	1
<b>Total</b>	<b>10</b>

**Figure 64: Technical Rescue—Water**

Task	Numberof Personnel
Command/Safety	1
Rescue Team	3
Backup Team	3
Patient Care	1
Rope Tender	3
Upstream Spotter	1
Downstream Safety	2
<b>Total</b>	<b>14</b>

**Figure 65: Technical Rescue—Rope**

Task	Numberof Personnel
Command/Safety	2
Rescue Team	4
Backup Team	4
Patient Care	2
Rope Tender	2
<b>Total</b>	<b>14</b>

**Figure 66: Technical Rescue—Confined Space**

Task	Number of Personnel
Command/Safety	3
Rescue Team	4
Documentation	1
Monitoring	1
Backup/Support Team	3
Patient Care	3
Rope Tender	4
<b>Total</b>	<b>19</b>

## ALARM ASSIGNMENTS

To ensure sufficient personnel and apparatus are dispatched to an emergency event, the following first alarm response assignments have been established. "Total Staffing Needed" is the number identified in the previous Critical Tasking Analysis. The number of personnel and apparatus required to mitigate an active and complex working incident will require additional resources above and beyond the numbers listed next. With currently available resources, MPFPD is able to staff a number of incident types in accordance with its Critical Tasking Analysis.

**Figure 67: Structure Fire**

Unit Type	Number of Units	Total Personnel
Engine	5	15
Truck	1	4
Air Supply	0	0
Battalion Chief	2	1
<b>Total Staffing Provided</b>		<b>21</b>
<b>Total Staffing Needed</b>		<b>22</b>

**Figure 68: High-Rise Structure Fire (75+ Feet)**

Unit Type	Number of Units	Total Personnel
Engine	5	15
Truck	2	8
Air Supply	0	0
Battalion Chief	3	3
<b>Total Staffing Provided</b>		<b>24</b>
<b>Total Staffing Needed</b>		<b>26</b>

**Figure 69: Wildland Fire—Low Risk**

Unit Type	Number of Units	Total Personnel
Engine	3	9
Battalion Chief	1	1
<b>Total Staffing Provided</b>		<b>10</b>
<b>Total Staffing Needed</b>		<b>10</b>

**Figure 70: Wildland Fire—High Risk**

Unit Type	Number of Units	Total Personnel
Engine	6	9
Battalion Chief	1	1
<b>Total Staffing Provided</b>		<b>10</b>
<b>Total Staffing Needed</b>		<b>23</b>

**Figure 71: Hazardous Materials—High Risk**

Unit Type	Number of Units	Total Personnel
Engine	3	9
Truck	1	4
Battalion Chief	1	1
Hazardous Materials Unit	County	
<b>Total Staffing Provided</b>		<b>14</b>
<b>Total Staffing Needed</b>		<b>18</b>

**Figure 72: Emergency Medical Service (Life Threatening)**

Unit Type	Number of Units	Total Personnel
Engine	2	6
<b>Total Staffing Provided</b>		<b>6</b>
<b>Total Staffing Needed</b>		<b>6</b>

**Figure 73: Major Medical Response (10+ Patients)**

Unit Type	Number of Units	Total Personnel
Engine	4	12
Battalion Chief	1	1
Truck	1	4
<b>Total Staffing Provided</b>		<b>16</b>
<b>Total Staffing Needed</b>		<b>16</b>

**Figure 74: Motor Vehicle Accident(Non-Trapped)**

Unit Type	Number of Units	Total Personnel
Engine	1	3
Truck	1	4
Battalion Chief	1	1
<b>Total Staffing Provided</b>		<b>8</b>
<b>Total Staffing Needed</b>		<b>8</b>

**Figure 75: Motor Vehicle Accident(Trapped)**

Unit Type	Number of Units	Total Personnel
Engine	2	6
Truck	1	4
Battalion Chief	1	1
<b>Total Staffing Provided</b>		<b>11</b>
<b>Total Staffing Needed</b>		<b>11</b>

**Figure 76: Technical Rescue—Water**

Unit Type	Number of Units	Total Personnel
Boat	1	3
Truck	1	4
Battalion Chief	1	1
<b>Total Staffing Provided</b>		<b>8</b>
<b>Total Staffing Needed</b>		<b>8</b>

**Figure 77: Technical Rescue—Rope**

Unit Type	Number of Units	Total Personnel
Engine	3	9
Truck	1	4
Squad	1	2
Battalion Chief	1	1
<b>Total Staffing Provided</b>		<b>16</b>
<b>Total Staffing Needed</b>		<b>16</b>

**Figure 78: Technical Rescue—Confined Space**

Unit Type	Number of Units	Total Personnel
Engine	3	9
Truck	1	4
Battalion Chief	1	1
<b>Total Staffing Provided</b>		<b>14</b>
<b>Total Staffing Needed</b>		<b>18</b>

**Figure 79: Technical Rescue—Trench**

Unit Type	Number of Units	Total Personnel
Engine	3	9
Truck	1	4
Battalion Chief	1	1
<b>Total Staffing Provided</b>		<b>14</b>
<b>Total Staffing Needed</b>		<b>16</b>

**Figure 80: Mutual Aid Resources, Including Resources Available Through 3rd Alarm**

Department	Resources		
	Engines	Ladders Trucks	Total Available Staffing
Redwood City	7	1	25
Woodside Fire Protection District	3	0	9
Palo Alto	6	1	22
<b>Totals</b>	<b>16</b>	<b>2</b>	<b>56</b>



## Review of Historical System Performance

Incident data for the period between January 1, 2016, and December 31, 2018, were evaluated in detail to determine MPFPD's current performance. ESCI obtained data from MPFPD's incident reports and the dispatch center's computer-aided dispatch system.

ESCI included priority incidents occurring within the MPFPD service area in the analysis only. Priority incidents involve emergencies to which the fire department initiated a "code 3" (using warning lights and sirens) response (5,865 incidents during 2016; 6,152 during 2017; and 6,118 incidents during 2018). ESCI excluded non-emergency public assistance requests. Performance is reported based on the initial type of incident as dispatched. Three categories are used to report performance:

- **Fire and Special Operations**—Responses to a report of fire or other emergency requiring full personal protective equipment.
- **Emergency Medical**—All emergency medical incidents.
- **Other**—Any other incident to which the fire district responded with lights and sirens.

Each phase of the incident response sequence was evaluated to determine the 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 the appropriate mitigation of the event. The time required for each of the components varies. The policies and practices of the District directly influence some of the steps.

ESCI compared MPFPD's response performance to its adopted performance goals. The following figure summarizes the performance goals as adopted by the MPFPD Board of Directors.

**Figure 81: MPFPD Performance Goals**

Incident Interval	Performance Goal
Call process time (time from acceptance at the dispatch center until notification of response units).	Within 1 minute, 90% of the time.
Turnout time (time from notification of response personnel until the initiation of movement towards the incident).	Within 2 minutes, 90% of the time.
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 total response time (time from receipt of the call at dispatch until the arrival of the first unit at the incident).	Within 7 minutes, 90% of the time.
Full effective response for travel time (Time from receipt of the call at dispatch until all units initially dispatched arrive at the incident).	Within 11 minutes, 90% of the time.

In keeping with MPFPD's 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.

*Percentiles* differ greatly from *averages*. 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. Using averages does not give a clear picture of response performance because it does not clearly identify the number and extent of events with times beyond the stated performance goal.

What follows is a detailed description and review of each phase of the response-time continuum. All phases will be compared to MPFPD'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 time 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*

Most emergency incidents are reported by telephone to the 9-1-1 center. Call takers must quickly elicit accurate information about the nature and location of the incident from persons who are apt to be excited. A citizen 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. This phase 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. This phase, which has two parts, is labeled "call processing time."

San Mateo County Office of Public Safety (PSC) is the PSAP and dispatch service provider for MPFPD. It answers the call, processes the information, and dispatches MPFPD response units. PSC is the primary PSAP for the City of East Palo Alto and the secondary PSAP for the cities of Atherton and Menlo Park.

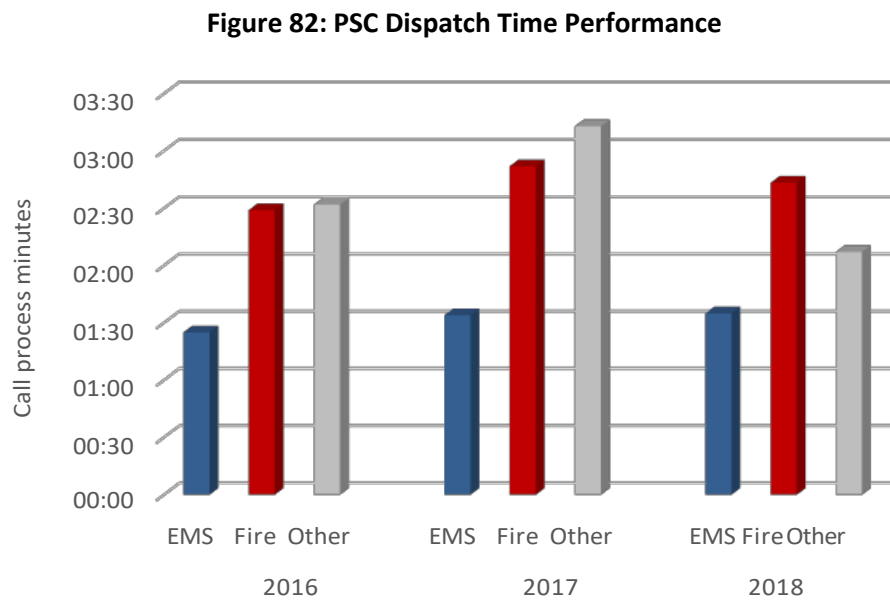
The cities of Atherton and Menlo Park Police Departments maintain their own primary PSAPs and transfer requests for fire-based services to PSC. In addition, cell-based 9-1-1 calls that originate within proximity to highways may go direct to CHP. These calls will be routed to the appropriate primary PSAP and may result in considerable delays.



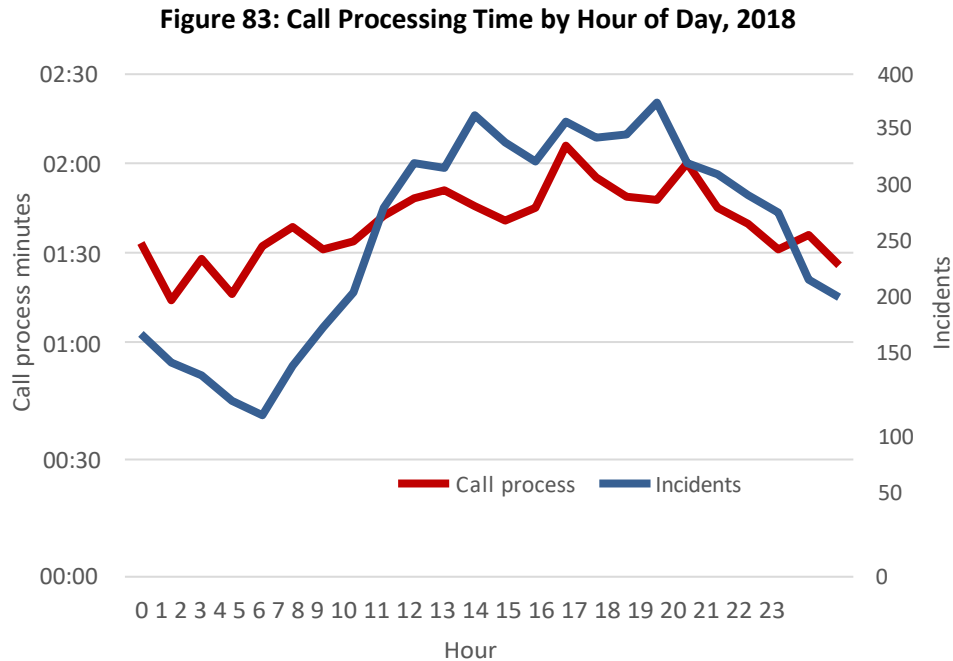
National Fire Protection Association Standard 1221 recommends that 9-1-1 calls be answered within 15 seconds, 95% of the time (within 40 seconds, 99% of the time). Call answer and transfer times from Atherton and Menlo Park were not provided.

The second part of call processing time, dispatch time, begins when the call is received at the dispatch center (PSC) and ends when response units are notified of the incident. MPFPD’s goal prescribes that this phase should occur within 1 minute, 90% of the time.

The following figure illustrates performance by PSC from the time it receives the call until it notifies response units. Performance during 2018 for all incidents was within 1 minute, 45 seconds, 90% of the time.



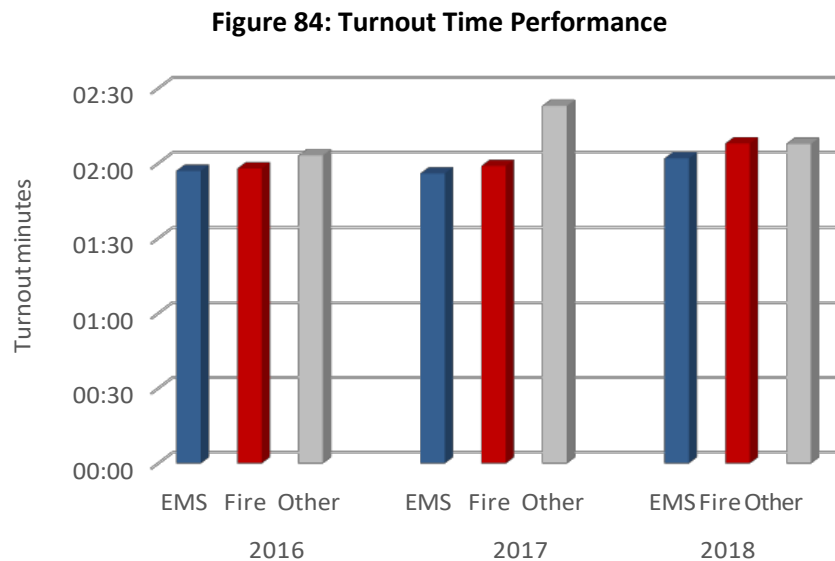
The workload at the dispatch center can influence call processing performance. The following figure illustrates performance at different times of the day compared to the District’s response workload. Given that call processing time increases with higher call volume and decreases during periods of lower call volume, it appears that workload may be impacting dispatch center performance.



**Turnout Time**

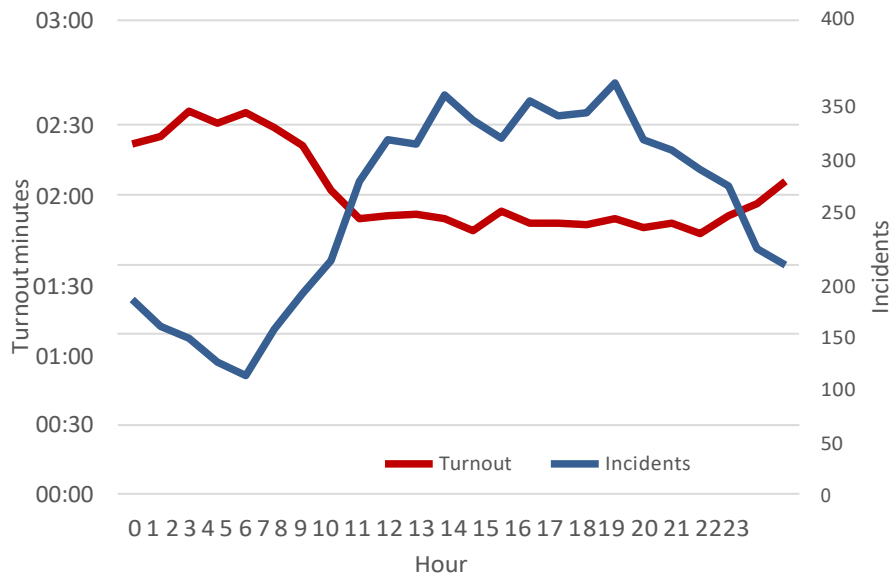
Turnout time is a response phase controllable by the fire district. This phase begins at the notification of an emergency in progress by the dispatch center and ends when personnel and apparatus begin to move towards the incident location. Personnel must don appropriate equipment, assemble on the response vehicle, and begin travel to the incident. Good training and proper fire station design can minimize the time required for this step.

The performance goal for turnout time is within 2 minutes, 90% of the time. The following figure lists turnouttime byspecific incident types. Overall turnouttime during 2018 was within 2 minutes, 3 seconds, 90% of the time.



Turnout time can vary by hour of day. For MPFPD, turnout times are longer at night than during the day.

**Figure 85: Turnout Time by Hour of Day, 2018**

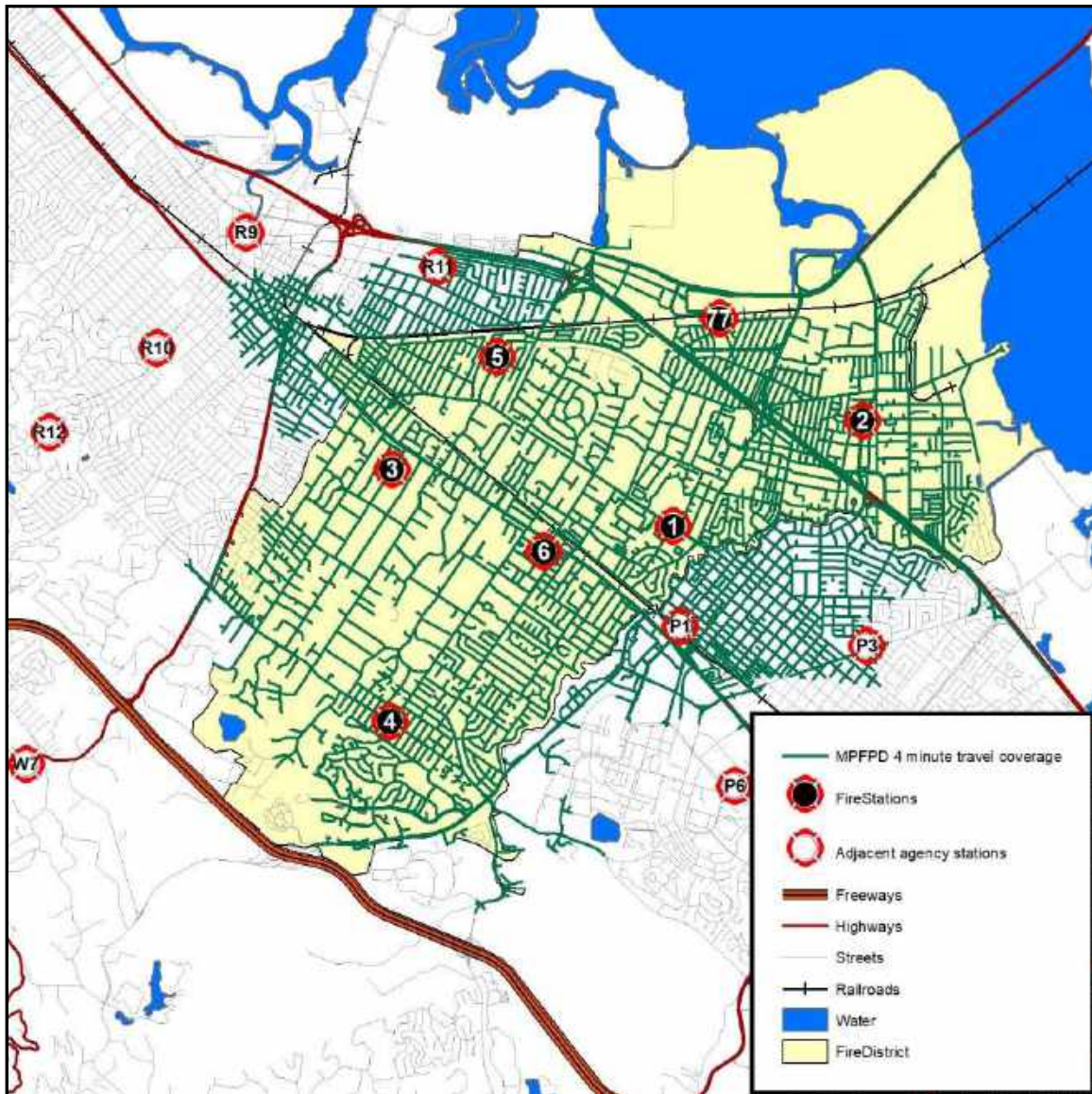


***Distribution and Initial Arriving Unit Travel Time***

Travel time is potentially 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 are also factors. This phase begins with the initial apparatus movement towards the incident location and ends when response personnel and apparatus arrive at the emergency’s location. Within the performance goal, 4 minutes is allowed for the first response unit to arrive at an incident.

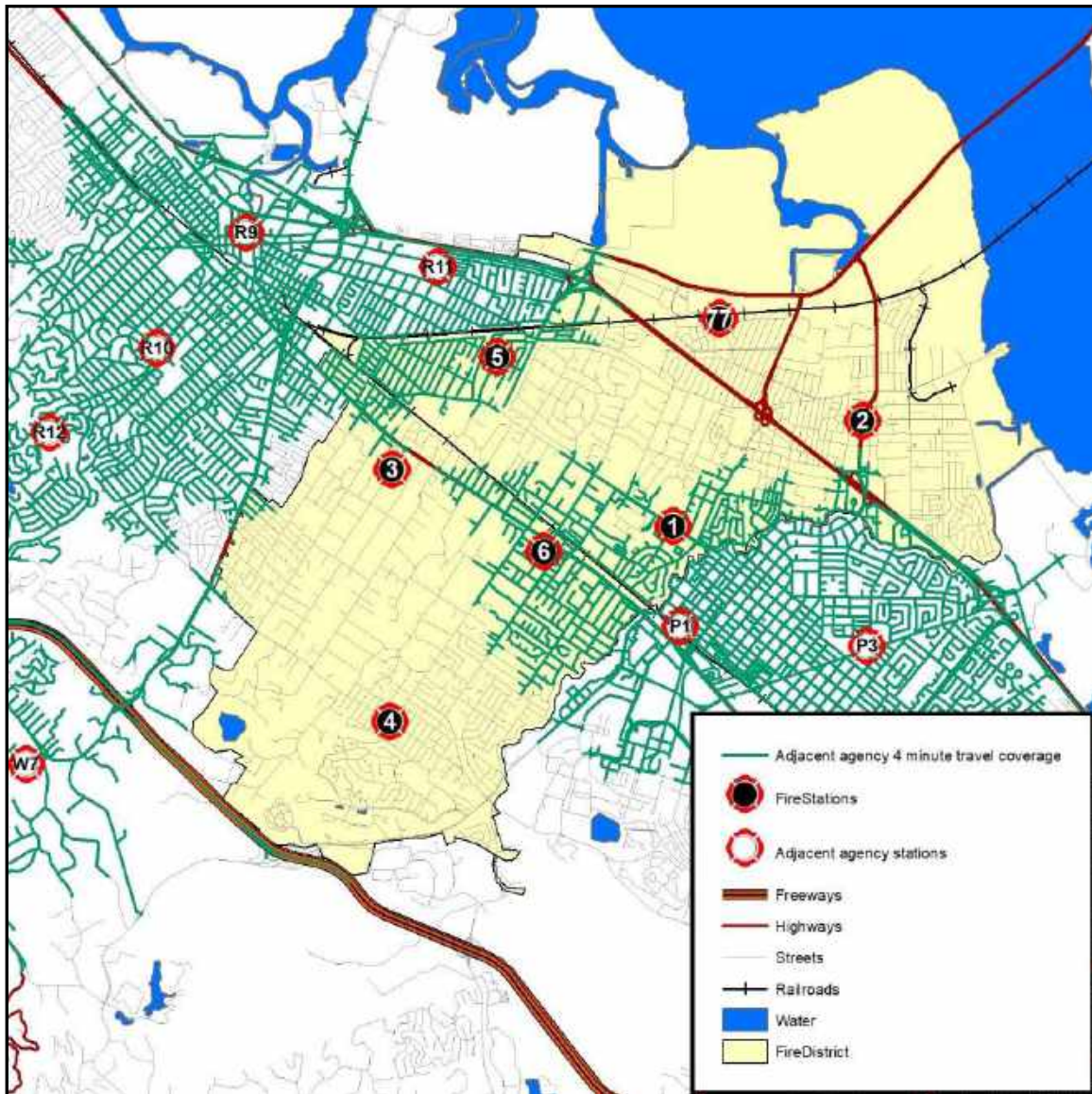
The following figure illustrates the street sections that can be reached from all MPFPD fire stations in 4 minutes of travel time. It is based on posted road speeds modified to account for turning, stops, and acceleration. Existing stations serve the MPFPD service areawell.

Figure 86: MPFPD 4-Minute Travel Coverage



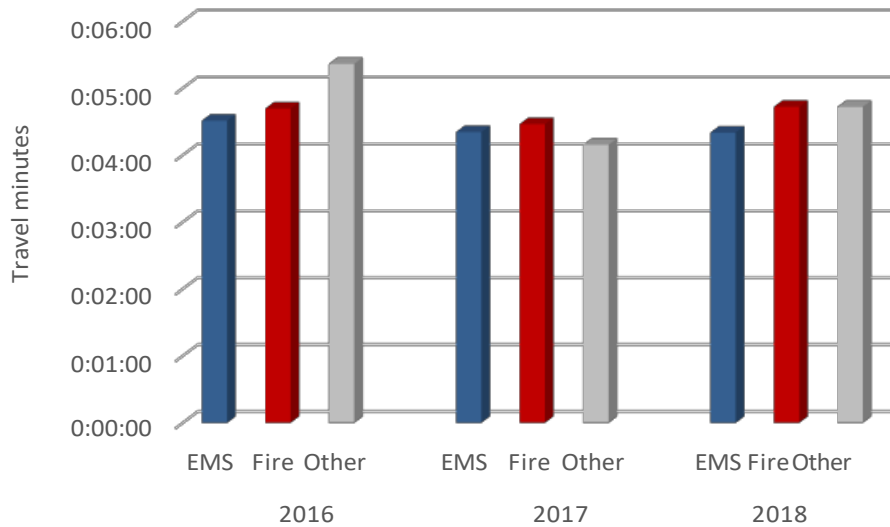
The next figure shows the 4-minute travel coverage from adjacent agency stations. Some 4-minute coverage is provided in the center of the jurisdiction. Most adjacent agency stations are beyond 4 travel minutes of MPFPD.

Figure 87: Adjacent Agency 4-Minute Travel Coverage



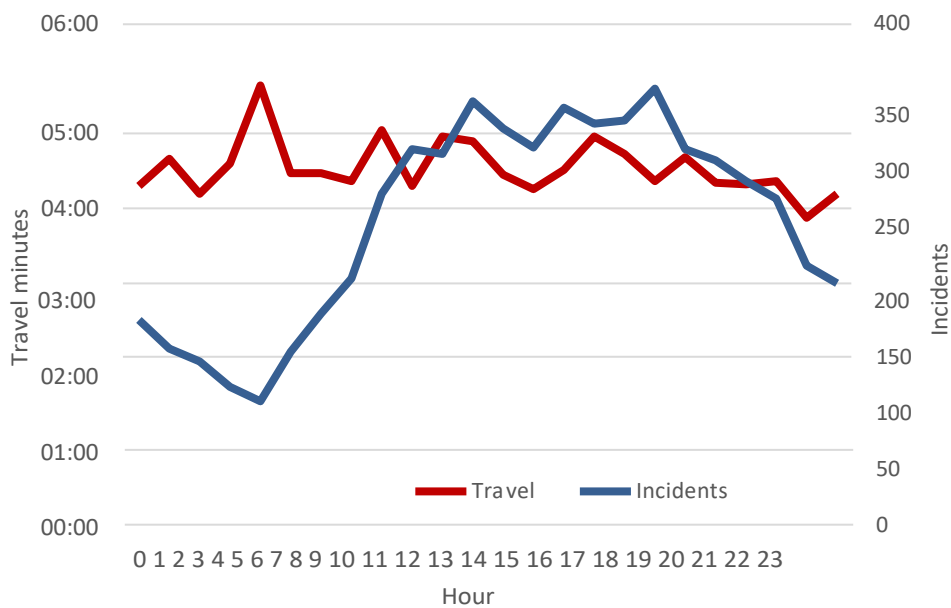
The following figure lists travel time by specific incident types. Overall travel time during 2018 was within 4 minutes, 24 seconds, 90% of the time.

**Figure 88: Travel-Time Performance, First Arriving Unit**



Travel time can vary considerably by the time of day. Heavy traffic at morning and evening rush hours can slow fire district response. Concurrent incidents can also increase travel time because units from more distant stations would need to respond. Except for an unusual spike between 3:00 a.m. and 4:00 a.m., travel times are relatively consistent across the day.

**Figure 89: Travel Time by Hour of Day, 2018**



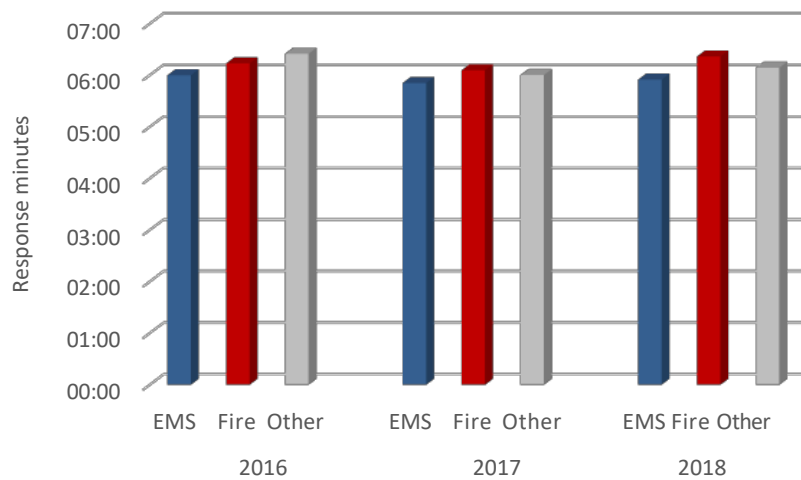
To provide an on-time response, a response unit must be within 4 travel minutes of the incident. Incidents were reviewed to identify how many occurred within 4 travel minutes of a fire station. During 2018, 6,056 of the 6,118 priority incidents inside the District (98.9%) occurred within 4 travel minutes of a fire station.

**First Arriving Unit Response Time**

Response time is defined as that period between the notification 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. The MPFPD goal for response time is within 6 minutes, 90% of the time.

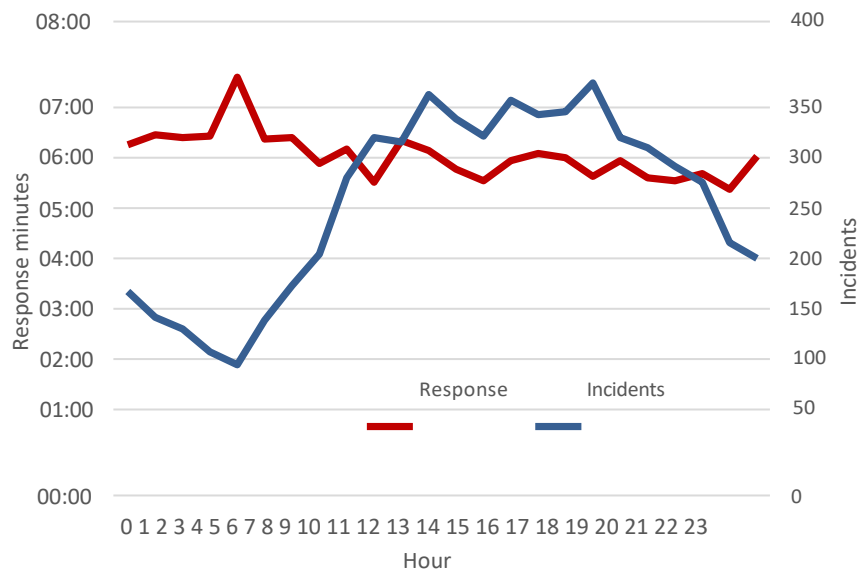
The following figure illustrates the response time for specific incident types. Overall response time during 2018 was within 5 minutes, 59 seconds, 90% of the time.

**Figure 90: Response-Time Performance, First Arriving Unit**



The next figure shows response time and the number of incidents by the hour of day for all incidents.

**Figure 91: Response Time by Hour of Day, 2018**

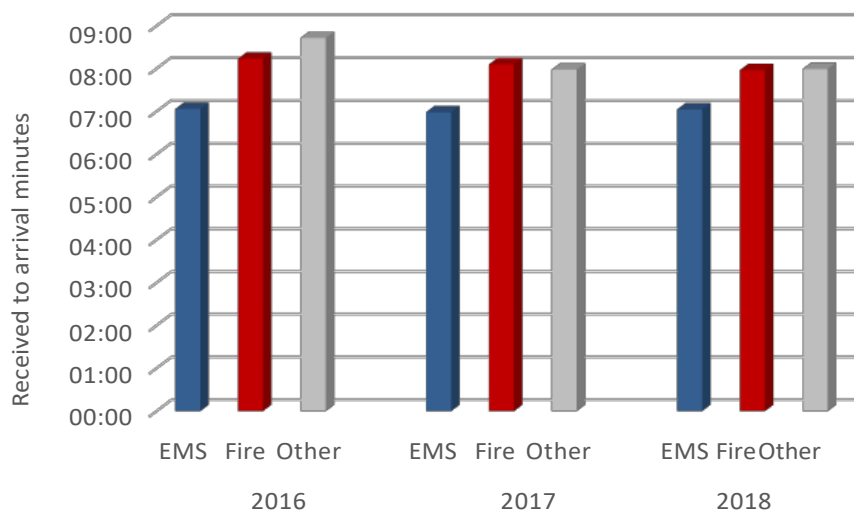


### First Arriving Unit Received to Arrival Time

From the customer’s 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. Received to arrival time combines answer/transfer, call processing, turnout, and travel time. MPFPD has set its received to arrival goal (total response time) within 7 minutes, 90% of the time.

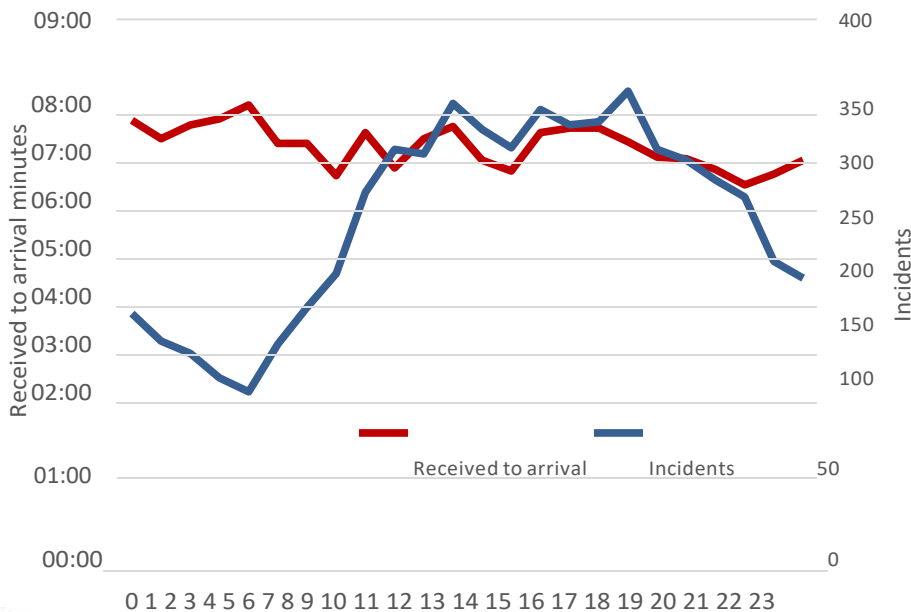
The next figure shows received to arrival performance for priority incidents within the MPFPD service area during the study period. Overall, received to arrival time was within 7 minutes, 17 seconds, 90% of the time during 2018.

**Figure 92: Received to Arrival Time, First Arriving Unit**



The next figure shows received to arrival performance compared to incident activity by time of the day.

**Figure 93: Received to Arrival Time by Hour, 2018**





Hour

### Concentration and 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 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 the delivery of the full ERF to a moderate-risk building fire is within 11 minutes, 90% of the time from the time the call is received at the dispatch center. MPFPD has defined the minimum full effective response force for low-rise building fires as five fire engines, one truck, and two Battalion Chiefs with a total of 21 firefighters. For high-rise building fires, the minimum force is five fire engines, two trucks, three Battalion Chiefs, and 26 firefighters. The apparatus and staffing complement for this response type are all that is immediately available to MPFPD without using mutual or automatic aid.

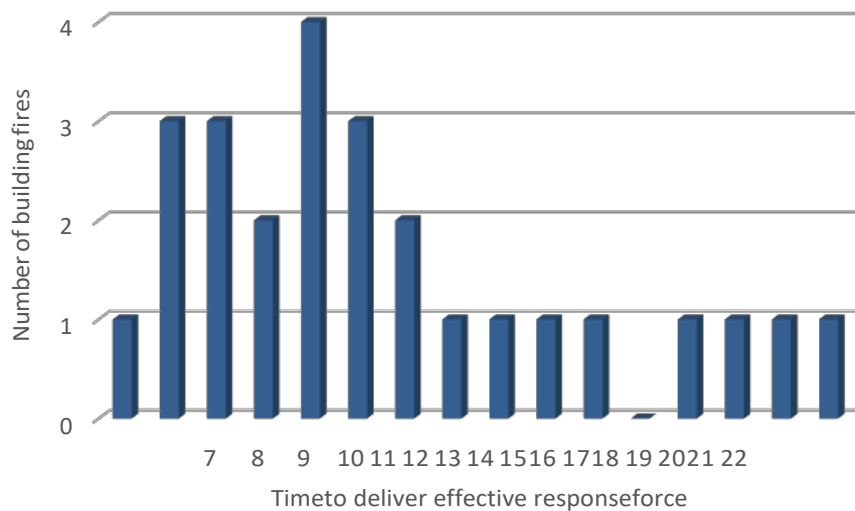
No data are available to identify building fires by type of risk (low rise, high-risk commercial, etc.). All building fires have been evaluated using the low-rise effective response force criteria. The following figure illustrates effective response performance during the study period. The effective response force was delivered to 27 building fires during the study period.

**Figure 94: Effective Response Force Performance**

	2016	2017	2018
Number of fires with full ERF	6	10	11
Time to deliver the full ERF	16:18	19:47	21:23

The following figure illustrates the frequency distribution of the response times experienced during the study period. Response times between 8 and 13 minutes occurred for 55.5% of those building fires that received the full effective response force.

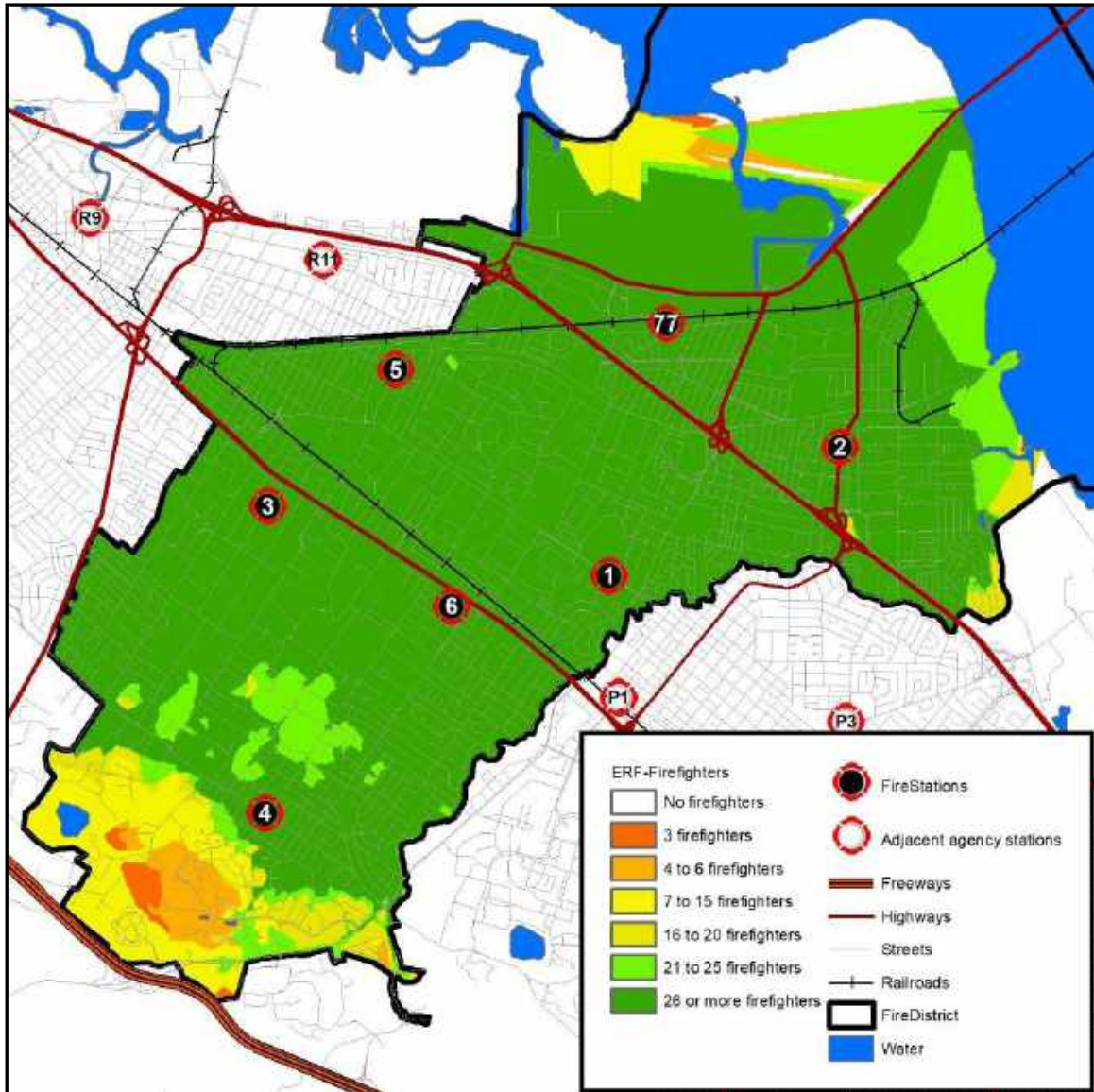
**Figure 95: Frequency Distribution of Response Time for Full ERF Arrival**



A concentration analysis reviews the physical capability of MPFPD’s resources to achieve its target ERF travel time to its service area. The following figures depict the physical capability of MPFPD and its neighboring automatic aid partners to assemble apparatus and firefighters by area within an 8-minute travel time. The modeled analysis shown assumes that all response units are available.

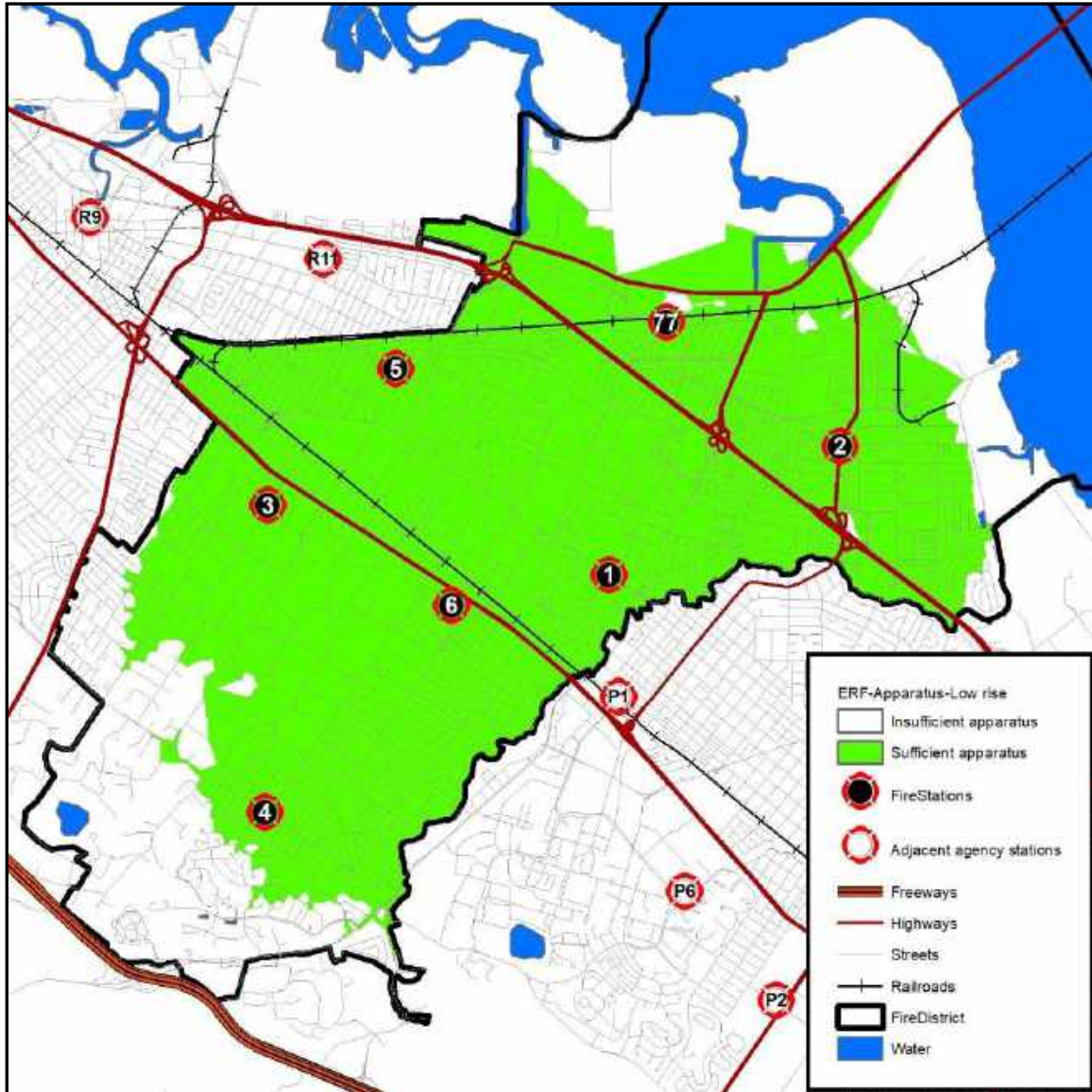
The first figure shows the area that can be reached by the various numbers of firefighters. Most of the MPFPD service area can be provided with sufficient firefighters to manage a high rise building fire.

**Figure 96: Effective Response Force, Firefighters**



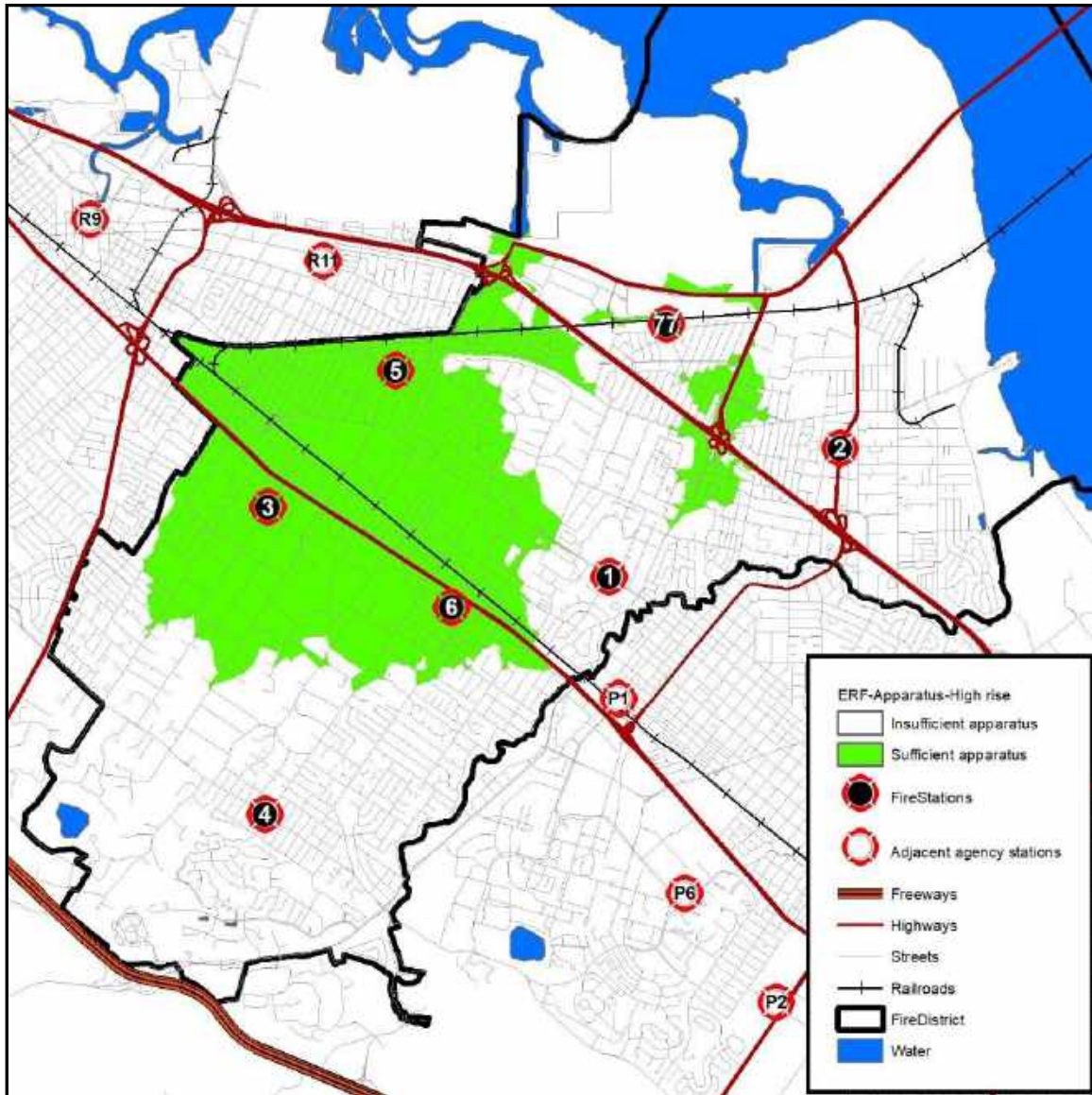
The next figure shows the area to which five fire engines, one ladder truck, and two Battalion Chiefs can respond within 8 minutes of travel time, the standard for a low-rise building fire. Most of the MPFPD service area can be provided sufficient apparatus to manage a low-rise building fire.

**Figure 97: Effective Response Force, Apparatus—Low-Rise Building Fire**



The next figure shows the area to which five fire engines, two ladder trucks, and three Battalion Chiefs can respond within 8 minutes of travel time, the standard for a high-rise building fire. Effective response force coverage is substantially diminished due largely to the limited number of Battalion Chiefs and ladder trucks in the system.

**Figure 98: Effective Response Force, Apparatus—High-Rise Building Fire**



## Second Unit Arrival Time

MPFPD staffs fire engines with three personnel and ladder trucks with four personnel. Safety regulations require that at least four firefighters be on-scene before firefighters can enter a burning building. The only exception is if it is known that a person is inside the building and needs rescue. Current staffing levels on engines require the arrival of a second response unit before non-rescue interior firefighting activities can be initiated.

Incident data for building fires during the study period were reviewed to determine the time the second response unit arrived on the scene. According to the data, the second unit arrived on the scene of a structure fire within 2 minutes, 47 seconds, 90% of the time after the arrival of the first unit (1 minute, 25 seconds on average).

## Incident Concurrency and Reliability

When evaluating the effectiveness of any resource deployment plan, it is necessary to assess 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 own station in 4 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 happen within the same time frame. ESCI examined incidents during the study period to determine the frequency of concurrent events. 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 transpired concurrently.

**Figure 99: Incident Concurrency**

Concurrent Incidents	2016	2017	2018
1	5,125	5,311	5,219
2	2,274	2,489	2,331
3	589	608	624
4	86	119	131
5	12	19	25
6	2	2	6

It is also useful to review the number of times one or more response units are committed to incidents at the same time. The following figure shows the number of times one or more MPFPD response units were committed to incidents.

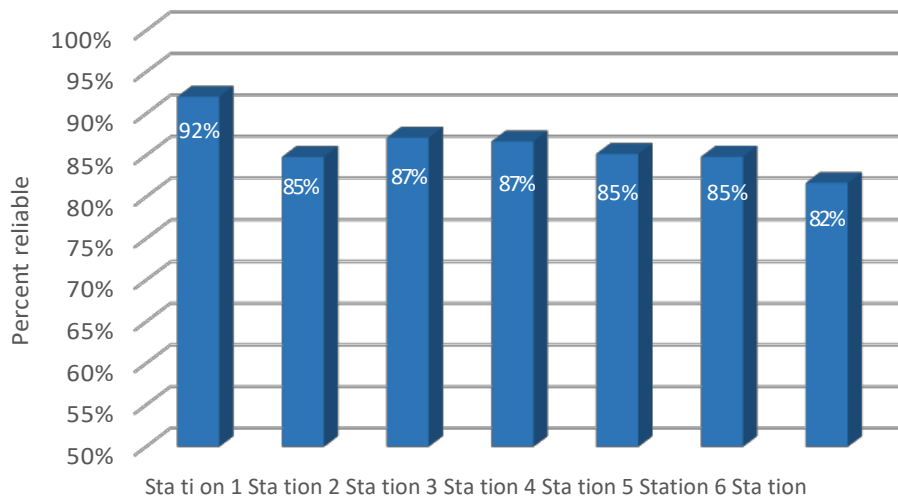
**Figure 100: Unit Concurrency**

Concurrent Unit Responses	2016	2017	2018
1	5,722	5,902	5,773
2	2,619	2,999	2,878
3	1,290	1,522	1,420
4	936	951	930
5	563	714	692
6	226	341	327
7	75	132	129
8	19	37	43
9	0	9	6
10	0	0	1

**Reliability**

The ability of a fire station’s first-due unit(s) to respond to an incident within its assigned response area is known as *unit reliability*. The reliability analysis is normally done by measuring the number of times response units assigned to a given fire station were available to respond to a request for service within that station’s service area. The following figure illustrates station reliability during the study period.

**Figure 101: Station Reliability**



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## Performance Objectives and Performance Measures

### DYNAMICS OF FIRE IN BUILDINGS

Most fires within buildings develop predictably unless influenced by highly flammable material or a well-ventilated environment. 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 very dangerous, especially during times when people are sleeping, because large amounts of highly toxic smoke may be generated during this phase.

Once flames do appear, the sequence continues rapidly. Combustible material adjacent to the flame heat and ignites, which, in turn, heats and ignites 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, as well as other combustible material in the room of origin, reach ignition temperature. At that point, an event termed “flashover” occurs; the gases and other material ignite, which, in turn, ignites everything in the room. Once flashover occurs, damage caused by the fire is significant, and the environment within the room can no longer support human life. Flashover usually occurs about 5 to 8 minutes from the appearance of flames in typically-furnished and ventilated buildings. Because flashover has such a dramatic influence on the outcome of a fire event, the goal of any fire agency is to apply water to a fire before flashover occurs.

Although modern 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 hostile fire. In addition, research has shown that modern furnishings generally ignite more quickly and burn hotter (due to synthetics). In the 1970s, scientists at the National Institute of Standards and Technology found that after a fire broke out, building occupants had about 17 minutes to escape before being overcome by heat and smoke. Today, that estimate is as short as 3 minutes.<sup>18</sup> The necessity of effective early warning (smoke alarms), early suppression (fire sprinklers), and firefighters arriving on the scene of a fire in the shortest span of 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 two. 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 in case the fire attack crew becomes trapped. This is referred to as the two-in, two-out rule.

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<sup>18</sup> National Institute of Standards and Technology, *Performance of Home Smoke Alarms, Analysis of the Response of Several Available Technologies in Residential Fire Settings*, Bukowski, Richard, et al.



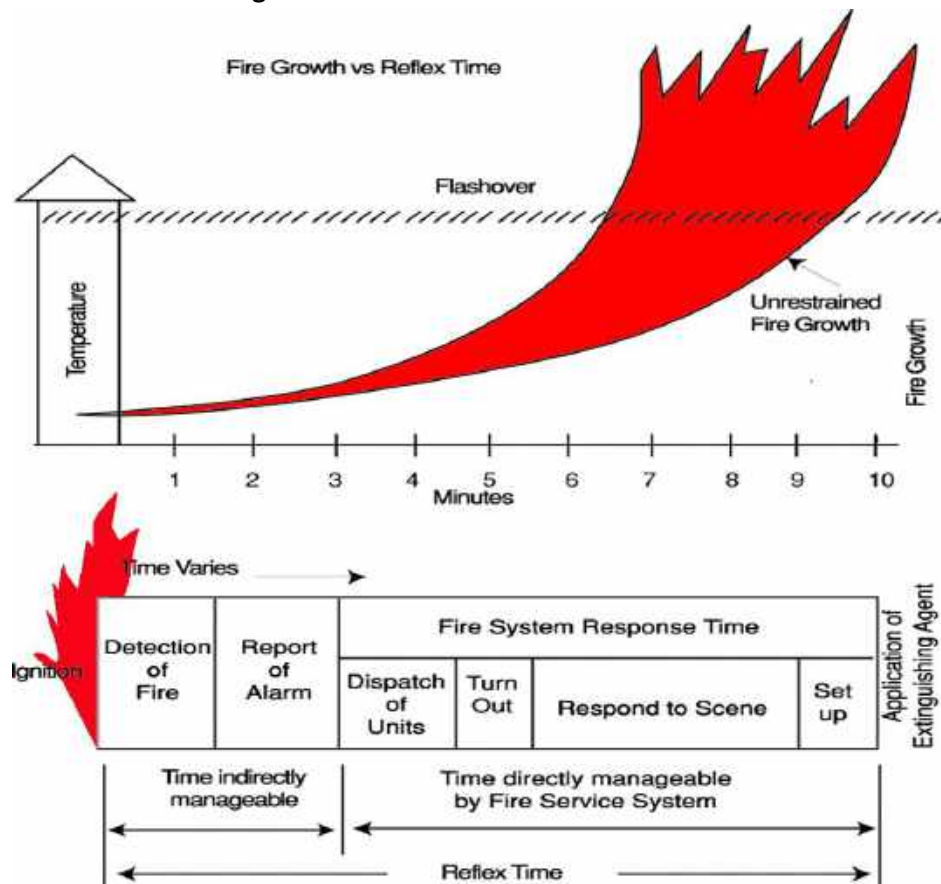
However, if it is *known* that victims are trapped inside the building, a rescue attempt can be performed without additional personnel ready to intervene outside the structure. Further, there is no requirement that all four arrive on the same response vehicle. Many fire departments rely on more than one unit arriving to initiate an interior fire attack.

Perhaps as important as preventing flashover is the need to control a fire before it does damage to 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 are commonly made with lighter materials that are more easily weakened by the effects of fire. "Lightweight" roof trusses fail after 5 to 7 minutes of direct flame impingement. Plywood I-beam joists can fail after as little as 3 minutes of flame contact. This creates a dangerous environment for firefighters.

In addition, the contents of buildings today 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 102: Fire Growth versus Reflex Time**



As is apparent by this description of the sequence of events, the application of water in time to prevent flashover is a serious challenge for any fire department. It is critical, though, as studies of historical fire losses can demonstrate.

The National Fire Protection Association found that fires contained to the room of origin (typically extinguished prior to or immediately following flashover) had 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.

**Figure 103: Consequence of Fire Extension in Residential Structures—United States, 2011–2015**

Extension	Rates per 1,000 Fires		
	Civilian Deaths	Civilian Injuries	Average Dollar 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

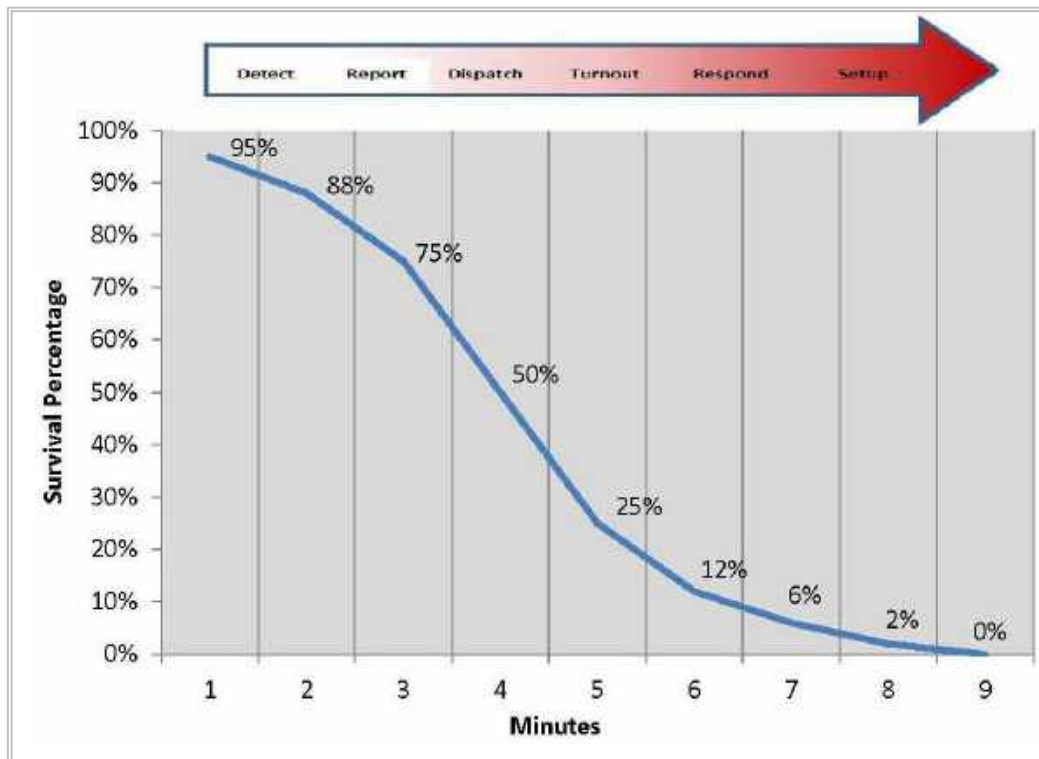
Source: National Fire Protection Association

### 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 in which to receive lifesaving care if there is to be 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 to increase the 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 5 minutes of cardiac arrest.

As with fires, the sequence of events that lead to emergency cardiac care can be graphically illustrated, as in the following figure.

**Figure 104: Cardiac Arrest Event Sequence**



The percentage of opportunity for recovery from cardiac arrest drops quickly as time progresses. The stages of medical response are very similar to the components described for a fire response. Recent research stresses the importance of rapid cardiac defibrillation and administration of certain medications as a means of improving the opportunity for successful resuscitation and survival.

## PEOPLE, TOOLS, AND 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 sufficient numbers of properly trained, appropriately equipped personnel within the critical time period completes the equation.

For medical emergencies, this can vary based on the nature of the event. Many medical emergencies are not time critical. However, for serious 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 provide quality emergency care. For a cardiac arrest, this can be up to six personnel; two to perform CPR, two 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 person to arrive.

Fire emergencies are even more resource critical. Again, the true test of performance is the time it takes to deliver sufficient personnel to initiate the application of water to a fire. This is the only practical method to reverse the continuing internal temperature increases 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 an "arrival" by the fire department.

## Overview of Compliance Methodology

The preceding sections of this report provide a detailed analysis of the historical performance of the Menlo Park Fire Protection District. For this evaluation to prove beneficial to the District and its policymakers, a continual analysis should be performed routinely.

MPPFD 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 District's records management system reports will be necessary to ensure compliance and reliability of data.

### COMPLIANCE MODEL

Compliance is best achieved through a systematic approach. ESCI has identified the following six-step compliance model for the District's consideration.

**Figure 105: Six-Step Compliance Model**



#### *Phase 1—Establish/Review Performance Measures*

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)

### *Phase 2—Evaluate Performance*

Performance measures are applied to the actual service provided:

- System-level
- First-due area level
- Unit level
- Full effective response force (ERF)

### *Phase 3—Develop Compliance Strategies*

Determine issues and opportunities:

- Determine what needs to be done 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.
- Seek additional funding commitment as necessary.

### *Phase 4—Communicate Expectations to Organizations*

Communicate expectations:

- Explain the method of measuring compliance to personnel who are expected to perform services.
- Provide feedback mechanisms.
- Define the consequences of noncompliance.

Train personnel:

- Provide appropriate levels of training/direction for all affected personnel.
- Communicate consequences of noncompliance.
- Modify (remediate) business processes, business application systems, and technical infrastructure as necessary to comply.

### *Phase 5—Validate Compliance*

Develop and deploy verification tools and/or techniques that can be used by subsections of the organization 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

### *Phase 6—Make Adjustments/Repeat Process*

Review changes to ensure that service levels have been maintained or improved. Develop and implement a review program to ensure ongoing compliance:

- Annual review and evaluation:
  - Performance by unit
  - Performance by first-due
  - Overall performance
  - Review of performance by governing body
  - Adjustment of performance standards by governing body as necessary
- Five-year update of Standards of Cover:
  - 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 MPFPD service area.

## Overall Evaluation, Conclusions, and Recommendations

### OVERALL EVALUATION

This Community Risk Assessment: Standards of Cover is based on the *CFAI Standards of Cover, 6<sup>th</sup> Edition*. It required the completion of an intensive analysis of all aspects of the MPFPD deployment policies. The analysis used various tools to review historical performance, evaluate risk, validate response coverage, and define critical tasking and alarm assignments. The analysis relied on the experience of staff officers and their historical perspective combined with historical incident data captured by both the dispatch center and MPFPD's in-house records management system.

The *Description of Community Served* section provided a general overview of the organization, including governance, lines of authority, finance, and capital and human resources, as well as an overview of the service area, including population and geography served. The *Review of Services Provided* section detailed the core services the organization provides based on general resource/asset capability and basic staffing complements.

An overview of community risk was provided to identify the risks and challenges faced by the fire department. Geospatial characteristics, topographic and weather risks, transportation network risks, physical assets, and critical infrastructure were reviewed and then identified as medical incidents, structure fires, and rescues as the primary risks within the community. As a factor of risk, ESCI evaluated community populations and demographics against historical and projected service demand. Population and service demand has increased over the past decade and will continue to increase in the future.

Evaluating risk using advanced geographic information systems (GIS) provided an increased understanding of community risk factors and led to an improved deployment policy.

During the analysis of service level goals, critical tasking assignments were completed for incident types ranging from a basic medical emergency to a high-rise structure fire. Critical tasking required a review of on-scene staffing requirements to mitigate the effects of an emergency. These tasks ultimately determine the resource allocation necessary to achieve successful operation.

The review of historical system performance evaluated each component of the emergency incident sequence. These included call processing, turnout, and travel time. Beyond the response time of the initial arriving units, ESCI evaluated the additional components of concentration and effective response force, reliability, and call concurrency.



The analysis completed during this study revealed many significant findings. These include the following:

- The total response workload has increased by 17.9% over the past seven years.
- The current fire department utilization rate is 91.7 incidents per 1,000 population. This is comparable to similar communities.
- Requests for emergency medical services are 65.3% of all responses.
- Response workload is the highest around Fire Stations 2 and 6.
- Engine 2 is very near 10% utilization (UHU).
- The addition of the second truck company has resulted in the current daily staffing being at the upper limit of the recommended span of control for the one Battalion Chief per shift configuration.
- MPFPD lacks a District-wide program that fully identifies and pre-plans responses to target hazards.
- The amount of time PSC takes to dispatch fire department response units exceeds the MPFPD performance goal and national standards.
- The amount of time that response personnel take to assemble on apparatus and initiate response exceeds the MPFPD performance goal and national standards.
- The amount of time that units spend traveling to an incident exceeds the MPFPD performance goal and national standards.
- MPFPD provided an effective response force to 27 building fires during the study period. It delivered the effective response force to only 9 of those fires within the time defined in the MPFPD performance goals.
- MPFPD is quite dependent on neighboring agencies to deliver an effective response force.
- MPFPD has adopted written financial guidelines and practices.
- Population density is increasing steadily with multiple families living in single-family residences. Training and effective response force assignments should consider difficulties encountered by overcrowding in residences.
- Traffic will continue to increase in the region, impacting MPFPD streets and roadways. Peak traffic times may decrease the MPFPD ability to gather an effective response force within the recommended guidelines.
- Buildings are increasing in vertical size. This will increase the response times to the incident as firefighters must travel vertically before they arrive at the patient or fire location.
- There are numerous large residential structures in the district, some of which lack residential fire sprinklers.
- Natural disasters can occur in the service area. MPFPD should continue to work with the local community to ensure community resilience and preparedness.
- While very few unreinforced masonry buildings still remain, these buildings remain a concern during seismic and fire activity.
- The District's financial statements are audited, and its submission of its Comprehensive Annual Financial Report (CAFR) has resulted in its receipt of the Certificate of Achievement for Excellence in Financial Reporting from the Government Finance Officers Association.
- The District has a detailed calendar for the preparation and adoption of its annual budget.

- The District follows sound business practices accounting for its operations through the use of four major funds; General Fund, US&R Special Revenue Fund, Capital Improvement Projects Fund, and Debt Service Fund.
- The District has established an Apparatus and Equipment Replacement Plan to ensure adequate funds are available for the replacement of apparatus and equipment.
- MPFPD has experienced an average of 6.1% increase in assessed property valuation between FY 17/18 and FY 08/09; increasing from \$20,911,498,219 in FY 08/09 to \$34,832,408,120 in FY 17/18.
- The CalPERS Classic pension plans were closed to new employees on January 1, 2013. Employees hired after January 1, 2013, are eligible to enroll in the PEPRA plans.

## RECOMMENDATIONS

During the course of this study, ESCI identified a number of issues, concerns, and opportunities. The following recommendations are described as goals, and MPFPD should implement them as funding allows. Each will improve MPFPD's ability to provide effective service to the community.

### *Recommendation A: Continue to maintain adequate cash reserves to provide for emergency purchases or economic downturns.*

The Board of Directors should continue to place a high priority on closely monitoring the financial impact of changing economic conditions on the District's ability to maintain service levels, fund infrastructure needs, and maintain sufficient reserve balances. The Board should continue to follow its budget process of requiring recurring expenses to be paid with recurring revenue and to fund deferred compensation amounts annually.

*Cost to Implement: Staff Time*

### *Recommendation B: Continue to maintain the apparatus and equipment replacement plan and ensure sufficient funds are available to replace apparatus and equipment.*

The Board of Directors should continue with the established policies on the creation and maintenance of various capital expenditure plans and related reserve funds. Planning and setting aside funds for future capital expenditures allows for the replacements to be purchased with minimal impact on the funding for the delivery of services. These funds are currently in various accounting classifications, including "restricted," "committed," and "assigned," and can only be used for the stated purpose as determined by the Board of Directors.

*Cost to implement: Staff Time*

***Recommendation C: Continue to evaluate growth within the District to take advantage of opportunities to use specially designated tax revenues to fund stations or other capital assets.***

The Board of Directors should continue to seek alternative revenue sources, including grants or specially designated tax revenues. Funding assistance from any source outside the existing revenue stream reduces stress to improve service, replace apparatus, or build new stations on that existing revenue stream.

*Cost to Implement: StaffTime*

***Recommendation D: Add a second Battalion Chief per shift for a total of three additional Battalion Chiefs.***

MPFPD currently staffs each operational shift with one Battalion Chief. The Battalion Chief's duties include coordination of all on-shift response personnel and supervision of response crews, ensuring coverage is balanced across the District, and assuming command of larger incidents. Typically, agencies staff with one Battalion Chief for every five response units. MPFPD's single on-shift Battalion Chief is managing nine response units. Adding a second Battalion Chief will improve overall shift management and enhance the District's effective response force.

*Cost to Implement: \$978,152*

***Recommendation E: Implement a standardized program for pre-incident target hazard planning for operations personnel.***

Pre-incident planning is designed to provide information for responding personnel to assist with strategies and tactics during an event and provides building familiarization to operations staff. MPFPD should institute a standardized pre-incident target hazard planning program as soon as possible for operations personnel and develop a system to access the plans during an event.

*Cost to Implement: StaffTime*

***Recommendation F: Limit the use of traffic "calming" and other measures that increase travel time.***

Speed humps, hard medians, curb extensions, and other measures can slow traffic and improve highway safety—however, these also slow emergency response vehicles.

*Cost to Implement: Stafftime to develop the plan.*

***Recommendation G: Work with the cities of Atherton, Menlo Park, and East Palo Alto to designate primary emergency access routes.***

The designation and marking of emergency access routes will enhance emergency response times during highly congested commute times.

*Cost Implement: Stafftime to develop a plan and the cost of street signage.*

***Recommendation H: Continue to work with the cities of Atherton, Menlo Park, and East Palo Alto to coordinate and, where appropriate, enhance emergency preparedness planning and response efforts.***

Where possible, the District should work to eliminate duplication of efforts and provide support to the City's emergency preparedness planning and emergency operations center design and development.

*Cost to Implement: Stafftime and possible hardware and software upgrades*

***Recommendation I: Improve the efficiency of response to emergency medical incidents.***

MPFPD's current practice is to send a fire engine to all emergency medical incidents regardless of severity. Response protocols should be modified to eliminate fire unit response to low-risk or ambulance-only responses.

Many dispatch centers, including PSC, will query the caller with a standardized list of questions that can differentiate between a life-threatening incident and a non-life-threatening incident, or between emergent and nonemergent. The response (or other alternative) to a medical incident is based on the results of this query.

PSC currently does a complete triage of medical events to determine the degree of life threat posed by the patient's condition. However, MPFPD does not use this information to differentiate the response to a medical event.

*Cost to Implement: Stafftime to modify response guidelines.*

***Recommendation J: Review dispatch processes to reduce call processing time.***

PSC's call processing times are long as compared to national standards. Current overall call processing times are within 1 minute, 45 seconds, 90% of the time. For fire incidents, it is even longer within 2 minutes, 43 seconds, 90% of the time. National standards (NFPA 1221) recommend that call processing time for most calls should be within 64 seconds, 90% of the time. If medical dispatch triage questions are asked, as is the case here, the time is within 90 seconds, 90% of the time.

PSC often provides a pre-alert to response personnel of an incident; however, this action has some irregularities and is not resulting in better call processing performance. A pre-alert system should notify response personnel of the emergency once the basic nature of the call (EMS, house fire, etc.) and the location are known. This should typically be within the first 10 to 15 seconds of the conversation.

There are computer-based systems that can be implemented that broadcast this information via computer-generated voice to responders that can be integrated into the computer-aided dispatch system. High-performance dispatch centers using this pre-alert process are notifying responders within 30 to 40 seconds, 90% of the time, a significant overall response time savings versus PSC's current performance.

*Cost to implement: None unless computer assisted pre-alert is implemented.*

### ***Recommendation K: Reduce the turnout time interval.***

Turnout time is the period between when dispatchers notify response personnel of the incident and when response crews begin to travel towards the incident location. MPFPD's performance goal for turnout time is currently within 2 minutes, 90% of the time. MPFPD's overall turnout time performance is currently within 2 minutes, 3 seconds, 90% of the time.

National standards (NFPA Standard 1710) specifies turnout time should be within 80 seconds, 90% of the time for fire and special operations incidents and within 60 seconds, 90% of the time for all other incidents. MPFPD should adopt this standard as its own and then take steps to meet it.

A review of fire station design should be conducted to identify and remove impediments to quick response. This can include station alerting systems, pathways from quarters to apparatus, multiple floors of travel to the apparatus bay, and the like.

District management should regularly prepare information that describes current turnout time performance by individual response crews (by shift and by unit). Performance expectations should be reinforced, and periodic monitoring conducted to determine if improvements are being made and sustained. Response personnel should avoid activities that extend turnout times. Response personnel must make serious efforts to improve their turnout time performance for the benefit of the community.

*Cost to Implement: Dependent upon the cost of improvements to or modifications of internal pathways for rapid egress.*

### ***Recommendation L: Closely monitor the impact of new development on fire department workload.***

There exists developable land within MPFPD's service area and areas that can and will be redeveloped to more intense uses. Response workload will increase because of rising population and service utilization rates.

MPFPD should continuously monitor new development and calculate the potential impact each will have on the delivery of service. New workload can be reasonably predicted by applying expected new population against the current utilization rate to determine the expected increase in responses. These increases can be applied to current response units to determine if unit utilization rates are reaching the maximum of 10 percent.

There are two important ways to monitor the system's ability to manage workload. Earlier in this report a discussion of unit hour utilization was made along with current unit hour utilization percentages of response apparatus. As demonstrated, no unit currently exceeds 10% utilization. As units begin to approach 10% utilization consideration should be made to add another unit in that station during periods of high incident activity.

Another way to review capability is to use a process called queueing analysis. This process utilizes probability analysis to determine the number of units needed in each station area to reduce the likelihood that a response unit would not be available to serve an incident to 10% or less. It uses the variables incidents per hour, number of available response units, and average time committed per incident.

Though very useful to this effort, queueing analysis has some limitations. It assumes that customers (incidents) arrive at a constant rate. This is not always true in emergency services. It also assumes that each customer requires an equal amount of time from servers (response units). While the average time committed to an incident was used for service time, some incidents require less or substantially more than the average.

Peak workload periods occur every day of the week. The following figure illustrates workload by station and by time of day during the study period. The workload is based on responses made by each unit assigned to the station.

**Figure 106: Incidents by Station and Period of Day, 2018**

Station	Incidents 9:00 a.m.–8:59 p.m.	Incidents 9:00 p.m.–8:59 a.m.	Incidents per hour 9:00 a.m.–8:59 p.m.	Incidents per hour 9:00 p.m.–8:59 a.m.
1	764	413	0.17	0.09
2	1793	1010	0.41	0.23
3	391	197	0.09	0.04
4	703	347	0.16	0.08
5	400	187	0.09	0.04
6	846	396	0.19	0.09
77	573	299	0.13	0.07

The following figure illustrates the current deployment (as it exists since the changes made in January 2019) for both daytime (9:00 a.m. to 8:59 p.m.) and nighttime (9:00 p.m. to 8:59 a.m.) based on current station locations and staffing. The figure includes the current and proposed probability of wait analysis based on the current number of stations. No stations exceed the recommended probability of wait; however, this will likely change over time.

**Figure 107: Current and Proposed Response Units**

Station	Current Units Day	Current Units Night	Current Probability of Wait—Day	Current Probability of Wait—Night
1	2	2	0.2%	0.1%
2	2	2	1.2%	0.4%
3	1	1	3.6%	1.8%
4	1	1	6.4%	3.2%
5	1	1	3.7%	1.7%
6	1	1	7.7%	3.6%
77	2	2	0.1%	0.0%

*Cost to Implement: Stafftime to conduct analyses.*

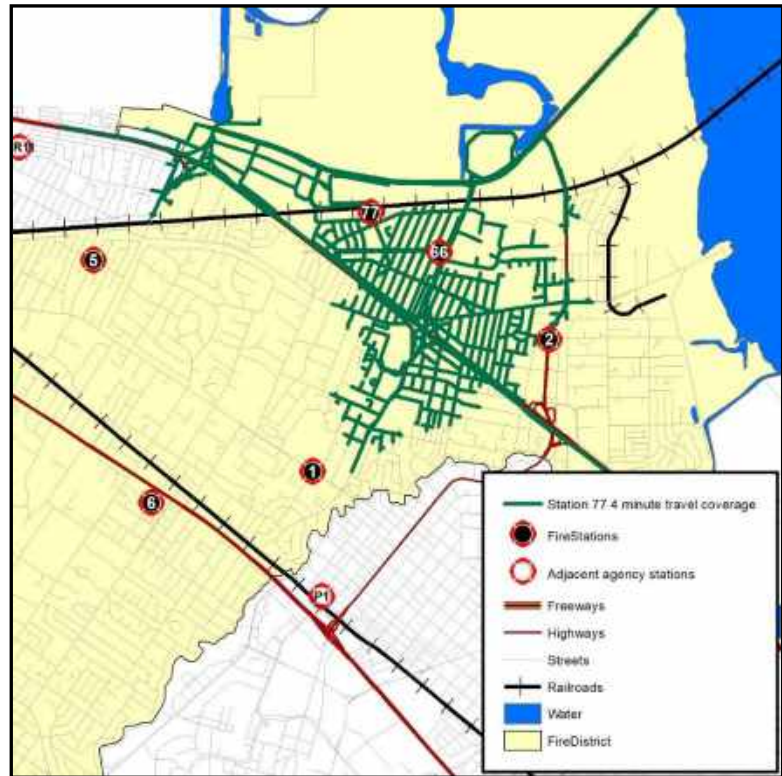
**Figure 108: Current Station 77 4-Minute Travel Coverage**

**Recommendation M:**

*Consider relocating Station 77 to a new site.*

MPPFD is considering relocating Station 77 to a new location near the 1200 block of Willow Road in Menlo Park. Current and proposed first-due coverage was evaluated for both sites to determine if this relocation would provide a benefit.

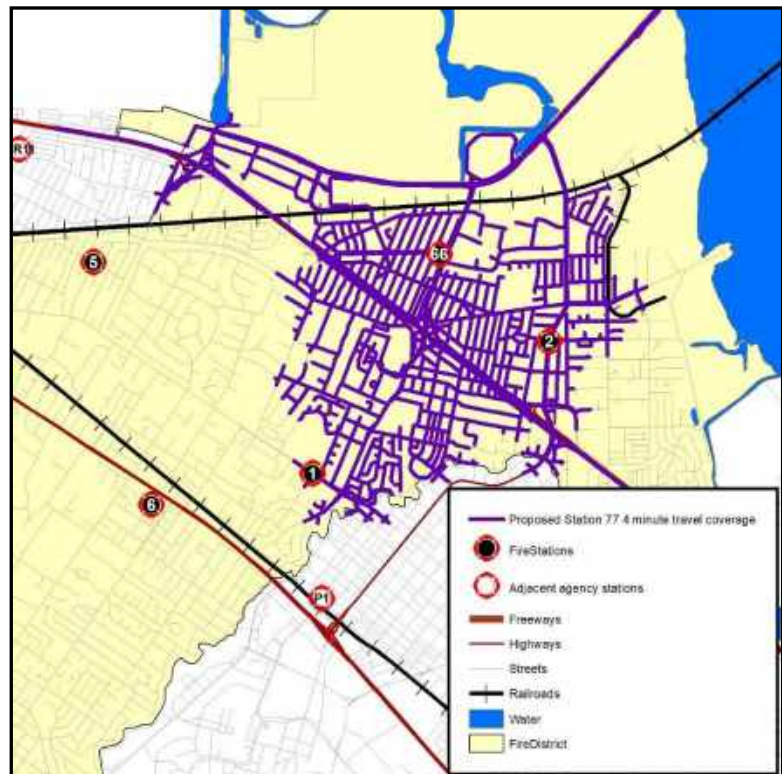
Figure 108 and Figure 109 compare four-minute travel coverage for both sites.



**Figure 109: Proposed Station 77 4-Minute Travel Coverage**

There is an improvement in first-due coverage, but only in areas already well served by Stations 1 and 2. MPPFD will need to evaluate the cost of the new location in land and building against the limited improvement in first-due coverage.

*Cost to Implement: Dependent on the relocation decision.*





***Recommendation N: Move Rescue 77 to Station 6.***

Rescue 77 was moved to Station 77 in January 2019. Moving this unit to Station 6 will provide a better result for the system. Station 6 is much busier than Station 77. Station 77 sits adjacent to two other stations (1 and 2) that house two response units each.

Moving Rescue 77 to Station 6 will also provide some improvement in the effective response force coverage in the District's southwest area.

*Cost to Implement: None.*

## Appendix A—Hazard Vulnerability Risk Tables

ESCI HAZARD AND VULNERABILITY ASSESSMENT TOOL								
STRUCTURE FIRES								
EVENT	PROBABILITY	SEVERITY = (IMPACT - MITIGATION)						RISK
	Likelihood this will occur	COMMUNITY IMPACT			MITIGATION CAPACITY			Relative threat*
		HUMAN IMPACT	PROPERTY IMPACT	BUSINESS IMPACT	PREPARED-NESS	INTERNAL RESPONSE	EXTERNAL RESPONSE	
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%
Moderate Risk Urban	4	3	3	3	3	2	2	67%
High Risk Urban	4	4	4	3	3	2	2	75%
Moderate Risk Suburban	4	3	3	2	3	2	2	63%
High Risk Suburban	4	3	3	3	3	2	2	67%
Moderate Risk Rural	4	2	2	2	3	2	2	54%
High Risk Rural	4	3	3	3	3	2	2	67%
Low Risk Rural	4	2	2	2	2	2	2	50%
<b>AVERAGE SCORE</b>	<b>4.00</b>	<b>2.86</b>	<b>2.86</b>	<b>2.57</b>	<b>2.86</b>	<b>2.00</b>	<b>2.00</b>	<b>63%</b>

ESCI HAZARD AND VULNERABILITY ASSESSMENT TOOL								
NON-STRUCTURE FIRES								
EVENT	PROBABILITY	SEVERITY = (IMPACT - MITIGATION)						RISK
	Likelihood this will occur	COMMUNITY IMPACT			MITIGATION CAPACITY			Relative threat*
		HUMAN IMPACT	PROPERTY IMPACT	BUSINESS IMPACT	PREPARED-NESS	INTERNAL RESPONSE	EXTERNAL RESPONSE	
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	2	3	67%
Moderate Risk Urban	4	3	3	2	2	2	3	63%
Low Risk Urban	4	3	3	2	2	2	3	63%
Urban/Wildland Interface	1	3	1	1	2	3	3	14%
<b>AVERAGE SCORE</b>	<b>3.25</b>	<b>3.00</b>	<b>2.50</b>	<b>2.00</b>	<b>2.00</b>	<b>2.25</b>	<b>3.00</b>	<b>50%</b>

ESCI HAZARD AND VULNERABILITY ASSESSMENT TOOL								
EMS-MEDICAL ASSISTS								
EVENT	PROBABILITY	SEVERITY = (IMPACT - MITIGATION)						RISK
		COMMUNITY IMPACT			MITIGATION CAPACITY			
	<i>Likelihood this will occur</i>	HUMAN IMPACT	PROPERTY IMPACT	BUSINESS IMPACT	PREPARED-NESS	INTERNAL RESPONSE	EXTERNAL RESPONSE	<i>Relative threat*</i>
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	4	3	1	1	1	1	3	42%
Moderate Risk	4	3	1	1	1	1	3	42%
Low Risk	4	3	1	1	1	1	3	42%
AVERAGE SCORE	1.71	1.29	0.43	0.43	0.43	0.43	1.29	42%

ESCI HAZARD AND VULNERABILITY ASSESSMENT TOOL								
RESCUE								
EVENT	PROBABILITY	SEVERITY = (IMPACT - MITIGATION)						RISK
		COMMUNITY IMPACT			MITIGATION CAPACITY			
	<i>Likelihood this will occur</i>	HUMAN IMPACT	PROPERTY IMPACT	BUSINESS IMPACT	PREPARED-NESS	INTERNAL RESPONSE	EXTERNAL RESPONSE	<i>Relative threat*</i>
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	3	1	0	2	1	3	42%
Rescue - Structural Collapse	2	3	3	3	3	2	3	35%
Rescue - Trench	2	3	1	1	4	2	3	29%
Rescue - Low/High Angle	2	3	1	1	4	2	3	29%
Rescue - Confined Space	2	3	1	1	4	2	3	29%
Rescue - Swiftwater	2	3	1	1	4	2	3	29%
Rescue - Stillwater	2	3	1	1	3	2	3	27%
Rescue - Ice	0	0	0	0	0	0	0	0%
Rescue - Other	2	3	2	1	2	2	3	27%
AVERAGE SCORE	1.71	2.57	1.00	0.86	3.00	1.71	2.57	25%

ESCI HAZARD AND VULNERABILITY ASSESSMENT TOOL								
HAZARDOUS MATERIALS								
EVENT	PROBABILITY	SEVERITY = (IMPACT - MITIGATION)						RISK
	<i>Likelihood this will occur</i>	COMMUNITY IMPACT			MITIGATION CAPACITY			<i>Relative threat*</i>
SCORE	0 = N/A 1 = Low 2 = Moderate 3 = High 4 = Very High	HUMAN IMPACT 0 = N/A 1 = Low 2 = Moderate 3 = High 4 = Catastrophic	PROPERTY IMPACT 0 = N/A 1 = Low 2 = Moderate 3 = High 4 = Catastrophic	BUSINESS IMPACT 0 = N/A 1 = Low 2 = Moderate 3 = High 4 = Catastrophic	PREPARED-NESS 0 = Very High 1 = High 2 = Moderate 3 = Low 4 = None	INTERNAL RESPONSE 0 = Very High 1 = High 2 = Moderate 3 = Low 4 = None	EXTERNAL RESPONSE 0 = Very High 1 = High 2 = Moderate 3 = Low 4 = None	0 - 100%
High Risk Hazmat - Urban	2	4	4	4	2	2	2	38%
Moderate Risk Hazmat - Urban	2	3	3	3	2	2	2	31%
Low Risk Hazmat - Urban	2	2	2	2	2	2	2	25%
High Risk Hazmat - Suburban	2	3	4	4	2	2	2	35%
Moderate Risk Hazmat - Suburban	2	2	3	3	2	2	2	29%
Low Risk Hazmat - Suburban	2	1	2	2	2	2	2	23%
High Risk Hazmat - Rural	2	3	4	3	2	2	2	33%
Moderate Risk Hazmat - Rural	2	2	3	2	2	2	2	27%
Low Risk Hazmat - Rural	2	1	2	1	2	2	2	21%
<b>AVERAGE SCORE</b>	<b>2.00</b>	<b>2.00</b>	<b>2.86</b>	<b>2.43</b>	<b>2.00</b>	<b>2.00</b>	<b>2.00</b>	<b>29%</b>

ESCI HAZARD AND VULNERABILITY ASSESSMENT TOOL								
NATURALLY OCCURRING EVENTS								
EVENT	PROBABILITY	SEVERITY = (IMPACT - MITIGATION)						RISK
		COMMUNITY IMPACT			MITIGATION CAPACITY			
	<i>Likelihood this will occur</i>	HUMAN IMPACT	PROPERTY IMPACT	BUSINESS IMPACT	PREPARED-NESS	INTERNAL RESPONSE	EXTERNAL RESPONSE	<i>Relative threat*</i>
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	2	4	4	2	2	2	17%
Severe Thunderstorm	2	2	4	4	2	2	2	33%
Snow Fall	0	0	0	0	2	2	2	0%
Blizzard	0	0	0	0	2	2	2	0%
Ice Storm	0	0	0	0	2	2	2	0%
Earthquake	2	3	3	3	2	2	2	31%
Tidal Wave	0	0	0	0	2	2	2	0%
Temperature Extremes	3	2	3	3	2	2	2	44%
Drought	3	2	3	3	2	2	2	44%
Flood, External	3	4	4	3	2	2	2	53%
Wild Fire	2	1	1	1	2	2	2	19%
Landslide	2	2	2	2	2	2	2	25%
Dam Inundation	2	4	4	4	2	2	2	38%
Volcano	0	0	0	0	3	3	3	0%
Epidemic	2	4	4	4	2	2	2	38%
<b>AVERAGE SCORE</b>	<b>2.00</b>	<b>2.43</b>	<b>2.57</b>	<b>2.43</b>	<b>2.14</b>	<b>2.14</b>	<b>2.14</b>	<b>19%</b>

ESCI HAZARD AND VULNERABILITY ASSESSMENT TOOL								
TECHNOLOGIC EVENTS								
EVENT	PROBABILITY	SEVERITY = IMPACT - MITIGATION						RISK
	Likelihood this will occur	COMMUNITY IMPACT			MITIGATION CAPACITY			Relative threat*
		HUMAN IMPACT	PROPERTY IMPACT	BUSINESS IMPACT	PREPAREDNESS	INTERNAL RESPONSE	EXTERNAL RESPONSE	
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%
Electrical Failure	2	2	2	3	1	3	3	29%
Generator Failure	2	2	2	2	2	3	3	29%
Transportation Failure	2	2	2	3	2	2	2	27%
Fuel Shortage	2	3	1	4	3	3	3	35%
Natural Gas Failure	2	3	2	4	3	3	3	38%
Water Failure	2	4	4	4	3	3	3	44%
Sewer Failure	2	3	2	4	3	3	3	38%
Steam Failure	0	0	0	0	0	0	0	0%
Fire Alarm Failure	2	2	2	2	2	2	2	25%
Communications Failure	2	3	2	2	2	2	2	27%
Medical Gas Failure	2	4	1	3	3	3	3	35%
Medical Vacuum Failure	2	4	1	2	3	3	3	33%
HVAC Failure	2	2	2	2	3	3	3	31%
Information Systems Failure	2	3	2	4	3	3	3	38%
Fire, Internal	2	3	4	4	2	2	2	35%
Flood, Internal	2	3	4	4	2	2	2	35%
Hazmat Exposure, Internal	2	3	4	4	2	2	2	35%
Supply Shortage	2	3	2	4	3	3	3	38%
Structural Damage	2	3	4	4	2	2	2	35%
<b>AVERAGE SCORE</b>	<b>2.00</b>	<b>2.86</b>	<b>3.14</b>	<b>3.71</b>	<b>2.43</b>	<b>2.43</b>	<b>2.43</b>	<b>30%</b>

ESCI HAZARD AND VULNERABILITY ASSESSMENT TOOL								
HUMAN RELATED EVENTS								
EVENT	PROBABILITY	SEVERITY = (IMPACT - MITIGATION)						RISK
		COMMUNITY IMPACT			MITIGATION CAPACITY			
	<i>Likelihood this will occur</i>	HUMAN IMPACT	PROPERTY IMPACT	BUSINESS IMPACT	PREPAREDNESS	INTERNAL RESPONSE	EXTERNAL RESPONSE	<i>Relative threat*</i>
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%
Mass Casualty Incident (trauma)	2	3	1	1	2	2	2	23%
Mass Casualty Incident (medical/infectious)	2	3	1	1	2	2	2	23%
Terrorism	2	4	3	3	2	2	2	33%
VIP Situation	2	3	4	4	2	2	2	35%
Infant Abduction	2	3	1	2	3	3	3	31%
Hostage Situation	2	4	2	3	3	3	3	38%
CMI Disturbance	2	4	4	4	3	3	3	44%
Labor Action	2	4	3	4	3	3	3	42%
Forensic Admission	2	2	2	2	3	3	3	31%
Bomb Threat	2	2	2	2	2	2	2	25%
<b>AVERAGE SCORE</b>	<b>2.00</b>	<b>3.14</b>	<b>2.57</b>	<b>3.00</b>	<b>2.71</b>	<b>2.71</b>	<b>3.57</b>	<b>33%</b>

## Appendix B—Fire Stations/Capital Assets

### CAPITAL ASSETS AND IMPROVEMENTS

Three basic resources are required to successfully carry out the mission of a fire department—trained personnel, firefighting equipment, and fire stations. No matter how competent or numerous the firefighters, if appropriate capital equipment is not available for use by responders, it is impossible for a fire department to deliver services effectively. The capital assets that are most essential to the provision of emergency response are facilities and apparatus (response vehicles). The following figures summarize the fire stations operated by the Menlo Park Fire Protection District.

#### *Fixed Facilities*

Fire stations play an integral role in the delivery of emergency services for several reasons. A station's location will dictate, to a large degree, response times to emergencies. A poorly located station can mean the difference between confining a fire to a single room and losing the structure. Fire stations also need to be designed to adequately house equipment and apparatus, as well as meet the needs of the organization, its workers, and/or its members.

Consideration should be given to a fire station's ability to support the jurisdiction's mission as it exists today and into the future. The activities that take place within the fire station should be closely examined to ensure the structure is adequate in both size and function.

ESCI associates conducted walk-through inspections of the District's Administrative Headquarters, fire stations, and fleet maintenance facility. ESCI utilized a standard checklist at each facility inspection.

ESCI paid special attention to the building's location, future use viability in terms of serving the community, and the capability of accommodating an increase in staffing levels and emergency response apparatuses in the future.




**Figure 110: Fire Station Condition Definitions**


<b>Excellent</b>	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.
<b>Good</b>	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.
<b>Fair</b>	The building appears to be structurally sound with weathered appearance and minor to moderate nonstructural 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 with no critical defects.
<b>Poor</b>	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 apron may exist. The roof has evidence of leaking and/or multiple repairs. The interior is poorly maintained or showing signs of advanced deterioration with moderate to significant nonstructural defects. Problematic age-related maintenance and/or major defects are evident. May not be well suited to its intended purpose.

The following figures depict the results of ESCI's inspections:


**Figure 111: Menlo Park FPD Fire Station 1**

<b>Station Name/Number:</b>	<b>Menlo Park Station 1</b>					
<b>Address/Physical Location:</b>	300 Middlefield Road, Menlo Park, CA 94025					
	<b>General Description:</b>					
	This station originally housed crews and the District's headquarters staff. The station currently houses an Engine Company, Ladder (quint), and Battalion Chief. To the rear of the station are a classroom and a limited training area. This station needs a fairly extensive remodel.					
<b>Structure</b>						
Construction Type	Ordinary					
Date of Construction	1955					
Seismic Protection	Yes, 1996					
Auxiliary Power	Yes, generator					
General Condition	Fair to poor					
Number of Apparatus Bays	1	Drive-through bays	2	Back-in bays		
Special Considerations (ADA, etc.)	ADA complaint elevator					
Square Footage	11,869					
<b>Facilities Available</b>						
Separate Rooms/Dormitory/Other	9	Bedrooms	10	Beds	0	Beds in dormitory
Maximum Station Staffing Capability	10 line personnel					
Exercise/Workout Facilities	Yes					
Kitchen Facilities	Yes					
Individual Lockers/Storage Assigned	Yes					
Shower Facilities	Yes, 4 total					
Training/Meeting Rooms	Yes					
Washer/Dryer	yes					
<b>Safety &amp; Security</b>						
Sprinklers	Yes					
Smoke Detection	Yes					
Decontamination/Biohazard Disposal	Yes, Biohazard Disposal System					
Security	Parking gates only					
Apparatus Exhaust System	Yes, Plymovent					


**Figure 112: Menlo Park FPD Fire Station 2**

<b>Station Name/Number:</b>	<b>Menlo Park Station 2</b>				
<b>Address/Physical Location:</b>	2290 University Ave, East Palo Alto, CA 94303				
	<b>General Description:</b>				
	This station was constructed in 2016, houses an Engine Company, USAR 102, and Tiller Ladder. The station is in excellent shape and should serve the District for many years to come.				
<b>Structure</b>					
Construction Type	Steel Frame Cinder Block– Type II				
Date of Construction	2016				
Seismic Protection	Earthquake Warning System				
Auxiliary Power	Yes Generator				
General Condition	New – Excellent				
Number of Apparatus Bays	3	Drive-through bays	0	Back-in bays	
Special Considerations (ADA, etc.)	ADA compliant ramp & elevator				
Square Footage	12,562				
<b>Facilities Available</b>					
Separate Rooms/Dormitory/Other	8	Bedrooms	8	Beds	0 Beds in dormitory
Maximum Station Staffing Capability	8				
Exercise/Workout Facilities	Yes				
Kitchen Facilities	Yes				
Individual Lockers/Storage Assigned	Yes				
Shower Facilities	Yes				
Training/Meeting Rooms	Yes				
Washer/Dryer	Yes				
<b>Safety &amp; Security</b>					
Sprinklers	Yes				
Smoke Detection	Yes				
Decontamination/Biohazard Disposal	Yes				
Security	Yes				
Apparatus Exhaust System	Yes, Plymovent				


**Figure 113: Menlo Park FPD Fire Station 3**

<b>Station Name/Number:</b>	<b>Menlo Park Station 3</b>					
<b>Address/Physical Location:</b>	32 Almendral Ave, Atherton, CA 94027					
	<b>General Description:</b>					
	This station was built in 1998, houses one Engine Company, and, while fairly new, has limited space as constructed for expansion. The District owns property next to this station that could accommodate future expansion.					
<b>Structure</b>						
Construction Type	Ordinary Type 5					
Date of Construction	1998					
Seismic Protection	None					
Auxiliary Power	Generator					
General Condition	Good					
Number of Apparatus Bays	0	Drive-through bays	1	Back-in bays		
Special Considerations (ADA, etc.)	Adacompliant, all ground floor					
Square Footage	3,600					
<b>Facilities Available</b>						
Separate Rooms/Dormitory/Other	3	Bedrooms	3	Beds	0	Beds in dormitory
Maximum Station Staffing Capability	3					
Exercise/Workout Facilities	Yes					
Kitchen Facilities	Yes					
Individual Lockers/Storage Assigned	No					
Shower Facilities	Yes					
Training/Meeting Rooms	No					
Washer/Dryer	Yes					
<b>Safety &amp; Security</b>						
Sprinklers	Yes					
Smoke Detection	Yes					
Decontamination/Biohazard Disposal	Yes					
Security	Yes					
Apparatus Exhaust System	Yes, Plymovent					


**Figure 114: Menlo Park FPD Fire Station 4**

<b>Station Name/Number:</b>	<b>Menlo Park Station 4</b>					
<b>Address/Physical Location:</b>	3322 Alameda de Las Pulgas, Menlo Park, CA 94025					
	<b>General Description:</b>					
	This station was constructed in 1949, houses an Engine Company, a Type 5 Brush Engine, and a reserve Engine. The age and design of this station limit future expansion and viability.					
<b>Structure</b>						
Construction Type	Ordinary Type 5					
Date of Construction	1949					
Seismic Protection	Yes					
Auxiliary Power	Generator					
General Condition	Fair to Poor					
Number of Apparatus Bays	0	Drive-through bays	3	Back-in bays		
Special Considerations (ADA, etc.)	No					
Square Footage	4,200					
<b>Facilities Available</b>						
Separate Rooms/Dormitory/Other	4	Bedrooms	4	Beds	0	Beds in dormitory
Maximum Station Staffing Capability	4					
Exercise/Workout Facilities	Yes					
Kitchen Facilities	Yes					
Individual Lockers/Storage Assigned	Yes					
Shower Facilities	Yes, 2					
Training/Meeting Rooms	No					
Washer/Dryer	Yes					
<b>Safety &amp; Security</b>						
Sprinklers	Yes					
Smoke Detection	Yes					
Decontamination/Biohazard Disposal	Yes					
Security	None					
Apparatus Exhaust System	Yes, Plymovent					


**Figure 115: Menlo Park FPD Fire Station 5**

<b>Station Name/Number:</b>	<b>Menlo Park Station 5</b>					
<b>Address/Physical Location:</b>	4101 Fair Oaks Avenue, Menlo Park, CA 94025					
	<b>General Description:</b>					
	This station was built in 1998 and houses one Engine Company. Although it is a bit dated, the station is well maintained. The size of the station limits any expansion.					
<b>Structure</b>						
Construction Type	Ordinary Type 5					
Date of Construction	1998					
Seismic Protection	Yes					
Auxiliary Power	Generator					
General Condition	Good					
Number of Apparatus Bays	0	Drive-through bays	1	Back-in bays		
Special Considerations (ADA, etc.)	No					
Square Footage	2,900					
<b>Facilities Available</b>						
Separate Rooms/Dormitory/Other	3	Bedrooms	3	Beds	0	Beds in dormitory
Maximum Station Staffing Capability	3					
Exercise/Workout Facilities	Yes					
Kitchen Facilities	Yes					
Individual Lockers/Storage Assigned	Yes					
Shower Facilities	Yes, 3					
Training/Meeting Rooms	0					
Washer/Dryer	Yes					
<b>Safety &amp; Security</b>						
Sprinklers	Yes					
Smoke Detection	Yes					
Decontamination/Biohazard Disposal	Yes					
Security	No					
Apparatus Exhaust System	Yes, Plymovent					

**Figure 116: Menlo Park FPD Fire Station 6**


<b>Station Name/Number:</b>	<b>Menlo Park Station 6</b>					
<b>Address/Physical Location:</b>	700 Oak Grove Avenue, Menlo Park, CA 94025					
	<b>General Description:</b>					
	This state-of-the-art fire station was built in 2018, houses one Engine Company and the Fire District museum. While the station is state-of-the-art, its size and location limit future expansion for other than an additional Shift Battalion Chief.					
<b>Structure</b>						
Construction Type	Steel Frame, Masonry					
Date of Construction	2018					
Seismic Protection	Yes					
Auxiliary Power	Yes					
General Condition	Excellent/New					
Number of Apparatus Bays	1	Drive-through bays	1	Back-in bays		
Special Considerations (ADA, etc.)	Compliant; elevator					
Square Footage	8,335					
<b>Facilities Available</b>						
Separate Rooms/Dormitory/Other	6	Bedrooms	6	Beds	0	Beds in dormitory
Maximum Station Staffing Capability	6					
Exercise/Workout Facilities	Yes					
Kitchen Facilities	Yes					
Individual Lockers/Storage Assigned	Yes					
Shower Facilities	Yes					
Training/Meeting Rooms	Yes					
Washer/Dryer	Yes					
<b>Safety &amp; Security</b>						
Sprinklers	Yes					
Smoke Detection	Yes					
Decontamination/Biohazard Disposal	Yes					
Security	Yes					
Apparatus Exhaust System	Yes, Plymovent					

**Figure 117: Menlo Park FPD Fire Station 77**

<b>Station Name/Number:</b>	<b>Menlo Park Station 77</b>					
<b>Address/Physical Location:</b>	1467 Chilco St., Menlo Park, CA 94025					
	<b>General Description:</b> This station was built in 1998, houses an Engine Company, staffed Rescue, and the District's water Rescue program, along with mechanical shops to the rear. The size and age of this station limit its ability to meet the expanding needs of the area.					
<b>Structure</b>						
Construction Type	Ordinary Type 5					
Date of Construction	1998					
Seismic Protection	No					
Auxiliary Power	Generator					
General Condition	Good					
Number of Apparatus Bays	1	Drive-through bays	1	Back-in bays		
Special Considerations (ADA, etc.)	No					
Square Footage	4,400					
<b>Facilities Available</b>						
Separate Rooms/Dormitory/Other	4	Bedrooms	5	Beds	0	Beds in dormitory
Maximum Station Staffing Capability	5					
Exercise/Workout Facilities	Apparatus floor					
Kitchen Facilities	Yes					
Individual Lockers/Storage Assigned	Yes					
Shower Facilities	Yes 2					
Training/Meeting Rooms	Not in the station – rear building					
Washer/Dryer	Yes					
<b>Safety &amp; Security</b>						
Sprinklers	Yes					
Smoke Detection	Yes					
Decontamination/Biohazard Disposal	Yes					
Security	Yes					
Apparatus Exhaust System	Yes, Plymovent					



**Figure 118: Menlo Park FPD Administration**

<b>Station Name/Number:</b>	<b>Menlo Park Administration Building</b>		
<b>Address/Physical Location:</b>	170 Middlefield Road, Menlo Park, CA 94025		
	<p><b>General Description:</b> Based on ESCI's observations, the District has outgrown the available space of this facility. In fact, some of the administrative staff are being housed in a District-owned structure to the rear of the Administrative Building.</p>		
<b>Structure</b>			
Construction Type	Ordinary Type 5		
Date of Construction	2009		
Seismic Protection	Yes		
Auxiliary Power	Generator		
General Condition	Good		
Number of Apparatus Bays	o	Drive-through bays	o
Special Considerations (ADA, etc.)	Compliant elevator		
Square Footage	6,094		
<b>Facilities Available</b>			
Separate Rooms/Dormitory/Other	o	Bedrooms	o
		o	BeDs
			o
			BeDs in dormitory
Maximum Station Staffing Capability			
Exercise/Workout Facilities	No		
Kitchen Facilities	Yes		
Individual Lockers/Storage Assigned	some		
Shower Facilities	Yes, 1		
Training/Meeting Rooms	Yes, 1		
Washer/Dryer	No		
<b>Safety &amp; Security</b>			
Sprinklers	Yes		
Smoke Detection	Yes		
Decontamination/Biohazard Disposal	No		
Security	Yes cameras & card ley*		
Apparatus Exhaust System	No		

## Facilities Summary

The eight facilities (fire stations) range in age from 70 to 1 years old. Several have undergone varying levels of remodel/upgrades since their construction date and, some stations need expansion. Due to the size of the stations' footprint on the lots, expansion is limited or not possible.

Although all structures require routine maintenance, fire stations require even more because they are staffed with three or more firefighters operating 24 hours per day. In addition to the routine maintenance needs, there are safety standards that should be reviewed. For example, there are diesel emission removal systems within each station however, their effectiveness is compromised by doors from living areas to the apparatus bays being propped open. In addition, some of the stations have their workout areas within the apparatus bays and are exposed to diesel exhaust.

Stations have a minimum of two to a maximum of four shower facilities. The majority of the fire stations are ADA compliant except for Station 4, constructed in 1949, Stations 5 and 77, both constructed in 1998.

A positive *and impressive* note is that despite many of the stations being aged and some in need of repair or update(s), personnel display a truesense of pride in what they have.

In summary, of the eight facilities inspected, one of which is the Administration Headquarters, two stations were ranked as "excellent or excellent/new," four were ranked "good," and two were ranked as "fair to poor" condition. Five of the stations have seismic protection, with two of those stations having an Earthquake Warning System.

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## **Appendix L4**

Menlo Park Fire Protection District Staff Report:  
Consider for Adoption a Resolution Adopting the  
Primary Emergency Response Routes for the Menlo  
Park Fire Protection District



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# MENLO PARK FIRE PROTECTION DISTRICT

## STAFF REPORT

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**To:** Board of Directors  
**From:** Harold Schapelhouman, Fire Chief

**Meeting Date:** 8/16/2011

**Item:** CONSIDER FOR ADOPTION A RESOLUTION ADOPTING THE PRIMARY EMERGENCY RESPONSE ROUTES FOR THE MENLO PARK FIRE PROTECTION DISTRICT

\* \* \* \* \*

### Staff Recommendation

1. That the Board accepts the report as presented.
2. That the Board approves a Resolution adopting the Emergency Response Routes for the Fire District

### Background

The District Board has never formally adopted Emergency Response Routes for the Fire District. The formal process of adoption enables the District to better address community traffic mitigation and emergency response issues from the broader perspective of total community impact.

The identification of Primary Emergency Response routes is critical to better managing rapid deployment and maintaining acceptable response times for the community. Those response times are critical to threat mitigation, hazard abatement and outcome management for incidents such as emergency medical calls, vehicle accidents, hazardous materials incidents and fire response just to name a few.

Outcomes in many cases can be improved by rapid and appropriate deployment of emergency resources. The designation of Primary Response Routes ensures that a balance must be maintained associated with issues such as traffic mitigation and control devices and public safety.

### Discussion

Under Chapter 5 of the Fire Code the District is now able to designate and adopt "primary response routes". Once that designation is given to a route or street, traffic mitigation devices not acceptable to the Fire District will no longer be allowed to be installed unless approved by the Fire Chief.

### Attachments

- A. Resolution adopting the Emergency Response Routes for the Fire District.  
Exhibit 1 - A street by street listing of affected streets in the Fire District
- B. An overhead map of those streets showing the deployment response grid and network

Resolution No. 1476-2011

**RESOLUTION OF THE BOARD OF THE  
MENLO PARK FIRE PROTECTION DISTRICT BOARD  
ADOPTING THE PRIMARY EMERGENCY RESPONSE ROUTES FOR THE  
MENLO PARK FIRE PROTECTION DISTRICT**

**WHEREAS**, the Board of Directors received a report from the Fire Chief requesting the adoption of the Emergency Response Routes for the Fire District; and

**WHEREAS**, under Chapter 5 of the Fire Code the District is now able to designate and adopt primary response routes; and

**WHEREAS**, once that designation is given to a route or street, traffic mitigation devices not acceptable to the Fire District will no longer be allowed to be installed unless approved by the Fire Chief; and

**WHEREAS**, the Board of Directors accepts the report as submitted.

**NOW, THEREFORE, BE IT RESOLVED** by the Board of Directors of Menlo Park Fire Protection District that:

1. The Board of Directors adopts the Primary Emergency Response Routes for the Fire District attached hereto as Exhibit 1 in the same or substantially the same form as submitted in the report.

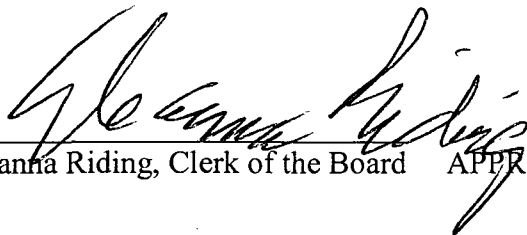
**I HEREBY CERTIFY** that the above and foregoing resolution was passed and adopted by the Board of Directors of the Menlo Park Fire Protection District at its regular meeting held on the 16<sup>th</sup> day of August 2011 by the following vote:

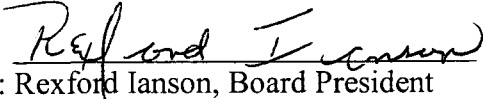
AYES: Ianson, Nachtsheim, Spencer, Nelson

NOES:

ABSENT: Carpenter

ABSTAIN:

ATTESTED:   
Deanna Riding, Clerk of the Board

  
APPROVED: Rexford Ianson, Board President

## **Attachment A**

Almendra Avenue – Town of Atherton  
Between El Camino Real and Selby Lane

Alpine Road – City of Menlo Park  
Between Highway 280 and Sand Hill Road

Atherton Avenue – Town of Atherton  
Between Alameda De Las Pulgas and Middlefield Road

Austin Avenue – Town of Atherton  
Between Stockbridge Avenue and Atherton Avenue

Avy Avenue – City of Menlo Park  
Between Altschule Avenue and Orange Avenue

Bay Road – City of Menlo Park and San Mateo County  
Between Marsh Road and Willow Road

Bay Road – City of East Palo Alto  
Between Newbridge Street and District limits (End)

Bohannon Drive – City of Menlo Park  
Between Marsh Road and Scott Drive

Capital Avenue – City of East Palo Alto  
Between East Bayshore Road and Runnymede Street

Capital Avenue – City of East Palo Alto  
Between University Avenue and West Bayshore Road

Chilco Street – City of Menlo Park  
Between Bayfront Expressway and Newbridge Street

Clarke Avenue – City of East Palo Alto  
Between Bay Road and East Bayshore Road

Coleman Avenue – City of Menlo Park  
Between Ringwood Avenue and Willow Road

Constitution Drive – City of Menlo Park  
Between Marsh Road and Chilco Street

Cooley Avenue – City of East Palo Alto  
Between University Avenue and Donohoe Street

Cotton Street – City of Menlo Park  
Between Valparaiso Avenue and Middle Avenue

Donohoe Street – City of East Palo Alto  
Between East Bayshore Road and East Bayshore Road

East Bayshore Road – City of East Palo Alto  
Between Saratoga Avenue and District Limits

East O’Keefe Street – City of East Palo Alto  
Between Menalto Avenue and Euclid Avenue

Edison way – County of San Mateo  
Between 1<sup>st</sup> Avenue and Fair Oaks Avenue

El Camino Real – State Highway  
Between Districts limits and District limits

Elena Avenue – Town of Atherton  
Between Atherton Avenue and Valparaiso Avenue

Euclid Avenue – City of East Palo Alto  
Between East O’Keefe Street and Woodland Avenue

FairOaks Avenue – San Mateo County  
Between Edison Way and Marsh Road

Fair Oaks Lane – Town of Atherton  
Between Middlefield Road and El Camino Real

Fifth Avenue – San Mateo County  
Between El Camino Real and Edison Way

Fordham Street – City of East Palo Alto  
Between Bay Road and Illinois Street

Gilbert Avenue – City of Menlo Park  
Between Santa Monica Avenue and Menalto Avenue

Glenwood Avenue – City of Menlo Park  
Between Middlefield Road and El Camino Real

Hamilton Avenue – City of Menlo Park  
Between Pierce Road and Hamilton Court

Illinois Street – City of East Palo Alto  
Between Fordham Street and Bay Road

James Avenue – Town of Atherton  
Between Middlefield Road and Catalpa Drive

Kavanaugh Drive – City of East Palo Alto  
Between O’Brien Drive and University Avenue

Laurel Street – City of Menlo Park  
Between Ravenswood and Waverly Street



Linfield Drive – City of Menlo Park  
Between Middlefield Road and Waverly Street

Marsh Road – Town of Atherton and San Mateo County  
Between Middlefield Road and Bayfront Expressway

Menalto Avenue – City of Menlo Park  
Between Woodland Avenue and O’Keefe Street

Middle Avenue – City of Menlo Park  
Between Olive Street and El Camino Real

Middlefield Road – San Mateo County  
Between Districts limits and District limits

Monte Rosa Drive – City of Menlo Park  
Between Sand Hill Road and Altschule Avenue

Newbridge Street – City of Menlo Park  
Between Chilco Street and Bay Road

North Lemon Avenue – City of Menlo Park  
Between Valparaiso Avenue and Santa Cruz Avenue

Oakdell Drive – City of Menlo Park  
Between Santa Cruz Avenue and Olive Street

Oak Grove Avenue – City of Menlo Park and Town of Atherton  
Between University Drive and Green Oaks Drive

O’Brien Drive – City of Menlo Park and East Palo Alto  
Between Willow Road and University Avenue

O’Connor Street – City of East Palo Alto  
Between Menalto Avenue and Euclid Avenue

O’Connor Street – City of East Palo Alto  
Between Daisy Lane and Clarke Avenue

O’Keefe Street – City of Menlo Park  
Between Willow and Menalto Avenue

Olive Street – City of Menlo Park  
Between Santa Cruz Avenue and Bay Laurel Drive

Palmer Lane – San Mateo County  
Between Fair Oaks Avenue and Middlefield Road

Pierce Road – City of Menlo Park  
Between Alpine Avenue and Willow Road

Pulgas Avenue – City of East Palo Alto  
Between Bay Road and East Bayshore Road

Ravenswood Avenue – City of Menlo Park  
Between Middlefield Road and El Camino Real

Ringwood Avenue – City of Menlo Park  
Between Middlefield Road and Van Buren Road

Runnymede Street – City of East Palo Alto  
Between University Avenue and Pulgas Avenue

Sandhill Road – City of Menlo Park  
Between Highway 280 and Santa Cruz Avenue

Santa Clara Avenue – San Mateo County  
Between Woodside Road and Stockbridge Avenue

Santa Cruz Avenue – City of Menlo Park  
Between Sand Hill Road and El Camino Real

Santa Monica Avenue – City of Menlo Park  
Between Middlefield Road and Coleman Drive

Scott Drive – City of Menlo Park  
Between Marsh Road and Bohannon Drive

Selby Lane – Town of Atherton  
Between El Camino Real and Atherton Avenue

Semi-Circular Road – San Mateo County  
Between 5<sup>th</sup> Avenue and Middlefield Road

Sharon Park Drive – City of Menlo Park  
Between the access road to Sand Hill Circle and Sand Hill Road

Sharon Road – City of Menlo Park  
Between Sharon Park Drive and Alameda De Las Pulgas

Stockbridge Avenue – Town of Atherton  
Between El Camino Real and Alameda de las Pulgas

University Drive – City of Menlo Park  
Between Valparaiso Avenue and Creek Drive

University Avenue – State Highway  
Between District limits and Bayfront Expressway

Valparaiso Avenue – City of Menlo Park  
Between Hallmark Circle and El Camino Real

Walsh Road - Town of Atherton  
Between Alameda de las Pulgas and Valley Road

Waverly Street – City of Menlo Park  
Between Laurel Street and Linfield Drive

Watkins Avenue – Town of Atherton  
Between Middlefield Road and El Camino Real

West Bayshore Road – Town of Atherton  
Between Capital Avenue District limits

West Selby Lane – San Mateo County  
Between Santa Clara Avenue and Selby Lane

Willow Road – City of Menlo Park  
Between Alma Street and Bayfront Expressway

Woodland Avenue – City of East Palo Alto  
Between Euclid Avenue and West Bayshore Road





**Resolution No. 1818-2015**

**RESOLUTION OF THE MENLO PARK FIRE PROTECTION DISTRICT ADOPTING  
A TIME BASED PERFORMANCE MEASURE STANDARD FOR THE MENLO PARK  
FIRE PROTECTION DISTRICT**

**WHEREAS**, on August 16, 2011, the Board of Directors adopted Primary Emergency Response Routes for the District to better address community traffic mitigation and emergency response issues from the broader perspective of community impact; and

**WHEREAS**, on September 26, 2013, the Board of Directors accepted the Insurance Services Organization's (ISO) updated Public Protection Classification report that upgraded our community insurance rating from a Class 3 to a Class 2 fire agency; and

**WHEREAS**, on August 19, 2014, as proposals to potentially modify major roadways like El Camino Real and Middlefield Road were being discussed by the Town of Atherton, the City of Menlo Park, and San Mateo County, the Board of Directors reviewed the Primary Emergency Response Routes with staff; and

**WHEREAS**, in September of 2014, the District completed a yearlong upgrade and expansion to its Traffic Pre-Emption System that consisted of eight existing traffic signals, fourteen new traffic signals, and upgrades to fourteen pieces of emergency equipment; and

**WHEREAS**, on June 16, 2015, the Board of Directors received an updated Standards of Coverage (SOC) Assessment that consisted of fifteen findings and two major recommendations from an independent third party consultant, Citygate Associates; and

**WHEREAS**, the overall opinion of the District's emergency services stated in the executive summary of the SOC Assessment states "The District today is currently meeting its needs through the use of partnerships with its neighbors in the automatic aid countywide response system. The District's deployment system meets the District's current demands but is becoming strained, especially east of Highway 101, and needs adjustment soon moving forward as growth occurs."; and

**WHEREAS**, critical to the adoption of a time-based performance standard, the SOC Assessment report further states "Traffic congestion is also an increasing problem as the communities the District protects continue to evolve;" and

**WHEREAS**, as recommended by the District Fire Chief, the Board desires to adopt "a deployment measures policy" also known as a Time Based Performance Standard; and

**WHEREAS**, by adopting this Time Based Performance Standard, the Board of Directors reinforces not only the validity of the SOC Assessment but helps to support its adoption of Primary Emergency Response Routes and the Insurance Services Organizations Classification upgrade to a Class 2 Fire Agency by attempting to maintain

a specific level of service to the community.

**NOW, THEREFORE, BE IT RESOLVED** by the Board of Directors of the Menlo Park Fire Protection District that:

1. The Menlo Park Fire Protection District adopts the following deployment measures policy also known as a Time Based Performance Standard:

The Menlo Park Fire Protection District Board directs the Fire Chief to monitor response times to all emergencies quarterly and report back to the Board of Directors on an annual basis on a time-based unit and incident performance. The goal of the first response unit shall be to arrive on the scene of all Code 3 emergencies within seven minutes, 90% of the time from the receipt of the 9-1-1 call in the dispatch center. This equates to one minute dispatch time, two minutes company turnout time, and four minutes response or drive time.

The goal of multi-unit responses shall be to have all units on scene within eleven minutes from the time of the 9-1-1 call in the dispatch center. This equates to one minute dispatch time, two minutes company turnout time, and eight minutes response or drive time.

I HEREBY CERTIFY that the above and foregoing resolution was passed and adopted by the Board of Directors of the Menlo Park Fire Protection District at its regular meeting held on the 15<sup>th</sup> day of September, 2015 by the following vote:

AYES: KIRALY, SILANO, IANSON, CARPENTER, AND BERNSTEIN

NOES: NONE


ABSENT: NONE

ABSTAIN: NONE

ATTESTED:

APPROVED:

  
Michelle Radcliffe, Clerk of the Board

  
Virginia Chang Kiraly, Board President





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# **Appendix M**

Certified Transcript

December 12, 2022 Planning Commission Hearing



1 CITY OF MENLO PARK

2 Planning Commission

3

4 In re:

5 123 Independence Drive

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12 REPORTER'S TRANSCRIPT OF PROCEEDINGS  
13 AGENDA ITEM F2  
14 MONDAY, DECEMBER 12, 2022

15

16 Reported by AMBER ABREU-PEIXOTO  
17 (Via ZOOM Videoconference)  
18 Certified Shorthand Reporter No. 13546  
19 State of California

20

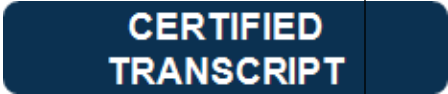
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## 1 ATTENDEES

## 2 The Planning Commission:

3 Chris DeCardy - Chairperson

4 Cynthia Harris - Vice Chairperson

5 Jennifer Schindler

6 Andrew Barnes

7 Michele Tate

8 Linh Dan Do

9 Henry Riggs

## 10 SUPPORT STAFF:

11 Corinna Sandmeier, Acting Principal Planner

12 Matt Pruter, Associate Planner

## 13 PROJECT PRESENTERS:

14 Peter Tsai, Sobrato Organization

15 Chek Tang, Studio T-SQ

16 Maureen Sedonaen, Habitat for Humanity

17

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21

22 BE IT REMEMBERED that, pursuant to Notice of the

23 Meeting, and on December 12, 2022, via ZOOM

24 Videoconference, before me, AMBER ABREU-PEIXOTO, CSR

25 13546, State of California, there commenced a Planning

Commission meeting under the provisions of the City of

Menlo Park.

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1	MEETING AGENDA	
2		PAGE
3	Presentation by Chair DeCardy	4
4		
5		
6	Project Presenters:	
7	Peter Tsai, Sobrato Organization	8, 14
8	Chek Tang, Studio T-SQ	11
9	Maureen Sedonaen, Habitat for Humanity	16
10		
11	Commission Questions and Comments	36
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1 DECEMBER 12, 2022 8:10 p.m.

2

3 PROCEEDINGS

4

5 CHAIR DECARDY: We'll move -- we'll now move to  
6 Item F2. F2 and G1 are associated items with a single  
7 staff report.

8 I have a fair amount to read and, Ms. Sandmeier,  
9 I'm going to read that now; is that correct?

10 MS. SANDMEIER: Yes. That's right.

11 CHAIR DECARDY: All right. This is Item F2.  
12 This is a public hearing to receive comments on the Draft  
13 Environmental Impact Report, the (Draft EIR), for the  
14 proposed 123 Independence Drive Project that would  
15 redevelop the project site. That's 119 and 123, through  
16 125 and 127 Independence Drive, 130 Constitution Drive,  
17 and 1205 Chrysler Drive, with a new apartment building  
18 with 316 units and 116 three story for-sale townhome  
19 condominium units. The five existing office and  
20 industrial buildings, totaling approximately 103,000  
21 square feet would be demolished. The project site is  
22 located in the R-MU-B -- that's the Residential Mixed Use  
23 Bonus zoning district.

24 The total gross floor area of residential uses on  
25 the site would be approximately 476,962 square feet, with

1 a total floor area ratio of 134 percent.

2 The proposal includes a request for an increase  
3 in floor area ratio -- that's the FAR -- and density under  
4 the bonus level development allowance in exchange for  
5 community amenities.

6 The proposed project includes 48 rental apartment  
7 units and 18 for-sale townhome units. 15 percent of the  
8 total units affordable to low income households, pursuant  
9 to the City's BMR Housing Program Guidelines.

10 The Applicant is currently proposing to provide  
11 eight additional rental BMR units affordable to low-income  
12 households as a community amenity, in exchange for this  
13 bonus level development.

14 The proposal also includes a request for a  
15 vesting tentative map for a major subdivision, and a use  
16 permit for storage and use of hazardous materials -- in  
17 this case, diesel fuel for an emergency back-up generator.  
18 The proposed project would remove 29 heritage trees.

19 And with that, I will turn it to -- and I  
20 apologize. I don't know who I'm turning it to on staff.

21 Ms. Bhagat?

22 MS. BHAGAT: Yeah. Hi. Yes. You're turning it  
23 to me. Thank you.

24 CHAIR DECARDY: Thank you.

25 MS. BHAGAT: I'm just waiting for my presentation

1 to come up. So thank you.

2 Good evening, Commissioners, members of the  
3 community. It is my pleasure to provide a brief overview  
4 of 123 Independence Drive project this evening.

5 The proposed project is the redevelopment of five  
6 existing parcels, totaling 8.15 acres, with 432  
7 residential units, and it's made up of 316 rental  
8 apartments and 116 for-sale townhomes.

9 Vanh, can you go to the next slide, please.

10 The project -- thank you.

11 The project site is here in the red box and is  
12 located south of the Bayfront Expressway, east of Marsh  
13 Road. And Highway 101 is to the south of the project  
14 site.

15 This slide also shows the other projects that are  
16 either approved in the Bayfront area or are currently  
17 under construction. As mentioned, this is a bonus-level  
18 development, and the applicant is requesting a use permit  
19 for the bonus-level development, as well as the use of  
20 on-site emergency generator, an architectural control  
21 permit for the proposed design, open space, and  
22 concessions and waivers associated with the development of  
23 the for-sale townhome BMR units; heritage tree removal  
24 permit for the 29 heritage trees that will be removed as  
25 part of the demolition and prep of the site to receive the



1 project, as well as a major subdivision map to reconfigure  
2 the existing property lines to create parcels to receive  
3 the apartment building, create an open space parcel. And  
4 then the remaining three parcels would receive the  
5 townhome buildings.

6 The applicant is proposing to provide 48  
7 low-income BMR units that will be rental units and 18  
8 for-sale units also affordable to low-income households.

9 Additionally, the project is proposing eight  
10 rental units as part of the community amenity. And these  
11 units would also be affordable to low-income households.

12 So for tonight's agenda, we're not asking for  
13 approval of any entitlements, but we are asking to hold a  
14 public hearing and solicit comments on the Draft  
15 Environmental Impact Report that was circulated on  
16 November 28.

17 Just to remind members of the public, the public  
18 comment period ends on January 17, 2023. And the second  
19 portion of this meeting is to do a study session on the --  
20 the various design aspects of the project, as well as  
21 entitlement issues.

22 Next slide, please.

23 So for conducting the two items associated with  
24 this project, we have proposed a format. Following the  
25 introduction, we request that the Chair invite the

1 applicant to provide a detailed overview of the project,  
2 following which, the City's EIR consultant will go over  
3 the findings of the Draft Environmental Impact Report, as  
4 well as the next steps in the EIR process for the project.

5 After that, we request that the commission invite  
6 the members of the community to provide comments on the  
7 Draft EIR, following which, we would hear questions from  
8 the commission and also take comments from you.

9 And the study session, a portion of this project  
10 would also follow a similar format.

11 This concludes my brief presentation. I'm  
12 available to answer any questions that you might have as  
13 to most of the various aspects of this project.

14 Thank you.

15 CHAIR DECARDY: Thank you.

16 Any questions of staff before we turn to the  
17 applicant presentation?

18 All right. Seeing none, we'll turn to the  
19 applicant.

20 Welcome. The floor is yours. We're looking  
21 forward to your presentation.

22 MR. TSAI: Thank you, Chair DeCardy. All right.  
23 Can everyone hear me?

24 CHAIR DECARDY: Yes, we can.

25 MR. TSAI: Okay. Great. Thank you. Just

1 checking.

2       Good evening, Chair DeCardy, Vice Chair Harris,  
3 planning commissioners, staff, as well as members of the  
4 public. My name is Peter Tsai, with the Sobrato  
5 Organization. I want to thank you for the opportunity to  
6 present our all-residential project, 123 Independence  
7 Drive. I'm joined by my colleagues, Chek Tang from Studio  
8 T-SQ, our design architect; Linda Klein from Cox, Castle &  
9 Nicholson, our land use attorney; and Maureen Sedonaen  
10 from Habitat for Humanity Greater San Francisco, our  
11 affordable housing partner.

12       This project was last before you in September of  
13 2021, for our EIR scoping session. Though the project  
14 proposal has not changed a great deal since then, there  
15 are current commissioners who were not present at that  
16 meeting. So we will provide a brief overview on the  
17 project sponsor and the project.

18       So about the sponsor. Sobrato is a local  
19 organization that has been part of the Bay Area since the  
20 1950s. The ethos of the company is making the Bay Area a  
21 place of opportunity for all. This is shown throughout  
22 philanthropic ventures, as well as our approach towards  
23 real estate development.

24       Now to the project. The project is located in  
25 the Bayfront, Belle Haven neighborhood between Highway 101

1 and 84 and Marsh Road. The site is bound by Constitution  
2 Drive, Chrysler Drive, and Independence Drive. The  
3 surrounding area includes mid-rise commercial buildings,  
4 parking structures, future multi-family housing, and an  
5 11-story hotel.

6       Currently the site contains five old, one-story  
7 commercial buildings that will be demolished for the  
8 proposed project that you see here; an all-residential  
9 project totaling 432 units, 316 apartment units, and 116  
10 townhomes over five lots.

11       The project was not always residential. The  
12 project zoning is residential mixed-use bonus. The  
13 original project was planned to be a mixed-use project  
14 with both residential and a 90,000-square-foot office  
15 building.

16       After feedback received from our first planning  
17 commission study session in January of 2021, and community  
18 stakeholders throughout our engagement in 2020 and 2021,  
19 Sobrato elected to redesign the project to be all  
20 residential. We heard the consistent desire for more  
21 housing and specifically more high quality, affordable  
22 housing, both for rent and for sale.

23       As long-term holders of real estate, we felt it  
24 was important to make this change and be responsive to our  
25 community members. At the same time, Sobrato began

1 holding discussions with the Habitat for Humanity Greater  
2 San Francisco organization, who we have since partnered  
3 with to be the developer for the 18 for-sale affordable  
4 townhome units. We will discuss Habitat's portion of the  
5 project in more detail when we get into the overall BMR  
6 proposal.

7       With that, I will hand it over to Chek Tang from  
8 Studio T-SQ, who will walk through the site composition  
9 and design.

10       Chek, over to you.

11       MR. TANG: Thank you, Peter. I hope everyone  
12 hears me okay. If we can tee up the video walkthrough  
13 real quick, please. We'll just briefly go through the  
14 impression of the project through a video walkthrough.  
15 Thank you.

16       So we can begin -- so just a quick tour of the  
17 project, walking from the public paseo on Independence  
18 Drive through the townhome districts through a mix -- rich  
19 mix of architecture and urban character, arriving at the  
20 public park shared by all other resident uses on-site with  
21 outdoor and indoor amenities and activities, front porches  
22 on the park.

23       Continuing onto the paseo toward Constitutional  
24 Drive, the facade of the apartment project creates a  
25 strong urban presence on Constitution Drive. And as we

1 come back along paseo, this unit runs onto the paseo,  
2 giving security and also coming to the park with the  
3 affordable project and the market rate project blended  
4 together seamlessly with a whole series of connecting  
5 walkways and open space, with varying architectural style.

6 The whole point of the overall massive plan and  
7 architectural design is to achieve a thoughtful, balanced  
8 and well-integrated neighborhood with an emerging  
9 residential mixed-use district.

10 With that, if we can go back to the PowerPoint,  
11 please.

12 Thank you. Next slide, please.

13 Happy to report also, since the last time we met  
14 with the Planning Commission, we worked very tirelessly  
15 with staff to be completely compliant with the R-M-U  
16 design guidelines; you know, also the major and minor  
17 articulations on the architecture. For the apartment  
18 project, we're very focused on creating architecture that  
19 is four-sided.

20 In the case of Constitutional frontage, we wanted  
21 to have a strong presence that really work in concert with  
22 the existing office building across the street. And the  
23 four-sided architecture -- also along the proposed paseo  
24 that we have architecture that is well articulated, maybe  
25 a little bit finer grain to address the pedestrian kind of

1 a scale of the paseo, as well as kind of the internal park  
2 that addresses all of the different residential uses that  
3 we have, programs and activities that would also address  
4 at the park, and also our articulated architecture as  
5 well.

6 Next, please. Next slide, please.

7 For the townhomes, we've also heard the comments  
8 from the commissions to create more residential scale.  
9 This, obviously, is a lower scale residential component.  
10 Our idea is to really create a lot of varieties of  
11 architecture style with different roof form, with  
12 different material and articulation in order to create a  
13 finer-grain residential neighborhood.

14 As you can tell, there's a varying combination of  
15 townhomes, different module types that would organize  
16 around this park, central park.

17 Next, please.

18 And then, obviously, the BMR units with the zero  
19 program variations from the townhomes, it also creates a  
20 lot of interesting massing and form changes that is to  
21 provide overall variations to the overall townhome  
22 district, along with the finishes -- the brick, the  
23 fiberboard, and also the plaster, coherent with the entire  
24 townhome project. It also is complementary to the  
25 apartment project as well.

1 Next, please.

2 One key item of the project, as mentioned, is the  
3 central park, as well as the paseo. There's some  
4 impression of what we are trying to do in terms of  
5 programming this space with natural landscaping because  
6 it's all in grade. We're planting green lawn space play  
7 area, as well as, you know, other picnic areas, a play  
8 area, as well as a bike parking area. So it's really an  
9 outdoor family room for the entire project.

10 Next, please.

11 In terms of sustainability that -- we are  
12 interested in creating a project that would achieve the  
13 LEED gold certification. The project will be all  
14 electric. It would have EV charging stations. It would  
15 have ample bicycle parking and storage, as well as  
16 efficient plumbing fixtures, dual plumbing for recycled  
17 water use, as well as drought-tolerant landscaping for the  
18 landscape and water conservation.

19 With that, I'll turn it back to Peter.

20 MR. TSAI: Thank you, Chek.

21 Even before our first scoping session in January  
22 of 2021, we made a commitment to engage a diverse group of  
23 Menlo Park and Belle Haven stakeholders to solicit  
24 feedback on the project. During the pandemic, we mostly  
25 held community meetings online, in small groups, as well



1 as the virtual one-on-ones. That has progressed now as,  
2 you know, the pandemic has largely passed. And more  
3 recently we held an in-person open house in November of  
4 '22. We also held an online meeting forum to engage  
5 additional community members on this project.

6 The resounding feedback that we've gotten  
7 throughout our years of outreach has been the need for  
8 more housing. This was also echoed by the Planning  
9 Commission when we came in for a study session back in  
10 January of '21, and also was well-received in our  
11 September of 20 -- September of '21 study session as well.

12 Next slide.

13 We know the community amenity list is ongoing  
14 further refinement, but there is one constant, and that's  
15 affordable housing.

16 So in response, our community benefit, we are  
17 proposing eight additional rental units. So in total,  
18 there will be 74 BMR units, which includes 56 rental  
19 apartments and 18 for-sale townhomes. And all will be  
20 offered at low levels of AMI.

21 We've also decided to partner with Habitat on the  
22 18 affordable townhomes. Sobrato will donate the land to  
23 Habitat. And as many of you know, Habitat not only brings  
24 a stellar record -- track record, but they also offer  
25 residents zero down payment and zero interest rate

1 mortgages. Habitat also caps the homeowner's expenses at  
2 30 percent of their income, and that includes property  
3 taxes, insurance, and HOA fees.

4 With that, I'll pass it over to Maureen, CEO of  
5 Habitat for Humanity Greater San Francisco. She will  
6 expand on Habitat and its programs.

7 Maureen, please take it away.

8 MS. SEDONAEN: Thank you, Peter. I'm trying to  
9 get my video on. So I don't know -- trying to do that.  
10 If the host can ask me -- start my video. Great. Thank  
11 you so much.

12 Good evening, everyone. Thank you so much.  
13 Thank you to Peter and Sobrato Organization.

14 To the Chair and to all the commission members  
15 and all the public tonight, I'm Maureen Sedonaen, CEO of  
16 Habitat for Humanity Greater San Francisco. And it's my  
17 great honor and pleasure to be with you tonight to talk  
18 about our partnership.

19 I think one of the things I want to just kick off  
20 and say is one of the incredible, sort of unifying factors  
21 for us with Sobrato is they're a family organization,  
22 centered in the community, committed to community. And I  
23 think our synergy has been incredible since we started the  
24 conversation, and I'm pretty proud of where we have it  
25 today.

1 Next slide, please.

2 Our Habitat model -- as Peter stated -- does a  
3 zero percent down mortgage. We're creating first-time  
4 home ownership for community residents and are super proud  
5 of our 30-plus year history, including in Menlo Park, for  
6 doing this. We cap our homeowner's expenses at 30 percent  
7 of their income. We serve people in the 50 to 120 percent  
8 area median income. They have to have good credit scores  
9 of 650 and above and be willing to also do their 500 hours  
10 of sweat equity, with a willingness to partner with us as  
11 we create and build these communities. And you see our  
12 beautiful picture of some of our current homeowners right  
13 now.

14 Next slide, please.

15 Here is our region. We serve Marin, San  
16 Francisco, and San Mateo counties. We have 12 homes  
17 already in Menlo Park. We look forward to bringing these  
18 18 more homes on line here. You can see the rest of our  
19 history here.

20 We also have a several-year history and great  
21 experience working in the Belle Haven community and  
22 partnering with long-time homeowners there to maintain  
23 their home ownership through our Critical Repair Program,  
24 which we're very proud of as well.

25 Next slide, please.

1           Here's the statistics about our outcomes; why it  
2 matters: 96 percent of our Habitat homeowners felt  
3 confident that their children are going to finish high  
4 school. 95 percent see that their children are going to  
5 go on to college. 73 percent have created financial  
6 security for their families, and 69 percent are able to  
7 save more for the future.

8           Another statistic I'm super proud of is where 21  
9 percent of our Habitat homeowners went on to college; 65  
10 percent of their children in one generation go on to  
11 college. So this kind of transformative opportunity that  
12 happens through partnerships with Habitat and the  
13 community is really unprecedented.

14          Next slide, please.

15          So project details, we'll go back there. We  
16 build a community within a community. I know some of the  
17 questions are why do we ask Sobrato to dedicate a separate  
18 site for us? This was really our requirement. We build a  
19 community within the community where people can put their  
20 hands on the clay, if you will, build the homes together  
21 and create that kind of community.

22          Secondly, our BMR townhomes will be on an  
23 independent timeline, but a timeline none the least. Our  
24 townhomes are using a combination of donated materials,  
25 volunteer labor; have separate materials in finished

1 packages. But all of this to create a very beautiful  
2 experience for our homeowners.

3 Also, our designs are consistent with our other  
4 homeowner Habitat homes across the region. We currently  
5 are underway for over 140 units in our pipeline that are  
6 similar in size, better in count, et cetera.

7 It's just to give you a few examples, for our 20  
8 homes that we just completed in Redwood City, we had over  
9 700 applicants from the region applying for those homes.  
10 And in San Francisco, for our eight townhomes, we had over  
11 500 applicants. So the need is there. The community is  
12 showing up, and we really are serving the folks who really  
13 want to be those first-time homeowners and really  
14 transform the community.

15 We're also proud to say that over 85 percent of  
16 our homeowners are people of color, and over 90 percent  
17 come from within a two-mile radius of the project in which  
18 we're building.

19 And, finally, our unique financial model, which  
20 is that we have -- we are also the mortgage lender, in  
21 addition to being the home builder. So we offer a zero  
22 down, zero percent interest mortgage for our homeowners.  
23 And we cap their expenses -- as Peter stated earlier -- at  
24 30 percent of their income. Many of them right now report  
25 between 60 and 70 percent of their income going to

1 housing. So this is a game-changer for them and for their  
2 children.

3 Next slide, please.

4 And why do we do this? Because we build a legacy  
5 within communities. We build family stability, and we  
6 build equity within communities so that in our most  
7 expensive region of the Bay Area, we can serve those  
8 families who are serving us -- really, our teachers, our  
9 first responders, our childcare workers, our folks who are  
10 making sure that all our trains move on time; that our  
11 families move on time that are served. And we're very  
12 proud of this legacy.

13 Next slide, please.

14 I'm happy to also state we have incredible  
15 endorsements for this project. From the Housing Action  
16 Coalition and the Bay Area Council to the Chamber to the  
17 SAMCEDA Group -- everything we do, and I think everything  
18 Sobrato does, is done in community and for community. And  
19 so together, we brought this incredible synergy across our  
20 project.

21 Next slide, please.

22 And we're happy to open up and provide any  
23 responses to any partnerships. But I do want to just  
24 express our gratitude, express our humility in doing this  
25 work. And I really appreciate the Menlo Park community

1 for being such incredible partners.

2 Thank you.

3 MR. TSAI: Thank you, Maureen. With that, that

4 completes the applicant presentation.

5 CHAIR DECARDY: Thank you. Thank you to the --

6 all three of you on the applicant team.

7 This is the hard part of the process we have

8 right now, which is, that's the applicant presentation.

9 We are now going to move first to the EIR portion of the

10 proceedings. So I'm going to hold on any questions for

11 the applicant. I'm going to hand it off to our EIR

12 consultant. We'll move through the EIR portion of the

13 evening with public comment. Commissioner comments will

14 close that. We'll come back then to the broader questions

15 around the project, which the presentation opens up --

16 opens up to.

17 So just as a -- keeping track of where we are,

18 I'm now going to turn to our EIR consultant for their

19 presentation.

20 Thank you.

21 MS. WAUGH: Thank you. Good evening, Planning

22 Commissioners and members of the public. My name is

23 Katherine Waugh. I'm a senior project manager with Dudek,

24 and we are the City's environmental consultant for the

25 project.

1           Also on the call tonight -- or on the meeting  
2 tonight is our transportation lead consultant, Dennis  
3 Pasquez. So he's available for any questions. But I'm  
4 going to handle the presentation by myself, just to keep  
5 things efficient.

6           So I don't know -- I'm not sure if I have control  
7 of the slide show. So, Vanh, can you advance it to the  
8 next slide for me?

9           Thank you.

10          So now, this is just a quick outline of the  
11 presentation. And it will -- I'm going to go pretty quick  
12 through the project description because you've already  
13 heard that. I just wanted to highlight some of the key  
14 facts that are relevant to the environmental analysis.

15          So, Vanh, can you go to the next slide?

16          And one more. Thank you.

17          Sorry. When I can do it myself, it's a little  
18 bit quicker.

19          So, again, you just heard the project  
20 description. So I don't want to go over this slide, but  
21 these were the facts of the project proposal that are the  
22 most relevant to the environmental analysis.

23          So basically it's a redevelopment project that  
24 would demolish the existing structures on the site and  
25 repurpose the site for the residential uses that are



1 proposed.

2 Next slide, please. Thank you.

3 And this is just a general site layout, a little

4 bit different from the ones that you've seen previously.

5 But, again, we can see that the apartment structure that

6 has two levels of parking and the 316 dwelling units would

7 be in the northern portion of the site. And the

8 townhouses would be spread throughout the southern portion

9 of the site, with the paseo and park use, you know, kind

10 of along that western edge of the northern portion and

11 then kind of somewhat centrally located through the

12 southern portion.

13 So, then, I have just a couple of quick slides on

14 the overview for the environmental review. For folks that

15 aren't familiar, CEQA refers to the California

16 Environmental Quality Act. And so there's a whole body of

17 state regulations and law under which the EIR,

18 Environmental Impact Report, is prepared.

19 For -- there's, you know, a lot of projects that

20 are going on in the Bayfront area of the city. And some

21 of them require a full EIR. Some of them require more of

22 what we call a focused EIR. And some of them can go under

23 lower levels of CEQA review.

24 For this project, when the project application

25 came in, you know, it's all tied into the General Plan

1 Update that the City recently processed. And for that, a  
2 full scope EIR was prepared called the ConnectMenlo EIR.  
3 That EIR assumed a certain number of dwelling units, sort  
4 of a cap on -- not a cap, but a maximum number of dwelling  
5 units that were evaluated within the context of that EIR.

6 And when this project application came through to  
7 the City, there were already pending projects and approved  
8 projects that added up, you know, and contributed to that  
9 maximum number of level of dwelling units. And with this  
10 project, with the number of dwelling units proposed, we  
11 actually tip over that scale into a level that's beyond  
12 what was evaluated in the ConnectMenlo EIR. And so that's  
13 why the City staff determined that a full EIR was  
14 necessary for this project.

15 In addition, this project proposes a bonus level  
16 development. And under the settlement agreement that the  
17 City of Menlo Park reached with the City of East Palo  
18 Alto, any time that there's a bonus level development, you  
19 need to look at the issues of transportation and housing  
20 needs. And so those are incorporated within this Draft  
21 EIR.

22 Next slide, please. Thank you.

23 This slide just gives you a quick outline of the  
24 key steps in the EIR process where public participation,  
25 you know, is invited and the mechanisms where that public

1 participation can be provided.

2       So when we first started out with this project,  
3 there was a Notice of Preparation released to inform the  
4 public and agencies that an EIR would be prepared. And  
5 that was first released in January of 2021. And we had a  
6 scoping session with the Planning Commission at that time.

7       Then, later in that year, the project applicant,  
8 as Peter had reviewed for you, elected to modify the  
9 project to eliminate the office -- the office component  
10 and replace it with residential. And so we released a  
11 revised Notice of Preparation and held a second comment --  
12 or scoping meeting.

13       Within the Draft EIR that is out for public  
14 review right now, all of the public comments and agency  
15 comments that were received on both of the two NOPs,  
16 Notices of Preparation, those are documented in Chapter 2  
17 of the Draft EIR. Sorry. I had to check my notes. So we  
18 have a comment summary there. And then all of the  
19 comments, as they were received, are published in the  
20 appendices to the Draft EIR.

21       So at this time, we're in the Draft EIR stage.  
22 The Draft EIR was released for public review at the end of  
23 November and will be out for public review until  
24 mid-January. And so comments that public -- members of  
25 the public or any public agencies have on the content of

1 the EIR can be received by the City until 5:00 p.m., on  
2 January 17th of next year.

3       Once we have all of those comments in hand, we  
4 will work through them and provide responses to those  
5 comments. And this usually takes the form of direct  
6 responses to each individual comment that's received, as  
7 well as, we'll make any revisions or additions to the  
8 Draft EIR that are necessary to address those comments in  
9 full.

10       Next slide, please.

11       Thank you.

12       So this slide just outlines the basic contents  
13 that are required in a Draft EIR, based on state law.

14       So the Executive Summary is in Chapter 1, and  
15 that provides a very brief overview of the project, the  
16 CEQA process that has been followed. And then there's a  
17 table in there that documents each of the impacts that we  
18 evaluated and whether or not any mitigation measures were  
19 required. And if so, what -- you know, the specific  
20 content of those mitigation measures. In Chapter 2, which  
21 I didn't list on the slide, is just the basic introduction  
22 to the EIR. And then the detailed project description  
23 follows in Chapter 3.

24       The next several bullets are contained in the  
25 individual sections within Chapter 4, which are the

1 environmental impact analysis sections. And so for each  
2 topic that's required to be evaluated under CEQA, we go  
3 through, you know, the next four bullets -- or, excuse  
4 me -- three; the setting, the regulatory framework, what  
5 our thresholds of significance are, in terms of how we  
6 determine whether an impact is significant or less than  
7 significant. We look at both project-specific impacts and  
8 cumulative impacts in those sections.

9       And so a cumulative impact refers to when we look  
10 at -- in the context of other development that has been  
11 proposed within the city and specifically within the  
12 Bayfront area. And we -- depending on the topic area, we  
13 also might look outside of the city boundaries. We also  
14 identify the mitigation measures that are necessary to  
15 reduce any significant impacts to a less-than-significant  
16 level.

17       And then, in the sort of concluding chapters of  
18 the Draft EIR, we look -- we have a summary of the effects  
19 that were found not to be significant. We look at topics  
20 that are commonly referred to as other CEQA-mandated  
21 sections. These kind of amplify some of the content  
22 that's already in the Draft EIR.

23       And then we look at project alternatives, which  
24 are different ways to design the project or maybe modify  
25 the land uses to look to see whether we can avoid or

1 reduce any of the significant impacts that the project  
2 would generate.

3       So then, in this section of my presentation, I'm  
4 going to really briefly review the major findings of the  
5 EIR. So I first have a table on the next slide, Vanh,  
6 that -- this one outlines all of the topics that we  
7 evaluated where we found that impacts would remain less  
8 than significant, with no mitigation measures required.  
9 And so we've listed on this table as well the technical  
10 studies that were done, where necessary, to support those  
11 conclusions.

12       And so I -- I want to keep my presentation brief.  
13 I'm happy to answer questions on these, you know,  
14 concluding the presentations and the public comment  
15 portion of the meeting.

16       In the next, I believe it's three slides, we have  
17 the impacts where a mitigation measure or more than one  
18 are required to reduce impacts. For the air quality  
19 topic, we found that the impacts were really concentrated  
20 on the construction period of the project. And they're  
21 quite typical for this type of a construction project.

22       And so the mitigation measures require what we  
23 typically refer to as "best management practices," BMPs,  
24 to make sure that those impacts remain as minimized as  
25 possible. And similar is true for the -- for both the

1 biological and the cultural resources.

2       So with respect to biological resources, we found  
3 that because of the existing buildings on the site and the  
4 existing trees and vegetation, there are potential for a  
5 few special status species to occur, but that those  
6 impacts can be controlled through the pre-construction  
7 surveying process and any additional control measures that  
8 are needed, based on the results of those surveys.

9       In regard to cultural resources, there was a  
10 cultural resources' analysis and inventory prepared for  
11 the project site. But because the project has been -- the  
12 property has been developed for quite a long time and no  
13 prior subsurface evaluation was done, that phase one  
14 archeological inventory report recommended an extended  
15 phase one, which is where a little bit more intensive  
16 digging is done to determine whether there might be any  
17 deposits below the ground surface. And then, in the case  
18 that those -- that any such thing were identified, there's  
19 protocols identified to evaluate and properly manage any  
20 such resources.

21       In terms of the geological resources, the main  
22 concern here was that there may be a potential need for  
23 de-watering as construction occurs because there would be  
24 some excavation. And that -- the way that that system is  
25 designed can help avoid any impacts to neighboring

1 properties. And so that's what the first mitigation  
2 measure is about.

3 And then the second mitigation measure relates to  
4 that as well, in terms of ensuring that -- that  
5 construction scheduling is timed such that the geological  
6 and soil conditions can settle in between different phases  
7 of the construction project.

8 Again, similar in terms of hazards and hazardous  
9 materials. Several very standard, best management  
10 practice measures were recommended to make sure that both  
11 during construction and long-term operation of the  
12 project, individuals that are within the site are not  
13 exposed to adverse hazardous conditions.

14 And then we have the last two topics here are  
15 noise and tribal cultural resources. And these kind of  
16 reiterate the same things that I've been saying.

17 Standard best management practices would be used  
18 during construction to ensure that neighbors are not  
19 exposed to excessive noise levels. And then, if any  
20 archeological or tribal cultural resources are identified  
21 or potentially encountered during construction, that there  
22 are protocols in place to ensure that those resources are  
23 managed appropriately.

24 And as I mentioned, at the back end of the  
25 Environmental Impact Report, we have a couple of



1 additional sections. So this one, CEQA-mandated  
2 sections -- or "Other CEQA Considerations," I think is the  
3 title we actually gave it in the EIR, we reiterate some of  
4 the discussions on energy conservation, and then we look  
5 again at the population and housing analysis. And expand  
6 it to whether or not the project could induce additional  
7 growth that the City has not planned for. In both cases,  
8 we found that the impacts would be less than significant.

9       And then I believe on the next slide, we will  
10 look into the project alternatives. So we looked at three  
11 different project alternatives. And this is one of -- one  
12 of the more essential components of CEQA -- or I shouldn't  
13 say "more essential," but one of the critical components  
14 of the CEQA requirements to do this environmental analysis  
15 is to look at ways that you might modify a project or even  
16 change a project to avoid or reduce environmental effects.

17       In this case, it's important to understand that  
18 we did not find any significant and unavoidable impacts.  
19 So, in other words, that means that all of the  
20 environmental effects that we found would result from the  
21 project, there were feasible and effective ways to reduce  
22 or avoid those effects and bring them to a level of less  
23 than significance.

24       But, nonetheless, when you're preparing an EIR,  
25 CEQA requires that you look at project alternatives. And

1 so in this case, we took the vein of looking at whether or  
2 not any of these alternatives could reduce the need for  
3 mitigation measures or just generally reduce the  
4 environmental -- you know, comprehensive environmental  
5 footprint of a project. And so these are the three  
6 alternatives that we looked at:

7       One was just no -- no project, which is required  
8 by CEQA. Just, you know, if we leave the project site  
9 exactly as it is and continue the current operations.

10       Another was to go back to one of the original  
11 project components. As Peter Tsai explained, the original  
12 project design included office space. But we also, for  
13 this alternatives' analysis, thought that it would be  
14 meaningful to incorporate a component of retail uses and  
15 see whether or not that kind of a mix of land uses could  
16 better achieve any of the City's goals or otherwise reduce  
17 environmental effects.

18       And then last we looked at, because this project  
19 proposes a bonus level of development, which allows more  
20 intensity and more density than what would be allowed  
21 under the base zoning designation, is there any  
22 environmental benefit to limiting the project to just the  
23 base level of development? And so that, we found, would  
24 reduce the number of dwelling units.

25       In all of those cases -- sorry, Vanh. I know I

1 paused so you thought I was going on to the next slide.

2 In all of those cases, we found that there would  
3 be, you know, sort of a mixed bag. Some cases, we would  
4 have fewer effects. In some cases, we might have greater  
5 effects. But for the majority of them, we found that the  
6 effects would be similar.

7 CEQA does require, though, that we identify which  
8 alternative, among these three -- and plus the proposed  
9 project -- of those options, which is the most  
10 environmentally superior. And we did find that the  
11 environmentally superior alternative was the base level  
12 development because it would slightly reduce impacts in  
13 some of those key impact areas, such as air quality.

14 The base level development wouldn't require a  
15 below-grade parking level. It would only necessitate  
16 at-grade parking level, so there would be less excavation  
17 and less potential to disturb any resources that are below  
18 ground. It, you know, reduced the amount of de-watering  
19 that would be required.

20 But on the other hand, the City is allowed to  
21 consider how that -- how those environmental effects  
22 balance against the City's goals for land use development  
23 and general, you know, community planning and city-wide  
24 planning in the region. And so we found that there were  
25 -- while there might be fewer environmental effects, that

1 alternative would be less effective at meeting the project  
2 objectives.

3 And so, Vanh, you can go ahead and advance it to  
4 the next slide.

5 So that pretty much concludes my comments. The  
6 last slide that we have here, if you can go one more,  
7 Vahn, is just that the -- as I mentioned, the  
8 Environmental Impact Report -- excuse me -- is available  
9 for public review until January 17th of next year. And so  
10 anybody -- public agencies or public -- you know, members  
11 of the public who would like to submit comments,  
12 obviously, can make comments tonight during this hearing,  
13 but can also submit written comments, whether by mail or  
14 e-mail, and they can be addressed to Payal, at the address  
15 and e-mail shown below. And they just need to be received  
16 before 5:00 p.m., on January 17th.

17 And thank you again. That concludes my  
18 presentation.

19 CHAIR DECARDY: Thank you, Ms. Waugh.

20 Any planning commissioner clarifying questions  
21 before we open the EIR portion of this program for public  
22 comment?

23 All right. Seeing none, Mr. Pruter, off to you  
24 to run us through public comment. Again, this is on --  
25 we're going to do two bites at this apple, for members of

1 the public. If you have comments around the EIR, which is  
2 relevant to the presentation we just saw, this would be  
3 the appropriate time.

4 If you have comments that are to the broader  
5 project, which likely would be to the initial presentation  
6 we saw, that will be coming next.

7 So use your judgment accordingly. And you are  
8 more than welcome to speak both times. I'm not trying to  
9 tell you not to.

10 Mr. Pruter, please go ahead.

11 MR. PRUTER: Thank you, Chair DeCardy. At this  
12 time, members of the public can feel free to press the  
13 hand icon on their Zoom interface or dial star nine, if  
14 they would like to leave a public comment.

15 And at this time, I do not see any hands raised.  
16 And I do not see any members of the public in the council  
17 chambers.

18 If anyone is interested in person to come, please  
19 feel free to step forward as well. We can wait for a  
20 moment at this time. I still see no hands raised.

21 CHAIR DECARDY: Let's wait just a moment.

22 Still none?

23 MR. PRUTER: I still see no hands raised. Thank  
24 you.

25 CHAIR DECARDY: All right. We will go ahead and

1 close public comment.

2 We'll come to commissioners now for either  
3 clarifying questions or commissioners' comments on the  
4 Draft EIR. Again, we are -- there is no motion. There is  
5 nothing to vote on here for the commission. It is  
6 entirely your feedback to the consultant, to staff.

7 Who would like to begin?

8 Commissioner Riggs.

9 COMMISSIONER RIGGS: Thank you. From Section  
10 5.5, the availability of water is one of the items that is  
11 considered an less than -- less-than-significant impact.  
12 This was based on ConnectMenlo, which was written in I  
13 believe, 2016.

14 Have we updated our concerns regarding water over  
15 the last six years? And would that be reflected in this  
16 EIR?

17 MS. WAUGH: Yes. Commissioner, thank you for the  
18 question. The City's Municipal Water District has updated  
19 their Urban Water Management Plan. So the last adopted  
20 date of that document was 2020. And that is what we  
21 relied upon for the analysis in this EIR.

22 We, you know, both reviewed the documentation and  
23 contacted the Water District staff to verify our  
24 understanding of those -- of that document and the  
25 conclusions. And -- yeah.

1 I'm sorry. I'll leave it there.

2 CHAIR DECARDY: Other clarifying questions or  
3 comments from commissioners?

4 Commissioner Do.

5 COMMISSIONER DO: Thank you, Chair. Actually, I  
6 have a question.

7 I see before the alternatives that you presented  
8 in this to the -- but before that, there's also  
9 alternatives that were rejected. And so I just had a -- I  
10 just get turned around on -- like, on the reduced parking  
11 alternative, there's something saying -- let's see.  
12 There's a -- the TDM would reduce the VMT by 20 percent.

13 And there's also, later on, a number about  
14 reduced parking, reducing it 12 percent. And I just  
15 wanted to understand, is that an either/or, or an "and"  
16 situation?

17 Is it, like, 12 plus 20, or is it 12 or 20?

18 MS. WAUGH: To be honest, I would need to look  
19 back in the text of that section. But from my -- from my  
20 recollection, the reduced parking was looked at as sort of  
21 an addition to the TDM, or is there an amount that we can  
22 reduce parking, in combination with the TDM, that would  
23 achieve a better result?

24 And the finding is that, you know, reductions in  
25 parking work best in particular situations where there is

1 a, you know, robust amount of other transportation options  
2 available in the area and that this project doesn't  
3 necessarily meet some of those criteria, to the point  
4 being that the reduction in parking -- if you reduce the  
5 amount of parking on-site, you're not necessarily going to  
6 see a reduction in the amount of trips generated, and more  
7 importantly, the total miles of vehicle travel that occur  
8 because there are other constraints outside of the project  
9 site that limit the effectiveness of that option.

10 But I can -- I will definitely make a note of the  
11 question so that we can provide a more-nuanced response.

12 COMMISSIONER DO: Thank you.

13 CHAIR DECARDY: I'm going to use the Chair's  
14 discretion to ask a follow-up on that. So this is -- this  
15 is familiar. We've seen this before. And the answer  
16 about this significantly-reduced parking alternative.

17 So do you look at that based on today's  
18 situation, or do you look at it over the lifetime of the  
19 project? And how are you making the assessment about  
20 alternative -- availability of alternative modes of  
21 transportation when you reach that conclusion that you  
22 just referenced?

23 MS. WAUGH: Sure. Yeah. I can understand the --  
24 you know, the impetus for that question. And it is a  
25 difficult spot, in terms of being able to balance what we



1 know today versus what we're -- what our aspirations are  
2 for the future. And what we know is planned for the  
3 future; right? I mean, sort of our middle ground there.  
4 And so it is difficult for us.

5 In the CEQA context, we need to have, you know,  
6 pretty solid evidence to allow for any sort of a discount  
7 or any kind of a -- you know, an allowance that an impact  
8 is less significant than what we expect. And so -- so  
9 there is a challenge there in sort of marrying those three  
10 different angles.

11 But we do, generally, in terms of CEQA, based on  
12 case law and based on how the statute is written and the  
13 CEQA guidelines, we typically defer to what is existing on  
14 the ground currently. When we look to future conditions,  
15 it has to be things that are fairly concretely in place.

16 And so we don't want to engage too -- too far  
17 into the realm of supposition or anticipating what may be  
18 coming down, if things are not fully funded, in terms of  
19 other types of transportation improvements and things  
20 along that nature.

21 I'm not sure -- well, I'm sure that doesn't 100  
22 percent answer your question. But if you wanted to  
23 clarify any further a response that you wanted me to try  
24 and elaborate upon...

25 CHAIR DECARDY: No. That's helpful. That was

1 the narrow question I had. That was a good answer. Thank  
2 you.

3 Other commissioner questions or ultimately  
4 feedback or comments on the Draft EIR?

5 Well, I'm fine to present. This is all I really  
6 have. Your presentation was very helpful. The Draft EIR  
7 is thorough. The findings are not complicated.

8 I -- I have two comments. The first one is on  
9 the parking question. I will say now, my reflection on  
10 your answer is not on your answer but on the situation,  
11 which is that we're boxed by current policy in the city,  
12 which demands parking at a minimum. So there's no need  
13 for you to look at parking that is essentially below that  
14 minimum. And then we're boxed because we've got terrible  
15 transportation policy in place and terrible alternatives,  
16 especially in that region of our city. And so we don't  
17 look at those.

18 And so the EIR gives us no opportunity,  
19 ultimately, to achieve its purpose, which is to provide  
20 insight and sunshine so a community can engage in the  
21 future-built environment that they live in. And I find  
22 that enormously frustrating. But there is nothing that I  
23 have found we can do as a Planning Commission. This is on  
24 the City Council.

25 And I believe the City Council has to do

1 something about transportation and all the building we're  
2 doing. This comes up again and again and again. And if  
3 they don't change the parameters, then we're going to keep  
4 on getting the same answers. So that's my reflection one,  
5 which is more a frustration.

6 My second one is about the alternatives. I think  
7 -- as you pointed out, I think you're exactly right. The  
8 alternatives are the -- a key element of an EIR. There's  
9 something that a community member can easily see and  
10 understand and be able to utilize the wealth of  
11 information you put behind that that might be in service  
12 of their comments about the future of their community.  
13 And I -- frankly, I find these alternatives kind of not  
14 helpful in that regard for a community member.

15 You have to look at the no-project alternative.  
16 Ultimately, it make sense to look at a base level  
17 development alternative. We see that all the time,  
18 whenever we have bonus-level development. And in this  
19 context, the mixed use isn't enormously helpful because  
20 everybody in the community wants to have housing.

21 And when we have these three, we end up -- and  
22 I've said this before -- we end up with this Goldilocks  
23 kind of approach on here, which is, well, if you end up  
24 overdeveloping, then that's terrible for the environment.  
25 If you end up underdeveloping, then you don't meet the

1 needs of the city. And so you develop just right and  
2 turns out, the oatmeal tastes fine because it's warm.  
3 And I don't think that's particularly helpful for  
4 us as a community in this. So I do have a frustration.  
5 This is -- many times, we see EIRs come. Many times, we  
6 see three alternatives. And many times they land in  
7 exactly this same way. So I will come back to, which is a  
8 massive change in a project, like a massively-reduced  
9 parking scenario actually would be useful for a city and  
10 residents to understand, especially when they've been so  
11 frustrated by the impacts in the community of the traffic,  
12 which continues to get worse. The only benefit came from  
13 the pandemic was knocking that out for a while. But it  
14 has come back and will be worse in the future.

15 So it's frustrating me that we can't look at that  
16 alternative. But I will say that in future EIRs for these  
17 type of projects, if we continue to come back with these  
18 three alternatives that are always laid out this way, I'm  
19 not sure how useful it is for the community.

20 This is, again, not a criticism of the work of  
21 you and your team, Ms. Waugh, which I thought was  
22 exemplary, but as a frustration with how we can best  
23 utilize this extraordinary amount of expense and work for  
24 the benefit of our community. And I just don't see that  
25 happening in these instances very often.

1 Other commissioner questions or comments on the  
2 Draft EIR this evening?

3 Ms. Bhagat, just to remind me. This is not a  
4 command performance. Commissioners do not have to comment  
5 before we close this section; is that correct?

6 MS. BHAGAT: Yes. That is absolutely correct.  
7 They can always submit comments to me later, if they would  
8 like to do so.

9 CHAIR DECARDY: All right. So I will give this  
10 one last shot. Again, not a command performance, but any  
11 commissioner that would like to offer feedback this  
12 evening.

13 All right. I've -- Vice Chair Harris.

14 VICE CHAIR HARRIS: I just want to say that I  
15 hear and agree with Chair DeCardy's frustration.

16 CHAIR DECARDY: Thank you for that.

17 All right. Going once, going twice.

18 All right. With that, I am now going to close  
19 Item F -- where are we? -- F2, which is the public hearing  
20 on the Draft EIR.

21 Thank you very much for the consultant team and  
22 for the effort.

23 (WHEREUPON, Item F2 ended.)

24 --o0o--

25

## 1 CERTIFICATE OF REPORTER

2

3 I, AMBER ABREU-PEIXOTO, hereby certify that the  
4 foregoing proceedings were taken in shorthand by me, a  
5 Certified Shorthand Reporter of the State of California,  
6 and was thereafter transcribed into typewriting, and that  
7 the foregoing transcript constitutes a full, true, and  
8 correct report of the proceedings which took place;

9

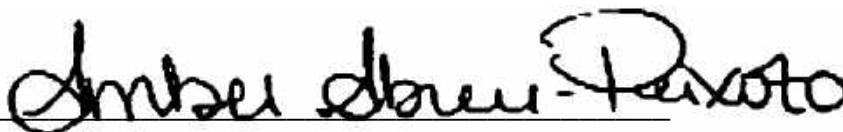
10 That I am a disinterested person to the said  
11 action.

12

13 IN WITNESS WHEREOF, I have hereunto set my hand  
14 this 24th day of January, 2023.

15

16

A handwritten signature in black ink that reads "Amber Abreu-Peixoto". The signature is written in a cursive style and is positioned above a horizontal line.

17

AMBER ABREU-PEIXOTO, CSR No. 13546

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19:5 23:6 24:3,5,9,10	14,18,19,23	
32:24	Waugh 21:21,23 34:19	
unprecedented 18:13	36:17 37:18 38:23	



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# **Appendix N**

## Construction Noise Reduction Analysis



21 December 2022

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**Subject: 123 Independence Drive  
Construction Noise Reduction  
Salter Project 22-0587**

This report summarizes our construction noise reduction study for the 123 Independence Drive project in Menlo Park. Our analysis is based on the Draft EIR for this project and our experience with similar projects.

## **SUMMARY**

Construction noise is not expected to exceed the applicable criterion with the recommended noise reduction measures implemented.

## **CRITERIA**

### **City of Menlo Park Municipal Code**

Chapter 8.06 of the City's Municipal Code contains noise limitations and exclusions for land uses within the City. This Chapter establishes limits over which noise would constitute a noise disturbance. It also specifies standard procedures for conducting noise measurements, with specifications for sound-meter settings and placement. The following Municipal Code sections govern the analysis of the project's potential construction noise impacts.

#### ***8.06.030 Noise Limitations***

Except as otherwise permitted in this chapter, any source of sound in excess of the sound-level limits set forth in Section 8.06.030 shall constitute a noise disturbance. For purposes of determining sound levels from any source of sound, sound level measurements shall be made at a point on the receiving property nearest where the sound source at issue generates the highest sound level.



Sound level measurements shall be made with a precision sound level meter (Type 1 or 2) set to A-weighting, and "fast" response for fluctuating sound. Slow or fast response may be used for continual sources. For repetitive, impulsive sound, the one (1) second rms maximum level ( $L_{max}$ ) shall be used. For continuous sound, use the average level or  $L_{eq}$ . In multifamily residential structures, the microphone shall be placed no closer than three and one-half (3-1/2) feet from the wall through which the source of sound at issue is transmitting. The microphone shall also be placed five (5) feet above the floor regardless of whether the source of sound at issue transmits through the floor, ceiling, or wall.

Below is a summary of some of the standards applicable to the Project's construction:

1. For all sources of sound measured from any residential property:
  - a. "Nighttime" hours (10 pm to 7 am) – 50 dBA<sup>1</sup>
  - b. "Daytime" hours (7 am to 10 pm) – 60 dBA

### **8.06.040 Exceptions**

- a. Construction Activities
  - i. Construction activities between the hours 8 am and 6 pm Monday through Friday.
  - ii. Notwithstanding any other provisions set forth above, all powered equipment shall comply with the limits set forth in Section 8.06.040 (b).
- b. Powered Equipment
  - i. Powered equipment used on a temporary, occasional, or infrequent basis operated between the hours of 8 am and 6 pm Monday through Friday. No piece of equipment shall generate noise in excess of 85 dBA at 50 feet.

Although the Municipal Code exempts construction activities performed between the hours of 8 am and 6 pm Monday through Friday, construction activities that are exempt from specified noise limitations in the Menlo Park Municipal Code could still result in a significant physical impact on the environment, despite the exemption for daytime construction noise. Therefore, construction noise generated during daytime hours is compared to the existing ambient noise level to determine if a 10 dB increase over the existing ambient noise exists and would need to be mitigated.

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1 A-Weighted Sound Level – The A-weighted sound pressure level, expressed in decibels (dB). Sometimes the unit of sound level is written as dB(A). A weighting is a standard weighting that accounts for the sensitivity of human hearing to the range of audible frequencies. People perceive a 10 dB increase in sound level to be twice as loud.

## CONSTRUCTION NOISE

### Analysis

The proposed project would generate noise associated with the operation of heavy construction equipment and related activities in the vicinity of the project area. Construction noise levels in the vicinity of the project area would fluctuate depending on the type, number, and duration of usage for the various pieces of equipment, as well as the relative exposure and distance between the source and noise-sensitive receptors.

The effects of construction noise depend largely on the types of construction activities occurring on any given day, noise levels generated by those activities, distances to noise-sensitive receptors, and the existing ambient noise environment in the vicinity of the receiver. The proposed project is anticipated to include demolition, site preparation, grading, building construction, paving and architectural coating, per the Draft EIR.

It is anticipated that development of the project elements would incorporate the use of typical construction sources such as backhoes, compressors, bulldozers, excavators, loaders, and other related equipment, per the Draft EIR. The project is not anticipated to require the use of blasting or driven piles, and where additional foundational support is necessary, displacement auger cast piles will be used.

Overall hourly average noise levels attributable to project construction activities were calculated by construction stage and are provided in **Table 1**.

**Table 1: Construction Noise Levels at Representative Receptor Locations<sup>2</sup>**

Receiver		Construction Noise Level, $L_{eq}$ dBA [Increase over Threshold]					
No.	Description	Demo.	Site Prep.	Grading	Building Const.	Paving	Arch. Coating
P2	Hotel Nia Western Façade and Pool Area, ST1 (494 feet <sup>3</sup> )	61 [0]	65 [0]	66 [0]	60 [0]	63 [0]	58 [0]
P3	TIDE Academy, Sequoia Union Highschool, ST2 (856 feet <sup>2</sup> )	56 [0]	60 [0]	61 [0]	56 [0]	59 [0]	53 [0]
P4	Hotel Nia Pool Area (within barrier) (441 feet <sup>2</sup> )	62 [0]	66 [0]	67 [0]	61 [0]	64 [0]	59 [0]
P5	Hotel Nia Northeastern Façade (314 feet <sup>2</sup> )	65 [0]	68 [2.5]	70 [4.5]	64 [0]	67 [1.5]	62 [0]
P6	Elan Apartments Western Façade (1,674 feet <sup>2</sup> )	50 [0]	54 [0]	55 [0]	50 [0]	53 [0]	47 [0]
P7	Elan Outdoor Activity Area (1,774 feet <sup>2</sup> )	50 [0]	53 [0]	55 [0]	49 [0]	52 [0]	47 [0]
P8	Menlo Portal Eastern Façade (124 feet <sup>2</sup> )	73 [4]	77 [8]	78 [9]	72 [4]	75 [6]	70 [1]
P9	Menlo Portal Eastern Outdoor Activity Area (352 feet <sup>2</sup> )	49 [0]	52 [0]	54 [0]	48 [0]	51 [0]	46 [0]

As indicated in **Table 1**, noise reductions of up to 4.5 dB are needed at Location P5 and up to 9 dB at Location P8.

## Reduction

To reduce construction noise levels, a temporary plywood sound fence is needed at the west and south project property lines. The fence needs to be minimum 8 feet high, have a surface density of at least 3 psf, and be solid with no cracks or gaps from grade to top.

<sup>2</sup> Data is from Table 4.11-8 of the Draft EIR that was prepared by the City consultant.

<sup>3</sup> Approximate distance from acoustical center of construction site to the noise sensitive land use (NSLU).

Gates should be used at access points to maintain the solid barrier and should be closed when not in use. When the construction is at-grade and the sound fence breaks line-of-sight to nearby noise-sensitive receivers, approximately 10 dB of noise reduction<sup>4</sup> can be expected, which will be necessary during the Demolition, Site Prep, Grading, and Paving phases.

As construction occurs at higher elevations, there will be line-of-sight with the receivers and, as a result, the noise reduction provided by the sound fence will be lost. Therefore, as the building is erected, noise control blankets will be needed on the building structure to reduce noise emission from the site. Approximately 5 to 8 dB of noise reduction<sup>5</sup> can be expected from noise control blankets, which will be necessary during the Building Construction and Architectural Coating phases. As the building envelope is sealed and noise-generating activities are moved inside, the noise control blankets would no longer be needed.

The following construction noise-reduction measures will also be implemented throughout the project construction:

- Construction equipment should be well maintained and used judiciously to be as quiet as practical.
- Equip all internal combustion engine-driven equipment with mufflers, which are in good condition and appropriate for the equipment.
- Utilize "quiet" models of air compressors and other stationary noise sources where technology exists. Select hydraulically or electrically powered equipment and avoid pneumatically powered equipment where feasible.
- Locate stationary noise-generating equipment as far as possible from sensitive receptors when adjoining construction sites. Construct temporary noise barriers or partial enclosures to acoustically shield such equipment where feasible.
- Prohibit unnecessary idling of internal combustion engines.
- Erect temporary noise control blanket barriers, when necessary, along building facades facing construction sites. This mitigation would only be necessary if conflicts occurred which were irresolvable by proper scheduling.
- Route construction related traffic according to the haul routes established by the City of Menlo Park. (Modified ConnectMenlo MM NOISE-1c).
- Minimize drop height when loading excavated materials onto trucks.
- Minimize drop height when unloading or moving materials on-site.
- Sequence the noisiest activities to coincide with the noisiest ambient hours.

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4 The sound fence provides greater noise reduction when the source is closer and low and less noise reduction when the source is further away and high.

5 The amount of noise reduction provided by the blankets depends on the mass of the blanket, area of coverage, and angle of incidence to the nearest noise-sensitive receiver.

- Locate noisy equipment within the building structure once the facade is installed.

Additionally, the project applicant will also provide a list of measures to respond to and track complaints pertaining to construction noise. These measures shall include:

- A procedure and phone numbers for notifying the Building Services Division staff and Menlo Park Police Department (during regular construction hours and off-hours).
- A sign posted on-site pertaining with permitted construction days and hours and complaint procedures and who to notify in the event of a problem. The sign shall also include a listing of both the City and construction contractor's telephone numbers (during regular construction hours and off-hours).
- The designation of an on-site construction complaint and enforcement manager for the project.
- Notification of neighbors and occupants within 300 feet of the project construction area at least 30 days in advance of extreme noise generating activities about the estimated duration of the activity.
- A preconstruction meeting shall be held with the job inspectors and the general contractor/on-site project manager to confirm that noise measures and practices (including construction hours, neighborhood notification, posted signs, etc.) are completed.

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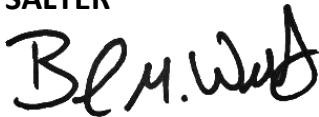
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This concludes our Construction Noise Reduction study for the 123 Independence Drive project. Please let us know if you have any questions.

Best,

**SALTER**



Blake Wells, LEED GA  
Associate



Eric Mori, PE  
Senior Vice President

