Culver CITY
FIRE DEPARTMENT

COMMUNITY RISK ASSESSMENT

STANDARDS OF COVER

2019

The mission of the Culver City Fire Department is to protect life, property, and the environment by providing prompt and professional fire protection and life safety services.

2019

COMMUNITY RISK ASSESSMENT

AND

STANDARDS OF COVER

CULVER CITY FIRE DEPARTMENT

Fire Chief David L. White

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"To act for others"

Cover page by Michael Canchola, Firefighter/Paramedic

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EXECUTIVE SUMMARY

The Culver City Fire Department is a fully career fire department that serves the community of Culver City with various core emergency response services, such as fire suppression, emergency medical services (EMS), technical rescue and hazardous materials mitigation. In addition to these core services, the Department also provides several other community supportive functions, such as fire prevention and emergency preparedness services. Twenty-four hours a day, 365 days a year, 18 personnel are on duty serving out of three fire stations. These trained professional firefighters operate three engine companies staffed with three personnel each; one truck company staffed with four personnel; two paramedic rescues staffed with two firefighter/paramedics each; and one battalion chief command vehicle. In total, the Department employs 72 dedicated employees.

The Department has sought continual improvement and growth and thus has endeavored to participate, and has succeeded, in the Commission on Fire Accreditation International's (CFAI) accreditation process since 1998. The accreditation process challenges the Department to take an extensive look at current practices. Through a self-assessment manual, the development of a strategic plan, and the completion of this Community Risk Assessment and Standards of Cover document, the process drives the Department to assess internal strengths and weaknesses and observe external opportunities and threats. The Community Risk Assessment and Standards of Cover document plays an integral role in the process as it provides an assessment of risk as well as sets baseline and benchmark performance goals for the Department.

Community Risk Assessment involves the analysis of risk for fire and non-fire emergencies (i.e., emergency medical services, technical rescue and hazardous materials). The Department has divided the City into 15 metropolitan fire management zones and classified key risks within each zone. Impacts to life safety, assets and the environment are measured along with an incident's relative probability. In summary, low risk is defined as incidents having low probability and low consequences; moderate risk is composed of incidents having high probability with low consequences; high risk is defined as incidents having high probability and high consequences; and special risk is a unique category accounting for risks that have low probability with extremely high consequences. Within the categories of fire suppression, emergency medical services, technical rescue and hazardous materials, the Department has established specific risk classifications and has conducted critical task analyses to determine appropriate response levels.

Critical tasking analysis determines how many personnel, and what apparatus/equipment, are necessary to mitigate a variety of emergency situations. For low risk fires, four personnel will respond; moderate risk structure fires will have a response level of 18 personnel. Five personnel will respond to all low and moderate risk EMS incidents. Low risk technical rescue and hazardous materials (HazMat) incidents will receive four personnel; 13 personnel will respond to moderate risk technical rescue and HazMat incidents.

The Department has established both baseline and benchmark performance measures. Baseline measures reflect historical performance and benchmarks are Total Response Time (TRT) goals. TRT is measured in two ways: first-arriving unit and effective response force (ERF), i.e., total number of personnel necessary to address the emergency. TRT comprises call processing time, turnout time, and travel time. The Department observes the 90th percentile of performance as opposed to the 50th percentile (i.e., average) response time. In other words, the Department observes what it is doing the majority of the time as opposed to what it is doing half of the time.

After scrutinizing the Department's baseline performance as compared to Department benchmarks, significant areas were noted which the Department will focus upon in the near future, including all components of total response time. As the CFAI requires that fire departments take a holistic approach to response time measures,

the Department measures call processing time, turnout time and travel time to obtain a total response time. The Department has satisfactory total response times, but sees room for improvement in all components of response time. The CRA-SOC coupled with the Department's 2019-2024 Strategic Plan, the Department will practice continuous improvement.

INTRODUCTION

The following report serves as the Culver City Fire Department's Community Risk Assessment and Standards of Cover (CRA-SOC). The CRA-SOC is rooted in the Center for Public Safety Excellence's (CPSE) Agency Accreditation Program, which fosters continuous improvement. It is based on the 6th Edition of the CPSE Community Risk Assessment & Standards of Cover Manual and joins with the Department's Self-Assessment, based on the 9th Edition of the CPSE Fire and Emergency Service Self-Assessment Manual (FESSAM), and the Department's 2019 Community-Driven Strategic Plan to complete the continuous improvement model. As referenced in the 6th Edition Manual, the intention of this document is to do the following:

- Identify the unique characteristics of the Culver City community,
- Apply a methodology to perform an all-hazard risk assessment,
- Determine response strategies relative to the community's unique hazards and risks,
- Assess the historical quality of emergency response performance,
- Identify specifically where quality performance exists and where the quality of performance is challenged, and
- Establish plans for quality improvement.

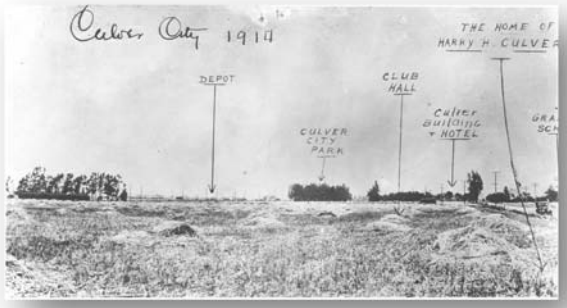
The core purpose of the CRA-SOC is to ensure a safe and effective response force for fire suppression, emergency medical services, and specialty response situations. This report serves and the following: 1. the basis for continually measuring service level performance, 2. a predictive tool for helping to determine workload and ideal unit utilization, 3. a management tool for determining apparatus type and staffing levels, 4. a descriptive tool for validating service levels, and 5. a baseline tool for defining service level objectives.

The CRA-SOC is organized into six major sections: Community Characteristics, Programs & Services, All-Hazard Community Risk Assessment, Deployment & Performance, Evaluation of Current Deployment & Performance, and Maintaining and Improving Response Capabilities. Detailed risk assessments by Fire Management Zones (FMZ) are assessed in Appendix 1.

THE HEART OF SCREENLAND

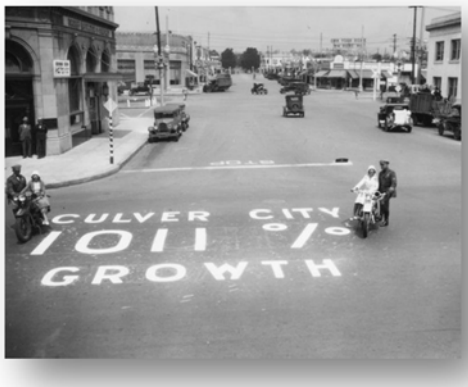
Culver City History

The first human inhabitants of Culver City on archeological record date back to 8,000 BC. At about 200 C.E., the Gabrieliño (Tongva) natives arrived in the area and settled throughout Los Angeles County. By 1500, 25 Gabrieliño villages existed in what was to become Los Angeles County. The Spanish first explored the area in 1542, but the first developments in Culver City were Machado and Talamantes ranchos. 14,000 acres of land was carved out for Rancho La Ballona and Rancho Rincón de los Bueyes in 1819, which later served as the primary footprint of Culver City.[1]



Harry Culver first attempted to establish Culver City in 1913 due to its location between Los Angeles and Abbot Kinney's Venice resort. Harry Culver established Culver City in 1917 and successfully encouraged movie studio openings in the City, hence the motto, "The Heart of Screenland." The population of Culver City at its founding was 520 and City's size was 1.2 square miles.

1920s Growth continued throughout the 1920s resulting in "1011% population growth," as noted in a publicity stunt in 1930. The movie studios were responsible for much of the growth. A bourgeoning prohibition era jazz scene, the "Culver Skyscraper," a municipally owned bus line, the Culver City speedway, and a small airport were established. Five annexations occurred during the 1920s.[2]



1930s Los Angeles hosted the Olympics and the Helms Bakery was a major Culver City-based contributor. The Army Corps of Engineers stabilized the meandering La Ballona Creek with concrete sides. The Completion of the Hoover Dam helped secure water and power for the City and a new freeway system was proposed for the area. In 1933, as part of the New Deal, the federal government established the Home Owners' Loan Corporation, which was the source of redlining. The intention of the organization was to help homeowners who had defaulted on their mortgages, but it also coded neighborhoods by race.[3] The City Seal was adopted in 1936. World War II began and the population grew to 8,976.

[1] City of Culver City Website. "History of Culver City," https://www.culvercity.org/how-do-i/learn/about-culver-city/history-of-culver-city
[2] City of Culver City Website. "Culver City Annexation Map," https://www.culvercity.org/home/showdocument?id=146
[3] Mapping Inequality: Redlining in New Deal America. https://dsl.richmond.edu/panorama/redlining/#loc=4/36.71/-96.93&opacity=0.8

1940s Hughes Aircraft opened nearby and the post-war era subsidized housing boom began. Culver City became a charter city. The Hayden Industrial Tract began development. Four annexations occurred during the 1940s and the population doubled to 19,720 by 1950.

1950s The 1950s welcomed the future Culver City and said farewell to transportation infrastructure. Culver Center shops and Culver City High School opened. Also, the Veterans Memorial Building and Plunge were dedicated. Culver City airport closed, Red Cars phased out and Sand Diego I-405 freeway was dedicated. 16 annexations occurred during the 1950s. By 1960, the population was 32,163.

1960s I-405 freeway opened in the 1960s. The Baldwin Hills Dam broke causing floods and mudslide in neighboring Los Angeles. Nearby Los Angeles also saw the Watts Riots. Two detachments and 10 annexations occurred during the 1960s bringing the population to 34,451.

1970s During the 1970s, the Fox Hills Mall, now called Westfield Culver City, opened. The San Fernando earthquake occurred in 1971 and Los Angeles again experienced severe flooding and mudslides. One detachment occurred during the 1970s.

1980s During the 1980s, the nearby Kenneth Hahn State Recreation area opened and the 1984 Summer Olympics were hosted in Los Angeles. Approximately two miles of the marathon ran through Culver City. Also, the Whittier Narrows earthquake occurred in 1987. The City had one annexation during the 1980s.

1990s Nearby, the Rodney King Riots and North Hollywood shootout occurred. The Hughes Aircraft plant closed. The Northridge earthquake happened in 1994. Heavy rains due to El Nino caused mudslides and floods. The new Culver City City Hall was dedicated. One annexation occurred and the City's population reached 38,816.

2000s During the 2000s, there was an upsurge in Culver City Downtown redevelopment. The new Culver City Senior Center opened. NPR West moved to Culver City. The City changed to a city manager form of government. The Metro Expo Light Rail Line opened. One annexation occurred and Culver City turned 100.[4]

[4] Culver City Historical Society Website. "Culver City Centennial video," http://www.culvercityhistoricalsociety.org/articles/culver-city-centennial-video/

Legally Established

Harry Culver founded Culver City 1917. The City is governed by a five-member city council and managed by a city manager and ten department heads. The people elect a city council of five citizens who serve a term of four years and who, in turn, elect the Mayor from among themselves. The City Council appoints the city manager, city attorney, police chief and fire chief. The City's first fire chief was appointed by resolution in 1919. Over the years, more than forty annexations increased the City's size from 1.2 square miles to over five square miles. In 1947, Culver City transitioned from a general law city to a charter city. Currently, the City and the Culver City Fire Department are operating under the most recent charter, adopted in 2006.

Thomas Aujero Small
Mayor
1st Term
04/25/16 - 04/27/20

Meghan Sahli-Wells
Vice Mayor
2nd Term
04/23/12 - 04/27/20

Göran Eriksson
Council Member
1st Term
04/25/16 - 04/27/20

Alex Fisch
Council Member
1st Term
04/30/18 - 04/25/22

Daniel Lee
Council Member
1st Term
04/30/18 - 04/25/22

Culver City is within the following legislative districts:

- Los Angeles County 2nd Supervisorial District
- California State Legislature 30th Senate District; 54th Assembly District
- U.S. House of Representatives 37th Congressional District

An organizational chart diagraming the reporting structures within the City is below. Seven department heads report directly to the City Manager. The City Attorney, Police Chief and Fire Chief all report directly to the City Council.

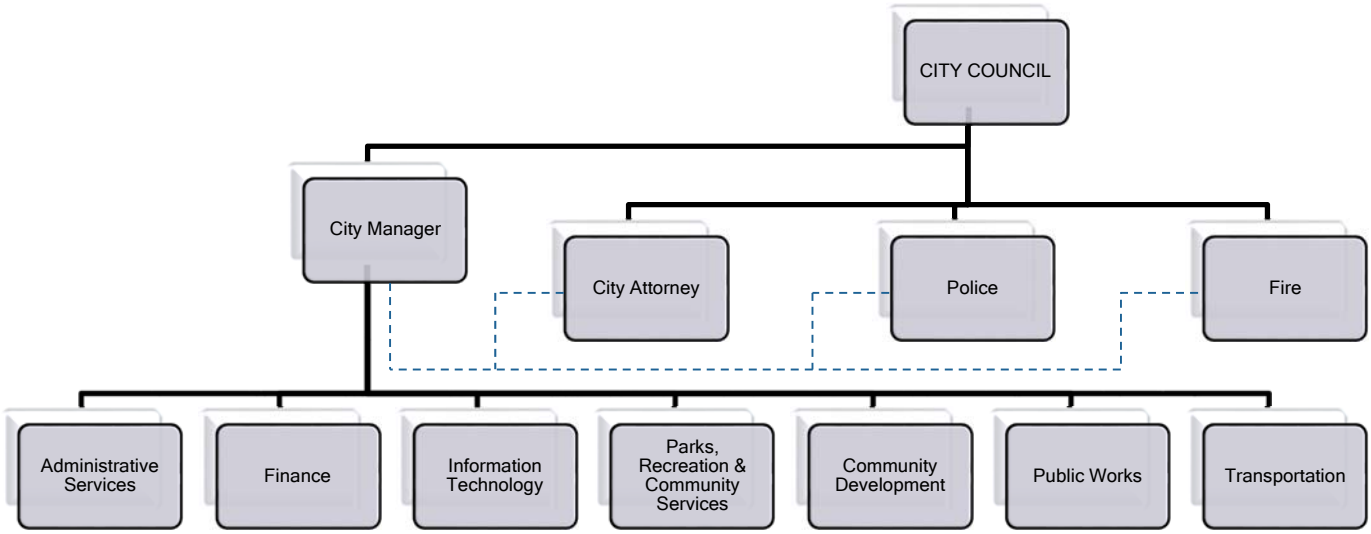


Figure 1: City Organizational Chart

Funding

The Department is funded by the City's general fund. The general fund includes: property taxes, sales taxes, business taxes, utility taxes, transient occupancy taxes, licenses and permits, and fines and forfeits. It finances most of the basic municipal functions including general administration, police, fire, community development, parks, recreation and community services. To the right is a chart, which reflects the City's adopted 2018-19 annual budget revenue and financing sources.

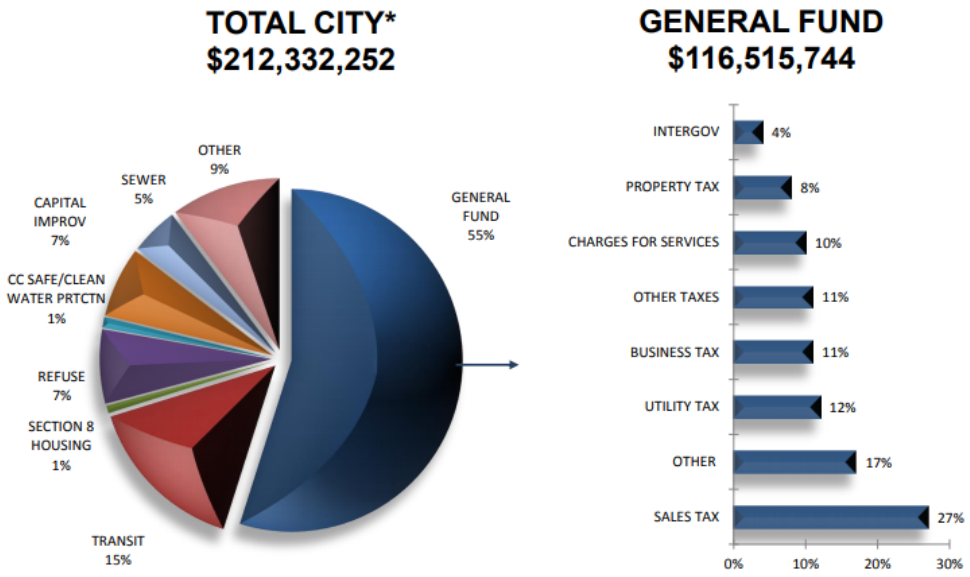


Figure 2: Revenue Sources

The Department participates in the City of Culver City's annual budget process, wherein the Culver City City Council reviews and adopts all departmental budgets, including all positions within the department's organizational structure. The Fire Department comprises six divisions: The Office of the Fire Chief, Fire Suppression, Emergency Medical Services, Emergency Preparedness, Community Risk Reduction, and Telecommunications. The budget process begins in March and concludes in June. Work Plan review sessions are in March and departmental budget presentations occur in May. The Work Plan review sessions provide an opportunity for the fire chief to report on Department gaps in service and capacity as well as garner feedback and input from the City Council. The Fire Department accounts for 19.8% of the City's general fund at $24.4 million.

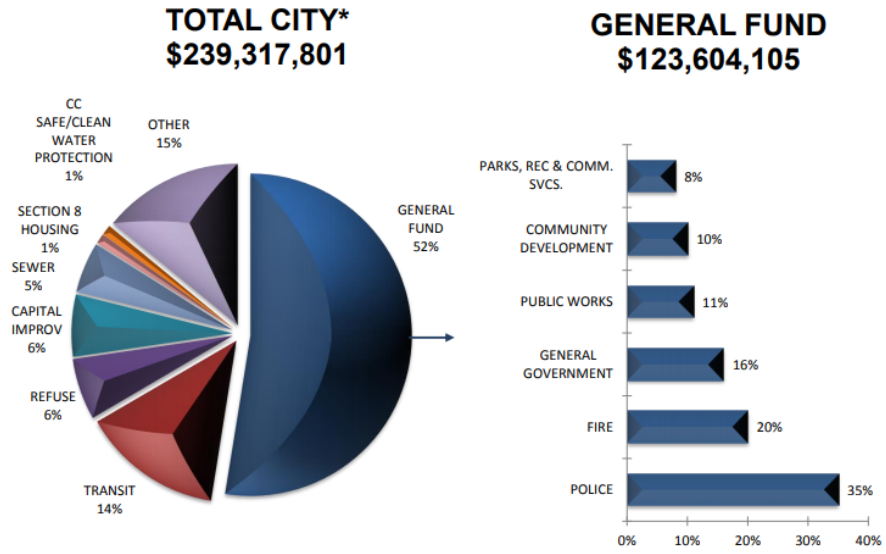


Figure 3: General Fund Budget

Culver City Fire Department History

Culver City records show the first mention of the Culver City Fire Department in 1919, when Manual Saenz was appointed fire chief for ten dollars per month. He was also responsible for storing the City's fire truck in his garage. Fires were fought by volunteer firefighters utilizing the 1917 Pope Hartfield Chemical Truck. The truck was later moved to Washington and Irving Place and the movement to form an organized fire department began.

A second piece of apparatus was purchased in 1920, a Ford Model T Fire Wagon. During this time, the Thomas H. Ince Studios' Fire Chief, L.B. Minnick, was acting Fire Chief for the City. Volunteer firefighters were recruited by Minnick on the way to fires. The City purchased an American La France triple combination type "75" Truck in 1922, which was stored in Frank Wilcox's garage. Thus, Wilcox became the caretaker and engineer of the truck. He was hired in October 1922 as the City's first official Fire Chief. Twelve call men (i.e., volunteers) worked under him.

The fire apparatus was later moved to a garage on Van Buren Place. This garage then became the first fire station. At this time, the City ran a two platoon/shift system of volunteers with Assistant Fire Chief William Kuehn.

In 1927, the City passed a Special Bond Election to build a Civic Center, which would house both a fire and police station. The bond funds were also used to pay for thirteen on-duty firefighters. Around the same time, land was donated by the Washington Land and Water Company to build a second fire station on McConnell Boulevard.

During the early 1930s, staff increased from thirteen to nineteen, but salaries were decreased due to the depression. Assistant Fire Chief Kuehn was appointed Fire Chief in 1933.

During World War II, permanent and temporary firefighters were hired to fill gaps in manpower. John Atwell became the fire chief in 1942. During this time, Chief Atwell developed an equipment replacement program and initiated annual physical examinations.

Two Peter Pirsch pumping engines were purchased in 1945 and received in 1947. In 1949, the Department also took delivery of a new rescue squad, built to the City's specifications and staffed with a crew of four personnel.

The Fire Prevention Bureau was formed in 1946. The City later adopted formal Fire Codes and one person on each shift was assigned to Fire Prevention. As fire inspectors they were required to serve one year terms. They worked in the bureau during the day and worked as dispatchers in the evening. Culver City was one of the first cities of its size to form a Fire Prevention Bureau and served as a training facility for other cities who assigned

their captains to train in Culver City. Those captains later returned to their cities to form a Fire Prevention Bureau and establish policies, procedures, codes, and ordinances.

Culver City's third fire station opened in August 1956, at 11304 Segrell Way. It housed a pumper truck and two rotating five-person shifts. The Fire Department was now operating out of three stations with a staff of 46, which included a records clerk.

An ambulance service/rescue squad was proposed by the City in the 1960s. The rescue service was subsequently put into service and the Department then began operating a three-platoon system. In 1966, a new Crown engine was placed in service at Station 3 and one of the original Pirsch engines was moved to reserve status.

A new training tower facility was dedicated in 1970, replacing the original training center from the fifties. The facility, which is still in use today, has a four-story tower, surfaced yard, drafting pit, hydrants, and roof props.

In 1971, a three-person arson bureau was formed. Inspectors, in addition to their Fire Prevention duties, were now completing investigations on arson-suspected fires, replacing the police officers who were initially used to conduct such investigations. The Department's first black firefighter was hired in 1973.

The Department became part of the Los Angeles County Paramedic pilot program due to the launching of the Wedworth-Townsend Paramedic Act of 1970. It authorized persons trained and certified as paramedics to conduct certain life-saving emergency medical services. A paramedic rescue, with two paramedics, was placed into service in June 1973. In 1979, the emergency medical technicians (EMT) program was incorporated being one of the first in-house programs in California.

The original Station 2, which was opened in October 1927, was replaced with the dedication of the new fire station in September 1981.

A second paramedic unit was placed into service in 1981 with the addition of six new firefighter positions and the transporting of patients in Department rescues beginning in 1982.

The 911 emergency dispatching sections of the Fire and Police Departments were merged into a combined communications center under the direction of the Police Chief streamlining dispatch calls.

A new Fire Station 1 was completed in 1993, replacing the original station built in 1928. The new station included the addition of an Emergency Operating Center (EOC) and a fire garage, which maintained all fire and police vehicles for the City. All communication installations and repairs for the entire City were conducted in the fire garage. Currently, the Department still oversees the City's communications system.

The City instituted a firefighter reserve program in June 1993. Each reserve was required to complete a fire academy and have Firefighter 1 certification. Reserves attended two weekend meetings a month and worked two 24-hour shifts per month. The program was later dissolved due to lack of funding.

In November 1994, the "So Others May Live" program started. Low-cost first aid and Cardio Pulmonary Resuscitation (CPR) training was given to the community and City employees.

In February 1995, the Department was awarded a "Class 1" rating by the Insurance Services Office (a non-profit organization for the insurance industry). 24,000 departments were rated nation-wide, with only 18 having achieved a "Class 1" rating. Also in 1995, the Department received the "Life Safety Achievement Award" by Operation Life Safety (OLS) and the International Association of Fire Chiefs (IAFC). The award honored departments that had successfully responded to and extinguished fires without the loss of a single life in 1994. The Department was one of 34 fire departments nationwide to receive the award and one of two in California.

The Community Emergency Response Team (CERT) program was developed in 1997 to promote neighborhood self-reliance in the event of a large scale disaster.

In March 1998, the Department was the first agency in California to receive accreditation from the Commission of Fire Accreditation International (CFAI). The Department became one of only eight departments in the nation, and the only department in California, to earn this distinction at the time. Accredited agencies are reviewed with scrutiny every five years–the Department successfully met accreditation standards and was re-accredited in 2003, 2009 and 2014.

Since becoming accredited, the Department has continually strived for excellence and has implemented many changes throughout the years pursuant to strategic planning goals, City Council budget goals and peer reviewer recommendations. A brief list of some of the more recent updates follows:

- August 2014 Launched the Reserve Firefighter Program
- August 2015 Ambulance Operator Program Launched; Launched Social Media
- January 2016 Implemented the SAVE Program
- March 2017 New Dispatch/CAD/Fire Station Alerting
- April 2017 Implement ePCR
- July 2017 New Truck
- July 2017 New RMS
- November 2017 Vial of Life Program
- January 2018 engine 42 upgraded to paramedic status

Mission

The mission of the Culver City Fire Department is to protect life, property and the environment by providing prompt and professional fire protection and life safety services.

Core Values

- Professionalism - Through our attitude, actions, and appearance, we will demonstrate competence and strive for excellence.
- Compassion – We will provide comfort and care to those in distress.
- Respect – We will hold in high regard the diversity within our organization and the community we serve.
- Trust – We will keep our commitments, hold ourselves accountable, and act with integrity.
- Humility – We will carry out our duties as public servants while always maintaining a modest opinion of ourselves.

The mission of the Culver City Fire Department is to protect life, property and the environment by providing prompt and professional fire protection and life safety services.

Service Area Boundaries

The City of Culver City is situated in western Los Angeles County, approximately five miles north of the Los Angeles International Airport and three miles east of the Pacific Ocean. The majority of Culver City is surrounded by the City of Los Angeles, with the exception of the western portion of the City, which borders unincorporated Los Angeles County.

Figure 4: Culver City Boundary

Fire Management Zones

For the purposes of analysis and planning, the City of Culver City is divided into fifteen fire management zones. These zones are defined by occupancies within a given geographical area that share common risk. This approach creates zones of homogenous risk types. This method also facilitates more accurate risk evaluations for each geographical area. With the assistance of the City's Geographic Information Systems team, staff was able to map out the fifteen areas of interest. Within each zone, staff observed zone size, land use types, structures, critical infrastructure, economic factors, and relative population densities. Land use elements were gleaned from the City of Culver City's General Plan. Subsequent to the various analyses, staff then determined areas/structures within each zone that present particular hazards or high fire risk due to their size, location or occupancies.

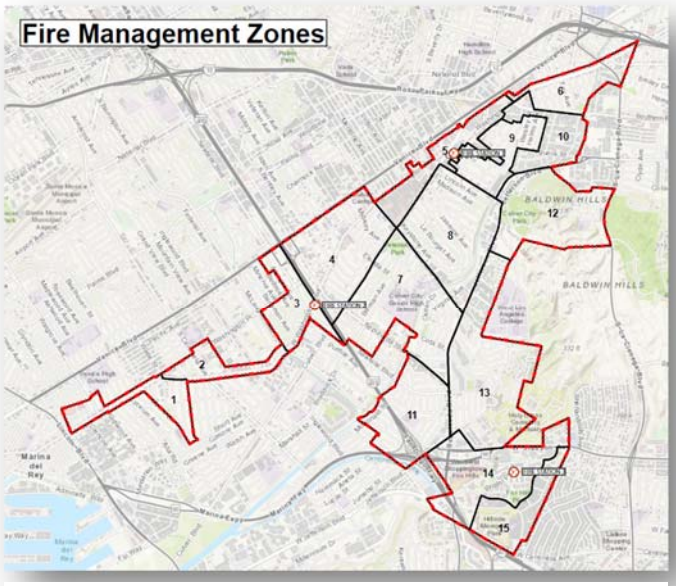


Figure 5: Fire Management Zones

Mutual Aid

The Department has two automatic aid agreements–one with the City of Los Angeles and the other with Los Angeles County. Culver City fire apparatus and personnel are deployed to portions of Los Angeles County west of the City and automatically deployed to Los Angeles City to the south of the City, as well as the City's immediate borders.

The Department is also part of the California Master Mutual Aid agreement since 1950. Culver City is an Area A City, which also comprises the following cities: Beverly Hills, Santa Monica, and West Hollywood. Area A is within the Los Angeles County operational area (OA). The OA is located in Mutual Aid Region I, which is in the Cal EMA Southern Administrative Region, which comprises Regions I and VI.

Figure 6: California Mutual Aid Areas

General Characteristics

Natural Area Features

Geography

Culver City is located at 34°0′28″N 118°24′3″W.

The terrain of Culver City is mostly level with slight rolling hills, which vary in elevation from 40 feet above sea level on the western edge of the City to 90 - 100 feet in the central area of the City. The exception is the Baldwin Hills area in the eastern area of the City, which rises up to 400 feet above sea level. According to the City's 2016 Urban Forest Master Plan, the City is home to 15,356 trees.

Topography

Culver City is on the western side of the Los Angeles Basin. Much of Culver City is in the former floodplain of La Ballona Creek, with the eastern portion of the City including a portion of the Baldwin Hills. The creek has been enclosed within a concrete control channel since the 1930s.

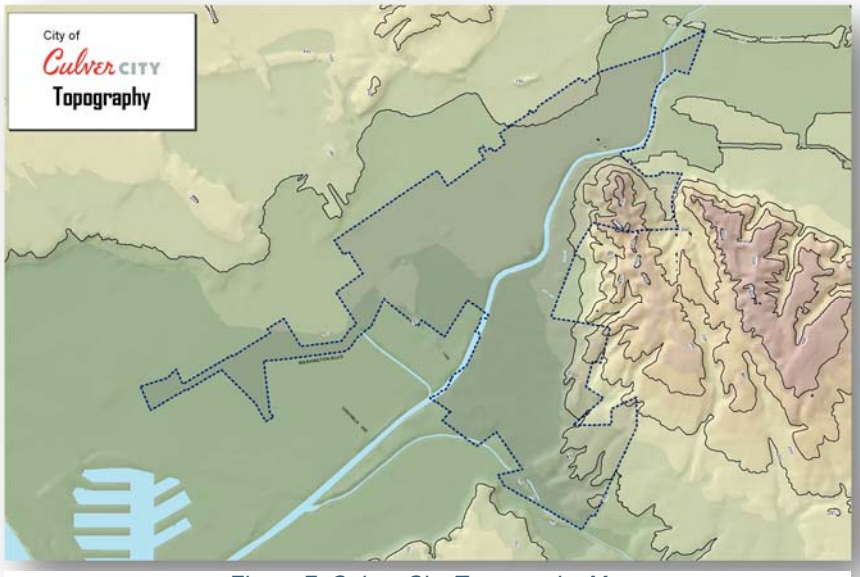


Figure 7: Culver City Topography Map

The Baldwin Hills extend from the Santa Monica Mountains southeastward to just north of Newport Beach. They are the result of geological deformation along the Newport-Inglewood zone, which is a geologic structural feature, composed of faults and folds and associated oil fields. Due to the topography, this area of the City is more difficult to access and slows response times, i.e., this area subjects response units to increased turning and slower travel speeds. The most rugged and steep section includes a major part of the Inglewood Oil Field.

This area has been highly modified over the years by construction of well and tank pads, access roads, treatment plants, and oil, water and waste sumps. The current active oil field is approximately 1,000 acres, 100 of which are located within Culver City's jurisdiction. It is one of the largest contiguous urban oil fields in the United States. Sentinel Peak is the current operator.[5]

Climate

Culver City has a Mediterranean climate with warm, dry summers and mild, wet winters. Winter average temperatures are approximately 56.5 degrees Fahrenheit and the summer average temperatures are roughly 71.7 degrees Fahrenheit.[6]

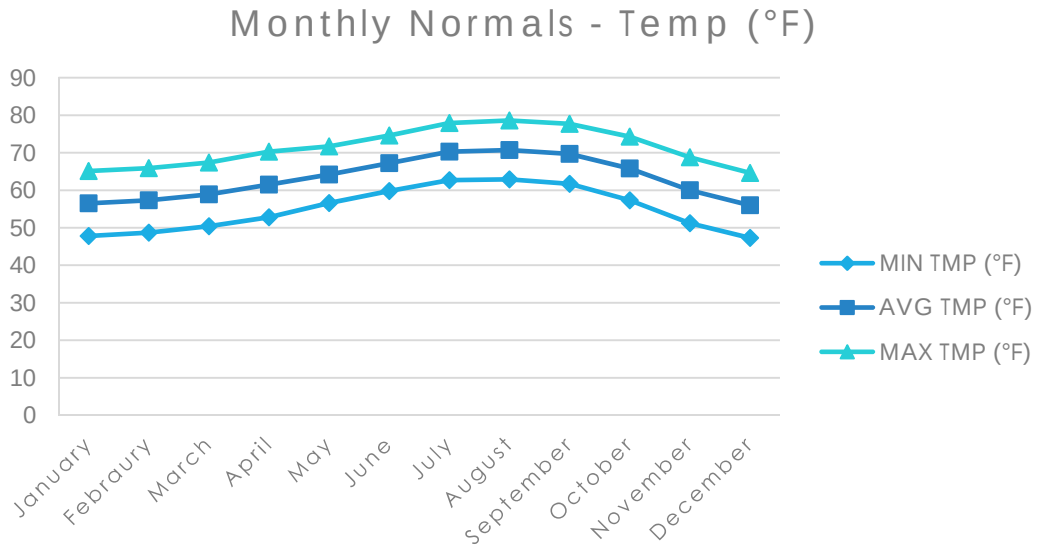


Figure 8: Culver City Monthly Average Temperatures

Precipitation averages in Culver City are around 13.93 inches per year. Rainfall in Southern California tends to fall in large amounts during sporadic storms rather than consistently at somewhat regular intervals. Significant rain can slow travel speeds and response times. There is also a greater potential for swift water rescue events as a result of La Ballona Creek flood waters.

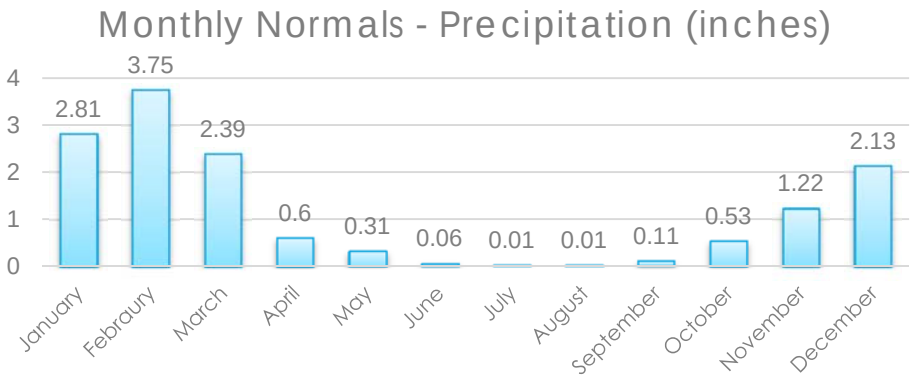


Figure 9: Culver City Average Precipitation

[5] City of Culver City, "City of Culver City and Culver City Unified School District Multi-Jurisdictional Hazard Mitigation Plan," http://www.culvercity.org/home/showdocument?id=3186
[6] NOAA, "1981-2010 Normals," https://www.ncdc.noaa.gov/cdo-web/datatools/normals

Human-Related Characteristics

Culver City is nestled in the Los Angeles urbanized area, as identified in the 2010 U.S. Census Bureau guidelines. Culver City has a nighttime population of 40,061 and a daytime population of approximately 77,634. This shift represents a 94% increase from night to day. The City's population density is approximately 8,000 people per square mile. Population, age, race and growth statistics follow.

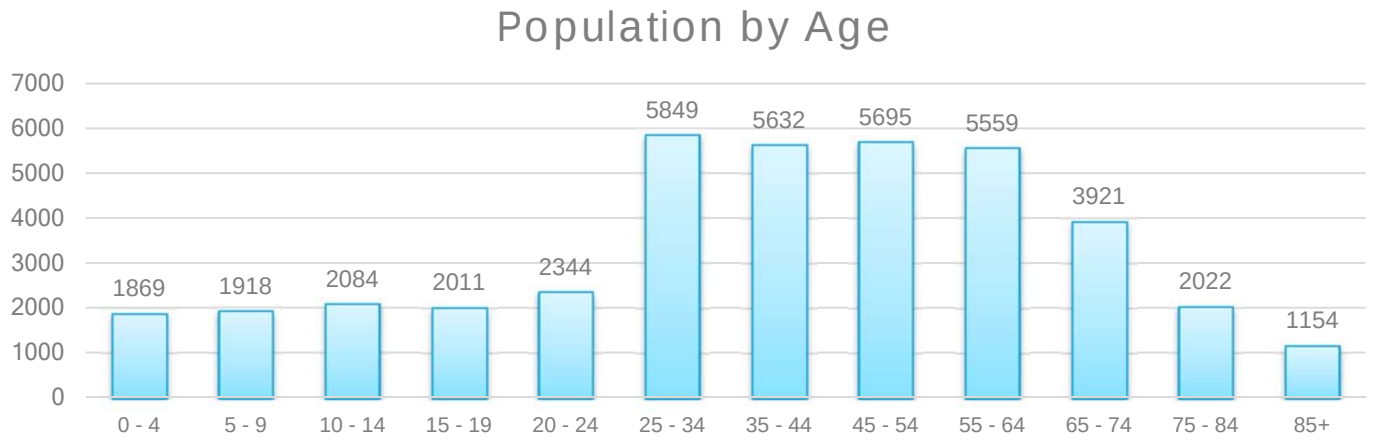


Figure 10: Culver City Population by Age

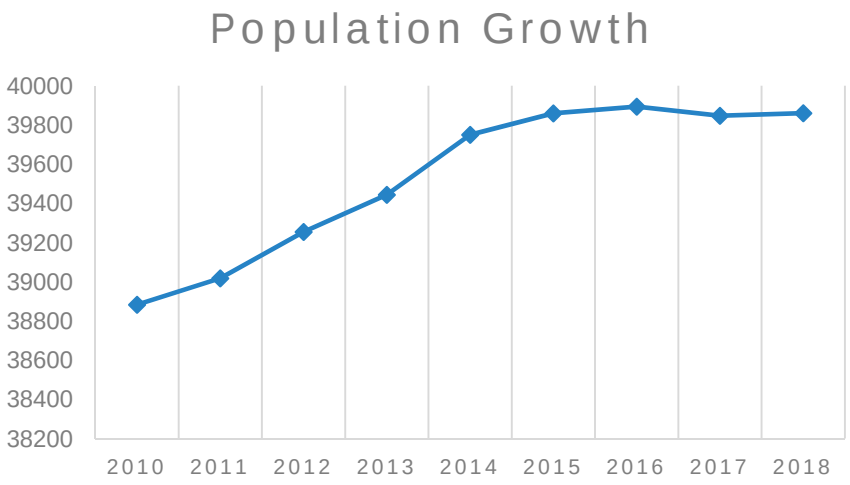


Figure 11: Culver City Population Growth 2010 - 2018

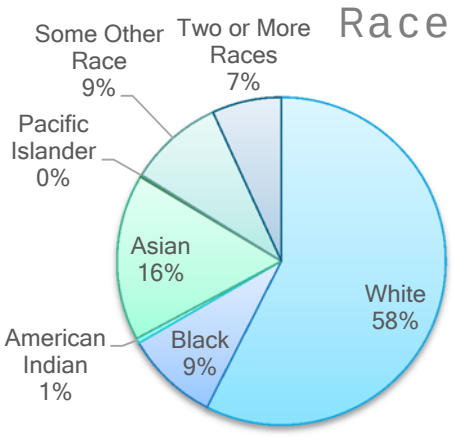


Figure 12: Culver City Race

Economics and Housing

The average per capita income in Culver City is $49,878 and the average household size is 2.5 citywide. The average unemployment rate in the city is 3%. 75% of Culver City residents are involved in white collar professions. 57 percent of residents have at least an undergraduate degree. There are 3,597 businesses and 49,081 employees working in Culver City. The median household income in Culver City is $85,138 and the per capita income is $51,419.

There are nearly 18,000 housing units and 16,763 households in Culver City. The average household size is 2.3. The vacancy rate within the City is 4.3% with the occupied housing consisting of 46% owners and 48% renters. 14% of homes built in Culver City were built prior to 1940. 5.3% of the residential homes built were built after 1990. Homes built after 1990 are impacted by the City's sprinkler ordinance, which requires new construction to have fire sprinklers.

The community is relatively established in that the median year that people in the City moved into their homes was 2004. The majority of workers that live in the City drive alone to work. The 2019 homeless count accounted for 227 homeless people in Culver City.

Human-Made Characteristics

Infrastructure

Development

When Culver City was incorporated in 1917, it was composed of numerous low-rise commercial buildings and many small houses, but overall, the City was approximately 70 percent vacant land.

The Second World War dramatically changed the City. Military personnel and defense workers came to Southern California to fill the needs created by the war effort. The available housing was rapidly exhausted, and existing commercial centers proved inadequate for the influx of people. Immediately after the war, construction began on the freeway system, and the face of Southern California was forever changed. Home developments and shopping centers sprung up everywhere; and within a few decades, the central basin of Los Angeles County was covered with developments. This pushed new construction further and further away from the urban center. The transition from one municipality to another within Los Angeles County is mostly seamless. Over the past couple decades Culver City has seen an upsurge in development. Culver City is home to a hospital, several senior living facilities, nine schools, eleven parks, major shopping centers, theaters, movie studios, and hotels. Some of the City's largest employers are Sony Pictures Entertainment, Culver City Unified School District, Southern California Hospital at Culver City, and Target.

Significant Business Districts

The following map highlights the significant developments within the City.

Figure 13: Culver City Development Map

Arts District/La Cienega South

The Arts District is a collection of art galleries, restaurants, unique retailers and creative businesses along Washington and La Cienega Boulevards. The area south of La Cienega also houses a unique collection of handpicked antiques, hand-made furnishings, and distinctive artwork. The companies that comprise this area represent some of the region's biggest and best importers, wholesalers and artists that cater primarily to the innovators of the interior design, retail business and architectural industries.

Culver Pointe

Culver Pointe is a premier business center in the City's southeast corner. The area houses professional service firms in the fields of finance, insurance and real estate, as well as entertainment, media, and healthcare.

Downtown Culver City

Downtown Culver City is an exciting pedestrian-friendly district encompassing an eclectic mix of restaurants, retail and entertainment venues, as well as major media powerhouses Sony Pictures Entertainment and the Culver Studios. The area is also home to City Hall, Southern California Medical Center, the historic Culver Hotel, state-of-the-art movie theaters, and nationally renowned theater companies Center Theatre Group at the Kirk Douglas Theatre and the Actors' Gang at the Ivy Substation.

Fox Hills/Westfield Culver City

The Fox Hills area includes the City's regional mall and other large retailers with convenient access from the 405 and 90 freeways. Macy's Nordstrom Rack, H&M, Forever 21, Best Buy, BJ's Brewhouse and the Olive Garden are just a few of the stores and restaurants at Westfield Culver City. Other businesses in the area include Sprouts, Office Depot, Bev Mo, and Marshalls.

Hayden Tract

The Hayden Tract is a creative business district known for its internationally acclaimed architecture. Centrally located near major studios, it is an attractive option for multi-media, postproduction and design firms. Many influential businesses have their office in the Hayden Tract, including Apple, Nike, Ogily & Mather, Eric Owen Moss Architects, Morphosis Architects, Cunningham Architects, Smashbox Studios, Zoic Studios, and Anonymous Content.

Helms Bakery District

The Helms Bakery District is headquarters for contemporary furniture, delicious cuisine, and delectable slice of Culver City history. The district includes home and office furniture retailers such as H.D. Buttercup, Room & Board, Arcana Books and several award-winning restaurants.

Jefferson Corridor – Culver City's Jefferson Boulevard corridor is home to media, biomedical and other creative industries. National Public Radio – West, HOK Architects, and Nantworks are just a few of the businesses located here.

Mid-Washington

Many small community-serving businesses – salons, bakeries and retailers – are located along Washington Blvd. between Sepulveda Blvd. and Overland Ave., just west of Sony Pictures Entertainment. The surrounding area also features several media office and studio complexes including the NFL Network.

Overland

Overland Avenue connects some of the City's important landmarks including, Culver Center, the Veterans Memorial Complex, Senior Center, Raintree Shopping Center and West Los Angeles College. Neighborhood businesses and services are also located along this popular corridor.

Transit Oriented Development District "The Hub"

Washington-National is the City's emerging transit oriented development district. Several new developments in the area are underway which include an exciting mix of retail, residential office and hotel uses. The TOD District was recently expanded and runs along Washington Boulevard from Helms Avenue to Ince Boulevard, near The Culver Studios.

Sepulveda

One of the City's busiest commercial boulevards, Sepulveda runs north-south parallel to the 405 freeway. It is anchored by neighborhood shopping centers as well as local neighborhood services, restaurants and retailers. National retailers include Target, Bed Bath & Beyond, Party City, Pavilions, TJ Maxx, Ross, and Pier 1 Imports.

West Washington

The West Washington area extends roughly two miles along Washington Boulevard between the 405 freeway and the City's western border at Lincoln Boulevard. This regional east-west arterial street carries over 30,000 vehicle trips per day and is home to professional and healthcare services, as well as one of the top Costco Warehouses in the nation. The City is actively working to enhance the West Washington area through its Area Improvement Plans, which incorporate public and private improvements and reinvestment. A Culver City Market Hall is planned for the area and currently is in design development.

Major Projects

- Ivy Station – estimated Completion early 2020. 200 apartments, 55,000 sq. ft. retail/restaurant, 148-room boutique hotel, and 200,000 sq. ft. office space.
- 8777 Washington Blvd – estimated completion Winter 2019. 4,500 sq. ft. retail and 123,500 sq. ft. of office.
- The Culver Steps – estimated completion Spring 2019. 45,000 sq. ft. of retail and 75,000 sq. ft. of creative office.
- West Washington Mixed Use – estimated completion Spring 2019. Ground floor retail and 37 residential units.
- Culver Public Market Hall – estimated completion Spring 2020. 33,250 sq. ft. of retail/restaurant space.
- 8888 Washington Blvd – estimated completion Spring 2019. 56,000 sq. ft. of creative office and 6,000 sq. ft. of retail.
- Culver Studios – 413,127 net sq. Ft. of digital media space including new parking structures at current site.
- One Culver – recently completed. 300,000 sq. ft. of renovated office space and 65,000 of new retail space.
- Entrada
- The Wesley – estimated completion Spring 2020. 14,000 sq. ft. gallery/office space and 15 residential units.
- Brick and Machine – estimated completion Spring 2020. 55,611 sq. ft. of office and 8,158 sq. ft. retail space.
- Culver Connect – Culver City's municipal fiber open access network connecting business to array of internet service providers with major telecommunications hubs at One Wilshire and El Segundo.

Community Resources

Schools

Culver City Unified School District

School	Address	Grades	Approximate Enrollment[7]
Office of Child Development	10800 Farragut Drive	Pre K-5	290
El Marino Language School	11450 Port Road	K-5	820
El Rincon Elementary	11177 Overland Avenue	K-5	550
La Ballona Elementary	10915 Washington Boulevard	K-5	580
Linwood E. Howe Elementary	4100 Irving Place	K-5	545
Farragut Elementary	10820 Farragut Drive	K-5	570
Culver City Middle School	4601 Elenda Street	6-8	1,530
Culver City High School	4401 Elenda Street	9-12	2,200
Culver Park Continuation HS	5303 Berryman Avenue	10-12	35
Adult School	4909 Overland Avenue	Adult	30

Major Private Schools

School	Address	Grades	Approximate Enrollment
Echo Horizon School	3430 McManus Avenue	Pre K - 6	180
Kayne Eras School	5350 Machado Road	Special Education K - 12	110
Park Century School	3939 Landmark Street	Language Based Learning 2 - 8	120
Summit View School Westside	12101 W. Washington Blvd.	1-12	105
Turning Point School	8780 National Blvd.	Pre K - 8	350
Wildwood School	12201 Washington Place	K - 5	320
Willows Community School	8509 Higuera Street	Pre K - 8	470

[7] Culver City Unified School District Website, "School Accountability Report Cards (SARC), https://www.ccusd.org/apps/pages/index.jsp?uREC_ID=42357&type=d&pREC_ID=52227

City Buildings

Building Name	Address
Culver City City Hall	9770 Culver Boulevard
Culver City Fire Training Building	9275 Jefferson Boulevard
Culver City Police Department	4040 Duquesne Avenue
Culver City Public Services Building	9505 Jefferson Boulevard
Culver City Fire Station No. 1	9600 Culver Boulevard
Culver City Sanitation Transfer Station	9255 Jefferson Boulevard
Culver City Fire Station No. 2	11252 Washington Boulevard
Culver City Transportation Facility	4343 Duquesne Avenue
Culver City Fire Station No. 3	6030 Bristol Parkway

Government Buildings

Building Name	Address
LA County Fire Haz Mat Office	6101 S. Centinela Avenue
LA County Internal Services Dept.	11236 Playa Court
Julian Dixon Library	4975 Overland Avenue
CA Dept. of Motor Vehicles	11400 Washington Boulevard
CA Rehabilitation Dept.	5161 Overland Avenue
CA Social Service Dept.	5830 Hannum Avenue
US Post Office - Jefferson	11111 Jefferson Boulevard
US Post Office - Culver	9942 Culver Boulevard
US Dept. of Veterans Affairs	5730 Uplander Way
So. Cal Hospital at Culver City	3828 Delmas Terrace
West LA College	9000 Overland Avenue

Hospitals and Dependent Care Facilities

Organization Name	Address
CC Accessible Apartments	4222 Van Buren Avenue
Culver City Senior Center	4095 Overland Avenue
Culver City Senior Housing	5166 Sepulveda Blvd.
Culver West Convalescent Home	4035 Grand View Blvd.
Didi-Hirsch Culver Palms Center	11133 Washington Blvd.
Kayne/ERAS Center	5350 Machado Road
Kayne/ERAS House No.1	11124 Fairbanks Way
Kayne/ERAS House No.2	4215 Keystone Avenue
Marina Care Center	5240 Sepulveda Blvd.
Marycrest Manor	10664 St James Drive
No Limits	9801 Washington Blvd.
Olympus ADHC Inc.	11613 Washington Blvd.
Palm Court	3995 Overland Avenue
Paloma Pointe	10955 Washington Blvd.
Rotary Plaza	5100 Overland Avenue

Organization Name	Address
Southern California Hospital	3828 Delmas Terrace
Studio Royale	3975 Overland Avenue
Sunrise Villa Culver City	4061 Grand View Blvd.
The H.E.L.P. Group West	12099 Washington Blvd.
UCP Westside Activities Center	6110 Washington Blvd.
Vista Del Sol Residence	11620 Washington Blvd.

Historical Sites

There are 13 historical sites. The following seven sites have structures associated with them.

Name	Year Built	Street
Historic Site #2: The Hull Building	1925	9543 Culver Blvd.
Historic Site #4: The Citizen Building	1929	9355 Culver Blvd.
Historic Site #5: The Legion Building	1925	3824 Hughes Ave.
Historic Site #6: Main Street	1924	9400 Culver Blvd.
Historic Site #7: The Studios	1919	9336 Washington Blvd.
Historic Site #9: The Helms Building	1930	Washington Blvd. at Helms
Historic Site #13: Veterans Memorial Building	1950	4117 Overland Ave.

Art in Public Places

To date, there are over 100 individual artworks included in Culver City's Art in Public Places Program. Approximately half are on private property and the other half on public (City) owned property. Recently, the City assembled an Art in Public Places walking tour.

Service

Water Supply Systems

Water delivered to customers in the Culver City System is imported water from the Colorado River Aqueduct and the State Water Project (imported and distributed by the Metropolitan Water District of Southern California).

Figure 14: Hydrant Map

GSWC obtains its water supply for the Culver City System by purchasing imported water supplies from the West Basin Municipal Water District (WBMWD). Based on GSWC's long-term water supply planning projections, GSWC's water supply is projected to increase by 27 percent from 2010 to 2035 to meet the associated projected water demands, with all of this demand being met by imported water from WBMWD. GSWC is actively pursuing the availability of a reliable, cost effective supply of imported water through the implementation of conjunctive use storage programs. Storage programs could use water imported from WBMWD or other suppliers.

Additionally, GSWC still owns water rights in the Santa Monica Subbasin and is assessing the feasibility of potential groundwater development projects in several local basins. If developed, each of these projects would provide some increment of local groundwater that would improve the reliability of or displace the use of imported water in the Culver City System. Pump Stations are located at Ranch Road and Bernardo Road.

There are currently 1,041 well-spaced hydrants within the City. Golden State Water Company (GSWC) manages the majority of the hydrants. A small number are managed by the Los Angeles Department of Water and Power (LADWP).

Electrical Systems

The City is part of the Clean Power Alliance. Clean Power Alliance purchases clean power and Southern California Edison delivers it. Over the years, due to development, the City has improved its electrical infrastructure. In 2017, the City updated its Downtown electrical infrastructure and is currently looking into a Microgrid project to create a more resilient community.

Sewer and Storm Drain Systems

The City manages seven sewer pump stations: Braddock, Bristol, Hayden, Fox Hills, Jasmine, Mesmer, and Overland.[8] There are several flood control channels and storm drains within the City. Most are managed by the Los Angeles County Flood Control District (LACFCD) and flow to La Ballona Creek, which is managed by the LACFCD and the Army Corp of Engineers.[9]

Local or Feeder Natural Gas Pipelines

There are two gas transmission lines running through the City—one running northwest to southeast in the southwest portion of the City and the other running northeast to southwest in the eastern portion of the City. A natural gas transmission line is generally a large diameter pipeline that operates at pressures above 200 psi and transports gas from supply points to the gas distribution system.

There are also high-pressure distribution lines running through the City—one runs parallel to the 405 freeway to the North; another two border the southwest part of the City and the northeast. These lines typically operate at pressures above 60 psi and deliver gas in smaller volumes to the lower pressure distribution systems.

Transmission

Communications Systems

The City's radio tower sits on a hilltop in the eastern portion of the City. It is part of the interagency communications interoperability system, which is a UHF, trunked radio system operating in the UHF (450-512 Mhz) band. It is a shared system with components purchased and constructed by individual cities and linked together through a microwave network in order to provide regional coverage.[10] The map below displays network coverage

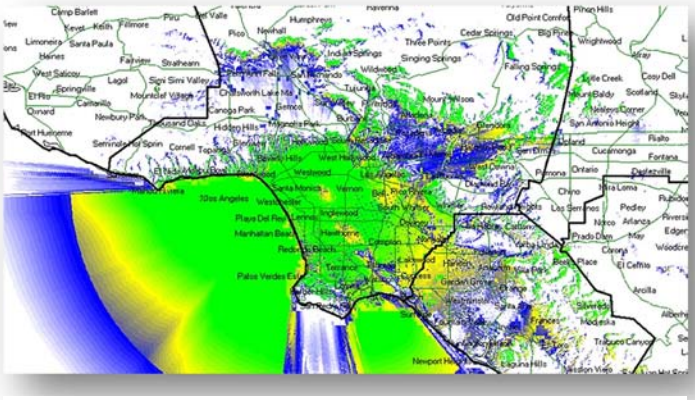


Figure 15: Culver City Radio Tower Coverage

Culver City Connect, Culver City's municipal fiber open access network consists of 21 route miles of underground fiber network designed for geographic diversity, security and redundancy.[11] Each cable within the system consists of 576 fiber strands, providing infrastructure necessary to support Culver City businesses high bandwidth demands and service requirements.

[8] City of Culver City Website, "Sewer Infrastructure Management System (SIMS), https://gisproxy.culvercity.org/Html5Viewer/index.html?viewer=Sims.sims
[9] Los Angeles County Public Works Website, "Los Angeles County Storm Drain System," https://pw.lacounty.gov/fcd/StormDrain/index.cfm
[10] Interagency Communications Interoperability Systems Website, "Coverage Maps," https://www.icisystem.org/coverage-maps
[11] City of Culver City Website, "Municipal Fiber Network," https://www.culvercity.org/how-do-i/learn/municipal-fiber-network-project

Recreational – Parks, trails, and open spaces

The Department of Parks and Recreation oversees the maintenance and operations of 11 parks, comprising 92.2 acres of land. The sites range in size from .02 acres to 41.6 acres.

Park	Location
Veterans Memorial Park	4117 Overland Avenue
Dr. Paul Carlson Park	Braddock Drive at Motor Avenue
Syd Kronenthal Park	3459 McManus Avenue
Culver City Park (Botts Field)	9910 Jefferson Boulevard
Blanco Park	5801 Sawtelle Boulevard
Fox Hills Park	Green Valley Circle & Buckingham Parkway
Fox Hills Parkette	Buckingham Parkway & Hannum Avenue
Culver West Alexander Park	4162 Wade Avenue
Lindberg Park	5041 Rhoda Way
Media Park	9091 Culver Boulevard (Los Angeles)
Tellefson Park	Washington Place & Tilden Avenue
El Marino Park	5301 Berryman Avenue
Blair Hills Park	5950 Wrightcrest Drive
Municipal Plunge	4175 Overland Avenue
Coombs Parkette	4468 Coombs Avenue

The majority of bicycle paths running through the City run along streets. In addition to these sharrows and paths, there is also a Ballona Creek Bike Path, which parallels the Ballona Creek.[12] This path connects Culver City with the Pacific Ocean at Marina del Rey. The trail further connects to a beachside path, which travels north to Malibu and south to Redondo Beach. Duquesne also connects with the eastern portions of the Park to Playa Trail. The Park to Playa Trail is a planned 13-mile regional trail that will connect a network of trails, parks and open spaces from the Baldwin Hills Parklands to the Pacific Ocean. The existing segments of the Park to Playa Trail include Stocker Corridor, Kenneth Hahn State Recreation Area, Baldwin Hills Scenic Overlook, Culver City Park, and Ballona Creek Bike Path. There are numerous access points to the Park to Playa Trail including various locations along the Ballona Creek Bike Path, in Culver City Park, at Baldwin Hills Scenic Overlook, several staging areas in Kenneth Hahn State Recreation Area, and Norman O. Houston Park. Eventually, a bridge will traverse La Cienega Blvd., allowing direct access to Kenneth Hahn State Recreation Area. Connected to this trail is also the Culver City Stairs. The Stairs Trail is the popular straight-up-the-hill fitness trail in the Baldwin Hills as part of the Part to Playa Trail. The trail provides panoramic views from the top of a 511-foot peak. Restored native habitat and seasonal displays of native wildflowers with bird and wildlife viewing add to the scenic quality of this section of the Park to Playa Trail.

Public access points with Culver City to the Ballona Creek Bike Path are National Blvd., Duquesne Ave., Overland Ave., and Sepulveda Blvd. There is also a portion of the Culver Blvd. Bike Path that runs in the southwest portion of the City and ends at Elenda Street.

[12] Trails Mountains Recreation and Conservation Authority Website, "Park to Playa Trail," https://trails.lacounty.gov/Trail/237/park-to-playa-trail

Waterways

Ballona Creek is a nine-mile long flood protection channel that drains the Los Angeles basin, from the Santa Monica Mountains on the north, the Harbor Freeway (110) on the east, and the Baldwin Hills on the south. The Ballona Creek Watershed totals about 130 square miles. Its land use consists of 64% residential, 8% commercial, 4% industrial, and 17% open space.

The major tributaries to the Ballona Creek include Centinela Creek, Sepulveda Canyon Channel, Benedict Canyon Channel, and numerous storm drains. Ballona Creek is designed to discharge to Santa Monica Bay approximately 71,400 cubic feet per second from a 50-year frequency storm event. The watershed is composed of all or parts of the Cities of Beverly Hills, Culver City, Inglewood, Los Angeles, Santa Monica, West Hollywood, and unincorporated Los Angeles County. Distant waterways, which feed the water system include the California Aqueduct (400 mile California State Water Project transports water from the Sierra Nevada Mountains), and the Colorado River Aqueduct (242 mile waterway originating at Lake Havasu).

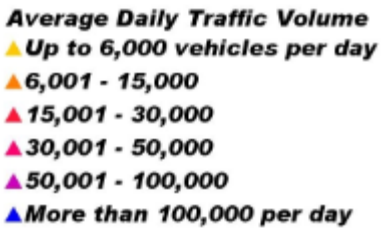
Figure 16: California Waterways

Transportation

The Los Angeles area consistently tops national worst traffic lists.[13] As Culver City is part of the Los Angeles region, the congestion Culver City experiences is no different.

Highways and Streets

The map to the right illustrates average daily traffic volumes on Culver City streets and freeways. The City is currently of the process of conducting a travel demand forecast model (TDFM) to assess individual and cumulative impacts of development projects in Culver City. The focus will be on vehicle miles traveled and greenhouse gas emissions.



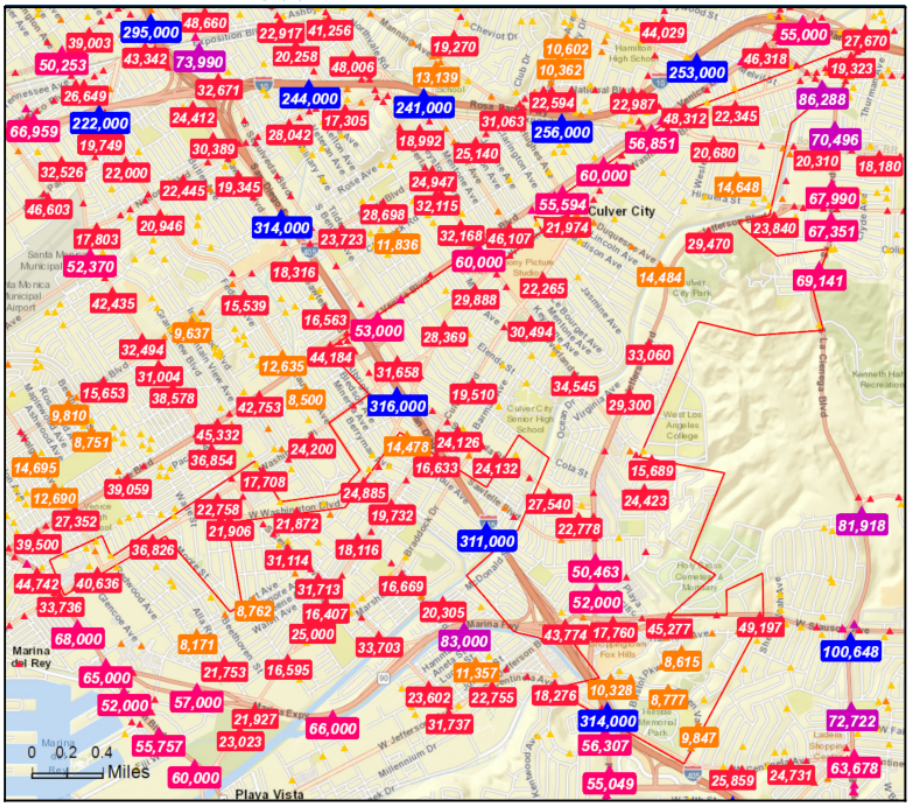


Figure 17: Average Daily Traffic Volume Map

Bridges

There are seven bridges that cross over La Ballona Creek referenced below, as well as a couple bridges that cross over smaller waterways. Interstate 405 also crosses over several major roads in Culver City, such as Centinela Ave., Sepulveda Blvd., Jefferson Blvd., Slauson Blvd., Washington Blvd. and Washington Pl.

Feature Intersected[14]	Facility Carried	Year Built	Lanes	Length (m)	Road Width (m)
Ballona Creek	Washington Blvd.	1938	4	29	23.2
Ballona Creek	Higuera St.	1938	3	61	9.3
Ballona Creek	Overland Ave.	1938	4	60	18.3
Ballona Creek	Duquesne Ave.	1938	2	42	13.7
Ballona Creek	Sawtelle Blvd.	1980	3	62	20.1
Ballona Creek	Sepulveda Blvd.	1985	5	62	24.4
Ballona Creek	National Blvd.	2010	4	51	17
Centinela Creek Channel	Centinela Ave.	1963	5	20	24.4
Sepulveda Channel	Washington Blvd.	1948	5	11	23.8

[13] Business Insider Website, "The 10 US Cities with the Worst Traffic," https://www.businessinsider.com/the-10-us-cities-with-the-worst-traffic-2018-2

[14] California Department of Transportation Website, "Local Agency Bridge List," http://www.dot.ca.gov/hq/structur/strmaint/local/localbrlist.pdf

Feature Intersected[14]	Facility Carried	Year Built	Lanes	Length (m)	Road Width (m)
La Cienega Blvd.	Baldwin Hill Park Rd.	1985	2	48	11

Rail

A portion of the Los Angeles Metropolitan Transit Authority's (MTA) Expo light rail line has a station in Culver City. The terminuses are Downtown Los Angeles and Santa Monica. The first segment between Downtown Los Angeles and Culver City opened in 2012. The second phase extension to Santa Monica was opened in 2016.[15]

Figure 18: Metro Expo Light Rail Line Map

The line is at grade between Wesley Street and Eastham Drive as it passes through the Hayden tract in the northern portion of the City. It rises to above grade and crosses over National and Washington Boulevards as it continues to Santa Monica.

Bus

The City of Culver City has its own municipal bus service, which is the second oldest municipally-owned bus line in the State of California. Culver CityBus' fleet is composed of 54 compressed natural gas (CNG) buses. Culver CityBus operates seven routes, serving nearly 6 million riders annually with a service area encompassing 25.5 square miles, which includes the Westside communities of Venice, Westchester, Westwood, West Los Angeles, Palms, Playa Vista, Marina Del Rey, Rancho Park, Mar Vista, Century City, and Culver City.

Micro Transit

In an effort to improve mobility and decrease carbon emissions in and around Culver City, the City Council decided in July 2018 to allow two dockless electric stand-up scooter companies to place their scooters in Culver City. The City is also in the process of exploring bike share options.

Air (Overflights)

LAX is approximately six miles southwest of Culver City and overflights of commercial planes fly over Culver City frequently.

[15] Build Expo Website, "Interactive Construction Map," www.buildexpo.org

PROGRAMS & SERVICES

Community Risk Reduction

The Culver City Fire Department's Community Risk Reduction (CRR) Division is committed to providing the City with comprehensive and professional services. CRR helps keep the community safe by providing both prevention and mitigation strategies to its residents and businesses. These programs are implemented through the adoption, interpretation, and enforcement of the 2016 California Fire Code, with local amendments, and designated portions of the 2016 California Building, Mechanical, and Electrical Codes as adopted by the City of Culver City. Programs include: documentation of businesses that handle reportable quantities of hazardous materials; plan check and inspection of the installation and maintenance of fire sprinkler systems, fire alarm systems, above and below ground tank installations, spray booths, commercial kitchen hood systems, special agent extinguishing systems, building fire flow requirements, public and private fire hydrant locations, and classified electrical installations; and the inspection of building exit plans and other building safety components throughout the City.

Fire Investigation Services

The Community Risk Reduction Division manages the Department's fire investigation program. Two fire inspectors are responsible for conducting fire origin and cause investigations.

Public Education Services

The Department offers several public education and life safety education services. The Department visits local schools, conducts fire station tours, and offers emergency education at multiple public events through the year. CRR works with the Culver City CERT Teams, educates the public through the Ready, Set, Go wildland fire safety program, the Culver City smoke alarm program and participates in Culver City High School's Project Shadow, a program that gives high school students a better understanding of the fire service. The Department also manages several educational campaigns throughout the year, which include dissemination of information in person at the local farmers' market and via the City's website, social media channels and email. Examples of campaigns are Fire Service Day, Sidewalk CPR and Fire Prevention Week.

Emergency Preparedness

The Culver City Fire Department has emergency management responsibilities in its jurisdiction, which are managed through the Emergency Preparedness Division, i.e., Office of Emergency Management. It maintains an all-hazards emergency operations plan (EOP), has adopted the State of California Standardized Emergency Management System (SEMS) standards, is National Incident Management System (NIMS) compliant, and utilizes the NIMS Incident Command System (ICS) on all emergency responses. The Department has interoperable communications with surrounding agencies and participates in various drills with neighboring agencies to ensure operational readiness. The Department conducts annual community-wide disaster drills and works closely with community readiness groups like the Culver City Amateur Radio Emergency Service (CCARES) and the Community Emergency Response Team (CERT).

Fire Suppression

Fire suppression personnel provide emergency response to a range of fire suppression-related incidents involving structures, wildland areas, vehicles and dumpsters/trash. The Department staffs three engine companies, one ladder truck, two paramedic rescue units and a Battalion Chief Command vehicle to protect the City. A three-platoon/shift configuration with 18 personnel assigned to each shift is utilized in order to provide the community with around-the-clock service.

Supplementing the fire suppression program, the Department introduced the reserve firefighter program in August 2014. This program helps prepare candidates for a successful career in the fire service. Reserve firefighters are not factored into the Department's effective response force or first-due firefighters. Reserve firefighters do not practice interior structural firefighting, i.e., immediately dangerous to life or health (IDLH) firefighting.

Emergency Medical Services

The Department provides first responder medical care and transportation services at the basic life support (BLS) and advanced life support (ALS) service levels. All uniformed staff of the Department are certified emergency medical technicians (EMTs), and approximately 80% are certified paramedics. The Department staffs two paramedic rescues with four firefighter/paramedics.

In August 2015, the Department launched the Ambulance Operator Program. Ambulance Operators (AO) provide basic life support (BLS) and emergency transportation for the City. In April 2017, the program evolved from two ambulance operators staffing a single ambulance for 12-hour shifts to 24-hour shifts. The AO Program serves as a development program for potential Culver City firefighter recruits. AO responses are not considered to be part of the Department's effective response force and AOs are not factored into first-arriving apparatus response times.

Hazardous Materials

The Department responds to a variety of hazardous materials issues. Some common issues are reports of hazardous materials dumping, carbon monoxide incidents and gas leaks. All Culver City firefighters are trained to the first responder operations (FRO) level.

Technical Rescue

The Department provides vehicle accident response, natural disaster response, swift water rescue, confined space rescue, low and high angle rope rescue, and structural collapse rescue. All firefighters are trained to the operations level for vehicle extrication, rope rescue, and swift water rescue.

Wildland

Due to the City's wildland-urban interface and frequent mutual aid strike team deployments, wildland cache and training are current. Daily, the Department maintains an active deployment roster of available apparatus and qualified personnel to deploy to any wildland incident in the State of California. The Community Risk Reduction Division has an active brush clearance program targeted at prevention in the very high fire hazard severity zone within City limits.

Current Delivery System

The City is divided into three fire districts and two rescue/emergency medical services (EMS) districts. There are three fire stations, a training facility, a telecommunications facility (radio shop), and City Hall, which houses Fire Prevention and Fire Administration.

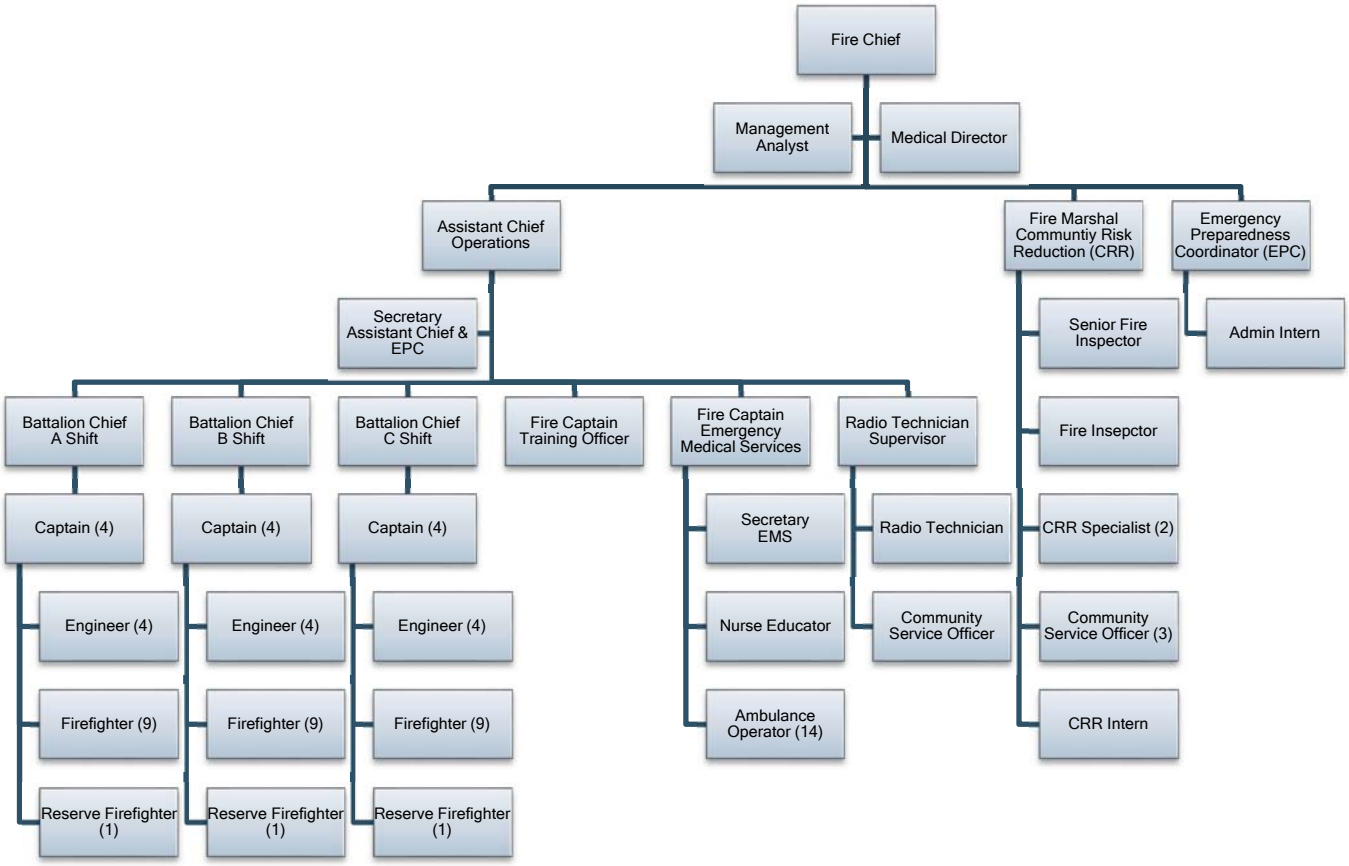


Figure 19: Culver City Fire Department Organizational Chart

The Department utilizes a three-shift schedule, staffing each shift for a 24-hour period, 7 days a week, and 365 days a year. A minimum on-duty staffing level of 18 personnel has been established for around-the-clock delivery of emergency services. During business hours, sworn administrative personnel are available to augment the on-duty shift, and personnel recall procedures are in place to facilitate additional staffing when needed. The Department employs four primary response unit types during emergencies.

Points of Service Delivery

The City is situated into three fire districts and two rescue districts. Each district has full first due coverage, with an engine at each station. The rescue districts are slightly different in that the department's two paramedic rescues must cover all three districts. This was done by creating two rescue districts, as pictured below. One rescue operates out of Fire Station 1 and the other out of Fire Station 3.

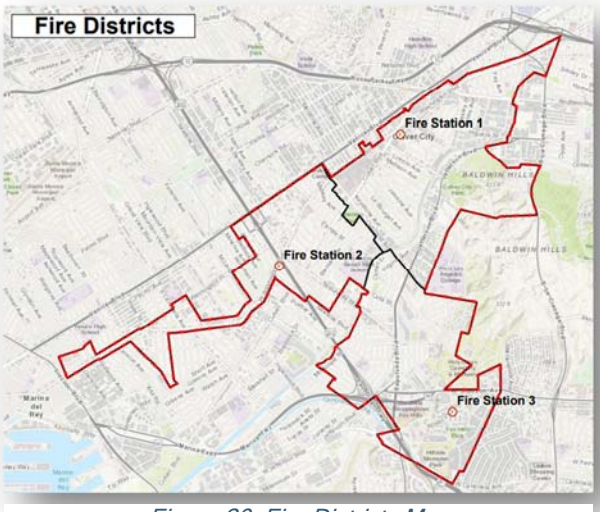


Figure 20: Fire Districts Map

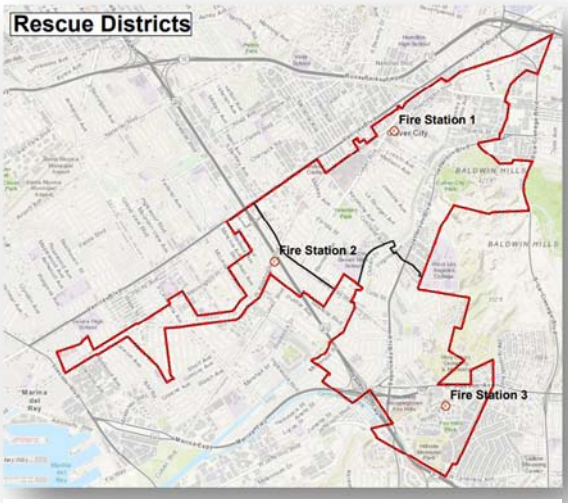


Figure 21: Rescue Districts Map

Daily Minimum Staffing Levels

Type	# of Apparatus	# of Staff per Apparatus	Total Staff
Engine Company	3	3	9
Truck Company	1	4	4
Rescue	2	2	4
Command Unit	1	1	1
			18

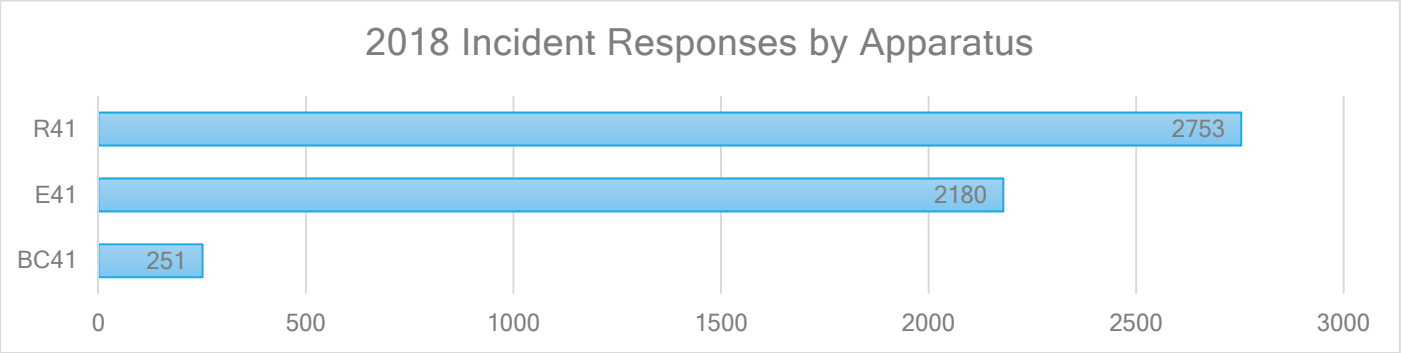
Additional staffing for major emergencies or community disasters is available through the response of executive and staff officers. The Department also has the ability to request mutual aid or recall off-duty personnel.

Stations

Fire Station 1

Fire Station 1 is located at 9600 Culver Boulevard in the heart of Downtown Culver City. The current building was constructed in 1993, but Station 1 has been in the Downtown area since the Department's inception. Station 1 houses the City's Emergency Operations Center (EOC), i.e., central control facility responsible for coordinating disaster management activities. Also located at Station 1 is a fire garage and telecommunications shop, where radio maintenance and repairs are conducted for all of the City's radios.

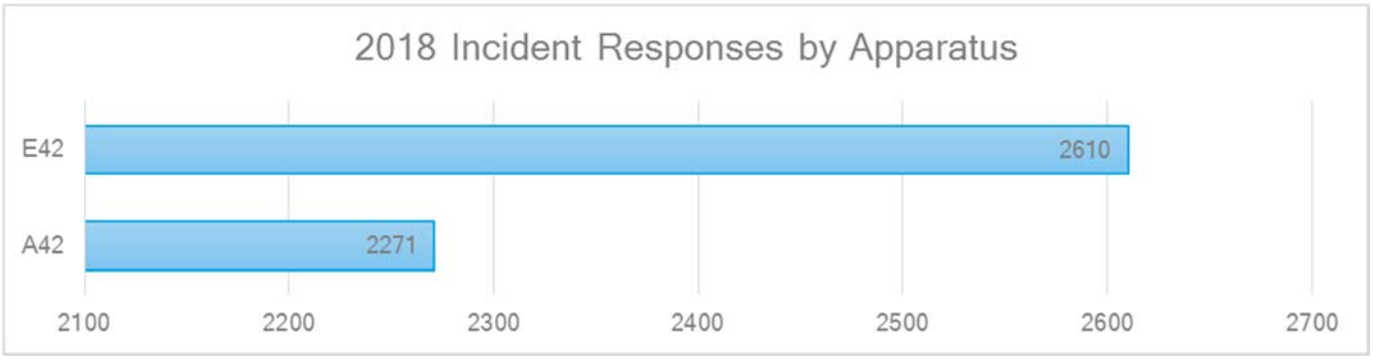
Type	Year	Make	Staffing Level
Engine 41	**2006**	**Seagrave 1,500 gpm Pumper**	**3**
Rescue 41	**2013**	**Dodge Lifeline Type I Ambulance**	**2**
Battalion 41	**2017**	**F250 Superduty Crewcab**	**1**
Reserve Engine 44	1995	Seagrave 1,500 gpm Pumper	-
Reserve Engine 45	1999	Seagrave 1,500 gpm Pumper	-
Reserve Truck 41	2003	ALF Tractor Trailer Aerial	-
Reserve Battalion 42	2003	Ford Excursion XLT	-
MCI	2018	Multi-Casualty Incident Supply Trailer	-
Utility 41	2017	Kubota Utility Vehicle	-
General Utility Vehicle	1999	Chevrolet Suburban	-
Utility Truck	2004	Ford F350 Stake Bed Utility	-



Fire Station 2

Fire Station 2 is located at 11252 Washington Boulevard. The building was constructed in 1981.

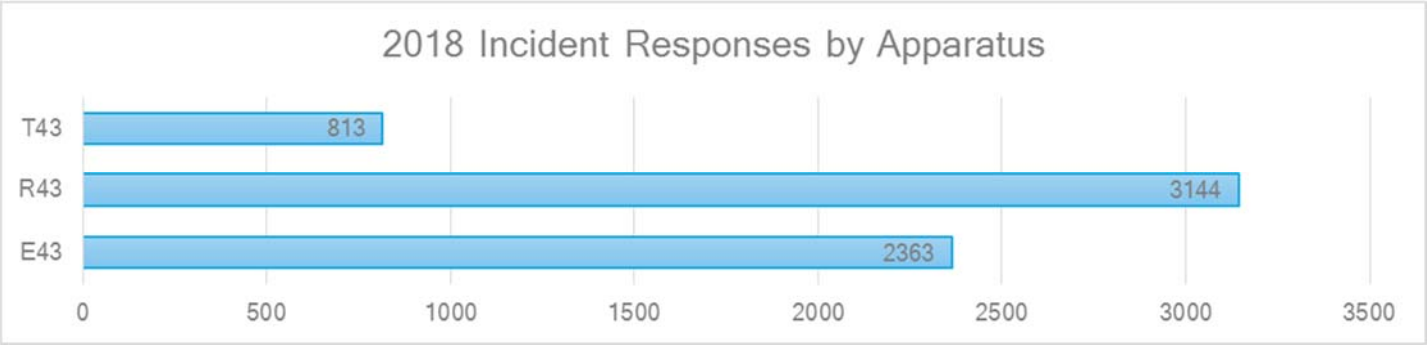
Type	Year	Make	Staffing Level
Engine 42	**2006**	**Seagrave 1,500 gpm Pumper**	**3**
Ambulance 42	2014	Ford E350 Van	2
Reserve Ambulance 41	2014	Ford E350 Van	-



Fire Station 3

Fire Station 3 was built in 2009 and is located at 6030 Bristol Parkway.

Type	Year	Make	Staffing Level
Engine 43	**2006**	**Seagrave 1,500 gpm Pumper**	**3**
Rescue 43	**2013**	**Dodge Lifeline Type I Ambulance**	**2**
Truck 43	**2017**	**Pierce Arrow XT 100' Aerial**	**4**
Reserve Engine 46	1997	Seagrave 1,500 gpm Pumper	-
Reserve Rescue 42	2013	Dodge Lifeline Type I Ambulance	-
Fuel Trailer	1997	Weld-It Flatbed Fuel Trailer	-



Apparatus

Engine Companies

The primary emergency response unit for the Culver City Fire Department is the engine company. There is one engine company at each of the three stations. Engine companies are staffed with a minimum of three personnel: a supervising captain, an engineer, and a firefighter. All fire personnel are required to be certified at the emergency medical technician (EMT) basic level. However, 80% of all personnel maintain a paramedic ALS certification.

Each engine is a triple-combination pumper, equipped with a 1,500 gallon per minute (gpm) pump, with a 500-gallon water tank and a full complement of hose. Engines are also equipped with 50 gallons of Class A firefighting foam, pre-connected medium and large diameter hand lines, a deck gun, 600 feet of four-inch supply hose, and two sections of hard suction hose.

The primary purpose of a pumper is to provide personnel with equipment and water to sustain an initial attack on a structure, wildland or other fire, but each engine company is also equipped with a variety of emergency equipment such as: basic and advanced life support medical equipment, emergency scene lighting, basic tools for defensive hazardous materials mitigation, basic water rescue equipment and rehab supplies. Each engine company is also equipped with 50 feet of ground ladders, specialized wildland firefighting equipment, forcible entry tools, auto extrication equipment and a thermal imaging camera.

Paramedic Rescues

Two stations are equipped with paramedic rescues–Station 1 and 3. Each rescue is staffed with a minimum of two firefighter/paramedics, each having advanced life support (ALS) certification. The paramedic rescues carry both ALS and BLS equipment and provide a high level of emergency medical care. Some of the items carried on the paramedic ambulances are: advanced airway and ventilation equipment, vascular therapy supplies, and portable battery-operated monitor/defibrillators. Firefighter/paramedics are able to supply immediate life saving measures and transport patients to the appropriate facilities.

From routine medical problems to the most critically ill or injured patient, rescues fill a significant role in Culver City–especially considering the high frequency of EMS service demands in the area. Though their primary role is EMS, these units are staffed by firefighters equipped with structural firefighting protective equipment, extrication equipment, a thermal imaging camera and self-contained breathing apparatus (SCBA).

Truck Company

The Culver City Fire Department has one truck company located at Station 3. The truck company is supervised by a captain and is staffed with an engineer and two firefighters. The truck is called an aerial ladder truck–also known as a hook-and-ladder or a tractor drawn aerial. Two operators are required for safe handling of this vehicle–an engineer driving the front and a tiller operator controlling the rear. As the rear wheels turn

independent of the front wheels, the truck has increased maneuverability and can more easily navigate through smaller streets and make tight turns in areas such as the movie studio lots.

The truck has a 100-foot truck mounted extension ladder, which is able to reach the equivalent of up to eight stories high. This allows firefighters to access or egress a building from a significant height and also to attack a fire from above. The aerial ladder is capable of allowing firefighters to direct an elevated master water stream of up to 600 gpm from the tip of the ladder. Because the truck does not have a pump or water tank, a pumper/engine must supply the water to fight the fire. In addition to the aerial ladder device, the truck is also equipped with over 200 feet of ground ladders, heavy rescue and auto extrication equipment and many other types of rescue equipment to handle various calls for service throughout the City.

Battalion Chief Command Vehicle

One Battalion Chief is responsible for overall field operations from a command vehicle. The command vehicle, located at Station 1, is equipped with advanced communication equipment, a mobile data computer, and a pull out command desk. From this command vehicle, a Battalion Chief is able to direct emergency scene operations and command all firefighting, lifesaving, and fire prevention operations. Some additional equipment carried in the command vehicle includes SCBA and suppression equipment, command worksheets and reference materials.

Basic Life Support Ambulance

The Ambulance, staffed with two Emergency Medical Technicians (EMTs), enables the provision of basic life support (BLS) and emergency transportation services for the Culver City community. Operating out of Fire Station 2, the ambulance cost-effectively improves the Department's response reliability and helps the Department serve a greater number of patients with pre-hospital care and transport. Should the need arise, the ambulance has the capability of advanced life support when supplemented with equipment and paramedics from other apparatus.

Reserve and Specialty Apparatus

The Fire Department maintains a fleet of reserve apparatus. Reserve apparatus are utilized to accommodate periodic maintenance and repair of front-line apparatus, to staff additional units during large-scale emergencies and to replace frontline units when they are called outside the City to assist other agencies (i.e., strike teams).

Fire Department specialty apparatus comprise a Kubota UTV, an MCI Trailer, a flatbed utility truck, a CERT utility vehicle, a 300-gallon diesel fuel trailer, and two trailer drawn scene lighting units.

ALL-HAZARD COMMUNITY RISK ASSESSMENT

A comprehensive risk assessment was conducted for both fire and non-fire emergencies. The factors used for risk assessment are both physical and theoretical. The two primary components of a risk assessment are an analysis of probability and consequences. Probability is the likelihood that a particular event will occur in a given time period. There are three areas of concern when evaluating consequences: 1) life safety (danger to occupants), 2) economic (loss of property, income, historic, or irreplaceable assets), and 3) environmental (irreparable or long term damage to the environment). The figure below displays a matrix that is utilized to categorize hazards based on the probability and consequences of risk. The x-axis refers to consequences and the y-axis references probability.

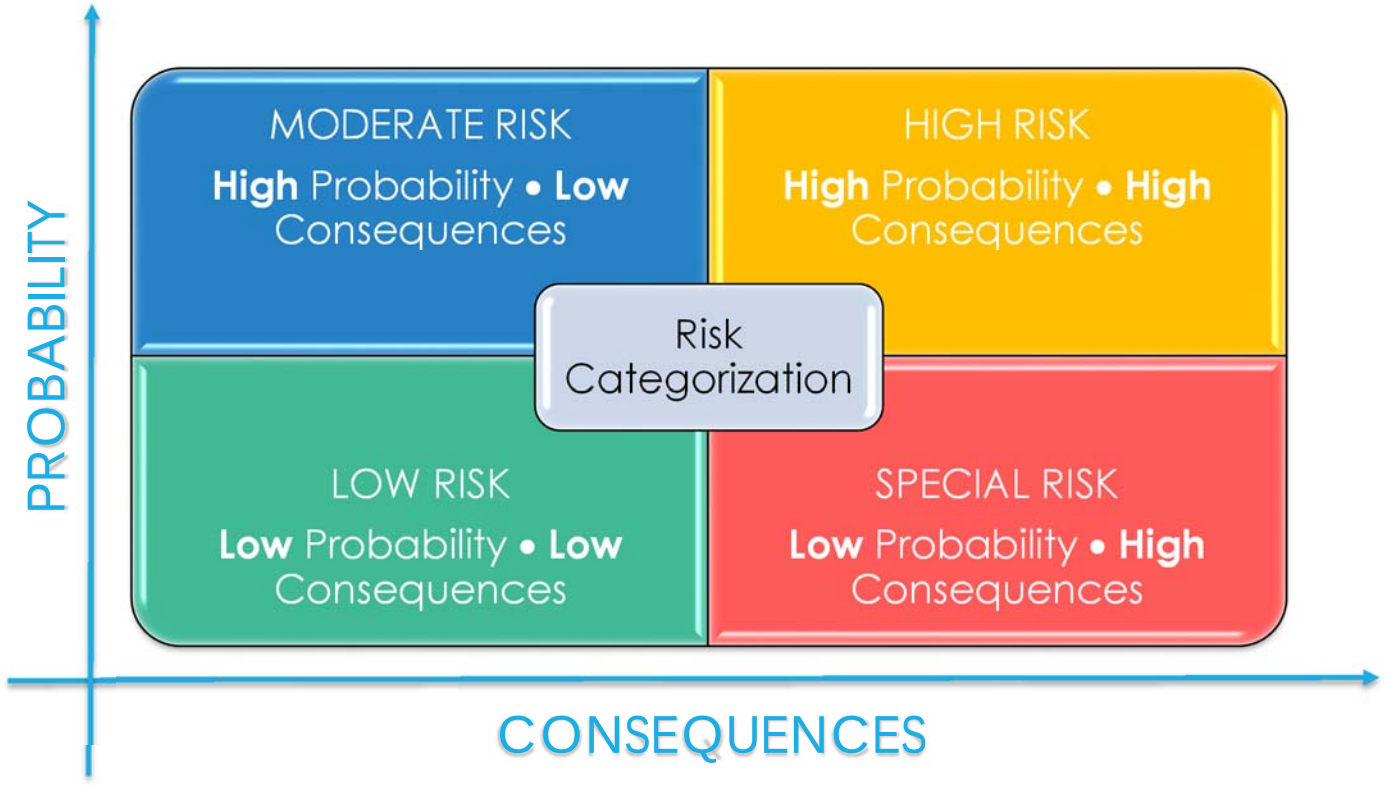


Figure 22: Two-Axis Risk Categorization Method

Communitywide Risk

Natural Hazards

The City of Culver City is susceptible to various natural hazards including, drought, earthquakes, extreme heat, flood, geological hazards, landslide/mudflow, liquefaction, seismic hazards, wildfire, windstorms, and climate change.[16]

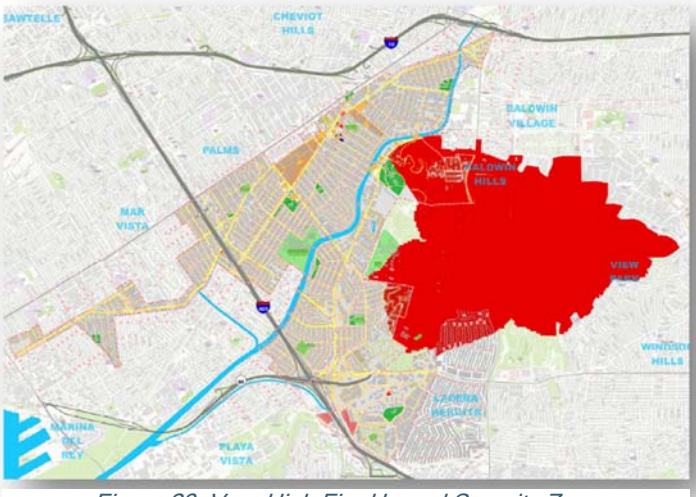


Figure 23: Very High Fire Hazard Severity Zone

Wildland Urban Interface

The eastern portion of Culver City is considered a wildland-urban interface. Wildland located within Los Angeles County are directly adjacent to the Culver City communities of Blair Hills and Culver Crest. A wildland-urban interface is defined as anywhere the growth and spread of a fire may begin in a brush or wildland region, and then quickly enter an urban environment. Certain conditions must be present for significant interface fires to occur. The most common conditions include: hot, dry and windy weather; the inability of fire protection forces to contain or suppress the fire; the occurrence of multiple fires that overwhelm committed resources; and a large fuel load (dense vegetation). Once a fire has started, several conditions influence its behavior, including fuel topography, weather, drought and development. Southern California faces challenges with wildfire hazards from the increasing number of houses being built in the wildland-urban interface. Every year the growing population has expanded further and further into the hills and mountains, including into forestlands. The increased "interface" between urban/suburban areas and the open spaces created by this expansion has produced a significant increase in threats to life and property from fires and has pushed existing fire protection systems beyond original or current design and capability. Mutual aid agreements are in place and front-line apparatus are equipped with wildland firefighting equipment to address wildland-urban interface fires in and around Culver City.

Due to increasing fires in the California region, air quality affects the Culver City population. Wind patterns can bring smoke from fires occurring several miles north or south of the City. During such times, the Department notifies the public of air

[16] City of Culver City, "City of Culver City and Culver City Unified School District Multi-Jurisdictional Hazard Mitigation Plan," http://www.culvercity.org/home/showdocument?id=3186, p. 49.

quality alerts and how to protect themselves from excessive smoke inhalation.

In recent years, Culver City, along with other Southern California cities, has begun to experience an increase in the amount of coyote encounters. These encounters include numerous attacks on pets that were off leash, unattended in residential backyards, and an upsurge in sightings in areas populated by people.[17]

Historically, coyotes have existed in and around Culver City, finding safe haven in areas including the Oil Fields backing Blair Hills, the Culver City Park and the Culver City Crest Neighborhood. Additionally, other areas within the City where dense brush is prevalent (hillsides, areas in and around the Ballona creek, etc.) also provide spots where coyotes can safely build dens and reproduce. It is also believed that the prolonged drought has limited potential food sources for the coyotes and thus drawn the coyotes to residential neighborhoods in search of food and water.

In general, coyotes regularly roam an area of about 2-5 square miles or whatever it takes to get enough food for the pack members. Normally, each coyote family group is a territorial and varies in number from 3 to 10 individuals. Coyotes are opportunistic, versatile carnivores that primarily eat small mammals, such as rabbits, ground squirrels, and mice. Coyotes tend to prefer fresh meat, but will eat significant amounts of fruits and vegetables during the autumn and winter months when their prey is scarce. Part of the coyotes' success as a species is its dietary adaptability. This dietary flexibility, coupled with a lack of prey and closer proximity to residents, has led the coyotes to seek alternative food sources, including small pets, pet food, and fallen fruits and vegetables found in the backyards of homes.

[17] City of Culver City Website, "Coyote Management," https://www.culvercity.org/Home/Components/Topic/Topic/740/925.

Earthquakes

The City of Culver City, like most of the Los Angeles Basin, lies over an area of multiple known earthquake faults.[18] The three known faults are Newport-Inglewood, Charnock, and Overland. In addition to these faults, there are four other major faults that have the potential to affect the greater Los Angeles Basin and Culver City: San Andreas, Palos Verdes, Whittier, and Santa Monica.

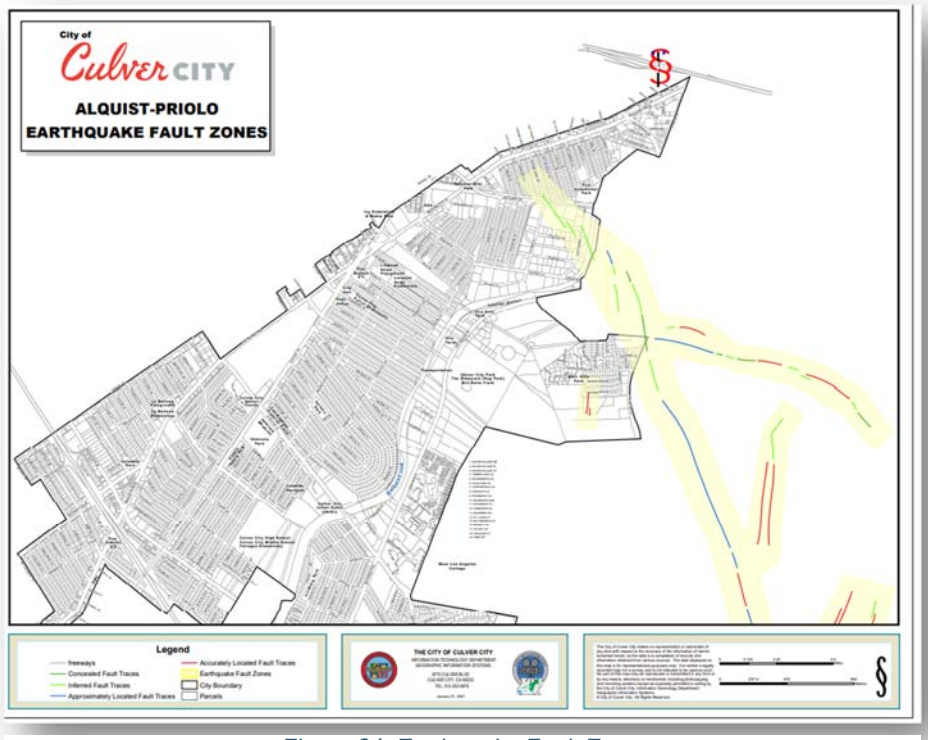


Figure 24: Earthquake Fault Zones

Located in Southern California, the Newport-Inglewood fault runs near the eastern portion of the City. Specific earthquake/disaster response policies have been developed and personnel have received training on earthquake related procedures and tasks. Mutual aid agreements are in place to ensure access to additional or specialized resources. The Fire Department oversees a Community Emergency Response Team (CERT) program, which could assist in disaster relief efforts. CERT members are educated to be self-sufficient for at least 72 hours. They receive training in first aid, in the use of fire extinguishers, and in conducting neighborhood safety surveys.

[18] California Institute of Technology, "Southern California Earthquake Data Center," http://scedc.caltech.edu/significant/chron-index.html.

Flood

The majority of the City is within a liquefaction zone extending from Marina Del Rey up through the eastern boundary of the City. There are identified floodplains within the City. Some flooding has occurred associated with runoff and storm drain/catch basin features.

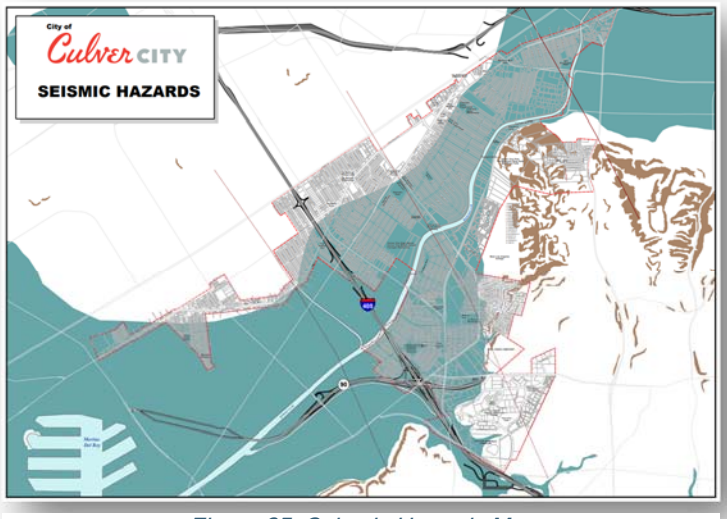


Figure 25: Seismic Hazards Map

Landslides/Mudflows

The eastern portion of the City where it interfaces with wildland is also prone to landslides and mudflows. Due to an anticipated recent El Nino event, the City developed a preparedness plan to ready and educate property owners and residents living in landslide/mudflow areas. Free sand and sandbags are always available to residents for use on their property at Station 1.

Drought

California is subject to wide variations in weather due to a phenomenon called the El Niño Southern Oscillation (ENSO). ENSO is a cyclical pattern in the water temperatures of the equatorial eastern Pacific Ocean, off the coast of South America. It is not a form of severe weather by itself, but it can cause changes in global weather patterns, including influencing the likelihood of severe weather. There are three phases of ENSO: the "warm phase" (El Niño), the "cold phase" (known as La Niña), and the neutral phase in which conditions are normal. During the warm El Niño phase, California sees higher levels of precipitation. El Niño also causes more tropical storms in the eastern Pacific, which may result in severe weather such as thunderstorms over California. During the cool La Niña phases, these effects are reversed.[19]

On May 9, 2016, Governor Jerry Brown issued an Executive Order that permanently prohibits practices that waste potable water. These practices include prohibiting hosing off sidewalks, driveways and other hardscapes, washing a motor vehicle without a hose that is fitted with a shut-off nozzle, operating a fountain or decorative water feature unless the water is part of a recirculation system, watering outdoor landscapes in a manner that causes excess runoff, or within 48 hours following measurable precipitation and irrigating ornamental turf in public street medians with potable water.

High Winds

High winds are defined as those that last longer than one hour at greater than 39 miles per hour (mph) or for any length of time at greater than 57 mph. They are the most frequent type of severe weather in the City. Windstorms that affect Los Angeles County, notably Santa Ana winds, are not location specific but rather impact a majority of the area. Santa Ana winds form when a high pressure region sits over the Great Basin (the high plateau west of the Rockies and east of the Sierra Nevada), forcing air toward the Pacific coast. The air

[19] City of Culver City, "City of Culver City and Culver City Unified School District Multi-Jurisdictional Hazard Mitigation Plan," http://www.culvercity.org/home/showdocument?id=3186, p. 82.

dries and heats up as it descends from the high plateau, creating the warm dry characteristics of the Santa Ana winds.

Severe windstorms pose a significant risk to life and property by creating conditions that disrupt essential systems such as public utilities, telecommunications, and transportation routes. High winds can and do occasionally cause damage to homes and businesses. The winds are not considered major widespread threats to population and property, but do involve responses from emergency service personnel. Severe windstorms can present a very destabilizing effect on the dry brush that covers local hillsides and wildland-urban interface areas and can increase wildfire threat. Destructive impacts to trees, power lines, and utility services also are associated with high winds. Falling trees can occasionally cause fatalities and serious structural damage while fallen power lines could cause widespread power outages and fire. These incidents are rare as well as localized.[20]

Climate Change

Climate change is not a distinct hazard, but rather a phenomenon that could exacerbate hazards. Climate change will be considered as a factor for relevant identified hazards.

Technological/Human Hazards

Oil Fields

The Inglewood Oil Field is located within Culver City and the unincorporated area of Los Angeles County known as Baldwin Hills. The oil field is approximately 1,000 acres making it one of the largest contiguous urban oil fields in the United States. 10 percent of the oil field's acreage is in Culver City. Drilling began in the oil field in the 1920s and is currently managed by Freeport-McMoRan. Throughout its existence, the oil field has presented real and perceived dangers for the Department. The area is home to oil drilling and fracking, which has caused concern in the Culver City community. The area has experienced brush fires in the past, primarily as a result of electrical transformer failures. As the Inglewood Oil Field and surrounding area are considered wildland-urban interface, the Department is aware of the risk to the City and is prepared with equipment necessary to address wildland-urban interface fires in this area.

Pipelines

There are underground pipelines carrying crude oil, diesel fuel, fuel oil, gasoline, jet fuel, and natural gas beneath Culver City. They are buried underground in rights-of-way at varying depths. The pipelines range in size from 8 inches in diameter to 16 inches in diameter. 22% of all pipeline accidents are caused by careless excavators who fail to notify pipeline and underground utility operators, as required, which is why everyone is encouraged to call 811 before digging anywhere. In1976, a front loader hit an 8-inch pipeline near Venice Boulevard. As the lines are high pressure, gasoline a large amount of gasoline was released causing an explosion. There were nine fatalities and significant property damage due to the blast. The Fire Department is capable of handling small pipeline incidents through current policies and procedures. Additional specialized resources are available through the California Master Mutual Aid Plan.

Hazardous Material Incidents

Hazardous material incidents account for less than one percent of all calls to the Fire Department. There are different types of hazardous materials incident responses ranging from a single engine response (e.g., an

[20] City of Culver City, "City of Culver City and Culver City Unified School District Multi-Jurisdictional Hazard Mitigation Plan," http://www.culvercity.org/home/showdocument?id=3186, p.81.

abandoned container of motor oil), to a response requiring the Department's entire staff for a major release of hazardous materials. Additional resources are available if needed through the California Master Mutual Aid Plan.

Utility Failure

Utility failure is not about introducing a hazard into the community; rather, the risk relates to the absence of major utilities such as power. A lack of power for an extended amount of time could have a catastrophic impact on Culver City's critical infrastructure and economy. Without power, communications, water and transportation come to a halt. Businesses, grocery stores, gas stations, ATMs, banks and other services cease operations. Refrigeration and medical devices are unable to function. Critical City infrastructure, such as City Hall, the Police Department, Public Works, the Transportation Facility, the Senior Center, and each fire station have emergency power capability with procedures in place to maintain essential emergency services, but long-term power outages could significantly impact the City.

Transportation Systems

Air

The City of Culver City does not have an airport within its boundaries, but is located approximately six miles away from Los Angeles International Airport (LAX). LAX is the sixth busiest airport in the world and third busiest in the United States, based on numbers of passengers. In 2017, the Federal Aviation Administration (FAA) implemented changes in flight patterns and altitudes of planes landing at LAX as part of the Southern California Metroplex project. The goal of the project intended to improve efficiency of the airspace in Southern California. The revised landing patterns of LAX's Westerly Operations have resulted in a greater concentration of planes flying over Culver City at lower altitudes. The map to the right references all flights from surrounding airports.[21] The pink lines represent flights to and from LAX. Although this has considerably increased overflights for the Culver City community, the risks from an air transportation emergency are extremely low. The Department is capable of handling small air transportation incidents through current policies and procedures. Additional specialized resources are available through the Master Mutual Aid Plan.

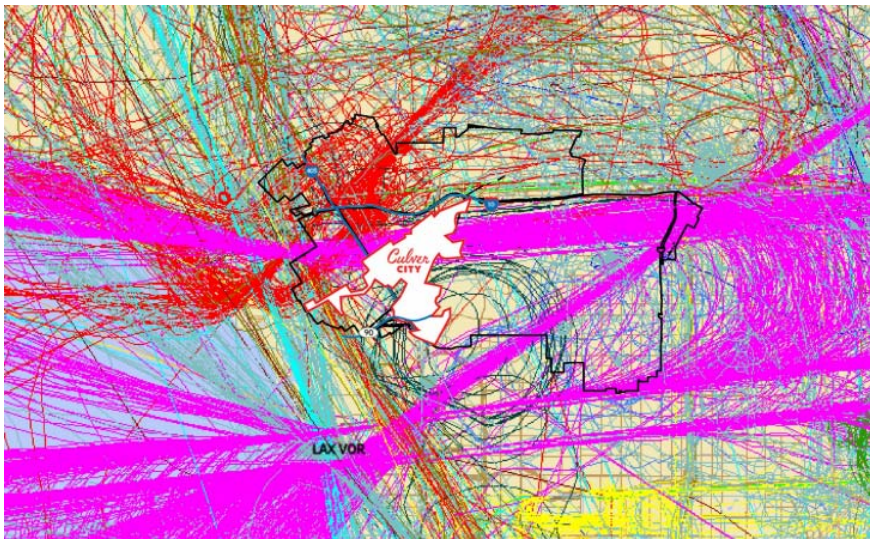


Figure 26: Flights Paths Above Culver City

[21] City of Culver City Website, "LAX overflights," https://www.culvercity.org/home/showdocument?id=2415.

Light Rail

The City of Culver City currently has a light rail mass transit system that operates within its boundaries. The presence of the light rail system adds to the potential for mass casualty and/or rescue incidents. Policies, procedures, and mutual aid agreements are in place to handle this potential.

Highway

Culver City provides emergency services to portions of the 405 and 90 Freeways as they pass through the City. There are 120 linear miles of streets and five miles of highway in Culver City. Accident consequences increase if the incident involves hazardous materials, multiple patients, or is extremely complex.

Security Hazards

Civil Disorder

Located within the Los Angeles Basin, Culver City is at risk of being affected by civil unrest that impacts Los Angeles. For example, historical events such as the Watts Riots and Rodney King Riots are Greater Los Angeles civil unrest events that have occurred in the past. As the probability of these events occurring is low, the associated risk falls into the low probability with high consequence category. While generally a police department issue, fire departments do attempt to extinguish fires and treat the injured, when safe, during these events. In the past, Culver City has teamed up with Los Angeles Fire Department and operated using the policies, tactics and procedures developed for riot situations (i.e., task force configurations with law enforcement escorts).

Terrorism

Located within the Los Angeles basin, Culver City is at risk of being involved in a terrorist attack involving Los Angeles. All members are trained to the awareness level and many have had extensive additional training. Depending on the nature of the event—chemical, biological, radiological, nuclear, or explosive—the Department has acquired various detection capabilities.

Active Shooter

Located in the United States, Culver City is at risk of being involved in an active shooter incident. Specific locations have been identified and training has been conducted in partnership with the Culver City Police Department.

Risk Classified by Response Type

Fire

Fire Risk Assessment

In general, fire hazards are related to the characteristic type and layout of a city's development. The majority of Culver City is devoted to residential or low-rise commercial development that is composed predominantly of wood-frame construction. 2018 structure fire data indicate that of fires involving structures, over 70 percent occur in residential and small commercial buildings.

Fire (Urban) Risk Assessment Methodology

Fire risk in this category include structure fires, vehicle fires, rubbish fires, and vegetation fires. The analysis takes into account fire potential (probability) and impact (consequences). There are five steps in the assessment process.

Step 1: Review community demographics and development

Review general features of the City to include demographics, total square miles, permanent population, daytime population, population density, building density, road and highway miles, and total assessed valuation.

Step 2: Identify hazards

Identify the hazard types (structure, vehicle, rubbish) and estimate probability based on historical data.

Step 3: Evaluate the risks

Evaluate the consequences. Consider life safety (risk of death or injury), economic or cultural loss (loss of property, income, historic, or irreplaceable assets), and environmental harm (irreparable or long-term damage to the environment). The evaluation includes an assessment of occupancy use, occupant type, special populations, density, construction types, construction features, fire flow requirements, historical significance, and environmentally sensitive areas.

Step 4: Consider mitigating factors

Consider factors such as access, fire detection systems, fire sprinklers, extinguishing systems, standpipes, other fire protection features (elevator recall, HVAC shutoffs, pressurized stairwells) and onsite 24-hour security personnel.

Step 5: Define and establish hazard levels

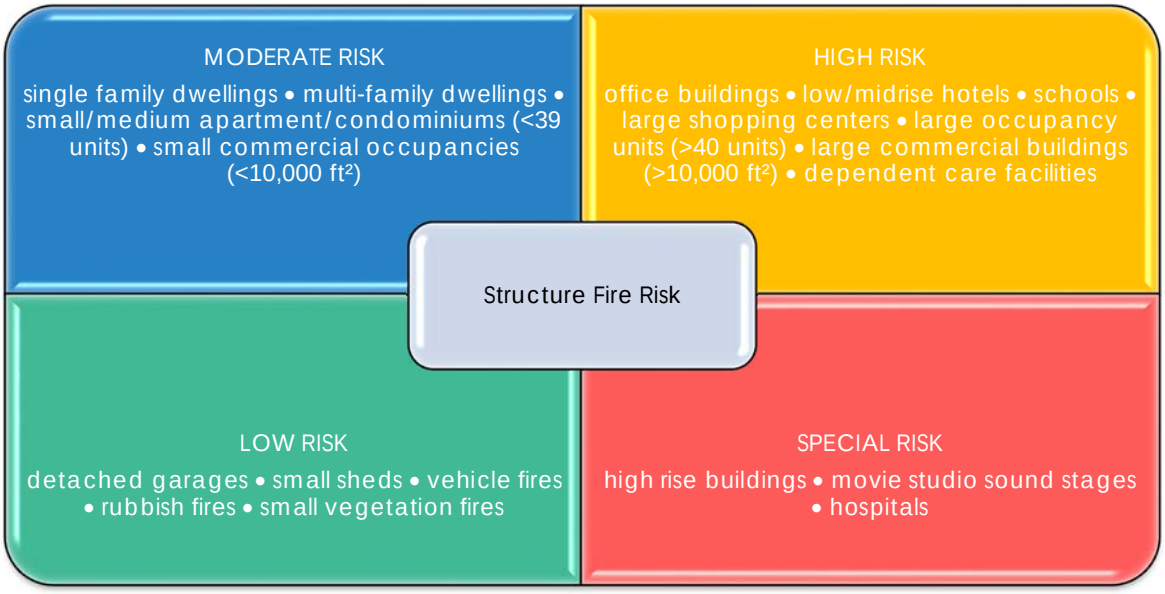
Define and establish hazard levels of low, moderate, high, and special.

Though the assessment is semi-quantitative in nature, it provides a solid framework to measure risk and formulate plans to reduce these risks.

Fire (Urban) Risk Levels

Based upon this analysis of existing and potential community risk, in addition to the probability and consequences of these events, the following hazard levels have been established:

- Low Risk: Small structures that are remote from other buildings are considered low hazard occupancies. Examples include detached garages and sheds. Also included in this category are vehicle fires, rubbish fires, and small vegetation fires.
- Moderate Risk: Moderate hazard areas are also known as typical hazards. Most of Culver City falls into this category. Single family dwellings, multifamily dwellings, and small or medium apartments/condominiums (≤ 39 units) and small commercial occupancies (≤ 10,000 square feet) are example of moderate risk structures.
- High Risk: These properties are typically substantial structures that in an emergency may bear the risk of large loss of life, loss of economic values to the community, or large property loss. Low and midrise hotels, schools, large shopping centers, large apartment or condominium complexes (40+ units), large commercial buildings (>10,000 square feet), senior citizen housing, and skilled nursing facilities are examples of high-risk occupancies.
- Special Risk: High-rise buildings, movie studio sound stages, and the Southern California Hospital at Culver City (SCHCC) are classified as special risk. Special Risk is an exceptional classification that addresses critical tasking for a unique incident type.



Fire Flow

The evaluation of water supply needed once a structure has become fully involved is known as fire flow. Fire flow is a vital component to the assessment of fire risk. The City of Culver City has established minimum fire flow requirements and total water supply needed for existing structures and other anticipated fire locations. There are five pressure zones within the Culver City system with hydraulic gradients ranging from 275 to 525 feet. The system is capable of supplying 22,500 gallons per minute (gpm). Peak demand is approximately 9,975 gpm, leaving 12,525 gpm available for fire flow demand. Fire flow requirements in Culver City vary from 2,000 gpm in low-density residential areas up to 12,000 gpm in commercial and industrial areas. Currently, the City has 1,041 fire hydrants within the Department's jurisdiction.

Wildland Fire Risk Assessment

The eastern portion of Culver City is considered a wildland-urban interface. A wildland-urban interface is defined as anywhere the growth and spread of a fire may begin in a brush or wildland region, and then quickly enter an urban environment. The dominant fuel model for this area is light grass/shrub type with about 65 acres of undeveloped land. Wildland located in Los Angeles County is directly adjacent to the Culver City communities of Blair Hills and Culver Crest. These two neighborhoods have approximately 300 structures combined. There are also smaller pockets of grass/vegetation located throughout the city which pose a potential threat. These areas include but are not limited to the vegetation along the 405 interstate and highway 90, where there are a considerable amount of homeless population residing.

Wildland Risk Assessment Methodology

The wildland fire risk analysis takes into account fuel type, life hazards, exposures (structures and infrastructure), and environmental impacts. The analysis takes into account fire potential (probability) and impact (consequences). There are five steps in the assessment process.

Step 1: Review community demographics and development

Review general features of the City to include demographics, total square miles, permanent population, daytime population, population density, building density, road and highway miles, and total assessed valuation.

Step 2: Identify hazards

Identify hazard types (light to moderate wildland fuels) and estimate probability based on historical data (including footprints of historical fires).

Step 3: Evaluate the risks

Evaluate the consequences. Consider life safety (risk of death or injury), economic or cultural loss (loss of property, income, historic, or irreplaceable assets), and environmental harm (irreparable or long-term damage to the environment). The evaluation includes an assessment of exposures (occupancies and infrastructure), population density, and special populations. Additionally, evaluate the impact of weather, including extreme fire conditions (high wind, high temperature, low fuel moisture).

Step 4: Consider mitigating factors

Consider factors such as access, clearance around structures, hardened infrastructure, and water supply.

Step 5: Define and establish hazard levels

Define and establish hazard levels of low, moderate, high, and special.

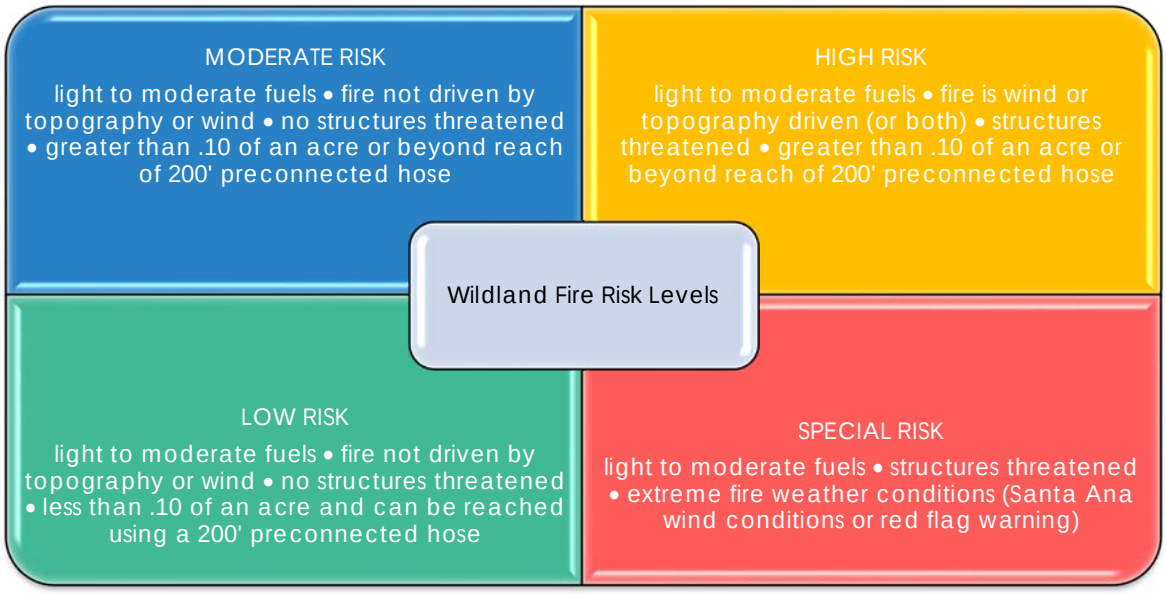
Though the assessment is semi-quantitative in nature, it provides a solid framework to measure risk and formulate plans to reduce these risks.

Wildland Fire (Urban) Risk Levels

Based on this analysis of existing and potential community risk the following wildland risk levels have been established.

- Low Risk: Light to moderate fuels. Fire not driven by topography or wind. No structures threatened. Less than .10 of an acre and can be reached using the 200' preconnected hose.
- Moderate Risk: Light to moderate fuels. Fire not driven by topography or wind. No structures threatened. Greater than .10 of an acre or beyond reach of 200" preconnected hose.

- High Risk: Light to moderate fuels. Fire is wind or topography driven (or both). This includes events where structures are threatened.
- Special Risk: Light to moderate fuels. Extreme fire weather conditions (Santa Ana wind conditions or red flag warning). Structures threatened.



Non-Fire Risk Assessment

There are three general categories of non-fire hazards: Emergency Medical Services (EMS), hazardous materials response (HazMat), and technical rescue. Risk assessment for non-fire hazards incorporate many of the same components evaluated during the fire risk assessment (historical data, community characteristics, and demographics). However, there are factors unique to each risk.

Non-Fire Risk Assessment Methodology

Non fire risks include EMS incidents, hazardous material incidents, and technical rescue incidents. The analysis takes into account fire potential (probability) and impact (consequences). There are five steps in the assessment process.

Step 1: Review community demographics and development

Review general features of the City to include demographics, total square miles, permanent population, daytime population, population density, building density, road and highway miles, and total assessed valuation.

Step 2: Identify hazards

Identify hazard types (EMS, hazardous material release, technical rescue) and estimate probability based on historical data.

Step 3: Evaluate the risks

Evaluate the consequences. Consider life safety (risk of death or injury), economic or cultural loss (loss of property, income, historic, or irreplaceable assets), and environmental harm (irreparable or long-term damage to the environment).

Step 4: Consider mitigating factors

Consider factors such as access and built in safety features (Haz Mat and technical rescue)

Step 5: Define and establish hazard levels

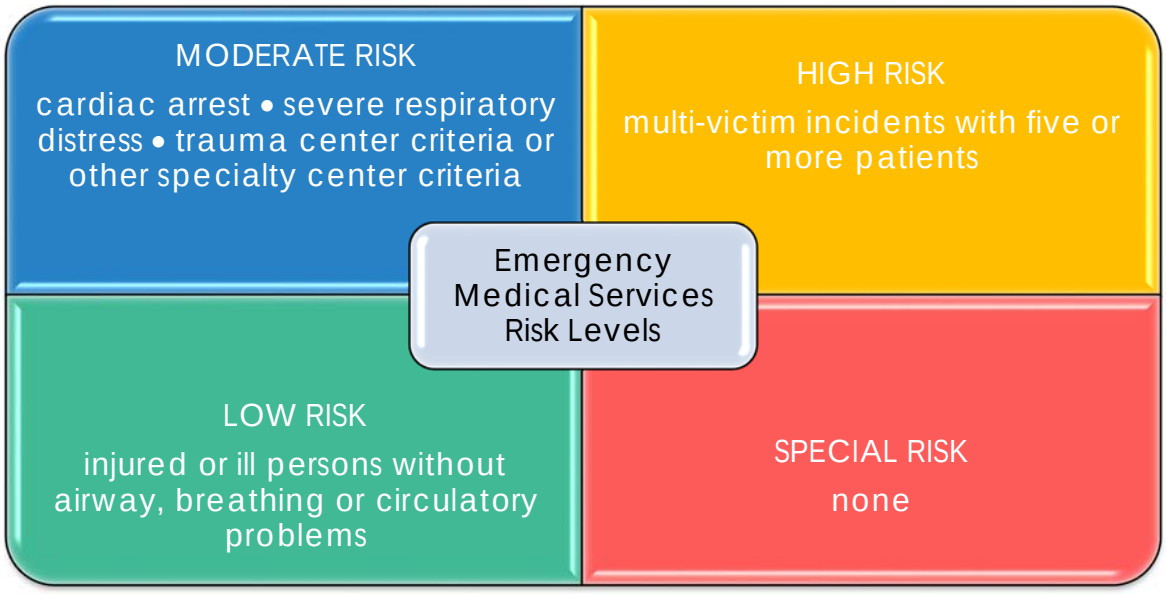
Define and establish hazard levels of low, moderate, high, and special (technical rescue only).

Though the assessment is semi-quantitative in nature, it provides a solid framework to measure risk and formulate plans to reduce these risks.

Emergency Medical Incidents

Requests for Emergency Medical Services (EMS) are the most frequent type of service provided by the Culver City Fire Department. EMS incidents account for 70 percent of emergency activities and correspondingly have the greatest impact on Culver City Fire Department resources. The residential and daytime population is a significant factor in assessing the probability of EMS incidents. As the population of the Culver City increases and ages, the demand for EMS will increase proportionately. There is a range of EMS incident types. The following hazard levels have been established for EMS risk:

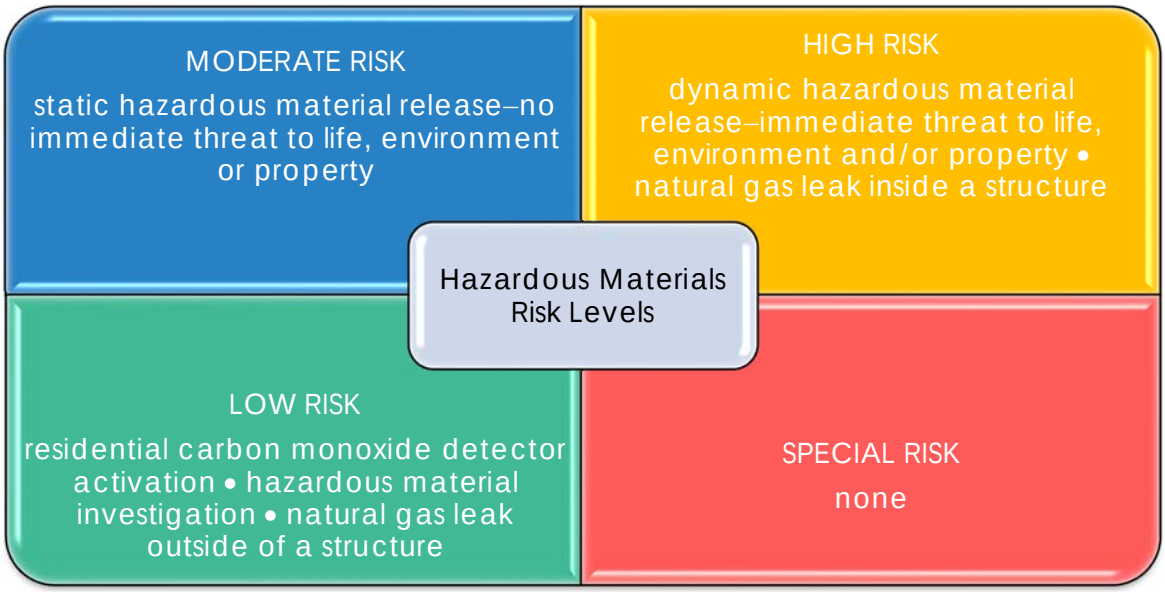
- Low Risk: Injured and ill persons, without airway, breathing, or circulatory problems.
- Moderate Risk: Cardiac arrest, severe respiratory distress, patients meeting trauma center criteria or other specialty center criteria.
- High Risk: Multi-victim incidents with five or more patients.



Hazardous Material Incidents

Hazardous material incidents account for 1 percent of responses annually. Hazardous materials are routinely transported on the streets of Culver City and there are 222 businesses that use or store reportable quantities of hazardous materials. There are many pipelines carrying natural gas and petroleum products under high pressure. Illicit drug labs and illegal dumping are other sources of hazardous material incidents. The City also has 10% of a large oil field within its jurisdiction, which could potentially present HazMat related issues. The following hazard levels have been established for hazardous materials risk:

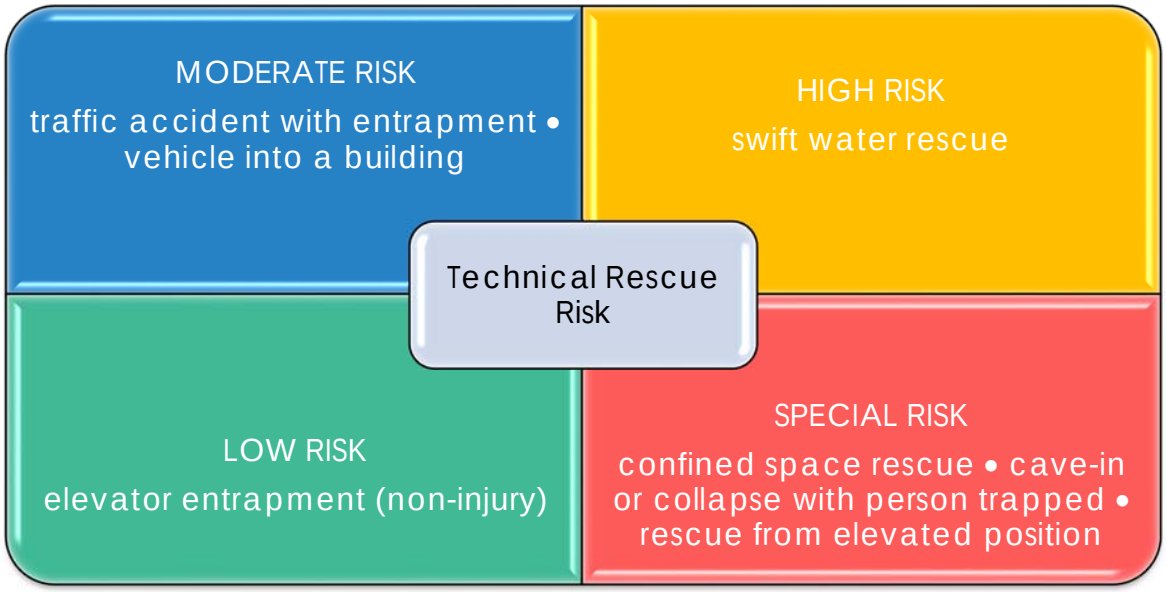
- Low Risk: Residential carbon monoxide detector activation, hazardous material investigation, natural gas leaks outside of a structure.
- Moderate Risk: Static hazardous material release – no immediate threat to life, environment, or property.
- High Risk: Dynamic hazardous material release – immediate threat to life, environment, or property, natural gas leak inside a structure.



Technical Rescue Incidents

Technical rescue covers a wide range of incidents, which include vehicle extrication, confined space rescue, trench collapse, low/high angle rescue, swift water rescue, and building collapse. Technical rescue accounts for one percent of emergency responses annually. Contributing factors include population density, vehicle traffic, mass transit (light rail), construction activity, and manufacturing. The following hazard levels have been established for technical rescue risk:

- Low Risk – Elevator Entrapment (non-Injury).
- Moderate Risk – Traffic accident with entrapment, vehicle into a building.
- High Risk – Swift Water Rescue.
- Special Risk – Confined space rescue, cave-in or collapse with person trapped, rescue from elevated position.



Probability / Historical Frequency

Historical Emergency Demand

The Department observes historical call volume in order to determine future probability. This is done response area-wide, as well as by Fire Management Zone and by risk classifications and non-emergency calls. The following intensity gradient maps chart where the City has experienced the most demand 2014-2018 by risk classification. Red indicates high call volume and green represents lower call volume.

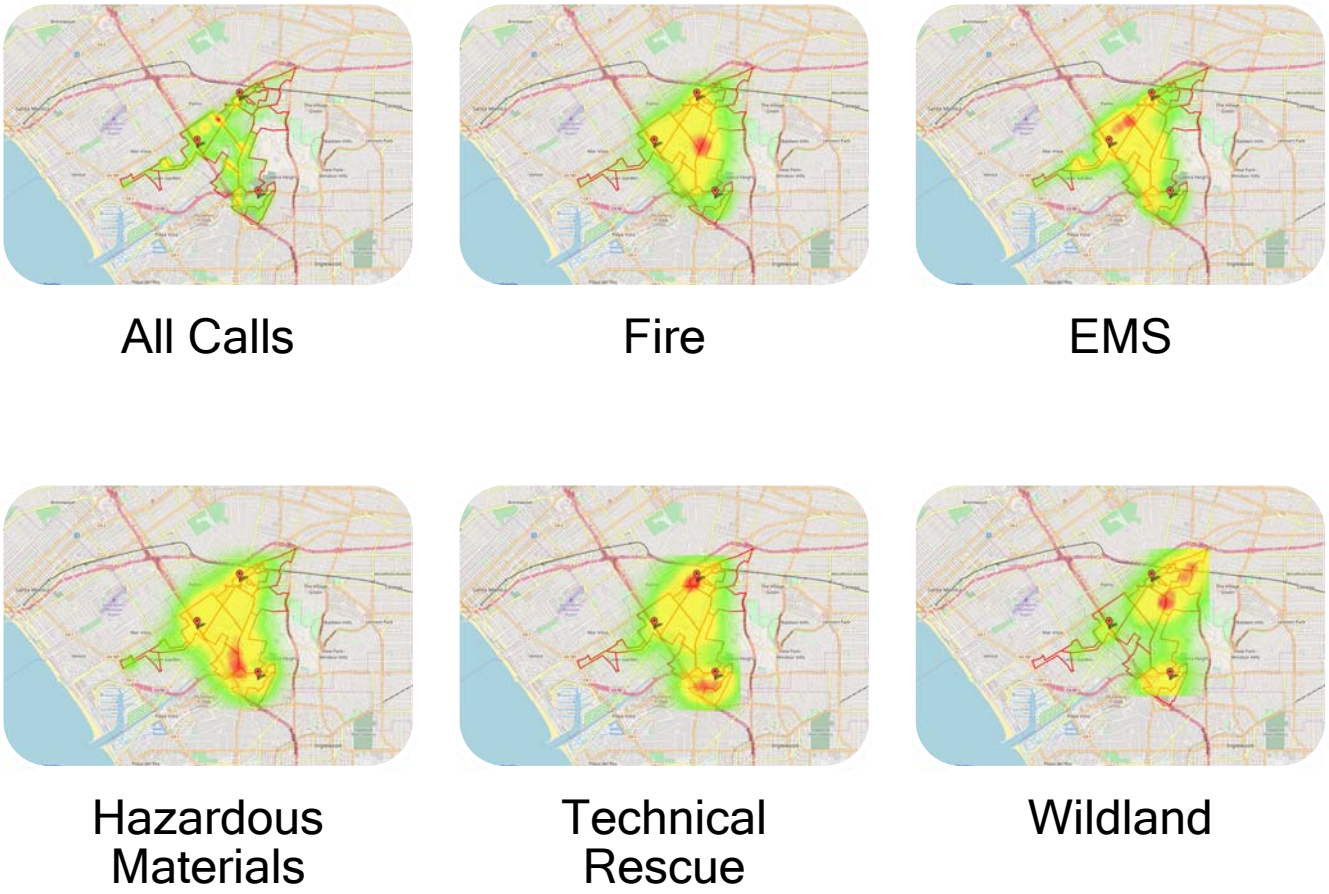


Figure 27: Intensity Gradient Maps by Call Type

Emergency Activity	2018	2017	2016	2015	2014
Total Incidents	6,791	6,676	5,744	5,644	5,261
Fire	117	81	82	101	92
Structure Fire	45	32	28	40	41
Wildland Fire	16	5	12	7	10
Rescue - EMS	4,819	4,813	4,379	4,337	4,017
EMS	4,769	4,750	4,325	4,281	3,968
Technical Rescue	48	58	51	49	48
Hazardous Materials	134	138	106	102	101
Non-Electrical	31	33	39	36	36

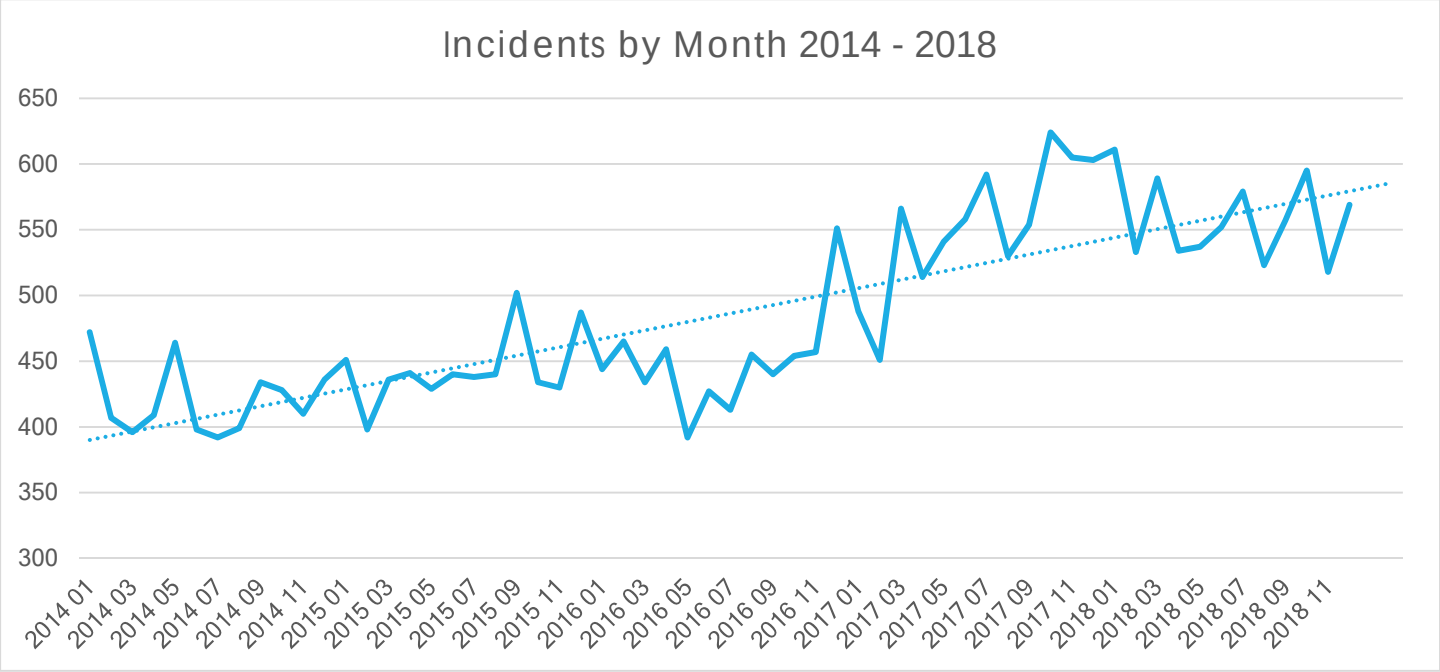


Figure 29: Incidents by Month with Trend Projection

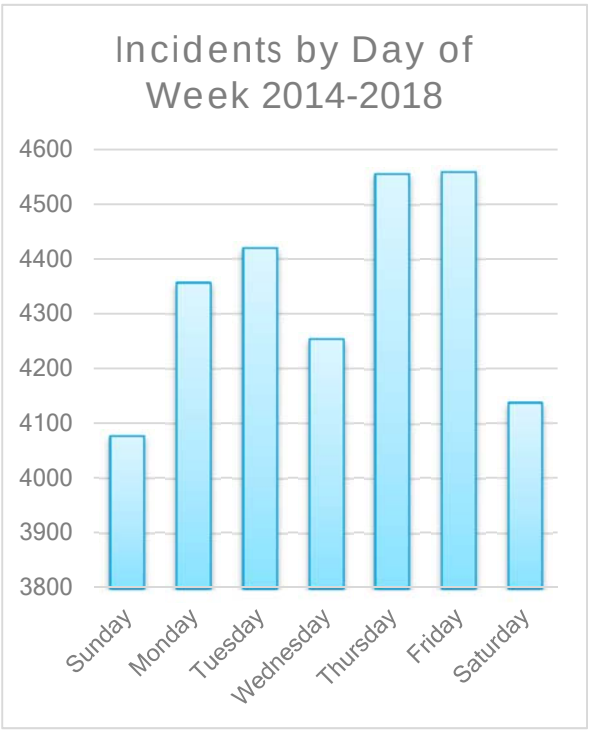


Figure 28: Incidents by Day of the Week

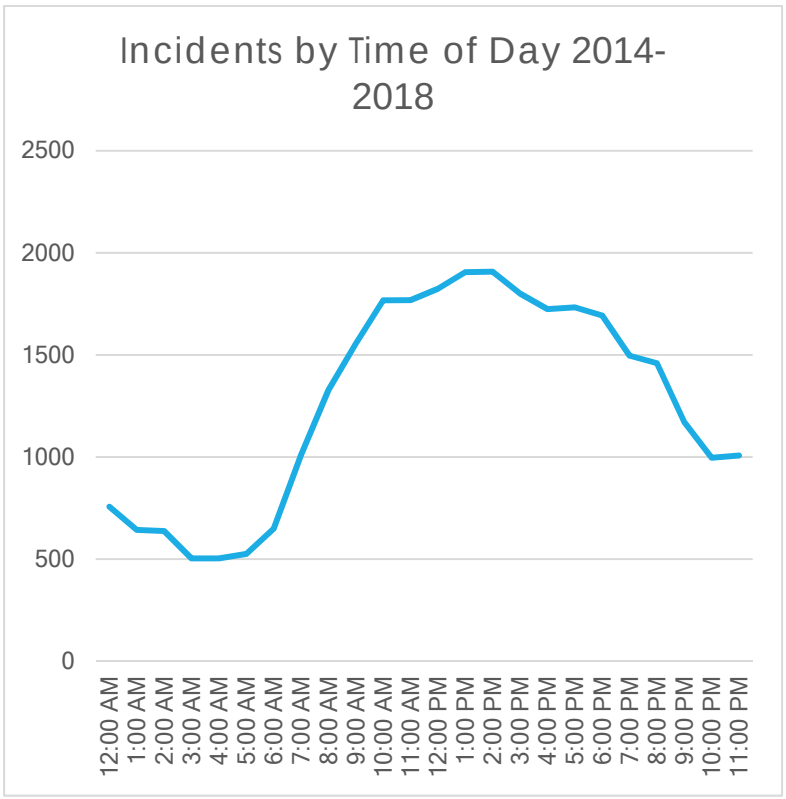


Figure 30: Incidents by Time of Day

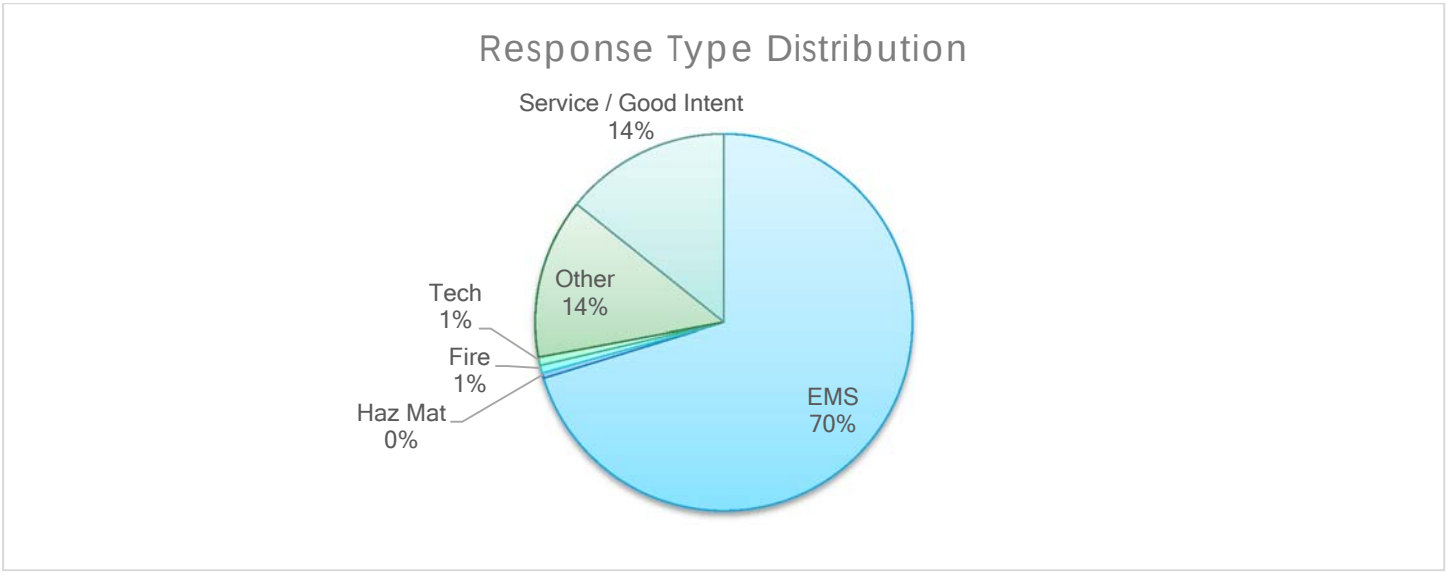


Figure 31: Response Type Distribution

EMS Historical Activity

Patients Transported

Patients Transported	2018	2017	2016	2015	2014
Total Patients Transported	3,469	3,442	3,227	3,137	2,985
Patients Transported to So Cal Hospital	1,061	1,030	1,000	1,071	1,032
Percentage of Transports Outside of City (%)	69%	70%	69%	66%	65%

Single Patient Repeat Callers	2018	2017	2016	2015	2014
Number of Patients that Call ≥ 5 Times	42	42	53	31	37
Number of Patients that Call ≥ 10 Times	7	6	3	7	5
Number of Patients that Call ≥ 15 Times	1	4	0	2	0

Mutual/Automatic Aid

Mutual Aid	2018	2017	2016	2015	2014
Total Aid Provided	126	170	106	245	117
Automatic Aid Provided to LA City FD	73	117	65	185	64
Automatic Aid Provided to LA Co FD	11	8	18	25	22
Mutual Aid Provided to SRA Baldwin Hills Outlook	36	40	21	29	28
Mutual Aid Provided OTHER	7	1	2	1	9
Mutual Aid Strike Team Deployments	5	5	2	5	3
Overhead Deployments	1	0	0	1	0
Mutual Aid Received	47	60	65	63	25

Historical Non-Emergency Service Demand

Non-Emergency Calls for Service	2018	2017	2016	2015	2014
500 - Service Calls	331	364	264	229	185
600 - Good Intent Calls	635	575	349	366	323
700 - False Alarm & False Calls	727	635	538	477	514

Suppression Personnel Non-Emergency Activity Summary (hours)	2018	2017	2016	2015	2014
Total	20,701	23,965	24,967	23,294	25,173
Training	13,388	15,890	16,370	15,814	16,608
Wellness	5,457	5,570	5,853	5,582	5,703
Public Education	441	559	648	818	544
Pre Fire Planning	4	54	31	15	93
Hydrant Service	14	496	406	259	664
Business Fire/Life Safety Inspections	931	1,041	1,337	728	1,434
Other Training Not Specified	464	353	321	77	126

Business Fire/Life Safety Inspections	2018	2017	2016	2015	2014	2013
Total Business Fire/Life Safety Inspections	2825	2929	3032	2942	2810	2742
Inspections by Suppression Personnel	*1699*	*1728*	*1829*	*1841*	*1742*	*1829*
Inspections by CRR Personnel	*1043*	*1057*	*1140*	*1050*	*956*	*832*
Hazardous Materials Inspections	*83*	*144*	*63*	*51*	*112*	*81*
Number of Order to Comply Letters Written	212	371	186	174	240	-
Total Hydrants Serviced	0	1029	1029	1029	1016	1023
Total Number of Fire Investigations	118	62	33	44	45	72
Plan Checks Completed	308	269	330	271	NA	NA

Consequence Assessment / Outcomes

Patient Outcomes	2018	2017	2016	2015	2014
Cardiac Arrests	59	38	33	26	NA
Return of Spontaneous Circulation (ROSC)	24	14	12	7	NA
% of ROSC (ROSC/Cardiac Arrests)	41%	37%	36%	27%	NA
% Bystander CPR	42%	21%	36%	31%	NA

Property Loss/Saves	2018	2017	2016	2015	2014
Total Losses ($)	$474,450	$529,500	$178,500	$563,165	$266,450
Total Property Loss ($)	$470,350	$526,500	$178,500	$291,525	$186,200

Total Content Loss ($)	$4,100	$3,000	$0	$271,640	$80,250
Property Saved ($)	$3,277,400	$1,261,000	$2,152,000	$1,500,000	$775,000

Fire Injury/Death	2018	2017	2016	2015	2014
Civilian Death	1	0	0	0	0
Civilian Injury	0	0	0	0	0
Service Death	0	0	0	0	0
Service Injury	0	0	0	0	0

Fire Investigations - Cause Count	2018	2017	2016	2015	2014
Intentional	5	7	0	4	0
Unintentional	48	22	15	18	11
Failure of Equipment or heat source	9	4	2	1	5
Act of Nature	0	0	0	1	0
Cause under investigation	20	7	5	3	11
Cause undetermined after investigation	36	22	11	17	18

Risk by Fire Management Zone (FMZ)

For the purposes of analysis and planning, the City of Culver City is divided into fifteen fire management zones. These zones are defined by occupancies within a given geographical area that share common risk. This approach creates zones of homogenous risk types. This method also facilitates more accurate risk evaluations for each geographical area. With the assistance of the City's Geographic Information Systems team, staff mapped out the fifteen fire management zones and noted key risks in each zone. For each zone, there is a cover map, which outlines schools, dependent care facilities, government facilities, faith-based locations, locations containing hazardous materials, residential complexes with over 40 units, buildings greater than 10,000-square-feet in size or taller than 75 feet. Staff observed zone size, zoning use types, structures, critical infrastructure, economic factors, relative population densities, and mitigating elements such as the ratio of fire sprinklers in structures. Staff also observed historical call volume and heat maps to determine concentration of call volume within each zone. Lastly, there is a great deal of demographic data by zone pulled from various Esri reports.

DEPLOYMENT AND PERFORMANCE

Current Deployment

Deployment describes what resources the Department sends. The Department takes into account what risks must be managed (community risk assessment), what resources are necessary to mitigate those risks (critical tasking), how likely will the Department be able to mitigate those incidents with its current deployment model (historical incidents), and how likely will the Department be able to recover from those incidents (resiliency).

Critical Task Analysis

A critical task analysis is the processes of breaking down a complex job into its components and then determining what skills and capabilities are necessary to accomplish each task. A critical task analysis was conducted for each risk classification and category level. This allows the department to determine the capabilities needed to resolve an incident. Capability is determined by staffing levels, teamwork, organization, coordination, training, and equipment. An Effective Response Force (ERF) is the number of staff necessary to complete all of the identified tasks necessary to terminate an incident.

An emergency incident is dynamic and often unpredictable. Many factors determine what actions need to be taken to save lives, limit property damage, and protect the environment. While it can be difficult to fully quantify what critical tasks must be accomplished during a dynamic or expanding incident, certain assumptions can be made that allow for a detailed task analysis.

Critical Task Analysis Process

The critical task analysis involves a series of steps and decisions to determine the minimum number of personnel needed for the first arriving unit and the Effective Response Force:

1. In preparation for the critical task analysis, it is necessary to first start with a clean slate. It is important to recognize institutional bias and not “back in” to an analysis based on current or historical response levels. This is a mental exercise for the personnel conducting the analysis.

2. Start with outcomes in mind. The desired result for all incidents is to save lives, reduce disability, limit damage to property and the environment in an effective and efficient manner while providing for the safety of responding personnel.

3. Review the findings of the 2019 Community Risk Assessment, including detail within each Fire Management Zone.

4. Review elements of the 2019 Standards of Cover, including the relevant total response time baselines and benchmarks.

5. Review the 2019-24 Strategic Plan goals and objectives.

6. Consider other Department sources of information relevant to the task analysis. This includes apparatus capabilities, tactics, evolutions, Standard Operating Guidelines (SOGs), training levels, documentation from company and platoon evaluations, probationary evaluations, program appraisals, local and regional After-Action Reports (AAR), and near-miss reporting.

7. Review relevant professional literature and studies to highlight current knowledge and identify best practices. Professional literature includes publications from research organizations (NIST, UL), standards (FIRESCOPE, NIMS, CICCS, NFPA), evaluating organizations (ISO, CFAI), regulatory agencies (OSHA, Department of Health Services), textbooks, references, journals, and magazines.

8. Identify and document critical tasks and sub-tasks.

9. Determine the minimum number of personnel needed for the first arriving unit and the Effective Response Force.

To maintain currency, it is necessary to revisit each task analysis periodically. The Department does this annually through its program appraisal process.

Fire (Urban) Critical Tasks Analysis

Factors such as building construction, fire load, built-in fire protection features, occupancy type, mobility of occupants, and the extent of fire upon arrival all pose potential challenges or advantages to firefighting success. There are specific critical tasks necessary to control fire risks in a safe and effective manner. The following tables show the critical tasks, subtasks, and personnel requirements for low and moderate risk fires.

*Critical Tasks Necessary for **Low Risk** Fire Response*

Critical Tasks	Sub Tasks	Personnel Needed
Supervision	Size up, scene safety, crew management and accountability, communications, resource ordering, notifications.	1
Fire Attack	Deploy hoseline, access/forcible entry, primary search, containment, extinguishment, overhaul.	2
Pump Operations	Engine placement, operate pump, water supply, scene lighting, tool caching.	1
	Total/Effective Response Force	**4**

*Critical Tasks Necessary for **Moderate Risk** Fire Response*

Critical Tasks	Sub Tasks	Personnel Needed
Command[22]	Size up, personnel safety, determine objectives/strategy/priorities, assign resources, company accountability, communicate with dispatch/assigned resources/assisting agencies, resource ordering and tracking, notifications.	1

[22] Incident Commander - FIRESCOPE Field Operations Guide 420-1, pp. 5-3.

Critical Tasks	Sub Tasks	Personnel Needed
Fire Attack[23]	Deploy and advance hoseline, nozzlework, access/forcible entry, door control, air flow management, primary search, containment, extinguishment, secondary search, overhaul.	2
Back-Up Fire Attack	Deploy and advance secondary hoseline, nozzlework, access/forcible entry, primary search, containment, extinguishment, secondary search, overhaul.	2
Exposure Protection[23]	Deploy and advance hoseline to protect floor above/adjacent unit/adjacent buildings.	2
Rapid Intervention Crew (RIC)	Stand-by at primary entry point for immediate rescue deployment, monitor designated radio channels, establish equipment cache, place additional ground ladders, create additional points of egress (soften building).	2
Water Supply	Engine placement, water supply, operate pump, tool caching.	1
Pump / Aerial Operations	Apparatus placement, secondary water supply, operate pump, operate aerial ladder, utilities, scene lighting, tool caching.	3
Ventilation[23]	Ladder deployment, access/forcible entry, vertical/horizontal/positive pressure ventilation, coordinate with fire attack, salvage, overhaul.	3
Medical	Medical aid standby, assessment and treatment of fire victims or firefighters.	2
	Total / Effective Response Force	**18**

A designated safety officer (SO) serves a critical function. During business hours, a designated staff member responds to fires and serves as SO. After hours, this position is filled with mutual aid.

*Critical Tasks Necessary for **High Risk** Fire Response*

Critical Tasks	Sub Tasks	Personnel Needed
Command[24]	Size up, personnel safety, determine objectives/strategy/priorities, assign resources, company accountability, communicate with dispatch/assigned resources/assisting agencies, resource ordering and tracking, notifications.	2

[23] Division or Group Supervisor - FIRESCOPE Field Operations Guide 420-1, pp. 8-4.
[24] Incident Commander - FIRESCOPE Field Operations Guide 420-1, pp. 5-3.

Critical Tasks	Sub Tasks	Personnel Needed
Safety	Monitor for unsafe conditions, identify and announce hazards, stop or prevent unsafe actions, monitor PPE discipline, ensure mitigation measures are in place (adequate comm plan, alert channel monitored).	2
Fire Attack[25]	Deploy and advance hoselines (3), nozzlework, access/forcible entry, door control, air flow management, primary search, containment, extinguishment, secondary search, overhaul.	9
Exposure Protection[26]	Deploy and advance hoseline to protect floor above/adjacent unit/adjacent buildings.	5
Rapid Intervention Crew (RIC)	Stand-by at primary entry point for immediate rescue deployment, monitor designated radio channels, establish equipment cache, place additional ground ladders, create additional points of egress (soften building).	5
Pump / Aerial Operations	Apparatus placement, water supply x 3, operate pump, operate aerial ladder, utilities, scene lighting, tool caching.	5
Ventilation[27]	Ladder deployment, access/forcible entry, vertical/horizontal/positive pressure ventilation, coordinate with fire attack, salvage, overhaul.	7
Medical	Medical aid standby, assessment and treatment of fire victims or firefighters.	5
	Total / Effective Response Force	**40**

*Critical Tasks Necessary for **Special Risk** Fire Response*

Special Fire Risk incidents represent unique critical tasking situations due to their complexity and size. These are very low frequency events. In addition to the critical tasks listed for high risk fires, additional resources may be required to supply added capability and provide relief crews. Resource requests and incident organization (assignments) are dictated by the objectives and priorities established by the Incident Commander. Additional resources are obtained by utilizing unassigned units, 40-hour staff (during business hours), and mutual aid from neighboring jurisdictions. The Department confidently relies on the experience and professional judgment of company and chief officers to request additional resources when needed.

The minimum mutual aid request to meet the demands of a special risk fire is an “A Assignment,” i.e., one truck company (5), three engine companies (12), two rescue ambulances (4), two battalion chiefs (4), and one EMS Supervisor (1), adding 26 personnel to the incident.

[25] Division or Group Supervisor - FIRESCOPE Field Operations Guide 420-1, pp. 8-4.
[26] Ibid.
[27] Ibid.

Wildland Fire Critical Task Analysis

Factors such as weather, fuel type, and topography all pose potential challenges or advantages to success. There are specific critical tasks necessary to mitigate wildland fire risks in a safe and effective manner. The following tables show the critical tasks, subtasks, and personnel requirements for low and moderate risk wildland fires.

*Critical Tasks Necessary for **Low Risk** Wildland Fire Emergency Response*

Critical Tasks	Sub Tasks	Personnel Needed
Supervision	Size up, scene safety, crew management and accountability, communications, resource ordering, notifications.	1
Fire Attack	Deploy hoseline, access/forcible entry (gates and fences), containment, extinguishment, mop up.	2
Pump Operations	Engine placement, operate pump, water supply, scene lighting, tool caching.	1
	Total/Effective Response Force	**4**

*Critical Tasks Necessary for **Moderate Risk** Wildland Fire Emergency Response*

Critical Tasks	Sub Tasks	Personnel Needed
Command[28]	Size up, personnel safety, determine objectives/strategy/priorities, assign resources, company accountability, communicate with dispatch/assigned resources/assisting agencies, resource ordering and tracking, notifications.	1
Safety[29]	Lookout (18 watch out situations), identify and announce hazards, stop or prevent unsafe actions, monitor PPE discipline, ensure mitigation measures are in place (accountability, 10 standard firefighting orders, adequate communications plan, alert channel monitored).	1
Perimeter Control Left Flank[30]	Progressive hoselay, nozzlework, access/forcible entry (gates and fences), fuel removal, containment, extinguishment, mop up.	7
Perimeter Control Right Flank[30]	Progressive hoselay, nozzlework, access/forcible entry (gates and fences), fuel removal, containment, extinguishment, mop up.	7

[28] Incident Commander - FIRESCOPE Field Operations Guide 420-1, pp. 5-3.
[29] Safety Officer - FIRESCOPE Field Operations Guide 420-1 pp. 5-8.
[30] Division or Group Supervisor - FIRESCOPE Field Operations Guide 420-1, pp. 8-4.

Critical Tasks	Sub Tasks	Personnel Needed
Pump Operations	Apparatus placement, water supply, operate pumps, scene lighting, tool caching.	2
	Total / Effective Response Force	**18**

*Critical Tasks Necessary for **High Risk** Wildland Fire Emergency Response*

Critical Tasks	Sub Tasks	Personnel Needed
Command[31]	Size up, personnel safety, determine objectives/strategy/priorities, assign resources, company accountability, communicate with dispatch/assigned resources/assisting agencies, resource ordering and tracking, notifications.	2
Safety	Monitor for 18 watch out situations, identify and announce hazards, stop or prevent unsafe actions, monitor PPE discipline, ensure mitigation measures are in place (accountability, 10 standard firefighting orders, adequate comm plan, alert channel monitored).	1
Perimeter Control Left Flank2[32]	Progressive hoselay, nozzlework, access/forcible entry (gates and fences), fuel removal, containment, extinguishment, mop up.	16
Perimeter Control Right Flank2[33]	Progressive hoselay, nozzlework, access/forcible entry (gates and fences), fuel removal, containment, extinguishment, mop up.	12
Structure Protection[34]	Remove people from areas at risk, coordinate evacuation with assisting agencies (PD), structure triage, structure preparation, structure protection.	14
Air Operations3[35]	Support perimeter control and structure protection operations with water drops.	4
Pump Operations	Apparatus placement, water supply, operate pumps, scene lighting, tool caching, and helispot management.	6
	Total / Effective Response Force	**55**

[31] Incident Commander - FIRESCOPE Field Operations Guide 420-1, pp. 5-3.
[32] Division or Group Supervisor - FIRESCOPE Field Operations Guide 420-1, pp. 8-4.
[33] Ibid.
[34] Ibid.
[35] Branch Director - FIRESCOPE Field Operations Guide 420-1, pp. 8-4.

*Critical Tasks Necessary for **Special Risk** Wildland Fire Emergency Response*

Special wildland fire incidents represent unique critical tasking situations due to their complexity, size, and need for special resources. These are very low frequency events. In addition to the critical tasks listed for high risk wildland fires, additional resources may be required to supply added capability and provide relief crews. Resource requests and incident organization (assignments) are dictated by the objectives and priorities established by the Incident Commander. Additional resources are obtained by utilizing unassigned units, 40-hour staff (during business hours), and mutual aid from neighboring jurisdictions. The Department confidently relies on the experience and professional judgment of company and chief officers to request additional resources when needed.

The minimum mutual aid request to meet the demands of a special risk wildland fire is a "Brush Fire Assignment," i.e., six engine companies (24), one truck company (5), two helicopters (4), two battalion chiefs (4), adding 37 personnel to the incident.

EMS Critical Task Analysis

Factors such as patient location, type and severity of illness/injury, and number of patients all pose potential challenges or advantages to success. There are specific critical tasks necessary to mitigate EMS risks in a safe and effective manner. The following tables show the critical tasks, subtasks, and personnel requirements for low, moderate, and high-risk EMS incidents.

*Critical Tasks Necessary for **Low Risk** EMS Response*

Critical Tasks	Sub Tasks	Personnel Needed
Supervision	Size up, scene safety, crew management, family liaison, patient egress.	1
Patient Assessment	Initiate patient interview, establish rapport, patient assessment, establish IV, medication administration.	1
Documentation	Documentation of patient assessment and treatment, medical control (protocol verification, base hospital contact), interpret EKG, transmit EKG to hospital, patient destination.	1
Patient Care	Assist with assessment (blood pressure, pulse, respirations, apply EKG, pulse oximetry, blood glucose check), assist with treatment (apply dressings, bandaging, splinting, spinal immobilization), Patient packaging/lifting/movement, carry equipment.	2
	Total / Effective Response Force	**5**

*Critical Tasks Necessary for **Moderate Risk** EMS Response*

Critical Tasks	Sub Tasks	Personnel Needed
Supervision	Size up, scene safety, crew management, family liaison, patient egress.	1
Patient Assessment	Initiate patient interview, establish rapport, patient assessment, establish IV or IO, arrhythmia management, medication administration.	1
Documentation	Documentation of patient assessment and treatment, intubation or advanced airway placement, medical control (protocol verification, base hospital contact), interpret EKG, transmit EKG to hospital, patient destination.	1
Patient Care	Assist with assessment (blood pressure, pulse, respirations, apply EKG, pulse oximetry, blood glucose level), assist with treatment (airway management, apply dressings, bandaging, splint application, spinal immobilization), patient packaging/lifting/movement, carry equipment.	2
	Total / Effective Response Force	**5**

*Critical Tasks Necessary for **High Risk** EMS Response*

Critical Tasks	Sub Tasks	Personnel Needed
Command[36]	Size up, personnel safety, determine objectives/strategy/priorities, assign resources, company accountability, communicate with dispatch/assigned resources/assisting agencies, resource ordering and tracking, notifications.	1
Safety[37]	Identify and announce hazards, hazard mitigation (traffic control, protection line, extinguisher pre-placement, vehicle stabilization), monitor PPE discipline, stop unsafe actions.	3
Triage[38]	Locate, triage and tag all patients, provide IC patient count.	2
Treatment[38]	Determine and establish treatment area, coordinate movement of patients to treatment area, acquire needed medical supplies and equipment, treat patients, package patients for transport, prioritize patients for transport.	7

[36] Incident Commander - FIRESCOPE Field Operations Guide 420-1, pp. 5-3.
[37] Safety Officer - FIRESCOPE Field Operations Guide 420-1 pp. 5-8.
[38] Division or Group Supervisor - FIRESCOPE Field Operations Guide 420-1, pp. 8-4.

Transportation[38]	Coordinate and distribute the transport of patients with treatment, medical communications, and ambulance staging, track patients and destinations.	2
Medical Communications[38]	Establish and maintain communication with the Medical Alert Center (MAC), specify receiving hospitals, determine current critical and non-critical bed capacity, coordinate patient transport with transportation.	2
Ambulance Staging	Determine and establish staging area, provide instructions to arriving ambulances, track resources, coordinate transportation needs with transportation and treatment.	1
	Total / Effective Response Force	**18**

High risk EMS incidents represent unique critical tasking situations due to their complexity and size. It may require additional resources to supply added capability, transport patients, or obtain specialized services. Resource requests and incident organization (assignments) are dictated by the objectives and priorities established by the Incident Commander. Additional resources are obtained by utilizing unassigned units, 40-hour staff (during business hours), mutual aid, and private ambulance companies. Hospital Emergency Response Teams (HERT) are available for large incidents and situations requiring a physician (amputations). Large numbers (>10) of private ambulances can be expeditiously requested through the Fire Operational Area Coordinator (FOAC). The Department confidently relies on the experience and professional judgment of company and chief officers to request additional resources when needed.

HazMat Critical Task Analysis

Factors such as material type and form, chemical properties, size of release, and weather all pose potential challenges or advantages to success. There are specific critical tasks necessary to mitigate hazardous material risks in a safe, effective manner. The following tables show the critical tasks, subtasks, and personnel requirements for low and moderate hazardous material incidents.

*Critical Tasks Necessary for **Low Risk** HazMat Response*

Critical Tasks	Sub Tasks	Personnel Needed
Supervision	Size up, scene safety, crew management and accountability, communications, resource ordering, notifications.	1
Investigation	Evacuation, air monitoring (O2, CO, H2S, HCN, LEL), identify leak/material, mitigate problem.	2
	Total/Effective Response Force	**3**

*Critical Tasks Necessary for **Moderate Risk** HazMat Response*

Critical Tasks	Sub Tasks	Personnel Needed
Command[39]	Size up, establish the initial isolation distance (perimeter), personnel safety, determine objectives/strategy/priorities, assign resources, company accountability, communicate with dispatch/assigned resources/assisting agencies, resource ordering and tracking, notifications.	1
Safety[40]	Develop site safety and control plan, identify and announce hazards, stop or prevent unsafe actions, monitor PPE discipline, ensure mitigation measures are in place (accountability, adequate communications plan, alert channel monitored).	1
Material Identification	Positively identify material (material data safety sheets, cargo manifests, placards, labels, pipeline information), assess hazard, communicate hazard assessment to IC and safety.	1
Perimeter Control[41]	Isolate hazard, control entry points (stop traffic, pedestrian access, building entrances), control perimeter around entry points.	4
Evacuation[42]	Remove people from areas at risk, consider shelter in place, coordinate evacuation with assisting agencies (PD), instruct facility representatives to implement specific plans (schools, business), utilize built in public address systems.	3
Containment[42]	Take action to stop, slow, restrict, or redirect the spread of the material (isolate, dam, retain, divert, disperse, dilute, cover, foam, upright 55 gallon drum, protect storm drains).	3
	Total / Effective Response Force	**13**

[39] Incident Commander - FIRESCOPE Field Operations Guide 420-1, pp. 5-3.
[40] Safety Officer - FIRESCOPE Field Operations Guide 420-1 pp. 5-8.
[41] Division or Group Supervisor - FIRESCOPE Field Operations Guide 420-1, pp. 8-4.
[42] Division or Group Supervisor - FIRESCOPE Field Operations Guide 420-1, pp. 8-4.

*Critical Tasks Necessary for **High Risk** HazMat Response*

Critical Tasks	Sub Tasks	Personnel Needed
Command[43]	Size up, establish the initial isolation distance (perimeter), personnel safety, determine objectives/strategy/priorities, assign resources, company accountability, communicate with dispatch/assigned resources/assisting agencies, resource ordering and tracking, notifications.	1
Safety[44]	Develop site safety and control plan, identify and announce hazards, stop or prevent unsafe actions, monitor PPE discipline, ensure mitigation measures are in place (accountability, adequate comm plan, alert channel monitored).	1
Material Identification	Positively identify material (material data safety sheets, cargo manifests, placards, labels, pipeline information), assess hazard, plume modeling, communicate hazard assessment to IC and safety.	1
Perimeter Control[45]	Isolate hazard, control entry points (stop traffic, pedestrian access, building entrances), control perimeter around entry points.	4
Evacuation[46]	Remove people from areas at risk, consider shelter in place, coordinate evacuation with assisting agencies (PD), instruct facility representatives to implement specific plans (schools, business), utilize built in public address systems.	5
Containment[47]	Take action to stop, slow, restrict, or redirect the spread of the material (isolate, dam, retain, divert, disperse, dilute, cover, foam, upright 55 gallon drum, protect storm drains).	6
	Total / Effective Response Force	**18**

*Critical Tasks Necessary for **Special Risk** HazMat Response*

Special Risk hazardous materials incidents represent unique critical tasking situations due to their complexity and need for specialized resources. These are very low frequency events. In addition to the critical tasks listed for high risk hazardous materials incidents, additional resources may be required to supply added capability and provide specialized resources. Resource requests and incident organization (assignments) are dictated by the objectives and priorities established by the Incident Commander. Additional resources are obtained by utilizing unassigned units, 40-hour staff (during business hours), and mutual aid from neighboring jurisdictions.

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[43] Incident Commander - FIRESCOPE Field Operations Guide 420-1, pp. 5-3.
[44] Safety Officer - FIRESCOPE Field Operations Guide 420-1 pp. 5-8.
[45] Division or Group Supervisor - FIRESCOPE Field Operations Guide 420-1, pp. 8-4.
[46] Ibid.
[47] Ibid.

The Department confidently relies on the experience and professional judgment of company and chief officers to request additional resources when needed.

The minimum mutual aid request to meet the demands of a special risk hazardous materials incident is a "Full Haz Mat Assignment," i.e., one squad/Type 1 hazardous materials unit (4), two engines (8), one truck (5), one BC (2), adding 19 personnel to the incident.

Technical Rescue Critical Task Analysis

Factors such as location, accessibility, type and age of equipment involved all pose potential challenges or advantages to success. There are specific critical tasks necessary to mitigate technical rescue risks in a safe, effective manner. The following tables show the critical tasks and personnel requirements for low, moderate, and high-risk technical rescue incidents.

*Critical Tasks Necessary for **Low Risk** Technical Rescue Response*

Critical Tasks	Sub Tasks	Personnel Needed
Supervision	Size up, scene safety, crew management and accountability, communications, resource ordering, notifications.	1
Extrication	Access elevator control room, lockout/tagout, elevator door access, remove occupants.	3
	Total/Effective Response Force	**4**

*Critical Tasks Necessary for **Moderate Risk** Technical Rescue Response*

Critical Tasks	Sub Tasks	Personnel Needed
Command[48]	Size up, personnel safety, determine objectives/strategy/priorities, assign resources, company accountability, communicate with dispatch/assigned resources/assisting agencies, resource ordering and tracking, notifications.	1
Safety[49]	Identify and announce hazards (fuel leak, electrical lines), hazard mitigation (traffic control, protection line, extinguisher pre-placement), monitor PPE discipline, stop unsafe actions.	3
Stabilization	Evacuate building, shut off utilities, vehicle stabilization, disconnect battery, deactivate undeployed airbags, shoring, scene lighting, assist with medical care.	3

[48] Incident Commander - FIRESCOPE Field Operations Guide 420-1, pp. 5-3.
[49] Safety Officer - FIRESCOPE Field Operations Guide 420-1 pp. 5-8.

Critical Tasks	Sub Tasks	Personnel Needed
Extrication	Establish a safe work zone, establish tool cache, observe the location and position of patients within the vehicle, identify which patient to extricate first, disentangle and remove patient.	4
Medical Care	Access/evaluate/stabilize patient, coordinate actions with extrication, provide treatment, package, and transport.	2
	Total / Effective Response Force	**13**

*Critical Tasks Necessary for **High Risk** Technical Rescue Response*

Critical Tasks	Sub Tasks	Personnel Needed
Command[50]	Size up, personnel safety, determine objectives/strategy/priorities, assign resources, company accountability, communicate with dispatch/assigned resources/assisting agencies, resource ordering and tracking, notifications.	1
Safety[51]	Identify and announce hazards, hazard mitigation, monitor PPE discipline, stop unsafe actions, limit access for untrained personnel and bystanders.	1
Upstream Spotter	Determine best lookout position, monitor water for victim and hazards, identify and announce approaching victim.	1
Downstream Safety	Establish downstream catcher for rescue personnel, utilize predetermined anchor point, monitor rescue personnel, extract personnel from river.	3
Throw-Bag Teams	Establish three throw bag teams (thrower, catcher, back-up catcher), utilize predetermined anchor points, throw tethered flotation device to victim, extract victim from water.	9
Point-Last Seen Unit	Respond to location where the victim was last seen, throw marker in water for downstream reference, gather information from witnesses/reporting party.	2
	Total / Effective Response Force	**17**

[50] Incident Commander - FIRESCOPE Field Operations Guide 420-1, pp. 5-3.
[51] Safety Officer - FIRESCOPE Field Operations Guide 420-1 pp. 5-8.

*Critical Tasks Necessary for **Special Risk** Technical Rescue Response*

Special Risk technical rescue incidents represent unique critical tasking situations due to their complexity and the need for specialized resources. These are very low frequency events. In addition to the critical tasks listed for moderate risk technical rescue incidents, additional resources will be required to supply added capability and address specialized needs. Resource requests and incident organization (assignments) are dictated by the objectives and priorities established by the Incident Commander. Additional resources are obtained by utilizing unassigned units, 40-hour staff (during business hours), and mutual aid from neighboring jurisdictions. The Department confidently relies on the experience and professional judgment of company and chief officers to request additional resources when needed.

The minimum mutual aid request to meet the demands of a special risk technical rescue incident is a “Physical Rescue Assignment,” i.e., one heavy rescue (2), two engines (8), one truck (5), one ALS ambulance (2), one EMS supervisor (1), one BC (2), adding 20 personnel to the incident.

Incident History

A historical perspective—taking into account the Department's current distribution, concentration, reliability, comparability and baseline performance—is important to consider in helping the Department assess its efficiency and effectiveness.

Distribution

Distribution describes the geographic placement of first-due resources throughout neighborhoods and/or areas within the community. The initial response areas in Culver City are known as fire and rescue districts. There are three fire districts and two rescue districts. Travel distances are measured according to surface routes. Station placement in Culver City covers 96.6 percent of prescribed travel distances as measured by station location to radial catchment areas.

The City's GIS Division created a Drive-Time Area map utilizing Esri's Service Areas Tool.[52] The Driving Time was set to 4 minutes. The map illustrated below is a conservative drive-time area, as it incorporates average traffic patterns and normal driving speeds (i.e., travel with typical traffic flow, including stopping and traffic lights). The Department responds to most incidents Code3 (i.e., lights and sirens) significantly increasing the distance the Department is able to cover in the four-minute timeframe. Under ideal circumstances (i.e., code 3 response with little to no traffic), the drive-time area is much more expansive with only slivers of the City uncovered in districts 1 and 2.

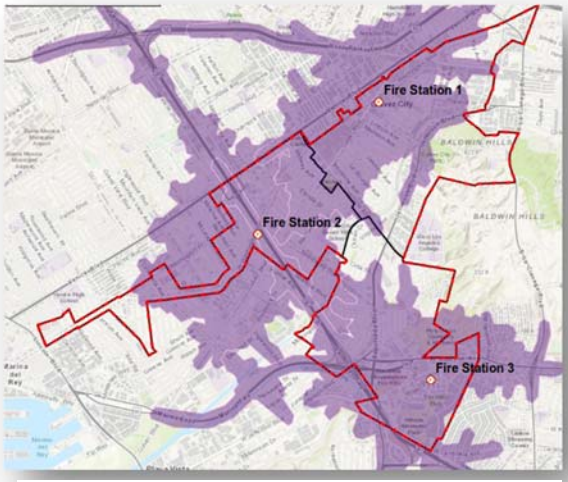


Figure 32: Drive Time Analysis with Traffic

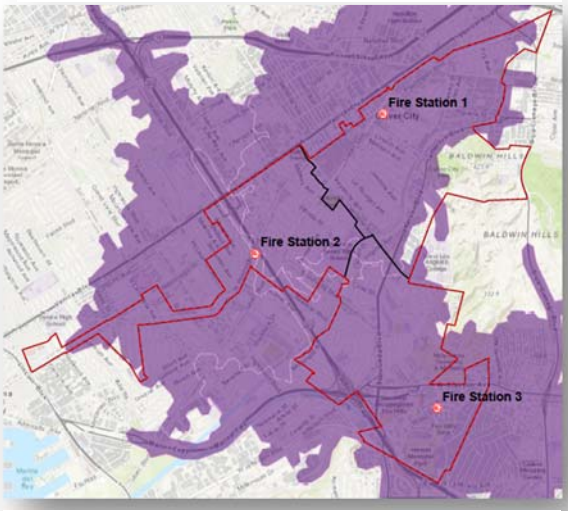


Figure 33: Drive Time Analysis without Traffic

[52] ArcGIS Desktop, "Which areas are within four minutes of a fire station?," http://desktop.arcgis.com/en/analytics/case-studies/which-areas-are-within-four-minutes-of-a-fire-station.htm.

The Department's three fire stations are evenly distributed by centerline miles and population served. Centerline miles represent the total length of all of the roads in Culver City, ignoring the size and number of lanes on each road. Below are maps and pie charts showing the equal distribution of fire stations within the City based on centerline miles and population served as related to fire and EMS responses.

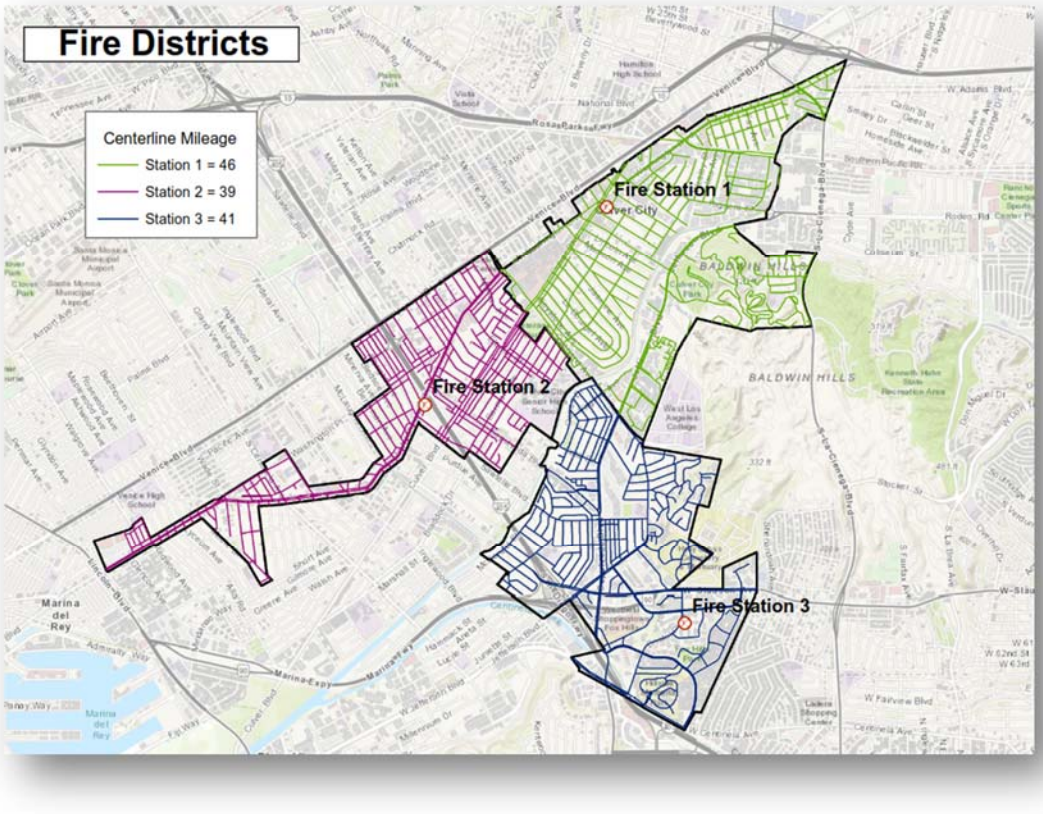
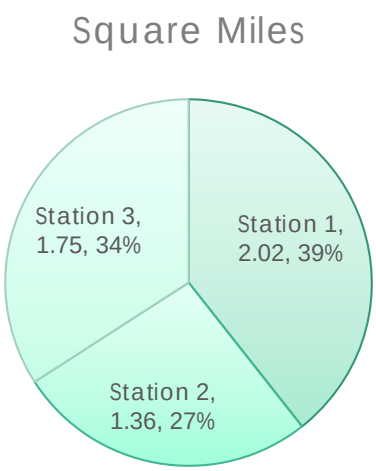
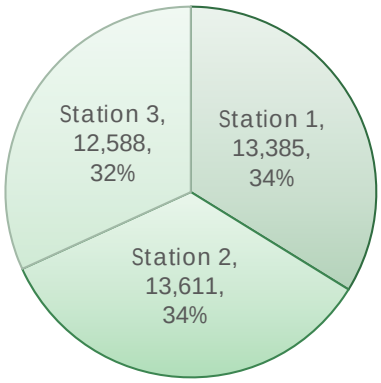
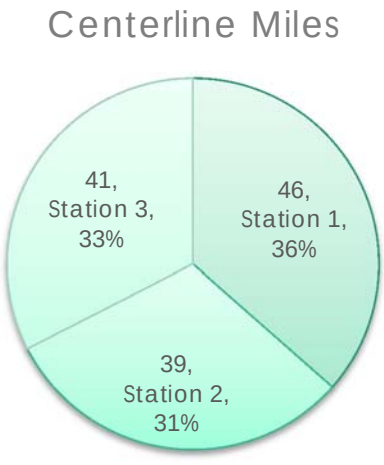


Figure 34: Fire Districts Centerline Mileage







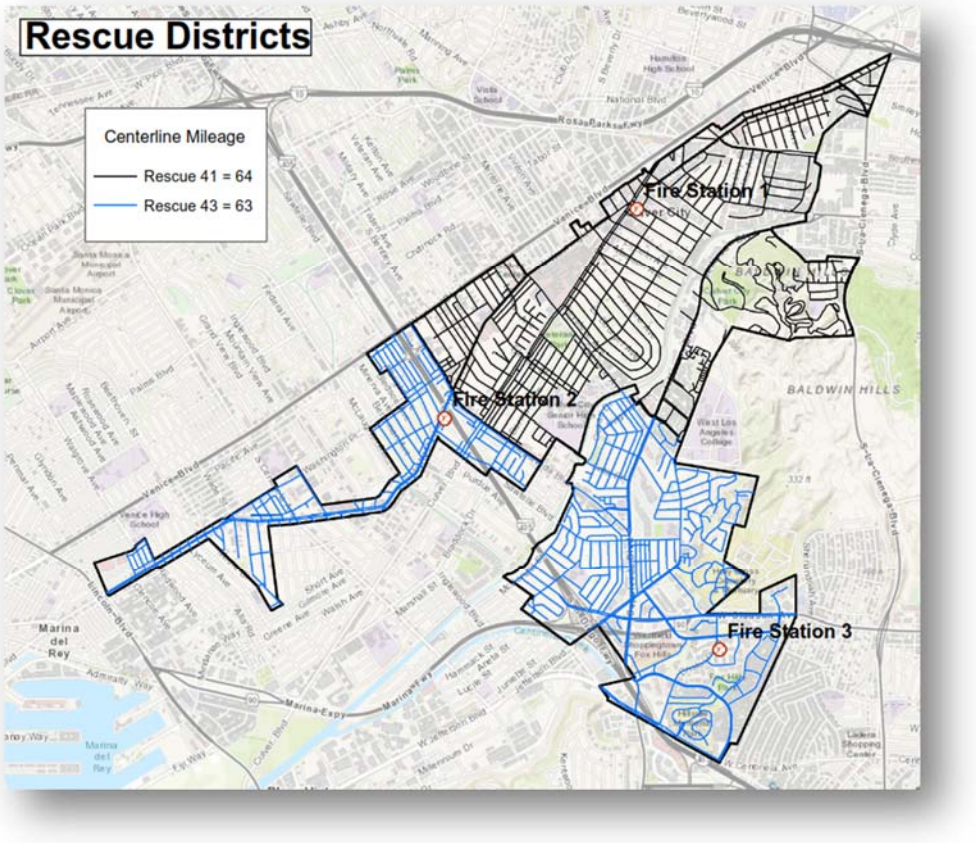
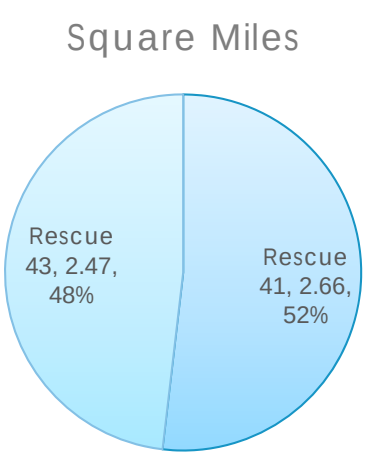
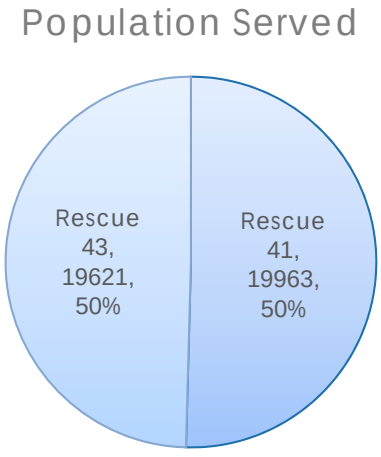
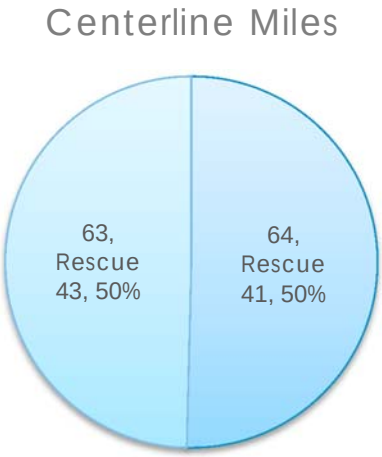


Figure 35: Rescue Districts Centerline Mileage



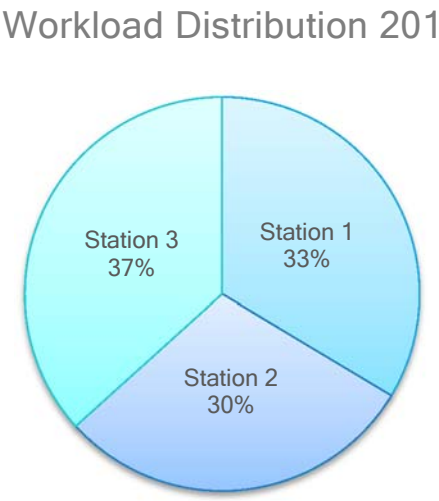




Concentration

Concentration is defined as the spacing of multiple resources arranged so that an effective response force (ERF) can arrive on scene within a sufficient timeframe. It is about having enough of the right equipment and staff arriving in a timeframe that allows firefighters to be effective servicing the demand/situation. An ERF varies depending on the type and severity of incident.

Evaluating the concentration of resources can also be used to measure efficiency. In an ideal system, each resource would cover an equal share of the workload. While an exact leveling of workload is impossible, extreme variations in workload are not efficient.



The concentration goals of the Culver City Fire Department are to provide an effective response force that is able to execute critical tasks necessary to mitigate low, moderate, and high risk fire, EMS, Haz Mat and technical rescue incidents.

There are two measures of concentration: workload by station and effective response force. The chart below shows that the workload is evenly distributed between the three fire stations. This indicates the current concentration of resources is efficient.

The second concentration measurement monitors the response times for the complete effective response force, or all responding units.

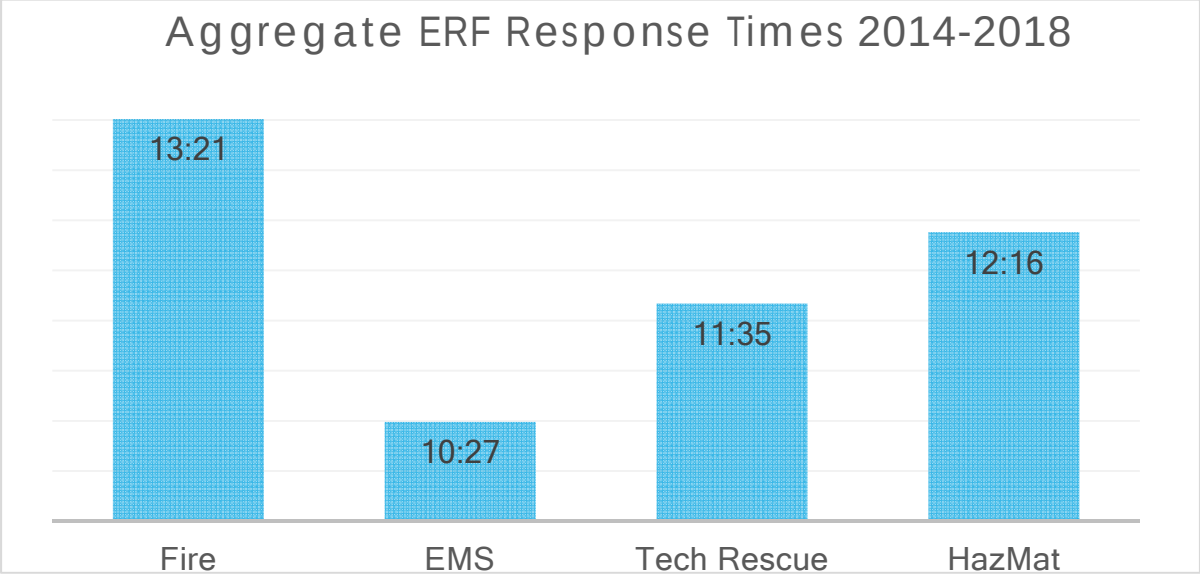


Figure 36: Aggregate ERF Response Times

Resiliency

Resilience is the ability of the Department to quickly recover from an incident or events, or to adjust easily to changing needs or requirements.[53]

Resistance

Resistance has to do with limiting resource consumption. Current deployment practices call for the first arriving company to perform a "size-up" of the situation. The first arriving company immediately cancels unneeded resources. Concurrent runs are an increasing problem for the Department. The implementation of a basic life support ambulance (BLS) helped curb resource drawdown events, but the increasing call volume requires a more in depth look at the strategic deployment of resources to limit resource consumption.

Approximately 70% of the Department's transports are outside of the City. This makes firefighters and apparatus resources unavailable for longer periods of time. When traveling back to the City from distant hospitals, traffic patterns impact the availability of rescue ambulances. Major arterials and freeways see upwards of 300,000 vehicles per day. The map below displays locations of all hospitals in the Department's catchment area. Major trauma centers are located in Westwood and Beverly Hills. The second illustration shows typical traffic on a Friday evening.

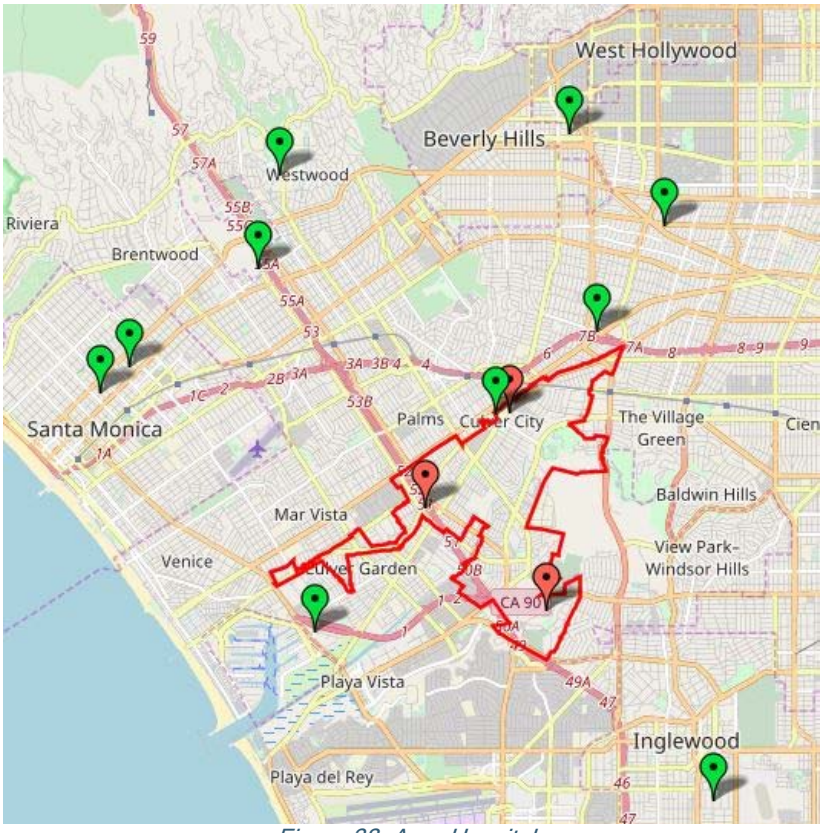


Figure 38: Area Hospitals

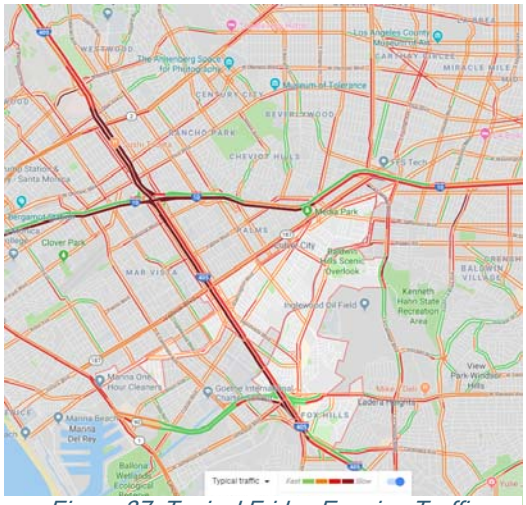


Figure 37: Typical Friday Evening Traffic

[53] CPSE Community Risk Assessment: Standards of Cover Manual, p. 46.

When traveling back to the City, traffic patterns impact the availability of rescues. Major arterials and freeways see upwards of 300,000 vehicles per day.

Absorption

Absorption is the ability to quickly add or duplicate resources necessary to maintain service levels during incidents beyond normal reliability demands and incidents of rare circumstance and/or magnitude.[54] The Department has in place emergency recall measures through an automated staffing system to quickly staff reserve apparatus. The Department is also a party to the California Master Mutual Aid agreement[55], which allows the Department to call upon neighboring agencies to backfill Culver City fire stations. The Department is an Area A City, which also comprises the following cities: Beverly Hills, Santa Monica, and West Hollywood. Area A is within the Los Angeles County operational area (OA). The OA is located in Mutual Aid Region I, which is in the Cal EMA Southern Administrative Region.

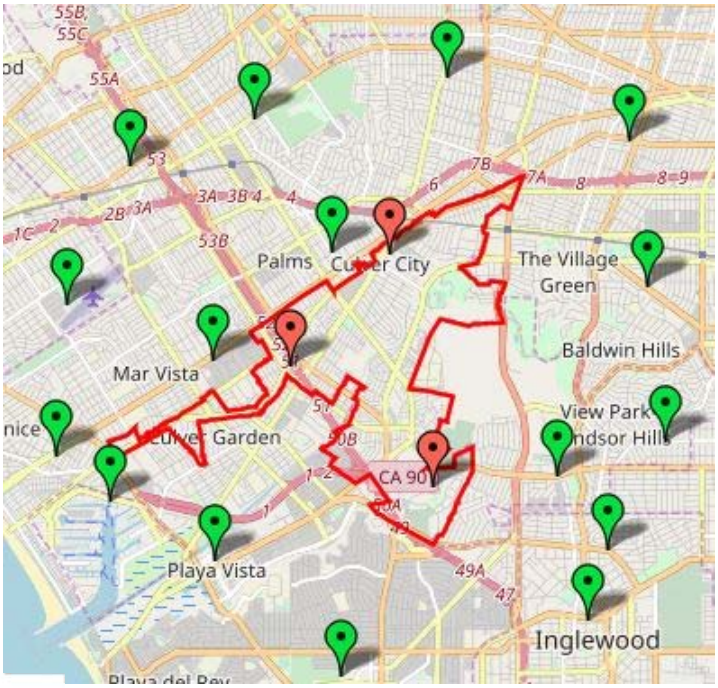


Figure 39: Area Fire Stations

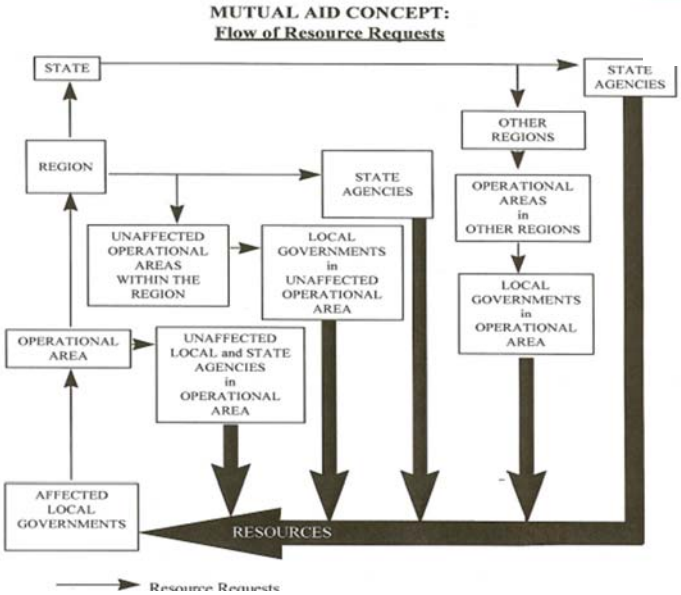


Figure 40: Flow of Resource Requests (Source: LA County OEM)

Restoration

Similar to absorption, restoration is the ability to rapidly return to normalcy within the system after a major incident. The Department strategically demobilizes resources at the conclusion of an incident to put units back into service as quickly as possible. As mentioned previously, emergency recall procedures are in place to assist with restoring services to normal levels. The Department maintains fully stocked reserve apparatus and has supplies readily available to restock apparatus returning from major deployments. Noted below is the typical flow of mutual aid requests.

[54] CPSE Community Risk Assessment: Standards of Cover Manual, p.47.
[55] California Master Mutual Aid Agreement, https://www.caloes.ca.gov/PlanningPreparednessSite/Documents/CAMasterMutAidAgreement.pdf

Reliability

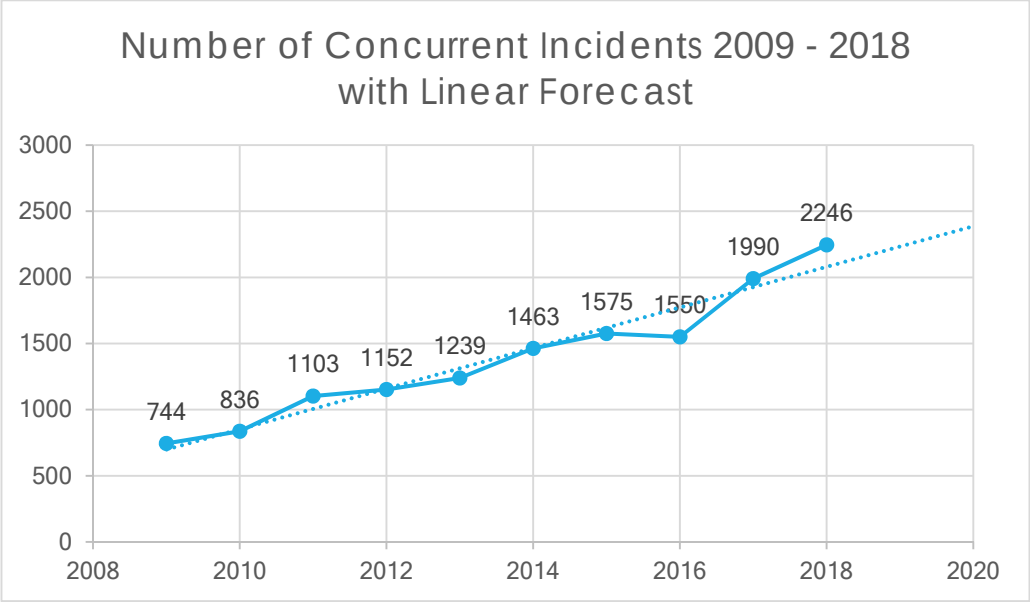


Figure 41: Concurrent Incidents

Response reliability is defined as the probability that the required amount of staffing and apparatus will be available when a call for service is received. If every apparatus were available every time, then the Department's response reliability would be 100 percent. The Department can provide an effective response force to a multitude of emergency incidents. Increased demands for service with limited or diminishing resources will eventually erode this ability. The ability to meet the demands for service can be critically curtailed during times of multiple requests for service, or queuing. As the number of emergency calls per day increases, or resources diminish, the probability that needed apparatus will be busy when requested increases. On these occasions, the Department's response reliability will decrease. In 2018, this situation occurred 36% of the time. In other words, out of 6,791 calls for service last year, the Department had two or more simultaneous calls 2,431 times. Instances of concurrent calls have been increasing considerably over the past ten years. The implementation of a basic life support ambulance temporarily lowered the number of concurrent calls in 2016.

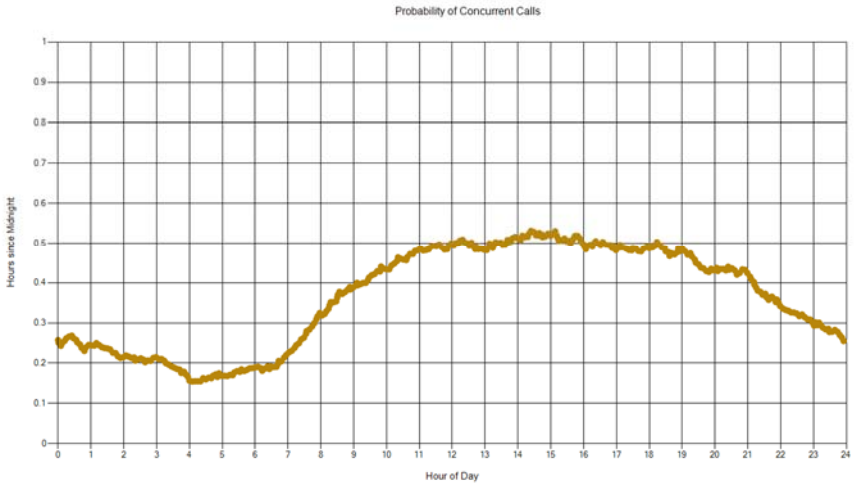


Figure 42: Probability of Concurrent Calls by Time of Day

The Department is sensitive to its ability to maintain acceptable service levels and has developed a number of statistical observation points to monitor reliability performance. A few key indicators are total call volume, total fire calls, total EMS calls, total unit responses, travel times, patients transported, patients transported out of the City and concurrent calls. When the Department observes a total call volume increase, there is also an increase in out-of-service time, total unit responses, and concurrent calls. Increased call volume also translates to treating more patients, additional patient transports, and a greater number of transports out of the City.

Another indicator of unit reliability is the number of times a particular is available to respond in its particular district. A way to gauge this is by taking the number of incidents a unit responded in its own district by the

number of incidents in its district. The converse of this is probability of when a particular apparatus is most "busy." For this, unit hour utilization (UHU) is used. This is not a true telling of how busy a unit is during the day, because it does not take into account training, station work, other duties assigned, time traveling back to the station from an incident, or time to eat and sleep. It only takes into account the time at which a unit is dispatched to the time that unit "clears," or is marked available to respond to another call. The following UHU grids, based on 2018 inputs, display which day of the week and time of the day each apparatus is most likely to be busy on a call.

Rescue 41

	00:00	01:00	02:00	03:00	04:00	05:00	06:00	07:00	08:00	09:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
SUN	11.7%	16.5%	13.9%	12.7%	10.6%	6.7%	4.3%	7.1%	11.4%	19.0%	22.7%	28.6%	29.6%	30.6%	17.7%	26.7%	19.8%	20.7%	24.1%	21.3%	29.4%	19.0%	13.6%	5.4%
MON	6.6%	10.3%	10.0%	10.7%	8.8%	4.8%	9.1%	14.7%	23.7%	22.1%	28.2%	26.7%	31.8%	28.2%	26.6%	33.3%	24.7%	25.5%	28.2%	23.5%	16.4%	17.9%	7.2%	13.2%
TUE	6.1%	5.9%	8.4%	8.5%	6.7%	7.7%	6.0%	15.8%	15.1%	25.4%	40.2%	35.7%	30.2%	24.4%	21.0%	23.5%	26.6%	25.9%	20.6%	17.9%	23.7%	19.1%	13.2%	13.6%
WED	9.9%	9.3%	7.9%	7.1%	10.3%	5.2%	3.5%	15.1%	14.3%	19.0%	17.8%	34.6%	27.7%	30.4%	26.7%	31.4%	28.1%	26.6%	29.4%	23.5%	25.1%	25.6%	12.0%	9.3%
THU	8.7%	9.6%	6.5%	9.1%	5.1%	2.4%	5.7%	10.8%	23.2%	22.4%	26.2%	18.1%	22.5%	37.1%	36.7%	30.4%	44.3%	38.5%	38.0%	21.9%	21.7%	16.1%	8.0%	11.2%
FRI	13.8%	7.4%	7.3%	6.7%	3.7%	2.8%	5.8%	15.1%	18.8%	20.4%	34.8%	28.7%	29.1%	33.5%	33.1%	29.2%	27.7%	36.5%	33.7%	23.4%	27.1%	12.5%	5.6%	14.9%
SAT	19.6%	10.9%	13.6%	10.4%	6.0%	4.4%	3.5%	15.0%	11.8%	20.5%	20.1%	23.3%	23.5%	27.1%	31.9%	28.3%	27.8%	30.2%	19.5%	18.5%	20.4%	15.9%	14.9%	13.2%

Rescue 43

	00:00	01:00	02:00	03:00	04:00	05:00	06:00	07:00	08:00	09:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
SUN	16.5%	23.2%	27.3%	23.5%	16.4%	21.9%	23.3%	23.6%	27.4%	33.6%	35.4%	38.1%	32.2%	31.2%	28.5%	29.6%	33.4%	42.5%	46.0%	36.7%	38.9%	30.7%	25.8%	23.8%
MON	20.1%	15.1%	21.1%	17.1%	13.1%	16.6%	19.2%	13.8%	24.7%	31.1%	33.2%	38.1%	40.9%	41.1%	45.2%	57.1%	39.0%	43.8%	38.0%	29.9%	31.9%	29.4%	20.9%	27.4%
TUE	22.0%	15.3%	17.5%	15.2%	21.0%	21.7%	15.2%	35.0%	42.0%	36.0%	44.0%	43.1%	39.0%	37.4%	36.6%	41.6%	37.0%	37.9%	28.8%	23.6%	28.5%	29.3%	26.5%	15.3%
WED	14.2%	17.7%	20.0%	12.2%	12.1%	13.9%	16.0%	19.9%	20.6%	32.0%	28.5%	38.2%	42.3%	45.1%	49.4%	42.7%	31.6%	35.2%	36.0%	30.7%	25.8%	26.1%	20.5%	13.4%
THU	15.8%	18.2%	13.7%	14.5%	14.2%	13.5%	12.1%	19.7%	37.3%	38.7%	34.1%	37.6%	43.1%	40.5%	46.0%	39.7%	45.2%	44.7%	48.4%	40.6%	39.0%	31.9%	32.3%	21.3%
FRI	16.0%	17.7%	16.5%	15.8%	15.0%	17.8%	27.0%	26.4%	35.8%	32.6%	41.7%	38.1%	44.4%	39.2%	43.8%	42.0%	43.1%	46.9%	39.8%	35.2%	34.8%	25.7%	17.2%	25.8%
SAT	23.5%	24.3%	19.7%	14.0%	13.7%	15.1%	13.7%	19.9%	23.8%	26.6%	30.8%	25.3%	30.0%	44.4%	46.6%	35.1%	31.8%	37.1%	29.2%	33.2%	27.9%	26.4%	23.8%	21.6%

Ambulance 42

	00:00	01:00	02:00	03:00	04:00	05:00	06:00	07:00	08:00	09:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
SUN	3.2%	12.0%	7.6%	7.8%	6.4%	6.9%	4.3%	5.3%	6.7%	8.6%	13.1%	14.4%	14.4%	12.1%	11.0%	11.8%	7.2%	14.3%	14.9%	13.0%	18.2%	10.6%	13.7%	2.8%
MON	5.8%	9.4%	5.7%	6.7%	2.6%	2.9%	9.0%	8.0%	14.6%	18.7%	18.5%	23.9%	28.8%	27.7%	35.0%	30.5%	20.9%	21.3%	21.7%	18.4%	19.5%	16.0%	9.3%	8.9%
TUE	9.3%	9.9%	10.3%	5.4%	7.4%	8.2%	6.0%	12.9%	14.2%	17.3%	27.9%	27.3%	33.9%	30.4%	22.6%	26.6%	24.3%	30.9%	27.4%	24.1%	21.3%	20.0%	18.0%	12.1%
WED	6.5%	5.6%	7.2%	8.2%	11.7%	12.7%	6.4%	13.7%	16.6%	14.9%	25.0%	20.6%	28.2%	35.7%	36.9%	36.3%	31.1%	24.5%	26.4%	23.2%	21.9%	17.5%	12.1%	7.9%
THU	11.1%	11.4%	5.7%	6.1%	4.8%	3.2%	6.8%	16.0%	24.9%	25.7%	27.2%	26.0%	24.5%	28.5%	30.2%	21.6%	29.2%	24.8%	29.8%	29.2%	21.5%	19.7%	19.5%	11.8%
FRI	13.0%	12.7%	7.8%	7.0%	3.8%	4.6%	8.1%	15.1%	17.3%	13.3%	17.0%	25.5%	28.3%	22.9%	22.5%	25.8%	28.8%	28.1%	31.0%	18.3%	24.4%	14.9%	7.4%	13.7%
SAT	16.4%	13.5%	10.3%	8.6%	3.7%	4.9%	4.6%	7.4%	7.6%	8.0%	13.3%	10.1%	14.0%	18.2%	22.2%	17.0%	16.1%	18.0%	23.0%	15.0%	14.6%	11.1%	11.7%	7.6%

Engine 41

	00:00	01:00	02:00	03:00	04:00	05:00	06:00	07:00	08:00	09:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
SUN	17.4%	16.7%	15.9%	17.6%	16.0%	16.2%	19.5%	19.5%	21.0%	21.8%	23.6%	23.7%	21.3%	20.8%	18.6%	22.7%	18.9%	17.5%	23.9%	21.8%	23.4%	16.3%	13.7%	12.9%
MON	14.6%	13.7%	11.8%	13.4%	12.9%	12.0%	17.1%	19.9%	23.5%	17.1%	18.4%	23.9%	26.3%	15.6%	23.2%	24.9%	20.5%	17.9%	20.7%	18.8%	21.0%	16.1%	15.4%	15.1%
TUE	14.3%	14.4%	16.4%	14.0%	12.4%	12.8%	14.6%	16.8%	16.8%	23.0%	27.5%	21.2%	21.8%	19.6%	16.3%	24.4%	17.6%	20.9%	20.2%	17.2%	19.3%	17.7%	14.4%	16.0%
WED	12.8%	11.8%	10.5%	13.7%	13.7%	10.9%	13.3%	13.3%	16.2%	12.9%	20.4%	20.3%	20.4%	18.9%	19.9%	23.4%	21.7%	18.4%	19.0%	18.8%	21.0%	17.3%	14.2%	11.8%
THU	14.2%	11.6%	13.8%	14.8%	11.3%	10.5%	15.4%	18.8%	21.0%	21.6%	23.0%	21.2%	26.6%	26.2%	25.4%	22.6%	32.2%	30.4%	26.5%	20.0%	25.3%	22.1%	17.6%	16.5%
FRI	20.1%	13.5%	17.0%	14.9%	13.6%	12.9%	16.1%	22.2%	21.5%	21.6%	27.5%	22.9%	25.0%	23.9%	25.2%	23.2%	21.7%	26.1%	22.3%	19.9%	23.5%	15.7%	15.0%	21.8%
SAT	22.7%	18.8%	20.2%	16.6%	14.7%	13.8%	15.8%	17.7%	18.2%	22.2%	19.9%	19.8%	23.6%	24.1%	24.7%	22.0%	25.8%	18.3%	19.1%	20.0%	21.8%	17.9%	18.1%	16.3%

Engine 42

	00:00	01:00	02:00	03:00	04:00	05:00	06:00	07:00	08:00	09:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
SUN	6.2%	12.8%	11.5%	11.5%	9.3%	12.6%	5.3%	11.1%	11.7%	10.2%	15.9%	11.9%	11.3%	14.2%	11.6%	15.1%	12.2%	16.8%	17.2%	17.0%	21.5%	14.2%	10.0%	8.5%
MON	6.6%	6.6%	7.5%	5.3%	7.4%	5.5%	9.6%	9.1%	15.7%	14.3%	18.4%	18.5%	26.4%	19.0%	16.1%	23.9%	19.1%	17.1%	12.9%	13.4%	10.8%	9.6%	7.4%	7.7%
TUE	9.5%	7.1%	5.0%	7.1%	6.1%	6.7%	7.5%	12.9%	14.8%	19.7%	18.9%	20.0%	21.6%	16.2%	15.4%	16.2%	13.3%	20.5%	15.7%	12.5%	18.1%	10.5%	11.0%	4.1%
WED	2.9%	5.6%	6.1%	5.0%	6.8%	7.9%	5.7%	9.2%	10.0%	12.2%	13.5%	14.5%	15.3%	15.4%	19.4%	13.5%	15.3%	14.4%	15.0%	9.4%	10.5%	15.9%	6.1%	4.4%
THU	4.6%	5.9%	3.5%	2.7%	3.8%	2.6%	4.8%	6.5%	11.3%	11.0%	12.7%	11.0%	11.6%	14.4%	18.2%	19.1%	26.4%	18.2%	21.5%	16.5%	13.2%	12.3%	12.1%	10.6%
FRI	9.2%	9.8%	7.6%	5.7%	6.4%	6.8%	8.4%	12.0%	14.0%	11.9%	14.7%	17.6%	18.5%	18.6%	20.5%	21.1%	18.8%	24.6%	23.5%	13.0%	21.1%	11.7%	11.1%	13.3%
SAT	12.3%	9.3%	9.9%	6.4%	6.8%	7.8%	7.2%	10.2%	9.7%	8.8%	16.3%	13.4%	13.7%	17.9%	23.3%	16.9%	14.6%	20.3%	14.0%	14.9%	16.8%	12.6%	15.2%	11.1%

Engine 43

	00:00	01:00	02:00	03:00	04:00	05:00	06:00	07:00	08:00	09:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
SUN	17.4%	21.9%	21.4%	18.7%	17.9%	23.9%	20.9%	20.2%	23.0%	23.9%	18.9%	25.9%	26.6%	20.4%	26.4%	21.7%	26.2%	28.9%	30.4%	25.4%	27.8%	22.8%	25.1%	21.3%
MON	21.7%	18.7%	21.6%	18.9%	18.6%	19.1%	19.2%	19.2%	21.7%	24.9%	26.2%	28.0%	25.9%	23.1%	27.2%	24.8%	20.0%	27.8%	25.4%	19.0%	24.6%	19.0%	17.6%	20.6%
TUE	18.5%	16.7%	18.0%	16.1%	23.7%	19.5%	17.4%	23.3%	22.8%	21.1%	21.9%	26.2%	25.7%	31.6%	25.2%	30.8%	24.4%	27.4%	24.2%	25.3%	23.7%	27.4%	26.4%	19.2%
WED	18.4%	18.0%	20.4%	16.6%	18.4%	17.1%	17.9%	19.1%	23.8%	22.8%	20.5%	27.0%	26.6%	26.3%	31.0%	29.2%	23.8%	25.7%	22.9%	25.6%	27.5%	21.9%	21.0%	16.2%
THU	18.7%	18.1%	21.3%	25.1%	23.5%	23.8%	23.7%	24.7%	32.1%	31.2%	27.4%	27.8%	28.2%	33.8%	29.0%	26.0%	24.8%	30.1%	34.8%	27.6%	23.1%	20.4%	25.4%	17.8%
FRI	17.9%	19.9%	17.7%	17.5%	17.0%	16.7%	21.9%	22.7%	25.6%	27.1%	24.8%	23.7%	30.1%	24.7%	28.1%	24.9%	30.3%	28.3%	27.8%	26.1%	26.3%	20.8%	19.1%	20.2%
SAT	18.9%	21.1%	18.2%	19.9%	16.7%	14.0%	16.1%	16.0%	23.7%	20.9%	24.2%	22.7%	25.4%	26.3%	32.2%	21.2%	23.6%	25.1%	26.3%	24.4%	25.2%	22.4%	20.1%	15.6%

Truck 43

	00:00	01:00	02:00	03:00	04:00	05:00	06:00	07:00	08:00	09:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
SUN	1.2%	0.8%	1.2%	1.0%	2.2%	0.7%	4.1%	2.7%	3.6%	2.8%	6.0%	5.7%	3.6%	1.0%	3.2%	2.4%	9.3%	4.8%	3.9%	5.9%	5.7%	0.9%	0.0%	0.0%
MON	2.0%	1.4%	3.2%	3.3%	1.0%	2.1%	0.0%	3.6%	2.8%	3.7%	5.9%	5.4%	7.8%	4.1%	3.7%	3.0%	3.3%	1.8%	4.0%	2.3%	1.6%	1.0%	0.7%	1.7%
TUE	1.9%	1.9%	0.4%	0.8%	0.7%	1.4%	0.2%	1.1%	1.9%	3.4%	4.9%	6.8%	3.6%	4.4%	3.0%	4.6%	3.9%	6.0%	3.3%	0.6%	2.3%	3.1%	1.7%	0.0%
WED	0.0%	0.0%	0.1%	2.2%	0.9%	1.1%	1.1%	3.4%	0.0%	2.1%	2.6%	11.1%	5.1%	1.5%	2.1%	1.1%	4.8%	6.0%	3.8%	3.2%	3.7%	3.4%	1.5%	0.4%
THU	0.4%	1.9%	0.4%	2.0%	1.6%	1.4%	2.5%	1.5%	3.8%	8.1%	7.9%	7.1%	3.6%	7.8%	6.1%	4.3%	7.5%	5.8%	5.2%	4.8%	4.7%	2.5%	1.9%	0.5%
FRI	0.0%	1.7%	1.2%	0.0%	0.4%	0.1%	0.3%	2.1%	2.5%	3.2%	6.1%	5.6%	7.5%	4.3%	7.8%	2.1%	5.8%	10.7%	4.7%	3.7%	5.5%	3.4%	4.5%	1.2%
SAT	1.6%	1.6%	1.6%	0.1%	1.1%	0.7%	0.2%	3.0%	3.6%	1.9%	3.9%	6.9%	2.8%	5.4%	6.7%	2.1%	1.5%	1.4%	1.5%	2.6%	3.0%	1.5%	0.2%	0.6%

Battalion Command 41

	00:00	01:00	02:00	03:00	04:00	05:00	06:00	07:00	08:00	09:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
SUN	0.0%	0.2%	0.8%	0.9%	1.3%	0.0%	0.0%	0.0%	0.5%	0.0%	1.6%	0.0%	0.0%	0.0%	0.6%	2.3%	2.0%	0.5%	0.6%	4.9%	1.2%	0.3%	0.0%	0.0%
MON	0.0%	0.0%	2.1%	2.2%	0.4%	0.4%	0.8%	1.2%	2.6%	0.6%	1.2%	1.1%	1.1%	0.0%	1.2%	2.2%	2.5%	1.1%	0.5%	0.0%	0.2%	0.4%	0.2%	1.6%
TUE	1.3%	2.7%	0.3%	0.0%	0.0%	0.3%	0.2%	0.3%	2.1%	0.4%	0.9%	0.5%	0.6%	0.0%	0.0%	0.3%	0.6%	0.6%	0.3%	0.1%	3.1%	3.4%	1.8%	0.0%
WED	0.0%	0.0%	0.1%	2.1%	1.9%	3.0%	1.2%	0.0%	0.0%	0.4%	0.5%	0.6%	0.9%	0.0%	0.6%	0.1%	2.0%	1.5%	0.9%	1.0%	2.9%	1.7%	0.7%	0.3%
THU	0.4%	1.9%	0.4%	0.2%	0.0%	0.5%	2.1%	0.5%	1.2%	3.1%	0.5%	0.2%	0.4%	1.3%	1.3%	1.5%	2.8%	2.1%	2.1%	0.5%	0.2%	0.3%	0.0%	0.9%
FRI	1.1%	1.5%	0.6%	0.0%	0.6%	0.1%	0.3%	1.0%	4.5%	0.3%	0.5%	0.0%	1.8%	0.2%	0.7%	0.0%	0.0%	2.7%	2.5%	1.1%	1.1%	0.3%	0.0%	0.0%
SAT	0.3%	0.2%	0.0%	0.0%	0.0%	0.3%	0.2%	1.6%	1.2%	1.1%	1.0%	2.5%	1.9%	0.8%	2.4%	2.1%	0.4%	0.0%	0.5%	0.6%	1.5%	0.6%	0.7%	0.7%

EVALUATION OF CURRENT DEPLOYMENT AND PERFORMANCE

After reviewing the critical task analyses, incident history, and resiliency, the Department is able to review its baseline performance, which is also the aggregate historical performance for the past five years. Once baseline system performance is observed, the Department is able to set benchmark performance objectives. Baseline performance describes measures that the Department is currently meeting 90 percent of the time, while benchmark standards are goals or performance objectives that the Department aims to meet 90 percent of the time.

Baseline Performance Statistics

The following data tables present the Department's 90th percentile baseline performance, i.e., actual performance. Following NFPA 1710 standards and CFAI requirements, percentile metrics demonstrate a better representation of response times than averages. Instead of displaying what the Department does half of the time, the Department observes what it does the majority of the time. As Culver City is considered a purely urban environment due to its high population concentration, all performance metrics are measured against CFAI's urban population density range.[56]

Fire Suppression – 90th Percentile Baseline Performance

(Low Risk Level) Fire Suppression - 90th Percentile Times - Baseline Performance			2014-2018	2018	2017	2016	2015	2014	Benchmark
Alarm Handling	Pick-up to Dispatch	Urban	2:14	2:32	2:15	1:57	1:55	2:06	1:30
Turnout Time	Turnout Time 1st Unit	Urban	2:27	2:35	2:39	2:07	2:09	2:21	1:30
Travel Time	Travel Time 1st Unit **Distribution**	Urban	4:58	6:18	4:13	3:49	6:06	4:18	4:00
	Travel Time ERF **Concentration**	Urban	5:32	6:18	4:51	4:27	6:20	5:51	5:00
Total Response Time	Total Response Time 1st Unit on Scene **Distribution**	Urban	8:22	9:15	7:48	6:49	9:21	8:04	7:00
			n=114	26	20	18	25	25	NA

[56] CPSE Community Risk Assessment: Standards of Cover Manual, p. 11.

(Low Risk Level) Fire Suppression - 90th Percentile Times - Baseline Performance			2014-2018	2018	2017	2016	2015	2014	Benchmark
	Total Response Time ERF **Concentration**	Urban	9:02	9:15	9:16	8:22	8:45	10:01	8:00
			n=61	11	9	14	13	14	NA

(Moderate Risk Level) Fire Suppression - 90th Percentile Times - Baseline Performance			2014-2018	2018	2017	2016	2015	2014	Benchmark
Alarm Handling	Pick-up to Dispatch	Urban	2:01	1:59	1:48	1:16	2:12	1:59	1:30
Turnout Time	Turnout Time 1st Unit	Urban	2:16	2:18	1:28	1:47	1:30	2:33	1:30
Travel Time	Travel Time 1st Unit **Distribution**	Urban	5:58	5:21	6:02	4:35	3:39	4:21	4:00
	Travel Time ERF **Concentration**	Urban	8:06	NA	NA	5:19	7:46	8:12	7:00
Total Response Time	Total Response Time 1st Unit on Scene **Distribution**	Urban	9:50	10:02	10:34	7:19	6:02	7:45	7:00
			n=30	9	2	7	4	8	NA
	Total Response Time ERF **Concentration**	Urban	10:52	NA	NA	8:17	10:21	11:18	10:00
			n=6	0	0	1	4	1	NA

(High Risk Level) Fire Suppression - 90th Percentile Times - Baseline Performance			2014-2018	2018	2017	2016	2015	2014	Benchmark
Alarm Handling	Pick-up to Dispatch	Urban	2:22	1:16	2:25	0:31	1:16	2:09	1:30
Turnout Time	Turnout Time 1st Unit	Urban	1:56	1:53	1:25	1:43	1:58	1:37	1:30
Travel Time	Travel Time 1st Unit **Distribution**	Urban	6:52	3:16	8:23	2:07	5:30	5:48	4:00
	Travel Time ERF **Concentration**	Urban	NA	NA	NA	NA	NA	NA	11:00
Total Response Time	Total Response Time 1st Unit on Scene **Distribution**	Urban	10:16	5:55	12:27	4:50	9:26	9:14	7:00
			n=13	2	5	1	1	4	NA
	Total Response Time ERF **Concentration**	Urban	NA	NA	NA	NA	NA	NA	14:00
			n=0	0	0	0	0	0	NA

Wildland Fire – 90th Percentile Baseline Performance

(Low Risk Level) Wildland Fire - 90th Percentile Times - Baseline Performance			2014-2018	2018	2017	2016	2015	2014	Benchmark
Alarm Handling	Pick-up to Dispatch	Urban	3:38	2:52	1:37	1:23	4:49	1:34	1:30
Turnout Time	Turnout Time 1st Unit	Urban	2:24	2:09	0:22	2:03	0:43	2:36	1:30
Travel Time	Travel Time 1st Unit **Distribution**	Urban	5:11	5:52	4:36	3:40	3:16	3:19	4:30
	Travel Time ERF **Concentration**	Urban	5:42	5:52	4:36	3:40	NA	5:06	5:00

(Low Risk Level) Wildland Fire - 90th Percentile Times - Baseline Performance			2014-2018	2018	2017	2016	2015	2014	Benchmark
Total Response Time	Total Response Time 1st Unit on Scene **Distribution**	Urban	8:38	8:32	7:19	6:33	8:48	6:12	7:30
			n=11	5	1	2	1	2	NA
	Total Response Time ERF **Concentration**	Urban	10:11	11:06	7:19	6:33	NA	8:09	8:00
			n=6	3	1	1	0	1	NA

(Moderate Risk Level) Wildland Fire - 90th Percentile Times - Baseline Performance			2014-2018	2018	2017	2016	2015	2014	Benchmark
Alarm Handling	Pick-up to Dispatch	Urban	2:25	2:31	2:20	1:07	2:38	1:59	1:30
Turnout Time	Turnout Time 1st Unit	Urban	2:37	2:37	2:01	3:08	1:31	2:35	1:30
Travel Time	Travel Time 1st Unit **Distribution**	Urban	6:09	6:55	5:07	2:38	5:36	4:25	4:30
	Travel Time ERF **Concentration**	Urban	11:31	NA	NA	NA	NA	11:31	10:00
Total Response Time	Total Response Time 1st Unit on Scene **Distribution**	Urban	10:20	12:10	8:43	5:54	8:43	7:29	7:30
			n=23	9	2	3	3	6	NA
	Total Response Time ERF **Concentration**	Urban	14:13	NA	NA	NA	NA	14:13	13:00
			n=1	0	0	0	0	1	NA

EMS – 90th Percentile Baseline Performance

(Low Risk Level) EMS - 90th Percentile Times - Baseline Performance			2014-2018	2018	2017	2016	2015	2014	Benchmark
Alarm Handling	Pick-up to Dispatch	Urban	2:38	2:19	2:42	2:18	2:24	1:36	1:30
Turnout Time	Turnout Time 1st Unit	Urban	2:15	2:11	2:15	2:06	2:19	2:22	1:20
Travel Time	Travel Time 1st Unit **Distribution**	Urban	6:01	6:04	5:39	5:44	6:04	4:40	3:30
	Travel Time ERF **Concentration**	Urban	7:23	7:44	7:14	6:29	6:04	6:22	7:00
Total Response Time	Total Response Time 1st Unit on Scene **Distribution**	Urban	9:26	9:39	9:26	7:58	9:26	8:04	6:20
			n=232	67	72	41	38	14	NA
	Total Response Time ERF **Concentration**	Urban	10:49	11:28	10:49	9:11	9:26	8:40	9:50
			n=127	40	41	22	18	6	NA

(Moderate Risk Level) EMS - 90th Percentile Times - Baseline Performance			2014-2018	2018	2017	2016	2015	2014	Benchmark
Alarm Handling	Pick-up to Dispatch	Urban	2:10	2:10	2:12	1:53	2:08	2:28	1:30
Turnout Time	Turnout Time 1st Unit	Urban	2:08	1:58	2:04	2:05	2:14	2:17	1:20
Travel Time	Travel Time 1st Unit **Distribution**	Urban	5:03	5:12	5:08	4:57	4:58	4:54	3:30

(Moderate Risk Level) EMS - 90th Percentile Times - Baseline Performance			2014-2018	2018	2017	2016	2015	2014	Benchmark
	Travel Time ERF **Concentration**	Urban	7:24	7:47	7:29	7:08	7:15	7:05	7:00
Total Response Time	Total Response Time 1st Unit on Scene **Distribution**	Urban	8:10	8:23	8:19	7:52	8:06	8:06	6:20
			n=19427	4380	4140	3752	3644	3511	NA
	Total Response Time ERF **Concentration**	Urban	10:26	10:53	10:42	9:50	10:15	10:15	9:50
			n=14958	3455	3156	2743	2853	2751	NA

(High Risk Level) EMS - 90th Percentile Times - Baseline Performance			2014-2018	2018	2017	2016	2015	2014	Benchmark
Alarm Handling	Pick-up to Dispatch	Urban	2:14	0:28	2:25	1:35	1:40	2:58	1:30
Turnout Time	Turnout Time 1st Unit	Urban	1:48	1:36	1:42	2:09	1:07	1:50	1:20
Travel Time	Travel Time 1st Unit **Distribution**	Urban	3:57	3:20	4:54	3:50	3:32	3:27	3:30
	Travel Time ERF **Concentration**	Urban	NA	NA	NA	NA	NA	NA	10:00
Total Response Time	Total Response Time 1st Unit on Scene **Distribution**	Urban	7:44	6:13	8:12	7:36	6:53	7:30	6:20
			n=22	1	3	7	3	8	NA

(High Risk Level) EMS - 90th Percentile Times - Baseline Performance			2014-2018	2018	2017	2016	2015	2014	Benchmark
	Total Response Time ERF **Concentration**	Urban	NA	NA	NA	NA	NA	NA	12:50
			n=0	0	0	0	0	0	NA

Technical Rescue – 90th Percentile Baseline Performance

(Low Risk Level) Technical Rescue - 90th Percentile Times - Baseline Performance			2014-2018	2018	2017	2016	2015	2014	Benchmark
Alarm Handling	Pick-up to Dispatch	Urban	2:39	2:06	2:44	2:04	2:39	2:48	1:30
Turnout Time	Turnout Time 1st Unit	Urban	2:04	2:01	2:05	1:49	2:07	2:06	1:30
Travel Time	Travel Time 1st Unit **Distribution**	Urban	5:47	4:42	6:16	5:15	5:17	5:46	4:30
	Travel Time ERF **Concentration**	Urban	8:08	7:42	7:53	7:39	8:13	8:10	6:00
Total Response Time	Total Response Time 1st Unit on Scene **Distribution**	Urban	9:04	7:54	10:00	7:39	10:06	9:24	7:30
			n=215	46	52	42	34	41	NA
	Total Response Time ERF **Concentration**	Urban	11:45	11:05	11:07	11:59	11:42	12:19	9:00
			n=111	26	22	30	17	16	NA

(Moderate Risk Level) Technical Rescue - 90th Percentile Times - Baseline Performance			2014-2018	2018	2017	2016	2015	2014	Benchmark
Alarm Handling	Pick-up to Dispatch	Urban	1:57	1:55	1:24	1:54	NA	1:16	1:30
Turnout Time	Turnout Time 1st Unit	Urban	2:33	2:04	0:40	2:19	NA	2:26	1:30
Travel Time	Travel Time 1st Unit **Distribution**	Urban	7:24	10:02	2:35	4:12	NA	5:30	4:30
	Travel Time ERF **Concentration**	Urban	NA	NA	NA	NA	NA	NA	9:00
Total Response Time	Total Response Time 1st Unit on Scene **Distribution**	Urban	9:40	14:02	5:31	7:29	NA	7:18	7:30
			n=8	1	1	3	0	3	NA
	Total Response Time ERF **Concentration**	Urban	NA	NA	NA	NA	NA	NA	12:00
			n=0	0	0	0	0	0	NA

The Department does not have any high risk level technical rescue incidents to report spanning the years 2014-2018.

HazMat – 90th Percentile Baseline Performance

(Low Risk Level) Hazardous Materials - 90th Percentile Times - Baseline Performance			2014-2018	2018	2017	2016	2015	2014	Benchmark
Alarm Handling	Pick-up to Dispatch	Urban	3:59	3:38	3:31	3:12	3:07	3:11	1:30
Turnout Time	Turnout Time 1st Unit	Urban	2:32	2:04	2:47	2:27	2:30	2:34	1:30
Travel Time	Travel Time 1st Unit **Distribution**	Urban	5:46	5:19	5:22	8:10	4:07	6:02	5:00

(Low Risk Level) Hazardous Materials - 90th Percentile Times - Baseline Performance			2014-2018	2018	2017	2016	2015	2014	Benchmark
	Travel Time ERF Concentration	Urban	5:46	5:19	NA	8:10	4:07	NA	5:00
Total Response Time	Total Response Time 1st Unit on Scene Distribution	Urban	9:40	9:06	10:04	14:58	7:46	9:52	8:00
			n=48	13	11	8	8	8	NA
	Total Response Time ERF Concentration	Urban	9:40	9:06	NA	14:58	7:46	NA	8:00
			n=3	1	0	1	1	0	NA

(Moderate Risk Level) Hazardous Materials - 90th Percentile Times - Baseline Performance			2014-2018	2018	2017	2016	2015	2014	Benchmark
Alarm Handling	Pick-up to Dispatch	Urban	2:31	1:43	2:28	2:39	1:35	2:28	1:30
Turnout Time	Turnout Time 1st Unit	Urban	2:21	1:51	1:52	2:43	2:04	2:27	1:30
Travel Time	Travel Time 1st Unit Distribution	Urban	6:43	3:54	6:55	6:28	5:25	6:20	5:00
	Travel Time ERF Concentration	Urban	NA	NA	NA	NA	NA	NA	6:00
Total Response Time	Total Response Time 1st Unit on Scene Distribution	Urban	10:02	7:29	10:23	11:19	8:36	9:15	8:00
			n=47	3	10	14	8	12	NA

(Moderate Risk Level) Hazardous Materials - 90th Percentile Times - Baseline Performance			2014-2018	2018	2017	2016	2015	2014	Benchmark
	Total Response Time ERF **Concentration**	Urban	NA	NA	NA	NA	NA	NA	9:00
			n=0	0	0	0	0	0	NA

(High Risk Level) Hazardous Materials - 90th Percentile Times - Baseline Performance			2014-2018	2018	2017	2016	2015	2014	Benchmark
Alarm Handling	Pick-up to Dispatch	Urban	3:06	2:41	3:02	2:04	1:55	4:09	1:30
Turnout Time	Turnout Time 1st Unit	Urban	2:14	2:05	2:16	2:22	1:52	1:57	1:30
Travel Time	Travel Time 1st Unit **Distribution**	Urban	5:52	7:09	5:11	5:07	5:31	4:00	5:00
	Travel Time ERF **Concentration**	Urban	7:43	8:00	NA	5:23	8:17	4:30	7:00
Total Response Time	Total Response Time 1st Unit on Scene **Distribution**	Urban	10:04	10:59	9:49	7:38	8:43	8:49	8:00
			n=48	14	7	11	6	10	NA
	Total Response Time ERF **Concentration**	Urban	10:57	11:34	NA	7:59	11:40	8:41	10:00
			n=12	3	0	3	2	4	NA

Considerations

Dispatch

In 2017, the Department, in coordination with the Culver City Police Department, moved to a new dispatch center (RCC), causing a modification in the computer aided dispatch (CAD) systems utilized as well as a shift in records management systems (RMS) for both CAD and fire records. The CAD shift occurred in March 2017 and the fire RMS shift occurred in July 2017. Another move is on the horizon, as RCC is currently in the process of improving its CAD system. A new police RMS has already been implemented and Mark 43, the new vendor, is currently developing out the CAD system.

With the move to the new dispatch center, among several benefits, the Department realized a greater level of detail with regard to alarm handling data. Now, the Department is able to review "Initiate to Entry" timeframes, i.e., call pick up to call entry, along with "Entry to Dispatch" times. Prior to the move to the new dispatch center, what the Department previously understood as call pick-up to dispatch was actually "call entry to dispatch." The previous CAD did not discern between the two time points.

Historically, the Department has always observed CAD nature codes to assess response times. New World is a system that maintains fire and police records with a three partition database: fire records, computer aided dispatched (CAD) records, and police records. Proprietary cubes and pivot tables are part of the system and Department staff are also able to pull raw data from the system for analysis. Due to the system change, in order to reflect a full five years, staff utilized the dispatch center's CAD records. As the Police Department shifted to the system in mid-2009, a partial year of data was available to gather response time statistics.

Records Management Systems

In July 2017, the Department switched records management systems. Previously the Department's RMS was a partition of the City's CAD system. Although the Department made the move to a new RMS in July 2017, the CAD link was not established until later in the year. Prior to November 2017, the Department had to manually enter call records, including call times. To ensure consistent and reliable data, the Department pulled records from the CAD system and married pertinent RMS data with CAD records outside of the two systems.

Special Programs

The Department utilizes two programs to supplement its effective response force, but does not count them in its baseline and benchmark performance standards. Reasons are outlined below.

Reserve Firefighter Program

The firefighter reserve program is designed to develop potential firefighter recruits and help with non-IDLH workload. IDLH stands for "immediately dangerous to life or health" and typically refers to interior structural firefighting tasks. Reserves can volunteer to serve on the Department's engines and trucks. The Department does not require these roles to be constantly filled.

Ambulance Operator Program

The department operates a BLS ambulance staffed with non-firefighter EMTs. The purpose of this program is twofold. One, it provides a valuable service to the community by providing patient transport for low acuity patients, freeing up the Department's two ALS rescues for high acuity patients and suppression calls. Second, it is utilized to recruit and develop aspiring firefighters. Ambulance Operators are eligible to apply for a paramedic school scholarship and/or sponsorship to a local fire academy.

The Department's goal is to operate the BLS ambulance 24/7; however, there are times when it cannot be put in service due to lack of staffing. For example, in 2018, the BLS ambulance was not in service 6.5% of the time,

i.e., 24 days out of the year. Currently the BLS ambulance is not part of an effective response force. It is a secondary resource utilized for patient transport after paramedics determine that the patient does not require ALS treatment. This unit responds non-emergency unless directed otherwise.

Below are baseline statistics for Ambulance 42's responses since the program's inception in August 2015.

Ambulance 42- All Responses - 90th Percentile Baseline Performance	**2015-2018**	**2018**	**2017**	**2016**	**2015**
Alarm Handling	2:53	3:56	3:03	2:00	2:19
Turnout	2:25	2:28	2:27	2:14	2:20
Travel	12:21	11:00	12:29	13:18	13:05
Total Response Time	20:11	23:31	19:23	17:32	17:23
Response Count	n=6,564	n=1,633	n=2,370	n=1,882	n=679

Data Methodology

Staff queried the fire and computer aided dispatch (CAD) records management systems to gather data necessary for statistical analysis.

Alarm handling time, turnout time, travel time and total response time were calculated incident by incident using the following calculations:

- Alarm Handling Time = Dispatch – Initiate (i.e., call pick up)
- Turnout Time = En route – Dispatch
- Travel Time = On Scene – En route
- Total Response Time = Alarm Handling + Turnout + Travel

Upper and lower thresholds were established to exclude outliers. Outliers are generally instances of records with missing information or data entry errors. Times equal to, or less than zero were eliminated from the analysis. An upper threshold of three standard deviations from the mean was put in place for each time segment, allowing for the inclusion of approximately 99 percent the Department's data while eliminating outliers/bad data points. Staff observes and investigate some outliers to validate the proper threshold-setting methodology is in place.[57]

Historically, the department has always observed NFIRS call types when referring to call volume and counts, but has utilized CAD dispatch nature codes to assess response times. Recently, the department opted to utilize NFIRS call types to "achieve greater levels of definition and separation" when assessing response time statistics.[58] Emergency Activity is classified by accreditation program (e.g., Fire, EMS) and each program comprises the following NFIRS call types:

- Fire – 111 – 118
- EMS – 311 – 324
- Tech Rescue – 331 – 381
- Haz Mat – 411 – 431, 451
- Wildland – 140 – 143
- Other – All Other NFIRS Types

Non-emergency calls (e.g., priority 2 call in the CAD system, code 2 calls from the fire RMS system, calls canceled en route) are not included in response time statistics, but they are included in call volume counts.

[57] National Institute of Standards and Technology (NIST) Engineering Statistics Handbook Section 7.1.6, https://www.itl.nist.gov/div898/handbook/prc/section1/prc16.htm.

[58] CPSE Community Risk Assessment: Standards of Cover Manual, p. 27.

MAINTAINING AND IMPROVING RESPONSE CAPABILITIES

The Department has in place a plan to continually improve and enhance the service it provides to the community. This is done through the establishment of benchmarks. A benchmark is "something that serves as a standard by which others may be measured or judged; a point of reference from which measurements may be made."[59] In order to set benchmarks, the Department follow the process below, asking specific questions to hone in on the most appropriate benchmark/target.

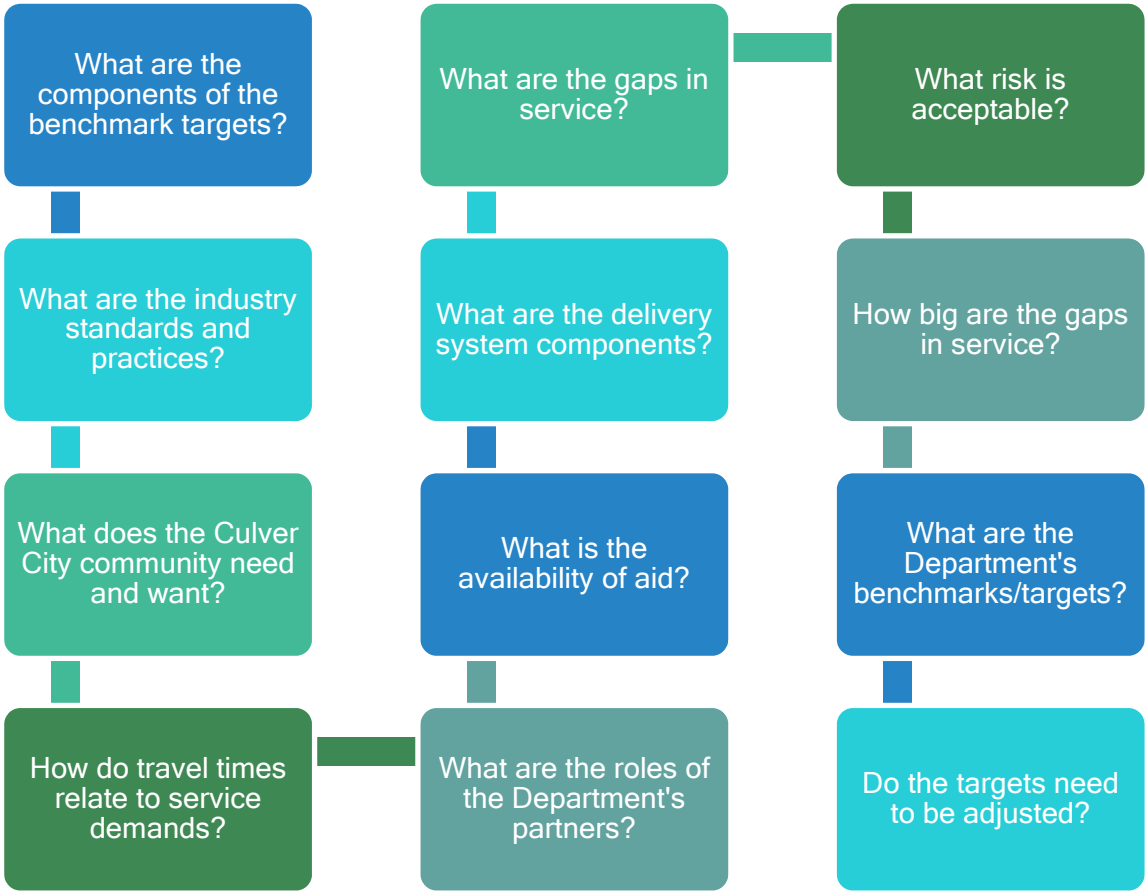
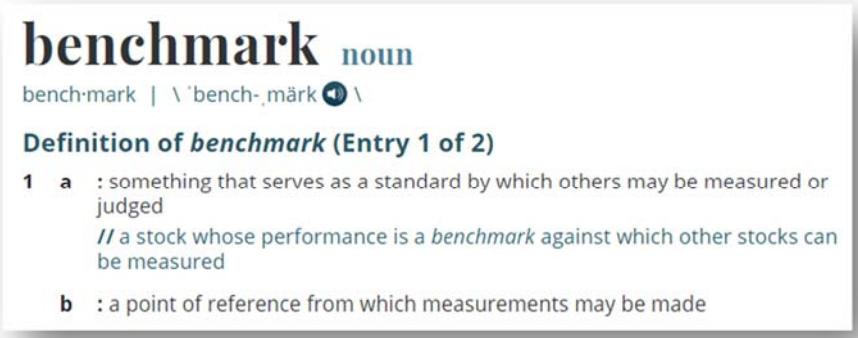


Figure 43: Process for Improving and Maintaining Response Capabilities

[59] Merriam Webster, "benchmark" definition, https://www.merriam-webster.com/dictionary/benchmark?src=search-dict-box.

Components of Benchmark Targets

The Department establishes benchmark targets for first-due units and the effective response force based on total response time. The department also assesses and establishes benchmarks for each component of total response time–alarm handling, turnout, and travel time.



benchmark noun

bench·mark | \ ˈbench-ˌmärk \

Definition of *benchmark* (Entry 1 of 2)

1 a : something that serves as a standard by which others may be measured or judged
// a stock whose performance is a *benchmark* against which other stocks can be measured

b : a point of reference from which measurements may be made

Industry Research

It is important to observe industry research and standards when assessing benchmark targets. The Department keeps abreast of several industry standards, such as the American Heart Association, Insurance Services Office (ISO), and the National Fire Protection Association (NFPA). Industry research tells the Department why time is so important. The critical factor of time addresses the Department effectiveness and ability to deliver on its mission, which is to protect life, property and the environment.

Critical Factor of Time

In order to set proper response time measures, it is important to understand the critical factor of time when addressing fire and emergency medical incidents.

Stages of Fire Growth – Critical Factor of time

Although fires vary in terms of the speed at which they grow, the host structure, the material burning, and the intensity level, all fires follow the same stages of growth. Industry-wide, the flashover point is the moment during fire growth that significantly compounds the danger of the fire.

Smoldering Stage

All fires start with the smoldering stage. Anytime energy, i.e., heat, a spark, or a flame, is applied to a combustible material, the material's surface oxidizes. The oxidation process is exothermic, meaning energy is released from the material. This oxidation process produces more energy in the form of combustible gases. After an exothermic reaction, more energy is ultimately released to the surroundings than was absorbed to initiate and maintain the reaction. The additional heat from the oxidation process raises the temperature of surrounding material, which increases the rate of oxidation and begins a chemical chain reaction of heat release and burning.

Incipient/Open-Burning Stage

Once the temperature of the smoldering material reaches its relative ignition point, the material ignites into an open burning or incipient stage. Flames seen during the incipient stage are limited to the area of origin. The

combustion process continues by releasing more heat, which hastens the temperature increase and accelerates the levels of combustible gases released from surrounding materials.

Flashover

Combustible gases continue to release from surrounding materials. As they are a form of energy and heat, these gases rise and collect at the ceiling level. The gas layer, primarily carbon monoxide, can rapidly reach 1,500 degrees Fahrenheit at the top of a room and radiate heat down to objects at the floor level. With no oxygen at the ceiling level, the objects in the upper portions of the room are unable to burst into flames. The volume of the gas layer increases and begins to fill the room, banking down towards the floor and continuing to heat all combustible objects in the room regardless of their proximity to the burning material.

The flashover point occurs when oxygen is introduced. Oxygen is typically introduced in one of two ways. There is often enough oxygen at the floor level to trigger flashover. Or, the high levels of heat break open a window and introduce oxygen from the outside. Flashover represents the point at which everything in the room breaks into open flame all at once. This reaction creates enough energy, i.e., heat, smoke, and pressure, to break beyond the room of origin and through doors and windows.

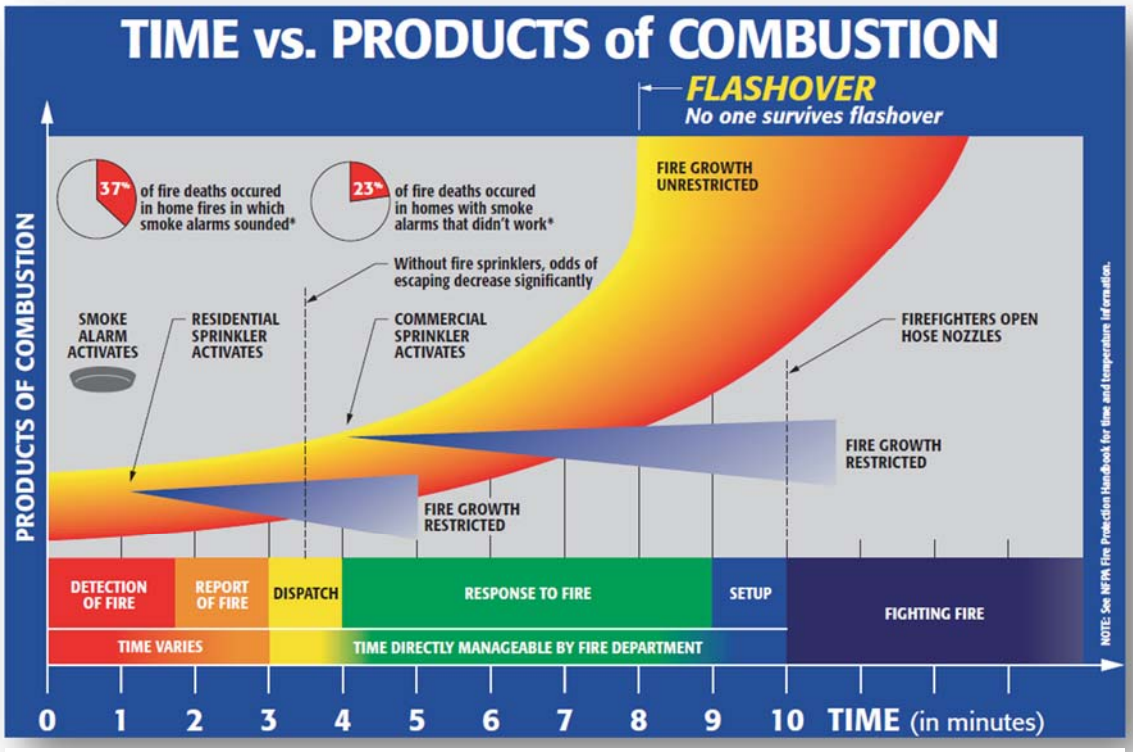


Figure 44: Time vs. Products of Combustion

Flashover is a critical turning point in a fire as it escalates the challenge presented to a fire department's resources. Post-flashover conditions present significantly increased combustion rates and limit the chance of saving lives. When a fire has reached flashover, more staffing is required to handle the larger hose streams needed to extinguish the fire. A post-flashover fire burns hotter and moves faster, compounding the search and rescue challenges in the remainder of the structure.

Without early arrival and suppression efforts, not only will the loss be potentially greater, but the apparatus, equipment, and number of personnel needed to handle the fire must also increase. The graphic above correlates the stage of the fire with resource and equipment needs.

EMS Response – Critical Factor of Time

There is a variety of medical emergencies to which Department personnel respond on a daily basis. EMS professionals are tasked with getting to the medical emergencies in a timely fashion, delivering necessary therapeutic measures, and transporting patients. In cases of cardiac arrest, stroke, trauma, and pediatric emergencies, EMS staff must get the patient to the appropriate hospital for treatment as well.

Most medical emergencies require multiple personnel to perform the various tasks associated with patient care. As there are two firefighter paramedics staffed on an ambulance, an engine or truck, staffed with three or four personnel respectively, must report to a medical emergency to provide assistance.

Most EMS guidelines are based upon studies showing the relationship between resuscitation efforts and the timeframes in which they are initiated. Similar to fire flashover, the Department uses a critical time component of four to six minutes before brain death occurs in a cardiac arrest patient. Brain damage is usually irreversible after ten minutes without oxygen. Early defibrillation is a vital form of intervention. When cardiac arrest occurs, the heart starts to beat chaotically (fibrillation) and does not circulate blood through the body. For every minute without defibrillation, the odds of survival drop seven to ten percent. A sudden cardiac arrest victim who is not defibrillated within ten minutes has virtually no chance of survival. The shortest possible response time creates the highest probability of resuscitation.

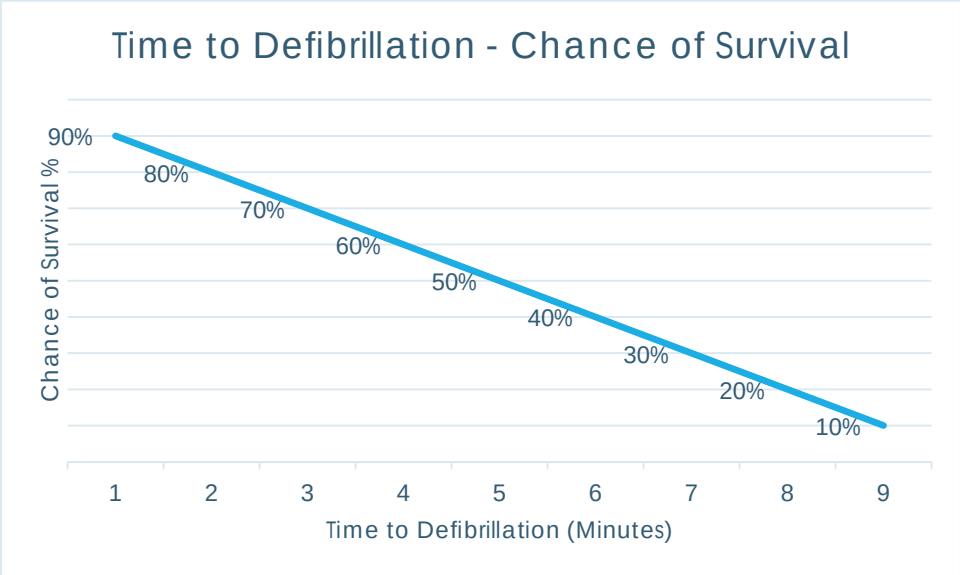


Figure 45: Chance of Survival - Time to Defibrillation

Rapid response times are not the only factor in providing rapid defibrillation. Sometimes there are delays in accessing a patient located in a high rise building, a condominium complex, shopping center, or other occupancy that has a significant walking distance to the patient's location. To address this limitation, the American Heart Association promotes citizen CPR and Public Access Defibrillation programs. The Culver City Fire Department provides Cardiopulmonary Resuscitation (CPR) training to the community and operates a Public Access Defibrillation program in several City buildings.

Comparability

Comparability is the review of the organization in comparison to other like-sized agencies, other accredited fire agencies, or industry best practices. Outlined below are three relevant national standards: the American Heart Association guidelines, the Insurance Services Office standards, and the National Fire Protection Association standards.

American Heart Association Guidelines

The American Heart Association (AHA) has established that the brain begins to die within four to six minutes without oxygen; brain damage is irreversible after ten minutes. Interventions include early cardiopulmonary

resuscitation (CPR) and electrical defibrillation. The earlier CPR is initiated, the better the patient's chance of survival. The AHA states that patients receiving CPR within two minutes and defibrillation within four minutes have a thirty percent survival rate. For patients receiving no CPR and delayed defibrillation (after ten minutes), the survival rate drops below two percent.

Insurance Services Office (ISO)

The ISO evaluates municipal fire protection in communities throughout the United States. In each community, ISO analyzes the relevant data and assigns a Public Protection Classification (PPC) rating– a number from 1 to 10. Class 1 represents exemplary fire protection services, and Class 10 indicates that the area's fire-suppression program does not meet ISO's minimum criteria. The PPC rating is determined by using a uniform set of criteria, incorporating nationally recognized standards developed by the National Fire Protection Association and the American Water Works Association.

A community's PPC grade depends on:

- *Needed Fire Flows, which are representative building locations used to determine the theoretical amount of water necessary for fire suppression purposes.*
- *Emergency Communications, including emergency reporting, telecommunicators, and dispatching systems.*
- *Fire Department, including equipment, staffing, training, geographic distribution of fire companies, operational considerations, and community risk reduction.*
- *Water Supply, including inspection and flow testing of hydrants, alternative water supply operations, and a careful evaluation of the amount of available water compared with the amount needed to suppress fires up to 3,500 gpm.*

The City was last assessed by ISO in 2018 and received a rating of Class 1 effective January 1, 2019. Out of over 48,000 agencies surveyed in the United States, only 348 hold a Class 1 rating. Just 34 agencies in the State of California are rated Class 1. Culver City has maintained the Class 1 rating since 1995.[60]

National Fire Protection Association (NFPA)

National Fire Protection Association 1221 and 1710 are nationally recognized voluntary standards. NFPA 1221 (2019) is the standard for the installation, maintenance, and use of emergency services communications systems and NFPA 1710 (2016) is the standard for the organization and deployment of fire suppression operations, emergency medical operations, and special operations to the public by career fire departments. These standards outline an organized approach to defining levels of service, deployment capabilities, and staffing. Specifically, NFPA 1710 provides standard definitions for fire apparatus, personnel assigned, procedural guidelines within which they operate, and staffing levels needed to accomplish specific tasks on arrival at an incident. NFPA 1710 states that fire departments shall establish a performance objective of not less than 90 percent for each of the following response time objectives:

- One minute (60 seconds) for alarm processing time.

[60] ISO Website, "Facts and Figures about PPC Codes around the Country," https://www.isomitigation.com/ppc/program-works/facts-and-figures-about-ppc-codes-around-the-country/.

- One minute and twenty seconds (80 seconds) for turnout time for fire and special operations response and one minute (60 seconds) turnout time for EMS response
- Four minutes (240 seconds) or less travel time for the arrival of the fire arriving engine company at a fire suppression incident and eight minutes (480 seconds) or less travel time for the deployment of an initial full alarm assignment at a fire suppression incident
- Four minutes (240 seconds) or less travel time for the arrival of a unit with first responder with automatic external defibrillator (AED) or higher level capability at an emergency medical incident
- Eight minutes (480 seconds) or less travel time for the arrival of an advanced life support (ALS) unit at an emergency medical incident, where this service is provided by the fire department provided a first responder with AED or basic life support (BLS) unit arrived in 240 seconds or less travel time.

Unique Needs of the Culver City Community

The Department scrutinizes the intricacies of the Culver City community in order to help set benchmarks. Demographics by fire management zone, occupancy types and use types, as well as historical call volumes all play a role in determining what the Department should aim for in terms of a response that will intervene in enough time to positively affect the outcome of the response. This assessment coupled with the Department Strategic Planning process, assists the Department in determining not just what the community needs, but also what the community expects. An overview of the strategic planning process follows.

Stakeholder Input

In developing the Department's Strategic Plan, Department Staff members met with community stakeholders to gather feedback and input on service delivery standards. As a result of community stakeholder meetings, subsequent feedback analysis, historical performance reviews, recommendations from National Fire Protection Association (NFPA) 1710 and internal benchmarking, the following Community Priorities, Community Expectations and performance objectives were established.

Community Priorities

1. Emergency Medical Services
2. Fire Suppression
3. Technical Rescue
4. Emergency Preparedness
5. Community Risk Reduction
6. Hazardous Materials Mitigation
7. Wildland Fire Services
8. Public Fire and Life Safety Education
9. Fire Investigation

Strategic Initiatives

1. Enhance the use of technology to improve services and reduce costs.
    a. Establish a technology committee to develop and propose technology solutions for the organization.

   b. Ensure current technology is being utilized to full potential to maximize efficiency.
   c. Explore and research emerging technology to provide the community with the highest level of service possible.
   d. Evaluate information technology support requirements to determine efficacy and future needs.
2. Improve the department's public outreach to better inform, educate and prepare targeted members of the community.
   a. Develop and improve existing fire department public education.
   b. Enhance external communication through all available media outlets.
   c. Develop a public information officer program to increase public awareness.
   d. Improve the department's outreach to better assist the homeless community.
3. Enhance the department's workforce development to ensure that the best possible services are provided to the community.
   a. Review the department's recruitment practices with an emphasis on attracting the most diverse pool of applicants.
   b. Enhance the department's personnel department and mentoring programs.
   c. Review and enhance the department's wellness program to maintain the health and longevity of the workforce.
   d. Enhance the department's performance evaluation procedures and documentation.
4. Enhance the Culver City Fire Department's training to accomplish the mission and provide a highly-skilled workforce.
   a. Evaluate and revise recruit training to ensure the program supports the department's mission.
   b. Evaluate training program to ensure all mandated/regulatory requirements are met.
   c. Evaluate and update the department's training manual to ensure it reflects the department's most up-to-date training requirements.
   d. Evaluate and improve the department's in-service training program to ensure the program supports the department's mission.
5. Enhance the department's efficiency by organizing and updating policies, procedures and documents.
   a. Enhance the department's organization of policies, procedures and documents to provide a uniform format and quick reference.
   b. Ensure the continuous review of governing documents to maintain accuracy and currency.
   c. Develop a secure digital repository for all department rules, regulations policies, procedures and documents to provide easy access from office or field.
6. Develop solutions for known and anticipated workload issues.
   a. Decrease total response time for all emergency incidents.
   b. Increase Advanced Life Support (ALS) transport capability.
   c. Evaluate the hazardous materials regulatory program and the public outreach program.
   d. Develop the capability to conduct detailed and documented annual brush inspections.
   e. Evaluate the filming (Fire Safety Officer) and special event (Life Safety Officer) programs.
   f. Evaluate Automatic Aid Agreements.

Population Density – Travel Times and Service Demands

Population density is another important factor to observe when establishing benchmark targets. Below is a chart that displays call volume by Fire Management Zone as compared to daytime and nighttime population levels. Daytime population has had the most significant impact on the Department's call volume. For example, a considerable increase in call volume can been observed in FMZ 14, which has a relatively higher daytime population. This corresponds with development that has been occurring in the Fox Hills area of the City.

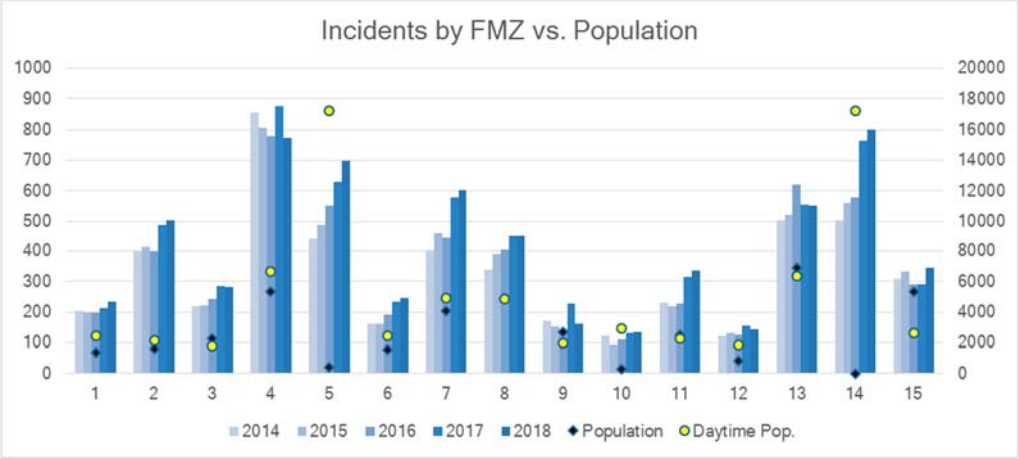


Figure 46: Incidents by FMZ vs. Population

The chart below reflects the first-due total response times by FMZ. Specifically, FMZs 1 and 12 are on the periphery of the City and present longer response times as a result. Relative risks can be weighed by FMZ by observing the percentage of incidents per FMZ. Although FMZ 12 receives slightly longer response times, the demand for service is relatively low. Conversely, FMZ 2 should be observed more closely. The percentage of incidents and the slightly delayed response times may present a problem. Although there is some variance from FMZ to FMZ in terms of total response times, the Department does not necessarily have a need to establish different benchmarks for different portions of the City.

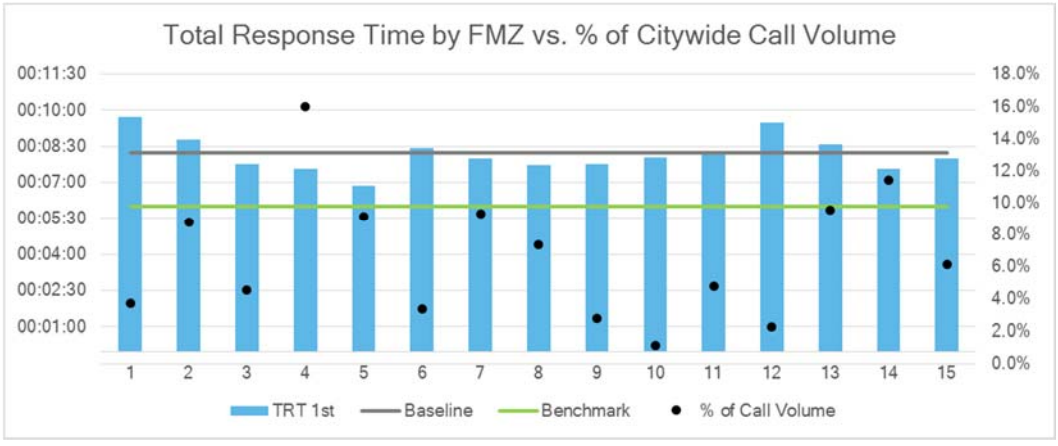


Figure 47: Total Response Time by FMZ vs. Call Volume

Partners

The Department partners with the South Bay Regional Public Communications Authority (SBRPCA), also known as the regional communications center (RCC), for the provision of dispatching services. RCC plays a critical role in the Department's service delivery and is a valuable partner in determining benchmarks and targets for service delivery. The Department works closely with RCC to establish metrics geared toward continuous improvement.

Availability of Aid

Currently, the response time factors that the department relies upon do not require mutual or automatic aid from neighboring agencies. Provisions of interoperable communication between the department and neighboring agencies are in place should aid be requested. Common standard operating procedures are in place, compatible equipment is available and joint training regularly occurs.

Delivery System Components

Response Time

Response time has different meanings depending on the observer's perspective. Here are three key viewpoints to consider: fire department staff, the public, and the fire, or patient in an emergency medical situation. The total response time clock for fire department staff begins when a member of the public calls 911 dispatch to report the fire or emergency medical incident and ends when the first fire apparatus arrives at the scene. The public typically begins counting down the seconds from the moment a fire or emergency medical incident is observed until firefighters arrive. The fire's clock or a patient's clock begins ticking the moment a fire ignites or the medical emergency event occurs respectively. The National Fire Protection Association refers to these time points in a Cascade of Events chart.

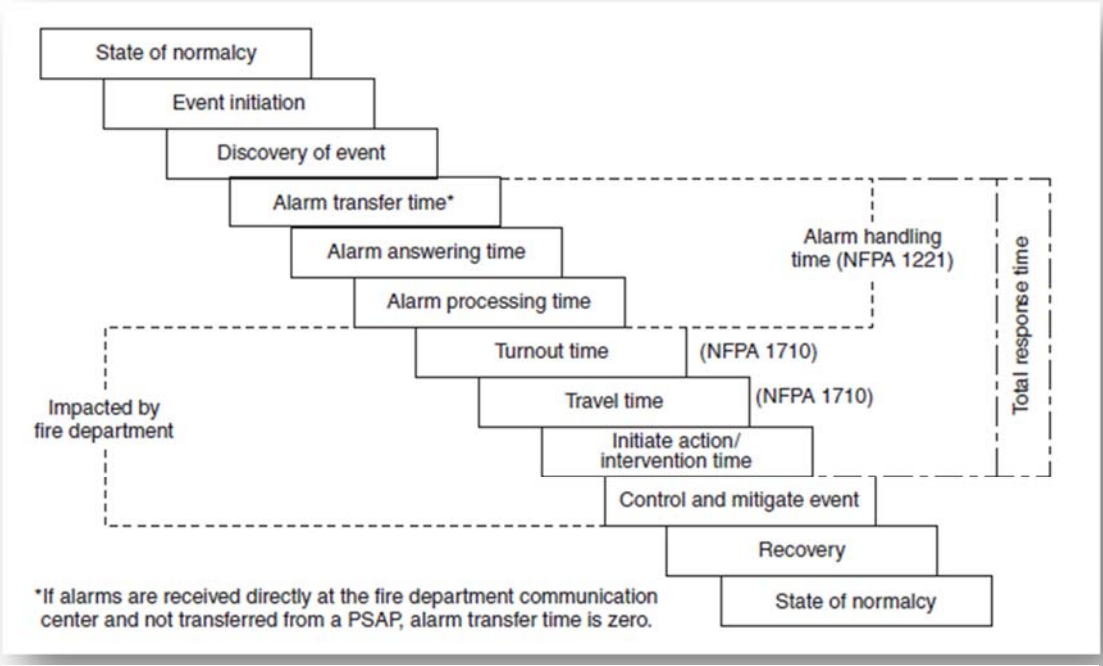


Figure 48: Cascade of Events

Depending on perspective, several factors could be considered as part of total response time for an emergency response. Some of which are as follows: ignition, combustion, fire detection, medical emergency event occurs, report to 911, call processing, dispatch, turnout time, travel time, setup time, the time fighting the fire, assessing patient(s) and lastly, fire extinguishment or transporting the patient. Of all of these total response time factors, fire department staff is primarily concerned with what is measurable. Those measurable time points are 911 activation, dispatch, en route time, and arrival time.

Alarm Handling Time

Alarm handling, or call processing, time is defined as the interval between answering the 911 call at the dispatch center and the time the dispatcher activates station and/or company alerting devices. Factors influencing call processing time include:

- Proliferation of cell phone use: Emergency calls received from normal telephone lines automatically populate the Computer Aided Dispatch (CAD) system with the incident location with no manual entry required. Emergencies reported via cell phone require that incident information be collected and manually entered into the CAD system, therefore slowing call processing time.

- Calls transferred from other jurisdictions: Emergency calls frequently originate in one jurisdiction only to be transferred to the servicing agency. The Culver City dispatch center receives calls transferred from other agencies including California Highway Patrol, Los Angeles City Fire Department, and Los Angeles County Fire dispatch centers. Incident information has to be collected and manually entered into the CAD system, therefore slowing the call processing time.

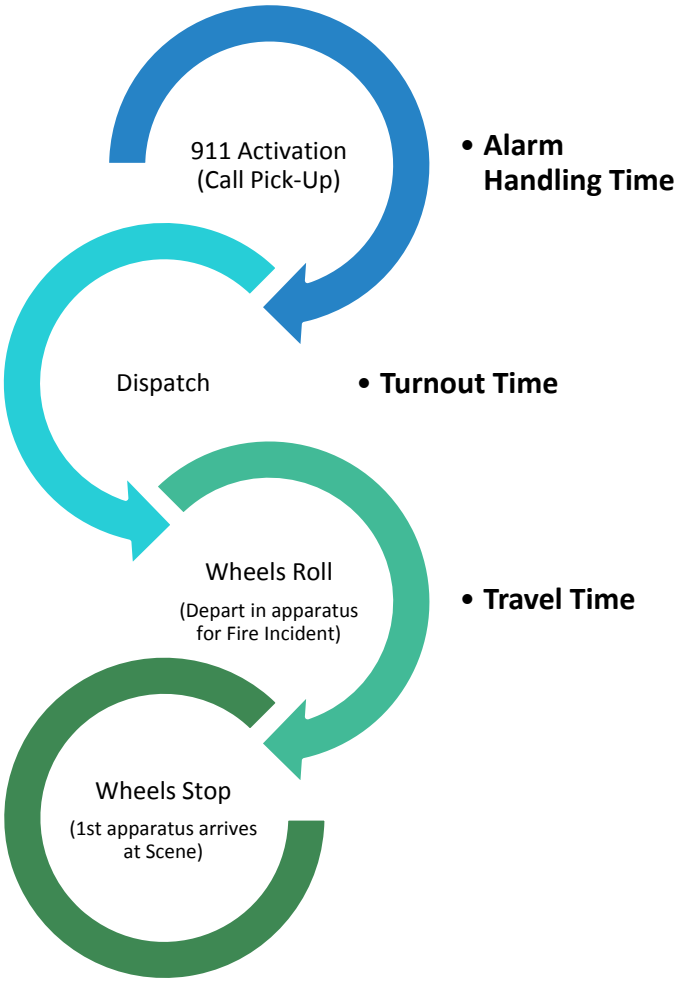


Figure 49: Components of Response Time

- The inception of Text to 9-1-1: Text to 9-1-1 was introduced to Culver City in December 2017. Mobile users in Los Angeles County have the ability to send text messages to 9-1-1, giving hearing and speech impaired residents, or those in situations where it is too dangerous to dial 9-1-1, a potentially lifesaving option.

- Calls requiring emergency medical dispatch questioning and pre-arrival medical instructions may affect alarm handling times. As of March 2017, the Department moved to RCC, which is capable of emergency medical dispatching. Although dispatchers are well trained to dispatch with minimal information, there is a potential for a delay.

- Calls relating to criminal activity could also impact alarm handling times. As the times recorded relate to time a dispatcher picks up call to when it is dispatched, police activity prior to the fire department being dispatched could lead to increased alarm handing time.

- Language barriers: receiving a 911 call from a non-English speaking customer can require more time to collect incident information.

- Multiple callers for the same incident: dispatchers frequently receive multiple calls for the same incident compounding dispatcher workload, which can lengthen call processing time.

- Simultaneous incidents: The occurrence of simultaneous incidents impacts dispatcher workload and can result in longer call processing times.

As of February 2017, fire and police 9-1-1 service was moved to the South Bay Regional Public Communications Authority (also referred to as "RCC" for Regional Communications Center). The RCC is a joint powers authority currently owned by three south bay cities—Gardena, Hawthorne, and Manhattan Beach. The RCC also provides service to El Segundo and Hermosa Beach. The Fire Department has established a call processing standard, which it has communicated to the dispatch staff. Although, dispatchers are not subject to Fire Department policies and standards, dispatchers are aware of the Fire Department's standards and the importance of a timely response by fire personnel.

Turnout Time

Turnout time is defined as the interval between the activation of station and/or company alerting devices, and the time when the responding crew is aboard the apparatus and responding to the incident location. Factors influencing turnout time include:

- Unit location at time of dispatch: Throughout the day, fire companies are out of the station attending to assigned activities. Personnel may be a short distance away from their apparatus when the dispatch is received. For example, personnel could be surveying a building for a Pre-Fire Plan, at the Culver City Transportation Facility for maintenance, or returning from another emergency incident. Situations such as these are necessary, but can increase turnout time while crews get to their vehicles and prepare for departure. Efforts are made to have other fire companies respond in place of affected crews to minimize this type of impact.

- Activities immediately preceding response activation: Much of a firefighter's day is dictated by local and national standards such as NFPA, OSHA, and the California Fire Code. As a result, companies are engaged in training exercises, public education, and inspections. Training scenarios typically employ full protective clothing, charged hose lines, and equipment. Fire inspections and hydrant maintenance are conducted by all units on a weekly basis. Crews, with their apparatus, attend several public events

monthly at the community's request. All of these events require a certain amount of time to disengage before responding, but are a necessary part of organizational functions.

- Type of incident: Depending on the incident type, firefighters are required to wear different pieces of equipment. During a medical emergency, firefighters are required to wear latex gloves and protective eyewear. Structural turnouts and personal protective equipment are far more time consuming to put on.

- Station layout: Culver City's fire stations average approximately 10,000 square feet. This adds to a firefighter's travel time within the building to their apparatus during an emergency response.

Fire Department personnel understand the importance of response times and strive to minimize turnout time. Once notified of a call, firefighters move with haste to the apparatus and don the appropriate protective equipment quickly. Some impacts such as training and fire inspections cannot be avoided as these activities are mandatory. Improvements in the dispatching process and technologies are currently underway, which will improve turnout time.

In 2014, the Department implemented turnout timers in the apparatus bays to encourage turnout response. With the move to a new dispatch center, the Department also implemented a new station alerting system, and began utilizing Active 911, a pre-alert system connected to cell phones.

Travel Time

Travel time is the time it takes to drive from the fire station (or location at which firefighters received the alarm) to the curbside of the address of the incident. Factors influencing travel time include:

- Traffic control devices: Traffic-calming features such as traffic circles, speed bumps, cul-de-sacs, curb extensions, and medians affect the time in which apparatus can reach a fire or medical emergency.

- Volume of Traffic: with an estimated day population of over 200,000 people, the Culver City streets are highly impacted with traffic. Although emergency apparatus responding with lights and sirens are able to go around most vehicles and through most intersections, apparatus drivers must take extreme caution due to the number of vehicles on the road and at times, must wait for traffic to clear before being able to proceed down a street.

- Knowledge and awareness of surrounding drivers: according to the California Department of Motor Vehicle Code 21806, drivers are expected to yield the right-of-way to emergency response vehicles and shall immediately drive to the right-hand edge or curb of the street. Oftentimes, due to traffic density or lack of driver knowledge, and driver distraction with radios or cell phones, this does not occur. Waiting for traffic to clear further slows the travel time to the scene of a fire or emergency medical situation.

With the build out of new engines, the Department included responder-to-vehicle alerting systems, which sends real time alerts to drivers when responders are en route to a call and on scene. The alerts via real time mapping systems, e.g., Waze. The intention is for drivers to move out of the way sooner as the Department's apparatus approach, as well as cause drivers to be more cautious when approaching incidents scenes.

The Gaps

Gaps are spaces between the baseline and benchmark performance. They gauge how close (or far away) the Department is to reaching its goal. Gaps are opportunities to improve. There are four factors to observe when assessing the gap–the baseline (i.e., actual) performance, the benchmark (i.e., target or goal performance), the gap (i.e., space between the two), and lastly, a plan for closing the gap. The goal is to constantly work toward decreasing the gap between the two. When the Department is getting close to reaching its benchmark, it is time to move the benchmark. The process below displays steps and measures the Department takes to help reach its benchmark targets.

Figure 50: Closing the Gap between Baseline and Benchmark

An example of how the Department is currently attempting to close a service gap relates to its most recent endeavor to incorporate an additional rescue ambulance to its frontline deployment model. Due to the significant increase in concurrent runs, the Department has attempted measures such as adding a BLS ambulance to handle low acuity incidents and free up the rescue ambulances. Most recently, the Department is taking steps to add a third rescue to its deployment model. The third rescue aims to reduce response times overall, but the focus is on FMZs 1 and 2, as shown in Figure 51. In this instance, the Department is not just aiming to close the gap between baseline and benchmark performance, the Department is aiming to bring response times within range. Figure 52 displays FMZ 1 in red at the southwesterly portion of the City.

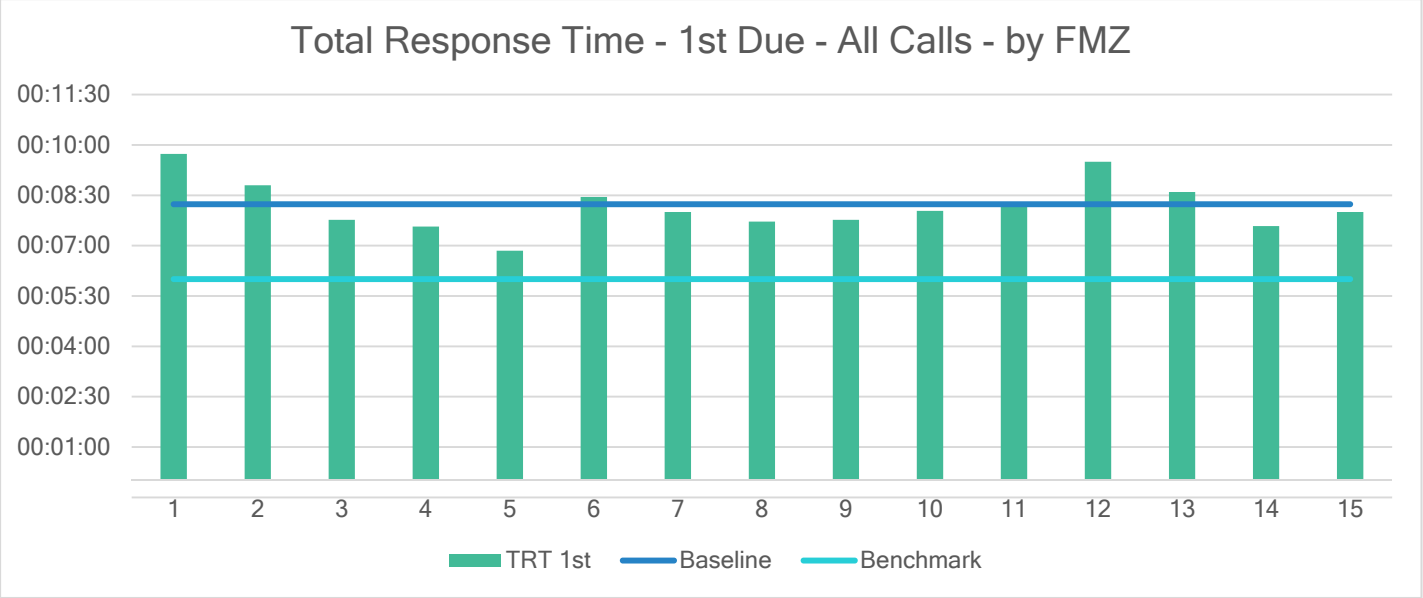


Figure 51: Total Response Time - 1st Due by FMZ

Acceptable Risk

Acceptable risk is risk tolerated because the cost or difficulty implementing an effective countermeasure for the associated vulnerability exceeds the expectation of loss.[61]

The chart to the right references the response times relative to the call volume percentage in each fire management zone. This perspective allows the Department to weigh historical demand and consider future probability. As noted above, a third rescue would concentrate the Department's resources to provide better service to an area which see the Department's slowest response times.

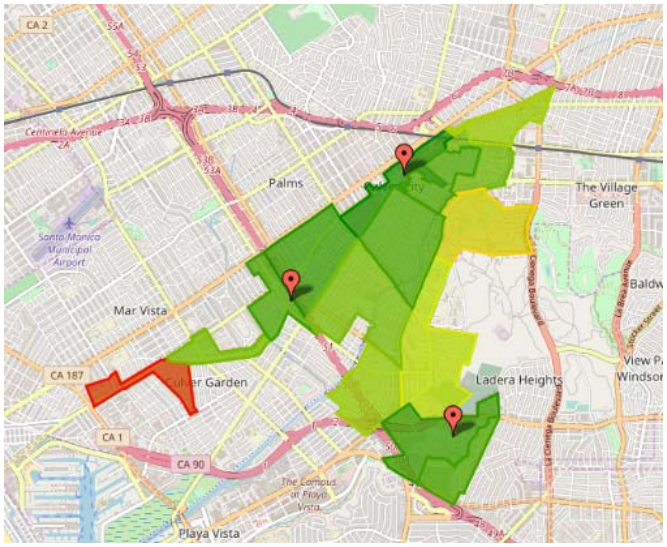


Figure 52: 1st Due Response Times by FMZ

[61] CPSE Community Risk Assessment: Standards of Cover Manual, p. 54.

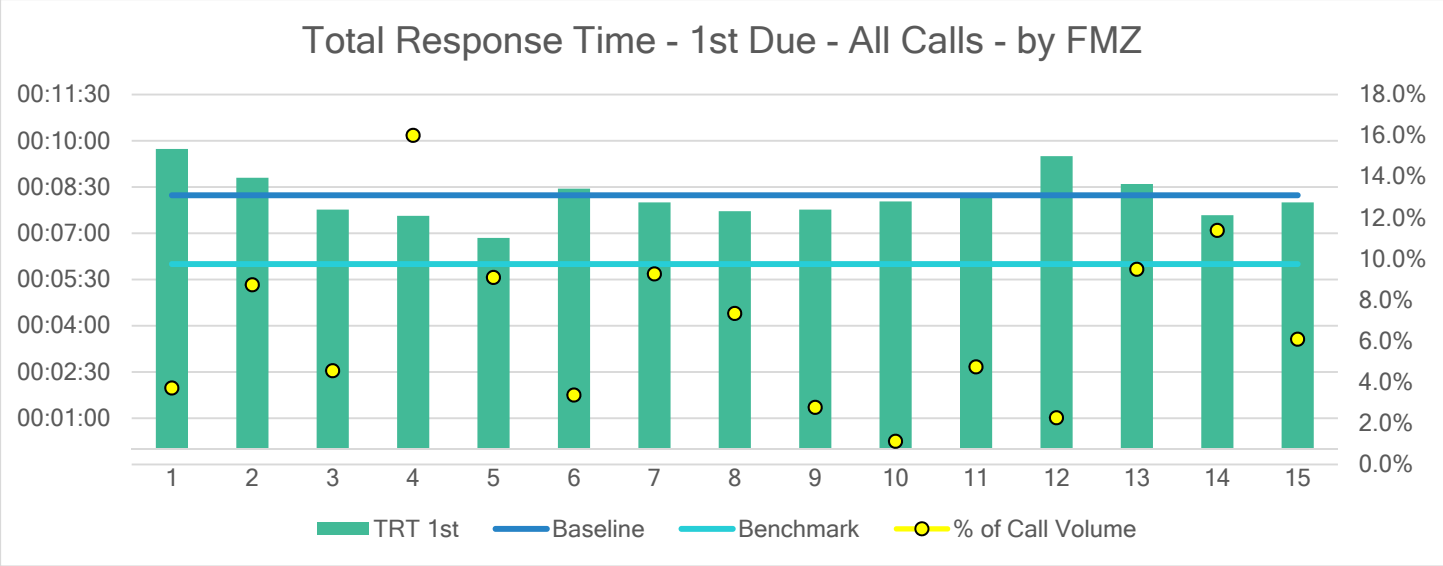


Figure 53: Total Response Time - 1st Due by FMZ

Relationship between Baseline and Benchmark

The Department identifies baseline trends in comparison with benchmarks. Several factors are incorporated into this review, such as location, demographics, occupancy types, risk mitigation efforts, and resources available. This is basically a process of investigating why the gaps exist.

Benchmark Performance Standards

Staff's review of historical performance, current capabilities, critical tasking, risk analysis, system demand, and community expectations have helped facilitate the establishment of performance measures and performance objective standards.

Department Staff have developed metrics that are specific, measurable, attainable, relevant, and timely. Taking into account and evaluating needs based on fire growth, flashover, EMS response needs, special service response needs, response times, on-scene operations, problem-solving critical tasks, Department Staff was also able to determine an effective response force benchmarks for the community.

Fire Suppression Benchmark Performance Measures

Fire – First Unit – Benchmarks

For 90 percent of all low, moderate, and high risk fires, the total response time for the arrival of the first-arriving engine company shall be 7 minutes. The first-due unit shall be staffed with a minimum of three firefighters, capable of establishing command, evaluating the need for additional resources, and advancing the first line for fire attack.

Fire – Effective Response Force – Benchmarks

Low Risk: For 90 percent of all low risk fires, the total response time for the arrival of the effective response force, staffed with four firefighters, shall be 8 minutes. The effective response force shall be capable of providing 1,500 gallons per minute pumping capability and be able to accomplish the following critical tasks necessary to contain a low risk fire: command, fire attack, and pump operations.

Moderate Risk: For 90 percent of all moderate risk fires, the total response time for the arrival of the effective response force, staffed with 18 firefighters and officers, shall be 10 minutes. The effective response force shall be capable of providing 4,500 gallons per minute pumping capability and be able to accomplish the following critical tasks necessary to contain a moderate risk fire: command, fire attack, back-up fire attack, exposure protection, rapid intervention crew, water supply, pump/aerial operations, ventilation and medical aid.

High Risk: For 90 percent of all high risk fires, the total response time for the arrival of the effective response force, staffed with 40 firefighters and officers, shall be 14 minutes. The effective response force shall be capable of providing 7,500 gallons per minute pumping capability and be able to accomplish the following critical tasks necessary to contain a high risk fire: command, safety, fire attack, exposure protection, rapid intervention crew, water supply, pump/aerial operations, ventilation and medical aid.

Fire Suppression Baseline Performance Measures

Fire – First Unit – Baseline Performance

Low Risk: Over a period of five years, from 2014-2018, for 90 percent of all low risk fires, the total response time for the arrival of the first-due unit, staffed with three firefighters, is 8 minutes and 22 seconds. The first-due unit is capable of establishing command, evaluating the need for additional specialized resources, and advancing the first line for fire attack.

Moderate Risk: Over a period of five years, from 2014-2018, for 90 percent of all moderate risk fires, the total response time for the arrival of the first-due unit, staffed with three firefighters, is 9 minutes and 50 seconds. The first-due unit is capable of establishing command, evaluating the need for additional specialized resources, and advancing the first line for fire attack.

High Risk: Over a period of five years, from 2014-2018, for 90 percent of all high risk fires, the total response time for the arrival of the first-due unit, staffed with three firefighters, is 10 minutes and 16 seconds. The first-due unit is capable of establishing command, evaluating the need for additional specialized resources, and advancing the first line for fire attack.

Fire – Effective Response Force – Baseline Performance

Low Risk: Over a period of five years, from 2014-2018, for 90 percent of all low risk fires, the total response time for the arrival of the effective response force, staffed with four firefighters and officers is 9 minutes and 2 seconds. The effective response force is capable of providing 1,500 gallons per minute pumping capability and be able to accomplish the following critical tasks: command, fire attack, and pump operations..

Moderate Risk: Over a period of five years, from 2014-2018, for 90 percent of all moderate risk fires, the total response time for the arrival of the effective response force, staffed with 18 firefighters and officers is 10 minutes and 52 seconds. The effective response force is capable of providing 4,500 gallons per minute pumping capability and be able to accomplish the following critical tasks necessary to contain a moderate risk fire: command, fire attack, back-up fire attack, exposure protection, rapid intervention crew, water supply, pump/aerial operations, ventilation and medical aid.

High Risk: Over a period of five years, from 2014-2018, there were no incidences recorded wherein the Department delivered its effective response force to a high risk fire.

Wildland Fire Benchmark Performance Measures

Wildland Fire – First Unit – Benchmarks

For 90 percent of all low, moderate, and high risk fires, the total response time for the arrival of the first-arriving engine company shall be 7 minutes and 30 seconds. The first-due unit shall be staffed with a minimum of three

firefighters, capable of establishing command, evaluating the need for additional resources, and advancing the first line for fire attack.

Wildland Fire – Effective Response Force – Benchmarks

Low Risk: For 90 percent of all low risk wildland fires, the total response time for the arrival of the effective response force, staffed with four firefighters, shall be 8 minutes. The effective response force shall be capable of providing 1,500 gallons per minute pumping capability and be able to accomplish the following critical tasks necessary to contain a low risk fire: command, fire attack, and pump operations.

Moderate Risk: For 90 percent of all moderate risk wildland fires, the total response time for the arrival of the effective response force, staffed with 18 firefighters and officers, shall be 13 minutes. The effective response force shall be capable of providing 4,500 gallons per minute pumping capability and be able to accomplish the following critical tasks necessary to contain a moderate risk fire: command, safety, perimeter control left flank, perimeter control right flank, and pump operations.

High Risk: For 90 percent of all high risk wildland fires, the total response time for the arrival of the effective response force, staffed with 55 firefighters and officers, shall be 21 minutes. The effective response force shall be capable of providing 7,500 gallons per minute pumping capability and be able to accomplish the following critical tasks necessary to contain a high risk fire: command, safety, perimeter control left flank, perimeter control right flank, structure protection, air operations, and pump operations.

Wildland Fire Baseline Performance Measures

Wildland Fire – First Unit – Baseline Performance

Low Risk: Over a period of five years, from 2014-2018, for 90 percent of all low risk wildland fires, the total response time for the arrival of the first-due unit, staffed with three firefighters, is 8 minutes and 38 seconds. The first-due unit is capable of establishing command, evaluating the need for additional specialized resources, and advancing the first line for fire attack.

Moderate Risk: Over a period of five years, from 2014-2018, for 90 percent of all moderate risk wildland fires, the total response time for the arrival of the first-due unit, staffed with three firefighters, is 10 minutes and 20 seconds. The first-due unit is capable of establishing command, evaluating the need for additional specialized resources, and advancing the first line for fire attack.

High Risk: Across a period of five years, from 2014-2018, the Department did not record a high risk wildland fire incident.

Wildland Fire – Effective Response Force – Baseline Performance

Low Risk: Over a period of five years, from 2014-2018, for 90 percent of all low risk wildland fires, the total response time for the arrival of the effective response force, staffed with four firefighters and officers is 10 minutes and 11 seconds. The effective response force is capable of providing 1,500 gallons per minute pumping capability and be able to accomplish the following critical tasks necessary to contain a low risk fire: command, fire attack, and pump operations.

Moderate Risk: Over a period of five years, from 2014-2018, for 90 percent of all moderate risk wildland fires, the total response time for the arrival of the effective response force, staffed with 18 firefighters and officers is 14 minutes and 13 seconds. The effective response force is capable of providing 4,500 gallons per minute pumping capability and be able to accomplish the following critical tasks necessary to contain a moderate risk fire: command, safety, perimeter control left flank, perimeter control right flank, and pump operations.

High Risk: Across a period of five years, from 2014-2018, the Department did not record a high risk wildland fire incident.

EMS Benchmark Performance Measures

EMS – First Unit – Benchmarks

For 90 percent of all low, moderate and high risk EMS incidents, the total response time for the arrival of the first-arriving unit shall be 6 minutes and 20 seconds. The first-due unit shall be staffed with a minimum of two firefighters. The first-due unit shall be capable of establishing command, evaluating the need for additional resources, initiating basic life support, and early defibrillation.

EMS – Effective Response Force – Benchmarks

Low Risk: For 90 percent of all low risk EMS incidents, the total response time for the arrival of the effective response force, staffed with five firefighters shall be 9 minutes and 50 seconds. The effective response force shall be capable of completing the following critical tasks: supervision, patient assessment, documentation, patient care and transport.

Moderate Risk: For 90 percent of all moderate risk EMS incidents, the total response time for the arrival of the effective response force, staffed with five firefighters shall be 9 minutes and 50 seconds. The effective response force shall be capable of completing the following critical tasks: supervision, patient assessment, documentation and patient care and transport.

High Risk: For 90 percent of all high risk EMS incidents, the total response time for the arrival of the effective response force, staffed with 18 firefighters shall be 12 minutes and 50 seconds. The effective response force shall be capable of completing the following critical tasks: command, safety, triage, treatment, transportation, medical communications, and ambulance staging.

EMS Baseline Performance Measures

EMS – First Unit – Baseline Performance

Low Risk: Over a period of five years, from 2014-2018, for 90 percent of all low risk EMS incidents, the total response time for the arrival of the first-arriving unit is 9 minutes and 26 seconds. The first-due unit is staffed with a minimum of two firefighters. The first-due unit is be capable of establishing command, evaluating the need for additional resources, initiating basic life support, and early defibrillation.

Moderate Risk: Over a period of five years, from 2014-2018, for 90 percent of all moderate risk EMS incidents, the total response time for the arrival of the first-arriving unit is 8 minutes and 10 seconds. The first-due unit is staffed with a minimum of two firefighters. The first-due unit is be capable of establishing command, evaluating the need for additional resources, initiating basic life support, and early defibrillation.

High Risk: Over a period of five years, from 2014-2018, for 90 percent of all high risk EMS incidents, the total response time for the arrival of the first-arriving unit is 7 minutes and 44 seconds. The first-due unit is staffed with a minimum of two firefighters. The first-due unit is be capable of establishing command, evaluating the need for additional resources, initiating basic life support, and early defibrillation.

EMS – Effective Response Force – Baseline Performance

Low Risk: Over a period of five years, from 2014-2018, for 90 percent of all low risk EMS incidents, the total response time for the arrival of the effective response force, staffed with five firefighters is 10 minutes and 49 seconds. The effective response force is capable of completing the following critical tasks: supervision, patient assessment, documentation, patient care and transport.

Moderate Risk: Over a period of five years, from 2014-2018, for 90 percent of all moderate risk EMS incidents, the total response time for the arrival of the effective response force, staffed with five firefighters is 10 minutes and 26 seconds. The effective response force is capable of completing the following critical tasks: supervision, patient assessment, documentation, patient care and transport.

High Risk: Across a period of five years, from 2014-2018, the Department did not deliver its effective response force to a high risk EMS incident.

Technical Rescue Benchmark Performance Measures

Technical Rescue – First Unit – Benchmarks

For 90 percent of all low, moderate and high risk technical rescue incidents, the total response time for the arrival of the first-arriving company shall be 7 minutes and 30 seconds. The first-due unit shall be staffed with a minimum of three firefighters, capable of: establishing command; sizing up to determine if a technical rescue response is required; requesting additional resources; and providing basic life support to any victim without endangering response personnel.

Technical Rescue – Effective Response Force – Benchmarks

Low Risk: For 90 percent of all low risk technical rescue incidents, the total response time for the arrival of the effective response force, staffed with four firefighters and officers, shall be 9 minutes. The effective response force shall be capable of: supervision; scene safety; crew management and accountability; communications; and extrication.

Moderate Risk: For 90 percent of all moderate risk technical rescue incidents, the total response time for the arrival of the effective response force, staffed with 13 firefighters and officers, shall be 12 minutes. The effective response force shall be capable of: supervision; appointing a site safety officer; establishing patient contact; staging and apparatus set up; providing technical expertise, knowledge, skills, and abilities during technical rescue incidents; and providing patient medical care.

High Risk: For 90 percent of all high risk technical rescue incidents, the total response time for the arrival of the effective response force, staffed with 17 firefighters and officers, shall be 14 minutes. The effective response force shall be capable of: supervision; appointing a site safety officer; establishing patient contact; staging and apparatus set up; providing technical expertise, knowledge, skills, and abilities during technical rescue incidents; and providing patient medical care.

Technical Rescue Baseline Performance Measures

Technical Rescue – First Unit – Baseline Performance

Low Risk: Over a period of five years, from 2014-2018, for 90 percent of all low risk technical rescue incidents, the total response time for the arrival of the first-arriving company is 9 minutes and 4 seconds. The first-due unit is staffed with a minimum of three firefighters capable of: establishing command; sizing up to determine if a technical rescue response is required; requesting additional resources; and providing basic life support to any victim without endangering response personnel.

Moderate Risk: Over a period of five years, from 2014-2018, for 90 percent of all moderate risk technical rescue incidents, the total response time for the arrival of the first-arriving company is 9 minutes and 40 seconds. The first-due unit is staffed with a minimum of three firefighters capable of: establishing command; sizing up to determine if a technical rescue response is required; requesting additional resources; and providing basic life support to any victim without endangering response personnel.

High Risk: Across a period of five years, from 2014-2018, the Department did not record a high risk technical rescue incident.

Technical Rescue – Effective Response Force – Baseline Performance

Low Risk: For 90 percent of all low risk technical rescue incidents, the total response time for the arrival of the effective response force, staffed with four firefighters, shall be 11 minutes and 45 seconds. The effective response force shall be capable of: supervision; scene safety; crew management and accountability; communications; and extrication.

Moderate Risk: Across a period of five years, from 2014-2018, the Department did not deliver its effective response force to a moderate risk technical rescue incident.

High Risk: Across a period of five years, from 2014-2018, the Department did not record a high risk technical rescue incident.

Hazardous Materials Benchmark Performance Measures

Hazardous Materials – First Unit – Benchmarks

For 90 percent of all low, moderate, and high risk hazardous materials incidents, the total response time for the arrival of the first-arriving company shall be 8 minutes. The first-due unit shall be staffed with a minimum of three firefighters, capable of establishing command, evaluating the need for additional resources, and establishing the initial isolation distance.

Hazardous Materials – Effective Response Force – Benchmarks

Low Risk: For 90 percent of all low risk hazardous material incidents, the total response time for the arrival of the effective response force, staffed with three firefighters, shall be 8 minutes. The effective response force shall be capable of scene supervision and investigation.

Moderate Risk: For 90 percent of all moderate risk hazardous material incidents, the total response time for the arrival of the effective response force, staffed with 13 firefighters and officers, shall be 9 minutes. The effective response force shall be capable of providing the following critical tasks: command, safety, material identification, perimeter control, evacuation, and containment.

High Risk: For 90 percent of all high risk hazardous material incidents, the total response time for the arrival of the effective response force, staffed with 18 firefighters and officers, shall be 10 minutes. The effective response force shall be capable of providing the following critical tasks: command, safety, material identification, perimeter control, evacuation, and containment.

Hazardous Materials Baseline Performance Measures

Hazardous Materials – First Unit – Baseline Performance

Low Risk: Over a period of five years, from 2014-2018, for 90 percent of all low risk hazardous materials incidents, the total response time for the arrival of the first-arriving company is 9 minutes and 40 seconds. The first-due unit is staffed with a minimum of three firefighters, capable of establishing command, evaluate the need for additional resources, and establish the initial isolation distance.

Moderate Risk: Over a period of five years, from 2014-2018, for 90 percent of all moderate risk hazardous materials incidents, the total response time for the arrival of the first-arriving company is 10 minutes and 02 seconds. The first-due unit is staffed with a minimum of three firefighters, capable of establishing command, evaluate the need for additional resources, and establish the initial isolation distance.

High Risk: Over a period of five years, from 2014-2018, for 90 percent of all high risk hazardous materials incidents, the total response time for the arrival of the first-arriving company is 10 minutes and 4 seconds. The first-due unit is staffed with a minimum of three firefighters, capable of establishing command, evaluate the need for additional resources, and establish the initial isolation distance.

Hazardous Materials – Effective Response Force – Baseline Performance

Low Risk: For 90 percent of all low risk hazardous material incidents, the total response time for the arrival of the effective response force, staffed with three firefighters, is 9 minutes and 40 seconds. The effective response force is capable of scene supervision and investigation.

Moderate Risk: Across a period of five years, from 2014-2018, the Department did not deliver its effective response force to a moderate risk hazardous materials incident.

High Risk: For 90 percent of all high risk hazardous material incidents, the total response time for the arrival of the effective response force, staffed with 18 firefighters, is 10 minutes and 57 seconds. The effective response force is capable of providing the following critical tasks: command, safety, material identification, perimeter control, evacuation, and containment.

Review and Adjust Benchmarks

The Department reviews and presents findings in several ways. Annually, the Fire Chief presents response time statistics to the Culver City Council through the budget process; biannually, the Department produces comprehensive statistics, including outcome data; quarterly, the Department observes reports; monthly the Department reviews alarm-handling metrics.

Performance Monitoring

The Department also closely monitors its programs through program appraisals, at minimum annually and in some cases biannually. These program appraisals allow the Department to assess outcomes and assess external and internal factors.

Update Tracking

Description	Details	Date
2019 CRA-SOC Document	Published to SharePoint	March 28, 2019
2019 CRA-SOC Document	Published on Website	April 2, 2019
2019 CRA-SOC Update	Updated Critical Task Analysis & Baseline Tables	April 18, 2019
2019 CRA-SOC Update	Updated Benchmark & Baseline Statements	May 23, 2019
2019 CRA-SOC Update	Updated Benchmark Statements	June 5, 2019

CONCLUSIONS AND RECOMMENDATIONS

The Community Risk Assessment and Standards of Cover process has allowed the Department to observe the Culver City community and the Department response times comprehensively. Through observations of, and interactions with the community; listing of current services provided; learning community expectations; assessing key areas of risk; setting performance goals; viewing the Department from a historical perspective; and analyzing performance measures, the Department has developed a clear and comprehensive evaluation of its overall performance.

Staff observed several areas where the Department meets or exceeds expectations. There are also a few areas where staff sees opportunities for improvement. As with any critical review process, recommendations were developed in an effort to foster future growth and improvement.

1. Enhance the Department's deployment model by adding a third rescue ambulance to be located at Fire Station 2. The Department anticipates that this additional apparatus will help close the gaps relating to concurrent runs and increasing travel times to FMZ 1. The Department has already taken steps to move toward this goal by utilizing the methods outlined in this document.

2. Refocus on all components of response time.

    a. Alarm Handling
        . With the Department's move to a new dispatch center, there is opportunity for alarm handling improvements. The dispatch center has been proactive and responsive to the Department's requests.
    b. Turnout Time
        . The Department implemented turnout timers in stations as a means to encourage speedy turnout times. Staff recommends that the Department run turnout time reports by shift and crew monthly, and communicate those results and expectations to all personnel.

    c. Travel Time
        . The Department recently added HAAS alerting units to its new engines. It is recommended that staff continue to follow the success of these units on improving travel times over the next six months.

3. Improve data: There are several ways the Department has the opportunity to improve data collection methods and data quality.

    a. When the dispatch center moves to the new Mark 43 CAD, it is encouraged that a layer for the all fire management zones be included for querying purposes. Mark 43 is currently in the development stages.

    b. Improve incident reporting consistency. The Department has done a good job capturing fire loss data, but the Department could improve tracking of fire save data. This along with overall incident reporting consistency should be explored by the end of calendar year 2019.

4. Revisit automatic aid agreements to optimize efficiency and effectiveness. The Department has already reached out to Los Angeles County Fire Department and Los Angeles Fire Department to discuss improving automatic aid agreements.

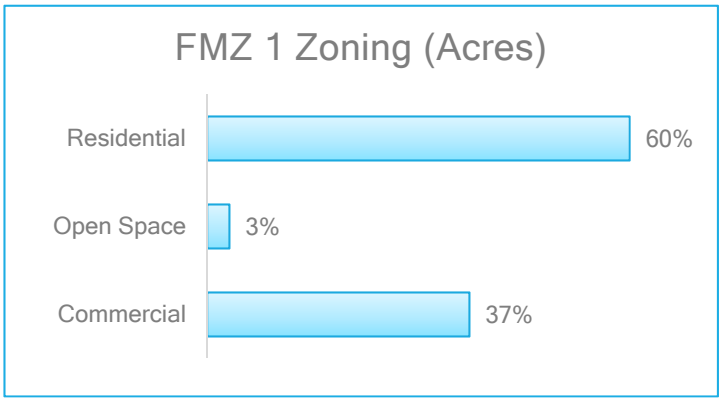
APPENDIX 1 – RISK BY FIRE MANAGEMENT ZONE (FMZ)

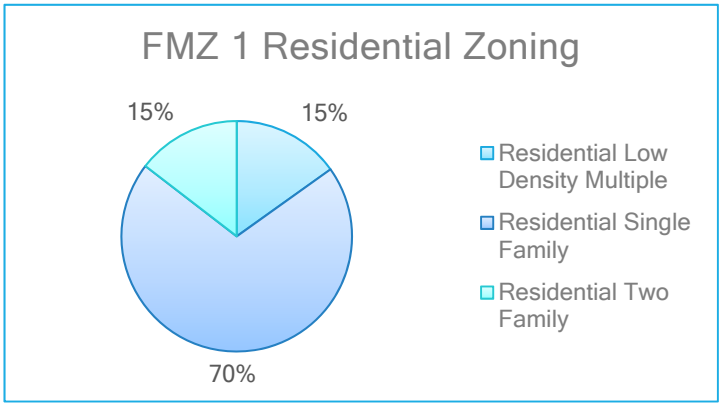
FMZ 1

Fire Management Zone 1 is a general corridor of 0.18 square miles in the western part of the City. Within its boundaries are mostly single and multiple family residences along with smaller street-front businesses and commercial use structures. There are 10 commercial spaces larger than 10,000 square feet within the area, including an extremely busy regional center. FMZ 1's daytime population swells by 75 percent–from 1,378 at night to 2,415 during the day. There is also a higher than average building density for this zone at over 5,000 structures per square mile.

FMZ 1 Characteristics

Resources	
Fire Rescue District	23
Station	2
First Due Engine/Truck	42
First Due Rescue	43
Development	
Total Square Miles	0.18
Total Structures	905
Buildings per Square Mile	5027.8
Total Square Feet (all structures)	1,964,431
Number of Buildings > 75 ft.	0
Commercial Buildings > 10,000 ft²	10
Road miles	4.4
Total Assessed Valuation	$467 million
Mitigating Factors	
Fire Sprinklers in Structures	
Commercial	52%
Residential	3%





Specific Risks	
Fire	48% of commercial buildings without sprinklers
EMS	Daytime population increase
Tech Rescue	Over 40,000 average daily traffic volume along Washington Boulevard
Haz Mat	High pressure gas distribution line runs SE to NW; 8” diameter oil pipeline carrying crude oil, diesel, gasoline and jet fuel
Other	Outside of 4-minute drive-time area

FMZ 1 Historical Call Volume

	2014	2015	2016	2017	2018	2014-2018
Fire	1	2	-	-	2	**5**
EMS	159	147	149	169	162	**786**
Tech Rescue	1	-	2	-	1	**4**
Haz Mat	-	1	2	4	2	**9**
Other	42	46	43	39	66	**236**

Demographics

Population

- Population: 1,378
- Daytime Population (workers & residents): 2,415
- Population Density per Square Mile: 7,656
- Daytime Population Density: 13,417
- Median Age: 43
- Male Population: 49.5%
- Female Population: 50.5%
- Number of Households: 605
- Households with Disability: 148
- Population 65+ Speak No English: 19
- Households Income Below Poverty Level: 17

Education/ Employment

- Businesses: 249
- Employees: 1,575
- Median Household Income: $82,854
- Per Capita Income: $41,497
- Unemployment: 4.7%
- No High School Diploma: 10%

Housing

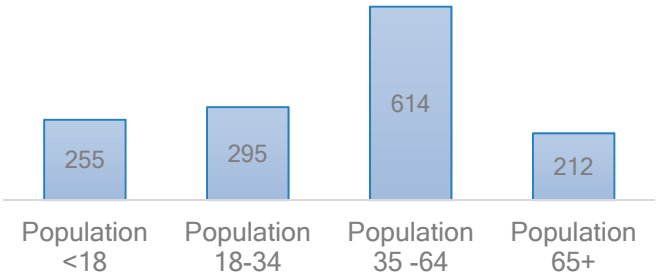
- Median Home Value: $915,865
- Number of Housing Units: 612
- Average Household Size: 2.6
- Housing Structure Built After 1990: 18
- Housing Structure Built Before 1940: 194
- Median Year Housing Structure Built: 1952
- Median Year Householder Moved into Unit: 2005

Population
1,378

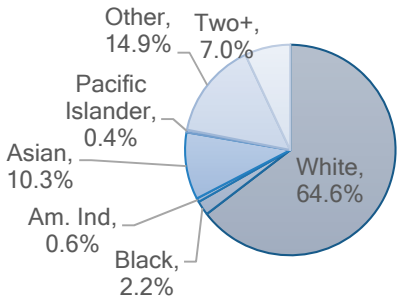
Daytime Population
75% Increase ↑

Annual Population Growth
-0.11%

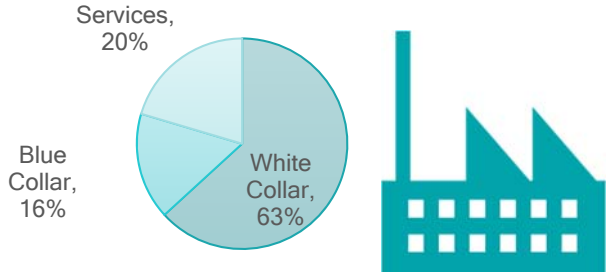
FMZ 1 Population by Age



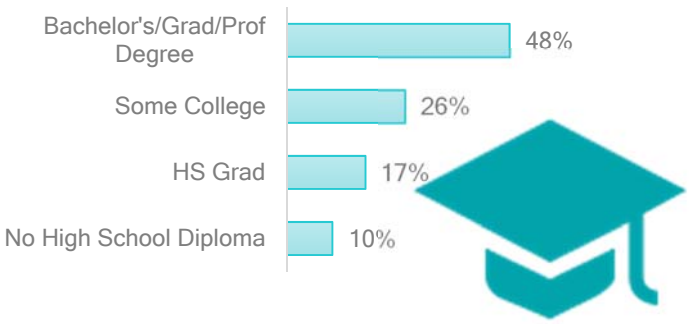
FMZ 1 Population by Race



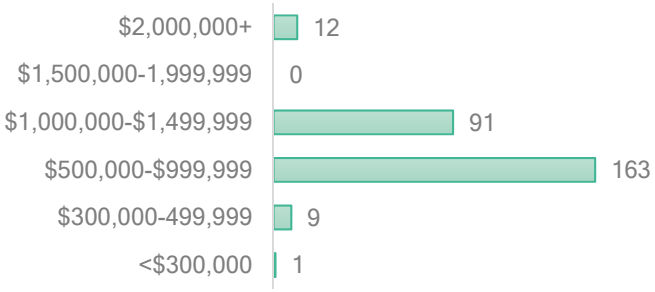
FMZ 1 Occupation



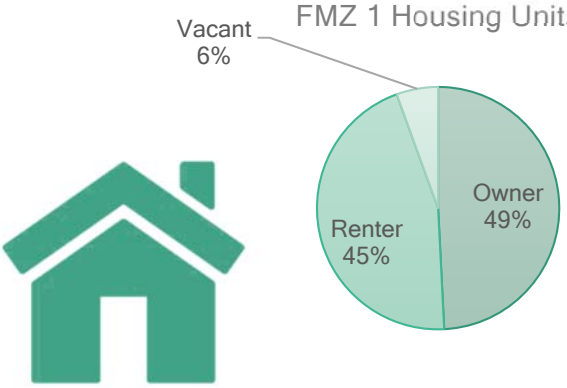
FMZ 1 Education



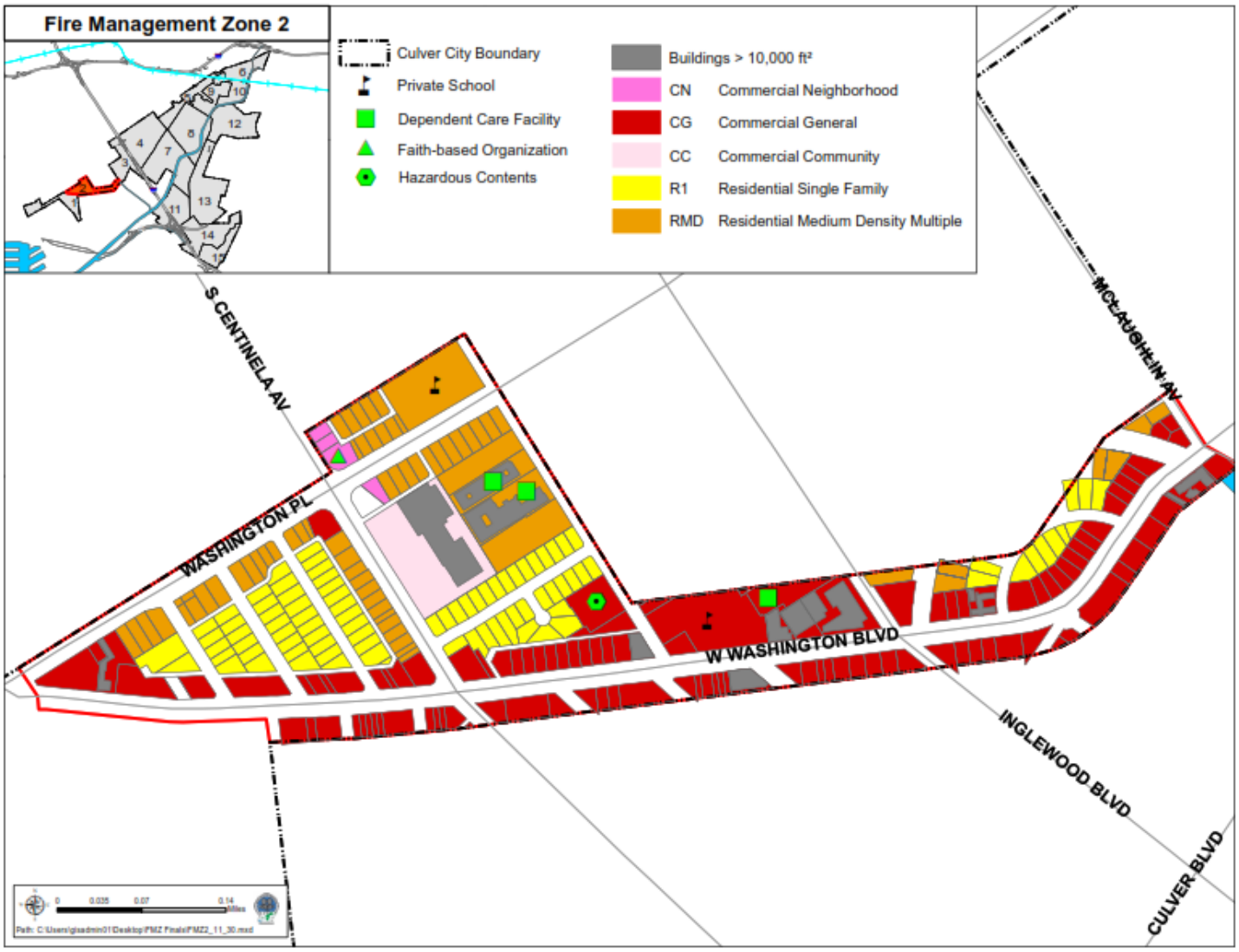
FMZ 1 Housing Units by Value



FMZ 1 Housing Units



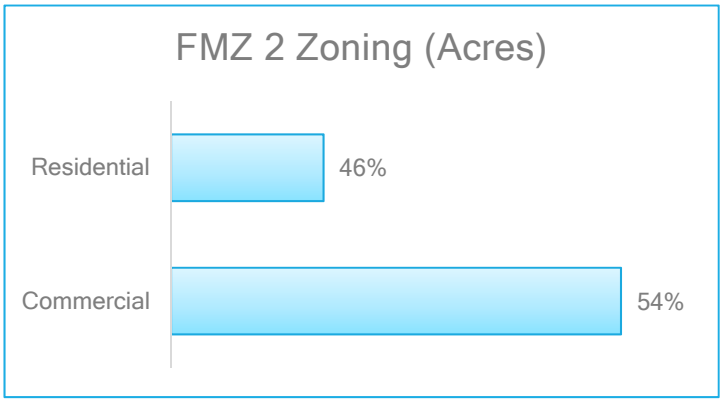
FMZ 2

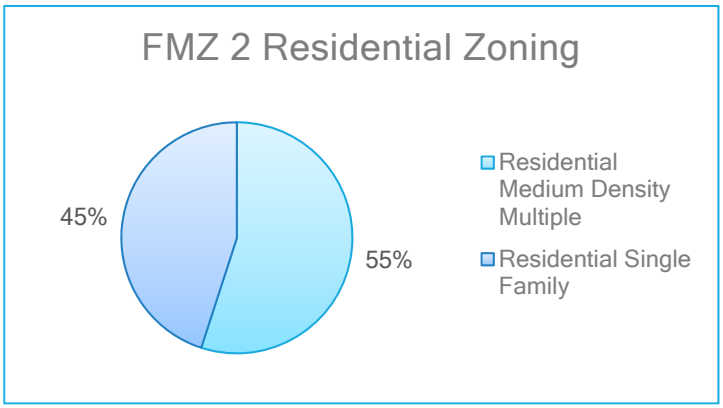


Fire Management Zone 2 is a general corridor of 0.14 square miles located in the western part of the City. Approximately 46 percent of Zone 2 is composed of single and multiple family residences, with smaller street-front businesses representing about 54 percent of the area zoning. Located within FMZ 2 are three large dependent care facilities: Culver West Convalescent Home Sunrise Villa and the H.E.L.P. Group. These locations pose significant risk due to their population of non-ambulatory residents. Also located within FMZ 2 are 11 large commercial spaces, which pose high risk. Of all the fire management zones, FMZ 2 has the lowest median household income and per capita income, coupled with 23% of its residents over the age of 25 not holding a high school diploma. This zone also has the highest renter population, with 75% of the households rented and 19% of the households owner-occupied.

FMZ 2 Characteristics

Resources	
Fire Rescue District	23
Station	2
First Due Engine/Truck	42
First Due Rescue	43
Development	
Total Square Miles	0.14
Total Structures	430
Buildings per Square Mile	3071.4
Total Square Feet (all structures)	1,412,658
Number of Buildings > 75 ft.	1
Commercial Buildings > 10,000 ft²	11
Road miles	4.6
Total Assessed Valuation	$252 million
Mitigating Factors	
Fire Sprinklers in Structures	
Commercial	19%
Residential	11%





Specific Risks	
Fire	11 commercial buildings over 10,000 square feet
EMS	Three dependent care facilities; schools
Tech Rescue	
Haz Mat	One facility containing hazardous materials; natural gas transmission line northwest to southeast
Other	One large faith-based facility; significant renter population (75% with median year moved in 2010)

FMZ 2 Historical Call Volume

	2014	2015	2016	2017	2018	2014-2018
Fire	3	1	-	1	1	**6**
EMS	327	375	341	389	392	**1824**
Tech Rescue	1	3	-	2	4	**10**
Haz Mat	-	-	1	2	1	**4**
Other	68	33	57	96	106	**360**
Wildland	-	1	-	-	-	**1**

Demographics

Population

- Population: 1,623
- Daytime Population (workers & residents): 2,145
- Population Density per Square Mile: 11,593
- Daytime Population Density: 15,321
- Median Age: 38.3
- Male Population: 49.5%
- Female Population: 50.5%
- Number of Households: 620
- Households with Disability: 121
- Population 65+ Speak No English: 8
- Households Income Below Poverty Level: 67

Education/ Employment

- Businesses: 163
- Employees: 1,171
- Median Household Income: $45,745
- Per Capita Income: $25,233
- Unemployment: 1.4%
- No High School Diploma: 23%

Housing

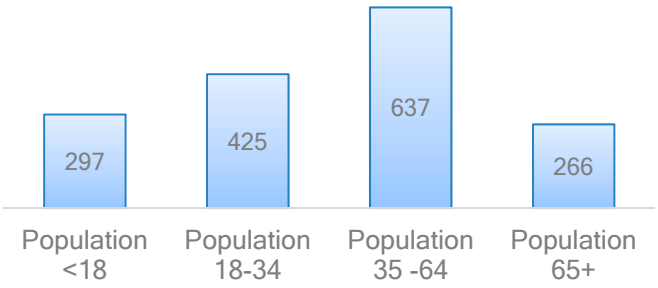
- Median Home Value: $847,656
- Number of Housing Units: 622
- Average Household Size: 2.5
- Housing Structure Built After 1990: 68
- Housing Structure Built Before 1940: 16
- Median Year Housing Structure Built: 1968
- Median Year Householder Moved into Unit: 2010

Population
1,623

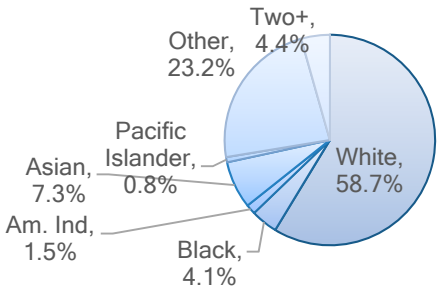
Daytime Population
32% Increase ↑

Annual Population Growth
0.38%

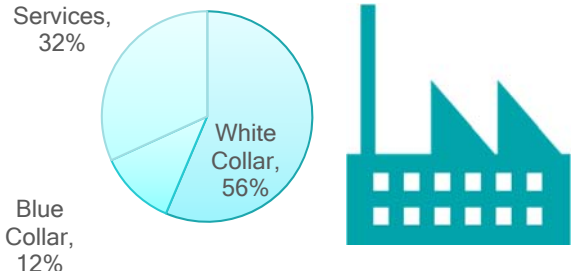
FMZ 2 Population by Age



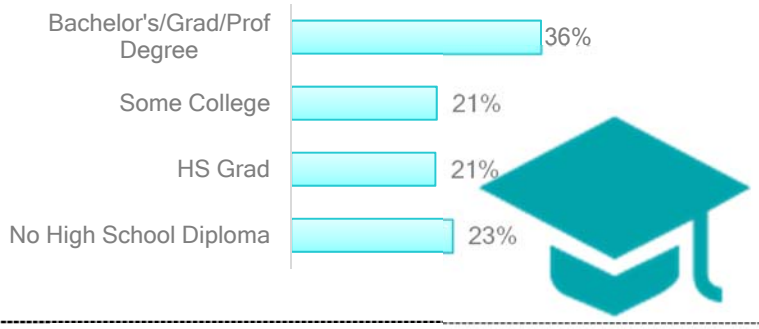
FMZ 2 Population by Race



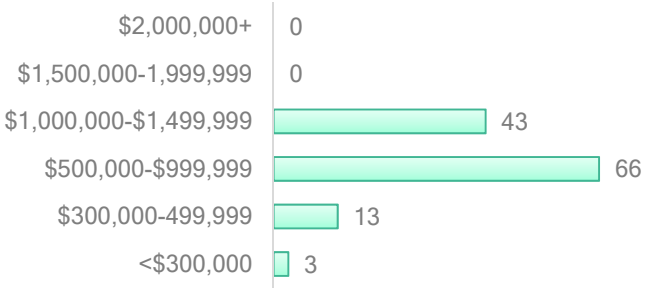
FMZ 2 Occupation



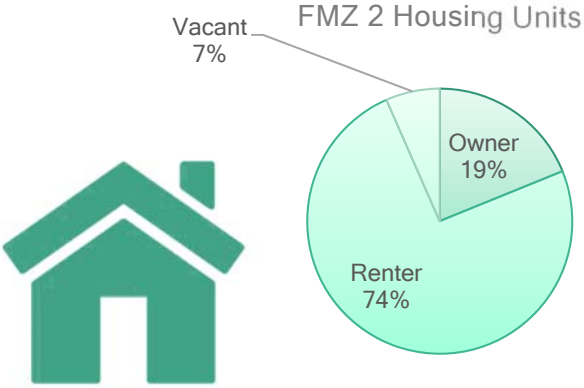
FMZ 2 Education



FMZ 2 Housing Units by Value



FMZ 2 Housing Units

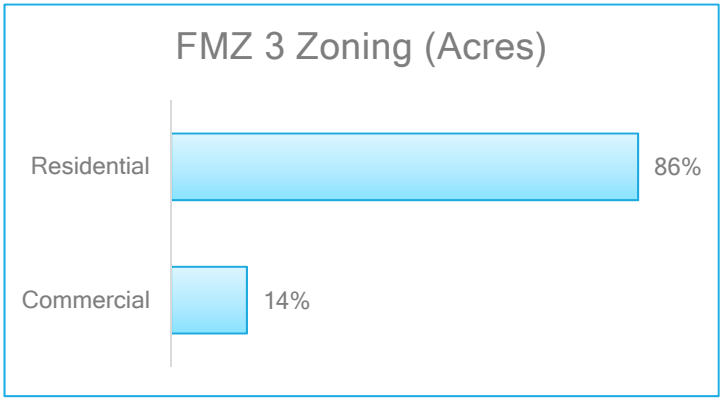


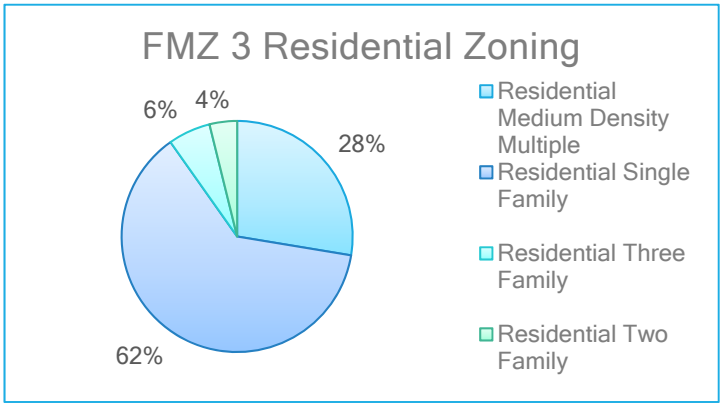
FMZ 3

Fire Management Zone 3 is a general and neighborhood-serving corridor consisting of 0.21 square miles. It is located in the western part of the City and abuts the southbound travel lanes of the 405 freeway. Within its boundaries are predominantly single and multiple family residences along with smaller businesses. 86 percent of this Zone 3 is residential. There is a higher than average building density for this zone at over 5,000 structures per square mile.

FMZ 3 Characteristics

Resources	
Fire Rescue District	23
Station	2
First Due Engine/Truck	42
First Due Rescue	43
Development	
Total Square Miles	0.21
Total Structures	1104
Buildings per Square Mile	5257.1
Total Square Feet (all structures)	1,867,446
Number of Buildings > 75 ft.	1
Commercial Buildings > 10,000 ft²	6
Road miles	5.3
Total Assessed Valuation	$384 million
Mitigating Factors	
Fire Sprinklers in Structures	
Commercial	8%
Residential	2%





Specific Risks	
Fire	Six commercial buildings over 10,000 ft²; one high rise
EMS	Two dependent care facilities
Tech Rescue	
Haz Mat	Proximity to 405 freeway; 16” pipeline (crude oil, diesel fuel, fuel oil, gasoline); 8” pipeline (crude oil, diesel, gasoline, jet fuel); natural gas transmission pipeline
Other	Large faith-based organization

FMZ 3 Historical Call Volume

	2014	2015	2016	2017	2018	2014-2018
Fire	2	-	1	2	-	**5**
EMS	179	174	196	212	212	**973**
Tech Rescue	1	1	2	1	3	**8**
Haz Mat	3	1	3	4	2	**13**
Other	32	45	40	65	65	**247**
Wildland	2	-	-	-	-	**2**

Demographics

Population

• Population:	2,253
• Daytime Population (workers & residents):	1,793
• Population Density per Square Mile:	10,729
• Daytime Population Density:	8,538
• Median Age:	39.1
• Male Population:	50.5%
• Female Population:	49.5%
• Number of Households:	901
• Households with Disability:	185
• Population 65+ Speak No English:	18
• Households Income Below Poverty Level:	98

Education/ Employment

• Businesses:	145
• Employees:	703
• Median Household Income:	$88,428
• Per Capita Income:	$48,404
• Unemployment:	3.0%
• No High School Diploma:	13%

Housing

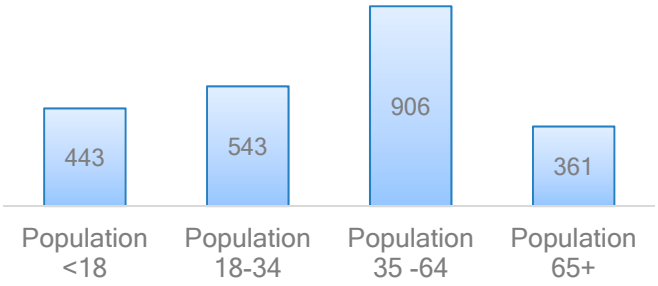
• Median Home Value:	$783,333
• Number of Housing Units:	916
• Average Household Size:	2.5
• Housing Structure Built After 1990:	18
• Housing Structure Built Before 1940:	77
• Median Year Housing Structure Built:	1952
• Median Year Householder Moved into Unit:	2004

Population
2,253

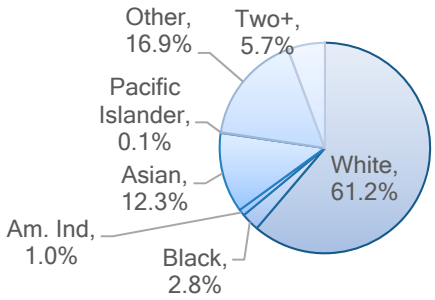
Daytime Population
20% Decrease ↓

Annual Population Growth
-0.15%

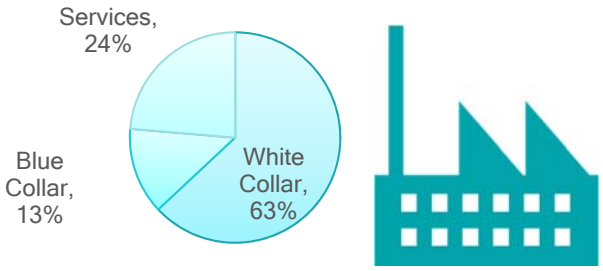
FMZ 3 Population by Age



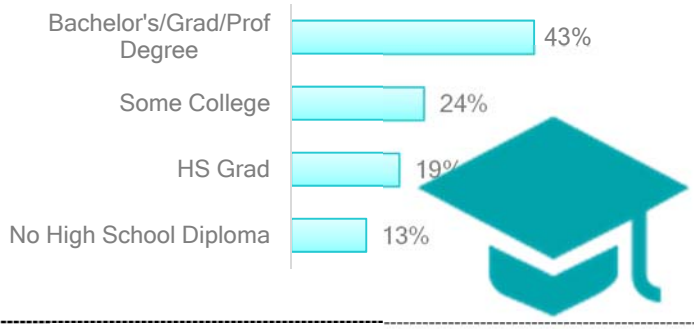
FMZ 3 Population by Race



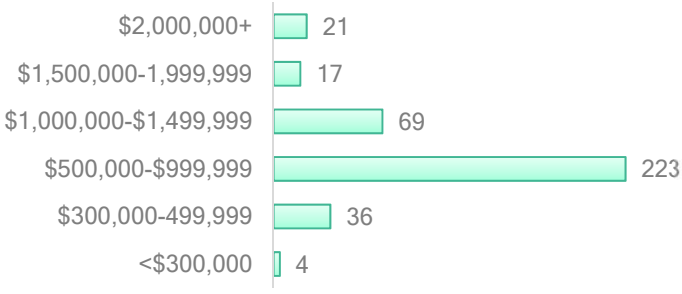
FMZ 3 Occupation



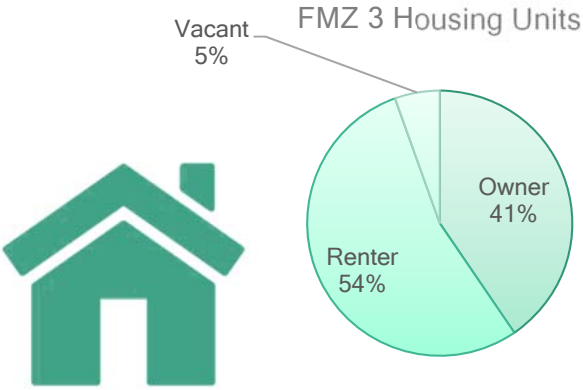
FMZ 3 Education



FMZ 3 Housing Units by Value



FMZ 3 Housing Units

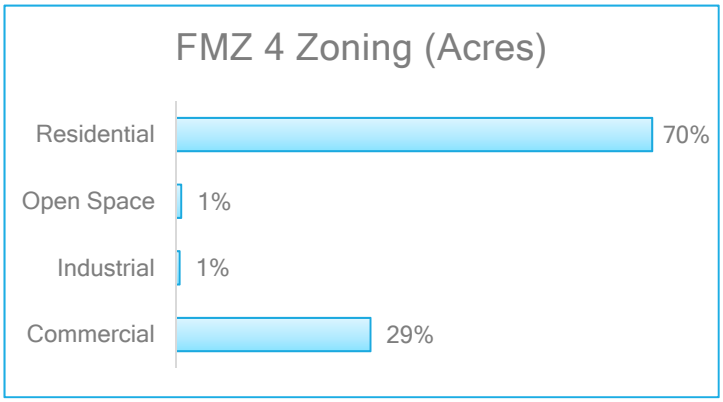


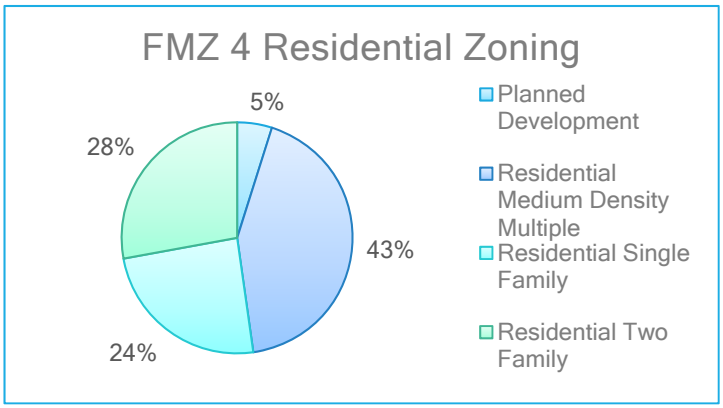
FMZ 4

Fire Management Zone 4 is a general community-serving corridor, consisting of 0.48 square miles. It is located in the northwestern part of the City and borders the northbound travel lanes of the 405 freeway. It is composed of mostly single and multiple family residences, along with some planned residential developments and light industry. The commercial buildings and medium density housing present increased risk in this zone.

FMZ 4 Characteristics

Resources	
Fire Rescue District	21
Station	2
First Due Engine/Truck	42
First Due Rescue	41
Development	
Total Square Miles	0.48
Total Structures	1771
Buildings per Square Mile	3689.6
Total Square Feet (all structures)	4,451,221
Number of Buildings > 75 ft.	-
Commercial Buildings > 10,000 ft²	26
Road miles	16
Total Assessed Valuation	$1.1 billion
Mitigating Factors	
Fire Sprinklers in Structures	
Commercial	22%
Residential	18%





Specific Risks	
Fire	26 commercial buildings over 10,000 ft² and one large residential complex
EMS	Five dependent care facilities (with high call volume); residential population
Tech Rescue	Major freeway with over 300,000 vehicles per day
Haz Mat	One building with hazardous contents; 16” diameter pipeline (crude oil, diesel fuel, fuel oil, gasoline); natural gas transmission pipeline
Other	School

FMZ 4 Historical Call Volume

	2014	2015	2016	2017	2018	2014-2018
Fire	3	2	1	4	7	**17**
EMS	731	696	675	703	592	**3397**
Tech Rescue	3	2	2	5	4	**16**
Haz Mat	5	4	2	6	1	**18**
Other	112	102	99	159	171	**643**
Wildland	-	1	-	-	-	**1**

Demographics

Population

- Population: 5,318
- Daytime Population (workers & residents): 6,677
- Population Density per Square Mile: 11,079
- Daytime Population Density: 13,910
- Median Age: 39.5
- Male Population: 48.6%
- Female Population: 51.5%
- Number of Households: 2,200
- Households with Disability: 386
- Population 65+ Speak No English: -
- Households Income Below Poverty Level: 202

Education/ Employment

- Businesses: 438
- Employees: 3,409
- Median Household Income: $71,510
- Per Capita Income: $41,823
- Unemployment: 3.0%
- No High School Diploma: 10%

Housing

- Median Home Value: $873,731
- Number of Housing Units: 2,264
- Average Household Size: 2.5
- Housing Structure Built After 1990: 418
- Housing Structure Built Before 1940: 192
- Median Year Housing Structure Built: 1966
- Median Year Householder Moved into Unit: 2007

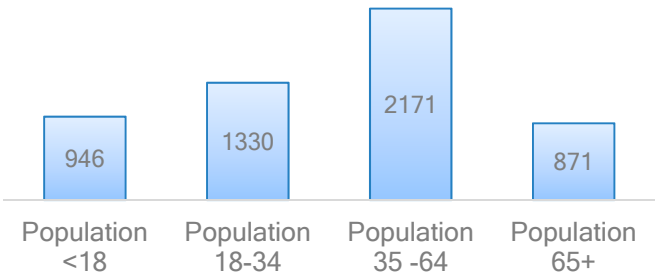
Population

5,318

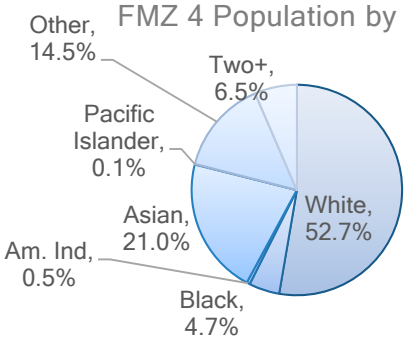
Daytime Population
26% Increase ↑

Annual Population Growth
0.26%

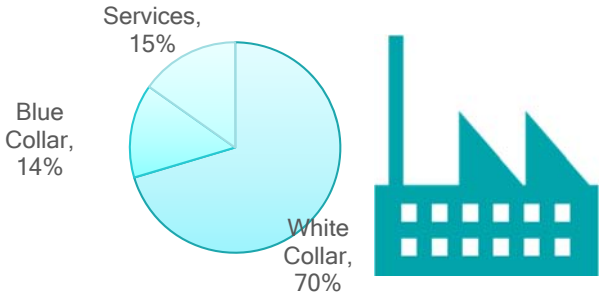
FMZ 4 Population by Age



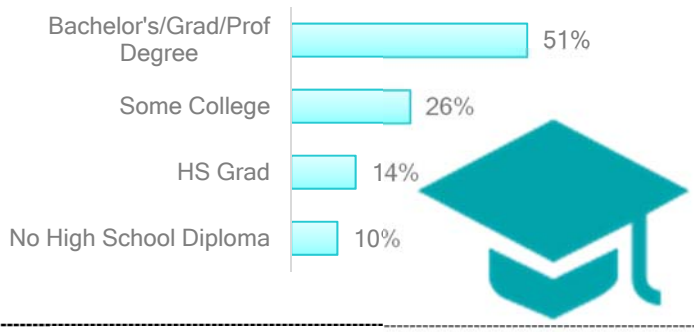
FMZ 4 Population by Race



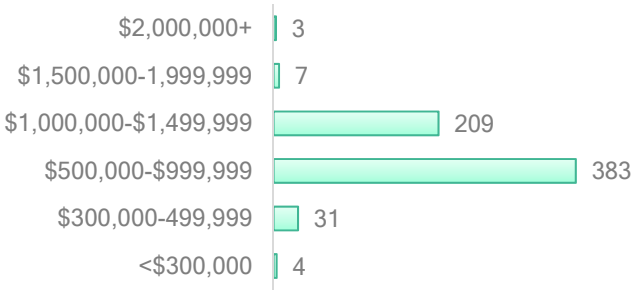
FMZ 4 Occupation



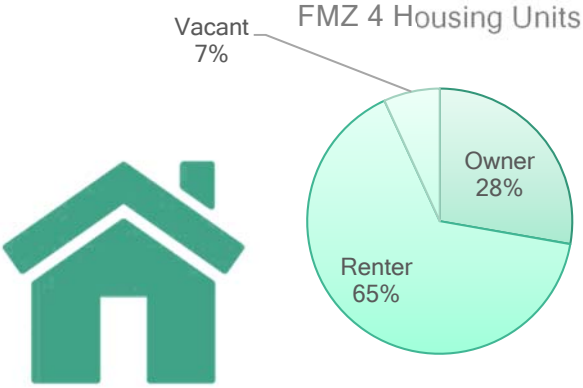
FMZ 4 Education



FMZ 4 Housing Units by Value



FMZ 4 Housing Units

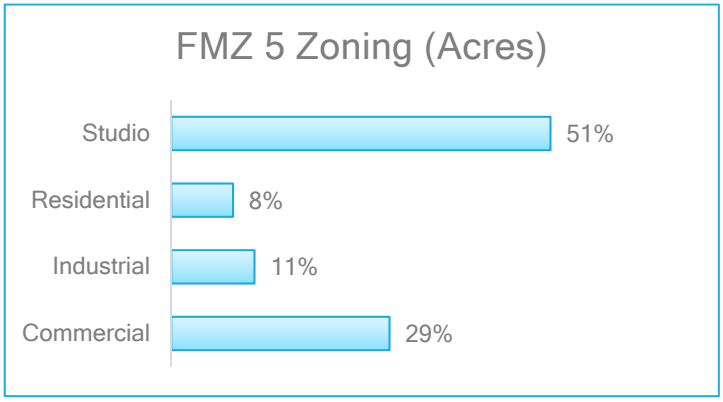


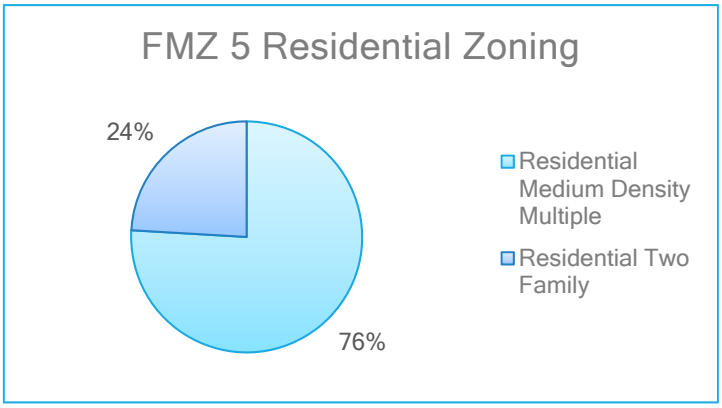
FMZ 5

Fire Management Zone 5 is a general corridor consisting of 0.24 square miles, located in Downtown Culver City. It possesses 19 commercial buildings over 10,000 square feet, movie studios, along with a small percentage of residential properties. Special risks include two movies studios–with a total of 31 sound stages–a hospital, and two high-rise buildings. Zone 5 has four buildings, which are determined to be potential hazards due to their age and quake-vulnerable-concrete construction. These buildings could pose significant technical rescue risk in the case of an earthquake, for example. Zone 5 sees an incredible increase in the daytime population due to the studios and commercial businesses. This downtown corridor expands to over 17,000 people during the day, which is a daytime population density of 71,642 people per square mile.

FMZ 5 Characteristics

Resources	
Fire Rescue District	11
Station	1
First Due Engine/Truck	41
First Due Rescue	41
Development	
Total Square Miles	0.24
Total Structures	244
Buildings per Square Mile	1016.7
Total Square Feet (all structures)	3,423,674
Number of Buildings > 75 ft.	9
Commercial Buildings > 10,000 ft²	19
Road miles	7.5
Total Assessed Valuation	$1 billion
Mitigating Factors	
Fire Sprinklers in Structures	
Commercial	57%
Residential	3%





Specific Risks	
Fire	Studio sound stages; Southern California Hospital, multiple high rise occupancies
EMS	Large daytime increase in population
Tech Rescue	Four quake-vulnerable buildings
Haz Mat	10” diameter pipeline (crude oil, diesel, gasoline, and jet fuel)
Other	

FMZ 5 Historical Call Volume

	2014	2015	2016	2017	2018	2014-2018
Fire	7	4	-	4	3	**18**
EMS	291	369	373	434	452	**1919**
Tech Rescue	6	12	15	20	10	**63**
Haz Mat	2	3	5	3	2	**15**
Other	135	100	160	170	230	**795**
Wildland	-	-	-	-	1	**1**

Demographics

Population

- Population: 414
- Daytime Population (workers & residents): 17,194
- Population Density per Square Mile: 1,725
- Daytime Population Density: 71,642
- Median Age: 40.3
- Male Population: 46.4%
- Female Population: 53.6%
- Number of Households: 198
- Households with Disability: 33
- Population 65+ Speak No English: 1
- Households Income Below Poverty Level: 21

Education/ Employment

- Businesses: 292
- Employees: 8,622
- Median Household Income: $94,940
- Per Capita Income: $60,192
- Unemployment: 2.8%
- No High School Diploma: 6%

Housing

- Median Home Value: $882,353
- Number of Housing Units: 221
- Average Household Size: 1.9
- Housing Structure Built After 1990: 6
- Housing Structure Built Before 1940: 63
- Median Year Housing Structure Built: 1954
- Median Year Householder Moved into Unit: 2004

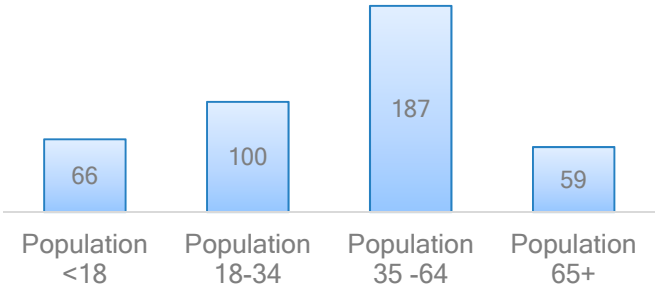
Population

414

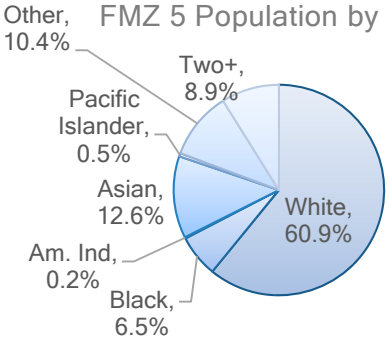
Daytime Population
4053% Increase ↑

Annual Population Growth
0.63%

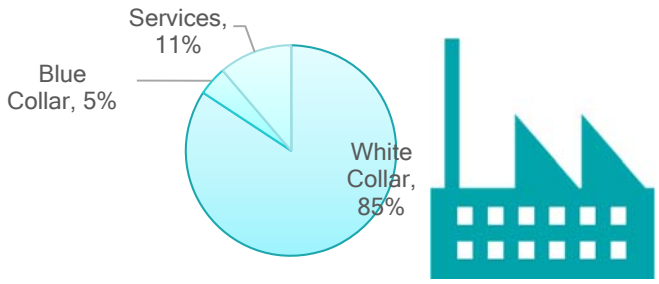
FMZ 5 Population by Age



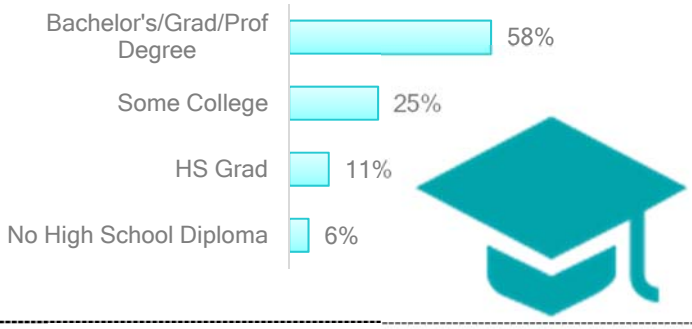
FMZ 5 Population by Race



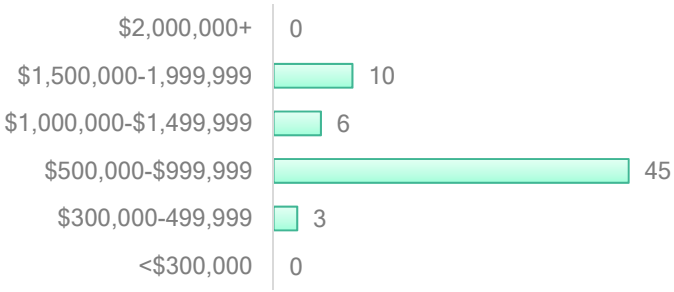
FMZ 5 Occupation



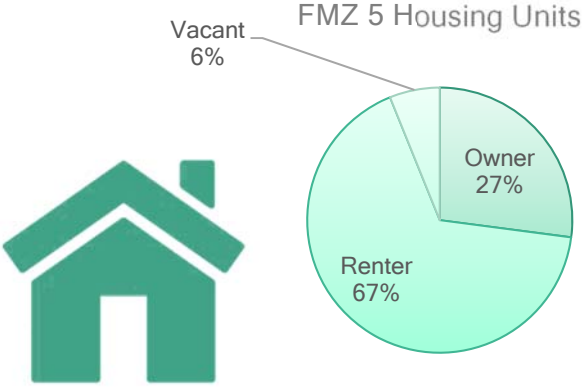
FMZ 5 Education



FMZ 5 Housing Units by Value



FMZ 5 Housing Units

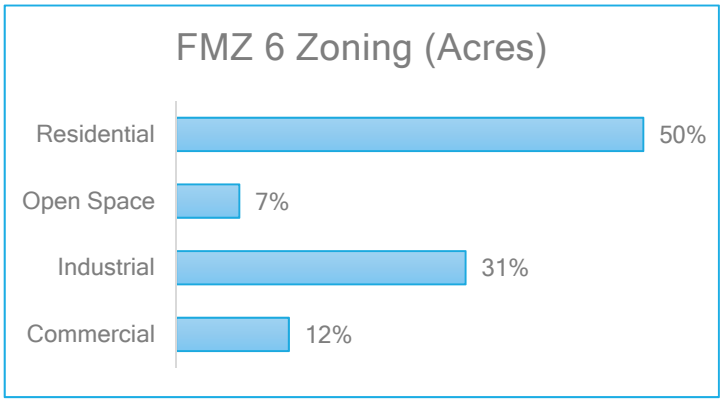


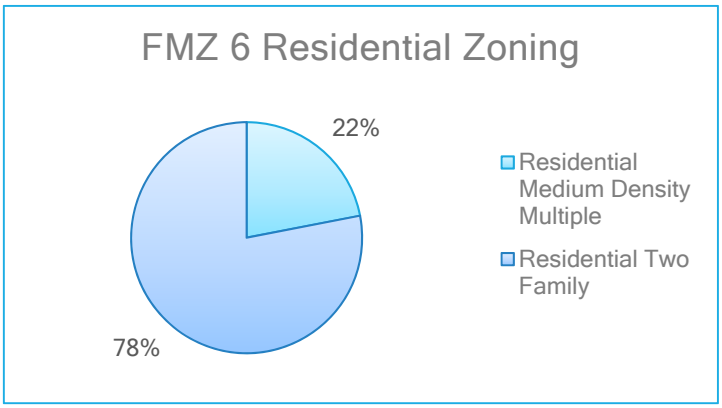
FMZ 6

Fire Management Zone 6 is a general corridor, consisting of 0.22 square miles, located in the eastern part of the City. It has mostly single and multiple family residences, along with an industrial park. The Expo Light Rail Station also is within Zone 6. During the day, this area is densely populated. It has 292 businesses with over 8,600 employees. Nearly 90,000 vehicles pass through this zone per day. Although zoned for industrial general business, many of the industrial spaces have been converted into modern office spaces, causing 36% of the area's commercial structure being sprinklered, mitigating fire risk. Conversely, 34% of the 563 housing structures in this area were built prior to 1940 posing seismic risk.

FMZ 6 Characteristics

Resources	
Fire Rescue District	11
Station	1
First Due Engine/Truck	41
First Due Rescue	41
Development	
Total Square Miles	0.22
Total Structures	871
Buildings per Square Mile	3959.1
Total Square Feet (all structures)	1,844,956
Number of Buildings > 75 ft.	0
Commercial Buildings > 10,000 ft²	6
Road miles	6.6
Total Assessed Valuation	$469 million
Mitigating Factors	
Fire Sprinklers in Structures	
Commercial	36%
Residential	4%

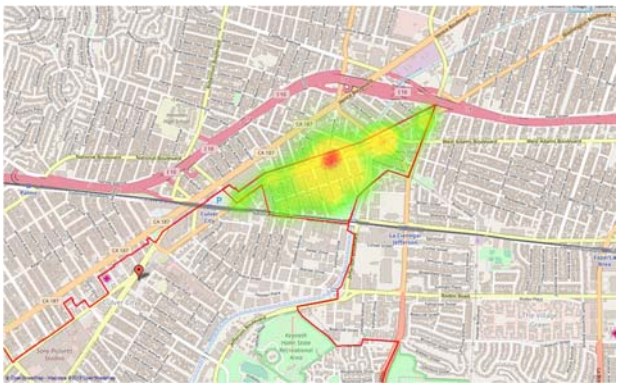




Specific Risks	
Fire	
EMS	One dependent care facility
Tech Rescue	Expo Light Rail
Haz Mat	One facility with hazardous contents
Other	School; outside of 4-minute drive-time area; busy traffic corridor

FMZ 6 Historical Call Volume

	2014	2015	2016	2017	2018	2014-2018
Fire	2	-	2	2	2	**8**
EMS	121	110	140	162	154	**687**
Tech Rescue	-	-	-	3	1	**4**
Haz Mat	-	2	2	2	4	**10**
Other	36	48	47	63	81	**275**
Wildland	1	1	-	-	2	**4**



Demographics

Population

- Population: 1,539
- Daytime Population (workers & residents): 2,430
- Population Density per Square Mile: 6,995
- Daytime Population Density: 11,045
- Median Age: 38.4
- Male Population: 49%
- Female Population: 51%
- Number of Households: 546
- Households with Disability: 77
- Population 65+ Speak No English: 0
- Households Income Below Poverty Level: 55

Education/ Employment

- Businesses: 234
- Employees: 1,706
- Median Household Income: $69,038
- Per Capita Income: $37,783
- Unemployment: 1.7%
- No High School Diploma: 10%

Housing

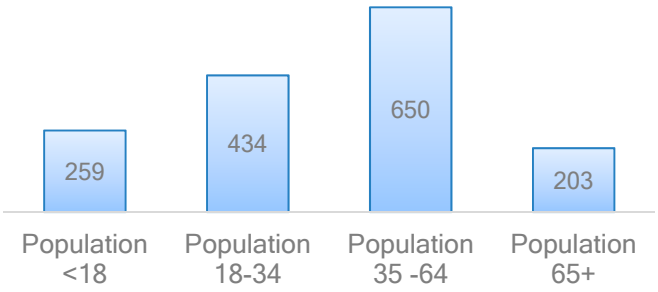
- Median Home Value: $811,458
- Number of Housing Units: 563
- Average Household Size: 2.5
- Housing Structure Built After 1990: 25
- Housing Structure Built Before 1940: 192
- Median Year Housing Structure Built: 1949
- Median Year Householder Moved into Unit: 2005

Population
1,539

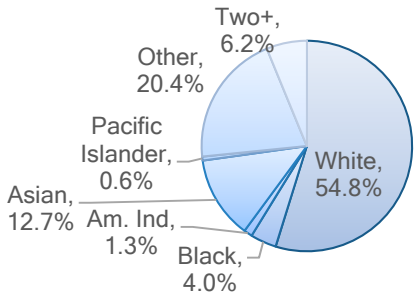
Daytime Population
58% Increase ↑

Annual Population Growth
0.97%

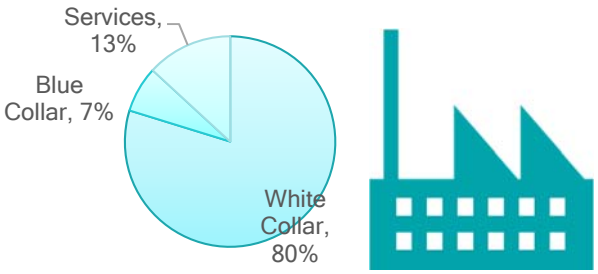
FMZ 6 Population by Age



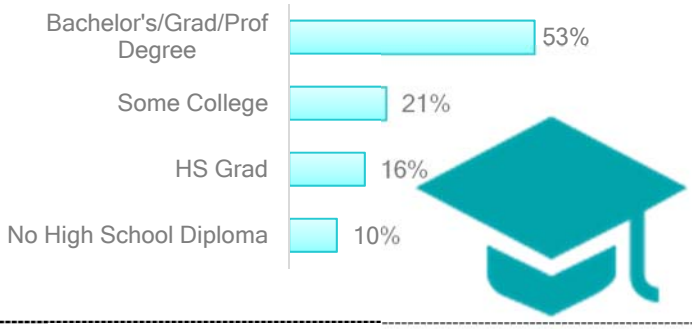
FMZ 6 Population by Race



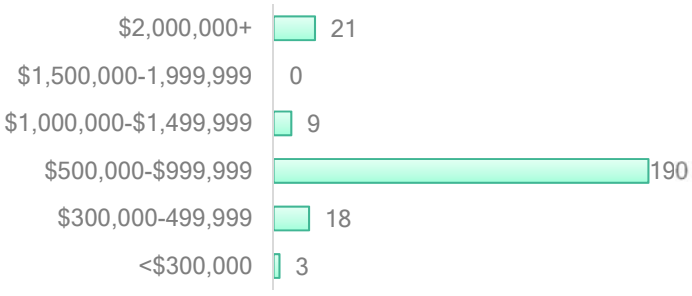
FMZ 6 Occupation



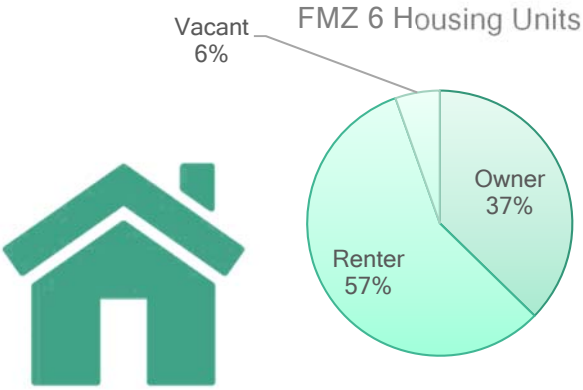
FMZ 6 Education



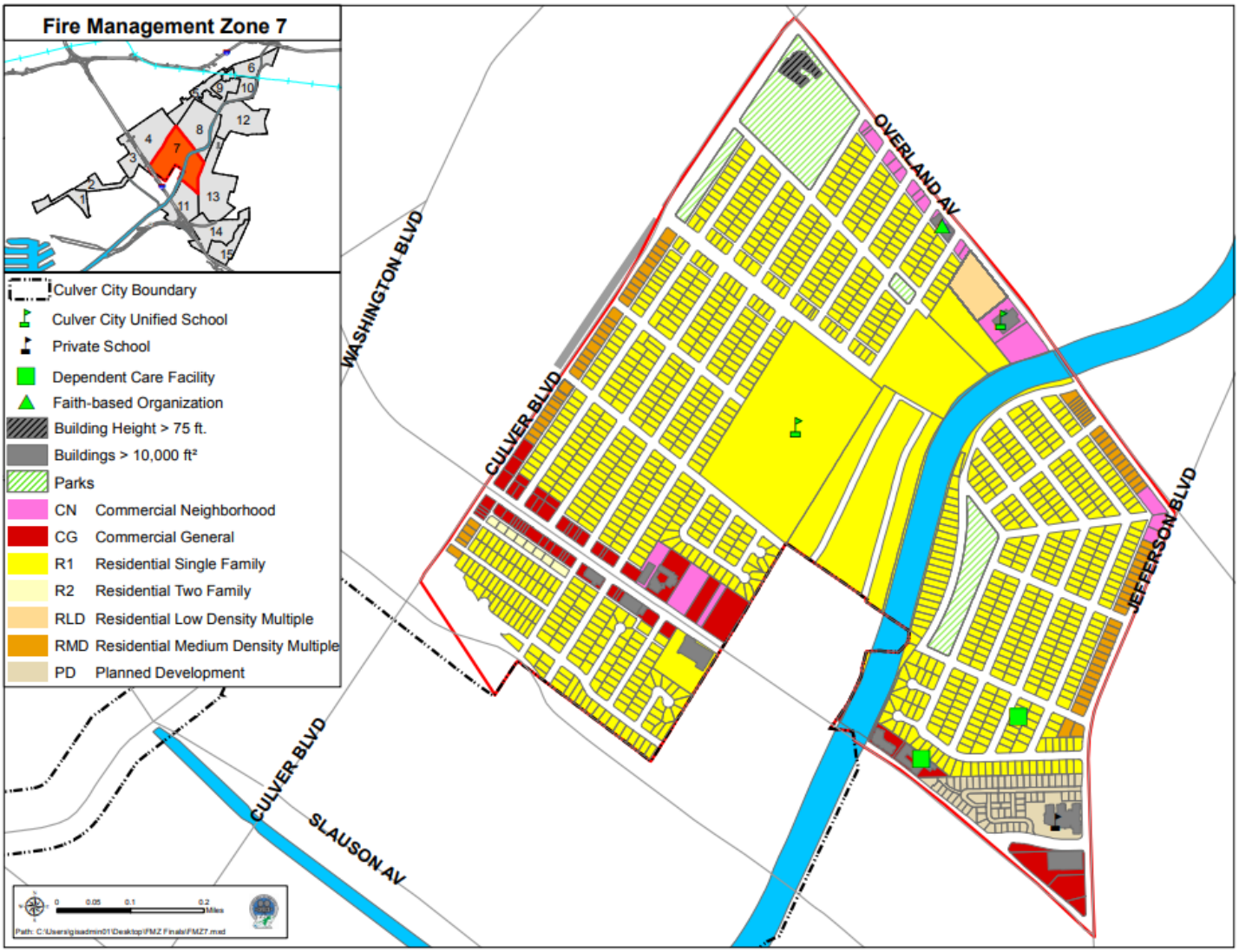
FMZ 6 Housing Units by Value



FMZ 6 Housing Units



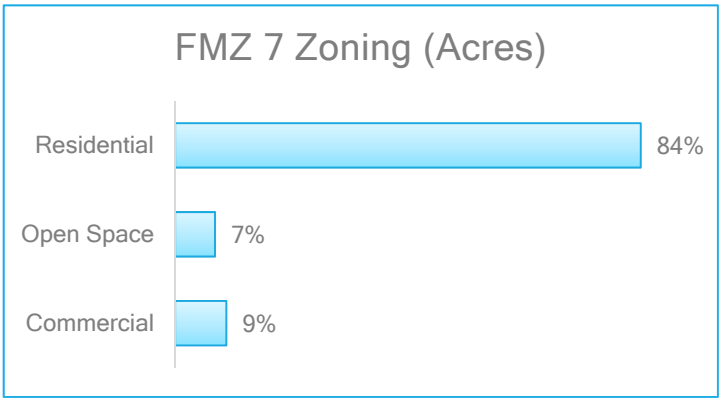
FMZ 7

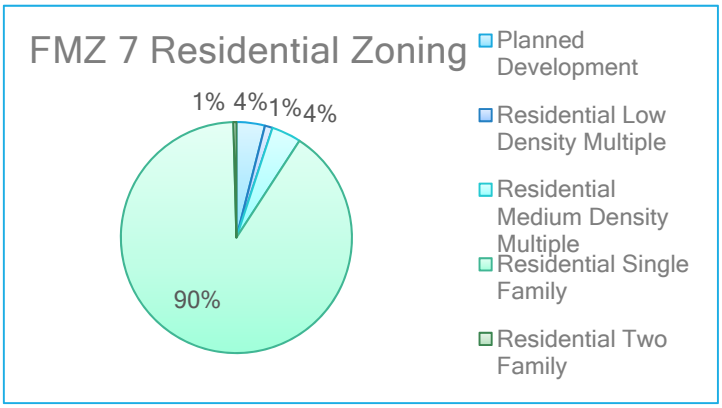


Fire Management Zone 7 is a general and neighborhood corridor of 0.59 square miles centrally located in the City. It consists of predominantly single and multiple family residences, along with some planned developments and street-front businesses. Zone 7 has a high school, middle school and elementary school within its limits and is also home to two nursing homes. This zone has the highest number of structures, a higher median age of 45.3 and 14% of the households in the area have a member with a disability.

FMZ 7 Characteristics

Resources	
Fire Rescue District	21/33
Station	2
First Due Engine/Truck	41
First Due Rescue	41
Development	
Total Square Miles	0.59
Total Structures	2407
Buildings per Square Mile	4079.7
Total Square Feet (all structures)	4,141,404
Number of Buildings > 75 ft.	1
Commercial Buildings > 10,000 ft²	11
Road miles	14.3
Total Assessed Valuation	$951 million
Mitigating Factors	
Fire Sprinklers in Structures	
Commercial	12%
Residential	8%

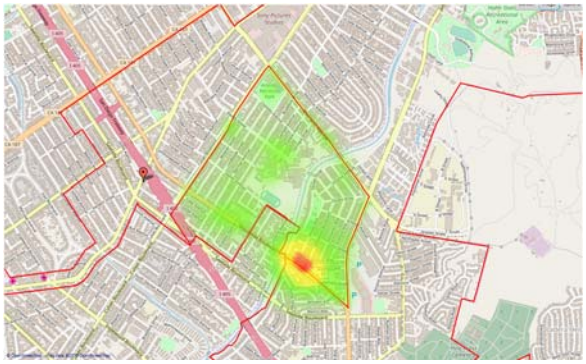




Specific Risks	
Fire	
EMS	One dependent care facility; two schools
Tech Rescue	
Haz Mat	16” diameter pipeline (crude oil, diesel fuel, gasoline); natural gas transmission pipeline
Other	Portion outside of 4-minute drive-time area; schools

FMZ 7 Historical Call Volume

	2014	2015	2016	2017	2018	2014-2018
Fire	5	8	2	1	8	**24**
EMS	321	356	357	420	446	**1900**
Tech Rescue	1	4	3	4	1	**13**
Haz Mat	1	4	4	1	6	**16**
Other	73	88	78	153	141	**533**
Wildland	-	-	-	-	1	**1**



Demographics

Population

- Population: 4,061
- Daytime Population (workers & residents): 4,909
- Population Density per Square Mile: 6,883
- Daytime Population Density: 8,320
- Median Age: 45.3
- Male Population: 46.7%
- Female Population: 53.3%
- Number of Households: 1,567
- Households with Disability: 221
- Population 65+ Speak No English: 3
- Households Income Below Poverty Level: 55

Education/ Employment

- Businesses: 153
- Employees: 1,978
- Median Household Income: $116,072
- Per Capita Income: $62,179
- Unemployment: 3.4%
- No High School Diploma: 5%

Housing

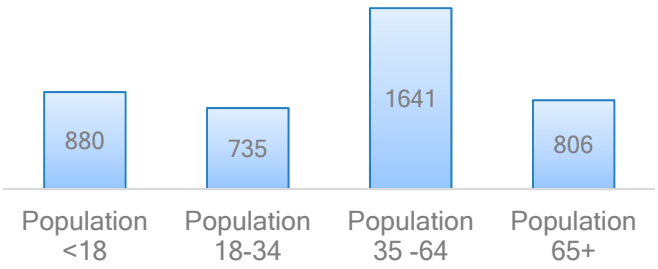
- Median Home Value: $896,203
- Number of Housing Units: 1,568
- Average Household Size: 2.7
- Housing Structure Built After 1990: 122
- Housing Structure Built Before 1940: 215
- Median Year Housing Structure Built: 1952
- Median Year Householder Moved into Unit: 2002

Population
4,061

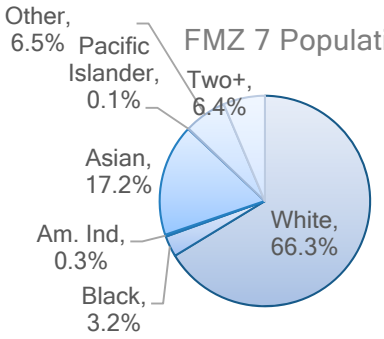
Daytime Population
21% Increase ↑

Annual Population Growth
0.21%

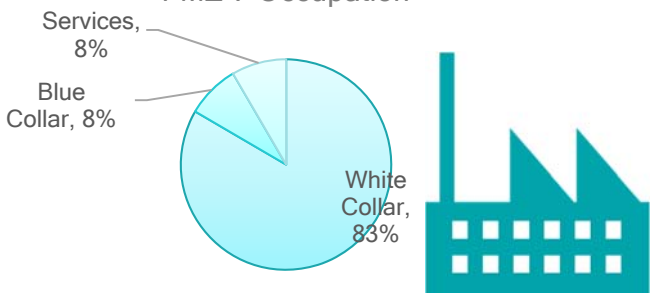
FMZ 7 Population by Age



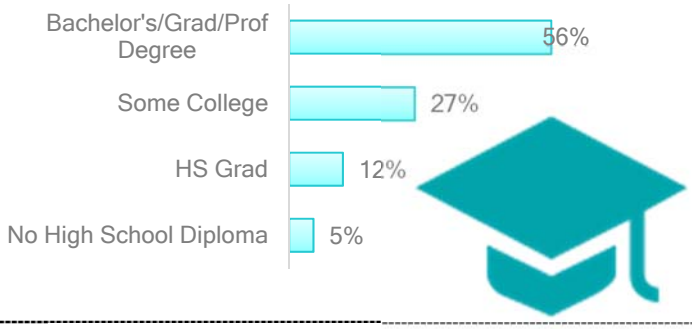
FMZ 7 Population by Race



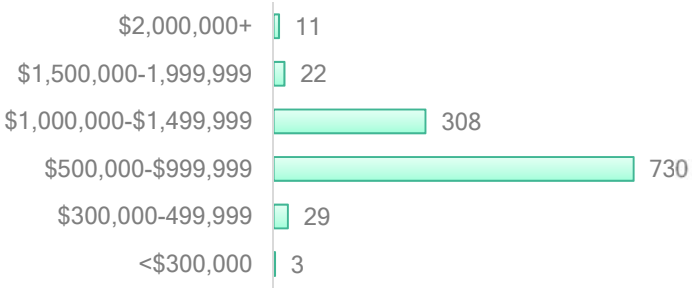
FMZ 7 Occupation



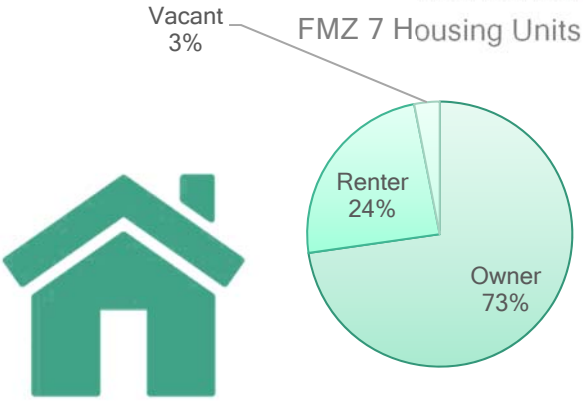
FMZ 7 Education



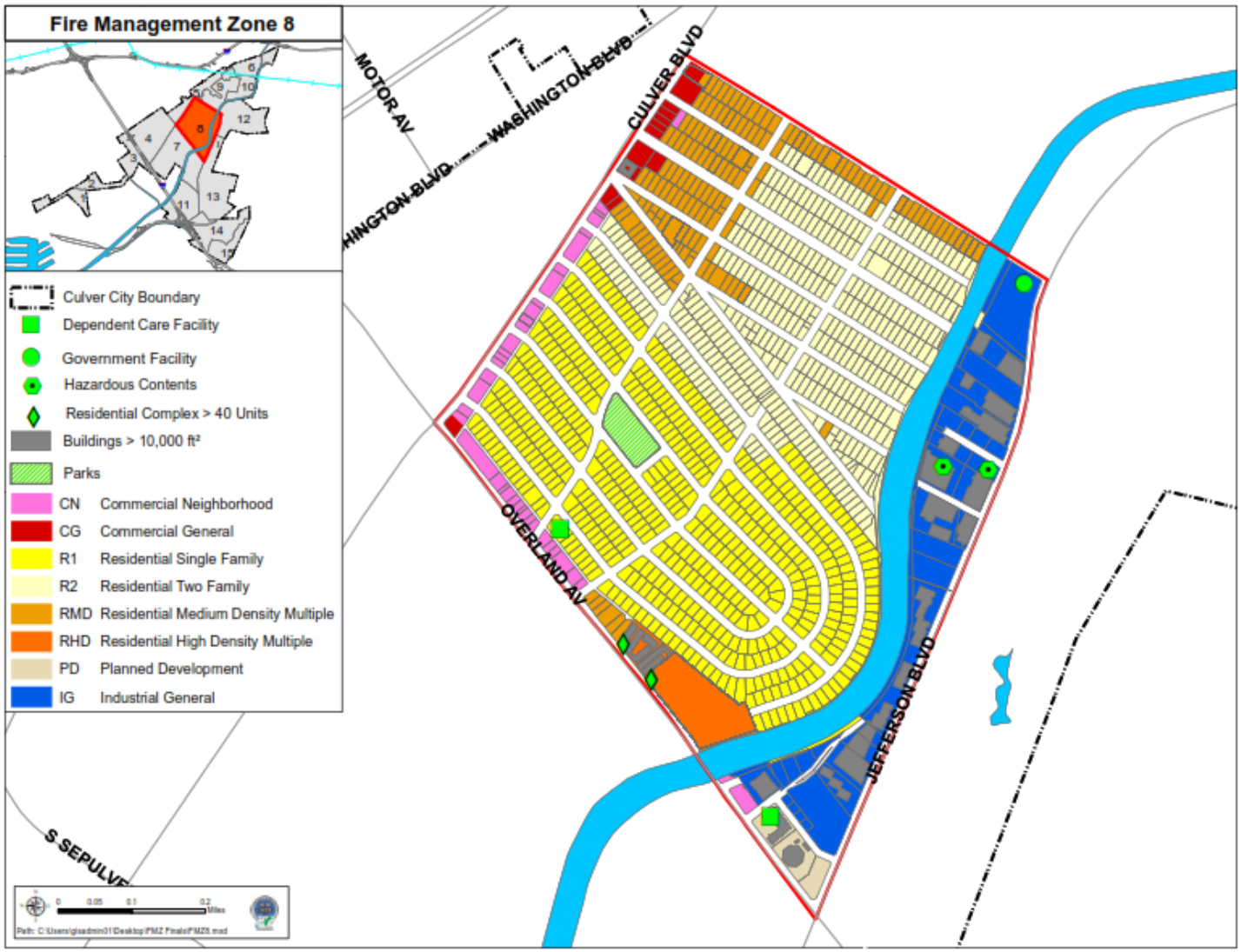
FMZ 7 Housing Units by Value



FMZ 7 Housing Units



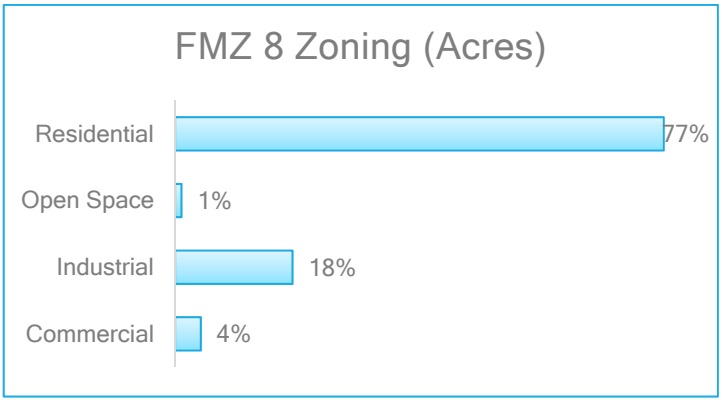
FMZ 8

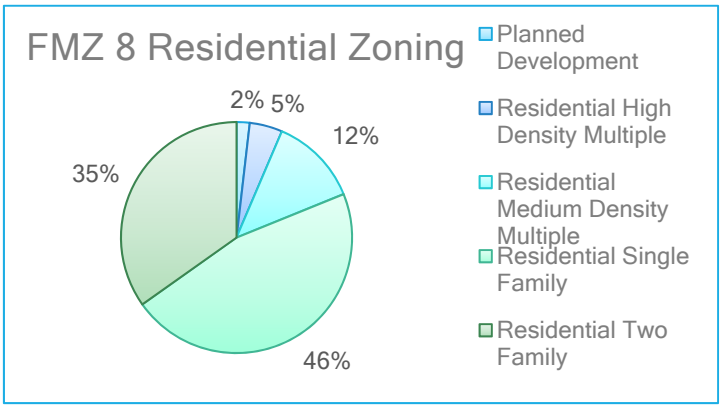


Fire Management Zone 8 is a general and neighborhood corridor of 0.52 square miles centrally located in the City. It has single family, multiple-family, and planned residential developments. There are also a small number of street-front businesses. Zone 8 is also home to one nursing home, three large residential complexes and five large commercial spaces. Although a significant portion of this zone is residential, over 7,000 employees replace the daytime residential population.

FMZ 8 Characteristics

Resources	
Fire Rescue District	11
Station	1
First Due Engine/Truck	41
First Due Rescue	41
Development	
Total Square Miles	0.52
Total Structures	2073
Buildings per Square Mile	3986.5
Total Square Feet (all structures)	4,513,826
Number of Buildings > 75 ft.	0
Commercial Buildings > 10,000 ft²	1
Road miles	10.1
Total Assessed Valuation	$1.1 billion
Mitigating Factors	
Fire Sprinklers in Structures	
Commercial	59%
Residential	3%

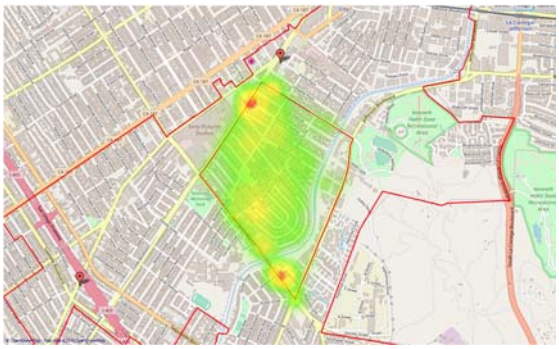




Specific Risks	
Fire	
EMS	
Tech Rescue	La Ballona flood control channel
Haz Mat	Two facilities with hazardous contents
Other	Southwest portion of zone outside of 4-minute drive-time area

FMZ 8 Historical Call Volume

	2014	2015	2016	2017	2018	2014-2018
Fire	3	3	5	2	2	**15**
EMS	256	278	313	329	339	**1515**
Tech Rescue	4	4	2	1	-	**11**
Haz Mat	1	4	2	3	2	**12**
Other	74	99	80	116	107	**476**
Wildland	1	-	1	-	-	**2**



Demographics

Population

- Population: 4,879
- Daytime Population (workers & residents): 4,866
- Population Density per Square Mile: 9,383
- Daytime Population Density: 9,358
- Median Age: 42.6
- Male Population: 48%
- Female Population: 52%
- Number of Households: 2,036
- Households with Disability: 245
- Population 65+ Speak No English: 7
- Households Income Below Poverty Level: 146

Education/ Employment

- Businesses: 253
- Employees: 7,036
- Median Household Income: $89,028
- Per Capita Income: $62,480
- Unemployment: 5.2%
- No High School Diploma: 5%

Housing

- Median Home Value: $904,876
- Number of Housing Units: 2,294
- Average Household Size: 2.2
- Housing Structure Built After 1990: 65
- Housing Structure Built Before 1940: 567
- Median Year Housing Structure Built: 1955
- Median Year Householder Moved into Unit: 2005

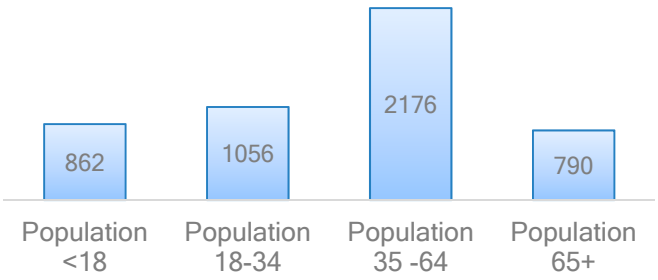
Population

4,879

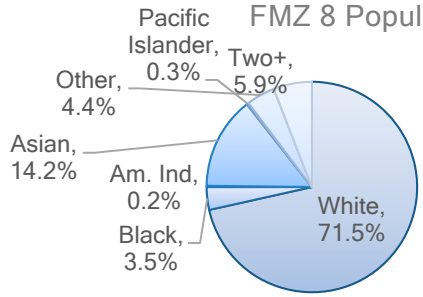
Daytime Population
0.27% Decrease ↓

Annual Population Growth
0.34%

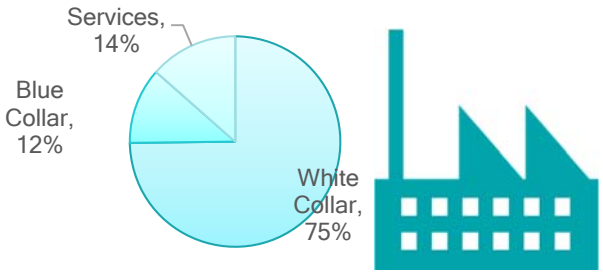
FMZ 8 Population by Age



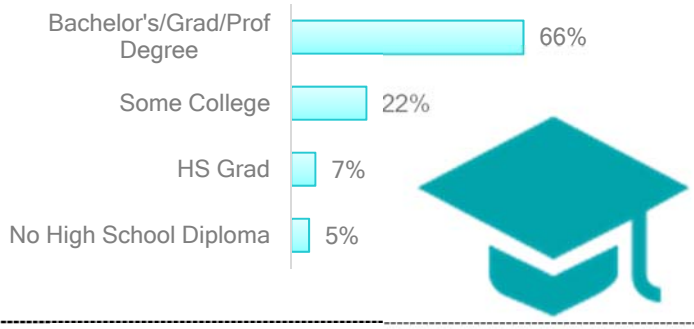
FMZ 8 Population by Race



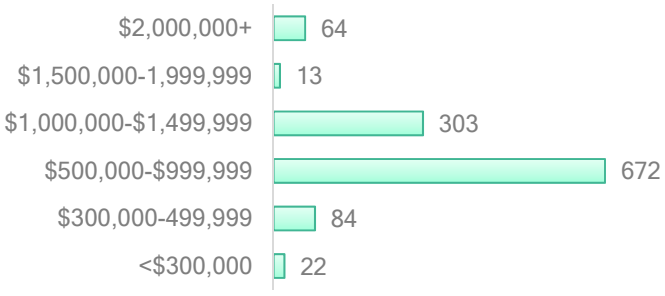
FMZ 8 Occupation



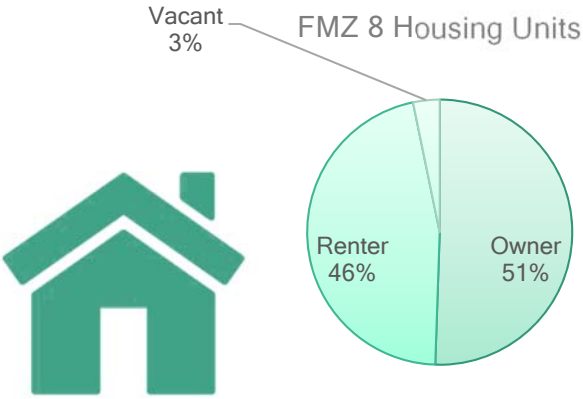
FMZ 8 Education



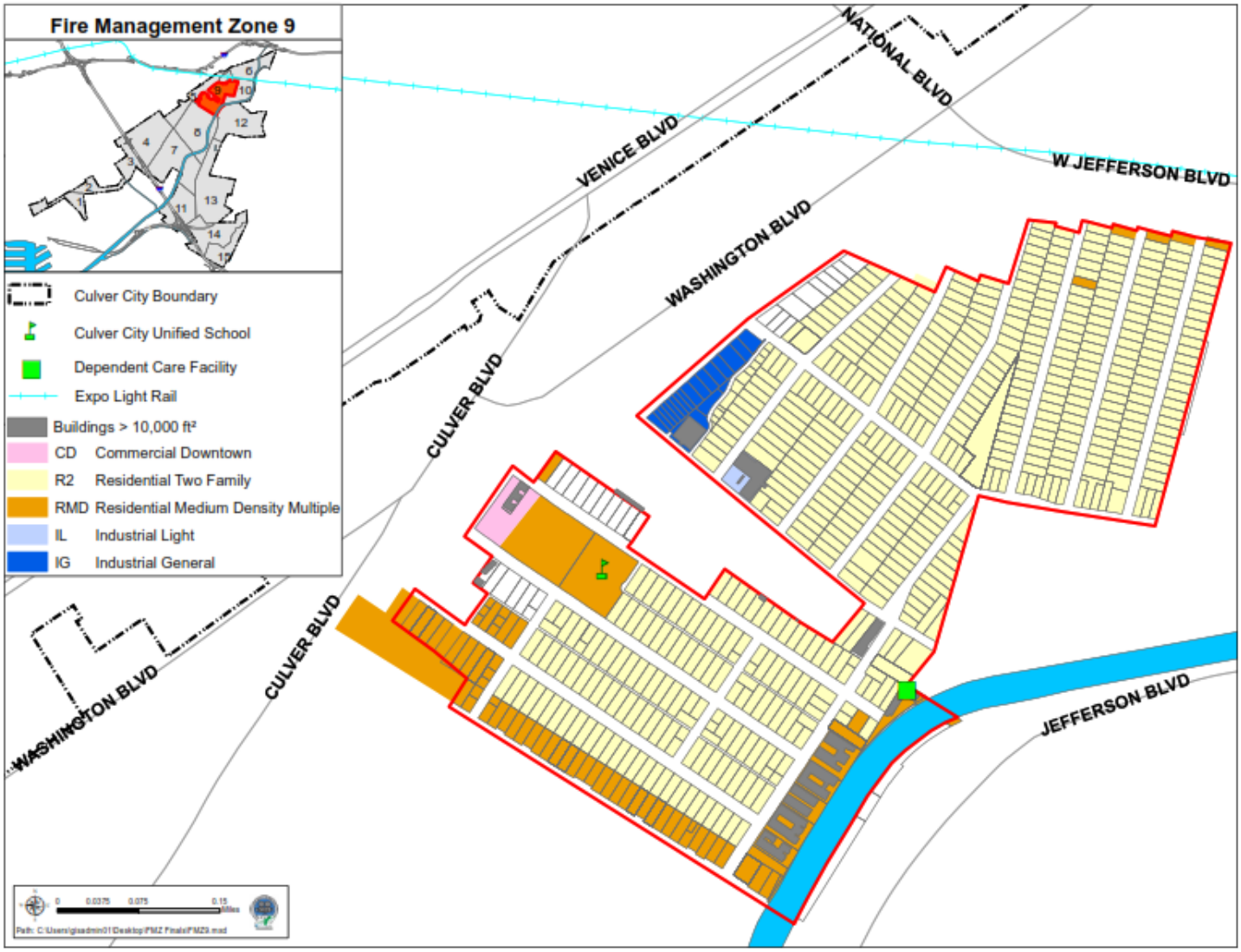
FMZ 8 Housing Units by Value



FMZ 8 Housing Units



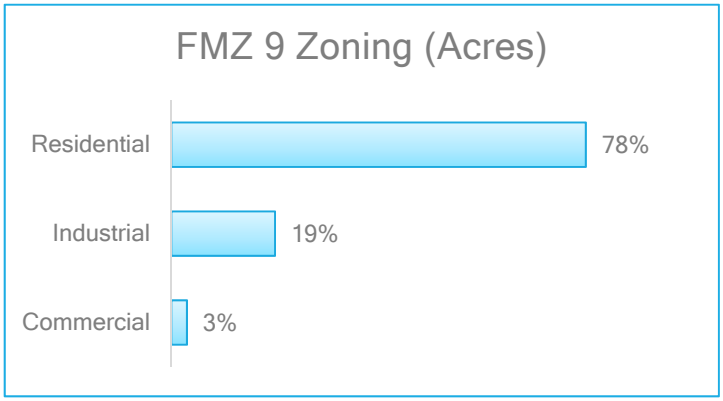
FMZ 9

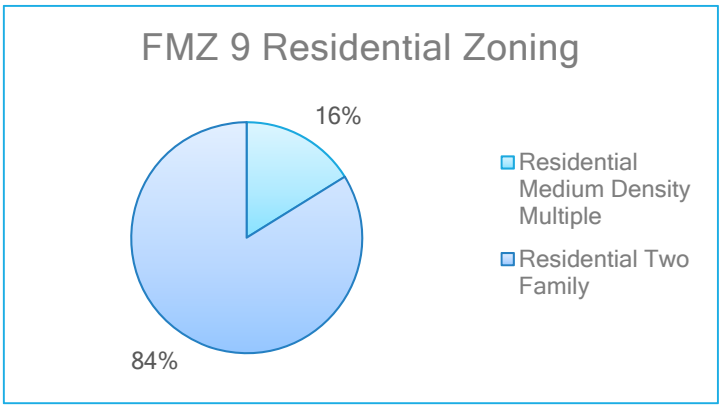


Fire Management Zone 9 is a neighborhood corridor of 0.22 square miles, which is located toward the east side of the City. It is made up of predominantly single and multiple family residences with some street front businesses. It has eight large commercial spaces and two large residential complexes.

FMZ 9 Characteristics

Resources	
Fire Rescue District	11
Station	1
First Due Engine/Truck	41
First Due Rescue	41
Development	
Total Square Miles	0.22
Total Structures	1380
Buildings per Square Mile	6272.7
Total Square Feet (all structures)	2,445,601
Number of Buildings > 75 ft.	0
Commercial Buildings > 10,000 ft²	1
Road miles	5.7
Total Assessed Valuation	$499 million
Mitigating Factors	
Fire Sprinklers in Structures	
Commercial	20%
Residential	4%

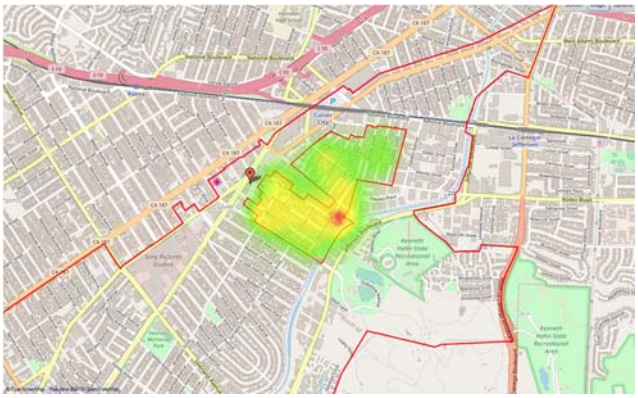




Specific Risks	
Fire	
EMS	
Tech Rescue	La Ballona flood control channel
Haz Mat	12” diameter pipeline (gas, crude oil)
Other	

FMZ 9 Historical Call Volume

	2014	2015	2016	2017	2018	**2014-2018**
Fire	1	1	1	1	3	**7**
EMS	132	103	102	141	104	**582**
Tech Rescue	-	-	-	1	-	**1**
Haz Mat	3	1	-	1	-	**5**
Other	33	46	41	84	55	**259**



Demographics

Population

- Population: 2,706
- Daytime Population (workers & residents): 1,966
- Population Density per Square Mile: 12,300
- Daytime Population Density: 8,936
- Median Age: 40.4
- Male Population: 47.3%
- Female Population: 52.7%
- Number of Households: 1,102
- Households with Disability: 156
- Population 65+ Speak No English: 3
- Households Income Below Poverty Level: 126

Education/ Employment

- Businesses: 86
- Employees: 1,027
- Median Household Income: $94,540
- Per Capita Income: $56,791
- Unemployment: 2.7%
- No High School Diploma: 5%

Housing

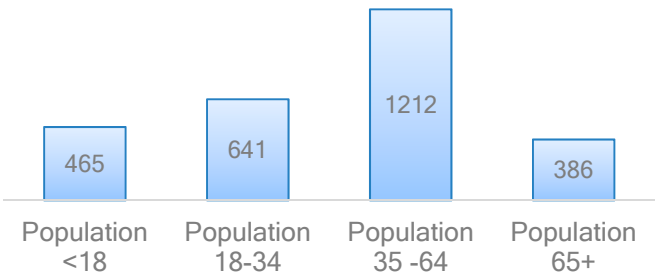
- Median Home Value: $909,722
- Number of Housing Units: 1,195
- Average Household Size: 2.3
- Housing Structure Built After 1990: 52
- Housing Structure Built Before 1940: 347
- Median Year Housing Structure Built: 1952
- Median Year Householder Moved into Unit: 2005

Population
2,706

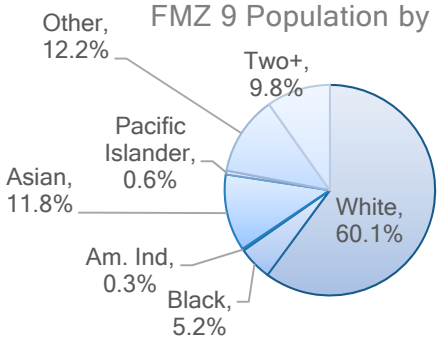
Daytime Population
27% Decrease ↓

Annual Population Growth
0.61%

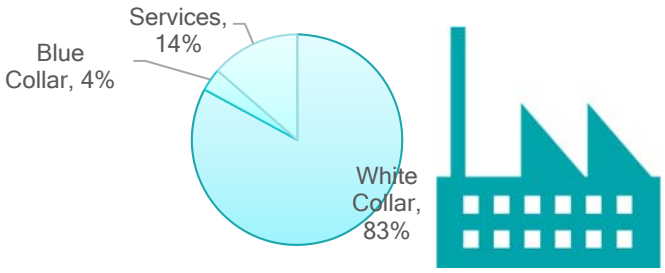
FMZ 9 Population by Age



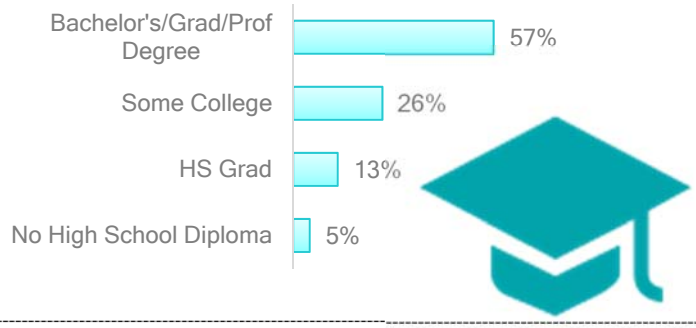
FMZ 9 Population by Race



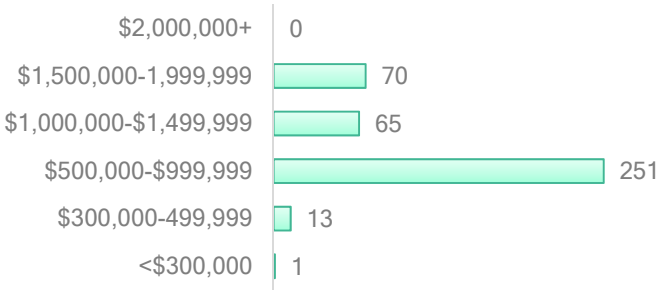
FMZ 9 Occupation



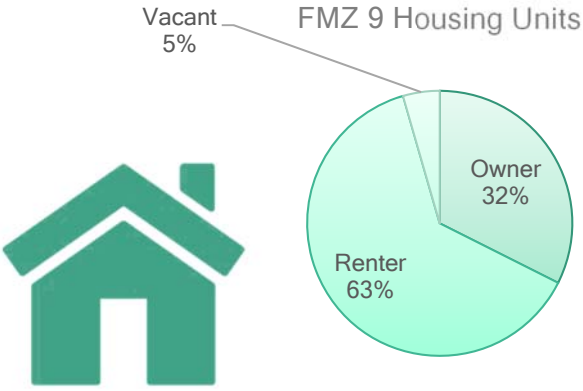
FMZ 9 Education



FMZ 9 Housing Units by Value



FMZ 9 Housing Units

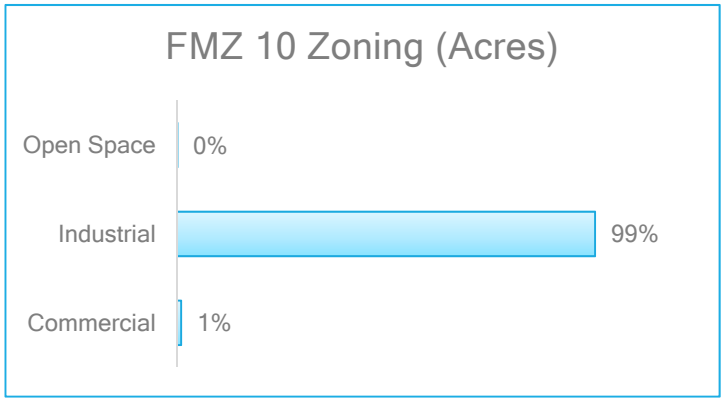


FMZ 10

Fire Management Zone 10 is an industrial zoned area consisting of 0.21 square miles, which is located towards the east side of the City. It is grouped together by a large industrial/commercial park. It also borders the Expo Light Rail Line and has five large commercial spaces. Although zoned for industrial general business, many of the industrial spaces have been converted into modern office spaces, causing 87% of the businesses to be protected by fire sprinklers.

FMZ 10 Characteristics

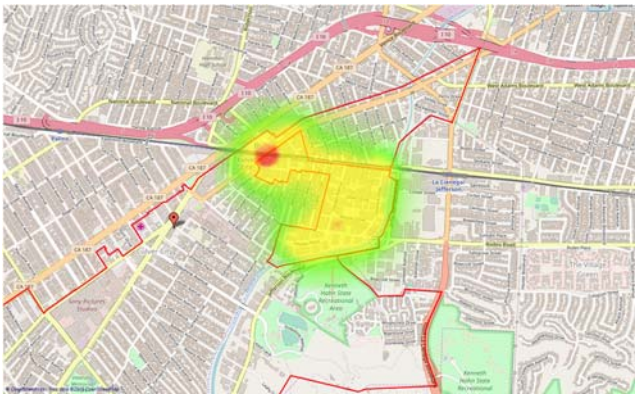
Resources	
Fire Rescue District	11
Station	1
First Due Engine/Truck	41
First Due Rescue	41
Development	
Total Square Miles	0.21
Total Structures	131
Buildings per Square Mile	623.8
Total Square Feet (all structures)	2,159,907
Number of Buildings > 75 ft.	0
Commercial Buildings > 10,000 ft²	0
Road miles	4.4
Total Assessed Valuation	$522 million
Mitigating Factors	
Fire Sprinklers in Structures	
Commercial	87%
Residential	6%



Specific Risks	
Fire	
EMS	
Tech Rescue	Expo Light Rail; La Ballona flood control channel
Haz Mat	10” diameter pipeline (crude oil, diesel, gasoline, jet fuel)
Other	Portion outside of 4-minute drive-time area

FMZ 10 Historical Call Volume

	2014	2015	2016	2017	2018	2014-2018
Fire	2	-	-	-	-	**2**
EMS	40	36	39	57	52	**224**
Tech Rescue	1	2	2	1	-	**6**
Haz Mat	1	-	1	-	-	**2**
Other	71	54	68	74	82	**349**
Wildland	6	-	1	-	-	**7**



Demographics

Population

• Population:	310
• Daytime Population (workers & residents):	2,919
• Population Density per Square Mile:	1,476
• Daytime Population Density:	13,900
• Median Age:	38.4
• Male Population:	49.4%
• Female Population:	50.6%
• Number of Households:	59
• Households with Disability:	6
• Population 65+ Speak No English:	0
• Households Income Below Poverty Level:	8

Education/ Employment

• Businesses:	221
• Employees:	2,296
• Median Household Income:	$80,932
• Per Capita Income:	$46,588
• Unemployment:	2.1%
• No High School Diploma:	5%

Housing

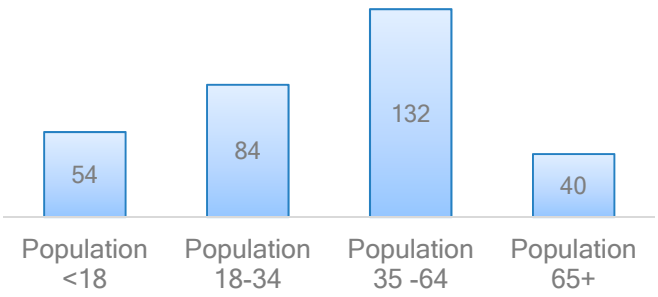
• Median Home Value:	$886,634
• Number of Housing Units:	65
• Average Household Size:	2.6
• Housing Structure Built After 1990:	4
• Housing Structure Built Before 1940:	19
• Median Year Housing Structure Built:	1950
• Median Year Householder Moved into Unit:	2006

Population
310

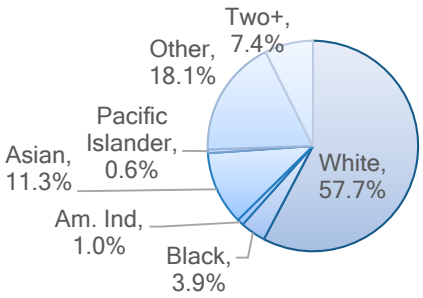
Daytime Population
842% Increase ↑

Annual Population Growth
8.43%

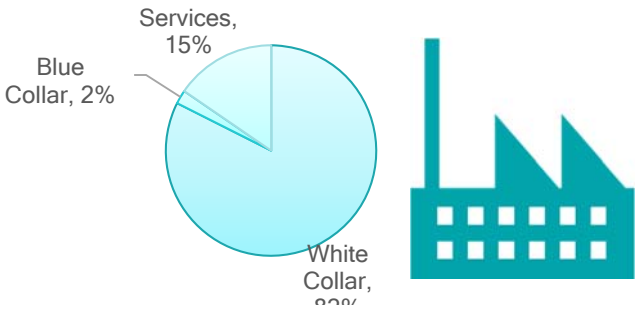
FMZ 10 Population by Age



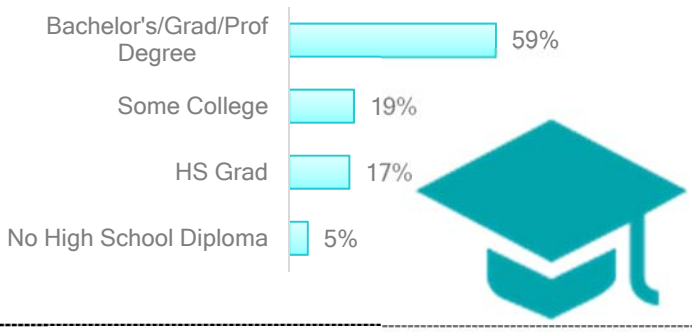
FMZ 10 Population by Race



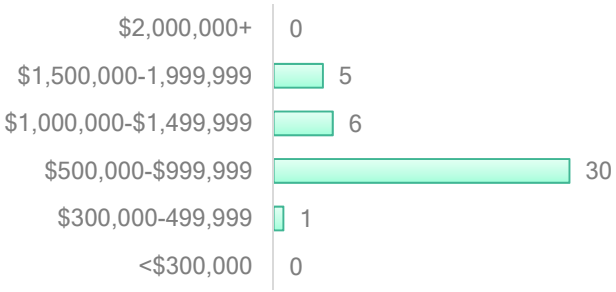
FMZ 10 Occupation



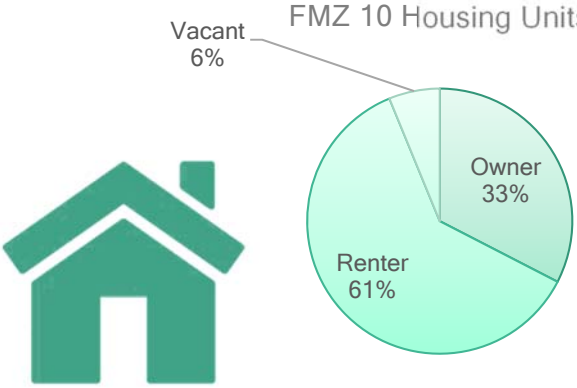
FMZ 10 Education



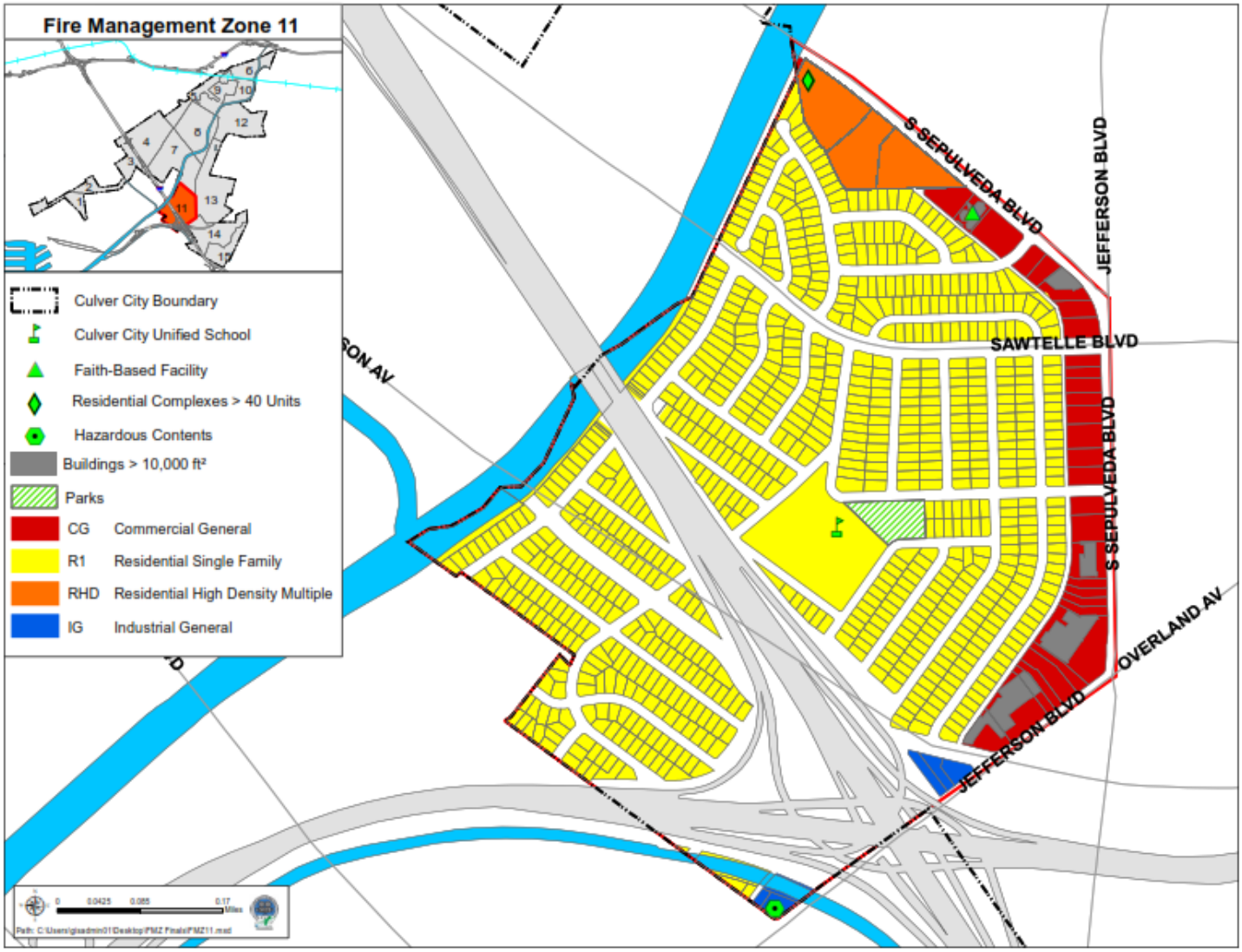
FMZ 10 Housing Units by Value



FMZ 10 Housing Units



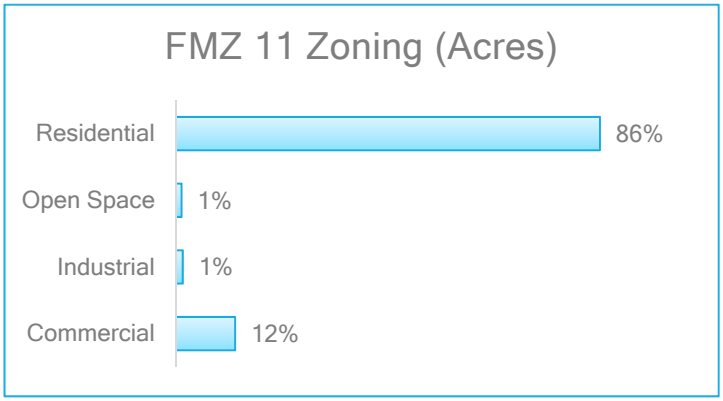
FMZ 11

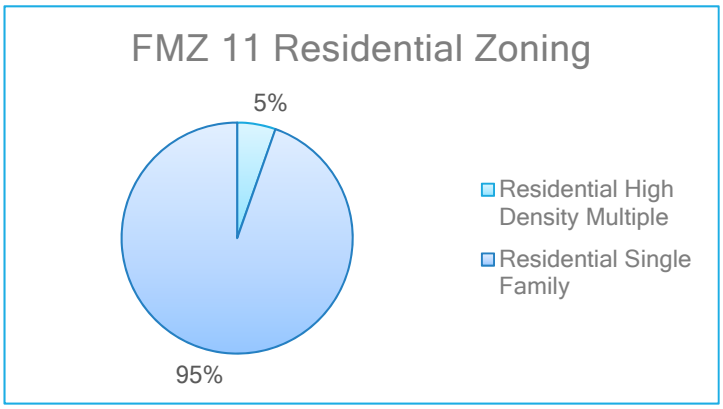


Fire Management Zone 11 is a general and neighborhood corridor consisting of 0.37 square miles, which is located centrally in the southern portion of the City. It has single and multiple family residences with some commercial and street-front businesses. It is also home to an elementary school, nine large commercial spaces and two large residential units. 23 percent of the population of this zone is greater than 65 years old, with a median age of 47.4. 78 percent of the residences in this zone are owner occupied.

FMZ 11 Characteristics

Resources	
Fire Rescue District	33
Station	3
First Due Engine/Truck	43
First Due Rescue	43
Development	
Total Square Miles	0.37
Total Structures	1258
Buildings per Square Mile	3400.0
Total Square Feet (all structures)	2,150,527
Number of Buildings > 75 ft.	0
Commercial Buildings > 10,000 ft²	8
Road miles	11.5
Total Assessed Valuation	$542 million
Mitigating Factors	
Fire Sprinklers in Structures	
Commercial	13%
Residential	4%





Specific Risks	
Fire	
EMS	
Tech Rescue	405 freeway
Haz Mat	16” diameter pipeline (crude oil, diesel fuel, fuel oil, gasoline); 8” pipeline (crude oil, diesel, gasoline, jet fuel); natural gas transmission pipeline
Other	

FMZ 11 Historical Call Volume

	2014	2015	2016	2017	2018	2014-2018
Fire	3	1	4	2	2	**12**
EMS	183	162	179	221	250	**995**
Tech Rescue	1	1	-	-	1	**3**
Haz Mat	5	3	5	-	1	**14**
Other	37	51	40	91	82	**301**

Demographics

Population

- Population: 2,522
- Daytime Population (workers & residents): 2,285
- Population Density per Square Mile: 6,816
- Daytime Population Density: 6,176
- Median Age: 47.4
- Male Population: 48.5%
- Female Population: 51.5%
- Number of Households: 834
- Households with Disability: 212
- Population 65+ Speak No English: 2
- Households Income Below Poverty Level: 37

Education/ Employment

- Businesses: 123
- Employees: 1,040
- Median Household Income: $106,895
- Per Capita Income: $48,947
- Unemployment: 4%
- No High School Diploma: 7%

Housing

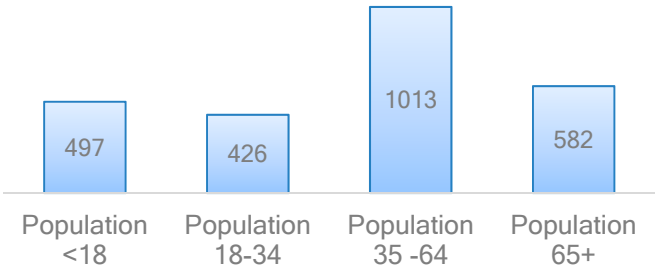
- Median Home Value: $750,391
- Number of Housing Units: 931
- Average Household Size: 2.6
- Housing Structure Built After 1990: 35
- Housing Structure Built Before 1940: 15
- Median Year Housing Structure Built: 1956
- Median Year Householder Moved into Unit: 2001

Population
2,522

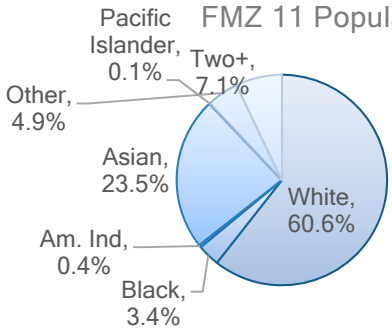
Daytime Population
9% Decrease ↓

Annual Population Growth
0.30%

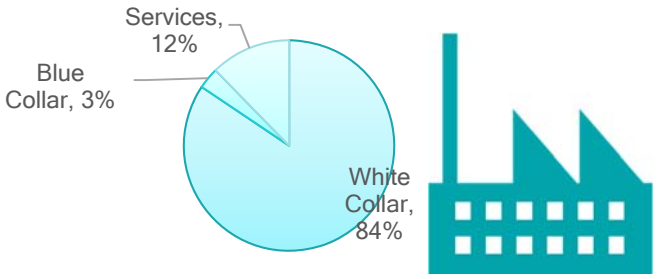
FMZ 11 Population by Age



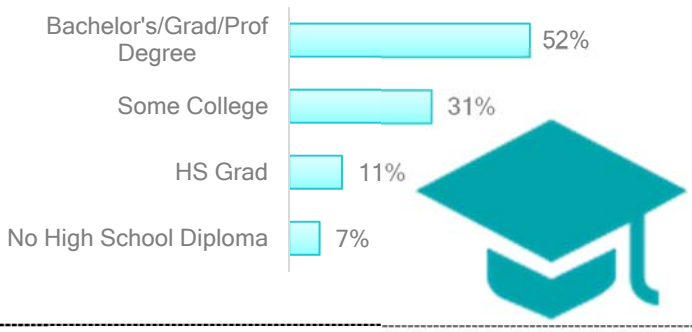
FMZ 11 Population by Race



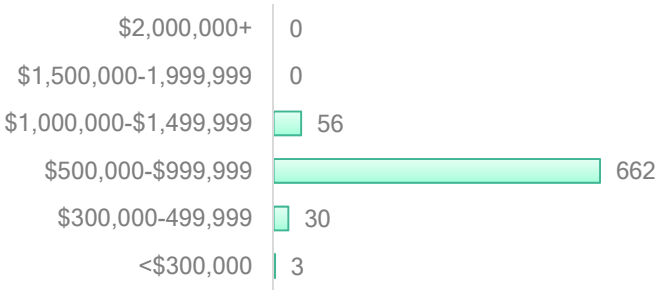
FMZ 11 Occupation



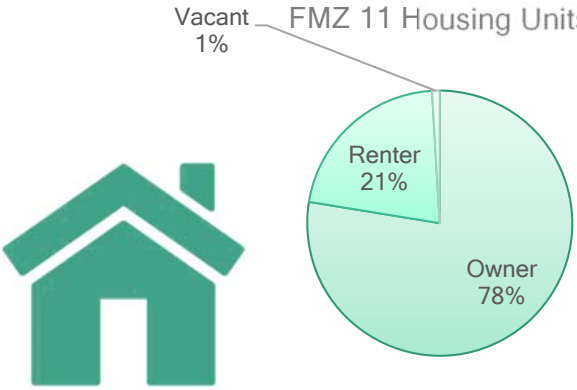
FMZ 11 Education



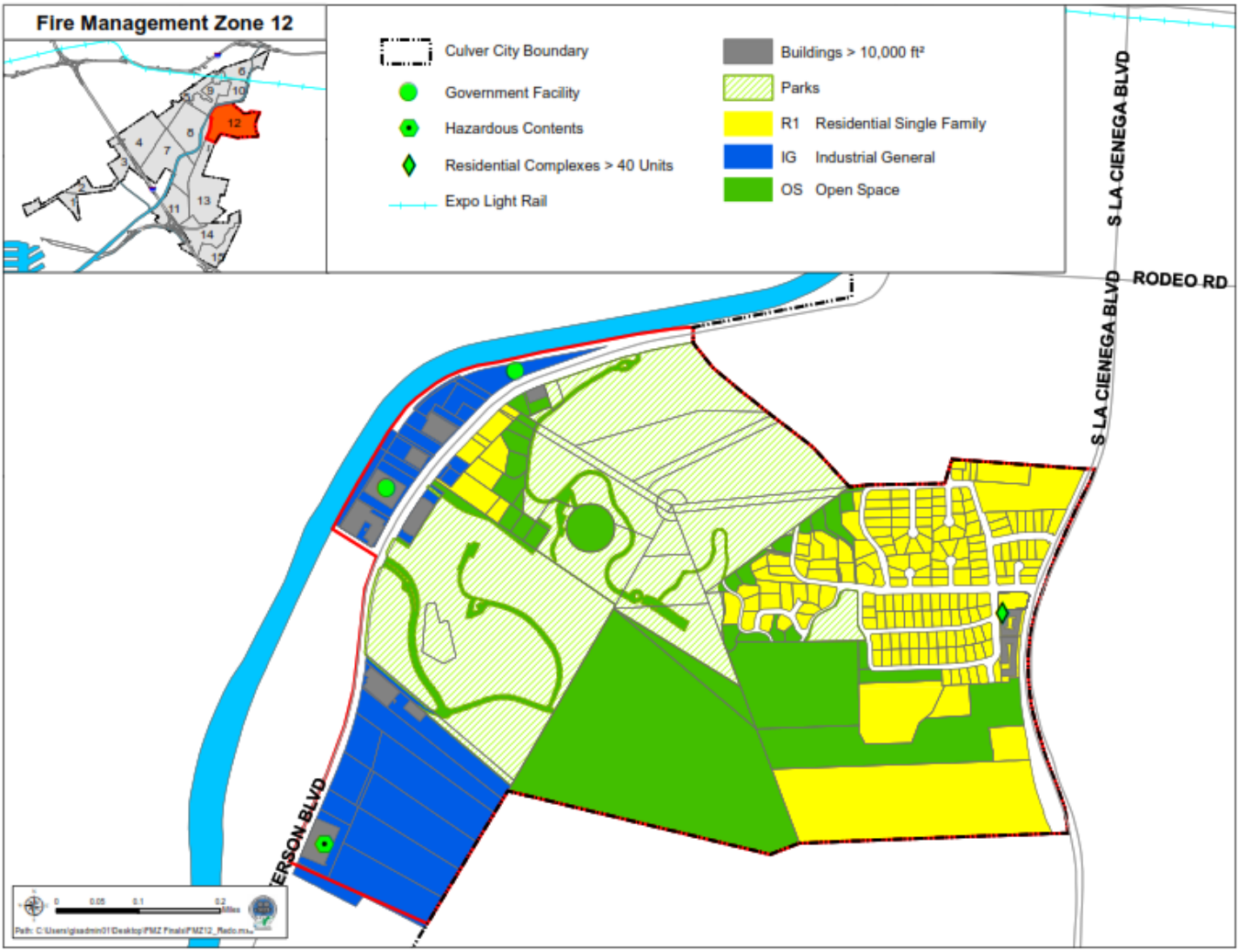
FMZ 11 Housing Units by Value



FMZ 11 Housing Units



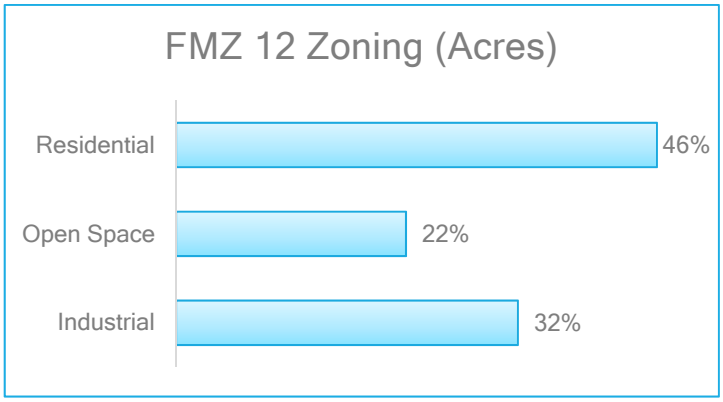
FMZ 12

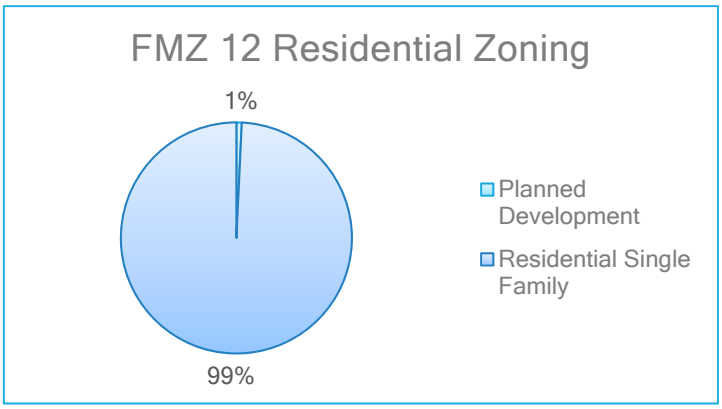


Fire Management Zone 12 is a general and neighborhood corridor of 0.46 square miles, which is centrally located in the eastern part of the City. Single family, multiple family, and planed residential developments comprises Zone 12. There are also commercial and light industrial uses, and a large open natural land space, which borders a wildland-urban interface. Zone 12 borders the Inglewood Oil Field and has several oil wells within its limits. Over 30 percent of the population within Zone 12 is over the age of 65, with the median age at 52.5.

FMZ 12 Characteristics

Resources	
Fire Rescue District	11
Station	1
First Due Engine/Truck	41
First Due Rescue	41
Development	
Total Square Miles	0.46
Total Structures	331
Buildings per Square Mile	719.6
Total Square Feet (all structures)	1,157,042
Number of Buildings > 75 ft.	0
Commercial Buildings > 10,000 ft²	0
Road miles	5
Total Assessed Valuation	$355 million
Mitigating Factors	
Fire Sprinklers in Structures	
Commercial	29%
Residential	0%

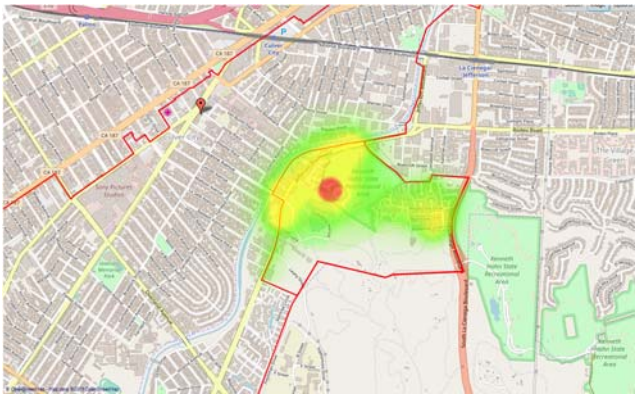




Specific Risks	
Fire	Wildland-urban interface
EMS	
Tech Rescue	
Haz Mat	One facility containing hazardous materials; high pressure gas distribution line; two 8” pipelines (crude oil, diesel, gasoline, jet fuel)
Other	Outside of 4-minute drive-time area; City’s radio tower

FMZ 12 Historical Call Volume

	2014	2015	2016	2017	2018	2014-2018
Fire	1	-	-	1	1	**3**
EMS	85	101	84	110	98	**478**
Tech Rescue	2	-	1	-	-	**3**
Haz Mat	1	-	-	-	-	**1**
Other	34	28	41	44	40	**187**
Wildland	-	3	-	-	3	**6**



Demographics

Population

- Population: 836
- Daytime Population (workers & residents): 1,866
- Population Density per Square Mile: 1,817
- Daytime Population Density: 4,057
- Median Age: 52.5
- Male Population: 45.6%
- Female Population: 54.4%
- Number of Households: 252
- Households with Disability: 68
- Population 65+ Speak No English: 0
- Households Income Below Poverty Level: 24

Education/ Employment

- Businesses: 83
- Employees: 1,012
- Median Household Income: $128,446
- Per Capita Income: $66,050
- Unemployment: 2.6%
- No High School Diploma: 5%

Housing

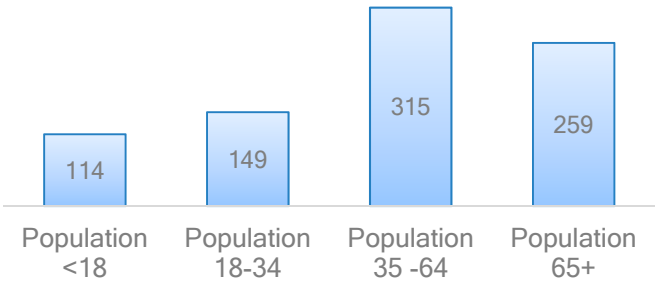
- Median Home Value: $876,488
- Number of Housing Units: 252
- Average Household Size: 2.5
- Housing Structure Built After 1990: 0
- Housing Structure Built Before 1940: 0
- Median Year Housing Structure Built: 1973
- Median Year Householder Moved into Unit: 1996

Population
836

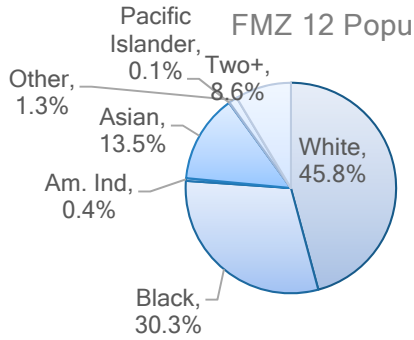
Daytime Population
123% Increase ↑

Annual Population Growth
0.47%

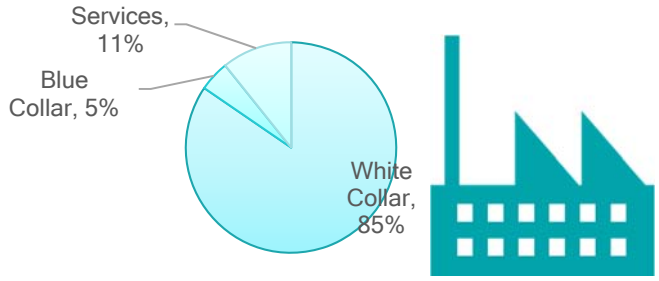
FMZ 12 Population by Age



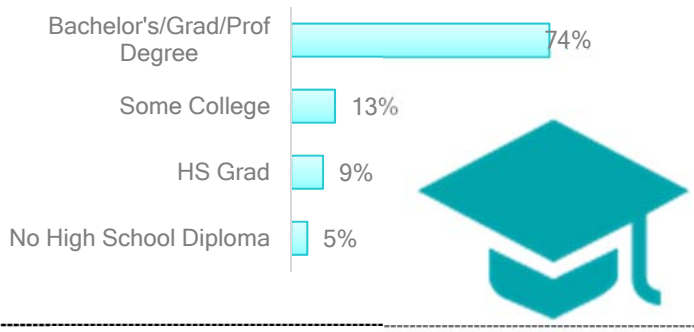
FMZ 12 Population by Race



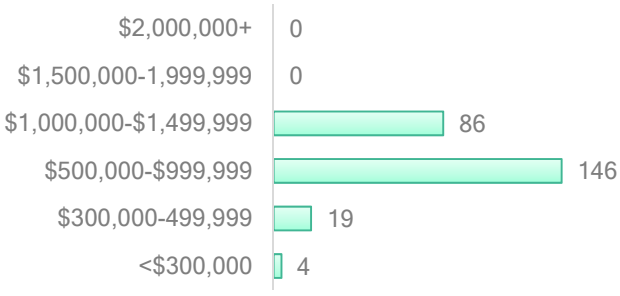
FMZ 12 Occupation



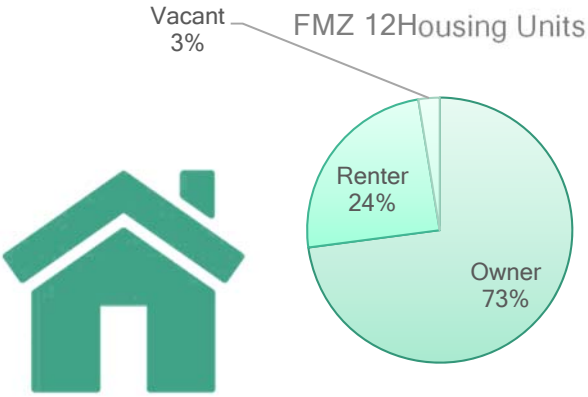
FMZ 12 Education



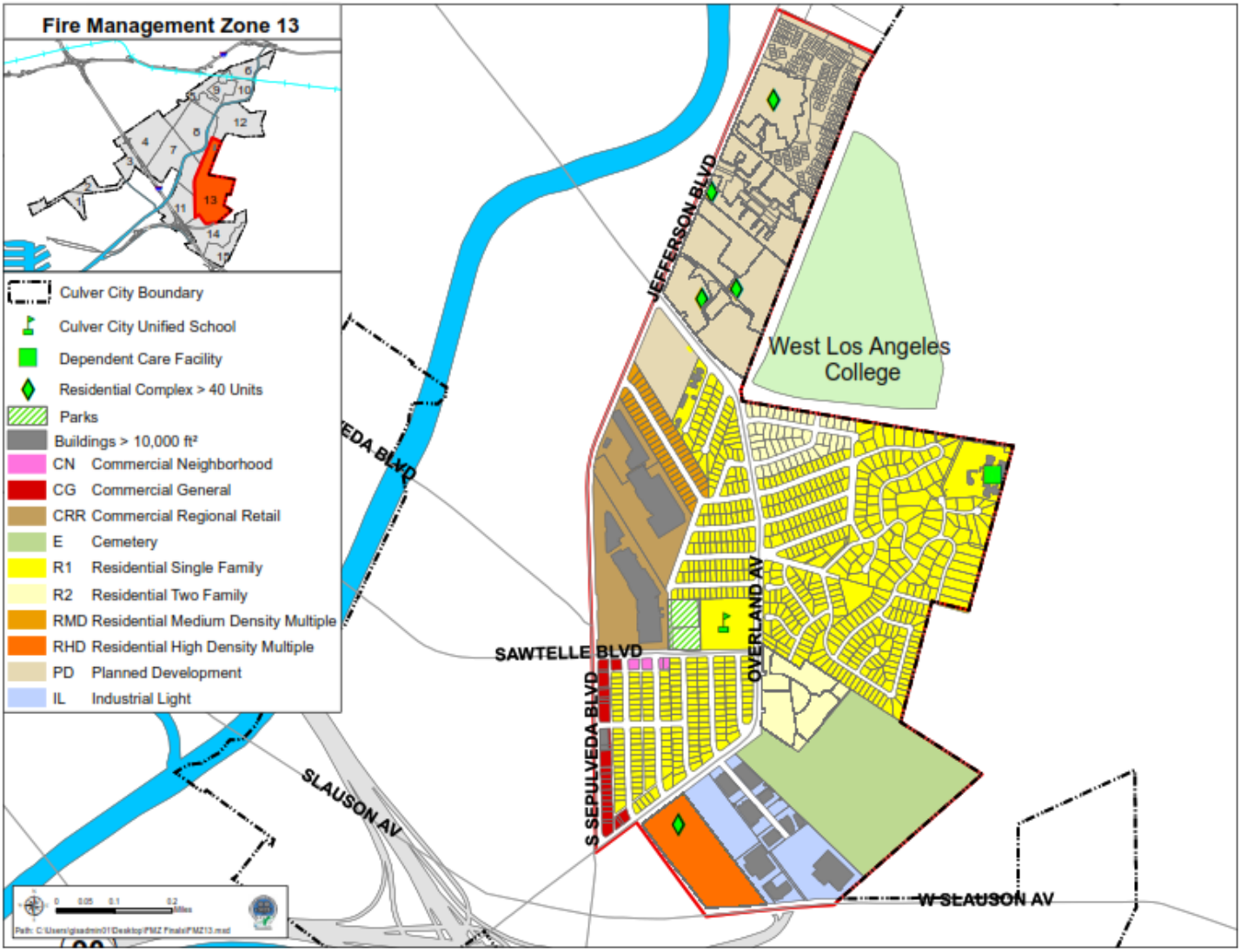
FMZ 12 Housing Units by Value



FMZ 12Housing Units



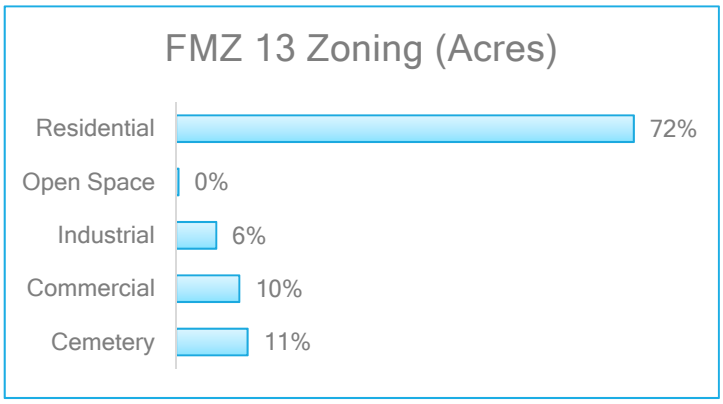
FMZ 13

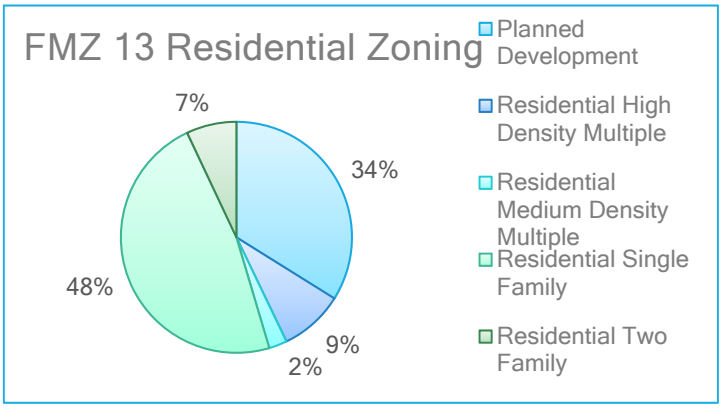


Fire Management Zone 13 is a general corridor, 0.63 square miles, which is centrally located in the southern part of the City. Planned residential developments, single and multiple family residences make up Zone 13. There is a small industrial park, a residential nursing home, elementary school, as well as a community college just beyond its limits in Los Angeles County. A portion of Zone 13 is considered part of the wildland-urban interface. This zone consists of the greatest number of households within the City, over 22 percent of which have a disabled and 95 households have members over 65 years old who do not speak English.

FMZ 13 Characteristics

Resources	
Fire Rescue District	33/11
Station	3
First Due Engine/Truck	43
First Due Rescue	43
Development	
Total Square Miles	0.63
Total Structures	1531
Buildings per Square Mile	2430.2
Total Square Feet (all structures)	3,655,643
Number of Buildings > 75 ft.	0
Commercial Buildings > 10,000 ft²	9
Road miles	15.4
Total Assessed Valuation	$1.5 billion
Mitigating Factors	
Fire Sprinklers in Structures	
Commercial	42%
Residential	5%

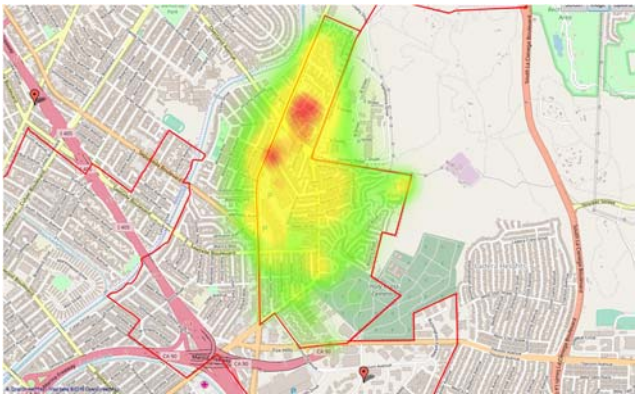




Specific Risks	
Fire	Wildland-urban interface
EMS	688 households with disability; 95 household with 65+ year old who doesn't speak English
Tech Rescue	
Haz Mat	High pressure gas transmission line running northeast to southwest; 16" diameter pipeline (crude oil, diesel fuel, fuel oil, gasoline); natural gas transmission pipeline
Other	Portions of zone outside of 4-minute drive-time area; mobile home park with 122 trailers

FMZ 13 Historical Call Volume

	2014	2015	2016	2017	2018	2014-2018
Fire	5	6	8	8	5	**32**
EMS	377	384	452	387	378	**1978**
Tech Rescue	5	2	5	4	3	**19**
Haz Mat	2	2	5	-	2	**11**
Other	116	127	152	155	163	**713**
Wildland	-	-	-	-	2	**2**



Demographics

Population

- Population: 6,882
- Daytime Population (workers & residents): 6,329
- Population Density per Square Mile: 10,924
- Daytime Population Density: 10,046
- Median Age: 46.3
- Male Population: 44.9%
- Female Population: 55.1%
- Number of Households: 3,063
- Households with Disability: 688
- Population 65+ Speak No English: 95
- Households Income Below Poverty Level: 254

Education/ Employment

- Businesses: 285
- Employees: 2,558
- Median Household Income: $86,688
- Per Capita Income: $53,960
- Unemployment: 2.8%
- No High School Diploma: 6%

Housing

- Median Home Value: $641,874
- Number of Housing Units: 3,208
- Average Household Size: 2.2
- Housing Structure Built After 1990: 148
- Housing Structure Built Before 1940: 28
- Median Year Housing Structure Built: 1972
- Median Year Householder Moved into Unit: 2002

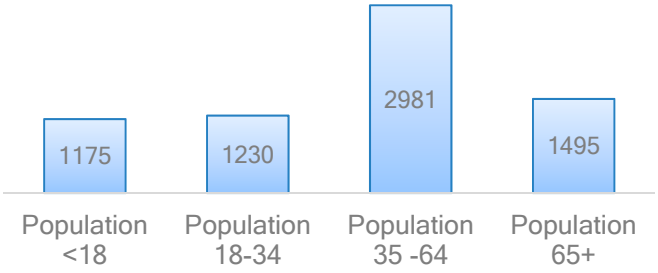
Population

6,882

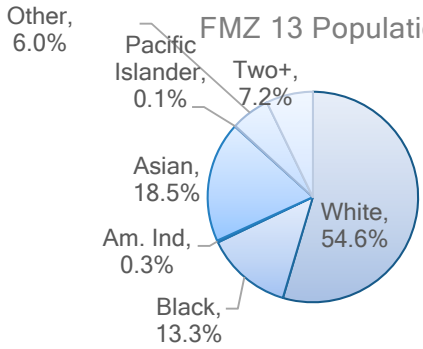
Daytime Population
8% Decrease ↓

Annual Population Growth
0.29%

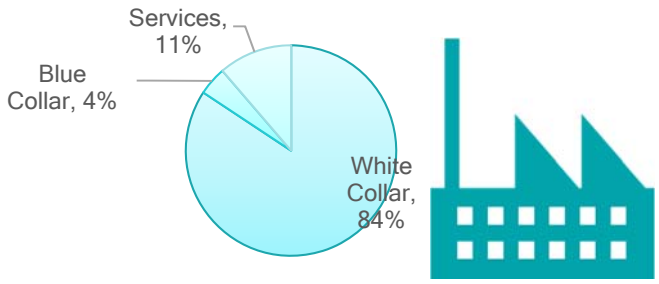
FMZ 13 Population by Age



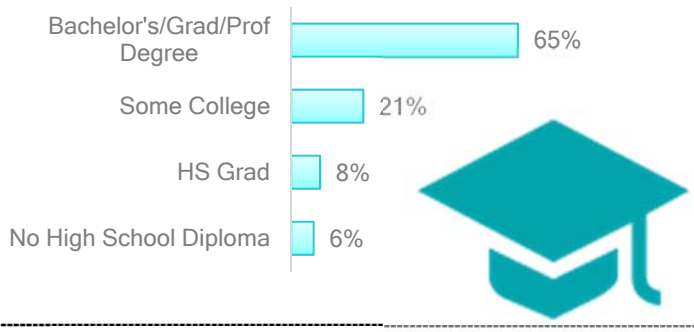
FMZ 13 Population by Race



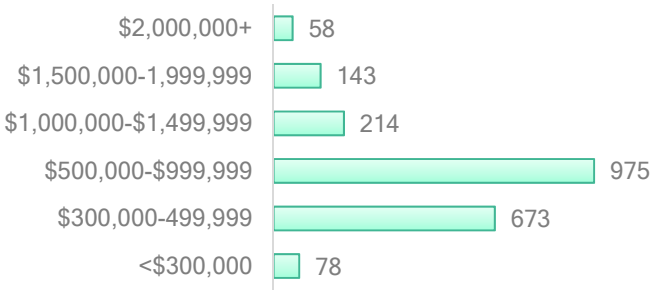
FMZ 13 Occupation



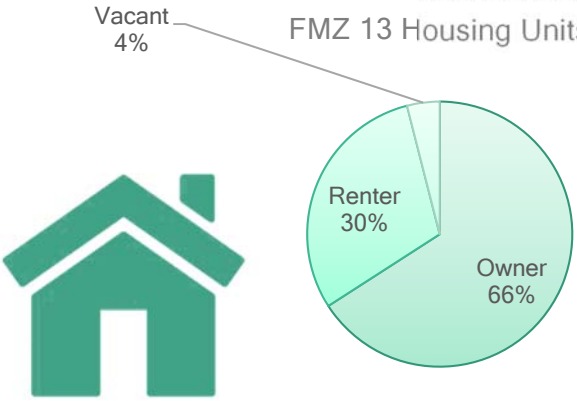
FMZ 13 Education



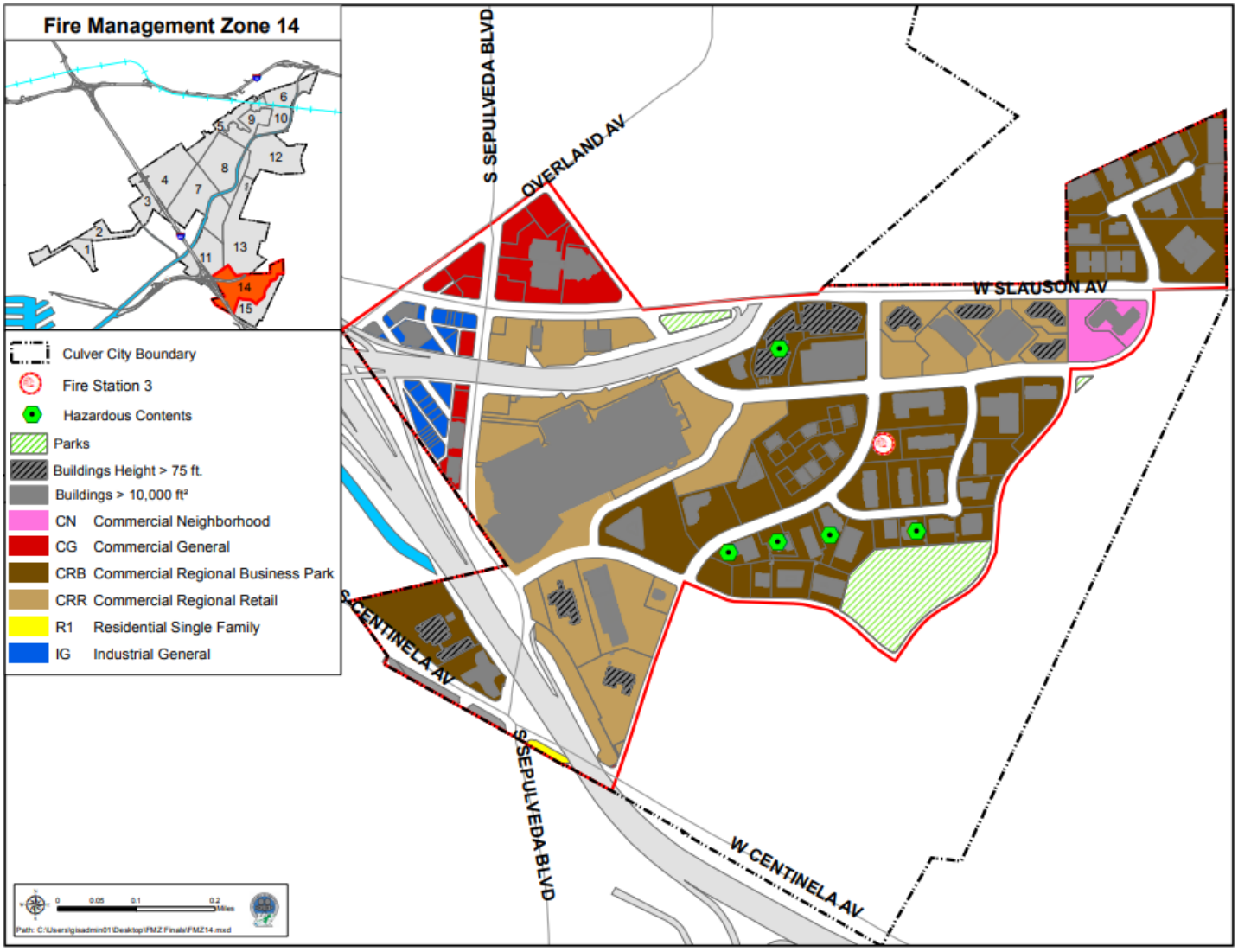
FMZ 13 Housing Units by Value



FMZ 13 Housing Units



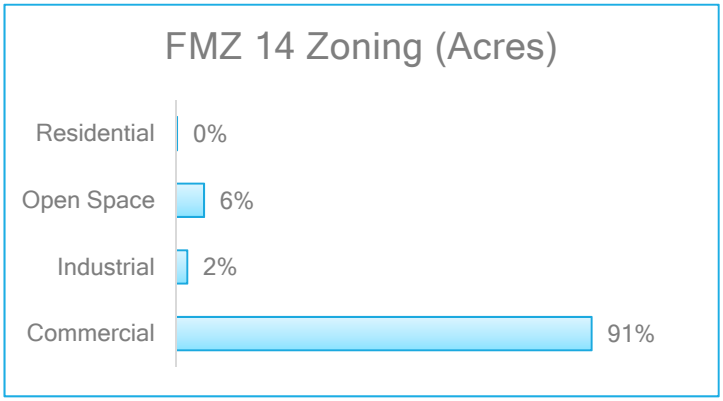
FMZ 14

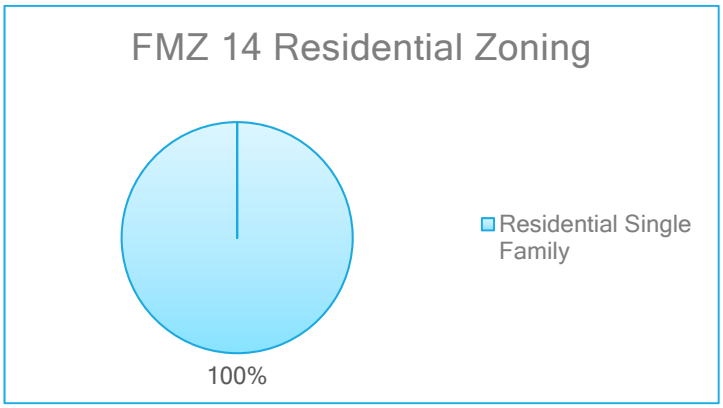


Fire Management Zone 14 is a general corridor of 0.44 square miles located in the southern part of the City. It comprises exclusively of commercial buildings and businesses. It holds special risks that include a large mall/retail complex and five high-rise buildings. It also borders the wildland-urban interface. During the day, this zone reaches a daytime population of over 17,000 people. Additionally, this zone contains the 405 and 90 freeways, which see over 300,000 vehicle per day.

FMZ 14 Characteristics

Resources	
Fire Rescue District	33
Station	3
First Due Engine/Truck	43
First Due Rescue	43
Development	
Total Square Miles	0.44
Total Structures	173
Buildings per Square Mile	393.2
Total Square Feet (all structures)	9,822,742
Number of Buildings > 75 ft.	9
Commercial Buildings > 10,000 ft²	98
Road miles	11.7
Total Assessed Valuation	$1 billion
Mitigating Factors	
Fire Sprinklers in Structures	
Commercial	86%
Residential	-

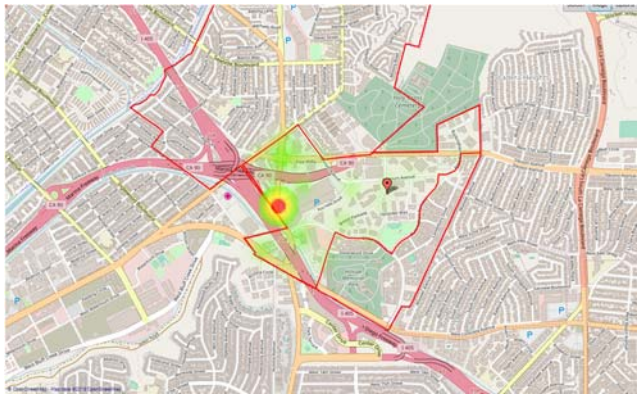




Specific Risks	
Fire	Multiple high-rise occupancies
EMS	Significant daytime population increase
Tech Rescue	405 freeway
Haz Mat	Four facilities containing hazardous materials; 16” diameter pipeline (crude oil, diesel fuel, fuel oil, gasoline); natural gas transmission pipeline
Other	Westfield Shopping Mall (Facility with the highest historical call volume)

FMZ 14 Historical Call Volume

	2014	2015	2016	2017	2018	2014-2018
Fire	2	1	1	1	3	**8**
EMS	371	437	436	544	554	**2342**
Tech Rescue	12	11	6	7	15	**51**
Haz Mat	8	5	4	3	6	**26**
Other	112	106	131	208	222	**779**
Wildland	-	-	1	2	2	**5**



Demographics

Population

- Population: 5
- Daytime Population (workers & residents): 17,215
- Population Density per Square Mile: 11
- Daytime Population Density: 39,125
- Median Age: -
- Male Population: -
- Female Population: -
- Number of Households: 1
- Households with Disability: -
- Population 65+ Speak No English: -
- Households Income Below Poverty Level: -

Education/ Employment

- Businesses: 804
- Employees: 13,997
- Median Household Income: -
- Per Capita Income: -
- Unemployment: -
- No High School Diploma: -

Housing

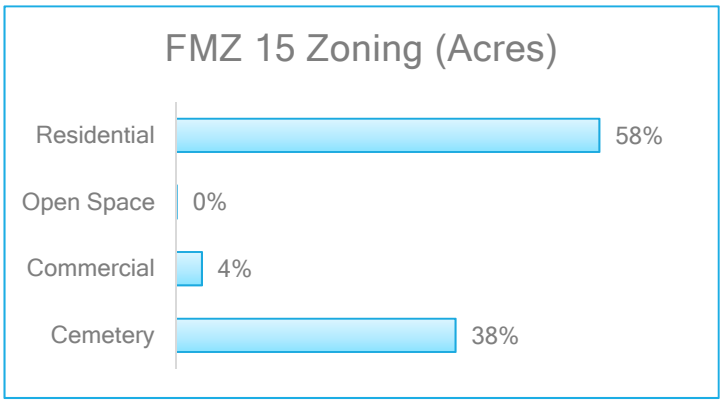
- Median Home Value: -
- Number of Housing Units: 1
- Average Household Size: -
- Housing Structure Built After 1990: -
- Housing Structure Built Before 1940: -
- Median Year Housing Structure Built: 1975
- Median Year Householder Moved into Unit: -

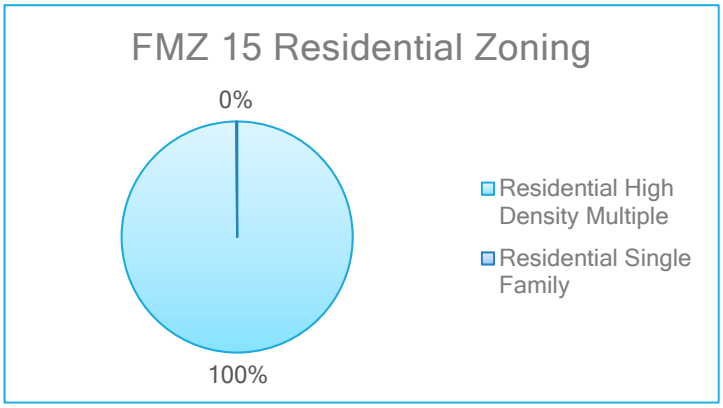
FMZ 15

Fire Management Zone 15 is a general corridor consisting of 0.22 square miles, which is located in the southern part of the City. 58 percent of Zone 15 is a residential community and 38 percent is a cemetery. This is the most densely populated portion of the City during the nighttime. Zone 15 also borders the wildland-urban interface.

FMZ 15 Characteristics

Resources	
Fire Rescue District	33
Station	3
First Due Engine/Truck	43
First Due Rescue	43
Development	
Total Square Miles	0.22
Total Structures	149
Buildings per Square Mile	677.3
Total Square Feet (all structures)	1,548,670
Number of Buildings > 75 ft.	
Commercial Buildings > 10,000 ft²	4
Road miles	3.8
Total Assessed Valuation	$695 million
Mitigating Factors	
Fire Sprinklers in Structures	
Commercial	97%
Residential	5%





Specific Risks	
Fire	
EMS	densely populated residential area
Tech Rescue	
Haz Mat	16” pipeline (crude oil, diesel fuel, fuel oil, gasoline); 12” pipeline (gasoline, crude oil); natural gas transmission pipeline
Other	

FMZ 15 Historical Call Volume

	2014	2015	2016	2017	2018	2014-2018
Fire	2	9	2	1	4	**18**
EMS	252	263	230	221	278	**1244**
Tech Rescue	10	6	9	8	3	**36**
Haz Mat	1	1	4	1	1	**8**
Other	42	52	43	60	59	**256**
Wildland	-	-	3	-	-	**3**

Demographics

Population

- Population: 5,335
- Daytime Population (workers & residents): 2,625
- Population Density per Square Mile: 24,250
- Daytime Population Density: 11,932
- Median Age: 38.3
- Male Population: 45.2%
- Female Population: 54.8%
- Number of Households: 2,779
- Households with Disability: 372
- Population 65+ Speak No English: 0
- Households Income Below Poverty Level: 217

Education/ Employment

- Businesses: 68
- Employees: 951
- Median Household Income: $78,376
- Per Capita Income: $50,883
- Unemployment: 3.6%
- No High School Diploma: 2%

Housing

- Median Home Value: $445,098
- Number of Housing Units: 2,917
- Average Household Size: 2.0
- Housing Structure Built After 1990: 145
- Housing Structure Built Before 1940: 14
- Median Year Housing Structure Built: 1972
- Median Year Householder Moved into Unit: 2010

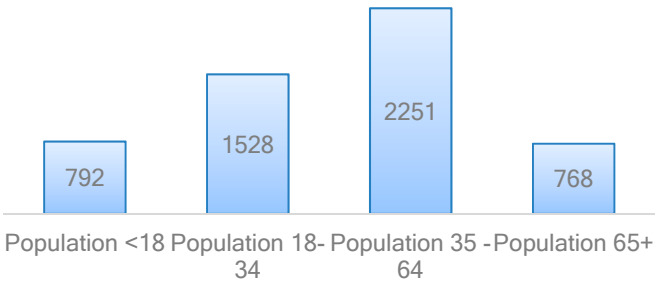
Population

5,335

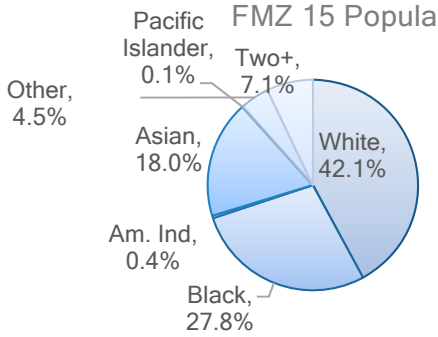
Daytime Population
51% Decrease ↓

Annual Population Growth
0.40%

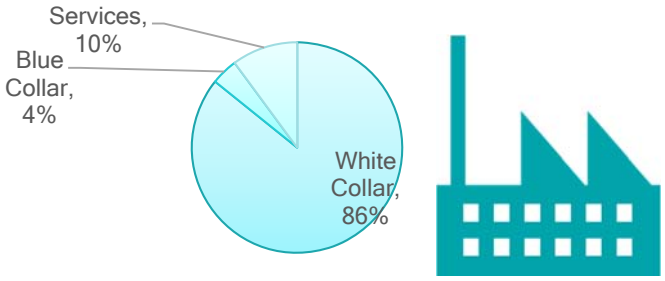
FMZ 15 Population by Age



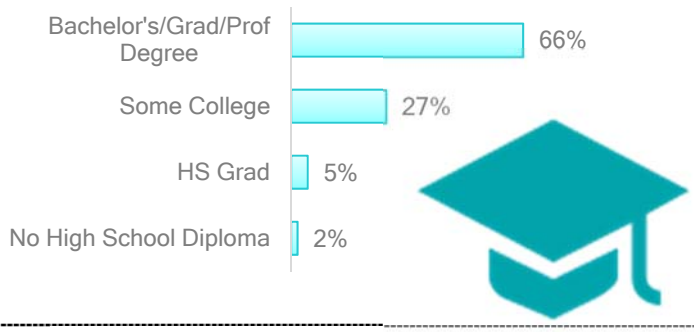
FMZ 15 Population by Race



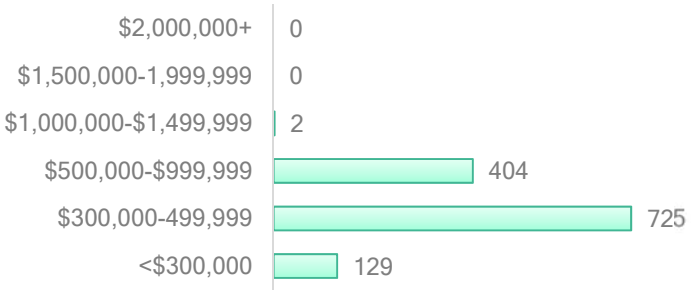
FMZ 15 Occupation



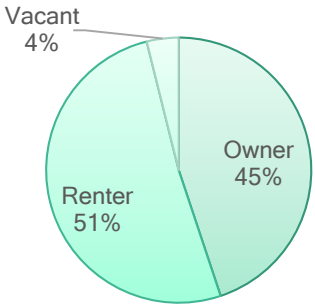
FMZ 15 Education



FMZ 15 Housing Units by Value



FMZ 15 Housing Units



The mission of the Culver City Fire Department is to protect life, property, and the environment by providing prompt and professional fire protection and life safety services.

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