STANDARDS OF COVER 2025

To request further information, please contact:

Tualatin Valley Fire & Rescue
11945 SW 70th Avenue
Tigard, OR 97223-9196

(503) 649-8577
www.tvfr.com

CONTENTS

INTRODUCTION

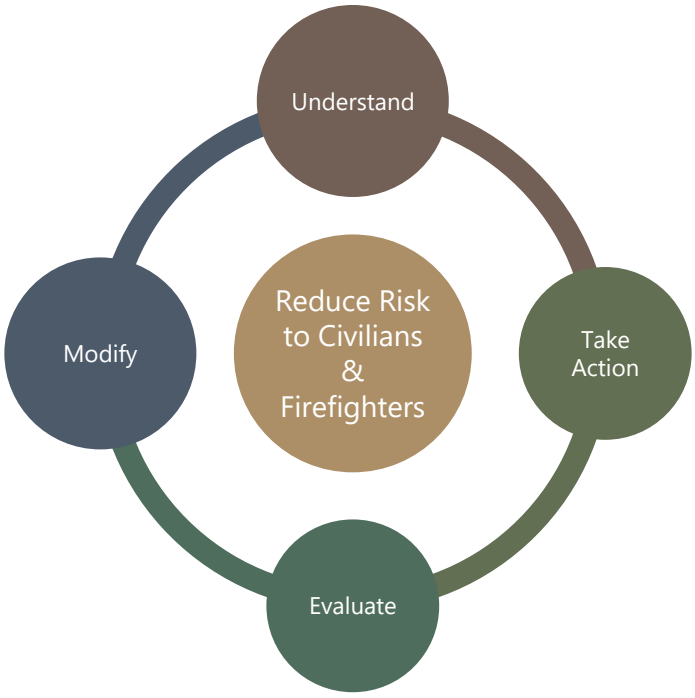
A Standards of Cover document is a systematic way of looking at the basic service provided by an emergency services agency. The purpose of a Standards of Cover document is to provide a system that aids with:

- Assessing community risks.
- Defining baseline and benchmark emergency response performance objectives.
- Planning future station locations.
- Determining apparatus and staffing patterns.
- Evaluating workload and ideal unit utilization.
- Measuring service delivery performance.
- Supporting strategic planning and policy development relative to resource procurement and allocation.

The key elements in the development of a Standards of Cover include:

- A community risk assessment identifying the risks common and/or unique to the agency completing the process.
- A determination of levels of service to be provided within the area served.
- An analysis of the agency's current response capability in terms of time and on-scene performance for personnel and equipment.
- A development of objectives describing how the agency resources shall be allocated and deployed to maximize emergency response effectiveness throughout the area served.[1]

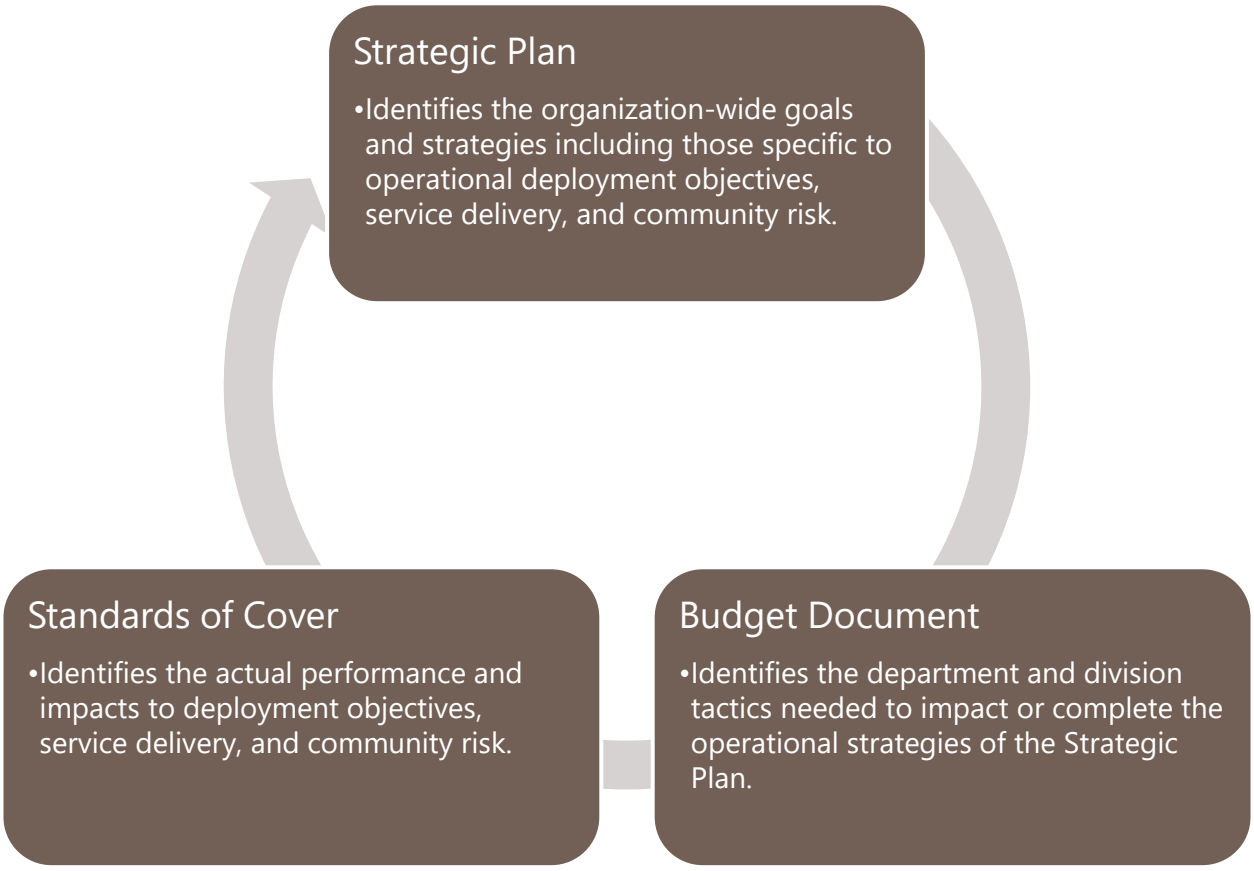
Tualatin Valley Fire & Rescue's (TVF&R) Standards of Cover provides a retrospective snapshot of the service delivery, deployment, and performance of resources for a calendar year (Example: the 2025 Standards of Cover outlines the service delivery, deployment, and performance for 2024). Specific information is included for that year as well as prior years' performance, so a trend can be established and monitored.



Risk assessments conducted for fire, emergency medical services (EMS), special operations (hazardous materials, technical rescue, and water rescue), and other special risks (major incident and financial) require substantial analysis. TVF&R has chosen to create a risk assessment process that will start with a broad look first, and then move into various granular assessments of risk as the process moves forward. Staff will then use this information to understand the risks, take action to reduce the risk, evaluate those actions to determine effectiveness, and modify, adjust, or redefine priorities as needed.

[1] Center for Public Safety Excellence, Inc. CFAI Standards of Cover. 5th ed. Rep. 2008.

As demonstrated below, the Standards of Cover is an integral component of the strategic planning and budget process. Changes to service delivery and deployment are subject to modification based upon the assessment of risk and evaluation of performance, available resources, and funding. These recommended changes are then documented and expanded within the Strategic Plan and Annual Budget Document and not duplicated within the Standards of Cover.



SECTION 1: DISTRICT OVERVIEW

Tualatin Valley Fire & Rescue operates under Oregon Revised Statutes Chapter 478 as a separate municipal corporation and is managed by a Board of Directors comprised by a president and four directors, who include a vice-president and a secretary-treasurer. The Board hires a fire chief/administrator to manage the day-to-day operations of the District. The governing board appoints members of the community to serve on boards and commissions, which include the Budget Committee and the Civil Service Commission.

HISTORICAL

Volunteer departments serving small communities provided the historical foundation for Tualatin Valley Fire & Rescue; the oldest was founded in 1901. Growth throughout the first half of the 20th century saw the development of mixed career and volunteer programs, and modernization brought apparatus and equipment advances. From mid-century through the 1970s, mergers occurred as smaller departments sought efficiencies and support from larger organizations.

Tualatin Valley Fire & Rescue, which is a Rural Fire Protection District, was formed in 1989 through the legal merger of Washington County Fire Protection District No. 1 and Tualatin Rural Fire Protection District. Subsequently, the District expanded its service area through annexation to include the city of Beaverton Fire Department, Valley View Water District and the Rosemont Fire District and the mergers of Multnomah County Fire Protection Districts No. 4 and 20. The city of West Linn was legally annexed on July 1, 2004, after the District provided services to the city's residents through a fire protection contract. The annexation of Washington County Rural Fire Protection District 2 (District 2) was effective July 1, 2017, after District 2 voters approved the annexation into the District. The city of Newberg and Newberg Rural Fire Protection District were legally annexed on July 1, 2018, after completion of a two-year fire protection contract.

Figure 1.1 Organizational Chart

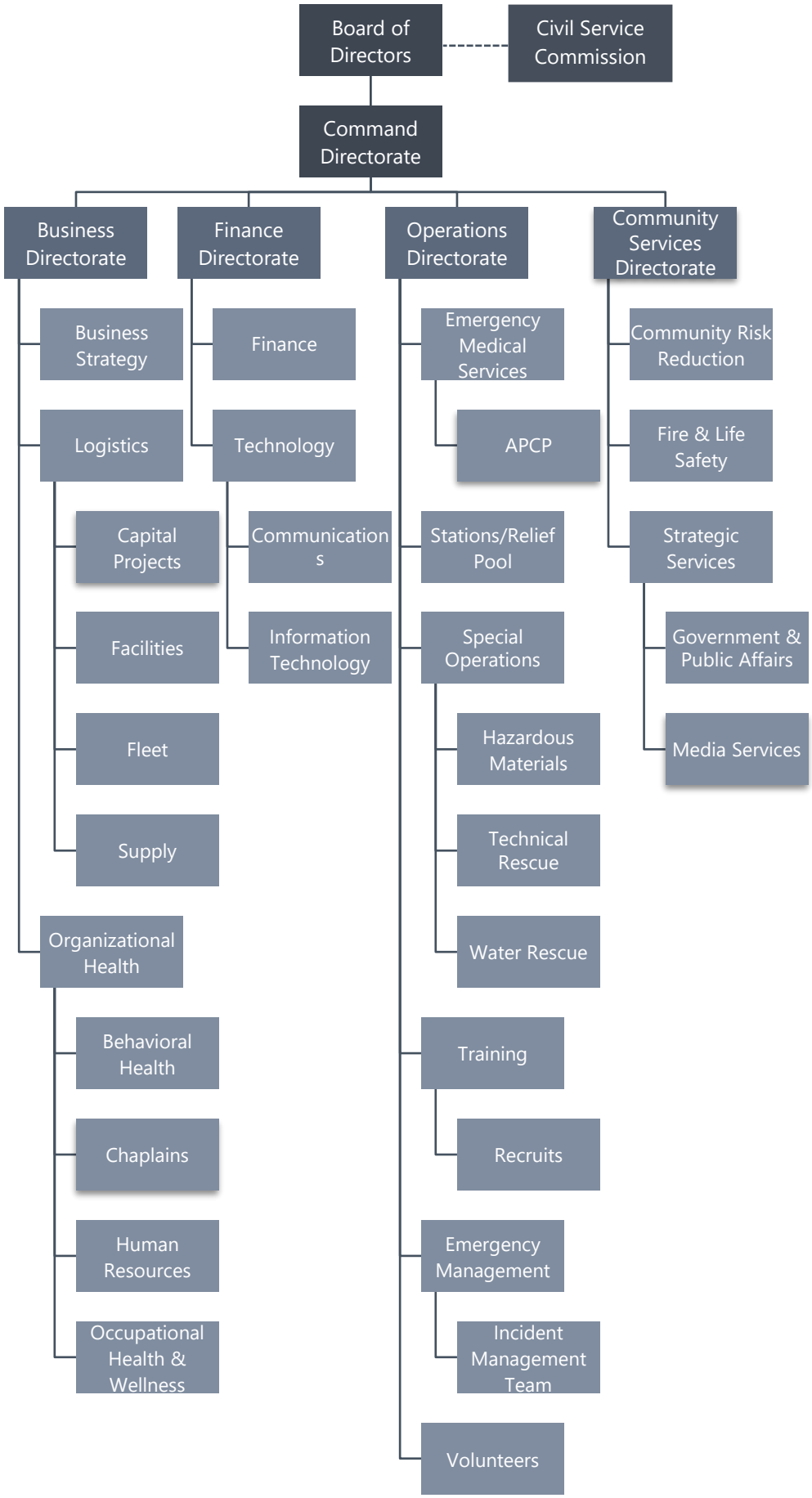
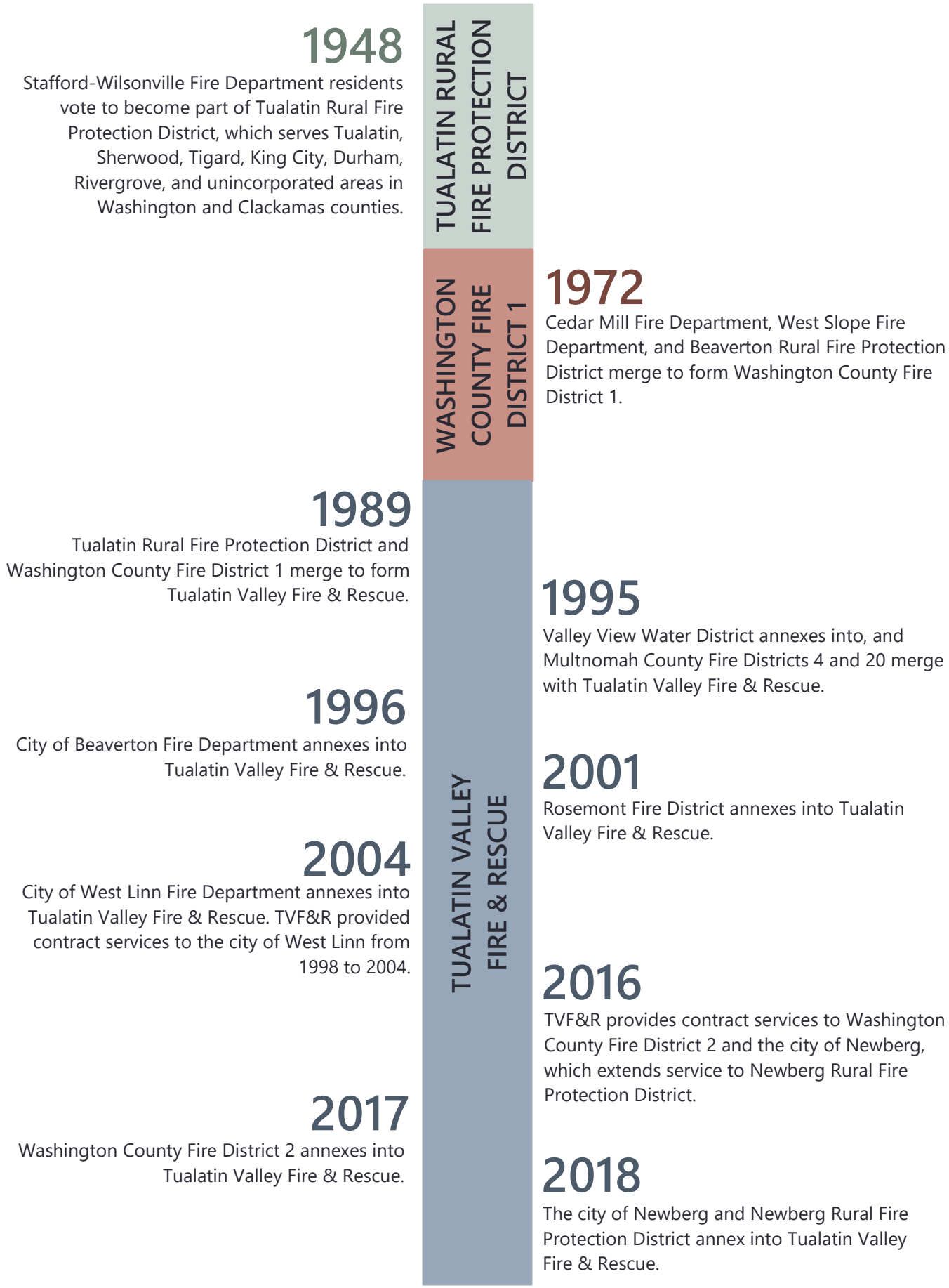


Figure 1.2 Historical Timeline of Tualatin Valley Fire & Rescue



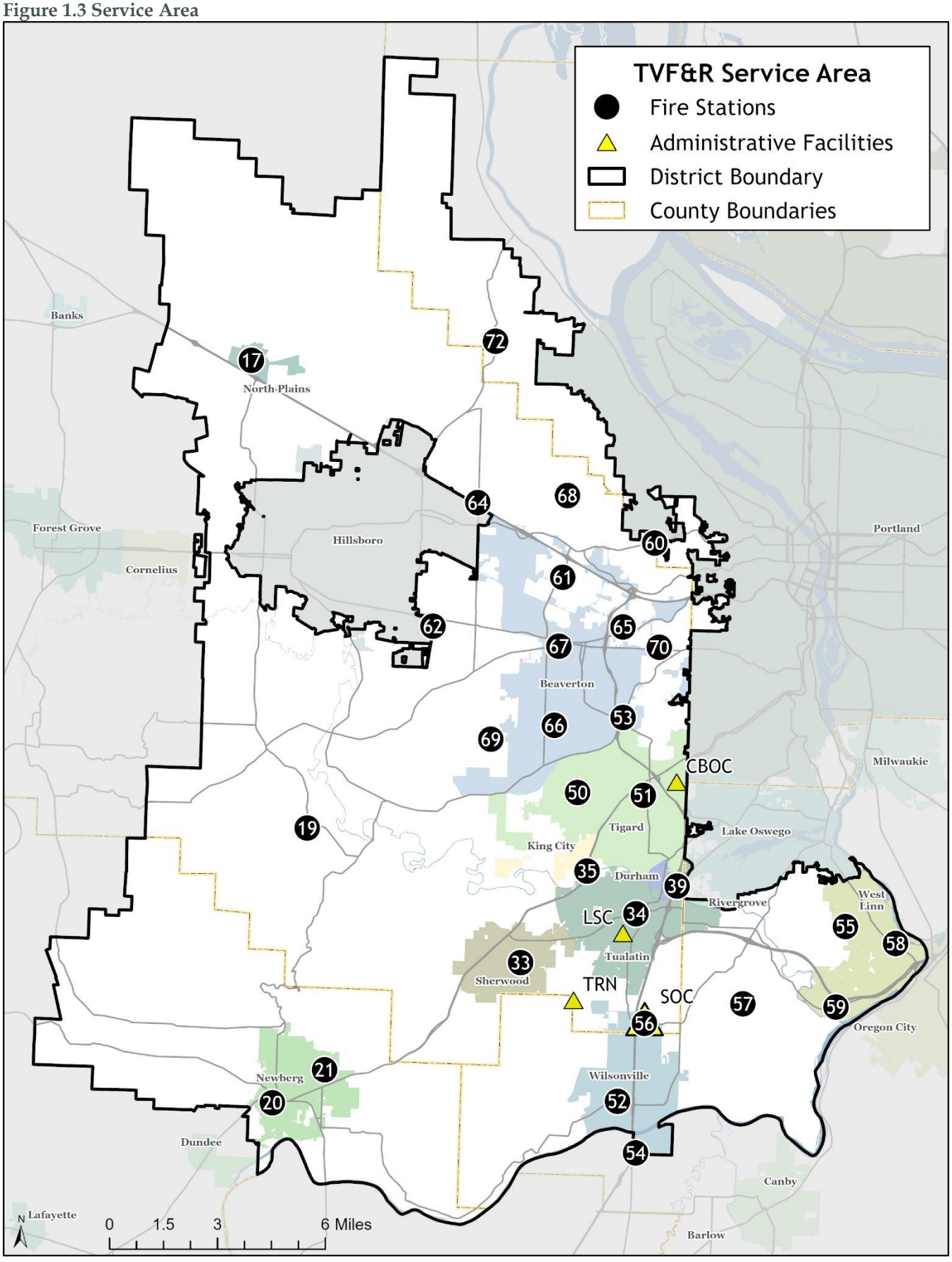
SERVICE AREA

TVF&R is in northwest Oregon just west of the city of Portland. The District's total service area is approximately 390 square miles. This service area includes the cities of Beaverton, Durham, King City, Newberg, North Plains, Rivergrove, Sherwood, Tigard, Tualatin, West Linn, and Wilsonville. While the service area itself is primarily in Washington County (the eastern portion of the county), it also includes unincorporated areas of Clackamas County (northwest corner), Multnomah County (western edge), and Yamhill County (northeast corner). Recognized as one of the fastest growing regions of the state of Oregon, this area encompasses densely populated suburban areas, rural farmlands, retail and commercial establishments, and growing industrial complexes. The Newberg area also covers significant agricultural areas of Oregon, including important winegrowing regions contributing to the state economy.

The area serves as the home to companies such as Nike, Columbia Sportswear, Reser's Fine Foods Inc., Teledyne FLIR., CUI Global, A-dec, Inc., Touchmark, and Digimarc, in addition to several fast-growing private companies such as Dealership Performance CRM LLC, Swickard Auto Group, Good Feet, and Terra Firma. Top metropolitan-area employers include Intel, Providence Health & Services, Fred Meyer, Oregon Health & Science University, U.S. Bank, Wells Fargo, Portland General Electric, Comcast, and Nike, among others. Intel has continued to invest in multi-million-dollar facility expansions to manufacture state-of-the-art computer chips, largely in the city of Hillsboro and Washington County.[2]

[2] Tualatin Valley Fire & Rescue 2024-25 Annual Budget Document.

Figure 1.3 Service Area



POPULATION

The District's estimated population was 548,376 in 2024 and is expected to continue to grow over the next decade. Staff is working proactively and cooperatively with other governments and regional planning groups to ensure continued ability to service this future population. This includes neighborhood and street planning, emergency access, and road construction, as well as evaluating and working across jurisdictional boundaries to ensure closest-force response to population centers, regardless of city and county boundaries. This is one reason the District has purchased land for future fire station sites and is actively seeking additional sites utilizing local option levy funding.

Population categories within the District are defined as:

Metropolitan: Population density of over 3,000 people per square mile.

Urban: Population density of 2,001 to 3,000 people per square mile.

Suburban: Population density of 1,000 to 2,000 people per square mile.

Rural: Population density of 999 people or less per square mile.

Figure 1.4 Population Categories

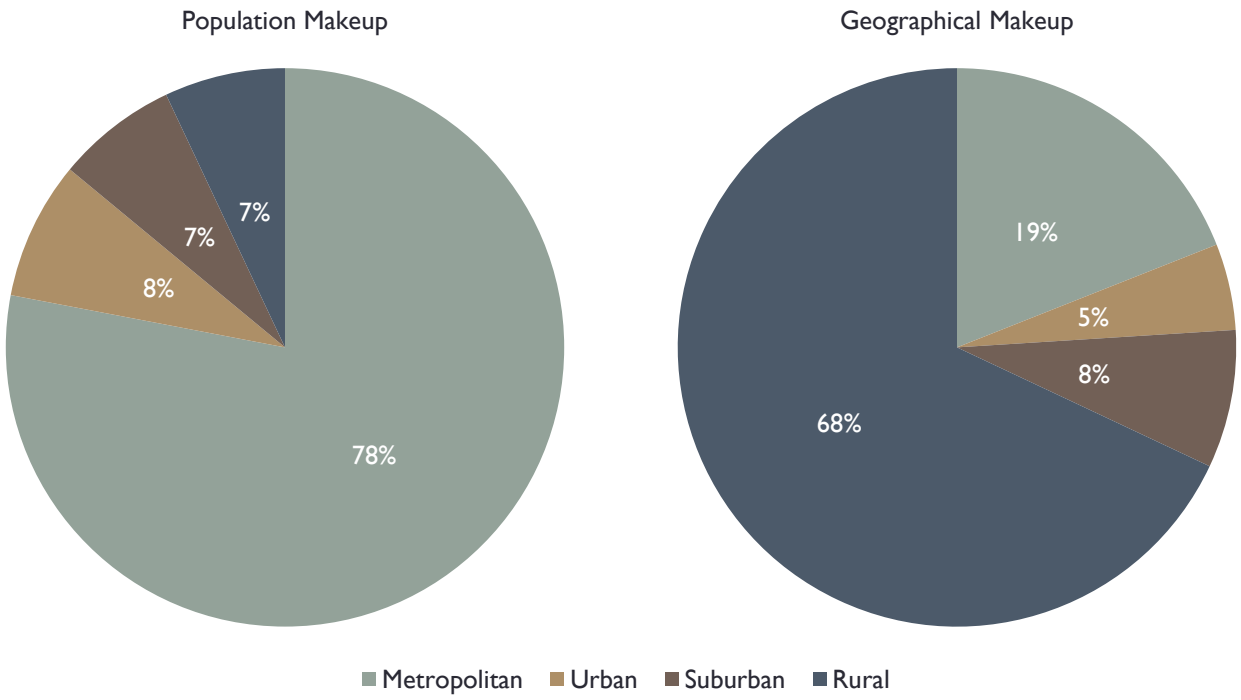


Figure 1.5 Population

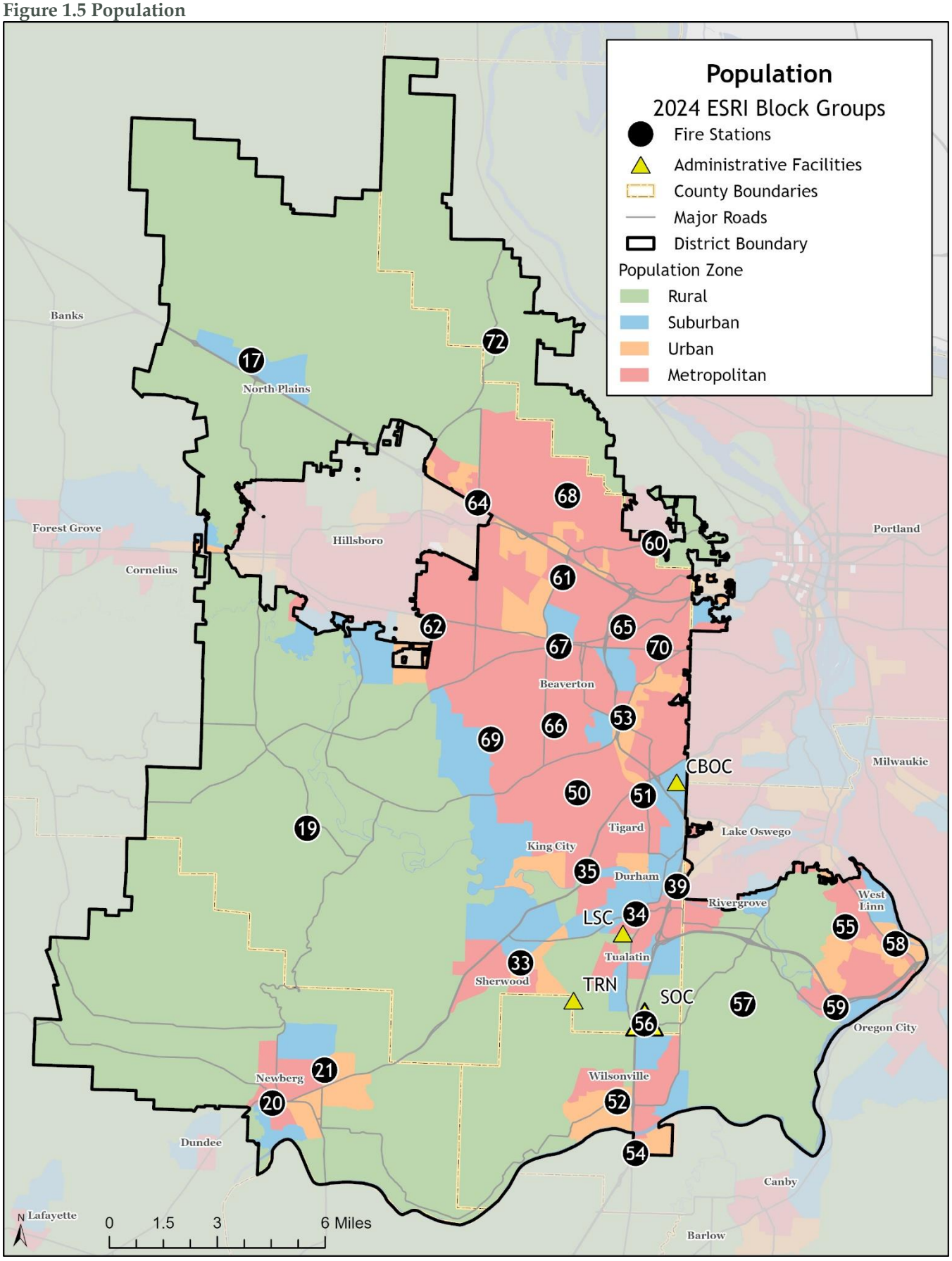


Figure 1.6 Population Ages 0–19

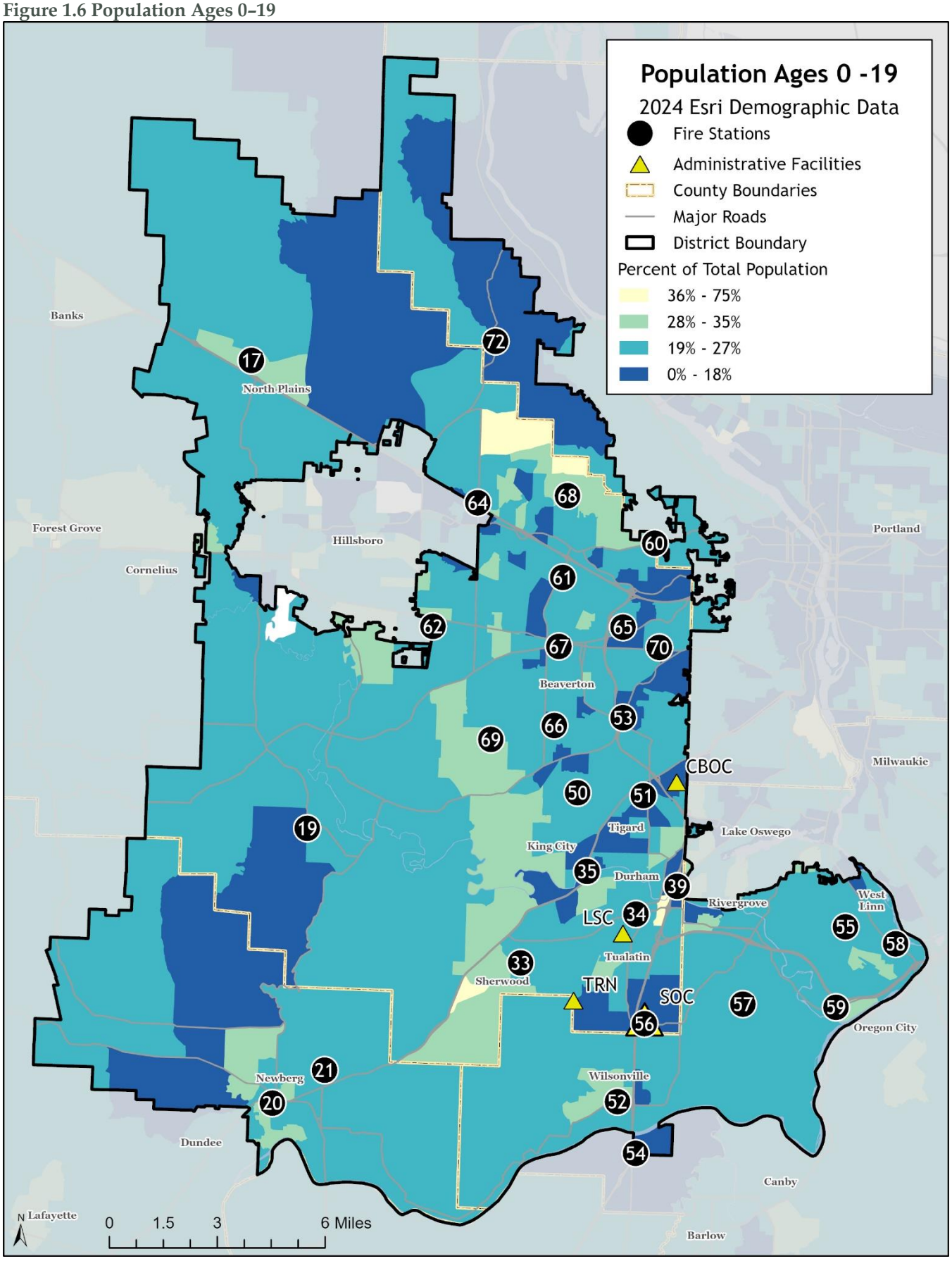


Figure 1.7 Population Ages 20–39

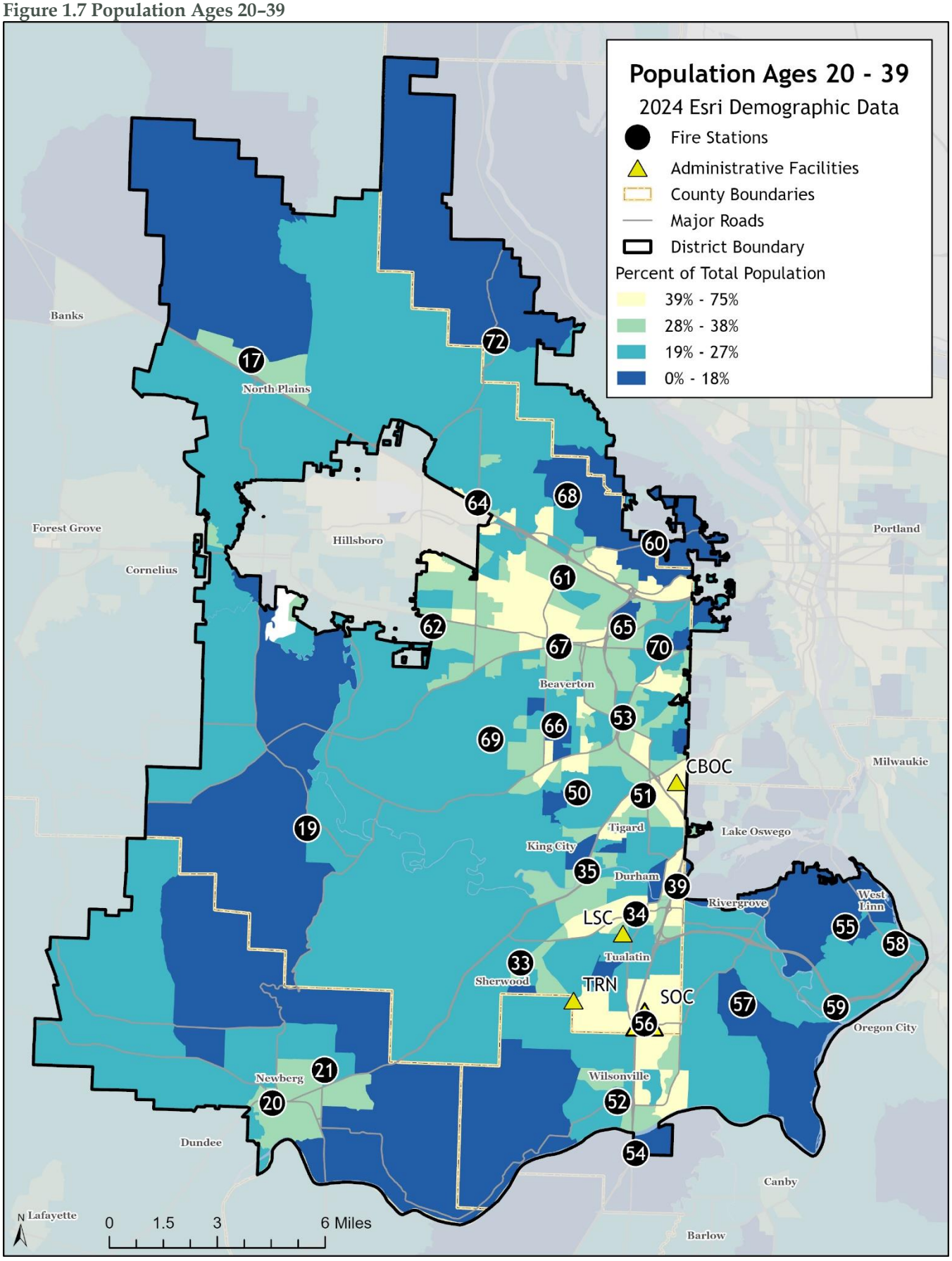


Figure 1.8 Population Ages 40–59

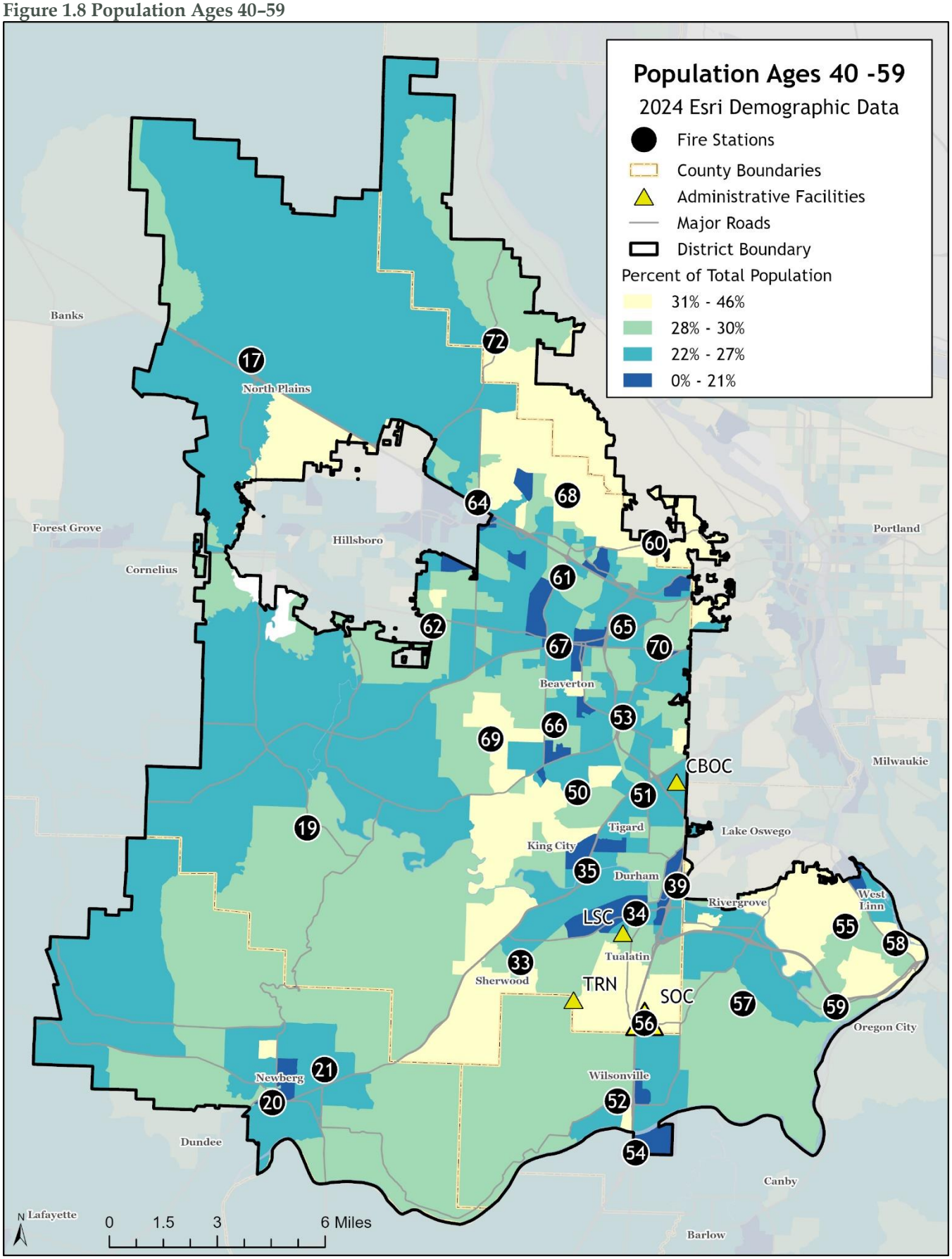


Figure 1.9 Population Ages 60+

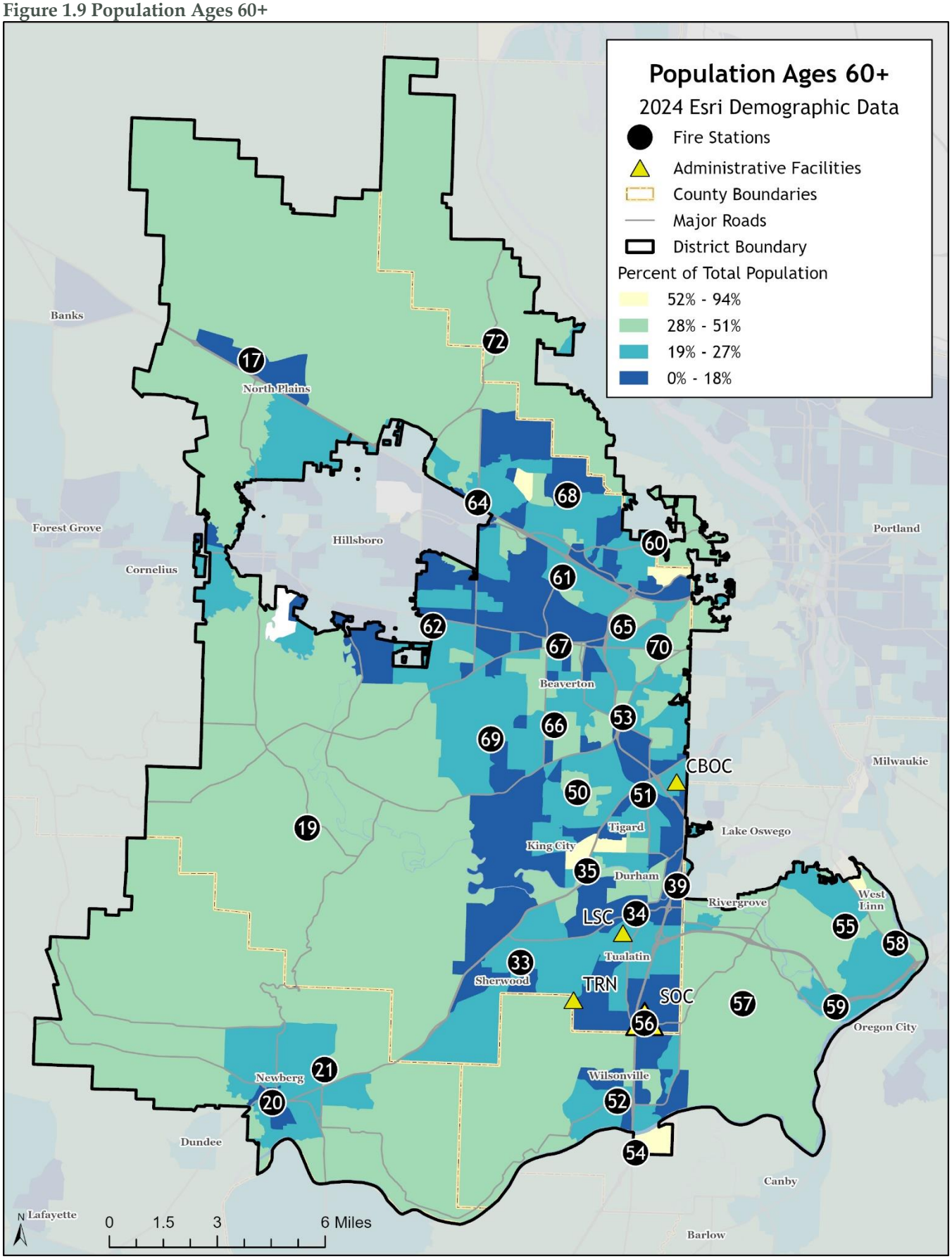


Figure 1.10 Bachelor's or Graduate Degree Age 25+

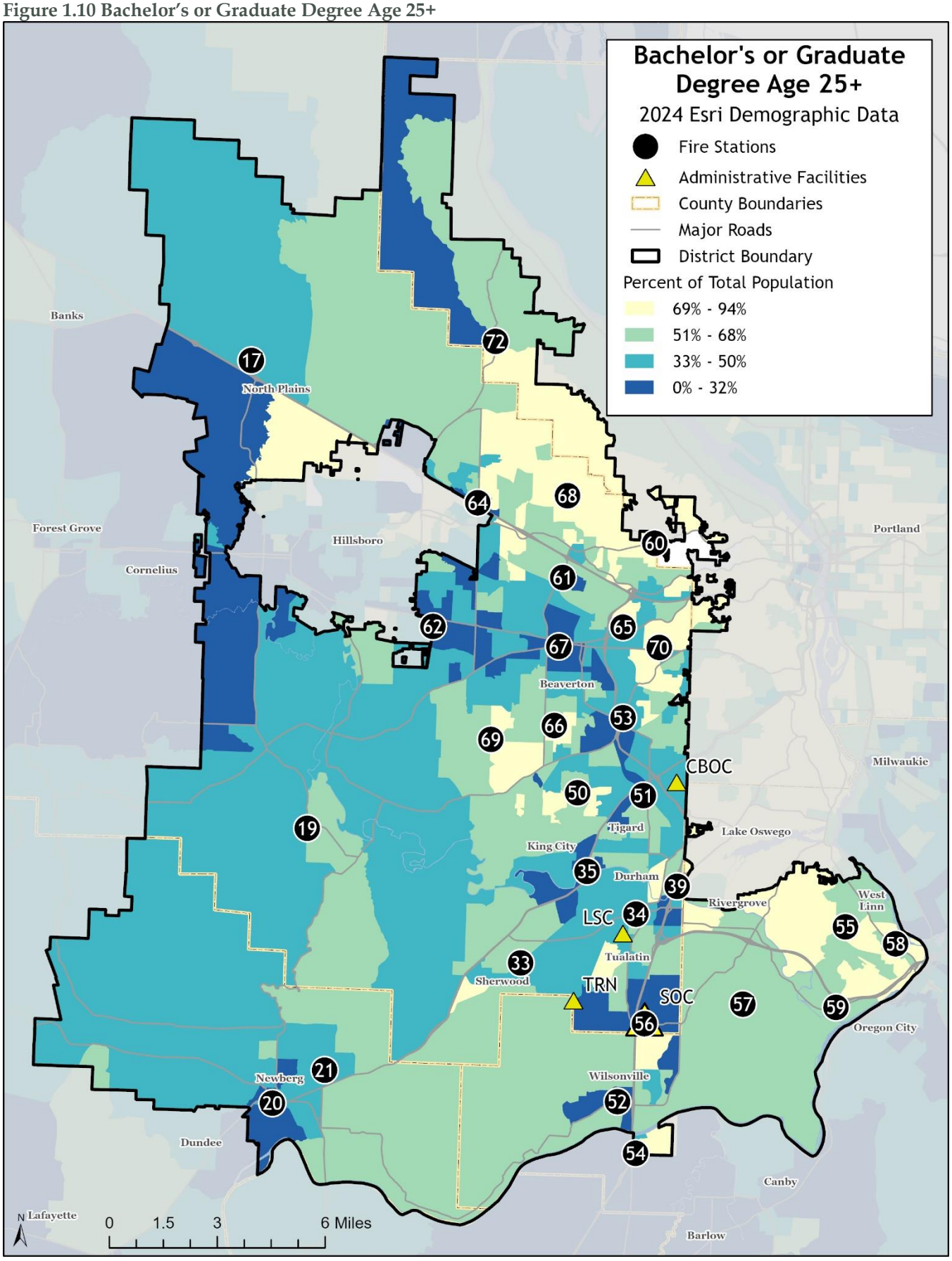


Figure 1.11 Median Age of Head of Household

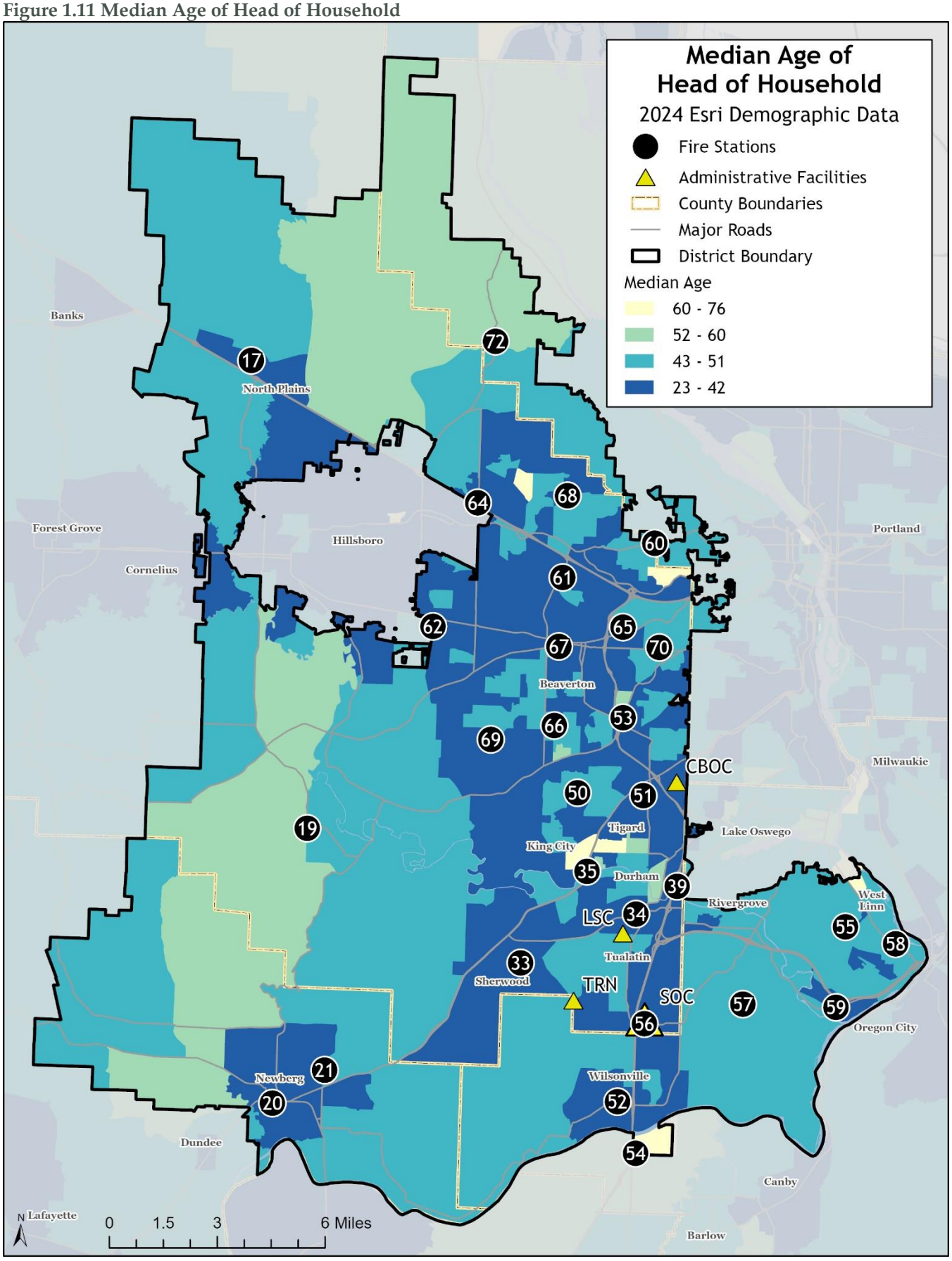
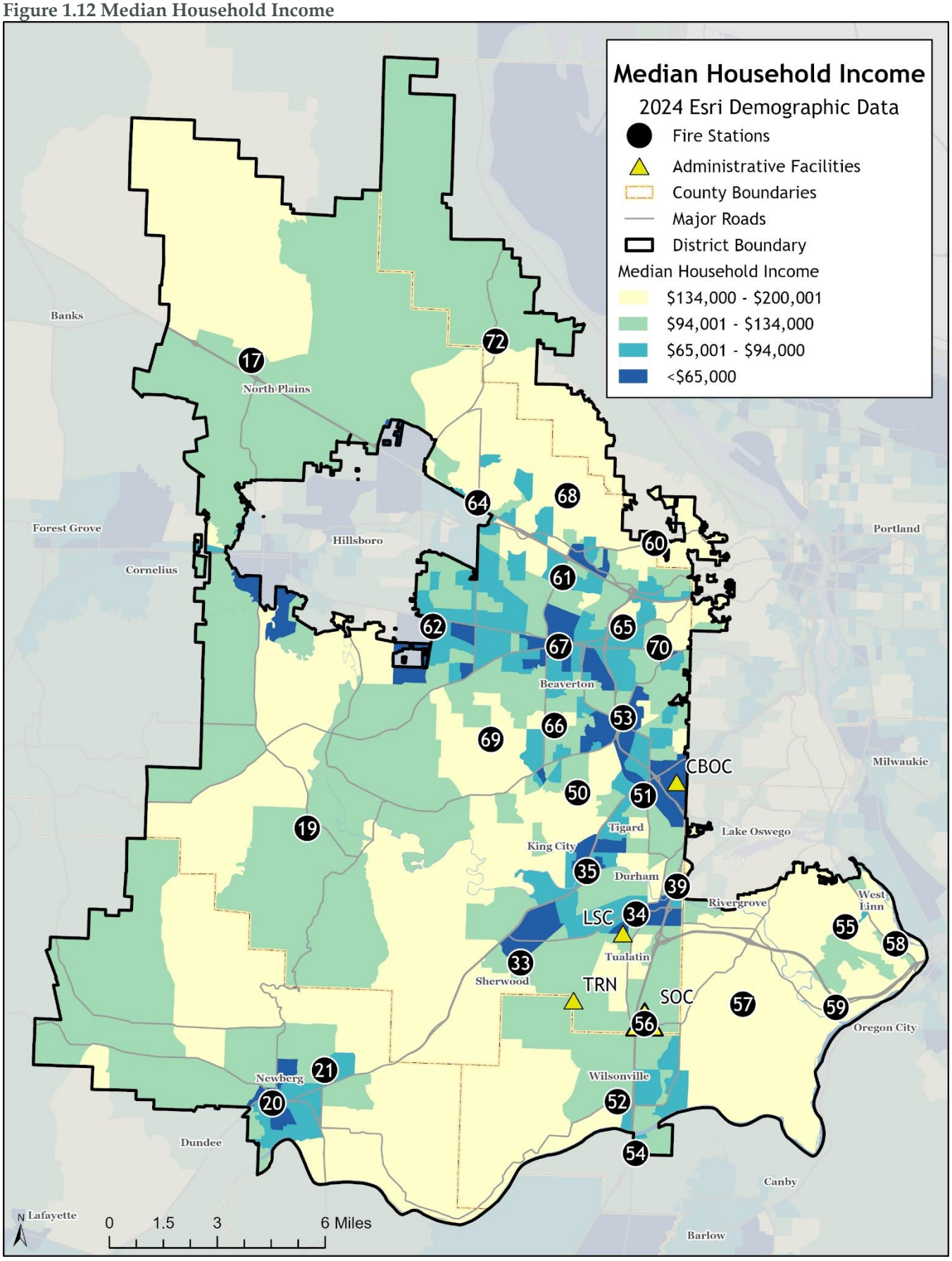


Figure 1.12 Median Household Income



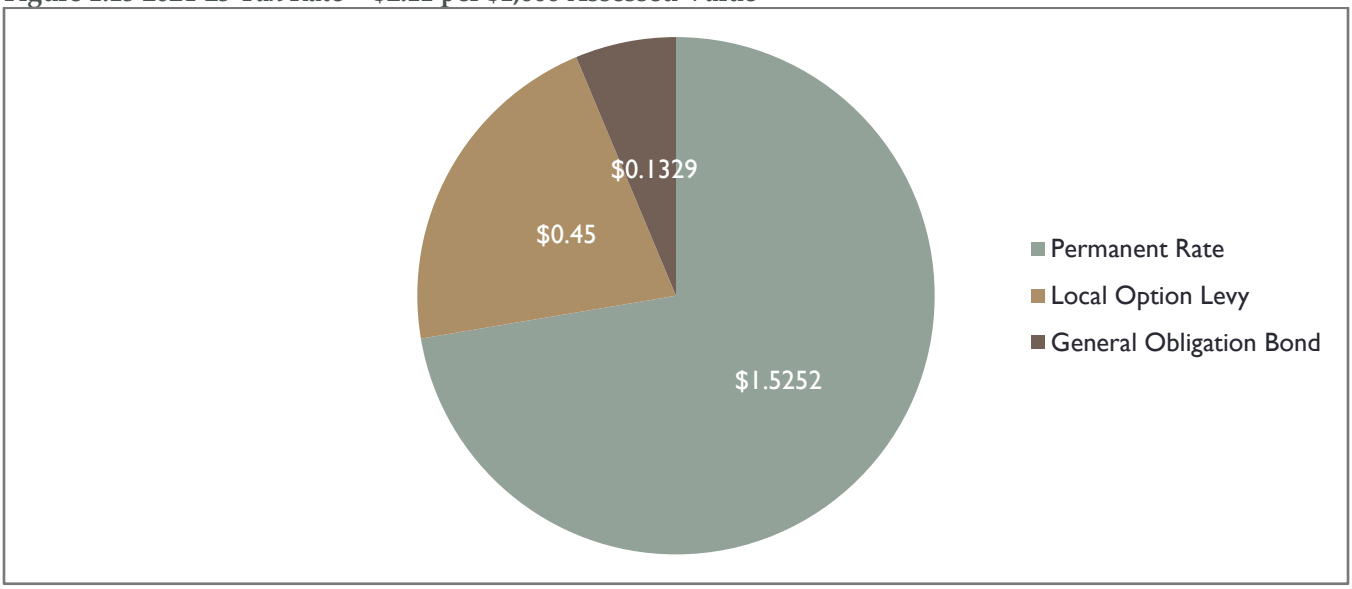
FUNDING

Property tax revenues provide almost all funding for TVF&R. Property taxes are received through a permanent tax rate ($1.5252/$1,000 of assessed value). Until 1998, the District was able to utilize its previous tax base and operating efficiencies achieved from the mergers to set aside reserve funds to fund the majority of its capital needs. However, in 1997, the Oregon voters passed Measure 50, which significantly affected the District's primary revenue source – property taxes. The measure reduced 1997-98 property tax revenues over 16.5% and restricted the growth of tax collections in future years below prior legal levels.

In addition to the permanent tax rate, the District relies upon a local option levy of 45 cents per $1,000 of AV. The local option levy was first approved in 2000 at a rate of 25 cents per $1,000 of assessed value. The levy was renewed in 2004 and 2008 at the same rate. In the May 2014 election, a replacement levy of 45 cents per $1,000 of AV was approved to support additional firefighter paramedics, apparatus, and to purchase land for new stations. A levy renewal was approved by voters in May 2019, for an additional five-year renewal to support additional firefighters and station operations. A replacement five-year levy of 69 cents, beginning in fiscal year 2025-26, was approved by voters on the May 21, 2024 election, and includes funding for additional firefighters, firefighting equipment, response units, and support personnel.

In 1998, voters overwhelmingly approved a $10 million bond to be issued in two phases to provide capital funding. In November 2006, TVF&R asked its voters for approval of a series of bond issues to be made to provide construction, station renovation, and response apparatus funding. The District received voter approval in the amount of $77.5 million of general obligation bonds authority, which funded capital projects through fiscal year 2017. In November of 2021, the District's voters approved a $122 million-dollar general obligation bond to remodel and rebuild stations, improve the training center, and purchase land and heavy apparatus.

Figure 1.13 2024-25 Tax Rate = $2.11 per $1,000 Assessed Value



ECONOMY

The District, through its broad geographic area, serves a strong part of Oregon's economic base. Washington County's unemployment rate was 3.4 percent in February 2024. The rate is 0.2 percent lower than it was in February 2023. The County's unemployment rate has shown remarkable improvement since April 2020.

By law, increases in assessed valuation of existing property are generally limited to 3 percent a year. Accordingly, growth beyond 3 percent in the District's assessed valuation must come from development within its service boundaries. Assessed value grew in 2023-24, a total of 4.62 percent. For FY2024-25 the District expects continued commercial and residential development with a forecasted 4.20 percent future growth rate. [2]

CLIMATE

Washington County's climate is moderate year-round. The western edge of the county is only forty miles from the Pacific Ocean, which provides a modified marine climate. Extreme summer and winter temperatures are moderated by the airflow moving across the county from the Pacific Ocean. The Cascade Mountains to the east of the county act as a barrier that prevents the colder continental air masses originating in the arctic areas of Canada from reaching Washington County. Occasionally, extreme temperatures can occur when the airflow comes in from the east, flowing west through the Columbia River Gorge and across the Cascade Mountains. If the east winds occur when rain is falling, the result can be freezing rain and snow in Washington County.

Much of Washington County is protected from severe wind and weather conditions by the surrounding mountain ranges. Snowfall is relatively rare with only about five days of measurable snowfall each year. The few times snow falls annually it generally melts off within one to three days. Ice can occur more frequently in higher elevations in the county.

The rainy season in western Oregon and Washington County happens between October and April, when approximately 81 percent of the yearly rainfall occurs. Most of Washington County has an average annual precipitation of between 30 and 70 inches, with parts of the Coast Range in the west receiving over seventy inches. Strong storm systems can develop at higher altitudes in the upper level flow over the Pacific during the rainy season and bring rain to the lower elevations and snow to the higher elevations.[3]

TOPOGRAPHY

The agriculturally rich Tualatin Valley, between the northern Oregon Coast Range to the west and the West Hills to the east, is the core of the District's service area. The valley ranges from 120 to 300 feet above sea level. The topography is rolling and lacks dramatic changes in elevation except in the foothills and mountains surrounding the central valley. Mountains and hills border much of the District with the Tualatin Mountains to the north, West Hills of Portland to the east, and Chehalem Mountains in the south. Cooper and Bull mountains are situated in the central area of the District.[3]

Winding through the valley is the Tualatin River and a host of tributary streams, all of which pose periodic flooding challenges. The Tualatin River flows mainly from the west to the east and leaves the valley in the southeast at West Linn in Clackamas County. Though typically minor in scope, major floods are possible as seen in 1996, which caused wide-spread damage, particularly in the southern end of the District where the Tualatin flows into the still-larger Willamette River, which serves as TVF&R's south boundary.

[3] Washington County Natural Hazard Mitigation Plan. February 2017.

The southeastern portion of the District is comprised largely of the city of West Linn. West Linn is nestled between the Willamette and Tualatin rivers with hills rising, sometimes rapidly, from the riverbanks.

The southwestern portion of the District is located in the Chehalem Valley. The valley stretches east to west and is bordered on the north by the Chehalem Mountains, the Dundee hills, and the highest point in the greater Willamette Valley: Bald Peak at 1,633 feet. The Willamette River forms the valley's southern border.

LAND USE

All public services, including emergency response, are influenced by Oregon's intentional approach to growth management. This is particularly true in the Portland metropolitan area where Metro, the regional government, has established and monitors the urban growth boundary (UGB), which distinguishes property suitable for urban and suburban development from areas designated for farm and forest use. A recent planning effort focused on identifying new urban lands with a 40-to-50-year horizon in mind. This information will help inform District decisions about where to purchase land for future stations, as well as mid- and long-range deployment plans.

Underlying the region's planning efforts is an effort to balance allocations for employment, housing, and public services, including open space. Within the general land-use categories are subcategories that correspond with common Regional Land Information System (RLIS) zoning classifications established by Metro.

Since the city of Newberg is separate from the Portland metropolitan area, it has established and continues to monitor its own UGB.

Figure 1.14 Topography

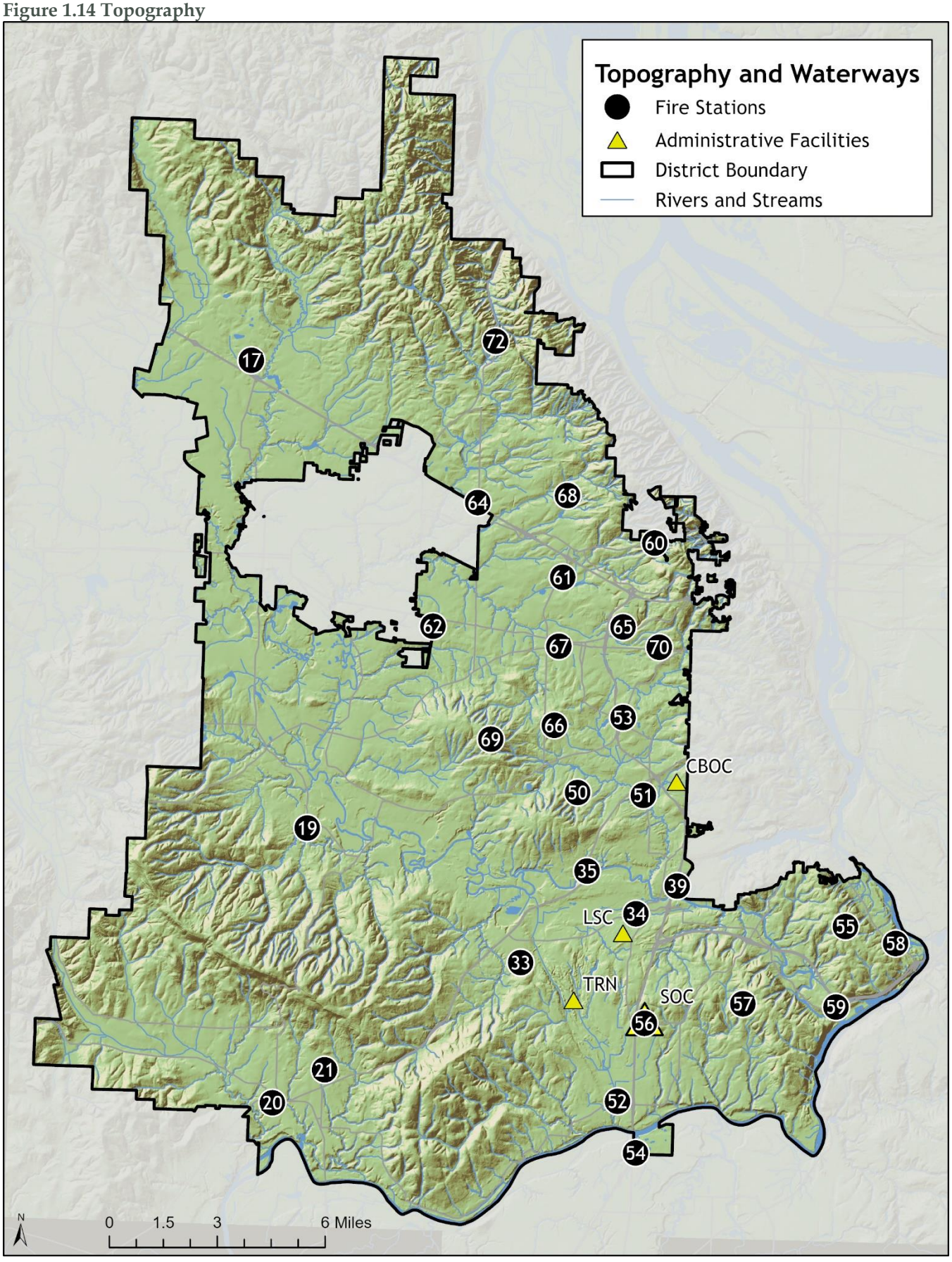


Figure 1.15 Urban Growth Boundary

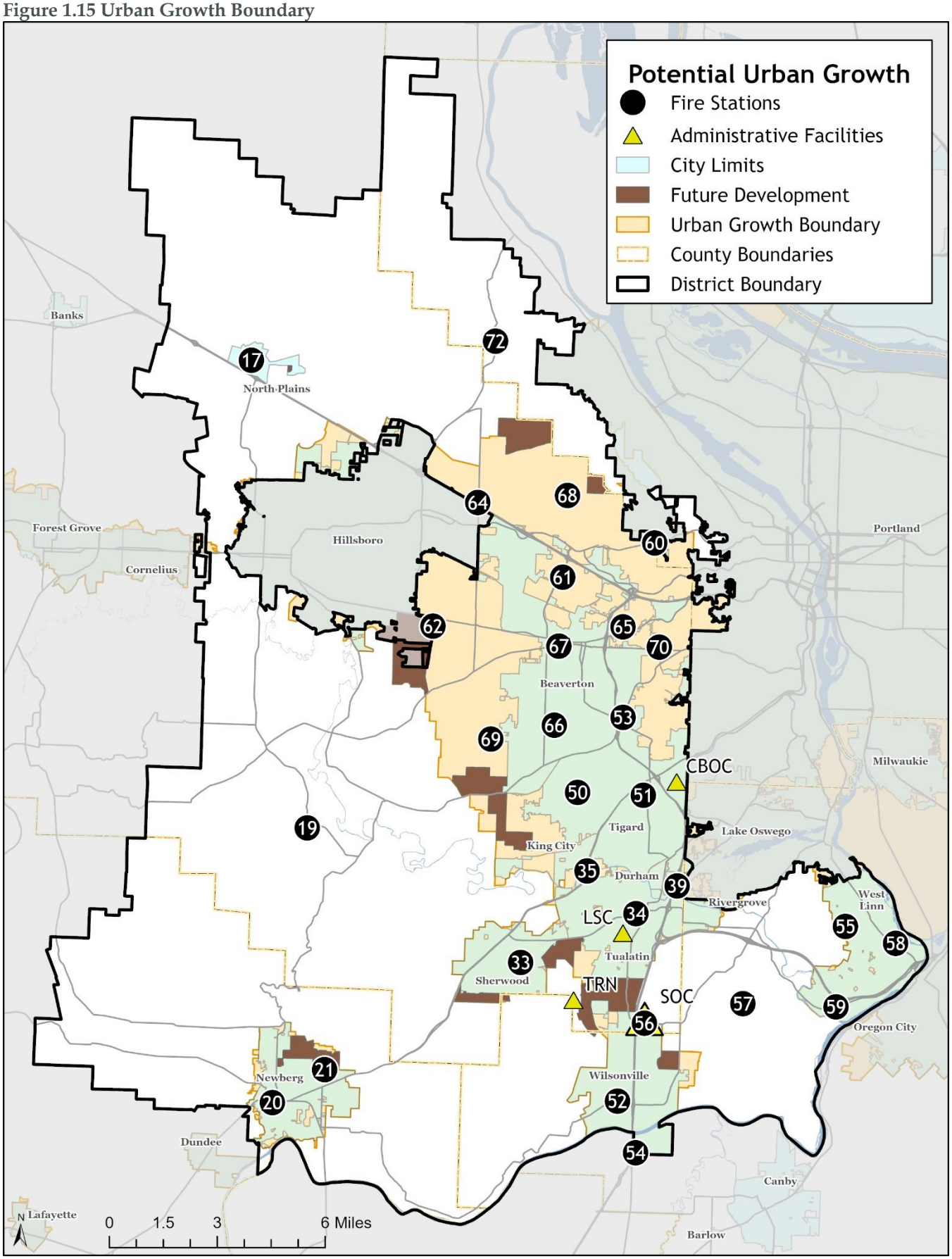
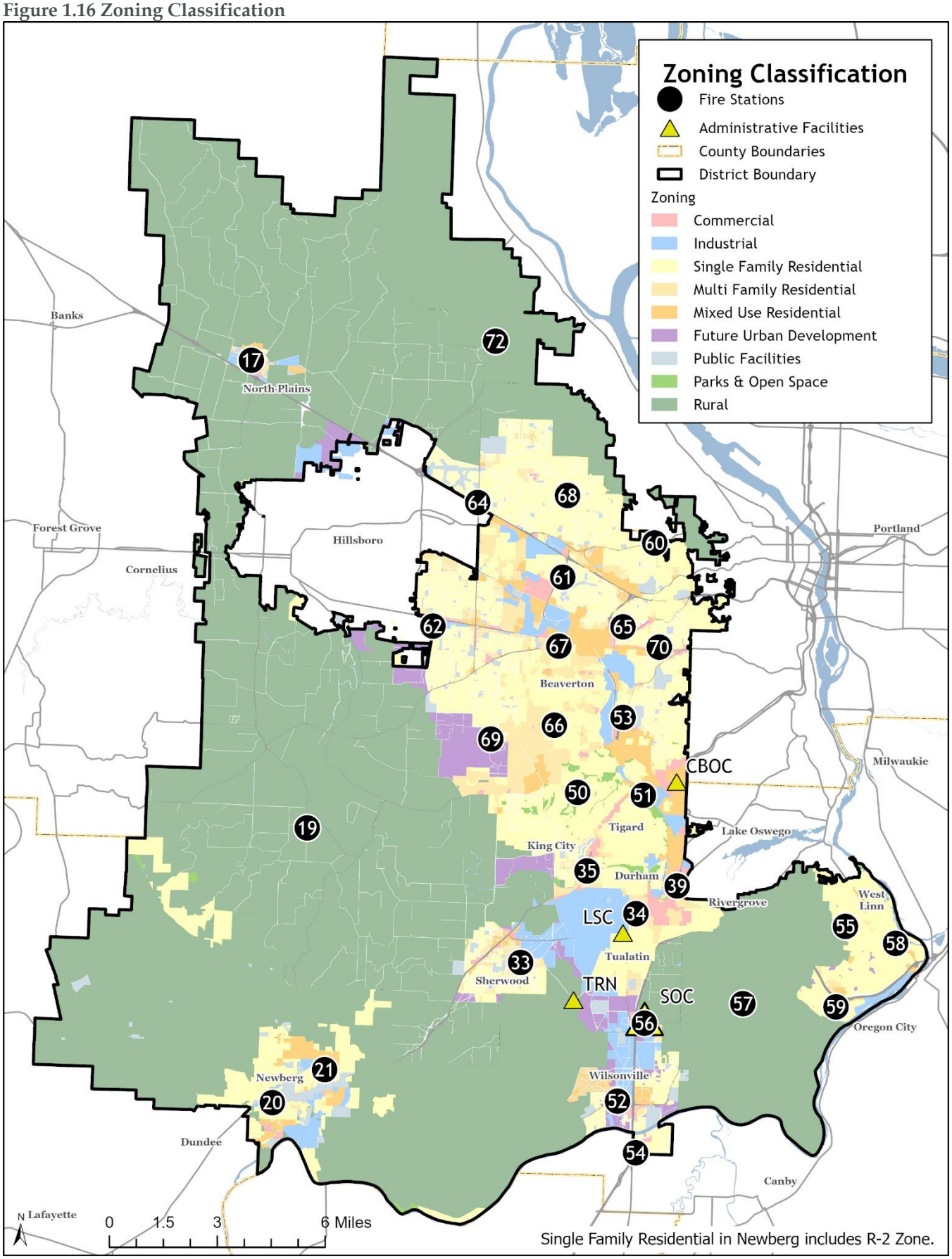


Figure 1.16 Zoning Classification



TRANSPORTATION

Due to the District's location in a metropolitan area, a network of high-volume corridors in and through Washington County, western Clackamas County, and Yamhill County includes Interstate Highways I-5 and I-205, U.S. Highway 26, and Oregon State Highways 8, 10, 43, 99W, 210, 217, 219, and 240. These freeway and highway systems and major arterials experience extended peak-hour usage.

The District's road system dates to an era when the Tualatin Valley was primarily agricultural, and farm-to-market roads were laid out west-to-east connecting to the population and shipping facilities of adjacent Portland. To this day, north-south connections are infrequent, and no established grid system exists outside some of the older downtown areas of the 11 cities served by the District. Further complicating efficient traffic flow is the presence of hilly areas, small mountains, and several waterways.

TriMet's Metropolitan Area Express (MAX) Light Rail connects Portland city center with Beaverton, Clackamas, Gresham, Hillsboro, Milwaukie, North/Northeast Portland, and Portland International Airport via sixty miles of track and 94 stations.[4] The Westside MAX Blue Line (18 miles, 32 stations) opened in 1998 and runs through TVF&R's service area connecting Hillsboro and Beaverton to Portland's city center. A portion of the three-mile long, 21 feet in diameter West Hills twin tube tunnel is also within TVF&R's service area. MAX trains are designed to carry between 322 to 344 riders depending on the train type. MAX operates every 15 minutes or better most of the day, every day; service is less frequent in the early morning, mid-day, and evening.[5]

TriMet's Westside Express Service (WES) Commuter Rail opened in 2009 and serves Beaverton, Tigard, Tualatin, and Wilsonville via 14.7 miles of track and five stations. It is Oregon's first commuter rail line and one of the few suburb-to-suburb commuter rail lines in the nation. WES's two rail cars seat a total of 154 people (74 in the engine car; 80 in the trailer), and tops out at 60 mph, with an average speed of 37 mph. WES Commuter Rail operates every 45 minutes during rush hour on weekdays.[6]

The Yamhill County Transit Area (YCTA) provides bus service in Yamhill County and connections to the adjacent TriMet and Salem-Keizer Transit systems. Route 5 offers hourly north-south service, and Route 7 hourly east-west service, within the city of Newberg on weekdays.[7]

Portland & Western Railroad (PNWR) is a short line freight railroad that branches into TVF&R's service area. Commodities transported include aggregates, chemicals, concrete, consumer goods, fertilizers, forest products, grain, non-metallic minerals, paper, petroleum products, and steel.[8]

Boating activity on the Tualatin River and the portion of the Willamette River located within District boundaries is limited primarily to recreational use.

---

[4] TriMet. *TriMet At-A-Glance.* PDF file. 2018. https://trimet.org/ataglance/trimet-at-a-glance-2018.pdf

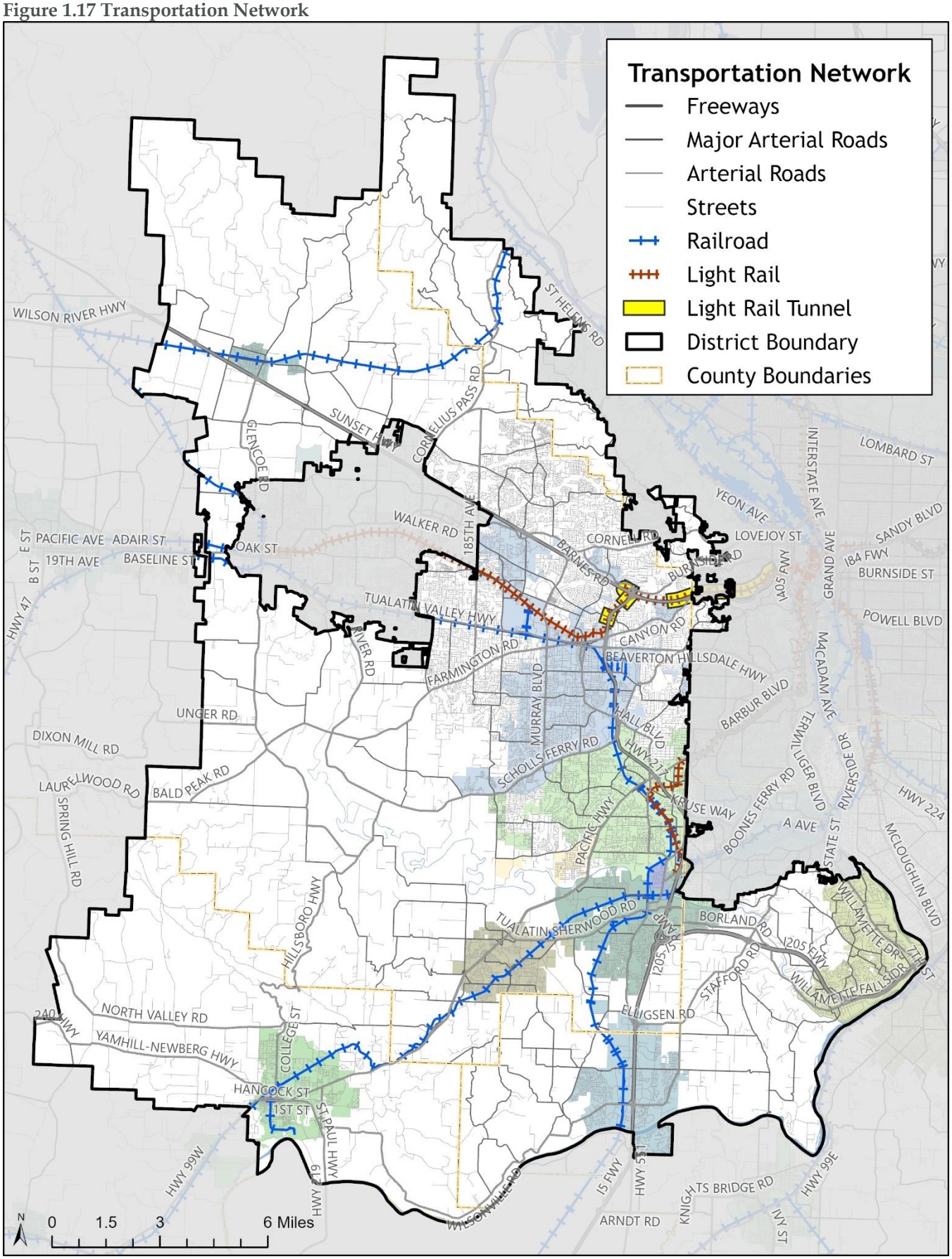
[5] "TriMet: MAX Light Rail Service." *TriMet: Public Transportation for the Portland, Oregon, Metro Area.* Web. 10 July 2011. <http://trimet.org/max/>.

[6] "TriMet: WES Commuter Rail Service." *TriMet: Public Transportation for the Portland, Oregon, Metro Area.* Web. 10 July 2011. <http://trimet.org/wes/>.

[7] Kittelson & Associates, Inc. *Coordinated Public Transit- Human Services Transportation Plan: Yamhill County Transit Area*. PDF file. November 2016. www.co.yamhill.or.us/sites/default/files/CTP_YCTA_20161109%20Final.pdf.

[8] "Portland & Western Railroad." *Home.* Web. 29 March 2019. <http://www.gwrr.com/operations/railroads/north_america/portland_western_railroad_inc>.

Figure 1.17 Transportation Network



SECTION 2: TERMINOLOGY

To fully understand the components of the District's Standards of Cover, it is critical to first understand the terminology.

RESPONSE MODE

Code 1: Non-emergency response mode; lights and sirens are not used, and traffic laws are followed.

Code 3: Emergency response mode; faster response, and lights and sirens are used.

All incidents (Code 1 and Code 3) are included in incident count analysis (e.g., incident summaries, incident count by month, day-of-week, hour-of-day, automatic aid responses received/provided).

Only Code 3 incidents are utilized for response performance analysis (e.g., alarm processing, turnout, travel, total response).

INCIDENT TYPES

Dispatch Call Type vs. Situation Found: The Dispatch Call Type is determined by the dispatcher based upon the information provided by the 9-1-1 caller. The Situation Found is determined by the TVF&R incident report author based upon the actual situation emergency personnel found on the scene when they arrived. The Situation Found is not always the same as the Dispatch Call Type.

The National Fire Incident Reporting System (NFIRS) provides standard Incident Types for fire department reporting (Situation Found). Incident Types are organized in a series as outlined in Figure 2.1.

Figure 2.1 NFIRS Incident Type Series

Series	Heading	Examples
100	Fire	structure fire, vehicle fire, natural vegetation fire, outside rubbish fire, special outside fire, crop fire
200	Overpressure Rupture, Explosion, Overheat (No Fire)	overpressure from steam, air, gas with no fire; explosions with no fire
300	Rescue and Emergency Medical Service (EMS) Incidents	medical assist, EMS, vehicle collisions, search, extrication, water rescue, electrical rescue
400	Hazardous Condition (No Fire)	combustible/flammable spills and leaks, chemical release, radioactive condition, electrical wiring/equipment problem, biological hazard, bomb removal, attempted burning
500	Service Call	person in distress, water problem, smoke/odor problem, animal problem/rescue, public service assistance, unauthorized burning, move-up
600	Good Intent Call	cancelled en route, no emergency found, controlled burning, steam/gas mistaken for smoke
700	False Alarm and False Call	malicious/mischievous false alarm, bomb scare, alarm system/detector malfunction, unintentional system/detector operation
800	Severe Weather and Natural Disaster	earthquake assessment, flood assessment, windstorm, lightning strike
900	Special Incident Type	civilian complaint

NFIRS does not provide series definitions for Dispatch Call Types. To compare and analyze Dispatch Call Type vs. Situation Found information, staff organizes the Dispatch Call Types into the NFIRS series.

Figure 2.2 Dispatch Call Types Categorized by NFIRS Series

Series	Heading	Dispatch Call Type
100	Fire	bark dust fire, barn fire, boat fire, brush fire, car fire, chimney fire, commercial fire, commercial fire alarm, misc. fire, residential alarm, residential fire, school fire alarm, truck fire
200	Overpressure Rupture, Explosion, Overheat (No Fire)	n/a
300	Rescue and Emergency Medical Service (EMS) Incidents	abdominal pain, aircraft crash, aircraft incident, allergic reaction, animal bites/attacks, assault physical, assault weapons, back pain, behavioral health, bleeding problem, breathing problem, burns, CPR – cardiac arrest, chest pain/heart, choking, diabetic, drowning/diving/scuba, falls, headache, heat/cold exposure, hit and run – injuries, hit and run – unknown injury, industrial accident, marine assist non-imminent, marine rescue emergency, mass casualty incident, mass casualty weapons, medical alarm, medical transport (interfacility transfer), overdose/poison, pregnancy/childbirth/miscarriage, seizures, send medical, shooting, sick person, suicide attempt, CVA – stroke, technical rescue, toxic exposure, traffic accident – injury, traffic accident – unknown injury, train crash (+MAX), trauma, unconscious/fainting
400	Hazardous Condition (No Fire)	bomb threat, hazmat incident, natural gas leak (smell only)
500	Service Call	burn – illegal burn, lift assist, misc. non fire (includes odor investigation), public assist, service (includes spill, water problem), smoke in the area, standby/move-up
600	Good Intent Call	n/a
700	False Alarm and False Call	n/a
800	Severe Weather and Natural Disaster	n/a
900	Special Incident Type	n/a

RESPONSE PERFORMANCE ANALYSIS

Planning Zone: A geographical area used to assess risk and measure response performance. These zones are further explained in Section 11.

Benchmark: Performance objectives outlined by the National Fire Protection Agency (NFPA) standard 1710, *Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments*. The District uses NFPA 1710 objectives as a benchmark measurement for performance as outlined in Section 11.

TVF&R Baseline: Performance objectives based upon retrospective data that were achievable given the physical resources, staffing, and levels of funding of the analyzed time period. Internal factors (e.g., deployment changes, resources, staffing, funding) and external factors (e.g., economy, population, transportation networks, development, weather, pandemics) can influence these objectives; therefore, TVF&R baselines are reviewed annually to understand the impacts of those factors and implement changes as needed in an effort to maintain or improve those objectives.

Distribution: The geographic location of resources. Units must be placed (distributed) in a manner that ensures rapid deployment of the first-due unit to minimize and mitigate emergencies.

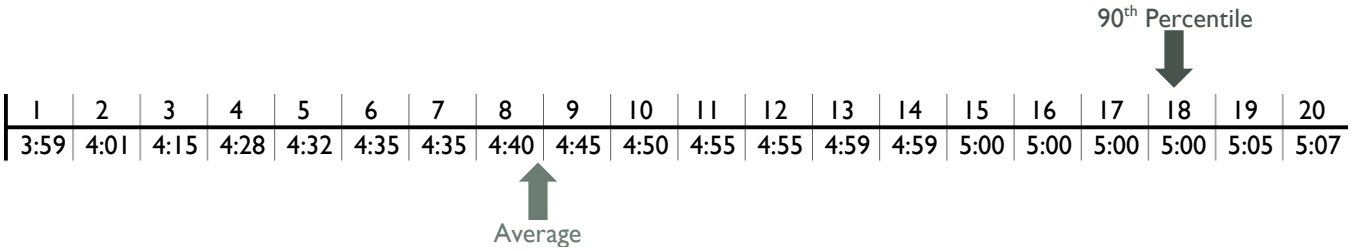
Concentration: The arrangement of multiple resources (close enough together) that allow the establishment of a prescribed Effective Response Force (ERF) to assemble at the scene and stop the escalation/forward progress of the emergency.

Distribution is about time and distance while concentration is about calls for service and risk level being protected.

Fractal: Fractal reporting is a methodology by which response times are sorted from least to greatest, and a "line" is drawn at a certain percentage of the calls to determine the percentile (for the purposes of this document, the 90th percentile is used). The point at which the "line" crosses the 90th percentile is the fractal time performance.

What about averages? Averaging calculates response times by adding all response times together and then dividing the total number of minutes by the total number of responses. Unfortunately, measuring and reporting average response times is inadvisable because one-half of the public may receive the required response time, while the other half do not.

For example: The following times represent the travel times of 20 emergency incidents for Agency X.

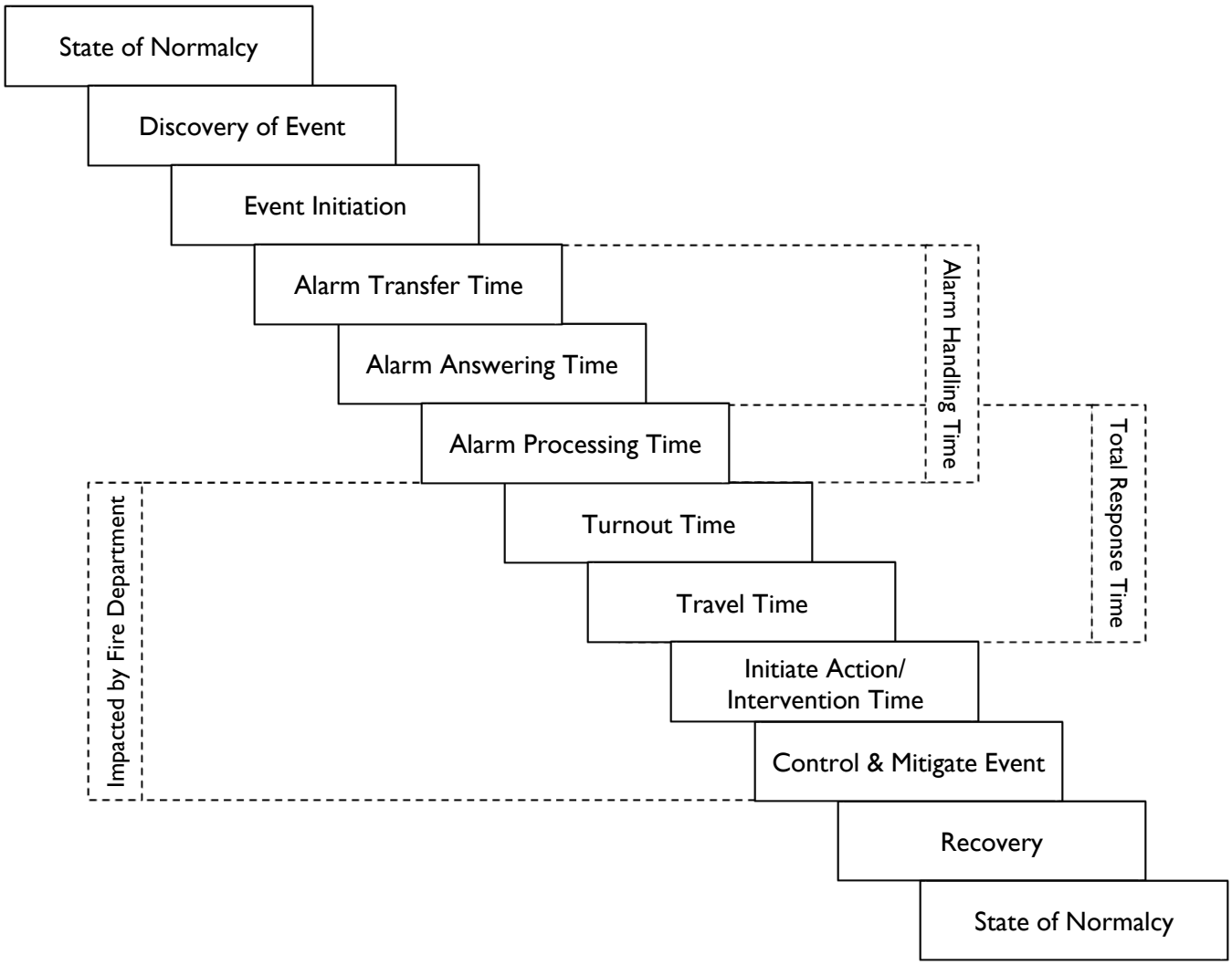


Agency X has set a travel time objective of 5 minutes at the 90th percentile. The agency analyzes its twenty incidents to determine its actual performance at the 90th percentile. When the line is drawn at the 90th percentile of the incidents, it is drawn at the 18th incident. In this example, the performance at the 90th percentile is 5 minutes, or in other words, 90 percent of the incidents were responded to in 5 minutes or less.

Given this same set of incidents, Agency X could report its average travel time is 4 minutes 44 seconds. But that statement only represents just less than 50 percent of the total incidents…what about the other 50 percent?

CASCADE OF EVENTS

Figure 2.3 Cascade of Events



Discovery of Event: The point at which the public makes the decision to seek emergency assistance.

Event Initiation: The point at which the public, by human or technologic means (e.g., 9-1-1 call or automatic alarm signal), activates the emergency response system.

Alarm Transfer Time: The time interval from the receipt of the emergency alarm at the public safety answering point (PSAP) until the alarm is first received at the communication center.

The District's dispatch center, Washington County Consolidated Communications Agency (WCCCA), receives alarms directly in Washington County; therefore, the alarm transfer time is zero.

The 9-1-1 calls originating in West Linn, Clackamas County, or Yamhill County are routed to Lake Oswego Communications (LOCOM), Clackamas County Department of Communications (C-COM), or Yamhill Communications Agency (YCOM), respectively. Within these areas of the District, once the calls are received by these agencies, and a fire or medical response is confirmed, the call is transferred to WCCCA for appropriate dispatch of District resources.

Columbia 9-1-1 Communications District (C911CD), LOCOM, C-COM, and WCCCA all use the same AVL-based CAD which allows for a more regional approach to emergency dispatch and a more seamless transfer of data.

Alarm Answering Time: The time interval from the receipt of the call at dispatch until the call is answered.

ANI/ALI information is captured when a call is received at the dispatch center. Automatic Number Identification (ANI) corresponds to a caller's seven-digit telephone number. Automatic Location Identification (ALI) provides an address display of the caller, including the caller's address, community, state, type of service, and if a business, the name of the business.

Alarm Processing Time: The time interval from the acknowledgement of the call in the CAD system by the dispatch call taker to the dispatch of emergency responders.

WCCCA records two, time components that make up the alarm processing time: the call processing and dispatch time. Call processing is the time interval from the acknowledgement of the call in the CAD system by the call taker to the transfer of the call to the dispatcher. Dispatch is the time interval from the receipt of the call by the dispatcher to the dispatch of emergency responders (Figure 2.4).

Alarm Handling Time: The combined time of the alarm transfer, answering, and processing times.

Turnout Time: The time interval from the receipt of the call by emergency responders (tones ringing at the station) to the emergency responders going to the incident.

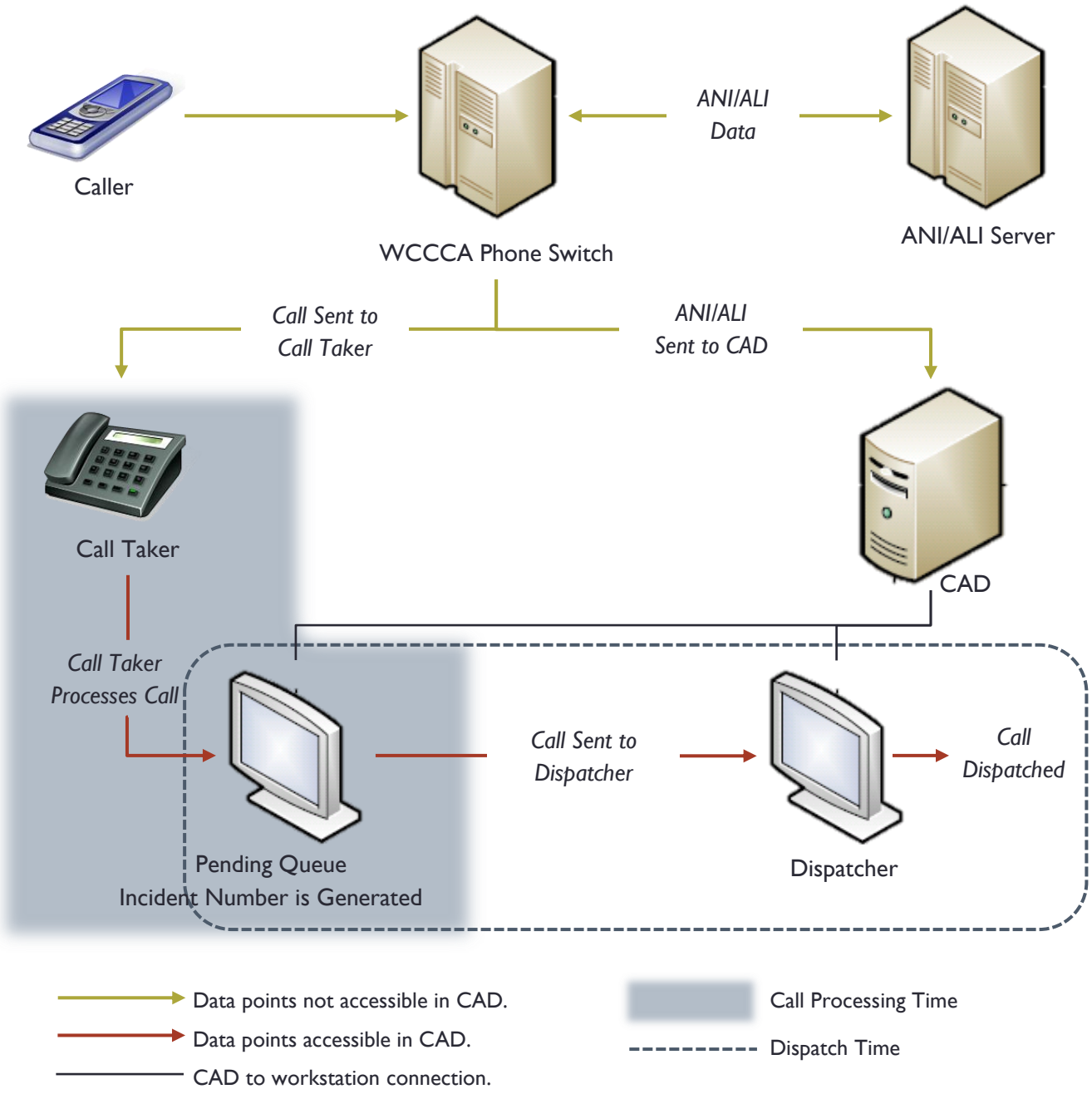
Travel Time: The time interval that begins when emergency responders are en route to the emergency incident and ends when an emergency responder arrives at the scene.

Response Time: The combined time of the turnout and travel times.

Total Response Time: The combined time of the alarm processing, turnout, and travel times (the point the 9-1-1 call is acknowledged in CAD to the arrival of emergency responders).

As defined above, total response time includes the performance of an agency's dispatch center and factors in the alarm processing time. When a member of the public calls for emergency assistance, their emergency has already started, and their performance expectations begin as soon as they pick up the phone and dial 9-1-1. Therefore, setting performance objectives based upon total response time more accurately reflects the needs and expectations of an agency's communities and residents.

Figure 2.4 WCCCA Processing



Call Processing Time + Dispatch Time = Alarm Processing Time

SECTION 3: DEPLOYMENT

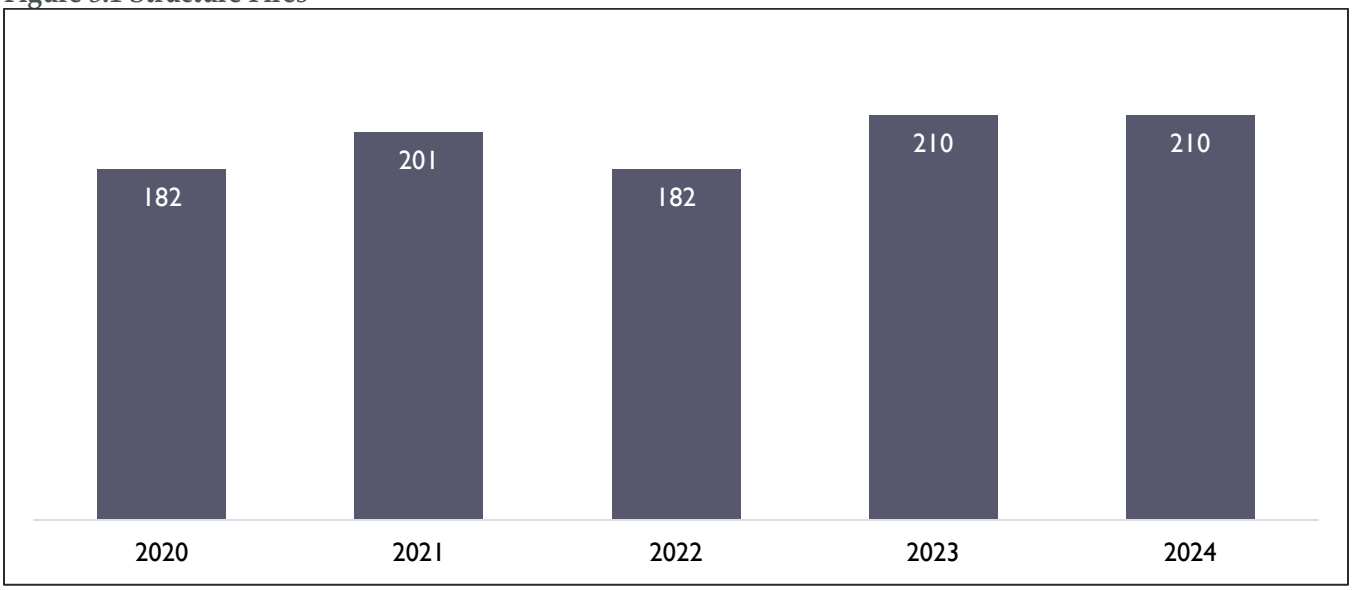
GENERAL SERVICES

Fire

All stations' engines, trucks, or heavy rescue fire apparatus are staffed with four-person crews. Research findings support the notion that four-person staffing allows for safer and more efficient operations at emergency scenes and decreases the time needed to assemble the appropriate concentration of resources at an emergency incident.[9]

Fire apparatus are stocked with numerous pieces of equipment for fire suppression. In addition to basic fire equipment (e.g., hose, ladders, self-contained breathing apparatus [SCBA], axes, chainsaws), each unit carries a thermal imaging (TI) camera allowing personnel to "see" heat in dark or smoke-filled atmospheres whether it be a victim or smoldering fire inside a wall.

Figure 3.1 Structure Fires



[9] National Institute of Standards and Technology. *Report on Residential Fireground Field Experiments.* Rep. 2010. Print.

Emergency Medical Services (EMS)

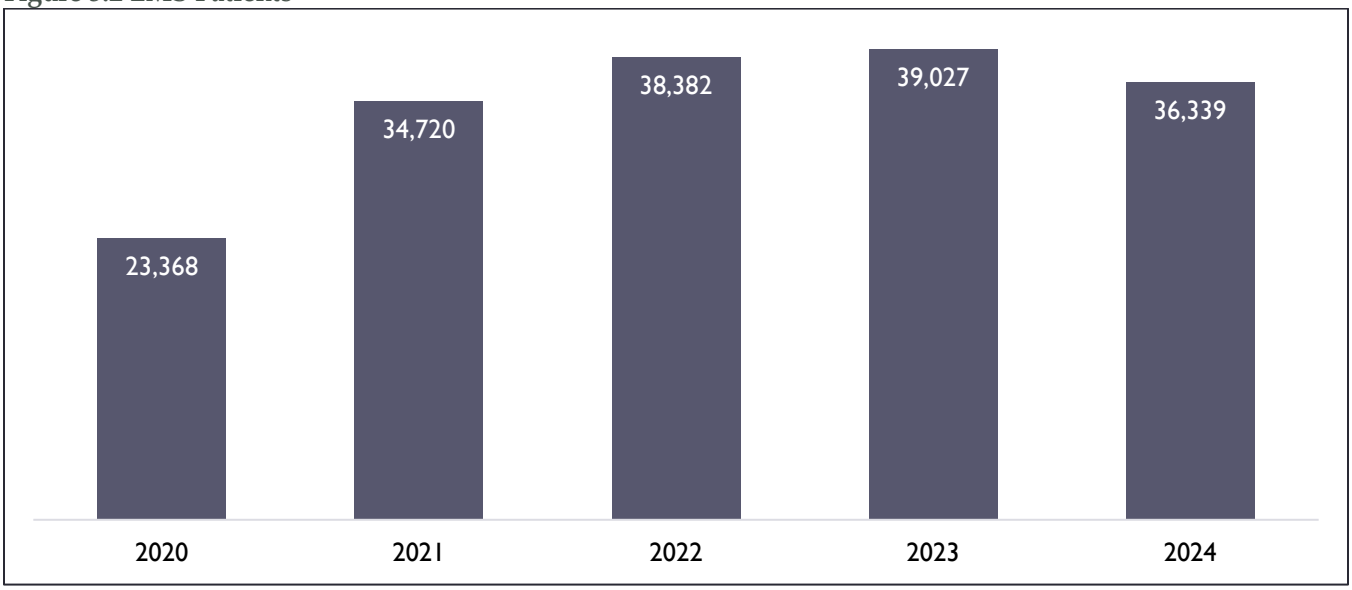
All TVF&R's firefighters are licensed EMS providers. Each emergency response unit is staffed with at least one paramedic capable of administering advanced life support (ALS) treatment. TVF&R EMS providers operate under the supervision of a medical director utilizing the "Metro Regional EMS Consortium Patient Treatment Protocols."

Apparatus have a specific complement of medical equipment based on the apparatus type, and medical kits are organized in the same manner. This ensures regardless of where an individual works, locating necessary equipment is not a challenge during life-threatening emergencies. Twelve-lead cardiac monitor/defibrillators are standard equipment on all frontline apparatus. These monitors help diagnose cardiac emergencies requiring immediate hospital intervention and can provide lifesaving electrical therapy to patients in cardiac arrest. The electrocardiogram (ECG) is transmitted to the receiving facility along with crew findings to proactively mobilize hospital treatment teams who meet the patient upon arrival at the emergency department. ECG information is also transmitted daily to the District's EMS Division as part of the quality improvement process.

Most frontline transport units have power-load systems. This mechanical system, consisting of a battery-powered cot (gurney) and cot fastening system, improves crew and patient safety by supporting the cot through the loading and unloading process. All apparatus carry a stair chair with a 500-pound weight capacity enabling two personnel to move a patient up or down stairs. This equipment reduces strenuous lifting personnel face daily and can assist to reduce crew injuries due to lifting. To aid in the transfer of bariatric patients, the District maintains a bariatric ambulance cot with a 1,600-pound weight capacity and a winch/ramp system any medic can utilize.

Five transport units and one engine are also equipped with a LUCAS device: a battery-powered mechanical CPR machine developed to provide consistent and high-quality CPR for patients experiencing cardiac arrest. The device allows continuous CPR to be performed on the patient even while moving the patient in tight areas or up and down stairs and frees up EMS providers to perform other critical lifesaving actions. LUCAS devices also provide increased safety for TVF&R's crews since personnel are no longer required to stand in the back of moving transport units to perform hands-only CPR.

Figure 3.2 EMS Patients



Advanced Practice Community Paramedic (APCP)

The District's Advanced Practice Community Paramedic (APCP) Team comprises 14 personnel, with five full-time members at Stations 20, 34, and 53, responding in Cars 20, 34, and 53, respectively, and nine adjunct members who backfill positions when needed. The team has no minimum staffing requirements.

The APCP Team's mission is structured around three focus areas: *Respond*- These units respond on low acuity call types to keep heavy assets available for more critical calls. Additionally, they provide supplementary support in specific high-acuity scenarios. *Reduce*- Provide the appropriate unit/personnel to assist low-acuity patients in accessing resources to address their needs, reducing unnecessary transports to the Emergency Department. *Redirect*- The APCP will act as a liaison to assist patients in navigating and accessing social/medical services in the community TVF&R serves. The APCP Team actively engages community members demonstrating a heightened utilization of the 9-1-1 system or possessing the potential for such usage.

All members must hold a Paramedic license and undergo extensive training encompassing Mobile Integrated Health, community paramedicine, medical sociology, and advanced practice in prehospital medical care.

Transport Services

TVF&R has three rescues and three medic units that are licensed transport ambulances with the state of Oregon. The only difference between these units is the minimum staffing. The minimum staffing of a rescue is two firefighter/paramedics, while the minimum staffing of a medic unit is two paramedics. Rescues and medic units provide emergency response to a specific call set (refer to Figures 3.22 and 3.23).

In Washington County, Metro West Ambulance held the 9-1-1 service contract for patient transport until August 1, 2023 when the 9-1-1 service contract for patient transport was awarded to American Medical Response (AMR). The District's rescue and medic units are primarily used to provide initial assessment and care to patients before AMR arrives for transport. In times of high system demand and low county ambulance levels, TVF&R's rescue and medic units may be utilized for patient transport.

In Clackamas County, AMR holds the 9-1-1 service contract for patient transport. Since 2014, TVF&R has had agreements with AMR to provide transport units to support their operation in high-demand periods. The current agreement provides one 24-hour unit for ambulance transport services primarily to the city of Wilsonville, and other parts of Clackamas County as requested.

The District is responsible for transport services in Yamhill County Ambulance Service Area (ASA) 1. Newberg Fire Department provided services to this ASA since 1994 (prior to TVF&R annexation), which the District continues to serve, including both emergency incident transport as well as interfacility transfers (the movement of a patient from one health care facility to another).

TVF&R also provides contracted medical standby for community events in Washington, Clackamas, and Yamhill Counties throughout the year.

Figure 3.3 Washington County Transports

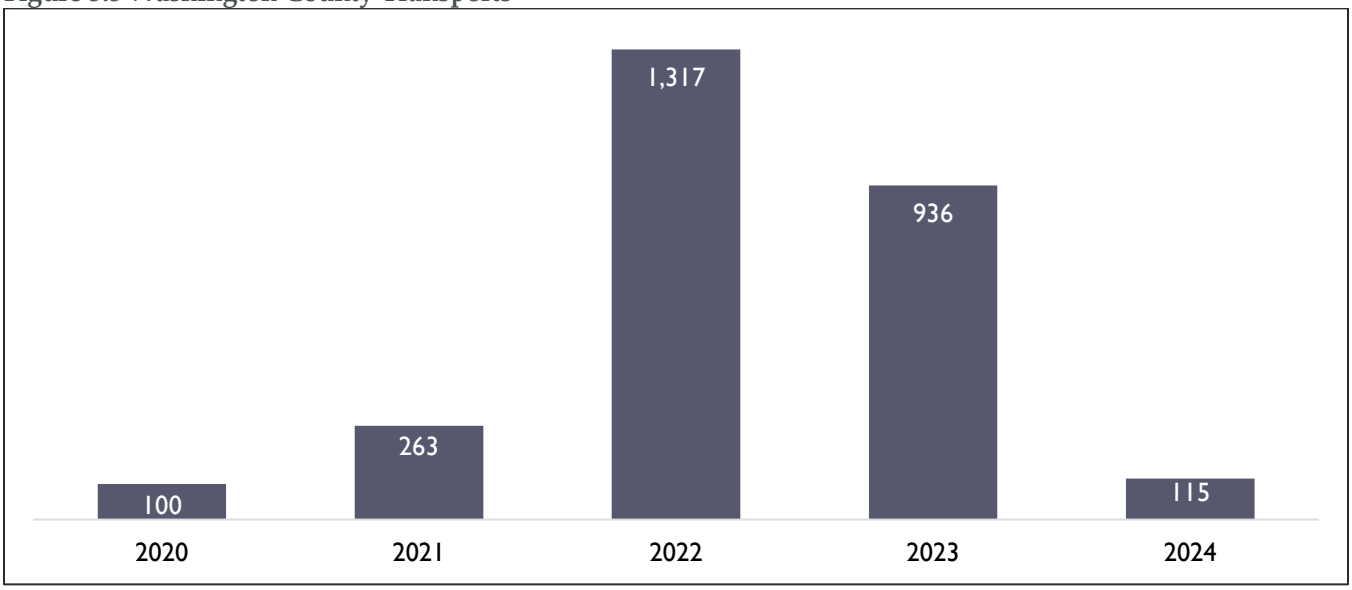


Figure 3.4 Washington County Transports by Unit, Emergency Incidents

Unit	2020	2021	2022	2023	2024	Total
MED20	2		2			4
MED21	2	3	10	5		20
MED35	52	174	485	289	54	1,054
MED52			5			5
MED53			57	9	1	67
MED56			21	3		24
MED61	10	33	69			112
MED64			52	228	1	281
MED66			73	89		162
MED95			68			68
MED96		1	42			43
MED97			68			68
MED98			15			15
R20		1	1		3	5
R52	11	19				30
R53	23	14	27			64
R54		18	46	19	4	87
R70			276	294	41	611
Total	100	263	1,317	936	104	2,720

Figure 3.5 Clackamas County Transports

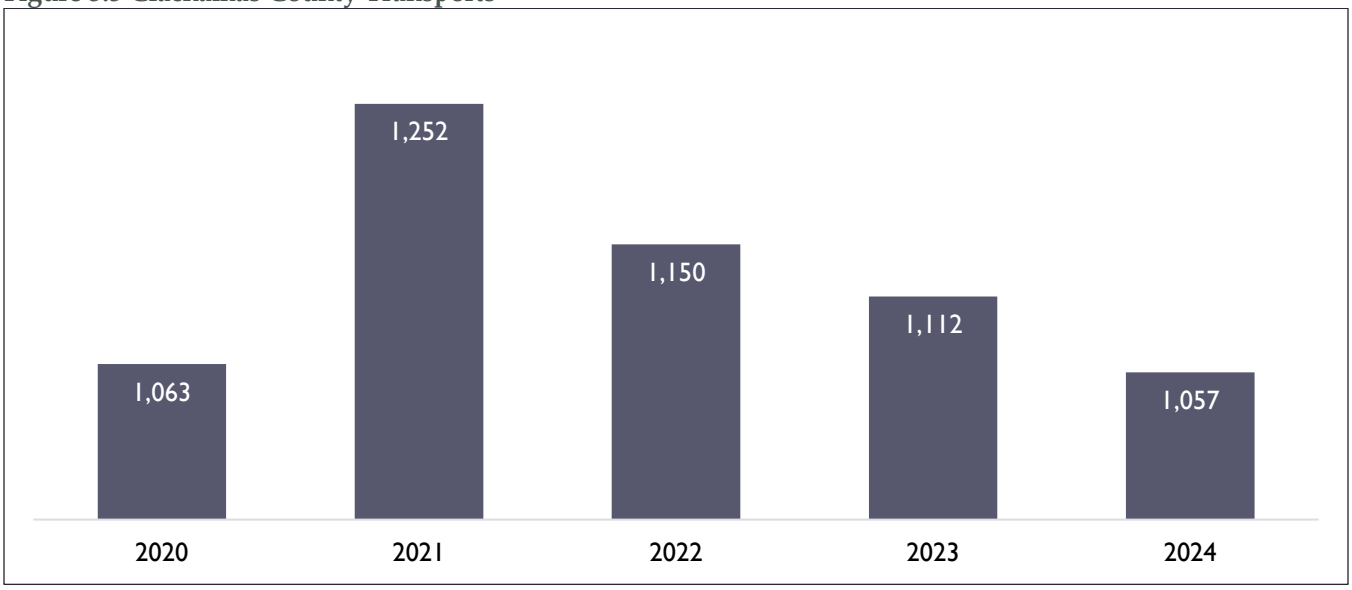


Figure 3.6 Clackamas County Transports by Unit, Emergency Incidents

Unit	2020	2021	2022	2023	2024	Total
MED21			1			1
MED35	2	8	12	9	1	32
MED52			1		2	3
MED56			2			2
MED96			4			4
MED97			1			1
MED98			1			1
R52	1,060	949				2,009
R53	1	1				2
R54		294	1,125	1,102	1,053	3,574
R70			3	1	1	5
Total	1,063	1,252	1,150	1,112	1,057	5,634

Figure 3.7 Yamhill County Transports

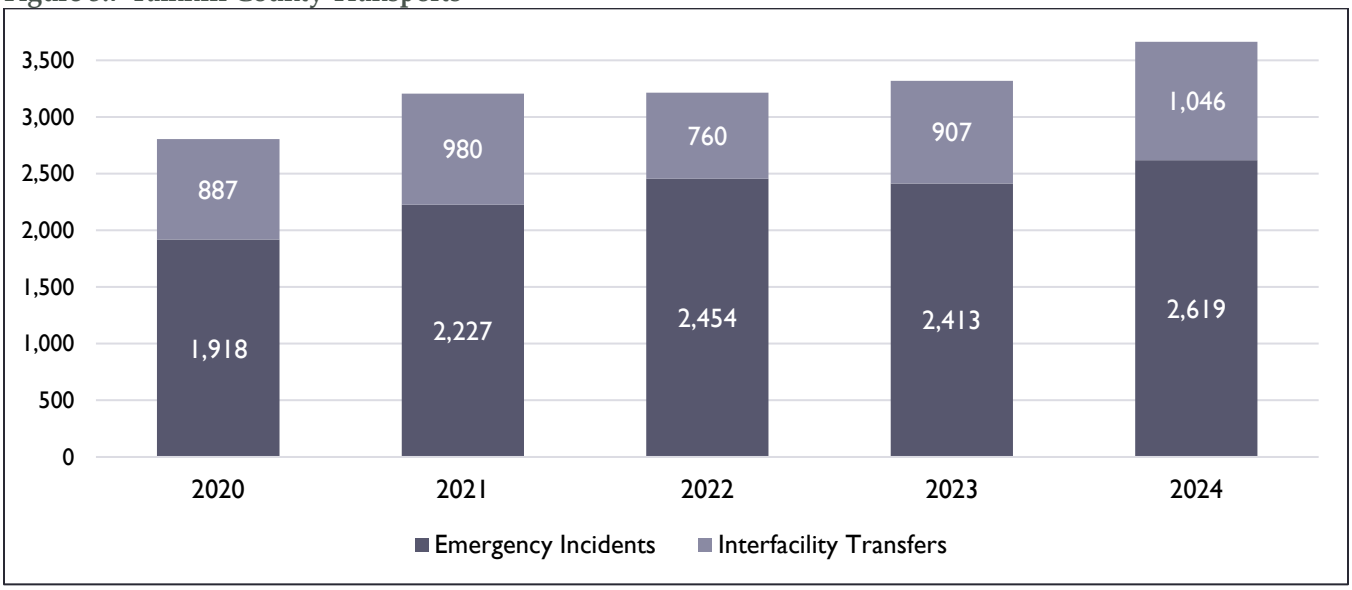
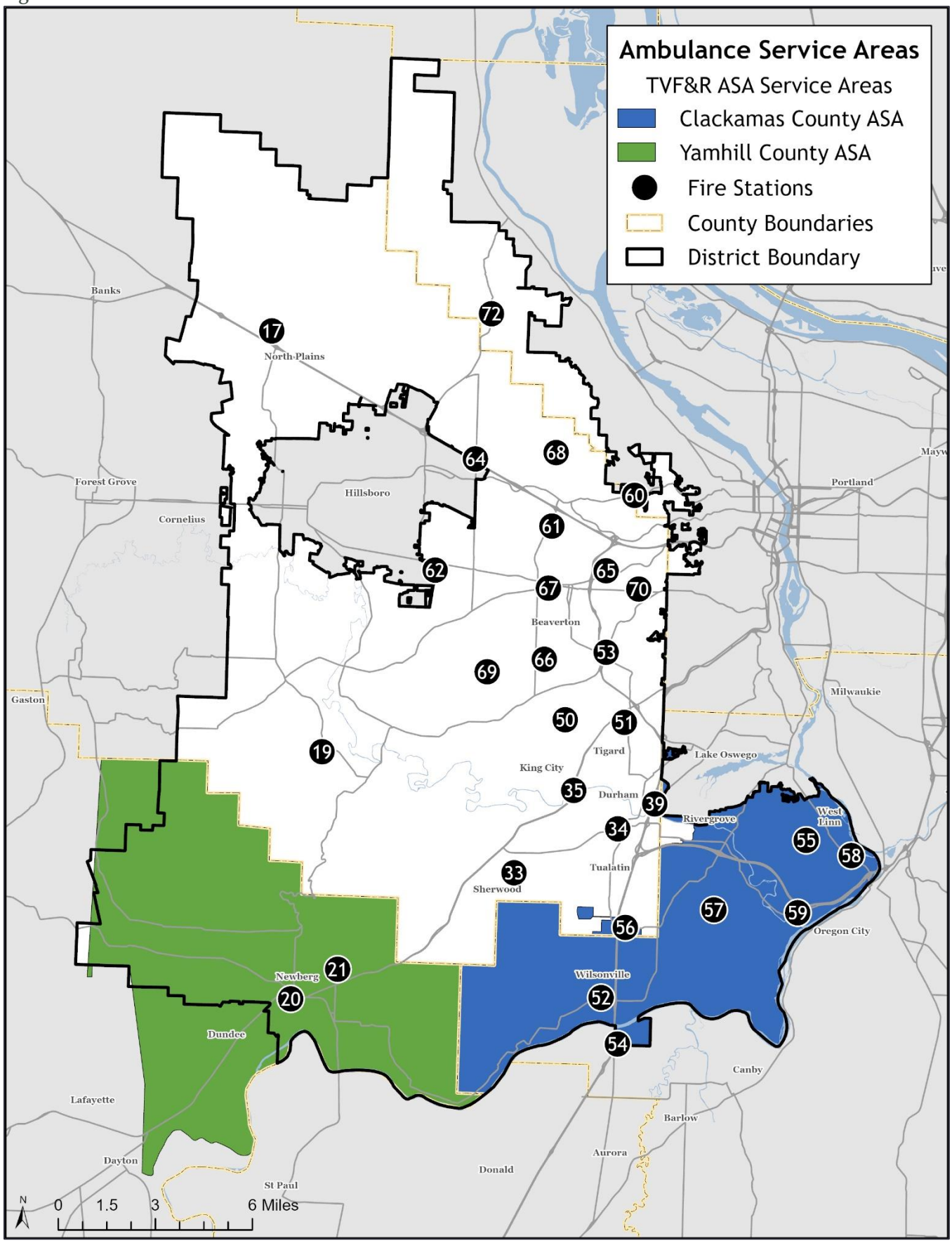


Figure 3.8 Yamhill County Transports by Unit, Emergency Incidents & Interfacility Transfers

Unit	Transport Type	2020	2021	2022	2023	2024	Total
MED20	Emergency	668	641	699	739	773	3,520
	Interfacility	318	360	347	410	378	1,813
MED20A	Emergency			1			1
MED21	Emergency	625	782	919	844	985	4,155
	Interfacility	274	302	231	302	324	1,433
MED35	Emergency	18	42	34	25	48	167
	Interfacility	170	200	89	21	127	607
MED53	Emergency			1			1
MED61	Emergency	1					1
MED62	Emergency						
	Interfacility	4	2				6
MED64	Interfacility				1		1
MED66	Emergency				1		1
MED97	Emergency			2			2
R20	Emergency	591	755	793	801	807	3,747
	Interfacility	118	114	92	171	217	712
R21	Emergency	2					2
	Interfacility	1					1
R52	Emergency	8	6				14
R53	Emergency	5	1				6
	Interfacility	2	2				4
R54	Emergency			5		2	7
	Interfacility			1	1		2
R64	Emergency					2	2
R70	Emergency				1	2	3
	Interfacility				1		1
Total	Emergency	1,918	2,227	2,454	2,411	2,619	11,629
	Interfacility	887	980	760	907	1,046	4,580

Figure 3.9 Ambulance Service Areas



Extrication

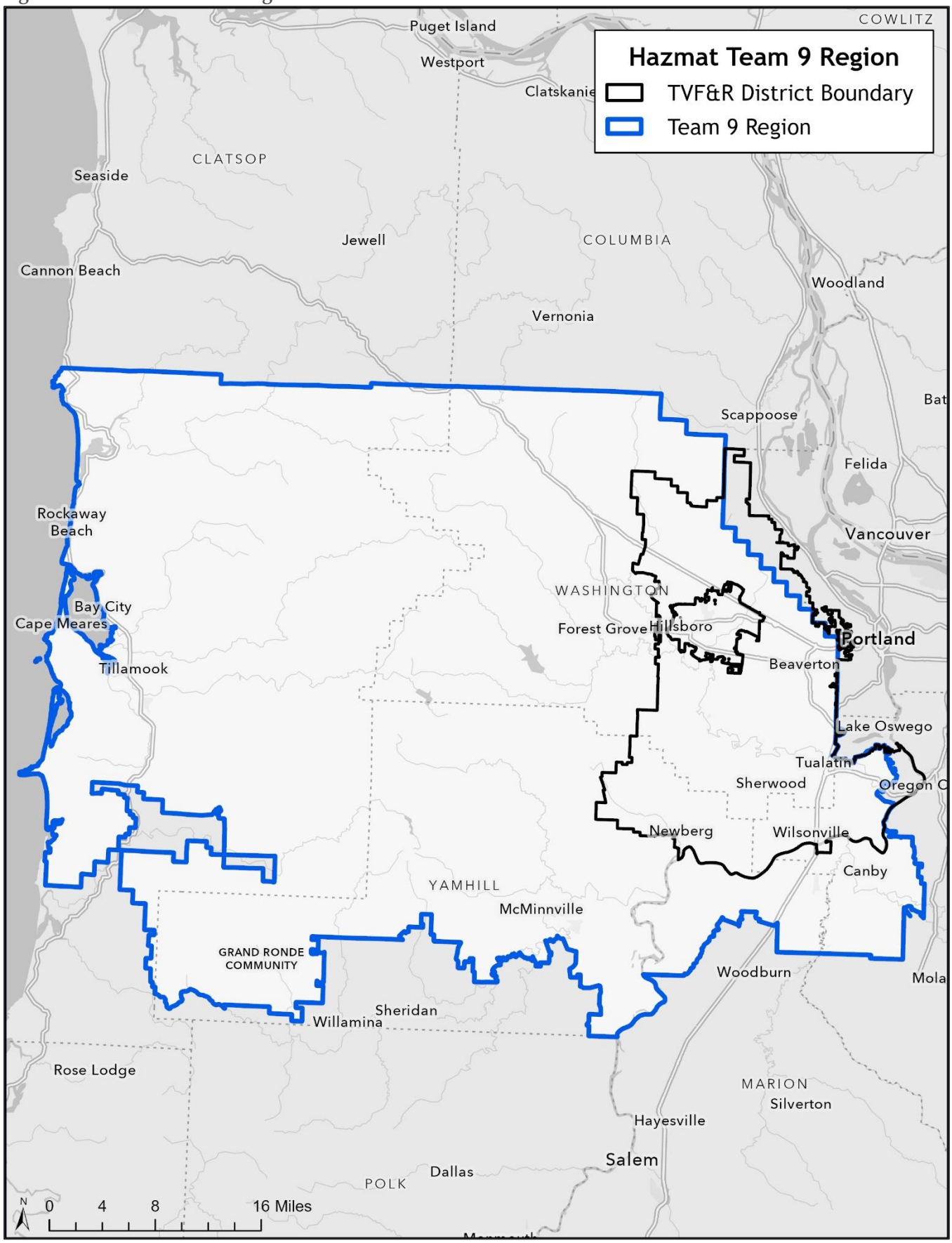
Extrication services are provided throughout the District in a tiered fashion. Each career engine company carries reciprocating saws, forcible entry, and hand tools that can be used for general extrication needs. "Light" complements of extrication equipment are deployed on engines 17 and 19. This light complement consists of a battery-powered spreader/cutter as well as a light stabilization package. Engines 17 and 19 cover large rural areas where responses from the truck companies and heavy rescue are longer. The light complement allows personnel to stabilize a vehicle, remove a door for rapid extrication, and begin roof removal. "Heavy" complements of extrication equipment are deployed on the six truck companies and the heavy rescue. This heavy complement consists of multiple power units, spreaders, rams, and an array of cutters, as well as an enhanced package for vehicle stabilization for complex extrications.

Hazardous Materials

The District's Hazardous Materials (HazMat) Team is comprised of 30 personnel who operate out of two stations (34 and 53). The stations are staffed with twelve personnel each, with an additional six associate members who backfill positions when needed. The team has minimum staffing requirements of seven members per shift across the two stations. The HazMat Team responds to fires, spills, and other incidents involving chemicals or toxic materials utilizing HazMat response units (HazMat 34 and HazMat 53). Members are trained to the technician level, allowing the team to perform Level-A entries in Immediately Dangerous to Life or Health (IDLH) hazardous environments.

The team is one of 12 in Oregon's Regional Hazardous Materials Emergency Response Teams (RHMERT) program and is identified as HazMat Team 9. As a regional responder, TVF&R is responsible for hazardous materials incidents within Region 9.

Figure 3.10 HazMat Team 9 Region



The team utilizes equipment that can predict the movement of hazardous materials released into the atmosphere, as well as detect IDLH or combustible environments. A computer application, PEAC, uses pre-planned information on quantities and locations of hazardous materials in Tier 2 HazMat facilities (facilities required by law to report to the state what hazardous materials they have onsite) to produce hazardous plume models in real time based on the worst-case scenario. This tool allows the team to rapidly determine the most accurate evacuation or shelter- in- place zones. The HazMat Team also has equipment that will ground/bond vessels, contain releases, and transfer hazardous products from leaking containers.

A cache of radiological monitors, used to survey areas for radioactive contamination, is available for deployment if the need arises. These monitors are located on each battalion chief and HazMat unit, as well as Heavy Squad 52. Apparatus are also equipped with gas monitors that test and provide readings of the atmospheric conditions within structures (e.g., carbon monoxide, oxygen, combustible gases).

Figure 3.11 Hazardous Materials Incident Type Criteria

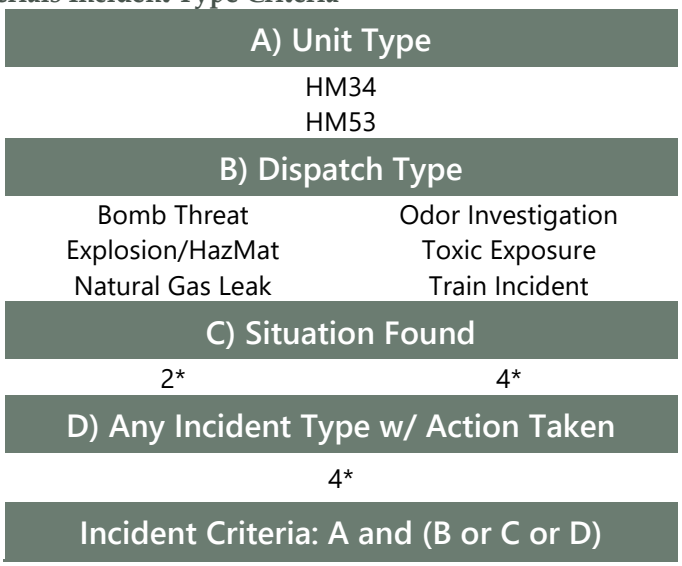
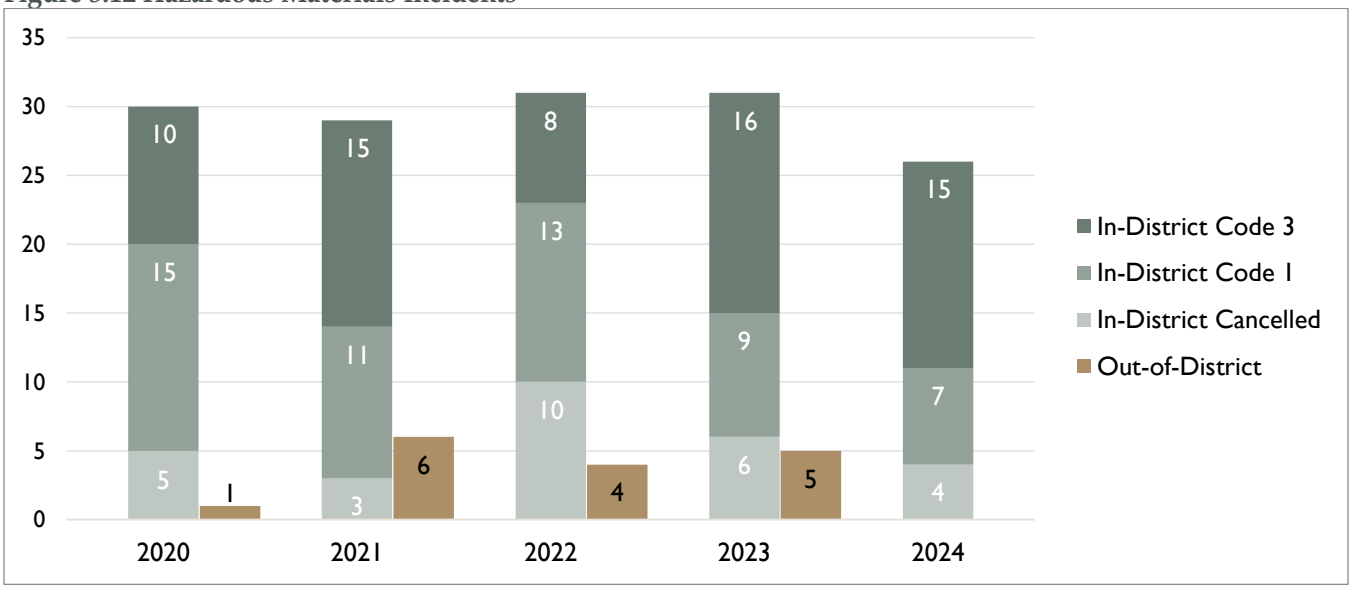


Figure 3.12 Hazardous Materials Incidents



Technical Rescue

Personnel at Station 51 serve as members of the District's Technical Rescue Team. The team is comprised of 30 members; Station 51 is staffed with 24 personnel, with an additional six associate members who backfill positions when needed. The team has minimum staffing requirements of six members per shift. The team is trained at the technician level in heavy vehicle and machinery extrication, high-angle rope rescue, confined space rescue, trench rescue, and structural collapse rescue.

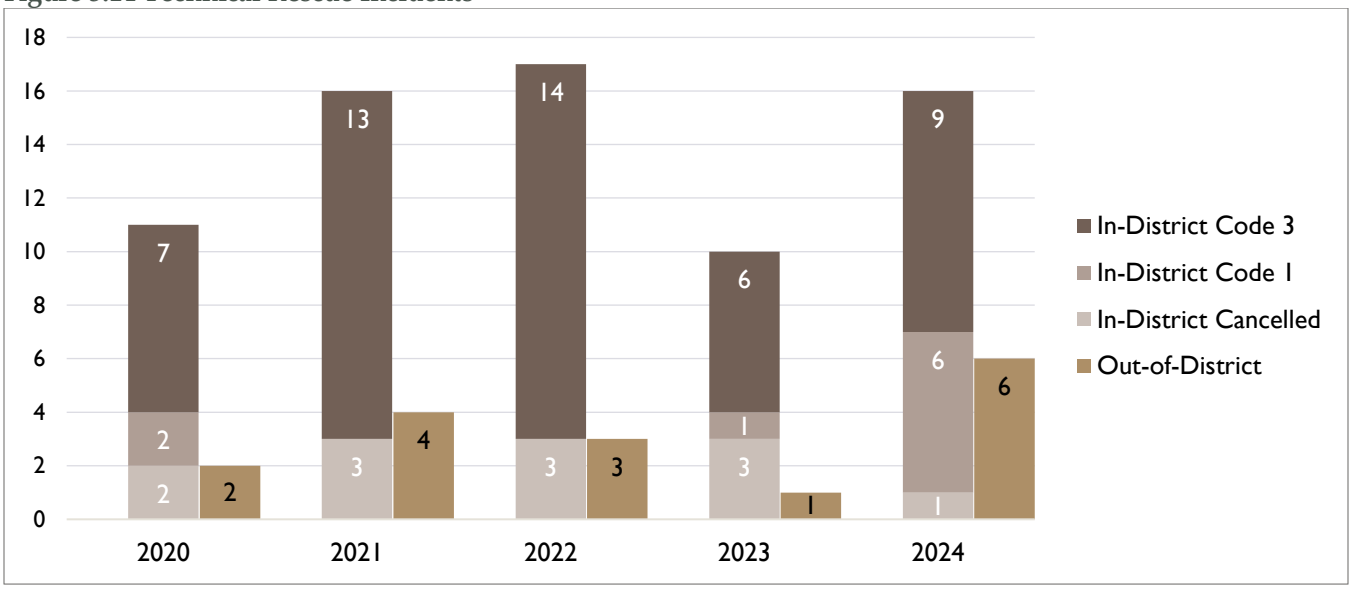
Heavy Rescue 51 and USAR 51 (tractor and trailer) are equipped with tools and equipment to support the team's needs in various technical rescue situations. Heavy Rescue 51 carries a heavy complement of extrication equipment and expands its capabilities with stabilization and lifting equipment (ability to lift fifty tons) for more complicated extrications. It also houses an extensive array of ropes (e.g., life safety, utility, webbing, harness) for high-angle rescues, as well as line-supplied air equipment, which provides the ability for members to enter a confined space. USAR 51 maintains equipment specific to breaking, cutting (torches), stabilizing, and lifting for structural collapse rescues. There are specialized cameras allowing members to see inside void areas, as well as listening devices to hear victims who may be trapped under a rubble pile. It is also equipped with shores and stabilization equipment for trench collapse situations. Resources on USAR 51 can also be used to assist in complex extrications. Rapid Extraction Modular Support 51 is an off-road, patient transport-capable rescue, side-by-side vehicle that is cross-staffed with personnel from Heavy Rescue 51. It is used when access is limiting to large fire apparatus such as Heavy Rescue 51 and USAR51 to support the Technical Rescue Team's rescue operations.

The team also serves as the primary Rapid Intervention Team (RIT) on all structure fires. The RIT provides an immediately ready force to perform firefighter rescue should someone become trapped while working inside a burning structure. The Technical Rescue Team is assigned this function because of its specialized rescue training and tools, while utilizing techniques and procedures developed specifically for this contingency.

Figure 3.13 Technical Rescue Incident Type Criteria

A) Unit Type	
A1	**A2**
USAR51	T51
TR51	HR51
B) Dispatch Type	
Industrial/Machinery Accident	
Technical Rescue	
Train Incident	
C) Situation Found	
351	356
354	357
355	
D) Any Incident Type w/ Action Taken	
20A	20D
20B	20E
20C	
Incident Criteria: A1 or (A2 and (B or C or D))	

Figure 3.14 Technical Rescue Incidents



Water Rescue

The District's 24-member Water Rescue Team is housed at Stations 20 and 59, servicing the Willamette, Tualatin, Molalla, Pudding, Yamhill, and Clackamas rivers. Twenty-two personnel are assigned across Stations 20 and 59, with two additional associate members who backfill positions when needed. The team has minimum staffing requirements of two members at Station 20 and three members at Station 59 per shift. The Water Rescue Team is part of the Regional Water Rescue Consortium Team consisting of several fire departments and sheriff offices that protect the waterways in Washington, Clackamas, Yamhill, and Multnomah counties. Members maintain Oregon Department of Public Safety Standards and Training (DPSST) marine awareness, deckhand, boat operator, rescue boat operator, and advanced surface and swift-water technician certifications.

Water Rescue 59, a tow/support apparatus, is equipped with tools to support the team's needs in various rescue and search situations. A few of the more frequently used tools include:

- Rapid Deployment Craft (inflatable boat), which is used for victim retrieval and transport, rapid searches of remote waterways, low-head dam rescues, swamp/mud rescue, boat-on-tether operations, and ice rescue.
- Extensive rope complement for gaining access and retrieving victims in perilous situations involving water.
- Night vision goggles for nighttime search and rescue operations.
- Underwater camera for searching in and under log jams and other hazardous areas where scuba divers would be at risk.
- 150 feet of hazardous materials boom that can be deployed via boat to assist in containing spills into waterways.

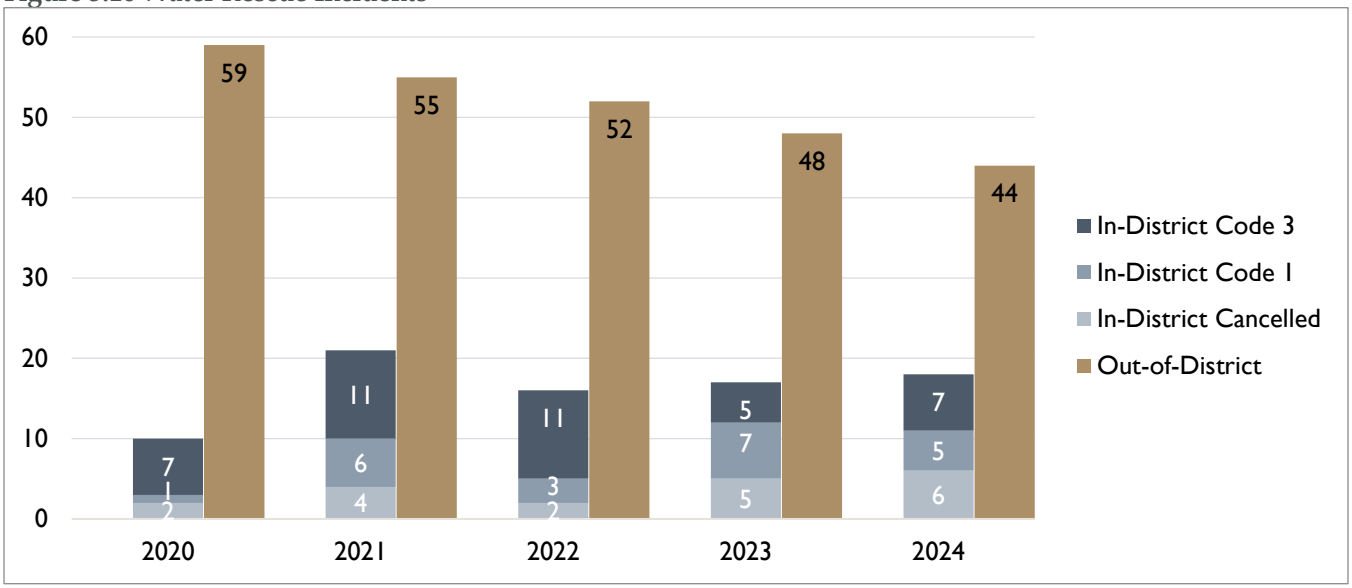
Boat 20 and Boat 59 are both Rogue Jet rescue boats equipped with jet pump propulsion designed for rescue operations in all kinds of water found throughout the inland waterways. They are equipped with a Forward Looking Infra-Red (FLIR) camera used to search for missing persons in the water during nighttime hours. Dual-band sonar, complete with down-vision, is a tool used to locate persons or vehicles on the river bottom. They are also equipped with a high-pressure water pump for fire

suppression with the ability to flow 200 GPM in the event of boat fires, floating home fires, or fires requiring access via water.

Figure 3.15 Water Rescue Incident Type Criteria

A) Unit Type	
WR20	
WR59	
BOAT20	
BOAT59	
B) Dispatch Type	
Drowning/Water-Related Injury	
Marine Rescue	
C) Situation Found	
1*	342
340	36*
341	
D) Any Incident Type w/ Action Taken	
n/a	
Incident Criteria: A and (B or C)	

Figure 3.16 Water Rescue Incidents



External Agency Support

Automatic and Mutual Aid

The District participates in and receives both automatic and mutual aid. Automatic aid is a process whereby cooperating fire agencies willingly share resources through a closest-forces arrangement. This arrangement is facilitated and managed by the CAD process, which monitors automatic vehicle location (AVL) data on each apparatus to determine the apparatus that has the shortest travel time to the incident. Mutual aid on the other hand is an intra-county and inter-county set of agreements that allow for the sharing of resources outside of automatic aid. The mutual aid process takes time to assemble resources, where the automatic aid process is instantaneous through day-in and day-out dispatch processes.

Law Enforcement

There are numerous law enforcement agencies within and surrounding the District's service area who play a role in emergency response. Law enforcement agencies are trained in the National Incident Management System (NIMS) and Incident Command System (ICS), which provides a framework for coordinating emergency responses across different agencies and jurisdictions, and a standardized approach to incident management. TVF&R and law enforcement personnel train together to build relationships and ensure effective communication and coordination at emergency incidents. In situations involving potential violence or where safety is uncertain, the current practice is to stage responders away from the incident scene, waiting for law enforcement to secure the area before entering to ensure the safety of both firefighters and the public. TVF&R personnel are not required to respond to a scene when the scene may not be safe and has not been cleared by law enforcement or if law enforcement is not available to clear the scene. Additionally, if law enforcement has cleared the scene and determined a continued response is not required, TVF&R personnel may clear the incident.

Resources and Staffing

The District operates 28 career stations with staffing of frontline units outlined below. Minimum staffing may be altered in the event of a local or national emergency, shift to major emergency or disaster operations modes, or formal declaration of emergency by the Fire Chief.

Most emergency response personnel work a 49-hour schedule (24 hours on-duty, 48 hours off-duty) with the shift beginning and ending at 0700 hours. These time periods are described as A, B, and C shifts. Some units are staffed with personnel who work a 42-hour schedule (two shifts on-duty, followed by two days or 48 hours off-duty, followed by three shifts on-duty, followed by two days or 48 hours off-duty, followed by two shifts on-duty, followed by three days or 72 hours off-duty) that begins at 0700 hours and ends at 1900 hours. These time periods are described as E and F shifts. The remaining units are staffed with 40-hour personnel who work Monday through Thursday or Tuesday through Friday, 0700 hours to 1700 hours.

The District is separated into three geographical battalions (C5, C6, and C7). Each battalion is staffed with three battalion chiefs (one per shift), who manage the daily operations of that battalion.

Secondary Units

In addition to the frontline staffed units and based on the station zone, some stations also house additional units for personnel to utilize depending upon the call type and associated resource needs. These units (water tenders, brush rigs, specialized apparatus) and locations are further identified in Figure 3.20 and station zone descriptions in Section 4.

Volunteers

The District maintains a contingent of volunteers whose role is to provide support functions on emergency scenes, including rehabilitation, air management, exterior fire operations, and standbys.

Volunteers and apparatus are co-located with career companies at Stations 33 and 50 and are identified as companies 333 and 350, respectively. Volunteer company 372 operates out of the only stand-alone volunteer station in the District, Station 72, in the northern portion of the District's service area (Skyline). Station 72 is not staffed full-time, and volunteers drive to and respond from the station in the same manner as the co-located crews.

Figure 3.17 Minimum Staffing by Frontline Unit Type

Unit Type	Battalion Chief	Company Officer	Apparatus Operator	Firefighter	Paramedic	Total Staffing	*Licensed Paramedic per Unit*
Command	1					1	
Engine		1	1	2		4	*1*
Truck (Straight)		1	1	2		4	*1*
Truck (TDA)*		1	2	1		4	*1*
Heavy Rescue		1	1	2		4	*1*
Squad				2		2	*1*
Rescue				2		2	*2*
Medic					2	2	*2*
Car					1	1	*1*

*Tractor Drawn Aerial

Figure 3.18 Station Full-Time Equivalent (FTE) Employee and Units, 2024

Station	FTE	Unit(s)	Unit Type
Station 17 (North Plains)	12.00		Engine
Station 19 (Midway)	12.00		Engine
Station 20 (Downtown Newberg)	25.00		Engine, Medic, Rescue, Car
Station 21 (Springbrook)	18.00		Truck, Medic
Station 33 (Sherwood)	12.00		Engine
Station 34 (Tualatin)	14.00		Engine, Car
Station 35 (King City)	18.00		Engine, Medic
Station 39 (McEwan Road)	8.00		Squad/Engine
Station 50 (Walnut)	12.00		Engine
Station 51 (Tigard)	24.00		Truck, Heavy Rescue
Station 52 (Wilsonville)	12.00		Engine
Station 53 (Progress)	14.00		Engine, Car
Station 54 (Charbonneau)	6.00		Rescue
Station 55 (Rosemont)	12.00		Truck
Station 56 (Elligsen Road)	12.00		Truck
Station 57 (Mountain Road)	12.00		Engine
Station 58 (Bolton)	12.00		Engine
Station 59 (Willamette)	12.00		Engine
Station 60 (Cornell Road)	12.00		Engine
Station 61 (Butner Road)	12.00		Engine
Station 62 (Aloha)	12.00		Engine
Station 64 (Somerset)	14.00		Engine, Rescue
Station 65 (West Slope)	12.00		Engine
Station 66 (Brockman Road)	12.00		Engine
Station 67 (Farmington Road)	24.00		Truck, Engine
Station 68 (Bethany)	12.00		Truck
Station 69 (Cooper Mountain)	12.00		Engine
Station 70 (Raleigh Hills)	6.00		Squad

○ FTE per Unit
■ 24-Hour Unit: FTE per Unit x 3 = Total FTE
■ 12-Hour Unit: FTE per Unit x 2 = Total FTE
■ 10-Hour Unit: FTE per Unit x 1 = Total FTE

Figure 3.19 Frontline Apparatus Station Placement

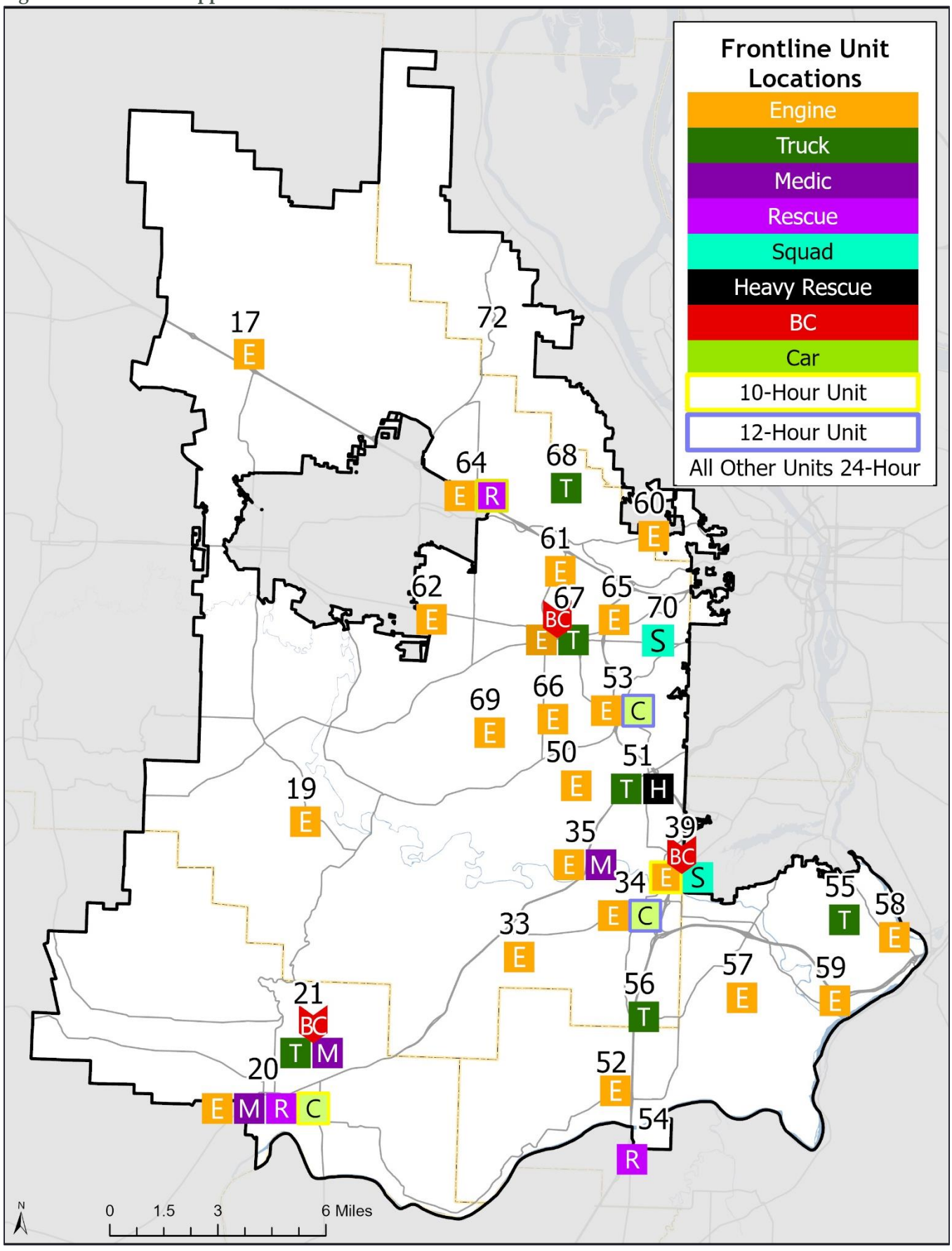


Figure 3.20 Secondary & Volunteer Apparatus Station Placement

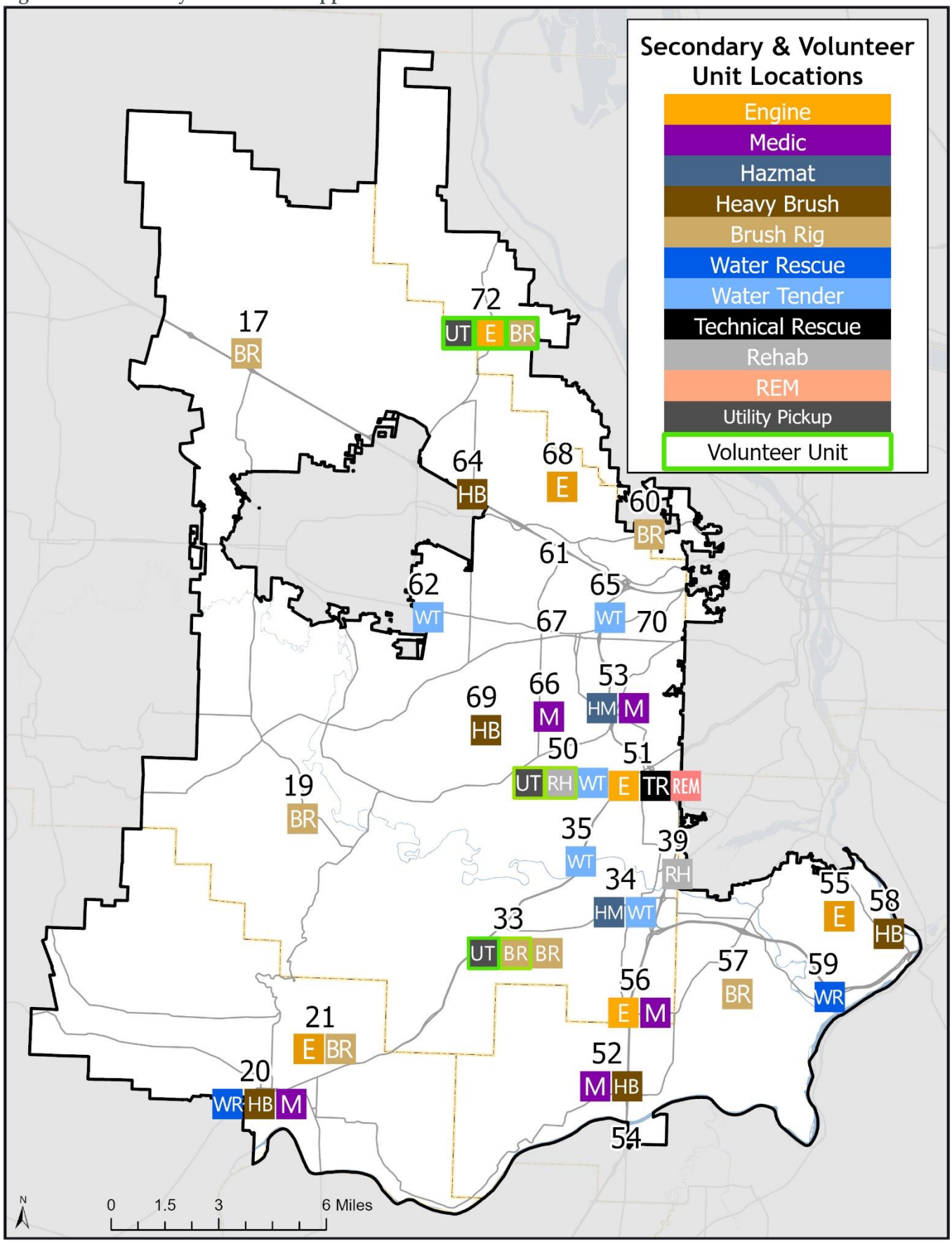
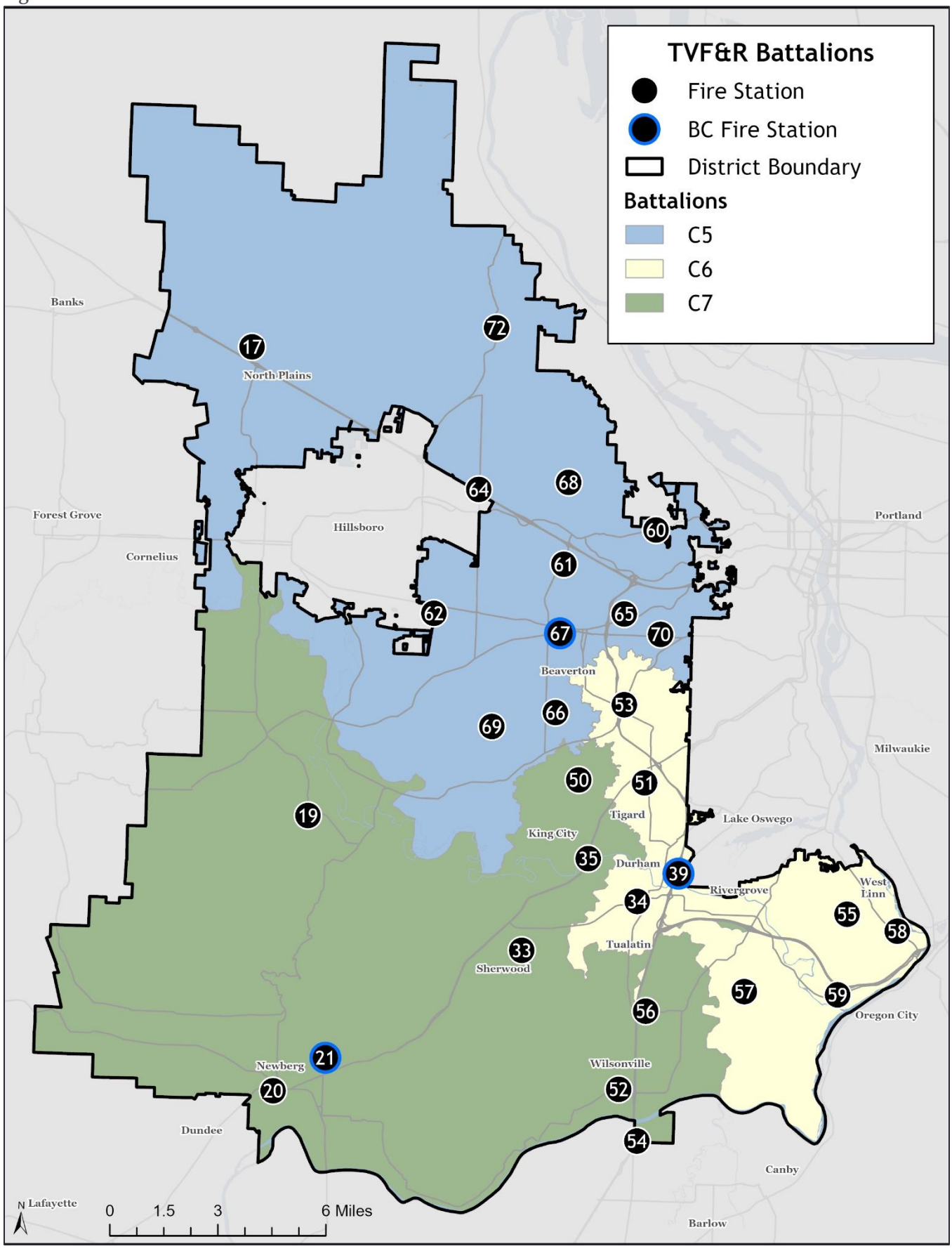


Figure 3.21 Battalions



DISPATCH ORDERS

AVL-Based CAD

CentralSquare Technologies' CAD system uses Quickest Path Dispatch, which uses geographic information systems (GIS) and AVL data, to analyze the street network and assess the drive time of available units from their current locations to determine the closest unit to respond.

Station Zones

Due to the differences between Code 1 and Code 3 dispatch in CAD (which include automatic aid impacts) staff have developed station zones. These are administrative zones representing TVF&R-only closest forces within our service area.

Code 3 Response Zones

Response zones which are defined by closest forces and include all regional station locations. The intent is to have the fastest unit respond, regardless of agency.

Code 1 Response Zones

Response zones in which the closest TVF&R unit is assigned to an incident unless a neighboring agency will have a faster response with an additional response time savings. This method gives priority to home agency response on non-emergent calls.

Dispatch Call Types and Alarm Assignments

Dispatch call types and the corresponding alarm assignments are outlined in Figures 3.22 and 3.23. Resources are compounding as additional alarms are added. Assignments in grey italics signify a notification-only to that unit or group.

Figure 3.22 Dispatch Call Types and Alarm Assignments: Fire/Other Category

Fire/Other Call Type	Response Mode	Task Force (if applicable)	Initial Assignment or First Alarm (when Task Force)	Second Alarm	Third Alarm	Fourth Alarm +
Bomb Threat	Code 1		*1 Battalion Chief*			
Burn – Illegal Burn	Code 1		1 Car (Zone), Rescue, Squad or Fire Unit			
Commercial Fire Alarm	Code 1		1 Car (Zone), Rescue, Squad, or Fire Unit			
Hit and Run Unknown Injury	Code 1		1 Car (Zone), Medic, Rescue, Squad, or Fire Unit			
Marine Assist Non-Imminent	Code 1		1 Water Rescue 1 Fire Unit 1 Rescue/Squad (RZ)			
Miscellaneous Non Fire (Includes Odor Investigation)	Code 1		1 Car (Zone), Rescue, Squad, or Fire Unit			
Public Assist*	Code 1		1 Car (Zone), Rescue, Squad, or Fire Unit **Also used for CHARM pilot (1 Car)*			
Residential Alarm	Code 1		1 Car (Zone), Rescue, Squad, or Fire Unit			
School Fire Alarm	Code 1		1 Car (Zone), Rescue, Squad, or Fire Unit			
Service (Spill, Water Problem)	Code 1		1 Car (Zone), Rescue, Squad, or Fire Unit			
Smoke In The Area	Code 1		1 Car (Zone), Rescue, Squad, or Fire Unit			
Traffic Accident Unknown Injury	Code 1		1 Car (Zone), Rescue, Squad, or Fire Unit			
Aircraft Incident 1	Code 3		1 Engine	(Call Type Changes to Aircraft Incident 2)		
Aircraft Incident 2	Code 3	2 Engine 2 Truck 1 Battalion Chief	(Call Type Changes to Aircraft Crash 3)			
Aircraft Crash 3	Code 3		4 Engine 2 Truck 1 Heavy Rescue 1 Squad 39 1 Rehab 2 Battalion Chief 1 Investigator 1 Ambulance	4 Engine *Incident Mgt Team* *Fire Dispatch Liaison*	4 Engine *Incident Mgt Team* *Fire Defense Board Chief*	4 Engine
Bark Dust Fire	Code 3		1 Engine, Rescue, or Squad			

Fire/Other Call Type	Response Mode	Task Force (if applicable)	Initial Assignment or First Alarm (when Task Force)	Second Alarm	Third Alarm	Fourth Alarm +
Barn Fire Rural	Code 3	2 Water Tender 2 Engine 1 Rescue/Squad (RZ) 1 Battalion Chief	2 Water Tender 2 Engine 1 Heavy Rescue 1 Squad 39 1 Rehab 1 Battalion Chief 1 Investigator 1 Ambulance	2 Water Tender 4 Engine *Incident Mgt Team* *Fire Dispatch Liaison*	2 Water Tender 4 Engine *Incident Mgt Team* *Fire Defense Board Chief*	2 Water Tender 4 Engine
Barn Fire Urban	Code 3	2 Engine 1 Rescue/Squad (RZ) 1 Battalion Chief	2 Engine 1 Heavy Rescue 1 Squad 39 1 Rehab 1 Battalion Chief 1 Investigator 1 Ambulance	4 Engine *Incident Mgt Team* *Fire Dispatch Liaison*	4 Engine *Incident Mgt Team* *Fire Defense Board Chief*	4 Engine
Boat Fire	Code 3		2 Engine 1 Water Rescue 1 Squad 39 1 Battalion Chief	2 Engine 1 Truck 1 Heavy Rescue 1 Battalion Chief 1 Rehab 1 Investigator 1 Ambulance *Incident Mgt Team* *Fire Dispatch Liaison*	4 Engine *Incident Mgt Team* *Fire Defense Board Chief*	4 Engine
Brush Fire Rural	Code 3	2 Water Tender 2 Engine 1 Brush 1 Rescue/Squad (RZ) 1 Battalion Chief	2 Water Tender 2 Engine 2 Brush 1 Squad 39 1 Rehab 1 Battalion Chief 1 Investigator 1 Ambulance	2 Water Tender 2 Engine 2 Brush *Incident Mgt Team* *Fire Dispatch Liaison*	2 Water Tender 2 Engine 2 Brush *Incident Mgt Team* *Fire Defense Board Chief*	2 Water Tender 2 Engine 2 Brush
Brush Fire Urban	Code 3	2 Engine 1 Brush 1 Rescue/Squad (RZ) 1 Battalion Chief	2 Engine 2 Brush 1 Squad 39 1 Rehab 1 Battalion Chief 1 Investigator 1 Ambulance	2 Engine 2 Brush *Incident Mgt Team* *Fire Dispatch Liaison*	2 Engine 2 Brush *Incident Mgt Team* *Fire Defense Board Chief*	2 Engine 2 Brush
Car Fire	Code 3		1 Engine 1 Rescue/Squad (RZ)			

Fire/Other Call Type	Response Mode	Task Force (if applicable)	Initial Assignment or First Alarm (when Task Force)	Second Alarm	Third Alarm	Fourth Alarm +
Chimney Fire	Code 3		1 Engine 1 Truck 1 Rescue/Squad (RZ)			
Commercial Fire Rural	Code 3	2 Water Tender 2 Engine 2 Truck 1 Rescue/Squad (RZ) 1 Battalion Chief	2 Water Tender 2 Engine 1 Heavy Rescue 1 Squad 39 1 Rehab 1 Battalion Chief 1 Investigator 1 Ambulance	2 Water Tender 4 Engine *Incident Mgt Team* *Fire Dispatch Liaison*	2 Water Tender 4 Engine *Incident Mgt Team* *Fire Defense Board Chief*	2 Water Tender 4 Engine
Commercial Fire Urban	Code 3	2 Engine 2 Truck 1 Rescue/Squad (RZ) 1 Battalion Chief	2 Engine 1 Heavy Rescue 1 Squad 39 1 Rehab 1 Battalion Chief 1 Investigator 1 Ambulance	4 Engine 1 Truck *Incident Mgt Team* *Fire Dispatch Liaison*	4 Engine 1 Truck *Incident Mgt Team* *Fire Defense Board Chief*	4 Engine 1 Truck
HazMat Incident Rural	Code 3		2 Water Tender 2 Engine 1 HazMat 34 1 HazMat 53 1 Rescue/Squad (RZ) 1 Rehab 1 Battalion Chief 1 Ambulance	2 Engine 1 Truck 1 Battalion Chief *Incident Mgt Team* *Fire Dispatch Liaison*	4 Engine *Incident Mgt Team* *Fire Defense Board Chief*	4 Engine
HazMat Incident Urban	Code 3		2 Engine 1 HazMat 34 1 HazMat 53 1 Rescue/Squad (RZ) 1 Rehab 1 Battalion Chief 1 Ambulance	2 Engine 1 Truck 1 Battalion Chief *Incident Mgt Team* *Fire Dispatch Liaison*	4 Engine *Incident Mgt Team* *Fire Defense Board Chief*	4 Engine
Marine Rescue Emergency	Code 3		1 Water Rescue 2 Fire Unit 1 Rescue/Squad (RZ) 1 Battalion Chief *Washington County Water Rescue and Clackamas County Water Rescue*	2 Fire Unit *Incident Mgt Team* *Fire Dispatch Liaison*	2 Fire Unit *Incident Mgt Team* *Fire Defense Board Chief*	2 Fire Unit
Miscellaneous – Fire	Code 3		1 Engine 1 Rescue/Squad (RZ)			

Fire/Other Call Type	Response Mode	Task Force (if applicable)	Initial Assignment or First Alarm (when Task Force)	Second Alarm	Third Alarm	Fourth Alarm +
Natural Gas Leak (Smell Only)	Code 3		1 Engine	(Confirmed Gas Leak Changes to HazMat Incident)		
Residential Fire Rural	Code 3	2 Water Tender 2 Engine 2 Truck 1 Rescue/Squad (RZ) 1 Battalion Chief	2 Water Tender 2 Engine 1 Heavy Rescue 1 Squad 39 1 Rehab 1 Battalion Chief 1 Investigator 1 Ambulance	2 Water Tender 4 Engine *Incident Mgt Team* *Fire Dispatch Liaison*	2 Water Tender 4 Engine *Incident Mgt Team* *Fire Defense Board Chief*	2 Water Tender 4 Engine
Residential Fire Urban	Code 3	1 Car 2 Engine 2 Truck 1 Rescue/Squad (RZ) 1 Battalion Chief	2 Engine 1 Heavy Rescue 1 Squad 39 1 Rehab 1 Battalion Chief 1 Investigator 1 Ambulance	4 Engine 1 Truck *Incident Mgt Team* *Fire Dispatch Liaison*	4 Engine 1 Truck *Incident Mgt Team* *Fire Defense Board Chief*	4 Engine 1 Truck
Technical Rescue	Code 3	2 Engine 1 Truck 1 Heavy Rescue 1 USAR51 1 Rescue/Squad (RZ) 1 Battalion Chief	2 Fire Unit 1 Rehab 1 Battalion Chief 1 Ambulance	4 Fire Unit *Incident Mgt Team* *Fire Dispatch Liaison*	4 Fire Unit *Incident Mgt Team* *Fire Defense Board Chief*	4 Fire Unit
Train Crash (+MAX)	Code 3	2 Engine 1 Truck 1 Heavy Rescue 1 Rescue/Squad (RZ) 1 Battalion Chief	2 Engine 1 Truck 1 Rehab 1 Battalion Chief 1 Investigator 1 Ambulance	4 Engine *Incident Mgt Team* *Fire Dispatch Liaison*	4 Engine *Incident Mgt Team* *Fire Defense Board Chief*	4 Engine
Truck Fire	Code 3		2 Engine 1 Rescue/Squad (RZ)			

Figure 3.23 Dispatch Call Types and Alarm Assignments: Medical Category

Medical Call Type	Response Mode	Initial Assignment	Second Alarm	Third Alarm	Fourth Alarm +
Abdominal Pain C1	Code 1	1 Car (Zone), Medic, Rescue, Squad, or Fire Unit 1 Ambulance	2 Fire Unit 1 Battalion Chief	2 Fire Unit *Incident Mgt Team* *Fire Dispatch Liaison* *Fire Defense Board Chief*	2 Fire Unit
Allergic Reaction C1	Code 1	1 Car (Zone), Medic, Rescue, Squad, or Fire Unit 1 Ambulance	2 Fire Unit 1 Battalion Chief	2 Fire Unit *Incident Mgt Team* *Fire Dispatch Liaison* *Fire Defense Board Chief*	2 Fire Unit
Animal Bites/ Attacks C1	Code 1	1 Car (Zone), Medic, Rescue, Squad, or Fire Unit 1 Ambulance	2 Fire Unit 1 Battalion Chief	2 Fire Unit *Incident Mgt Team* *Fire Dispatch Liaison* *Fire Defense Board Chief*	2 Fire Unit
Back Pain C1	Code 1	1 Car (Zone), Medic, Rescue, Squad, or Fire Unit 1 Ambulance	2 Fire Unit 1 Battalion Chief	2 Fire Unit *Incident Mgt Team* *Fire Dispatch Liaison* *Fire Defense Board Chief*	2 Fire Unit
Behavioral Health C1	Code 1	1 Car (Zone), Medic, Rescue, Squad, or Fire Unit 1 Ambulance	2 Fire Unit 1 Battalion Chief	2 Fire Unit *Incident Mgt Team* *Fire Dispatch Liaison* *Fire Defense Board Chief*	2 Fire Unit
Bleeding Problem C1	Code 1	1 Car (Zone), Medic, Rescue, Squad, or Fire Unit 1 Ambulance	2 Fire Unit 1 Battalion Chief	2 Fire Unit *Incident Mgt Team* *Fire Dispatch Liaison* *Fire Defense Board Chief*	2 Fire Unit
Breathing Problem C1	Code 1	1 Car (Zone), Medic, Rescue, Squad, or Fire Unit 1 Ambulance	2 Fire Unit 1 Battalion Chief	2 Fire Unit *Incident Mgt Team* *Fire Dispatch Liaison* *Fire Defense Board Chief*	2 Fire Unit
Burns C1	Code 1	1 Car (Zone), Medic, Rescue, Squad, or Fire Unit 1 Ambulance	2 Fire Unit 1 Battalion Chief	2 Fire Unit *Incident Mgt Team* *Fire Dispatch Liaison* *Fire Defense Board Chief*	2 Fire Unit

Medical Call Type	Response Mode	Initial Assignment	Second Alarm	Third Alarm	Fourth Alarm +
Choking C1	Code 1	1 Car (Zone), Medic, Rescue, Squad, or Fire Unit 1 Ambulance	2 Fire Unit 1 Battalion Chief	2 Fire Unit *Incident Mgt Team* *Fire Dispatch Liaison* *Fire Defense Board Chief*	2 Fire Unit
Diabetic C1	Code 1	1 Car (Zone), Medic, Rescue, Squad, or Fire Unit 1 Ambulance	2 Fire Unit 1 Battalion Chief	2 Fire Unit *Incident Mgt Team* *Fire Dispatch Liaison* *Fire Defense Board Chief*	2 Fire Unit
Falls C1	Code 1	1 Car (Zone), Medic, Rescue, Squad, or Fire Unit 1 Ambulance	2 Fire Unit 1 Battalion Chief	2 Fire Unit *Incident Mgt Team* *Fire Dispatch Liaison* *Fire Defense Board Chief*	2 Fire Unit
Headache C1	Code 1	1 Car (Zone), Medic, Rescue, Squad, or Fire Unit 1 Ambulance	2 Fire Unit 1 Battalion Chief	2 Fire Unit *Incident Mgt Team* *Fire Dispatch Liaison* *Fire Defense Board Chief*	2 Fire Unit
Heat/Cold Exposure C1	Code 1	1 Car (Zone), Medic, Rescue, Squad, or Fire Unit 1 Ambulance	2 Fire Unit 1 Battalion Chief	2 Fire Unit *Incident Mgt Team* *Fire Dispatch Liaison* *Fire Defense Board Chief*	2 Fire Unit
Lift Assist	Code 1	1 Medic, Rescue, Squad, or Fire Unit 1 Ambulance	2 Fire Unit 1 Battalion Chief	2 Fire Unit *Incident Mgt Team* *Fire Dispatch Liaison* *Fire Defense Board Chief*	2 Fire Unit
Medical Alarm 1	Code 1	1 Car (Zone), Medic, Rescue, Squad, or Fire Unit 1 Ambulance	2 Fire Unit 1 Battalion Chief	2 Fire Unit *Incident Mgt Team* *Fire Dispatch Liaison* *Fire Defense Board Chief*	2 Fire Unit
Medical Transport C1 (Interfacility Transfer)	Code 1	1 Medic or Rescue			
Pregnancy C1	Code 1	1 Car (Zone), Medic, Rescue, Squad, or Fire Unit 1 Ambulance	2 Fire Unit 1 Battalion Chief	2 Fire Unit *Incident Mgt Team* *Fire Dispatch Liaison* *Fire Defense Board Chief*	2 Fire Unit

Medical Call Type	Response Mode	Initial Assignment	Second Alarm	Third Alarm	Fourth Alarm +
Send Medical C1	Code 1	1 Car (Zone), Medic, Rescue, Squad, or Fire Unit 1 Ambulance	2 Fire Unit 1 Battalion Chief	2 Fire Unit *Incident Mgt Team* *Fire Dispatch Liaison* *Fire Defense Board Chief*	2 Fire Unit
Sick Person C1	Code 1	1 Car (Zone), Medic, Rescue, Squad, or Fire Unit 1 Ambulance	2 Fire Unit 1 Battalion Chief	2 Fire Unit *Incident Mgt Team* *Fire Dispatch Liaison* *Fire Defense Board Chief*	2 Fire Unit
Toxic Exposure C1	Code 1	1 Car (Zone), Rescue, Squad, or Fire Unit 1 Ambulance *HazMat Lead*	2 Fire Unit 1 Battalion Chief	2 Fire Unit *Incident Mgt Team* *Fire Dispatch Liaison* *Fire Defense Board Chief*	2 Fire Unit
Trauma C1	Code 1	1 Car (Zone), Medic, Rescue, Squad, or Fire Unit 1 Ambulance	2 Fire Unit 1 Battalion Chief	2 Fire Unit *Incident Mgt Team* *Fire Dispatch Liaison* *Fire Defense Board Chief*	2 Fire Unit
Abdominal Pain	Code 3	1 Car* 1 Medic, Rescue, Squad, or Fire Unit 1 Ambulance **Add if faster than other units*	2 Fire Unit 1 Battalion Chief	2 Fire Unit *Incident Mgt Team* *Fire Dispatch Liaison* *Fire Defense Board Chief*	2 Fire Unit
Allergic Reaction	Code 3	1 Car* 1 Medic, Rescue, Squad, or Fire Unit 1 Ambulance **Add if faster than other units*	2 Fire Unit 1 Battalion Chief	2 Fire Unit *Incident Mgt Team* *Fire Dispatch Liaison* *Fire Defense Board Chief*	2 Fire Unit
Animal Bites/Attacks	Code 3	1 Car* 1 Medic, Rescue, Squad, or Fire Unit 1 Ambulance **Add if faster than other units*	2 Fire Unit 1 Battalion Chief	2 Fire Unit *Incident Mgt Team* *Fire Dispatch Liaison* *Fire Defense Board Chief*	2 Fire Unit
Assault Physical	Code 3	1 Car* 1 Medic, Rescue, Squad, or Fire Unit 1 Ambulance **Add if faster than other units*	2 Fire Unit 1 Battalion Chief	2 Fire Unit *Incident Mgt Team* *Fire Dispatch Liaison* *Fire Defense Board Chief*	2 Fire Unit
Assault Weapons	Code 3	1 Car* 1 Medic, Rescue, Squad, or Fire Unit 1 Ambulance **Add if faster than other units*	2 Fire Unit 1 Battalion Chief	2 Fire Unit *Incident Mgt Team* *Fire Dispatch Liaison* *Fire Defense Board Chief*	2 Fire Unit

Medical Call Type	Response Mode	Initial Assignment	Second Alarm	Third Alarm	Fourth Alarm +
Back Pain	Code 3	1 Car* 1 Medic, Rescue, Squad, or Fire Unit 1 Ambulance **Add if faster than other units*	2 Fire Unit 1 Battalion Chief	2 Fire Unit *Incident Mgt Team* *Fire Dispatch Liaison* *Fire Defense Board Chief*	2 Fire Unit
Behavioral Health	Code 3	1 Car* 1 Medic, Rescue, Squad, or Fire Unit 1 Ambulance **Add if faster than other units*	2 Fire Unit 1 Battalion Chief	2 Fire Unit *Incident Mgt Team* *Fire Dispatch Liaison* *Fire Defense Board Chief*	2 Fire Unit
Bleeding Problem	Code 3	1 Car* 1 Medic, Rescue, Squad, or Fire Unit 1 Ambulance **Add if faster than other units*	2 Fire Unit 1 Battalion Chief	2 Fire Unit *Incident Mgt Team* *Fire Dispatch Liaison* *Fire Defense Board Chief*	2 Fire Unit
Breathing Problem	Code 3	1 Car* 1 Medic, Rescue, Squad, or Fire Unit 1 Ambulance **Add if faster than other units*	2 Fire Unit 1 Battalion Chief	2 Fire Unit *Incident Mgt Team* *Fire Dispatch Liaison* *Fire Defense Board Chief*	2 Fire Unit
Burns	Code 3	1 Car* 1 Medic, Rescue, Squad, or Fire Unit 1 Ambulance **Add if faster than other units*	2 Fire Unit 1 Battalion Chief	2 Fire Unit *Incident Mgt Team* *Fire Dispatch Liaison* *Fire Defense Board Chief*	2 Fire Unit
Chest Pain/Heart	Code 3	1 Car* 1 Medic, Rescue, Squad, or Fire Unit 1 Ambulance **Add if faster than other units*	2 Fire Unit 1 Battalion Chief	2 Fire Unit *Incident Mgt Team* *Fire Dispatch Liaison* *Fire Defense Board Chief*	2 Fire Unit
Choking	Code 3	1 Car* 1 Medic, Rescue, Squad, or Fire Unit 1 Ambulance **Add if faster than other units*	2 Fire Unit 1 Battalion Chief	2 Fire Unit *Incident Mgt Team* *Fire Dispatch Liaison* *Fire Defense Board Chief*	2 Fire Unit
CPR – Cardiac Arrest	Code 3	1 Car or Battalion Chief* 1 Medic, Rescue, Squad or Fire Unit 1 Fire Unit 1 Ambulance **Add if faster than other units*	2 Fire Unit	2 Fire Unit *Incident Mgt Team* *Fire Dispatch Liaison* *Fire Defense Board Chief*	2 Fire Unit

Medical Call Type	Response Mode	Initial Assignment	Second Alarm	Third Alarm	Fourth Alarm +
CVA – Stroke	Code 3	1 Car* 1 Medic, Rescue, Squad, or Fire Unit 1 Ambulance **Add if faster than other units*	2 Fire Unit 1 Battalion Chief	2 Fire Unit *Incident Mgt Team* *Fire Dispatch Liaison* *Fire Defense Board Chief*	2 Fire Unit
Diabetic Problems	Code 3	1 Car* 1 Medic, Rescue, Squad, or Fire Unit 1 Ambulance **Add if faster than other units*	2 Fire Unit 1 Battalion Chief	2 Fire Unit *Incident Mgt Team* *Fire Dispatch Liaison* *Fire Defense Board Chief*	2 Fire Unit
Drowning/Diving/ Scuba	Code 3	1 Car or Battalion Chief* 1 Medic, Rescue, Squad, or Fire Unit 1 Fire Unit 1 Ambulance **Add if faster than other units*	2 Fire Unit 1 Battalion Chief	2 Fire Unit *Incident Mgt Team* *Fire Dispatch Liaison* *Fire Defense Board Chief*	2 Fire Unit
Fall	Code 3	1 Car* 1 Medic, Rescue, Squad, or Fire Unit 1 Ambulance **Add if faster than other units*	2 Fire Unit 1 Battalion Chief	2 Fire Unit *Incident Mgt Team* *Fire Dispatch Liaison* *Fire Defense Board Chief*	2 Fire Unit
Headache	Code 3	1 Car* 1 Medic, Rescue, Squad, or Fire Unit 1 Ambulance **Add if faster than other units*	2 Fire Unit 1 Battalion Chief	2 Fire Unit *Incident Mgt Team* *Fire Dispatch Liaison* *Fire Defense Board Chief*	2 Fire Unit
Heat/Cold Exposure	Code 3	1 Car* 1 Medic, Rescue, Squad, or Fire Unit 1 Ambulance **Add if faster than other units*	2 Fire Unit 1 Battalion Chief	2 Fire Unit *Incident Mgt Team* *Fire Dispatch Liaison* *Fire Defense Board Chief*	2 Fire Unit
Hit and Run Injuries	Code 3	1 Car or Medic* 1 Rescue, Squad, or Fire Unit 1 Ambulance **Add if faster than other units*	2 Engine 1 Truck 1 Heavy Rescue 1 Battalion Chief	2 Fire Unit *Incident Mgt Team* *Fire Dispatch Liaison* *Fire Defense Board Chief*	2 Fire Unit
Industrial Accident	Code 3	1 Car* 1 Medic, Rescue, Squad, or Fire Unit 1 Ambulance **Add if faster than other units*	2 Fire Unit 1 Battalion Chief	2 Fire Unit *Incident Mgt Team* *Fire Dispatch Liaison* *Fire Defense Board Chief*	2 Fire Unit

Medical Call Type	Response Mode	Initial Assignment	Second Alarm	Third Alarm	Fourth Alarm +
Mass Casualty Incident	Code 3	3 Rescue, Squad, Medic, or Fire Unit 1 Rescue/Squad (RZ) 1 Heavy Squad 2 Battalion Chief 2 Ambulance	3 Rescue, Squad, Medic, or Fire Unit 2 Ambulance *Incident Mgt Team* *Fire Dispatch Liaison*	3 Rescue, Squad, Medic, or Fire Unit 1 Rehab 2 Ambulance *Fire Defense Board Chief*	3 Rescue, Squad, Medic, or Fire Unit 1 Rehab 2 Ambulance
Mass Casualty Weapons	Code 3	2 Fire Unit 2 Medic or Rescue 1 Rescue/Squad (RZ) 2 Battalion Chief 2 Ambulance	1 Fire Unit 1 Heavy Squad 1 Ambulance *Incident Mgt Team* *Fire Dispatch Liaison*	1 Fire Unit 1 Rehab 1 Ambulance *Fire Defense Board Chief*	1 Fire Unit 1 Rehab 1 Ambulance
Medical Transport (Interfacility Transfer)	Code 3	1 Medic or Rescue			
Overdose/Poison	Code 3	1 Car* 1 Medic, Rescue, Squad, or Fire Unit 1 Ambulance **Add if faster than other units*	2 Fire Unit 1 Battalion Chief	2 Fire Unit *Incident Mgt Team* *Fire Dispatch Liaison* *Fire Defense Board Chief*	2 Fire Unit
Pregnancy/Childbirth/ Miscarriage	Code 3	1 Car* 1 Medic, Rescue, Squad, or Fire Unit 1 Ambulance **Add if faster than other units*	2 Fire Unit 1 Battalion Chief	2 Fire Unit *Incident Mgt Team* *Fire Dispatch Liaison* *Fire Defense Board Chief*	2 Fire Unit
Seizures	Code 3	1 Car* 1 Medic, Rescue, Squad, or Fire Unit 1 Ambulance **Add if faster than other units*	2 Fire Unit 1 Battalion Chief	2 Fire Unit *Incident Mgt Team* *Fire Dispatch Liaison* *Fire Defense Board Chief*	2 Fire Unit
Send Medical	Code 3	1 Car* 1 Medic, Rescue, Squad, or Fire Unit 1 Ambulance **Add if faster than other units*	2 Fire Unit 1 Battalion Chief	2 Fire Unit *Incident Mgt Team* *Fire Dispatch Liaison* *Fire Defense Board Chief*	2 Fire Unit
Shooting	Code 3	1 Car* 1 Medic, Rescue, Squad, or Fire Unit 1 Ambulance **Add if faster than other units*	2 Fire Unit 1 Battalion Chief	2 Fire Unit *Incident Mgt Team* *Fire Dispatch Liaison* *Fire Defense Board Chief*	2 Fire Unit
Sick Person	Code 3	1 Car* 1 Medic, Rescue, Squad, or Fire Unit 1 Ambulance **Add if faster than other units*	2 Fire Unit 1 Battalion Chief	2 Fire Unit *Incident Mgt Team* *Fire Dispatch Liaison* *Fire Defense Board Chief*	2 Fire Unit

Medical Call Type	Response Mode	Initial Assignment	Second Alarm	Third Alarm	Fourth Alarm +
Suicide Attempt	Code 3	1 Car* 1 Medic, Rescue, Squad, or Fire Unit 1 Ambulance **Add if faster than other units*	2 Fire Unit 1 Battalion Chief	2 Fire Unit *Incident Mgt Team* *Fire Dispatch Liaison* *Fire Defense Board Chief*	2 Fire Unit
Toxic Exposure	Code 3	1 Car* 1 Rescue, Squad, or Fire Unit 1 Ambulance *HazMat Lead* **Add if faster than other units*	2 Fire Unit 1 Battalion Chief	2 Fire Unit *Incident Mgt Team* *Fire Dispatch Liaison* *Fire Defense Board Chief*	2 Fire Unit
Traffic Accident Injury	Code 3	1 Car or Medic* 1 Rescue, Squad, or Fire Unit 1 Ambulance **Add if faster than other units*	2 Engine 1 Truck 1 Heavy Rescue 1 Battalion Chief	2 Fire Unit *Incident Mgt Team* *Fire Dispatch Liaison* *Fire Defense Board Chief*	2 Fire Unit
Trauma	Code 3	1 Car* 1 Medic, Rescue, Squad, or Fire Unit 1 Ambulance **Add if faster than other units*	2 Fire Unit 1 Battalion Chief	2 Fire Unit *Incident Mgt Team* *Fire Dispatch Liaison* *Fire Defense Board Chief*	2 Fire Unit
Unconscious/Fainting	Code 3	1 Car* 1 Medic, Rescue, Squad, or Fire Unit 1 Ambulance **Add if faster than other units*	2 Fire Unit 1 Battalion Chief	2 Fire Unit *Incident Mgt Team* *Fire Dispatch Liaison* *Fire Defense Board Chief*	2 Fire Unit

NOTABLE DEPLOYMENT INFLUENCES

2020

January 1

- Second Floater BC (C71) was assigned a modified Detroit schedule to fill vacancies throughout the entire year. This position was previously only assigned this schedule during the summer months—July through December—and transferred to days during the winter months to support the Training Division January through June.
- Moved Station 50 and Station 56 from C6's battalion to C7's battalion.
- Ended existing units:
  - Boat 21
  - Brush 52
  - Brush 62
  - Brush 70
  - Car 61
  - Car 65
  - Car 66
  - Heavy Brush 372
  - Heavy Brush 57
  - Heavy Brush 58
  - Heavy Brush 64
  - Medic 33
  - Medic 53
  - Medic 62
  - Medic 67
  - Rescue 21
  - Squad 372
  - Truck 20
  - Water Rescue 21
  - Water Tender 17
  - Water Tender 19
  - Water Tender 20A
  - Water Tender 20B
  - Engine 20 (ended as a swing engine, became a primary engine)
  - Engine 21 (ended as a primary engine, became a swing engine)
- Deployed new units:
  - Heavy Brush 20
  - Medic 21
  - Truck 21
  - Boat 20
  - Water Rescue 20
  - Squad 39
  - Heavy Brush 52
  - Rescue 53
  - Brush 57
  - Medic 61
  - Heavy Brush 62
  - Car 62
  - Water Tender 62A
  - Water Tender 62B
  - Brush 64
  - Water Tender 35A
  - Water Tender 35B
  - Car 67
  - Heavy Brush 68
  - Squad 70
- Deployed new 12-hour schedule for Rescue 53, Car 62, and Squad 70. Personnel assigned to the schedule work a 42-hour work week at a 42-hour rate (three shifts on-duty, followed by three days or 72 hours off-duty). The shifts begin at 0700 hours and end at 1900 hours and are described as D and E shifts.
- Squad 39 and crews resided and deployed out of Station 34 until the new Station 39 was ready for occupancy in late January.

January 21

- New Station 39 opened. Squad 39 and crews moved into the station.

January 28

- C6 Battalion headquarters moved from Station 34 to Station 39.

March 16 – April 5

- Two state IMTs deployed to the Oregon Health Authority Emergency Operations Center to aid the state in the management of the COVID-19 pandemic.

March 17

- Division Chiefs and directors assessed which positions were critical to maintaining essential emergency and business operations with the goal of reducing the number of staff working in office locations due to the COVID-19 pandemic. For work deemed not essential to emergency and business operations, the division chief/director determined if the position was eligible for telework.
- Doors were locked at all District facilities to prevent public traffic and signs were posted with instructions on how to contact personnel.
- Non-essential meetings and work-related gatherings were limited.
- Non-essential work-travel and training was limited.

March 31

- Outfitted four reserve Medic units and three reserve Cars in preparation for a surge due to COVID-19: Medic 19R/Medic 95; Medic 20R/Medic 96; Medic 56R/Medic 97; Medic 66R/Medic 98; Car 62R/Car 95; Car 66R/Car 96; and Car 97R/Car 97.

April 13 – 28

- One state IMT deployed to the Oregon Health Authority Emergency Operations Center for COVID-19.

April 27 – May 22

- Two state IMTs deployed to the Oregon Health Authority Emergency Operations Center for COVID-19.

April 24

- Squad 39 was programmed and added to Lake Oswego Communications Center Computer Aided Dispatch (LOCOM CAD) as follows:
  - Added as an additional resource on: box response; injury crash; crash with fire; mass casualty incident; and truck fire.
  - Added if the first-in engine or truck is five or more minutes out on: unknown injury crash (where fire is responding); alarms (residential, commercial, medical); lift assist; public assist; odor investigation; miscellaneous non-fire; bark dust fire; chimney fire; miscellaneous fire; and service.
  - This was in addition to the first-in, so Squad 39 would not be the only unit on the call unless it decided it could handle the call on its own and recalled the first-in.
  - Added to the initial assignment on Charlie, Delta, and Echo medical calls.
  - Was not replaced if it was unavailable.
  - Was not added on Alpha and Bravo medical calls.

June 30

- Updated call types and alarm assignments as follows:
  - Added Squad 39 to all first alarm fires with the operational focus of decontamination and rehabilitation.
  - Added Squad 39 and Squad 70 to all call types in their response zone.
  - Added Rescue units to identified call types in their response zone.
  - Ensured consistency of second alarm and greater assignments for fire response.
  - Added call types to be consistent with CAD and appropriately adjusted related resources.

August 13 – 16

- Crews deployed to The Dalles, Oregon to support wildfire operations at the Mosier Creek Conflagration.
- Deployed two heavy brush and one command unit with one task force leader, one task force leader assistant, and six suppression personnel.

August 14 – 16

- Significant wildfire potential required additional staffing. Brush 21 and Brush 64 were upstaffed from 0700 to 1900 hours.

August 28 – September 1

- Crews deployed to Tygh Valley, Oregon to support wildfire operations at the White River Conflagration.
- Deployed two heavy brush, one light brush, and three command units with two State IMTs, one task force leader, two task force leader assistants, and eight suppression personnel.

September 7

- An historic hot weather/high wind event required additional staffing.
- Rescue 53 was upstaffed from 1900 to 0700 hours.
- Brush 64 and Brush 21 were upstaffed from 2000 to 0700 hours.
- Heavy Brush 52, Engine 56, and Brush 58 were upstaffed from 0000 to 0700 hours.

September 8

- Heavy Brush 62 deployed to Gaston, Oregon in response to a mutual aid request to support wildfire operations at the Powerline Conflagration.

September 8

- An historic hot weather/high wind event required additional staffing.
- Brush 64 was upstaffed from 0700 to 2200 hours.
- Brush 21 was upstaffed from 0700 to 1715 hours.
- Heavy Brush 52 was upstaffed from 0700 to 1900 hours.
- Heavy Brush 62 was upstaffed from 0700 to 1300 hours and 2230 to 0700 hours (it was deployed on the Powerline Conflagration from 1300 to 2230 hours).
- Engine 56 was upstaffed from 0700 to 0045 hours.
- Command 71 was upstaffed from 1300 to 1730 hours.
- Heavy Brush 68 was upstaffed from 1300 to 2200 hours.
- Water Tender 35B was upstaffed from 1300 to 1715 hours.
- Water Tender 50A and Water Tender 50B were upstaffed from 1330 to 1800 hours.

September 8 – October 2

- The Bald Peak—Chehalem Mountain wildfire was dispatched at 1721 hours. At its height on Wednesday, September 9, over 60 District and automatic-aid units were working on the fire. Simultaneously, 21 large fires were ignited across the state exhausting all statewide resources. 875 acres were impacted by the fire. Some outbuildings and equipment burned. There was no loss of homes and no injuries to residents, firefighters, or animals.
- September 8 – 15: State of Emergency Period
- September 15 – 20: Mop-up utilizing crews via the District Activities Schedule.
- September 23 – October 2: Mop-up with Oregon Department of Forestry
- September 23: Deployed Brush 60 and Brush 21 from 0700 to 1900 hours.
- September 24 – October 2: Deployed Brush 33 and Brush 21 from 0700 to 1900 hours.

September 8 – 17

- Two command units with two State IMTs deployed to Salem, Oregon, to support wildfire operations at the Beachie Creek Conflagration.

September 8 – 20

- Three command units with three State IMTs deployed to Springfield, Oregon to support wildfire operations at the Holiday Farm Conflagration.

September 10 – 15

- Crews deployed to Clackamas County, Oregon to support wildfire operations at the Clackamas Complex Conflagration.
- Deployed three engines with twelve suppression personnel.

September 10 – 16

- Two command units with two task force leaders and one task force leader assistant deployed to Central Point, Oregon to support wildfire operations at the South Obenchain Conflagration.

September 14 – 19

- Crews deployed to Paisley, Oregon to support wildfire operations at the Brattain Conflagration.
- Deployed two heavy brush with six suppression personnel.

October 2 – 16

- Crews deployed to Santa Rosa, California, through the inter-state, mutual aid EMAC to support wildland operations (EMAC Response).
- Deployed two command units, one heavy brush, and two light brush with one State IMT, one task force leader, one task force leader assistant, and nine suppression personnel.

November 12

- Criteria for the documentation of a patient care report, including minimum documentation requirements for the patient, were revised.

December 16

- Shift schedule for Rescue 53, Car 62, and Squad 70 changed from 12-hour (0700 to 1900 hours, working 3 days on/3 days off) to 10-hour (0700 to 1700 hours, Tuesday through Friday).

2021

February 13 – 14

- A large snow and ice storm required additional staffing. Rescue 53 and Medic 61 were upstaffed from 0700 to 0700 hours on February 13; Rescue 53 and Brush 33 were upstaffed from 0700 to 0700 hours on February 14.

March 1

- Minimum staffing on Rescue 52 changed from two firefighter/paramedics to one company officer/paramedic and one firefighter/paramedic in anticipation of Rescue 52 becoming Rescue 54 when new Station 54 opens.

May 1

- Rescue 53 closed.
- Squad 70 increased staffing from two personnel (40-hour schedule) to two personnel (49-hour schedule).
- Squad 70 deployed out of Station 70 from 0700 to 1900 hours, and out of Station 53 from 1900 to 0700 hours (beginning and ending the shift at Station 53).

June 22 – 25

- Crews deployed to Redmond, Oregon for standby to support potential wildfire operations as part of Central Oregon Resource Pre-Positioning.
- Deployed two heavy brush and one command unit with one task force leader, one task force leader assistant, and six suppression personnel.

June 26 – 28

- Excessive heat, with temperatures well above 100 degrees, required additional staffing. Brush 19, Brush 21, and Brush 64 were upstaffed from 0700 to 1900 hours.

June 30 – July 3

- Crews deployed to The Dalles, Oregon to support wildfire operations at the Wrentham Market Conflagration.
- Deployed one heavy brush, one brush, and four command units with four state IMTs and five suppression personnel.

July 1

- Rehab 333 became Rehab 39 operating out of Station 39.
- Station 39 personnel begin responding in Rehab 39 to greater alarm fires to set up decontamination and rehabilitation.
- Squad 39 minimum staffing changed from one officer and one firefighter to one officer and one apparatus operator. Either the officer or the apparatus operator must be a paramedic.
- Deployed Engine 39, Tuesday through Friday from 0700 to 1700 hours. Minimum staffing of two firefighters.
- The company officer and apparatus operator assigned to Squad 39 worked on both Engine 39 and Squad 39: Engine 39 from 0700 to 1700 hours, Tuesday through Friday; and Squad 39 from 0700 to 0700 hours on Saturday through Monday, and from 1700 to 0700 hours on Tuesday through Friday.
- Engine 333 was assigned to the volunteers at Station 33.

July 2 – 5

- Crews deployed to Chiloquin, Oregon for standby to support potential wildfire operations as part of Southern Oregon Resource Pre-Positioning.
- Deployed one heavy brush with one task force leader assistant and three suppression personnel.

July 3 – 4

- Four command units with four state IMTs deployed to The Dalles, Oregon to support wildfire operations at the Sunset Valley Conflagration.

July 4 – 5

- Four command units with four state IMTs deployed to The Dalles, Oregon for standby to support potential wildfire operations as part of Wasco County Resource Pre-Positioning.

July 6 – 13

- One command unit with one state IMT deployed to Roseburg, Oregon to support wildfire operations at the Jack Conflagration.

July 7 – 28

- Crews deployed to Chiloquin, Oregon to support wildfire operations at the Bootleg Conflagration.
- Deployed one heavy brush and five command units with five state IMTs and three suppression personnel.

July 12 – 17

- Three command units with three state IMTs deployed to Sisters, Oregon to support wildfire operations at the Grandview Conflagration.

July 17 – 24

- One command unit with one state IMT deployed to Wallowa, Oregon to support wildfire operations at the Elbow Creek Conflagration.

August 10 – 17

- Three command units with three state IMTs deployed to Oakridge, Oregon to support wildfire operations at the Middle Fork Conflagration.

August 11 – 13

- Extreme temperatures required additional staffing. Brush 21 and Brush 64 were upstaffed from 0700 to 1900 hours.

August 13 – 21

- One command unit with one state IMT deployed to Lakeview, Oregon to support wildfire operations at the Patton Meadow Conflagration.

September 8 – 15

- Two command units with two state IMTs deployed to Lakeview, Oregon to support wildfire operations at the Cougar Peak Conflagration.

September 20

- New Station 54 opened. Rescue 52 became Rescue 54.

November 5

- Provided support and coverage for Forest Grove Fire & Rescue for a memorial service. Engine 51 was upstaffed from 1500 to 0700 hours.

November 16

- Second Floater BC (C71) was transferred to days to support the Training Division. This position was previously assigned a modified Detroit schedule to fill battalion chief vacancies throughout the entire year.

December 4

- Provided support and coverage for Portland Fire & Rescue for a memorial service. Engine 51 was upstaffed from 0700 to 1530 hours, and Engine 68 was upstaffed from 0700 to 1630 hours.

December 27 – 28

- A winter weather advisory required additional staffing. Medic 98 was upstaffed from 0700 to 1700 hours.

2022

January 25

- Community Health and Resource Management (CHARM) pilot program began.
- Car 97 self-dispatches=d out of the Command and Business Operations Center Monday through Thursday from 0700 to 1700 hours.

January 28 – February 17

- Deployed three 24-hour transport units in response to a request from Washington County EMS to assist Metro West Ambulance with transport services in Tualatin, King City, Progress, and their surrounding areas:
  - Medic 95, operated out of Station 53, and was staffed Tuesday through Friday with personnel assigned to Car 62 and Car 67 from 0700 to 1700 hours (Car 62 and Car 67 were closed) and personnel assigned to Squad 70 from 1700 to 0700 hours (Squad 70 was closed from 1700 to 0700 hours), and Saturday through Monday with personnel assigned to Squad 70 (Squad 70 was closed).
  - Medic 96, operated out of Station 34, and was staffed Tuesday through Friday with personnel assigned to Medic 61 from 0700 to 1700 hours (Medic 61 was closed) and overtime from 1700 to 0700 hours, and Saturday through Monday with overtime.
  - Medic 97, operated out of Station 35, and was staffed daily with personnel assigned to Medic 35 from 0700 to 0700 hours (Medic 35 was closed).

March 1

- The majority of District-wide COVID-19 restrictions were lifted.
  - All District facilities, including fire stations, were open to the public, vendors, and service providers.
  - Non-essential meetings and work-related gatherings resumed (with the exception of indoor community events).
  - Non-essential work-travel and training resumed.

May 15

- Additional COVID-19 restrictions are lifted.
  - Indoor community events (school visits, fire station tours, and fire station open houses) resumed.

June 16

- Personnel could no longer be ordered back to work on Cars (effort to address staffing challenges). Vacancies on Cars followed normal filling procedures, but Cars were closed and not staffed if there were no personnel who opted to work them.

July 5

- Changed the unit IDs and deployment of the following secondary transport units due to the variability occurring with patient transport services in Washington County:
  - Medic 20R (M20R) became Medic 20A (M020A)
  - Medic 52R (M52R) became Medic 52 (M052 & M052T)
  - Rescue 53 (R53) became Medic 53 (M053 & M053T)
  - Medic 56R (M56R) became Medic 56 (M056 & M056T)
  - Medic 66R (M66R) became Medic 66 (M066 & M066T)
- The new primary unit ID (M052, M053, etc.) allowed these units to be programmed for primary 9-1-1 services like any frontline medic, and used as an additional unit in the system (e.g. callback for extreme weather events).
- The new transport-only unit designator for use in CAD (e.g., M052T, M053T) allowed the units to be programmed for transport-only services within TVF&R's area of Washington County and to be dispatched for Metro West Ambulance Level Zero situations or as an additional unit for county transport needs (e.g., callback).
- Station 20 already had Medic 20 as a frontline unit, so an 'A' was added to secondary unit Medic 20A to differentiate it from the frontline unit. Medic 20A did not have a transport-only unit ID because its primary purpose was to support Yamhill County Ambulance Service Area 1.

August 3 - 6

- Crews deployed to Tygh Valley, Oregon to support wildfire operations at the Miller Road Conflagration.
- Deployed one heavy brush and one brush with five suppression personnel.

August 28 – September 7

- Crew deployed to Merlin, Oregon to support wildfire operations at the Rum Creek Conflagration.
- Deployed one heavy brush with three suppression personnel.

September 1

- Medic 61 became Medic 64, operating out of Station 64 from 0700 to 1700 hours on Tuesday through Friday.
- Squad 70 closed and moved to the Logistics Service Center as a reserve unit.
- Deployed Rescue 70, operating out of Station 70 from 0700 to 1900 hours, and out of Station 53 from 1900 to 0700 hours (beginning and ending the shift at Station 53).
- Rescue 70 retained 'Squad' CAD assignments for dispatch (similar to Rescue 54).
- Car 64 closed and moved to the Logistics Service Center as a reserve unit.

September 3 - 13

- Crews deployed to Joseph, Oregon to support wildfire operations at the Double Creek Conflagration.
- Deployed one heavy brush and one command unit with one task force leader, one task force leader assistant, and three suppression personnel.

September 9 – 10

- Three command units with three state IMTs deployed to Salem, Oregon for standby to support potential wildfire operations as part of the Staging Mobilization for Wind Event.

September 10 – 16

- Three command units with three state IMTs deployed to Oakridge, Oregon to support wildfire operations at the Cedar Creek Conflagration.

September 28 – October 11

- One state IMT deployed to Wauchula, Florida to support Emergency Operations Center operations for Hurricane Ian.

October 1

- Deployed Car 61, operating out of Station 61 from 0700 to 1700 hours on Monday through Thursday.

December 23

- Widespread ice, wind, and extremely cold temperatures required additional staffing; Medic 56 was upstaffed from 0700 to 0700 hours.

2023

January 1

- Car 34, Car 51, Car 61, Car 62, and Car 67 closed.
- Deployed Medic 66, operating out of Station 66 from 0700 to 1700 hours on Tuesday through Friday.
- Medic 66 retained its transport-only unit designator for use in CAD (M066T), which allowed it to continue to be used for transport-only services within TVF&R's area of Washington County and to be dispatched for Metro West Ambulance Level Zero situations or as an additional unit for county transport needs (e.g., callback) when it was unstaffed.
- Personnel were not ordered back to work on Medic 66 (continued effort to address staffing challenges). Vacancies on Medic 66 followed normal filling procedures, but if one seat did not fill with an EMT-Paramedic, available personnel at any other EMT level could call the staffing station to manually accept. Medic 66 was closed and not staffed if there were not two personnel who opt to work it.
- Deployed Car 66 as a secondary unit, available to operate out of Station 66 from 0700 to 1700 hours on Tuesday through Friday. Car 66 was only staffed if Medic 66 was not fully staffed (e.g., only had one person working during any part of its shift).

January 16

- Medic 64 increased staffing from two personnel (40-hour schedule) to two personnel (49-hour schedule).
- Medic 64 became a new medic type in the staffing system, automating calling to available personnel at any EMT level after one seat on the unit had filled with an EMT-Paramedic. Vacancies on Medic 64 followed different filling procedures than the other medic units; the call lists created according to normal filling procedures on the other medic units only include EMT-Paramedics, while the call lists (to fill the remaining seat) on Medic 64 included personnel at any EMT level because there was already an EMT-Paramedic in the other seat.

February 1

- Heavy Brush 68 became Heavy Brush 58 operating out of Station 58.
- Brush 58 became volunteer response apparatus Brush 333 operating out of Station 33.
- Engine 333 changed from a volunteer response apparatus to a frontline reserve apparatus at Station 17.
- Squad 70 changed from a reserve unit at the Logistics Service Center to volunteer response apparatus Brush 372 operating out of Station 72.
- Any fires in Station 72's area dispatched Engine 372, and closest force were tapped for rehab support from Brush 333 or Brush 372.

February 15

- A memorial service was held for a Gresham Firefighter. Engine 39 and Engine 57 attended the service, and Engine 50 and Truck 55 covered Gresham Fire Station 71 from 1200 to 1700 hours.

February 21

- The Washington County Board of Commissioners voted to enter into negotiations with American Medical Response (AMR) to serve as the new ambulance provider for Washington County's EMS system.

February 22

- Heavy snowfall resulted in the second-snowiest day ever recorded in the Portland metro area.

June 13 - 16

- Crews deployed to Hermiston, Oregon to support wildfire operations at the Mount Hebron Conflagration.
- Deployed one command unit and one brush with one task force leader and two suppression personnel.

July 23 - 27

- Crews deployed to Bonanza, Oregon to support wildfire operations at the Golden Conflagration.
- Deployed two heavy brush with six suppression personnel.

August 1

- AMR officially became the ambulance provider for Washington County's EMS system.

August 4 - 7

- Crews deployed to Redmond, Oregon as part of Jefferson County Pre-Positioning to support potential wildfire operations.
- Deployed one brush and one heavy brush with five suppression personnel.

August 13 – 15

- Extreme temperatures required additional staffing. Heavy Brush 69 and Brush 33 were upstaffed from 0700 to 1900 hours.

August 14 - 22

- One command unit with one state IMT deployed to Leaburg, Oregon to support wildfire operations at the Lookout Conflagration.

August 14 - 19

- Crews deployed to Pleasant Hill, Oregon to support wildfire operations at the Bedrock Conflagration.
- Deployed one brush and one heavy brush with five suppression personnel.

August 26 – September 3

- Crews deployed to Umpqua, Oregon to support wildfire operations at the Tyee Ridge Complex Conflagration.
- Deployed two command units, one brush, and one heavy brush with two state IMTs and five suppression personnel.

October 2

- Six new interns joined TVF&R's revamped intern program with assignments at Stations 20 and 52.

November 1

- WCCCA began triaging and dispatching BLS 9-1-1 ambulances from AMR, in addition to the existing ALS 9-1-1 ambulance system, as part of the new Ambulance Service Area plan in Washington County.

December 2

- A memorial service was held for a Gresham Firefighter. Engine 60 attended the service, and Engine 50 and Truck 55 covered Gresham Fire Station 71 from 0730 to 1530 hours.

December 20

- Due to a potential mold exposure at Station 20, Incident Management Team 3 was activated and assigned to relocate Station 20 crews to other stations until professional assessments and evaluations could be made.

December 23

- Units relocated to the following locations due to evaluation for potential mold conditions at Station 20:
  - Engine 20 to Station 21
  - Medic 20 to Station 21
  - Rescue 20 to Station 33
  - Engine 21 (Swing Engine) to Station 20
- Personnel assigned to work Engine 20, Medic 20, or Rescue 20 on December 23 & 24 reported to Station 20 for morning shift change and then reported to the temporary locations for the duration of the shift. On the morning of December 25 and for the duration of the relocation, personnel reported to the above locations for normal shift change.
- Water Rescue 20 remained at Station 20. Engine 20 responded to get the apparatus if needed.

December 23 – 31

- Interns assigned to Station 20 were asked not to report to work due to evaluation for potential mold conditions at Station 20.

2024

January 1

- Medic 64 and Medic 66 closed.
- Deployed Rescue 64, operating out of Station 64 from 0700 to 1700 hours on Tuesday through Friday.
- Deployed the Advanced Practice Community Paramedics (APCP) Team with five full-time members at Stations 20, 34, and 53, and nine adjunct members who backfill positions when needed.
- Deployed Car 34, Car 53, and Car 20 as APCP units.
- Deployed a 12-hour schedule for Car 34 and Car 53. Personnel assigned to the schedule work a 42-hour work week (two shifts on-duty, followed by two days or 48 hours off-duty, followed by three shifts on-duty, followed by two days or 48 hours off-duty, followed by two shifts on-duty, followed by three days or 72 hours off-duty). The shifts begin at 0700 hours and end at 1900 hours and are described as E and F shifts.
- Car 34 and Car 53:
  - Operated out of Station 34 and Station 53, respectively, from 0700 to 1900 hours daily.
  - Adjunct members were not moved from heavy assets to fill vacancies on these units.
  - Personnel are not ordered back to work these units.
  - Units are staffed on major holidays.
- Car 20:
  - Operated out of Station 20 from 0700 to 1700 hours on Monday through Thursday.
  - Adjunct members were not moved from heavy assets to fill vacancies on the unit.
  - Personnel are not ordered back to work this unit.
  - Follows the 40-hour unit holiday schedule as outlined in SOG 5.2.1.
- Due to evaluation for potential mold conditions at Station 20:
  - Personnel assigned to work as the third EMT-Paramedics on Medic 20 were transferred to Rescue 70.

- Personnel assigned to work as the third EMT-Paramedics on Rescue 20 reported to Station 33 with Rescue 20.
- Interns assigned to Station 20 were transferred to Station 34.
- Car 20 was temporarily relocated to Station 56.

January 2-16

- Incident Management Team 2 was activated and assigned to Lieutenant Carl Horning's Memorial.

January 5

- Station 20 was unavailable to access all day due to drywall demolition and removal.

January 8-12

- Station 20 was unavailable to access due to phase two restoration work; Engine 21 and Water Rescue 20 remained unblocked and accessible through the bay doors.

January 8

- Battalion Chief C7's headquarters were temporarily relocated from Station 21 to Station 34, and Car 34 was temporarily relocated from Station 34 to Station 66.

January 10-19

- Due to the inclement weather forecast, Incident Management Team 1 was activated and assigned to the January weather event.

January 13-19

- Below freezing temperatures, snow accumulation, and very high winds required District leadership to declare Major Emergency Operations mode.
  - A Fire Operations Center was activated and located at the South Operating Center.
  - Battalion Chiefs were assigned as Fire Defense Liaisons at WCCCA to assist with call prioritization on January 14-16.
  - Additional units were upstaffed with career personnel:
    - January 13: Car 34, Car 53, and Rescue 64 from 1900 to 0700 hours.
    - January 14: Rescue 64 from 0700 to 0700 hours; Brush 33 from 0700 to 1900 hours; and Car 53 from 1900 to 0700 hours.
    - January 15: Rescue 64 from 0700 to 0700 hours; and Car 53 from 1900 to 0700 hours.
    - January 16: Brush 33, Utility Pickup 68, and Utility Pickup 350 from 0700 to 0700 hours; Brush 64 from 1700 to 0700 hours; and Car 53 from 1900 to 0700 hours.
    - January 17: Brush 33, Utility Pickup 68, and Utility Pickup 350 from 0700 to 1900 hours.
  - Additional units were upstaffed with volunteer personnel, training officers, and fire inspectors:
    - January 14-15: Utility Pickup 333, Utility Pickup 350, Utility Pickup 372, and two command units.
    - January 16: Brush 333, Utility Pickup 333, Utility Pickup 350, and three command units.
    - January 17: Utility Pickup 68, Utility Pickup 333, Utility Pickup 350, and Utility Pickup 372.
  - The Command and Business Operations Center was unavailable as a work location due to the need to conserve generator power for network connectivity on January 16-17.

January 14

- A frozen sprinkler system pipe broke during very cold temperatures and flooded the officers' bunk room, parts of the hallway, and several areas on the first floor of Station 53.

January 15

- Rescue 70 was temporarily relocated to Station 66 due to water damage at Station 53.

January 15-19

- Units were temporarily relocated to the following locations due to water damage at Station 53:
  - Engine 53 to Station 50
  - Car 53 to Station 67
- HazMat 53 remained at Station 53. Engine 53 responded to get the apparatus if needed.

January 15

- A memorial service was held for Lieutenant Carl Horning. Coverage for on-duty apparatus attending the memorial service began at 0930 hours and ended at 1600 hours:
  - C5 was covered by Hillsboro Fire & Rescue C1.
  - C6 was covered by C78 (from the memorial service).
  - C7 was covered by C7 (from the memorial service).
  - Engine 64 was covered by Hillsboro Fire & Rescue Engine 5.
  - Engine 17 and Brush 17 were covered by Forest Grove Fire & Rescue Rescue 4.
  - Engine 19 and Brush 19 had no coverage.
  - Engine 62 was covered by Forest Grove Fire & Rescue Engine 421.
  - Engine 57 had no coverage.
  - Truck 67 was covered by Engine 67 (as a single unit in the station).
  - Rescue 54 was covered by Canby Fire District Medic 362.
  - Rescue 70 had no coverage.

January 16-22

- Incident Management Team 4 was activated and assigned to the Station 53 crew relocation.
- Rescue 70 was temporarily relocated (from Station 66) to Station 65 due to water damage at Station 53.
- Rescue 70 operated out of Station 70 from 0700 to 1900 hours, and out of Station 65 from 1900 to 0700 hours (beginning and ending the shift at Station 65).

January 18

- Medic 20 was temporarily relocated (from Station 21) to Dundee Fire Department Station 3.

January 24

- To prevent an undue workload to Medic 21 and equalize the distribution of 9-1-1 calls and interfacility transfers in the Newberg area, the EMS Division recommended the following:
  - Rescue 20 moved from Station 33 to Station 21 during day-time hours to provide better coverage of Yamhill County ASA 1, reduce excess call volume on Medic 21, and limit the amount of time it takes for Rescue 20 to respond to Newberg.
  - Medic 20 remained in Dundee but took calls in Newberg, particularly in southern and western portions of Yamhill County ASA 1.

    - Medic 20 moved up to Station 21 when there was only one unit available between Medic 21 and Rescue 20.
    - Medic 20 and Rescue 20 were first in line for interfacility transfer work, with rotations determined by on-duty crews and the Battalion Chief.
    - Medic 21 was placed last-out for any interfacility transfers.
    - Medic 35 was placed back into the matrix for interfacility transfers and can take the first request for any interfacility transfers.
- Personnel assigned to work these units followed these recommendations for the duration of Station 20's temporary closure (and the temporary relocation of units).

January 26

- Engine 21 (Swing Engine) returned to Station 21 (from Station 20).
- Station 20 was unavailable to access to prepare for and conduct air quality testing.

February 1-6

- Units returned to their home stations following favorable air testing results at Station 20:
    - Engine 20 returned to Station 20 (from Station 21) on February 1.
    - Rescue 20 returned to Station 20 (from Station 33) on February 2.
    - Medic 20 returned to Station 20 (from Dundee Fire Department Station 3) on February 5.
    - Battalion Chief C7 returned to Station 21 (from Station 34) on February 5.
    - Car 34 returned to Station 34 (from Station 66) on February 6.
    - Car 20 returned to Station 20 (from Station 56) on February 6.

June 21

- Station 64 was temporarily closed at 1700 hours due to sewer line damage. Personnel assigned to Rescue 64 ended their shift at Station 64.

June 21-23

- Personnel assigned to Engine 64 reported to Station 64 for morning shift change and then to Station 68 for the remainder of the shift.

June 24

- At 0800 hours, units were temporarily relocated to the following locations due to sewer line damage at Station 64:
    - Engine 64 to Station 68.
    - Brush 64 to Station 68.
    - Rescue 64 to Station 61.
- Personnel assigned to work these units reported to the above locations for normal shift change for the duration of the relocation.

June 25-29

- Two command units with two state IMTs deployed to LaPine, Oregon to support wildfire operations at the Darlene 3 Conflagration.

July 3

- Engine 64, Brush 64, and Rescue 64 returned to Station 64.

July 4-6

- Extreme temperatures required additional staffing. Brush 33 was upstaffed from 0700 to 1900 on July 4; Brush 33 and BR64 were upstaffed from 0700 to 1900 on July 5-6.

July 8

- Station 54 was temporarily closed at 1500 hours due to sewer pump failure. Rescue 54 was temporarily relocated to Station 52. Personnel accessed Station 54 to gather needed supplies and personal items, but those assigned to Rescue 54 reported to Station 52 for normal shift change for the duration of the relocation.

July 8-9

- Extreme temperatures required additional staffing. Brush 33 was upstaffed from 0700 to 1900 hours.

July 9

- Rescue 54 returned to Station 54.

July 10-16

- Crews deployed to Tygh Valley, Oregon to support wildfire operations at the Larch Creek Conflagration.
- Deployed one command unit and two heavy brush with eight suppression personnel.

July 12-16

- Two command units with two state IMTs deployed to Brogan, Oregon to support wildfire operations at the Cow Valley Conflagration.

July 15-22

- One brush with two suppression personnel deployed to Riley, Oregon to support wildfire operations at the Falls Conflagration.

July 16-28

- Crews deployed to Lonerock, Oregon to support wildfire operations at the Lone Rock Conflagration.
- Deployed three command units, a heavy brush, and two brush with two state IMTs and eight suppression personnel.

July 20-31

- Crews deployed to Ukiah, Oregon to support wildfire operations at the Battle Mountain Complex – Zone 1 Conflagration.
- Deployed one command unit, one heavy brush, and two brush with eight suppression personnel.

July 22-25

- One brush with two suppression personnel deployed to Mosier, Oregon to support wildfire operations at the Microwave Tower Conflagration.

August 1-5

- Crews deployed to Harney County, Oregon to support wildfire operations at the Telephone Conflagration.
- Deployed three command units, one heavy brush, and one brush with one state IMT and eight suppression personnel.

August 5-10

- Crews deployed to Madras, Oregon to support wildfire operations at the Elk Lane Conflagration.
- Deployed three command units, one heavy brush, and one brush with one state IMT and eight suppression personnel.

August 8-9

- Crews deployed to Gaston, Oregon to support wildfire operations at the Lee Falls mutual aid incident.
- Deployed two command units, one engine, one heavy brush, five brush, and four water tenders, with 46 personnel. This included regularly staffed on-duty units as well as the callback of wildland personnel.

August 16

- Rescue 70 became Squad 70, operating out of Station 70 from 0700 to 1900 hours, and out of Station 53 from 1900 to 0700 hours (beginning and ending the shift at Station 53).
- Brush 64 became Brush 372 and deployed out of Station 372.
- Heavy Brush 62 became Heavy Brush 64 and deployed out of Station 64.

September 2-6

- Crews deployed to Chiloquin, Oregon to support wildfire operations at the Copperfield Conflagration.
- Deployed two command units, one heavy brush, and one brush with two state IMTs and six suppression personnel.

September 5

- Extreme temperatures required additional staffing. Heavy Brush 64 and Brush 19 were upstaffed from 0700 to 1900 hours.

September 7-13

- Crews deployed to Dayville, Oregon to support wildfire operations at the Rail Ridge Conflagration.
- Deployed one command unit, one heavy brush, and two brush with nine suppression personnel.

October 1

- Deployed Rapid Extraction Modular Support 51 and Utility Pickup 51.

October 16

- Six new interns joined TVF&R's intern program with assignments at Stations 33 and 52.

November 5-6

- The tension surrounding the general election required the following:
  - Out-of-station training was canceled on the afternoon of November 5 and all-day on November 6.
  - Companies remained in their station zones and minimized exposure unless responding to incidents after 1200 hours on November 5 and all-day November 6.

SECTION 4: DISTRICT & STATION INCIDENT INFORMATION

DATA DEFINITIONS

Annual Incident Counts vs. Five-Year Combined Incident Counts

Annual incident counts are static based upon the boundary of the District at that time. Five-year combined incident counts are rerun spatially each year based upon the current boundary; therefore, the total of the annual incident counts will not equal the five-year combined incident count.

District Incident Count

District incident totals include automatic aid responses to incidents located outside of TVF&R's jurisdictional boundary. Incident totals do not include move-ups to TVF&R stations by TVF&R crews, interfacility transports, or incidents that occurred within TVF&R's jurisdictional boundary with a response by automatic aid agencies only (no response by TVF&R crews).

Station Zone Incident Counts

Station zone incident totals are the incident count that occurred in the geographical station zone with a response by any TVF&R crew. Incident totals do not include automatic aid responses to areas located outside of TVF&R's jurisdictional boundary, move-ups to TVF&R stations by TVF&R crews, interfacility transports, or incidents that occurred within TVF&R's jurisdictional boundary with a response by automatic aid agencies only (no response by TVF&R crews).

Station Zone Unit Responses

Station zone response totals are the count of responses by individual units (not incidents) and include unit responses outside of the unit's station zone. There are typically more unit responses than incidents because one incident can include responses from multiple units which can be from one or multiple stations.

Automatic Aid Responses Received and Provided

Automatic aid response received totals are the count of responses by neighboring agency individual units (not incidents) into a TVF&R station zone. Automatic aid response provided totals are the count of responses by TVF&R individual units (not incidents) into a neighboring agency's service area, grouped by station. Both datasets are then separated by responses with other agency units and responses by TVF&R units only.

District Incident Information

Figure 4.1 District Incident Density

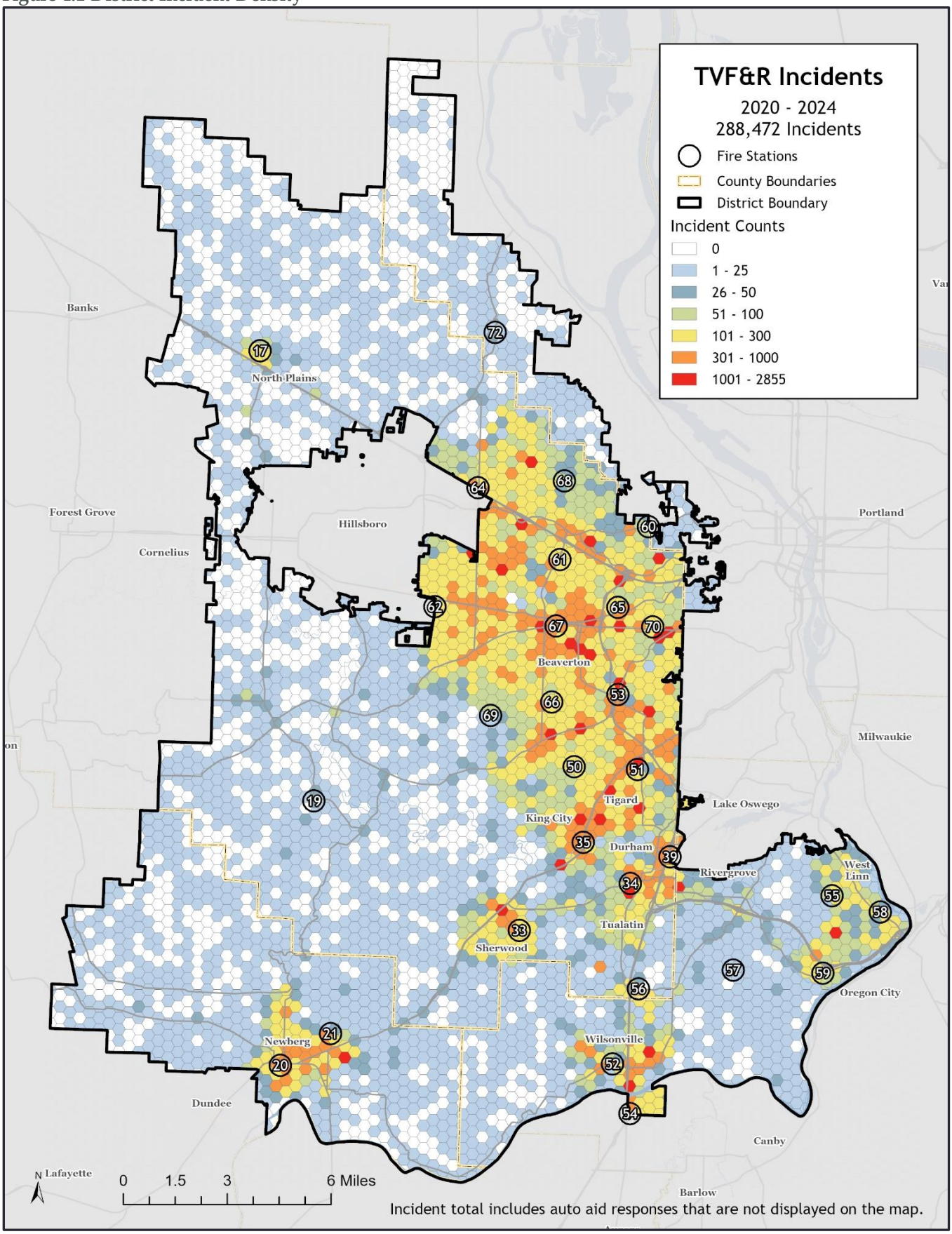


Figure 4.2 District Incident Count

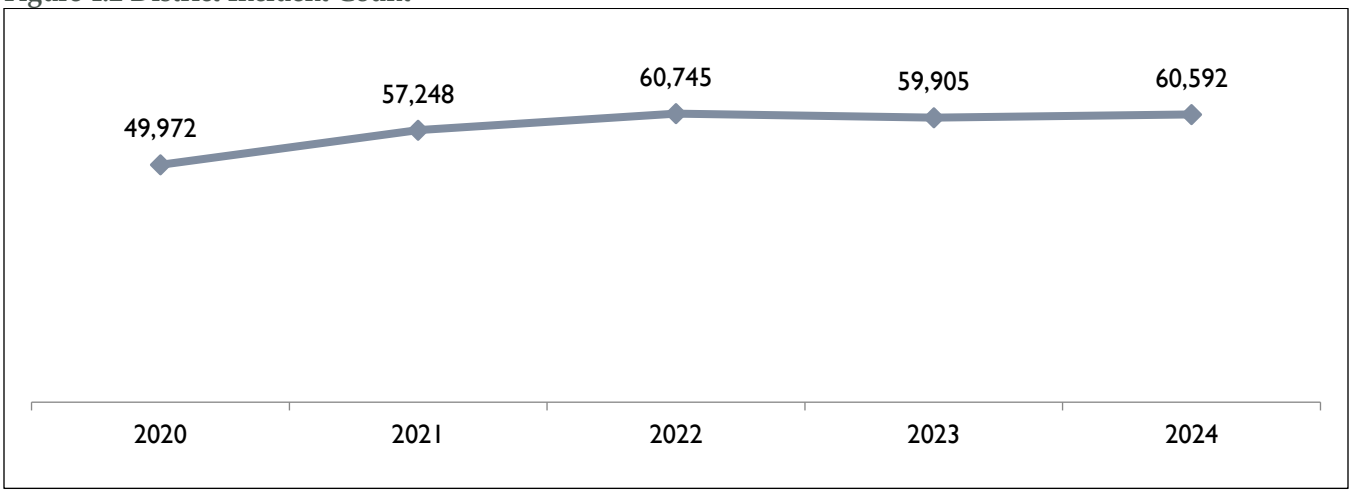


Figure 4.3 District Incident Summary

NFIRS Series	2020		2021		2022		2023		2024	
	Disp Call Type	*Sit Found*	*Disp Call Type*	*Sit Found*	*Disp Call Type*	*Sit Found*	*Disp Call Type*	*Sit Found*	*Disp Call Type*	*Sit Found*
Fire, Explosion	4,421	1,185	4,738	1,296	4,719	1,128	4,964	1,394	5,238	1,217
Overpressure	0	24	0	27	0	27	0	35	0	18
EMS/Rescue Call	40,281	33,904	46,613	40,675	49,987	44,521	49,303	44,199	49,294	42,774
Hazardous Condition	205	1,139	279	1,352	325	1,367	352	1,205	359	1,295
Service Call	5,065	3,447	5,618	2,718	5,705	2,673	5,277	2,286	5,644	2,536
Good Intent Call	0	7,621	0	8,394	0	7,950	0	7,751	0	9,344
False Call	0	2,635	0	2,769	0	3,070	0	3,023	0	3,373
Natural Condition	0	13	0	10	0	3	0	4	0	26
Other Situation	0	4	0	7	9	6	9	8	57	9
Total	49,972		57,248		60,745		59,905		60,592	

Figure 4.4 District Annual Average Incident Count by Month, 2020–2024

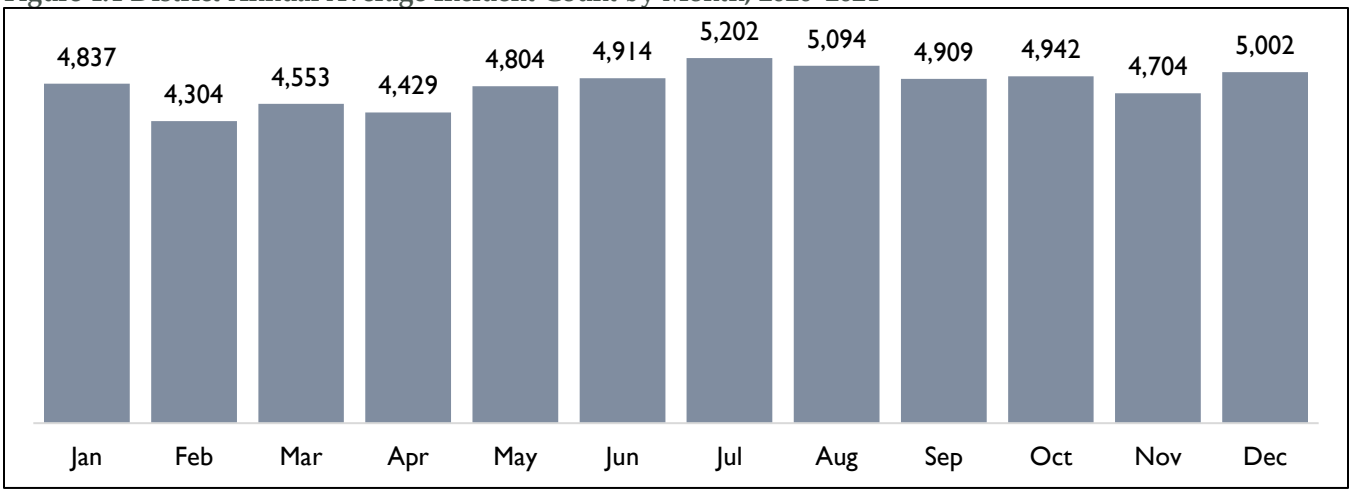


Figure 4.5 District Annual Average Incident Count by Day of Week, 2020–2024

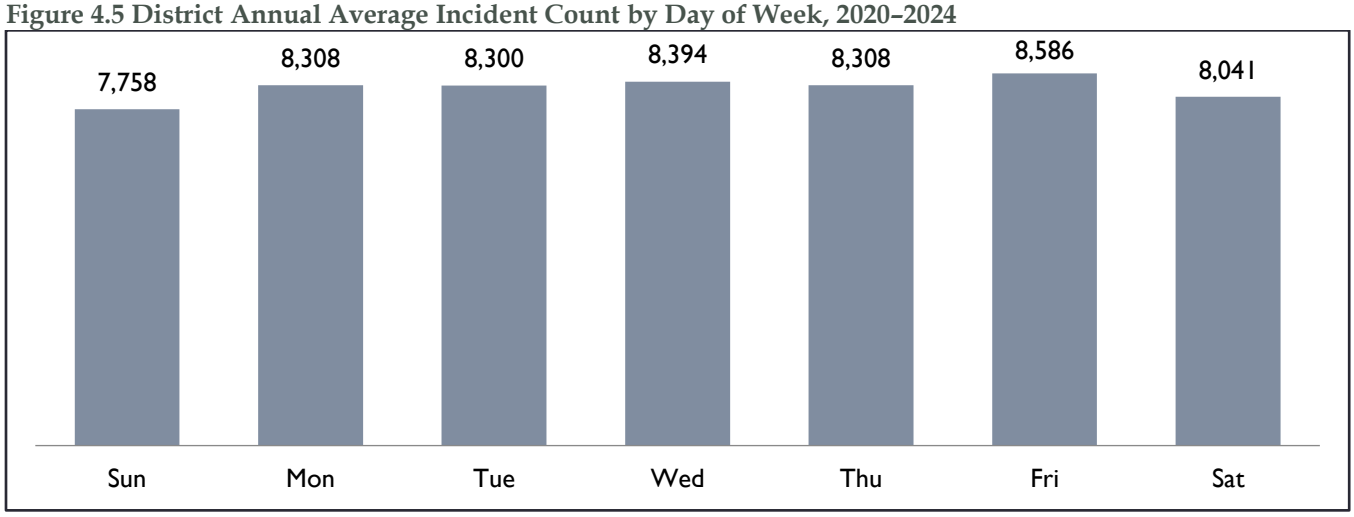


Figure 4.6 District Annual Average Incident Count by Hour of Day, 2020–2024

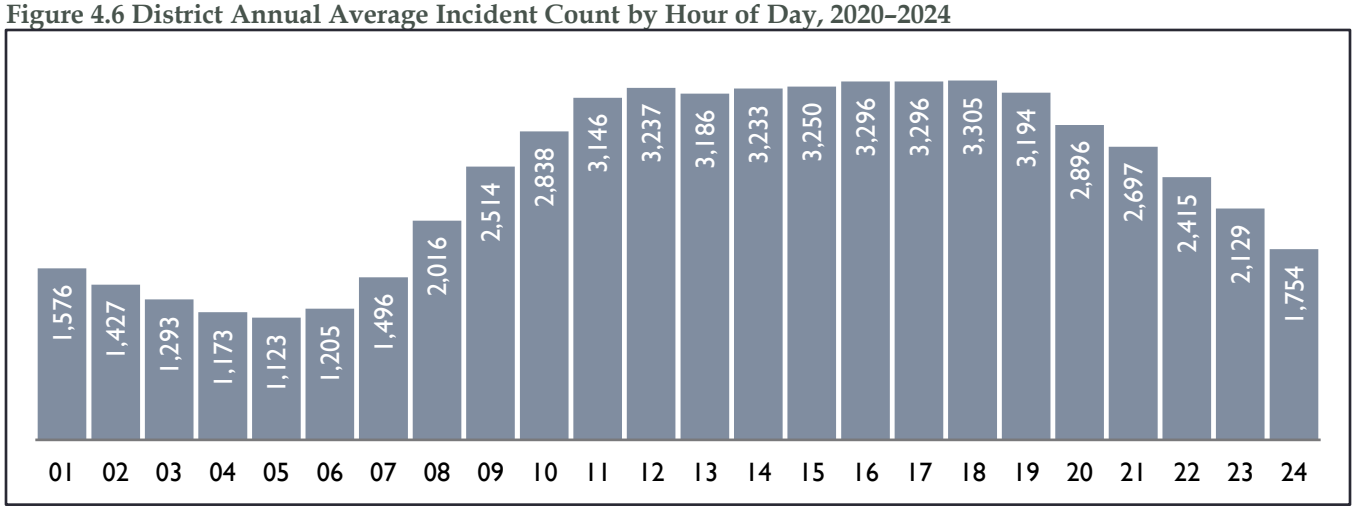


Figure 4.7 Automatic Aid Responses Received, With TVF&R

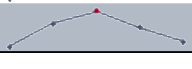
Station Zone	2020	2021	2022	2023	2024	Trend
17	129	147	137	99	123	
19	108	122	117	127	137	
20	180	222	219	182	157	
21	62	69	58	59	32	
33	14	3	3	1	9	
34	27	47	60	49	42	
35	5	5	14	4	8	
39	48	30	47	60	64	
50	3	3	5	0	1	
51	38	64	76	62	67	
52	13	21	11	21	12	
53	24	14	32	34	27	
54	1	4	7	6	5	
55	6	46	46	42	32	
56	7	3	5	14	7	
57	12	15	10	8	8	
58	35	34	27	30	35	
59	39	32	39	12	23	
60	28	12	17	22	26	
61	26	17	20	23	25	
62	273	283	364	308	224	
64	177	241	232	205	184	
65	31	41	51	60	43	
66	3	4	5	3	3	
67	7	10	15	23	13	
68	19	33	33	17	46	
69	4	5	6	3	0	
70	45	66	68	79	57	
District	1,364	1,593	1,724	1,553	1,410	

Figure 4.8 Automatic Aid Responses Received, No TVF&R Units

Station Zone	2020	2021	2022	2023	2024	Trend
17	82	113	113	89	88	
19	69	71	70	79	90	
20	21	8	15	9	9	
21	8	10	2	0	2	
33	1	0	1	1	1	
34	9	24	23	24	16	
35	0	0	0	1	2	
39	50	64	54	59	61	
50	0	0	1	0	0	
51	49	70	76	88	55	
52	3	12	0	4	4	
53	9	4	8	4	5	
55	33	43	38	30	37	
56	0	0	0	1	2	
57	14	16	12	15	12	
58	5	10	1	5	3	
59	10	7	2	3	5	
60	18	31	17	25	23	
61	7	7	14	9	13	
62	466	606	728	674	492	
64	324	354	340	287	313	
65	83	106	91	64	41	
67	4	3	2	3	2	
68	9	11	14	4	4	
69	0	0	1	2	0	
70	82	81	74	50	45	
District	1,356	1,651	1,697	1,530	1,325	

Figure 4.9 Automatic Aid Responses Provided, With Other Agency Units

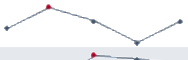
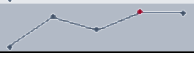
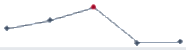
Station Zone/Unit	2020	2021	2022	2023	2024	Trend
C5	16	28	27	21	25	
C6	34	45	47	46	35	
C7	15	21	14	30	36	
17	47	63	59	62	56	
19	23	32	22	15	24	
20	141	425	163	425	452	
21	15	25	22	45	32	
33	3	3	5	11	16	
34	48	50	35	29	29	
35	18	24	20	14	20	
39	66	53	76	73	70	
50	2	2	5	4	7	
51	52	77	55	54	80	
52	189	264	97	92	99	
53	15	22	15	12	15	
54		66	223	243	251	
55	21	28	26	29	29	
56	18	21	25	32	48	
57	7	12	10	15	12	
58	73	66	49	32	21	
59	66	56	57	47	50	
60	2	3	8	9	8	
61	12	29	22	18	23	
62	123	154	168	220	170	
64	129	167	214	247	202	
65	4	3	2	8	12	
66	1	2	1	3	1	
67	15	16	20	26	27	
68	7	24	22	20	20	
69	3	3	3	8	2	
70	0	1	5	6	3	
District	1,165	1,785	1,517	1,896	1,875	

Figure 4.10 Automatic Aid Responses Provided, TVF&R Only

Station Zone/Unit	2020	2021	2022	2023	2024	Trend
C5	1	0	1	3	2	
C6	3	2	0	4	2	
C7	8	10	4	8	7	
17	35	40	35	41	53	
19	9	12	9	16	7	
20	538	675	918	288	296	
21	30	48	25	14	15	
33	0	1	0	2	3	
34	24	16	18	23	17	
35	7	9	16	4	9	
39	10	21	61	59	56	
50	1	1	0	3		
51	25	51	34	33	33	
52	145	67	5	8	7	
53	17	13	7	23	16	
54		4	10	13	14	
55	8	4	13	14	12	
56	8	18	3	3	2	
57	3	6	1	5	4	
58	28	16	15	7	18	
59	5	14	1	7	4	
60	20	23	14	18	24	
61	37	56	55	46	32	
62	275	353	426	436	496	
64	964	1,218	1,287	1,473	1,218	
65	7	11	15	15	5	
66	0	1	3	4	2	
67	5	16	12	11	6	
68	7	8	9	3	7	
69	4	9	8	7	6	
70	0	2	9	4	2	
District	2,224	2,725	3,014	2,595	2,375	

STATION ZONE INCIDENT INFORMATION

Station 17, North Plains

Station 17, located in downtown North Plains on NW Commercial Street, was originally constructed around 1951 and rebuilt in 1998 by the former District 2. This 12,000-square-foot station houses a total of 12 full-time personnel (four personnel on each 24-hour, three-shift schedule). The crew responds to incidents primarily utilizing Engine 17 and can also respond in Brush Rig 17 when needed. At least one crewmember per shift is an EMT-Paramedic capable of providing advanced life support (ALS) treatment.

The 60.2 square miles of Station 17's station zone includes North Plains as well as a large portion of unincorporated Washington County north of Hillsboro and North Plains.

Figure 4.11 St. 17 Station Zone, Incident Density

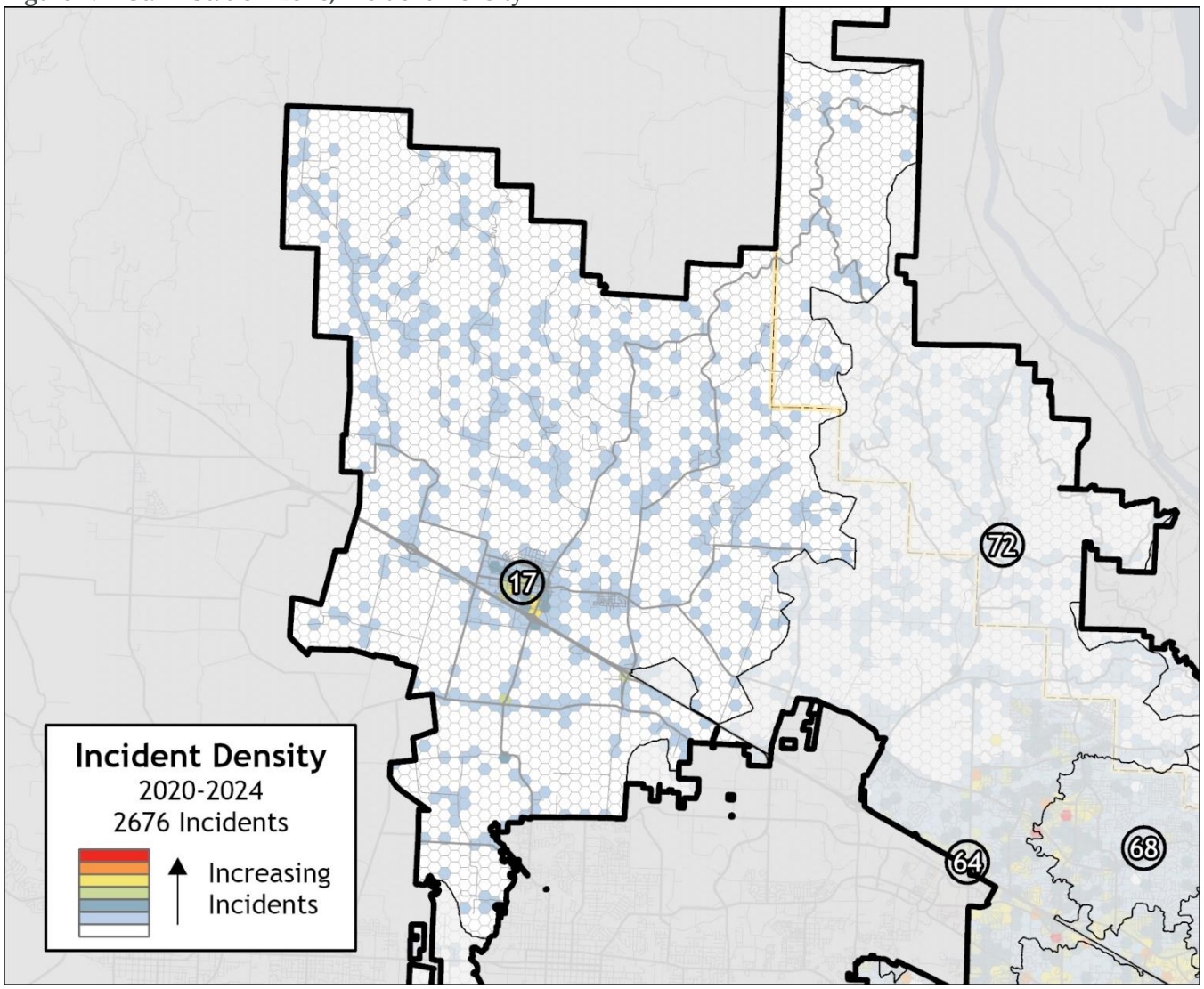


Figure 4.12 St. 17 Station Zone, Incident Count

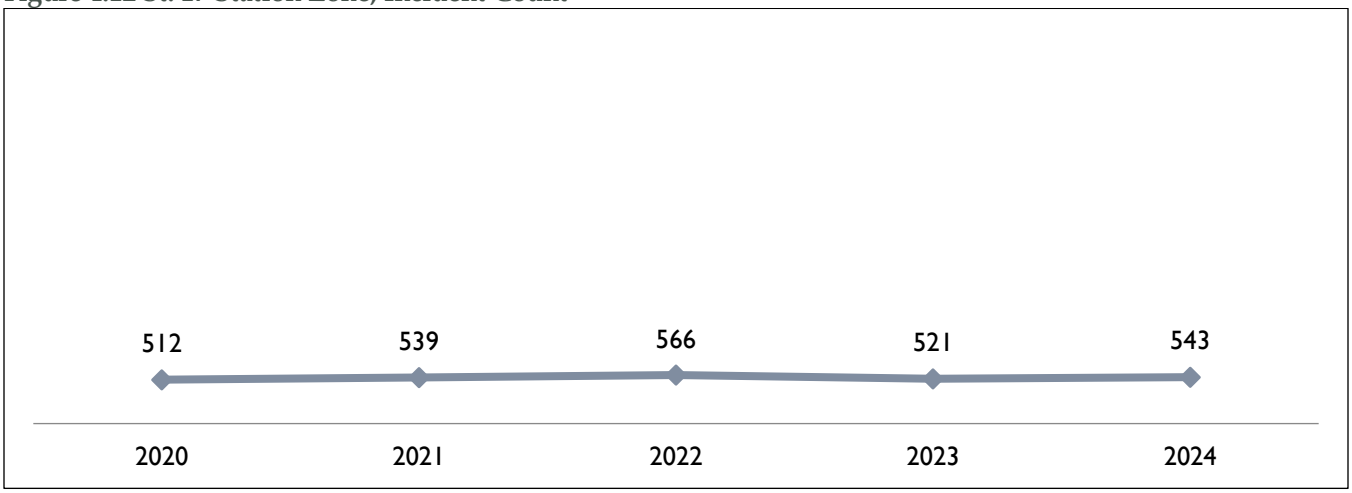


Figure 4.13 St. 17 Station Zone, Incident Summary

NFIRS Series	2020		2021		2022		2023		2024	
	Disp Call Type	*Sit Found*	*Disp Call Type*	*Sit Found*	*Disp Call Type*	*Sit Found*	*Disp Call Type*	*Sit Found*	*Disp Call Type*	*Sit Found*
Fire, Explosion	86	23	92	25	76	24	60	25	62	24
Overpressure	0	0	0	1	0	0	0	0	0	0
EMS/Rescue Call	361	313	384	331	406	357	387	324	414	353
Hazardous Condition	1	33	1	20	4	30	4	26	4	30
Service Call	64	28	62	28	80	32	70	37	63	21
Good Intent Call	0	71	0	90	0	91	0	85	0	88
False Call	0	44	0	44	0	29	0	24	0	26
Natural Condition	0	0	0	0	0	0	0	0	0	0
Other Situation	0	0	0	0	0	3	0	0	0	1
Total	512		539		566		521		543	

Figure 4.14 St. 17 Station Zone, Annual Average Incident Count by Month, 2020–2024

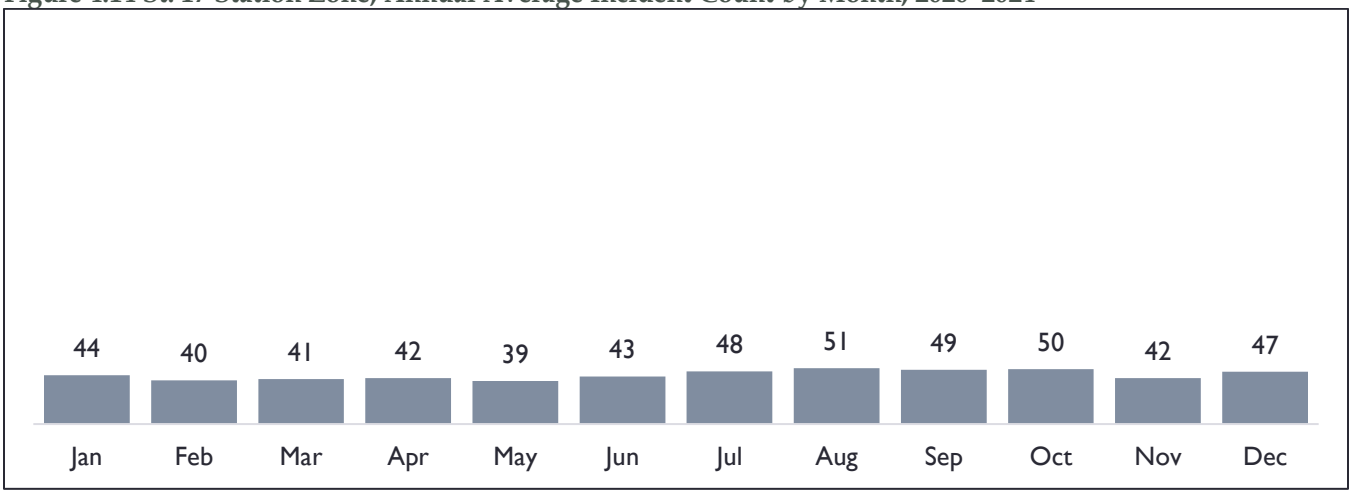


Figure 4.15 St. 17 Station Zone, Annual Average Incident Count by Day of Week, 2020–2024

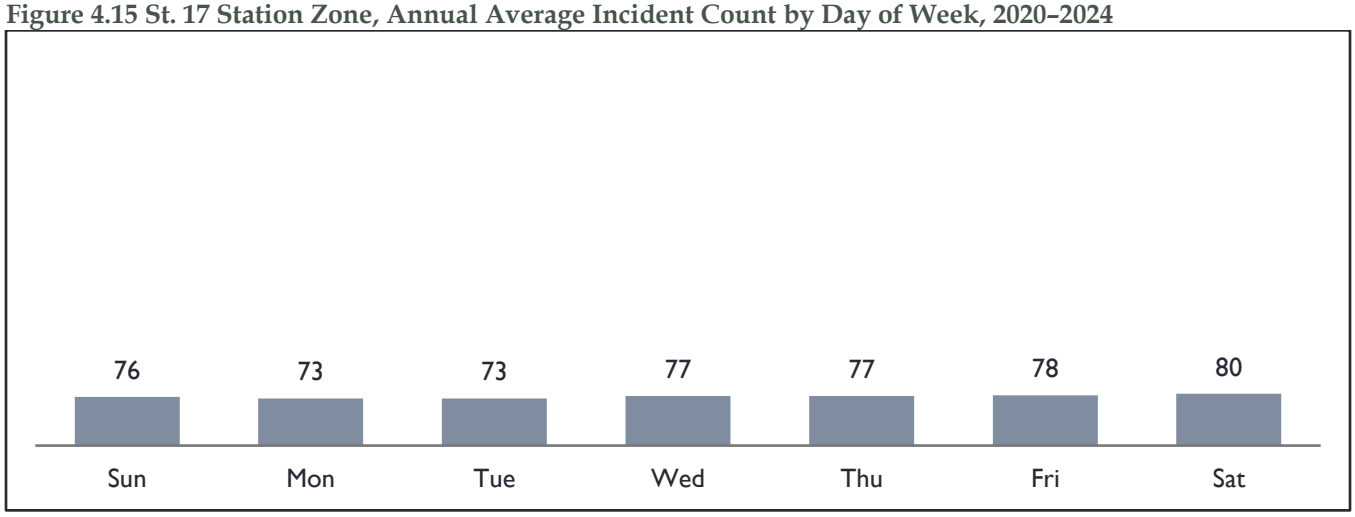


Figure 4.16 St. 17 Station Zone, Annual Average Incident Count by Hour of Day, 2020–2024

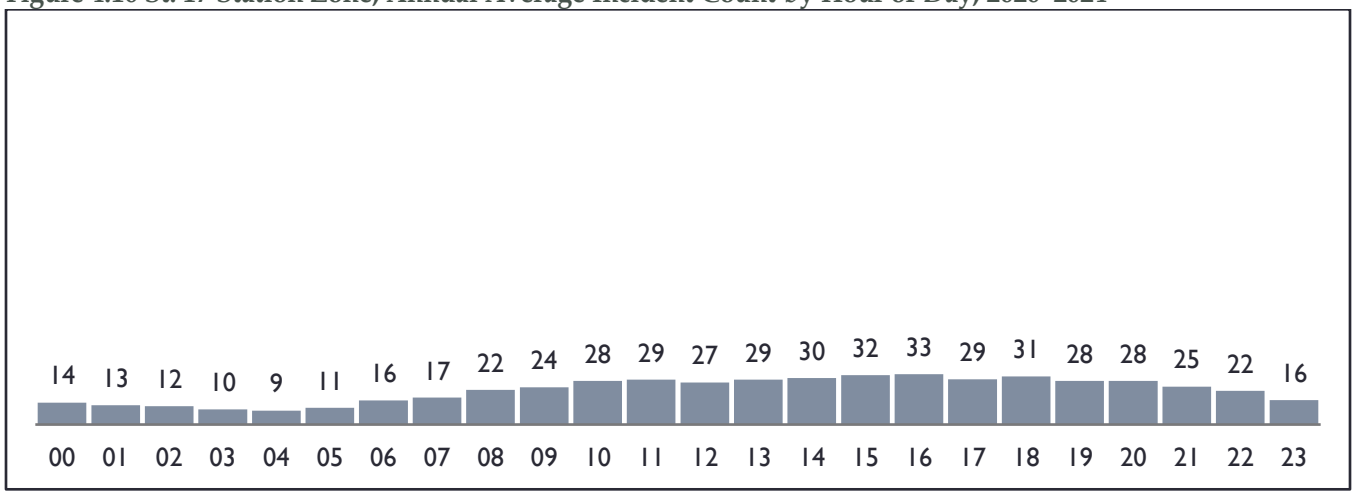
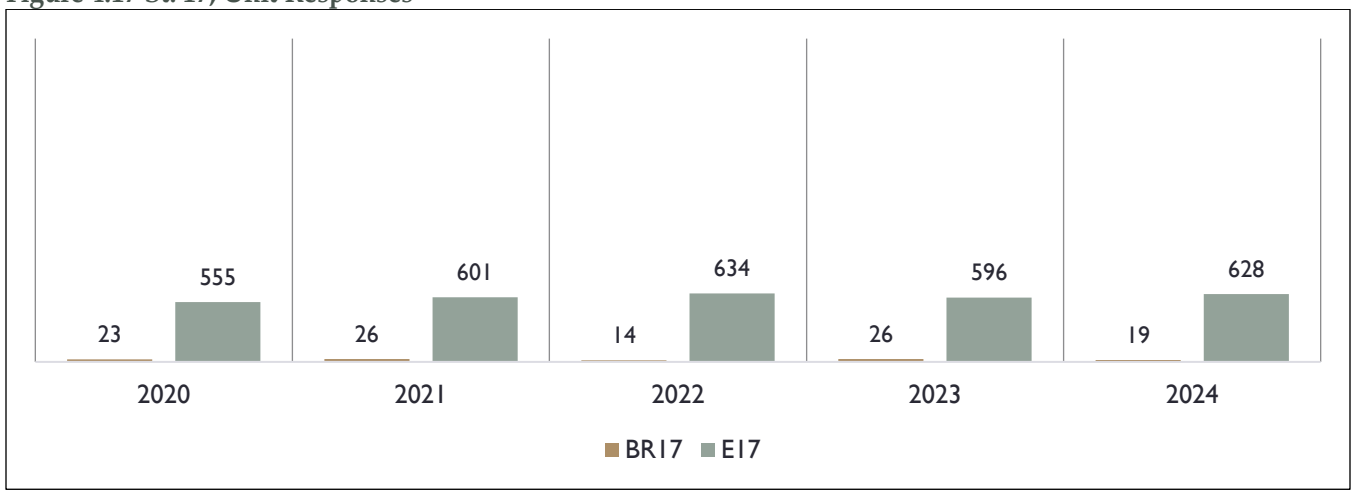


Figure 4.17 St. 17, Unit Responses



Station 19, Midway

Station 19, located on SW Midway Road just off Highway 219, was constructed in the 1950s and rebuilt on a nearby site in 1995. This 14,200-square-foot station houses a total of 12 full-time personnel (four personnel on each 24-hour, three-shift schedule). The crew responds to incidents primarily utilizing Engine 19 and can also respond in Brush Rig 19 when needed. At least one crewmember per shift is an EMT-Paramedic capable of providing advanced life support (ALS) treatment.

The 51.0 square miles of Station 19's station zone consists of a large portion of unincorporated Washington County south of Hillsboro which includes the unincorporated communities of Midway and Scholls, and into the Chehalem Mountains in Yamhill County.

Figure 4.18 St. 19 Station Zone, Incident Density

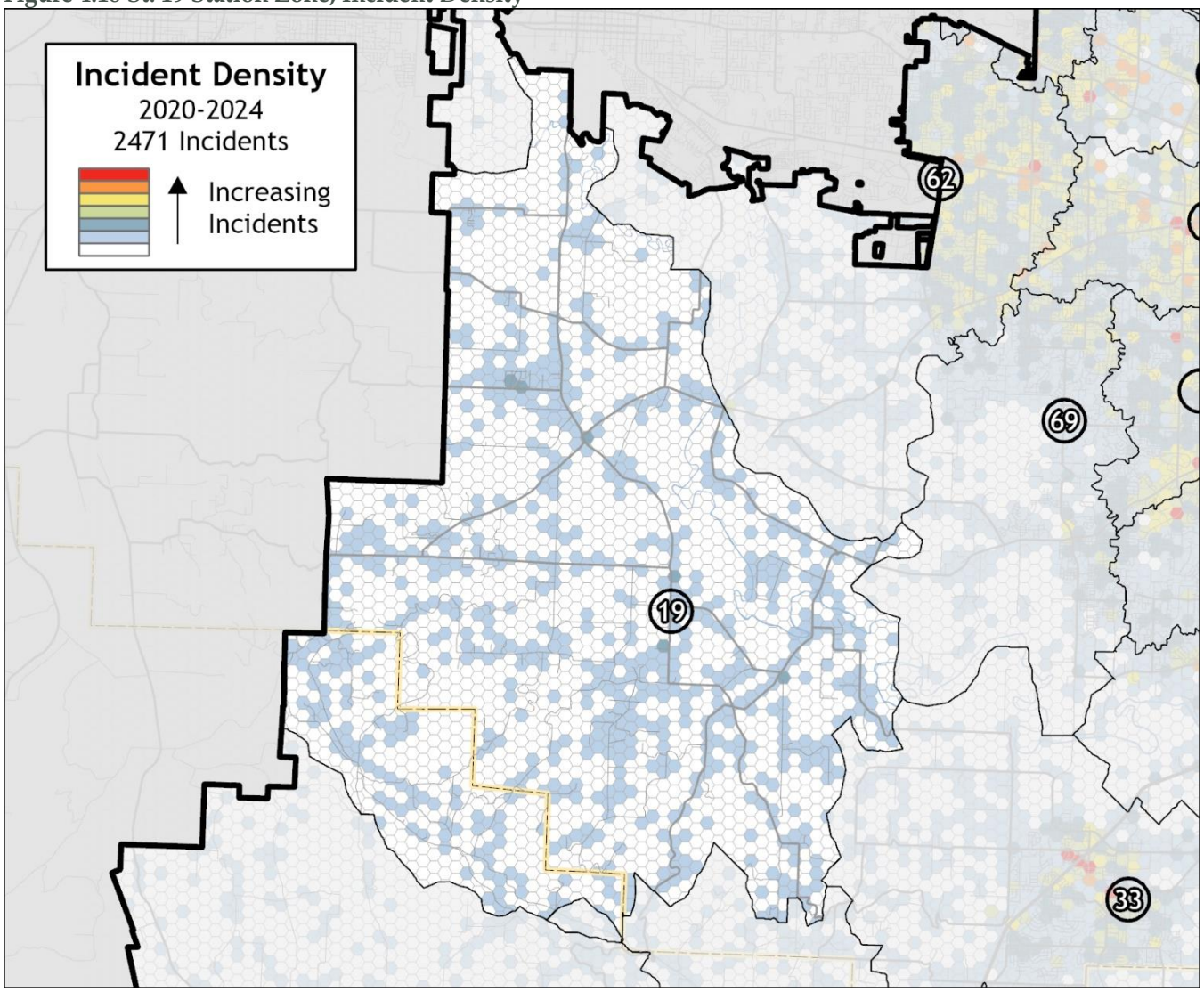


Figure 4.19 St. 19 Station Zone, Incident Count

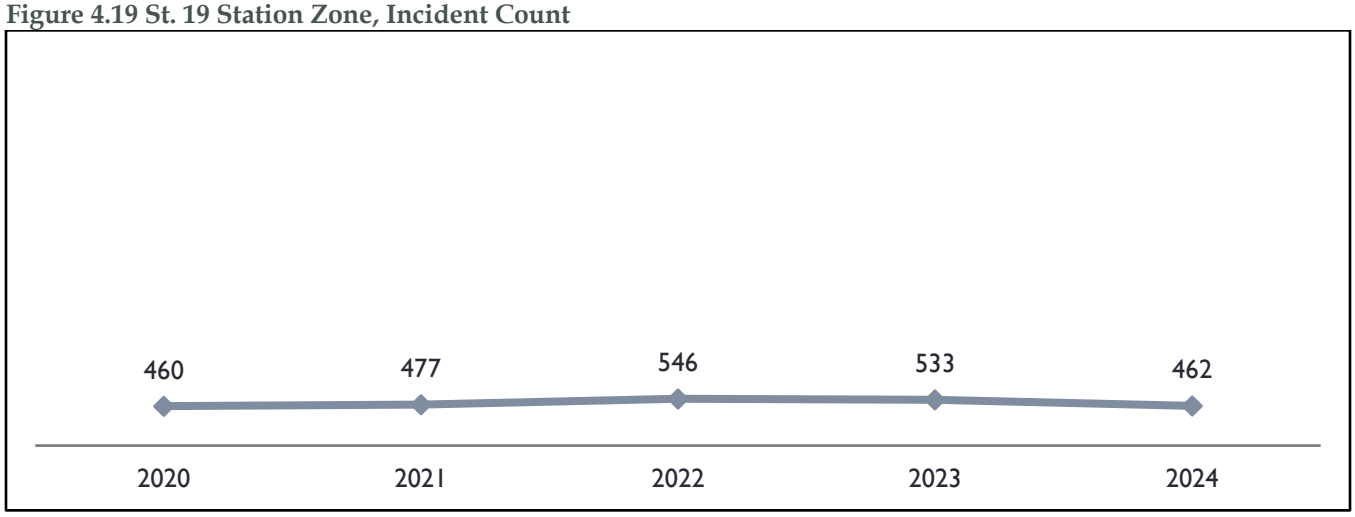


Figure 4.20 St. 19 Station Zone, Incident Summary

NFIRS Series	2020		2021		2022		2023		2024	
	Disp Call Type	*Sit Found*	*Disp Call Type*	*Sit Found*	*Disp Call Type*	*Sit Found*	*Disp Call Type*	*Sit Found*	*Disp Call Type*	*Sit Found*
Fire, Explosion	71	29	73	20	65	21	80	25	51	11
Overpressure	0	0	0	0	0	0	0	0	0	0
EMS/Rescue Call	312	251	320	261	395	344	373	335	351	286
Hazardous Condition		29	1	39	3	34	2	23	1	33
Service Call	77	41	83	45	83	39	78	36	59	19
Good Intent Call	0	99	0	94	0	90	0	94	0	98
False Call	0	11	0	18	0	18	0	19	0	15
Natural Condition	0	0	0	0	0	0	0	0	0	0
Other Situation	0	0	0	0	0	0	0	1	0	0
Total	460		477		546		533		462	

Figure 4.21 St. 19 Station Zone, Annual Average Incident Count by Month, 2020–2024

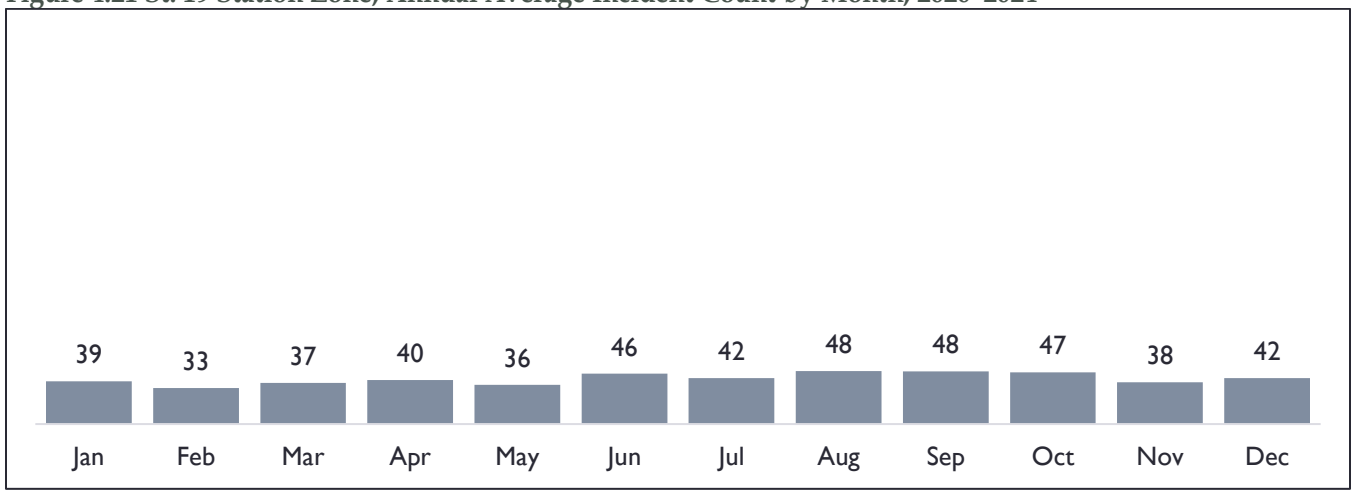


Figure 4.22 St. 19 Station Zone, Annual Average Incident Count by Day of Week, 2020–2024

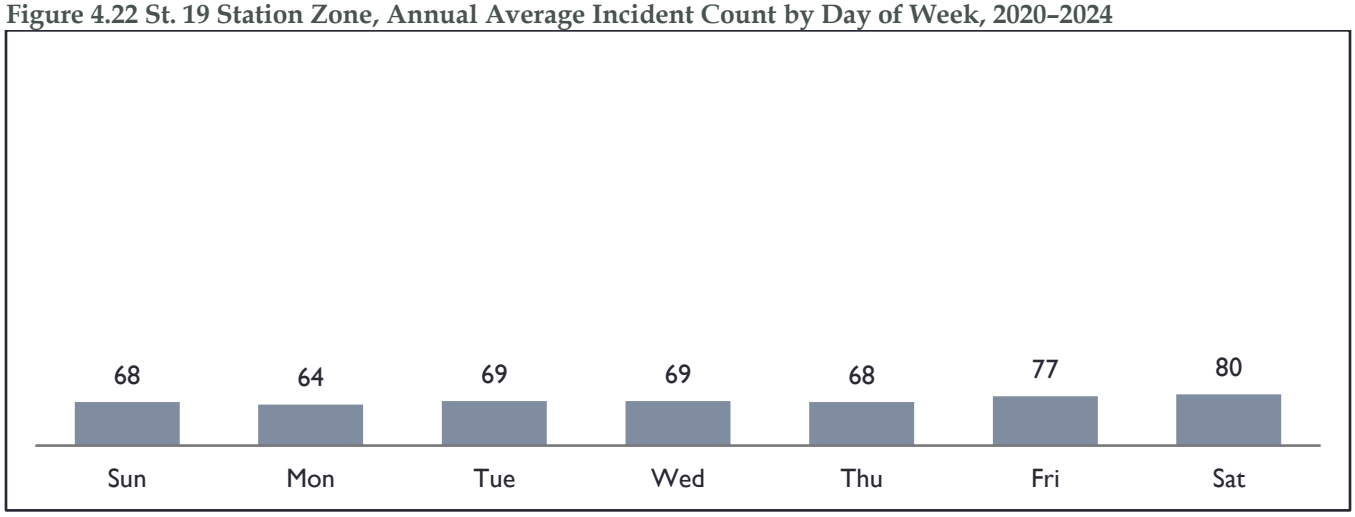


Figure 4.23 St. 19 Station Zone, Annual Average Incident Count by Hour of Day, 2020–2024

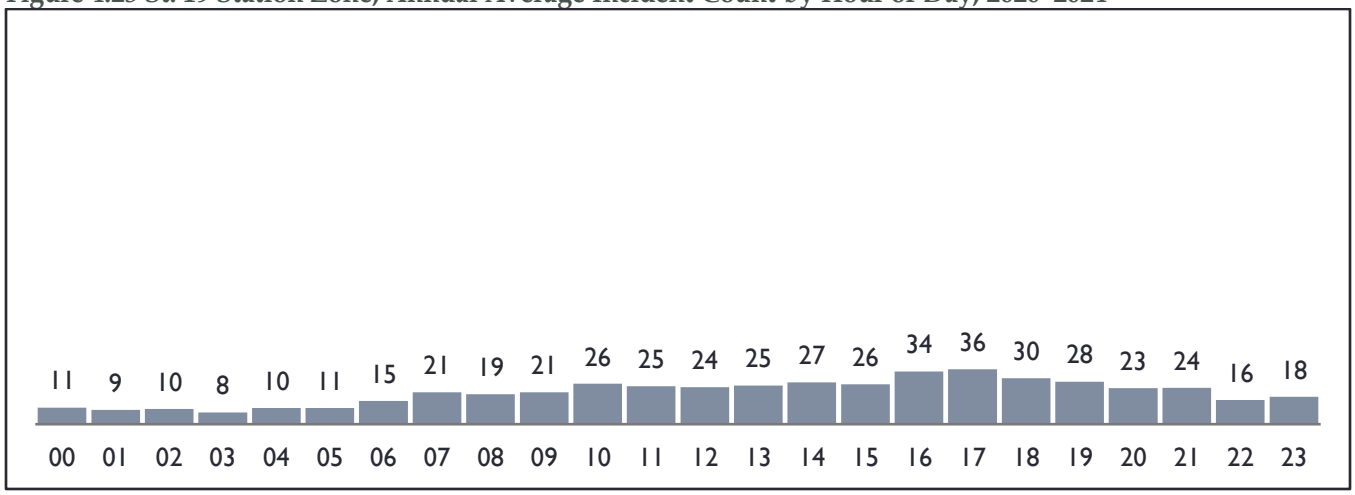
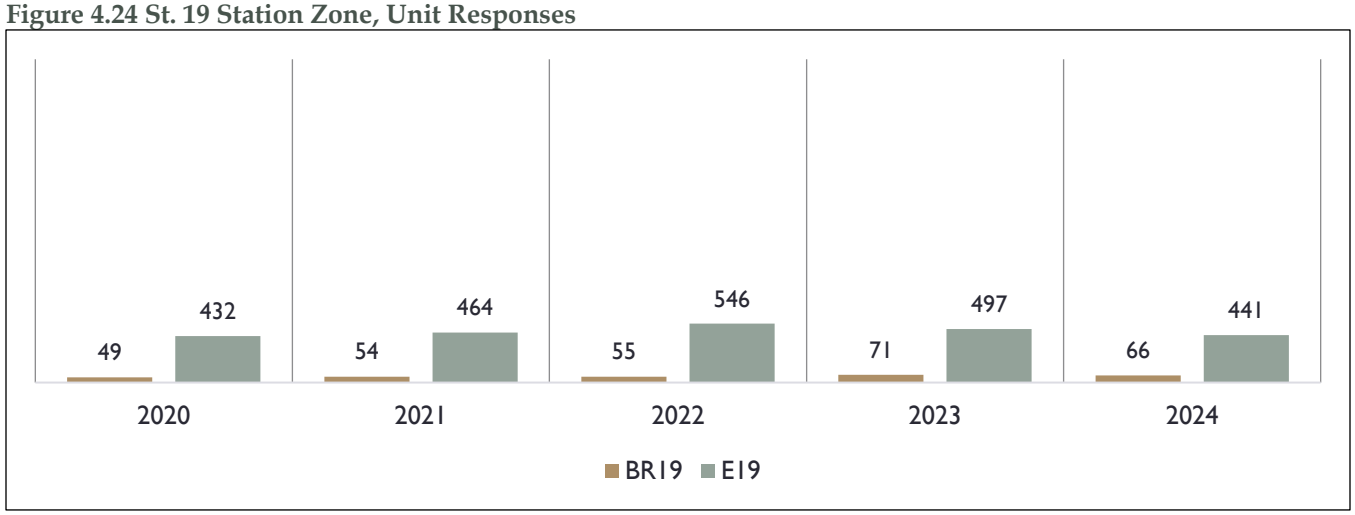


Figure 4.24 St. 19 Station Zone, Unit Responses



Station 20, Downtown Newberg

Station 20, located in downtown Newberg just off Highway 99W, was originally constructed in the 1940s with an extensive remodel in 2012. This 15,500-square-foot station houses a total of 25 full-time personnel. Four personnel (on each 24-hour, three-shift schedule) respond to incidents utilizing Engine 20 and can also respond in Heavy Brush 20 or Medic 20A when needed. At least one crewmember per shift is an EMT-Paramedic capable of providing advanced life support (ALS) treatment. Two Firefighter/EMT-Paramedics (on each 24-hour, three-shift schedule) respond to incidents utilizing Rescue 20 and two EMT-Paramedics (on each 24-hour, three-shift schedule) respond to incidents utilizing Medic 20 which also provide transport services in Yamhill County Ambulance Service Area #1. One EMT-Paramedic (on a ten-hour, four day a week schedule) responds to APCP incidents utilizing Car 20.

Half of the District's Water Rescue Team is housed at Station 20 (in conjunction with Station 59). Personnel at this station also assist with the management of the District's wildland program by housing one of three wildland caches (in conjunction with Stations 52 and 62). This equipment is taken when a team is deployed as part of a Yamhill County deployment.

The 32.5 square miles of Station 20's station zone includes the west portion of Newberg and a large portion of unincorporated Yamhill County west of the city and north to the Chehalem Mountains.

Figure 4.25 St. 20 Station Zone, Incident Density

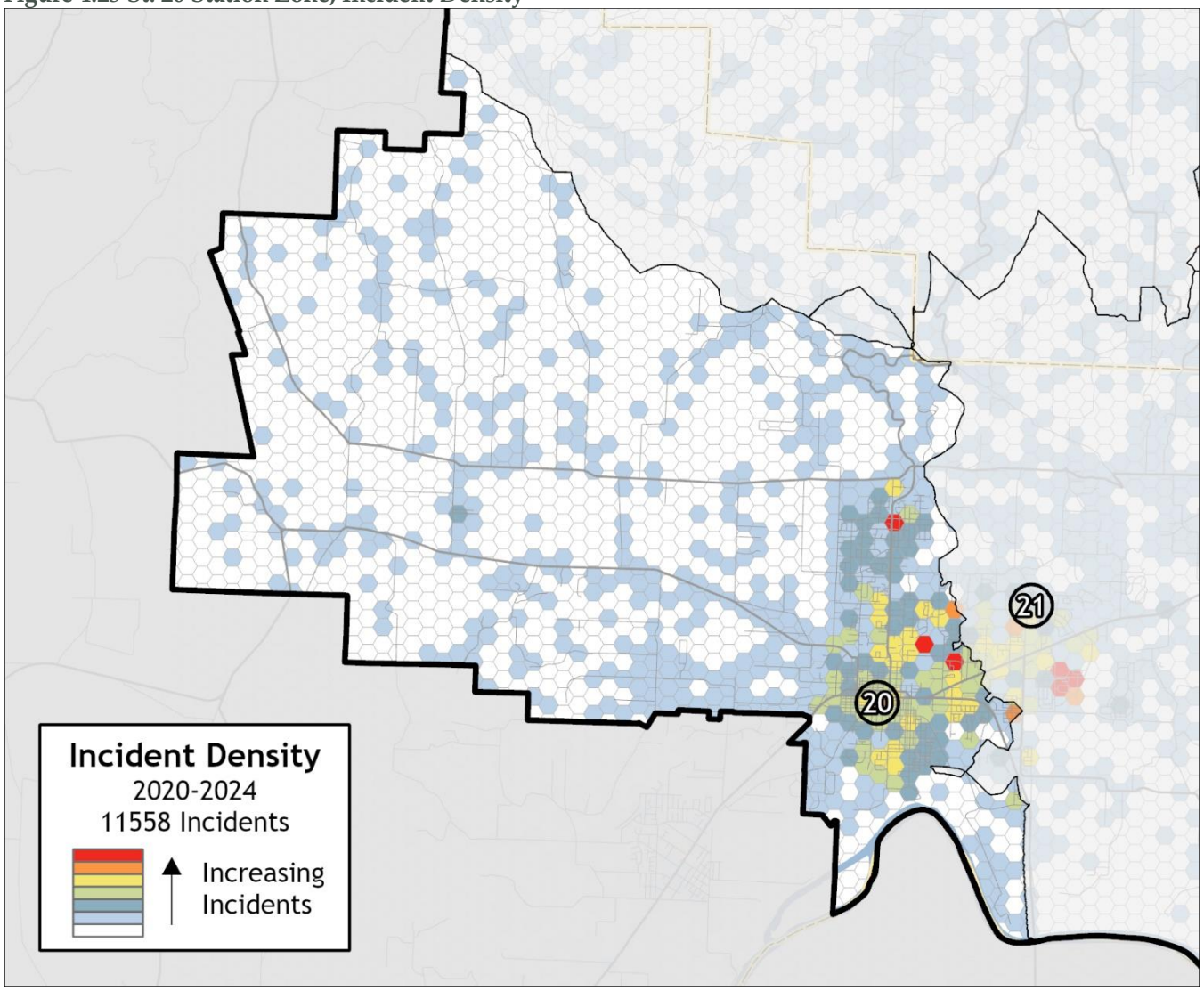


Figure 4.26 St. 20 Station Zone, Incident Count

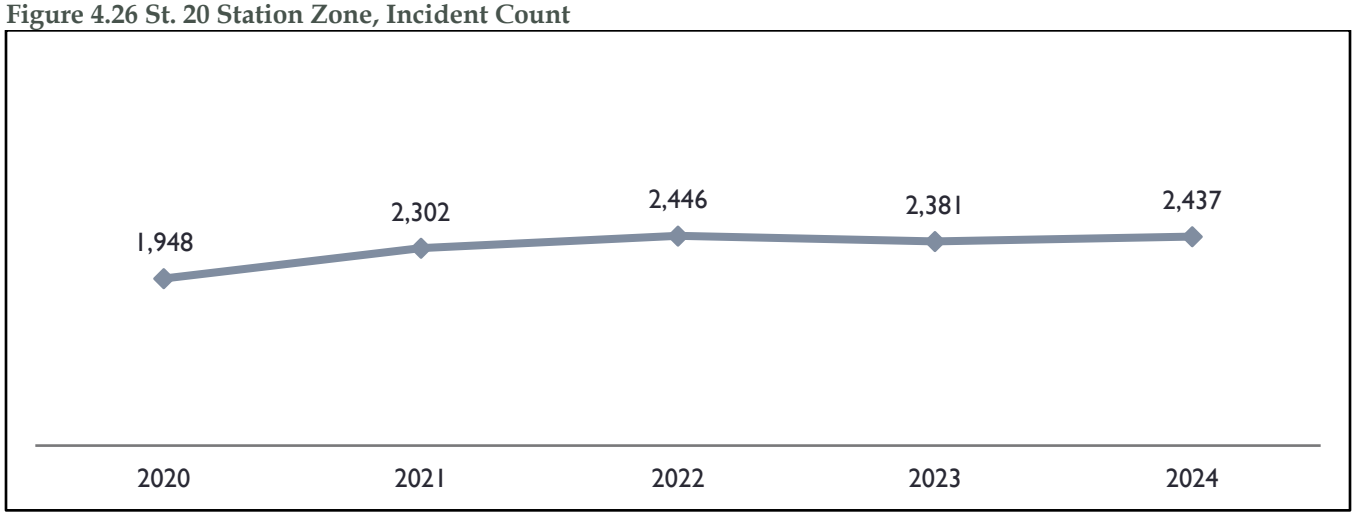


Figure 4.27 St. 20 Station Zone, Incident Summary

NFIRS Series	2020		2021		2022		2023		2024	
	Disp Call Type	*Sit Found*	*Disp Call Type*	*Sit Found*	*Disp Call Type*	*Sit Found*	*Disp Call Type*	*Sit Found*	*Disp Call Type*	*Sit Found*
Fire, Explosion	183	56	215	62	250	60	184	49	222	52
Overpressure	0	2	0	2	0	0	0	0	0	0
EMS/Rescue Call	1,564	1,426	1,824	1,759	1,906	1,868	1,950	1,878	1,939	1,898
Hazardous Condition	11	30	13	66	14	54	12	52	21	61
Service Call	190	158	250	94	276	127	235	117	253	102
Good Intent Call	0	154	0	175	0	151	0	142	0	187
False Call	0	121	0	143	0	186	0	142	0	137
Natural Condition	0	0	0	0	0	0	0	0	0	0
Other Situation	0	1	0	1	0	0	0	1	2	0
Total	1,948		2,302		2,446		2,381		2,437	

Figure 4.28 St. 20 Station Zone, Annual Average Incident Count by Month, 2020–2024

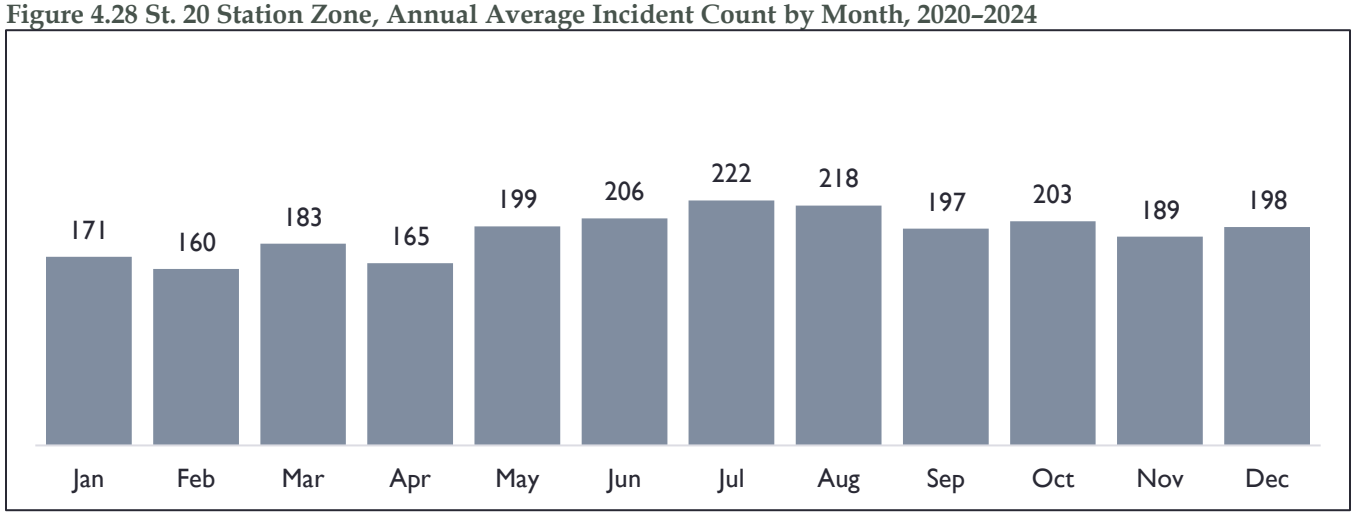


Figure 4.29 St. 20 Station Zone, Annual Average Incident Count by Day of Week, 2020–2024

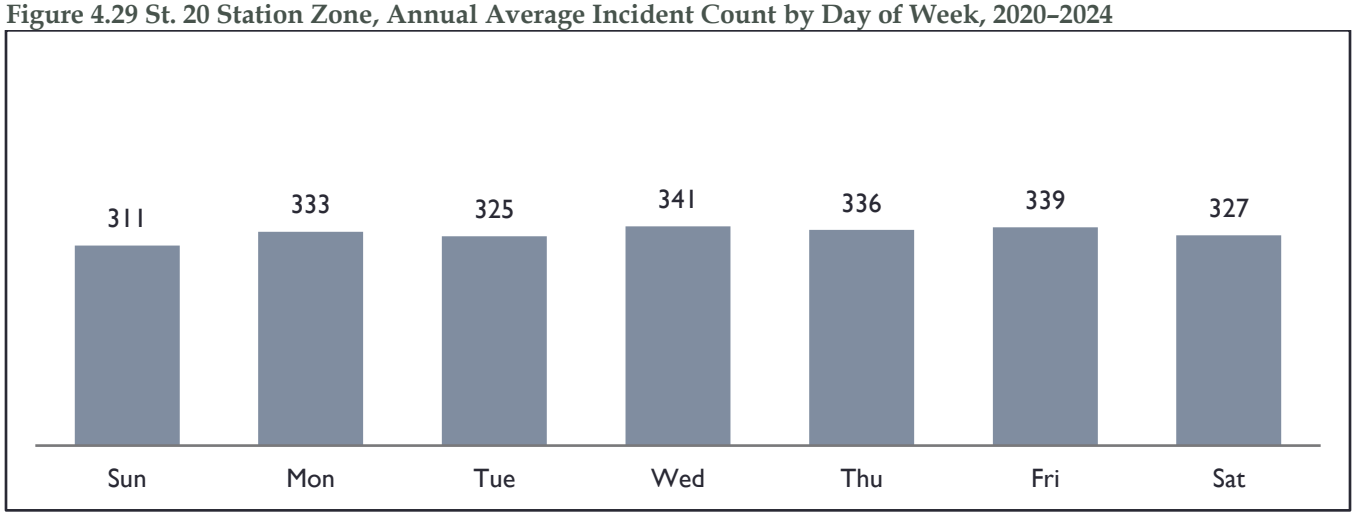


Figure 4.30 St. 20 Station Zone, Annual Average Incident Count by Hour of Day, 2020–2024

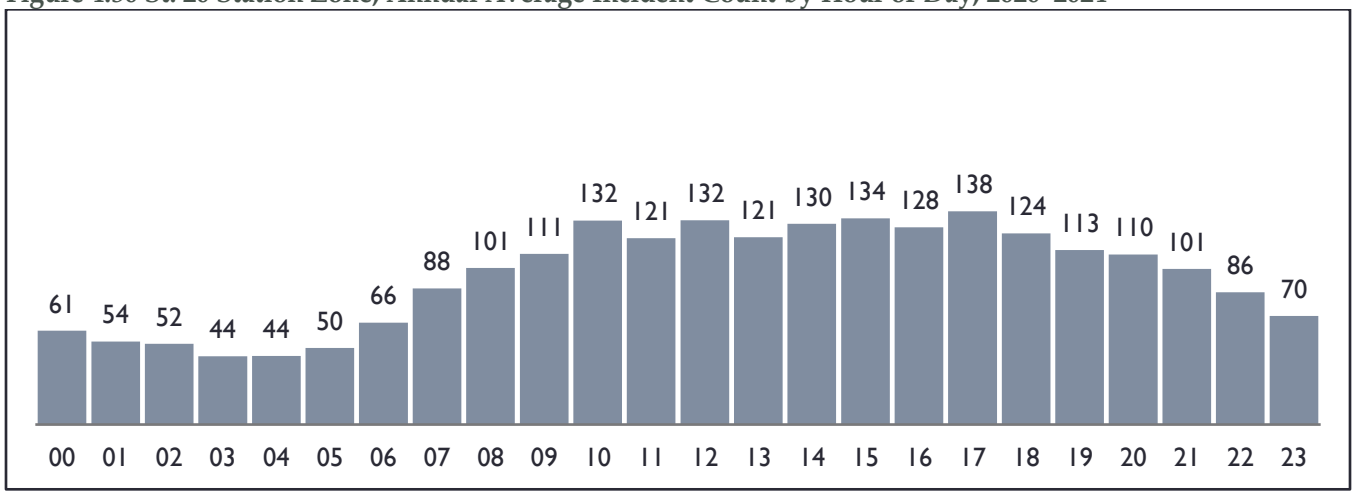
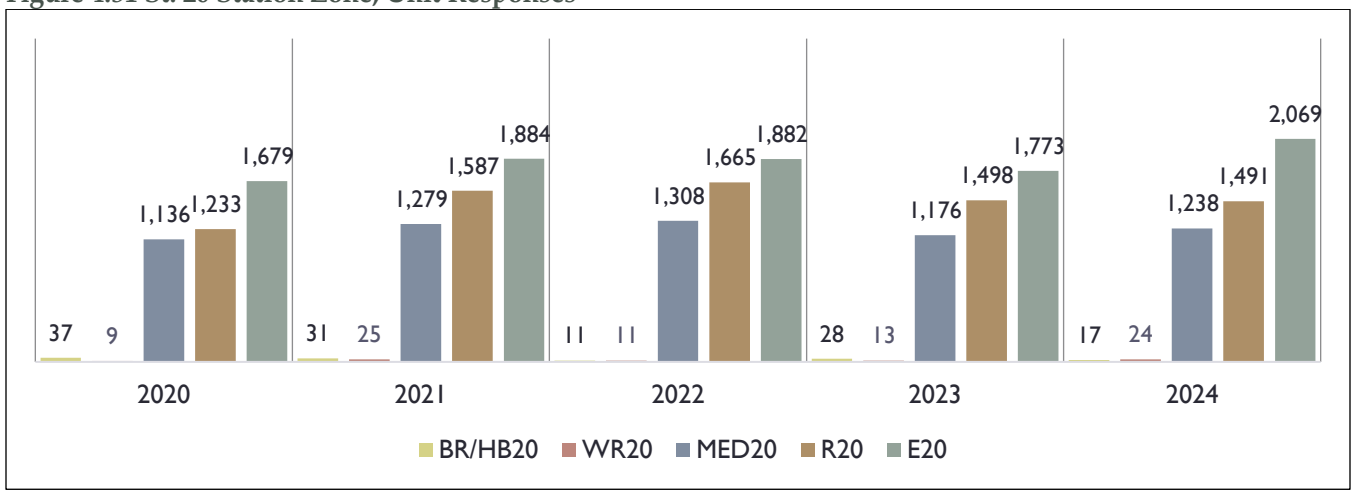


Figure 4.31 St. 20 Station Zone, Unit Responses



Station 21, Springbrook

Station 21, located on the corner of North Springbrook Road and Middlebrook Drive, was constructed in 1999 and includes a half-acre training area and a four-story training tower. This 10,675-square-foot station houses a total of 18 full-time personnel. Four personnel (on each 24-hour, three-shift schedule) respond to incidents primarily utilizing Truck 21 and can also respond in Engine 21 and Brush Rig 21 when needed. In addition to responses in the station zone, the truck serves as a resource for the District's entire service area. At least one crewmember per shift is an EMT-Paramedic capable of providing advanced life support (ALS) treatment. Two EMT-Paramedics (on each 24-hour, three-shift schedule) respond to incidents utilizing Medic 21 which also provides transport services in Yamhill County Ambulance Service Area #1. Battalion Chief (C7) responds from and maintains quarters at Station 21.

The 26.8 square miles of Station 21's station zone include the east portion of Newberg and unincorporated areas of Yamhill County north of the city into the Chehalem Mountains and east of the city near the Washington County border.

Figure 4.32 St. 21 Station Zone, Incident Density

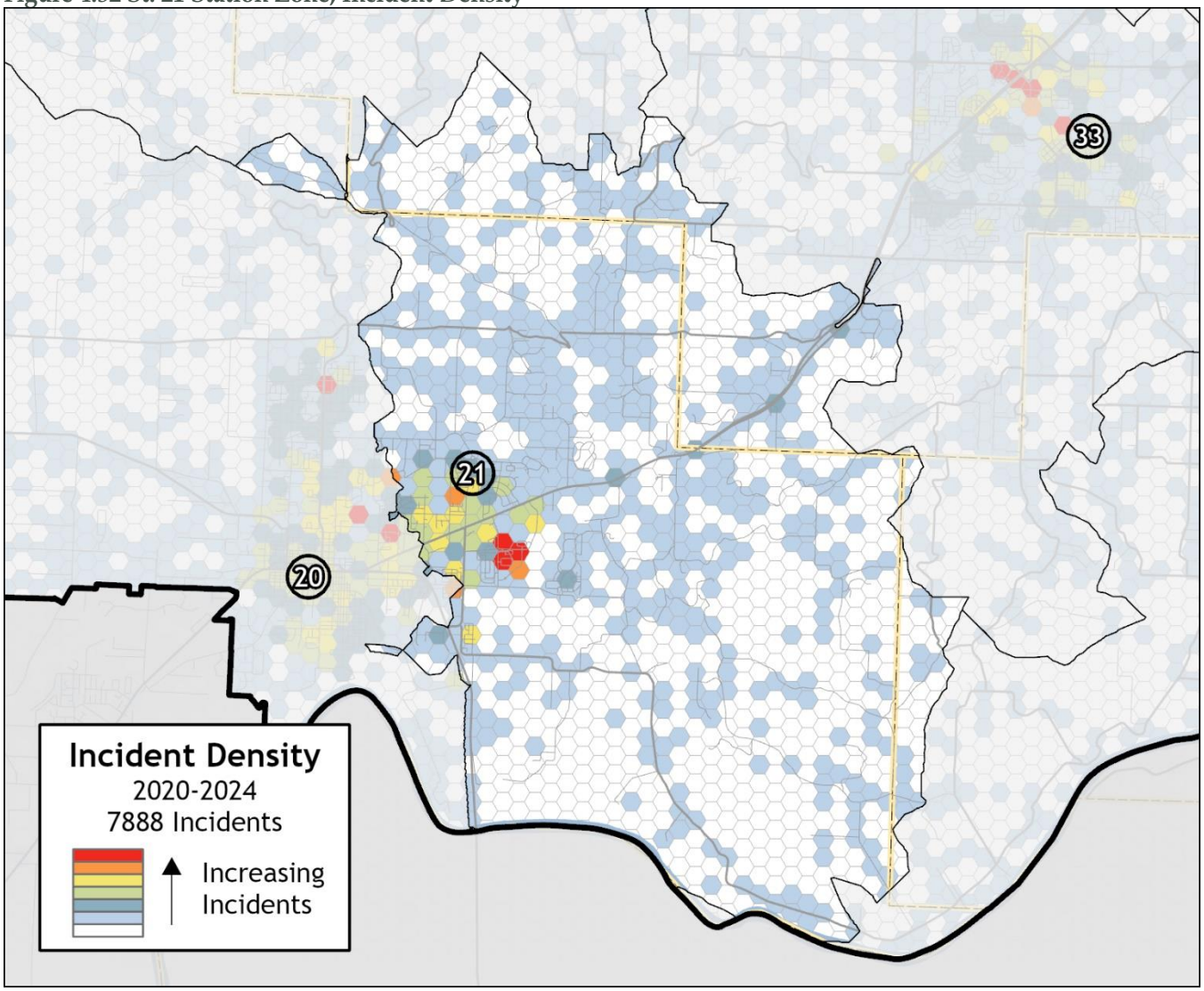


Figure 4.33 St. 21 Station Zone, Incident Count

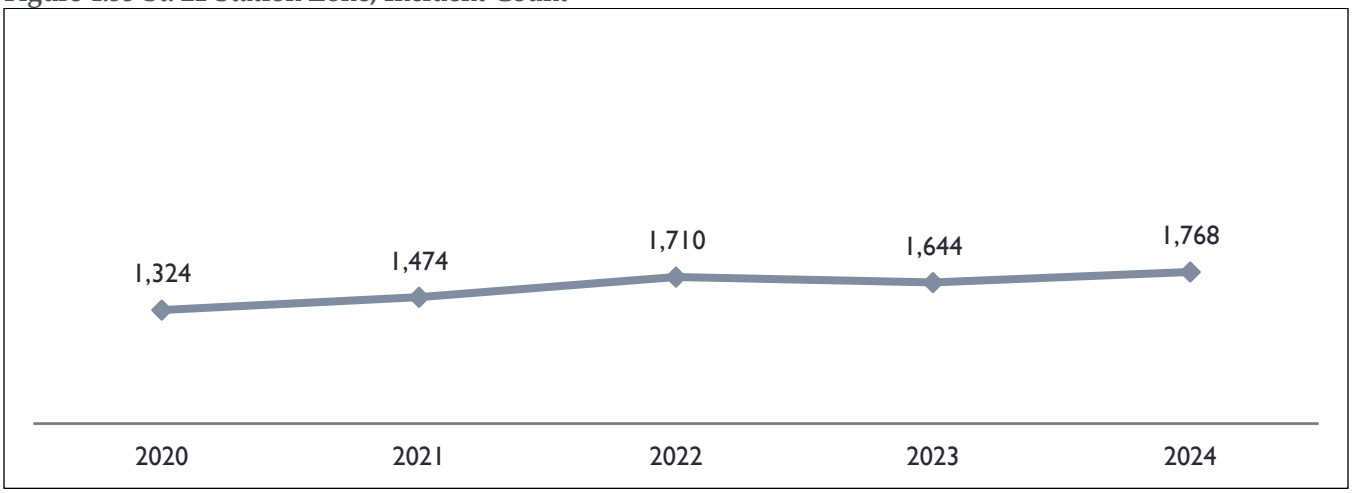


Figure 4.34 St. 21 Station Zone, Incident Summary

NFIRS Series	2020		2021		2022		2023		2024	
	Disp Call Type	*Sit Found*	*Disp Call Type*	*Sit Found*	*Disp Call Type*	*Sit Found*	*Disp Call Type*	*Sit Found*	*Disp Call Type*	*Sit Found*
Fire, Explosion	147	44	133	27	147	27	160	41	140	26
Overpressure	0	0	0	3	0	0	0	0	0	0
EMS/Rescue Call	1,047	961	1,199	1,171	1,406	1,376	1,337	1,290	1,501	1,462
Hazardous Condition	3	45	8	41	6	46	6	23	3	26
Service Call	127	80	134	31	147	53	139	57	118	56
Good Intent Call	0	128	0	127	0	120	0	144	0	128
False Call	0	65	0	74	0	88	0	87	0	70
Natural Condition	0	1	0	0	0	0	0	0	0	0
Other Situation	0	0	0	0	4	0	2	2	6	0
Total	1,324		1,474		1,710		1,644		1,768	

Figure 4.35 St. 21 Station Zone, Annual Average Incident Count by Month, 2020–2024

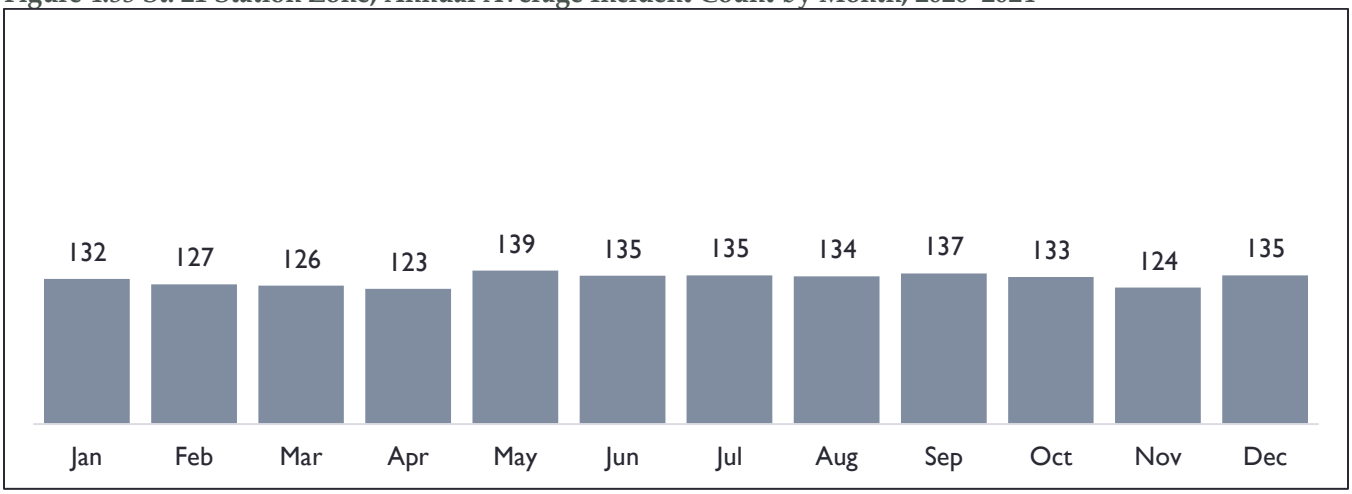


Figure 4.36 St. 21 Station Zone, Annual Average Incident Count by Day of Week, 2020–2024

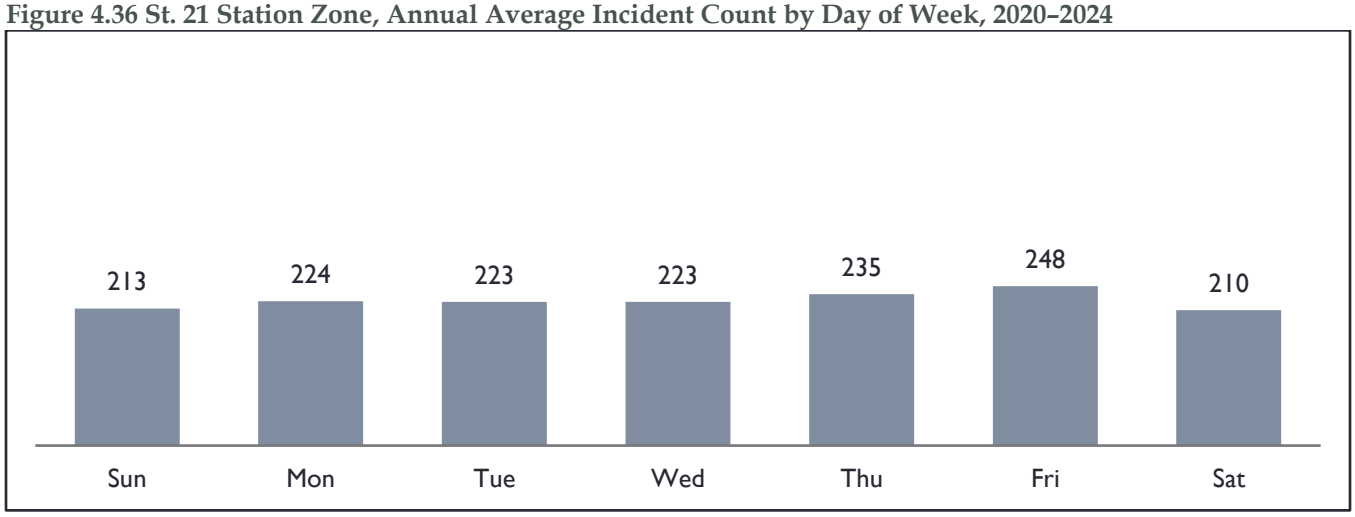


Figure 4.37 St. 21 Station Zone, Annual Average Incident Count by Hour of Day, 2020–2024

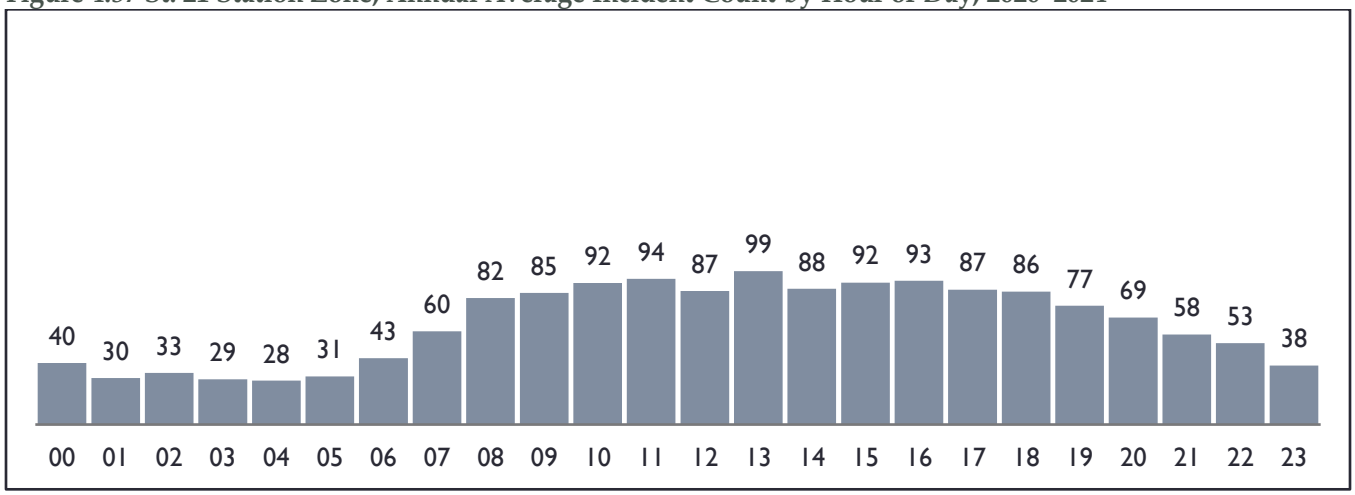
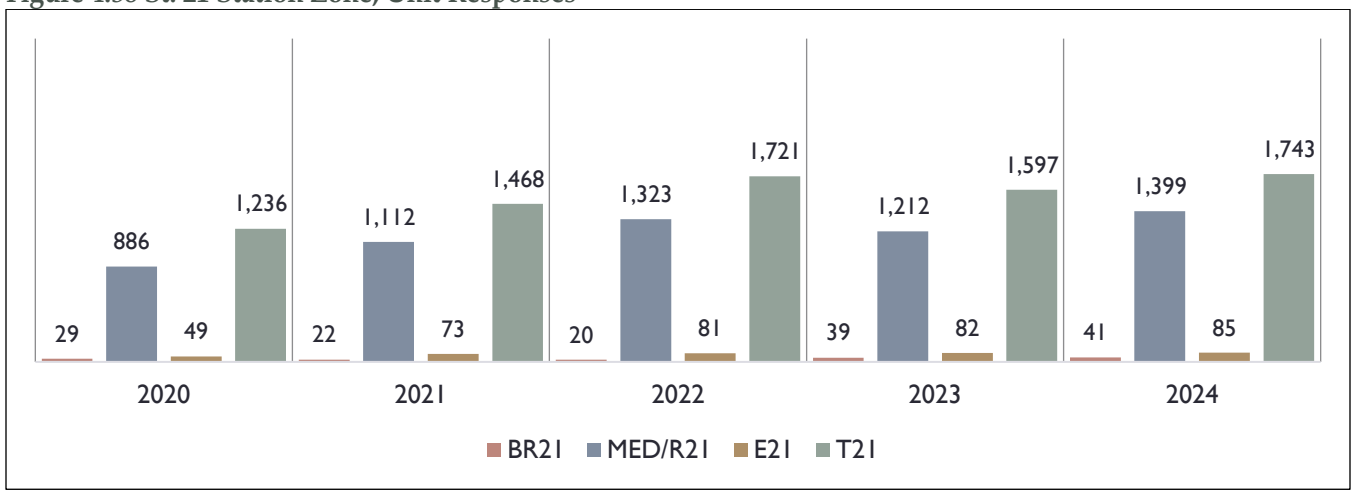


Figure 4.38 St. 21 Station Zone, Unit Responses



Station 33, Sherwood

Station 33, located on SW Oregon Street northeast of downtown Sherwood, was constructed in 1971 and remodeled in 2002. The 6,400-square-foot station houses a total of 12 full-time personnel. Four personnel (on each 24-hour, three-shift schedule) respond to incidents primarily utilizing Engine 33 and can also respond in Brush Rig 33 when needed. At least one crewmember per shift is an EMT-Paramedic capable of providing advanced life support (ALS) treatment.

Volunteer Company 333 is also located at Station 33, responding out of Brush Rig 333 and Utility Pickup 333.

The 23.4 square miles of Station 33's station zone includes Sherwood and surrounding portions of Washington and Clackamas counties to the west and south of the city.

Figure 4.39 St. 33 Station Zone, Incident Density

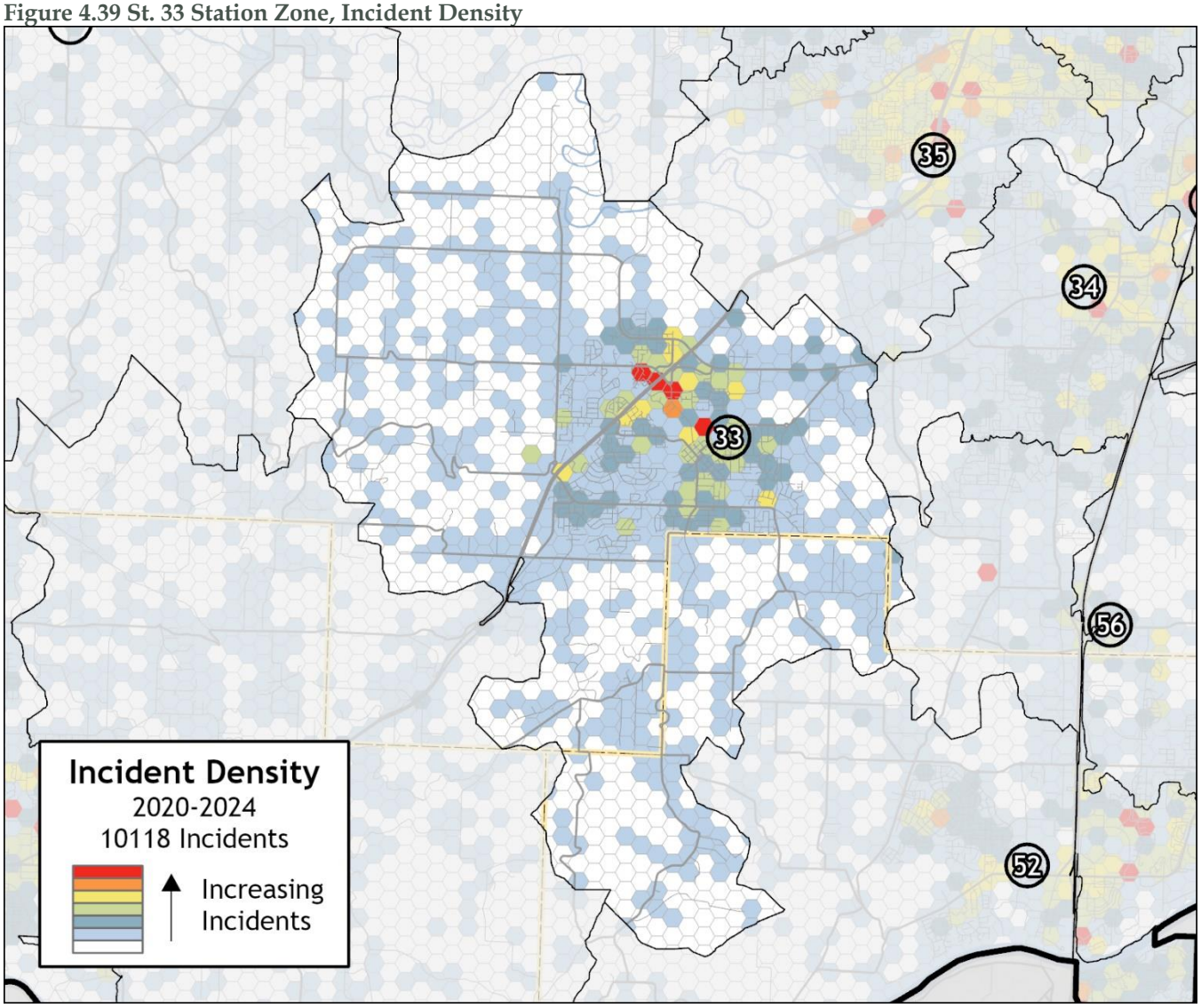


Figure 4.40 St. 33 Station Zone, Incident Count

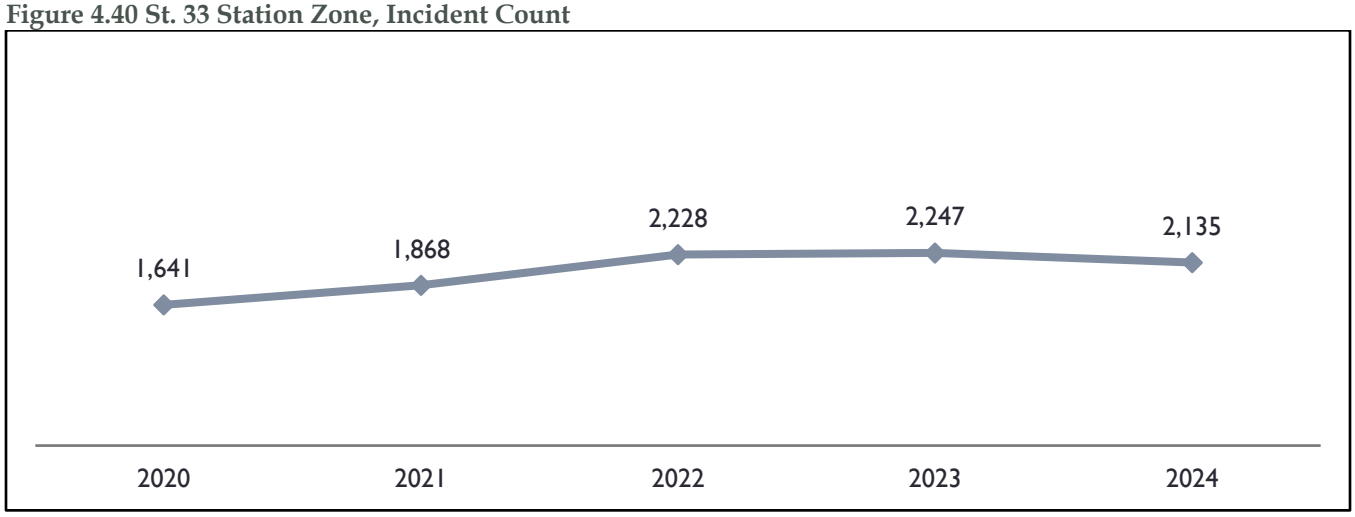


Figure 4.41 St. 33 Station Zone, Incident Summary

NFIRS Series	2020		2021		2022		2023		2024	
	Disp Call Type	*Sit Found*	*Disp Call Type*	*Sit Found*	*Disp Call Type*	*Sit Found*	*Disp Call Type*	*Sit Found*	*Disp Call Type*	*Sit Found*
Fire, Explosion	174	47	165	32	159	36	159	49	216	51
Overpressure	0	0	0	0	0	0	0	0	0	0
EMS/Rescue Call	1,245	1,085	1,549	1,403	1,830	1,706	1,874	1,770	1,697	1,439
Hazardous Condition	10	52	11	55	25	75	28	55	15	41
Service Call	212	128	143	66	214	78	186	69	206	87
Good Intent Call	0	215	0	205	0	209	0	195	0	360
False Call	0	113	0	106	0	123	0	108	0	157
Natural Condition	0	1	0	1	0	1	0	0	0	0
Other Situation	0	0	0	0	0	0	0	1	1	0
Total	1,641		1,868		2,228		2,247		2,135	

Figure 4.42 St. 33 Station Zone, Annual Average Incident Count by Month, 2020–2024

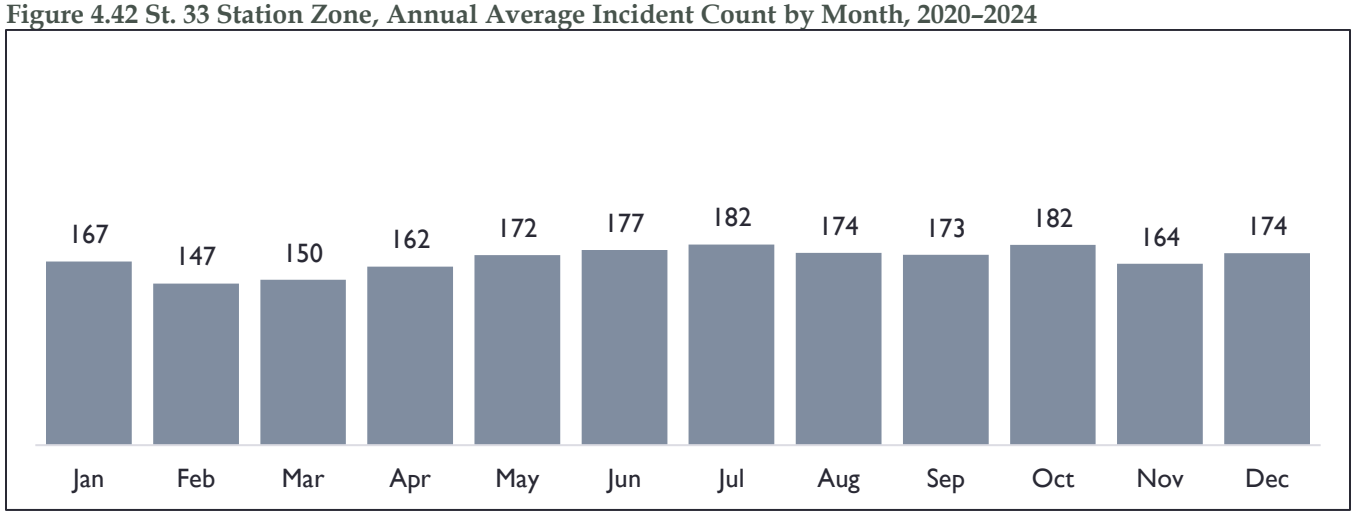


Figure 4.43 St. 33 Station Zone, Annual Average Incident Count by Day of Week, 2020–2024

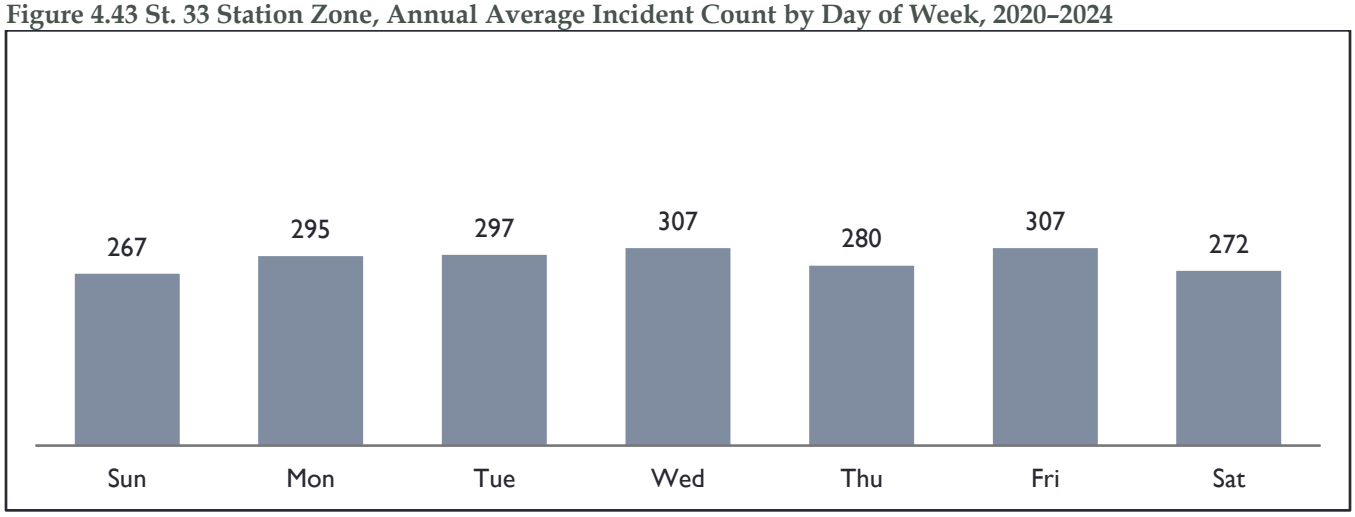


Figure 4.44 St. 33 Station Zone, Annual Average Incident Count by Hour of Day, 2020–2024

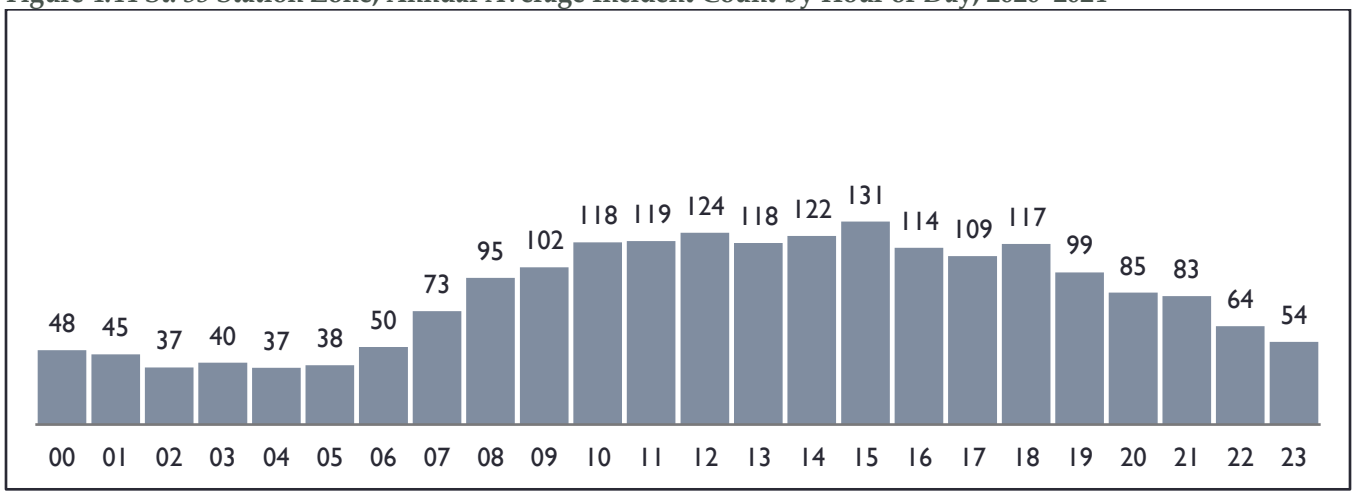
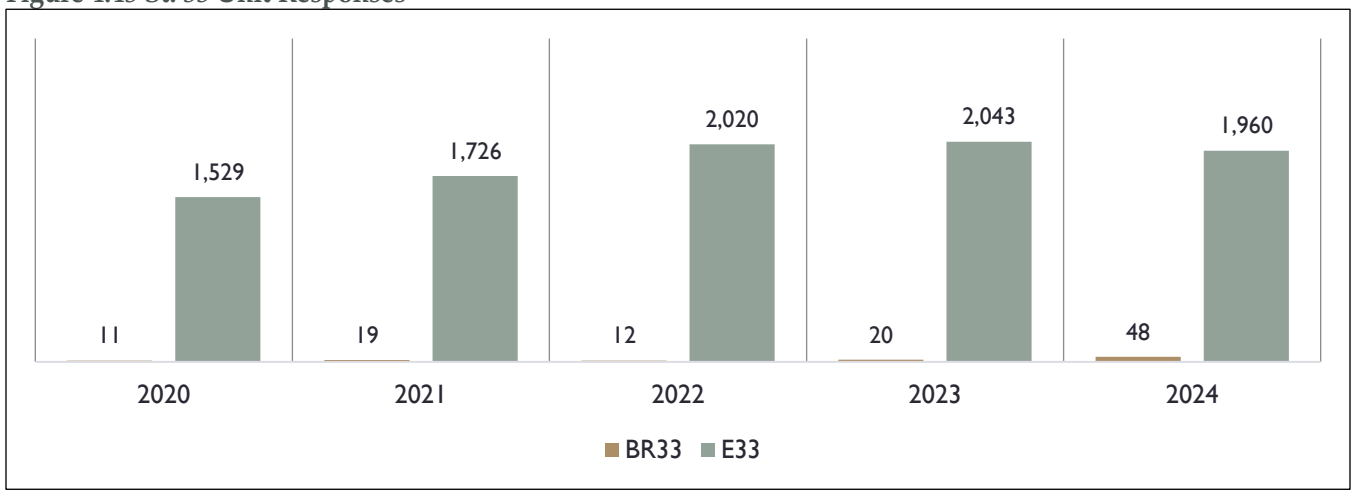


Figure 4.45 St. 33 Unit Responses



Station 34, Tualatin

Station 34, located on SW 90th Court just off Tualatin Sherwood Road west of Boones Ferry Road, was constructed in 1990 and remodeled in 2010. The 9,500-square-foot station houses a total of 14 full-time personnel. Four personnel (on each 24-hour, three-shift schedule) respond to incidents primarily utilizing Engine 34 and can also respond in Water Tenders 34A and 34B when needed. At least one crewmember per shift is an EMT-Paramedic capable of providing advanced life support (ALS) treatment. Two EMT-Paramedics (each on a twelve-hour, two-shift schedule) respond to APCP incidents utilizing Car 34.

Half of the District's Hazardous Materials Team is also housed at Station 34 (in conjunction with Station 53).

The 7.2 square miles of Station 34's first-due area includes most of Tualatin and a small southern portion of Durham.

Figure 4.46 St. 34 Station Zone, Incident Density

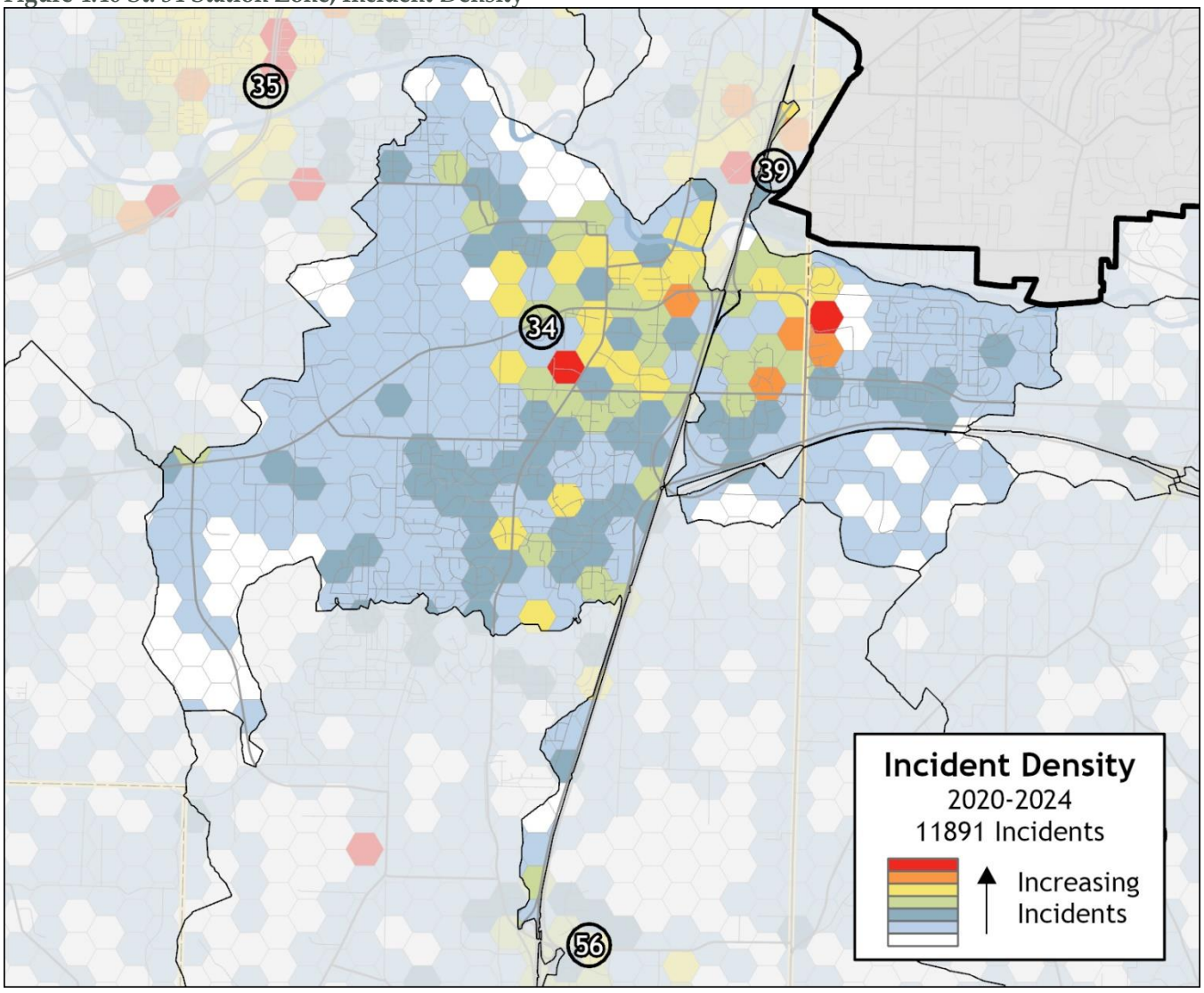


Figure 4.47 St. 34 Station Zone, Incident Count

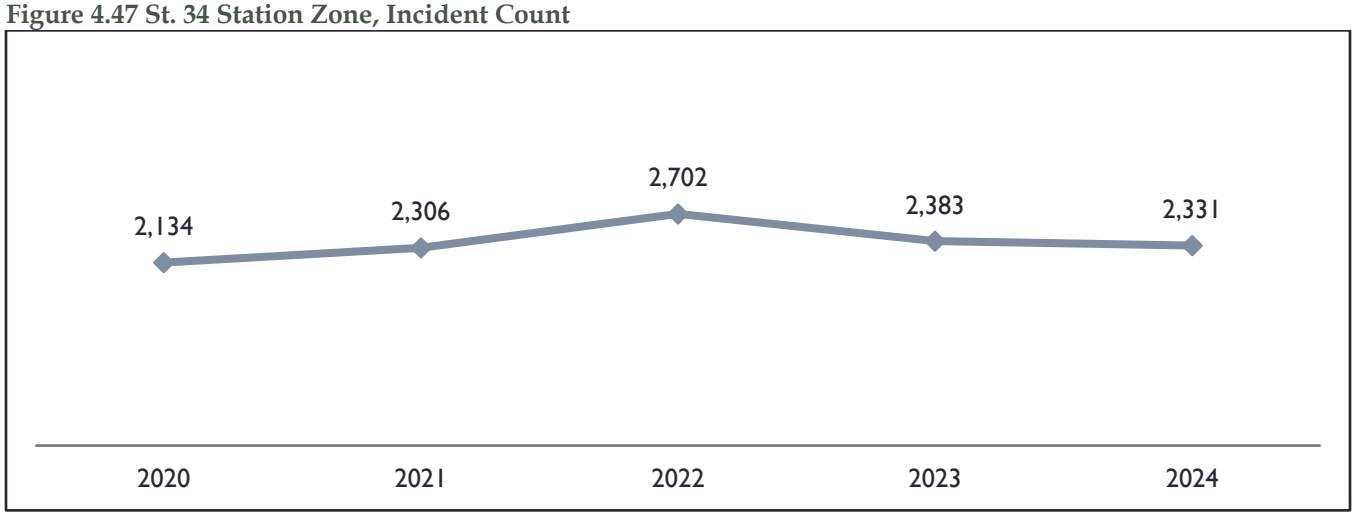


Figure 4.48 St. 34 Station Zone, Incident Summary

NFIRS Series	2020		2021		2022		2023		2024	
	Disp Call Type	*Sit Found*	*Disp Call Type*	*Sit Found*	*Disp Call Type*	*Sit Found*	*Disp Call Type*	*Sit Found*	*Disp Call Type*	*Sit Found*
Fire, Explosion	220	47	264	77	274	58	274	61	304	50
Overpressure	0	0	0	0	0	0	0	0	0	0
EMS/Rescue Call	1,751	1,523	1,846	1,677	2,201	2,037	1,922	1,743	1,817	1,633
Hazardous Condition	14	64	12	60	17	58	9	51	16	64
Service Call	149	107	184	61	209	88	178	69	194	92
Good Intent Call	0	268	0	288	0	267	0	290	0	305
False Call	0	125	0	143	0	193	0	167	0	182
Natural Condition	0	0	0	0	0	0	0	0	0	1
Other Situation	0	0	0	0	1	1	0	2	0	4
Total	2,134		2,306		2,702		2,383		2,331	

Figure 4.49 St. 34 Station Zone, Annual Average Incident Count by Month, 2020–2024

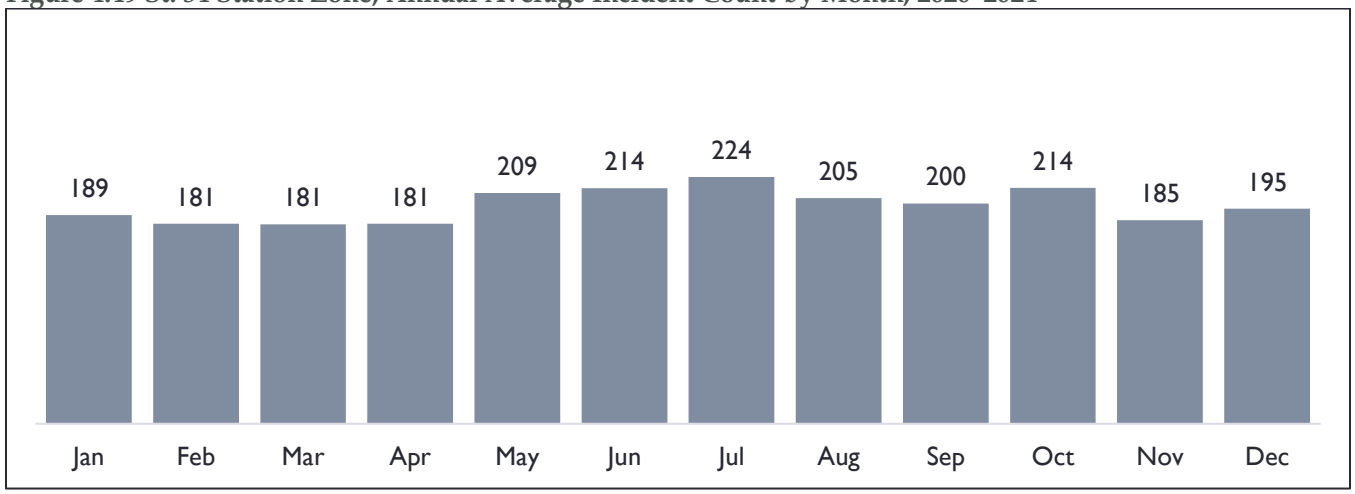


Figure 4.50 St. 34 Station Zone, Annual Average Incident Count by Day of Week, 2020–2024

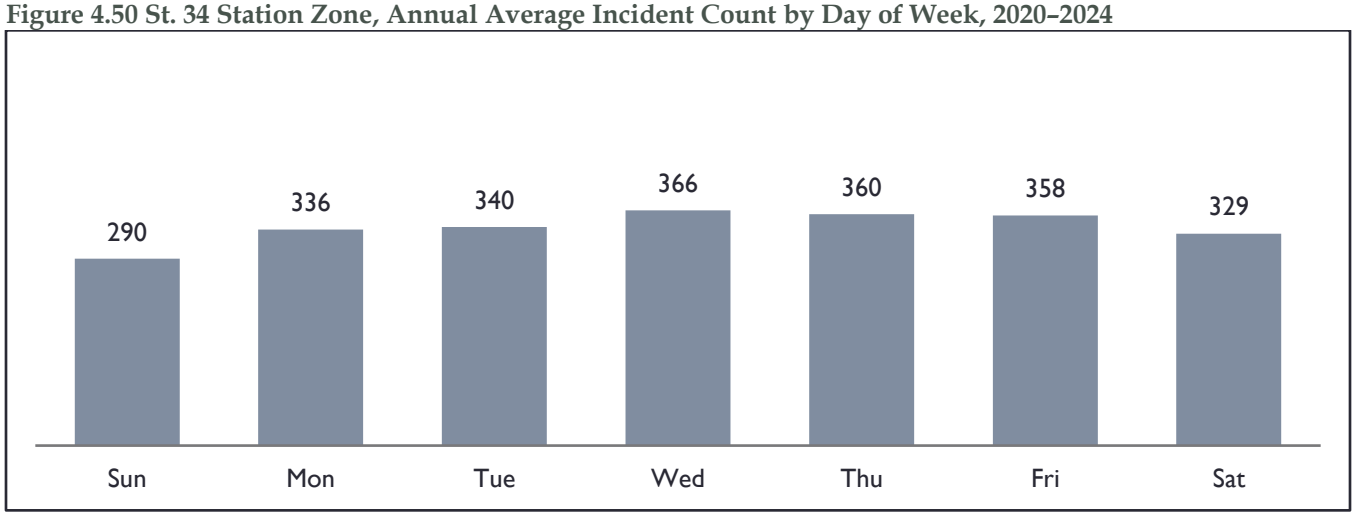


Figure 4.51 St. 34 Station Zone, Annual Average Incident Count by Hour of Day, 2020–2024

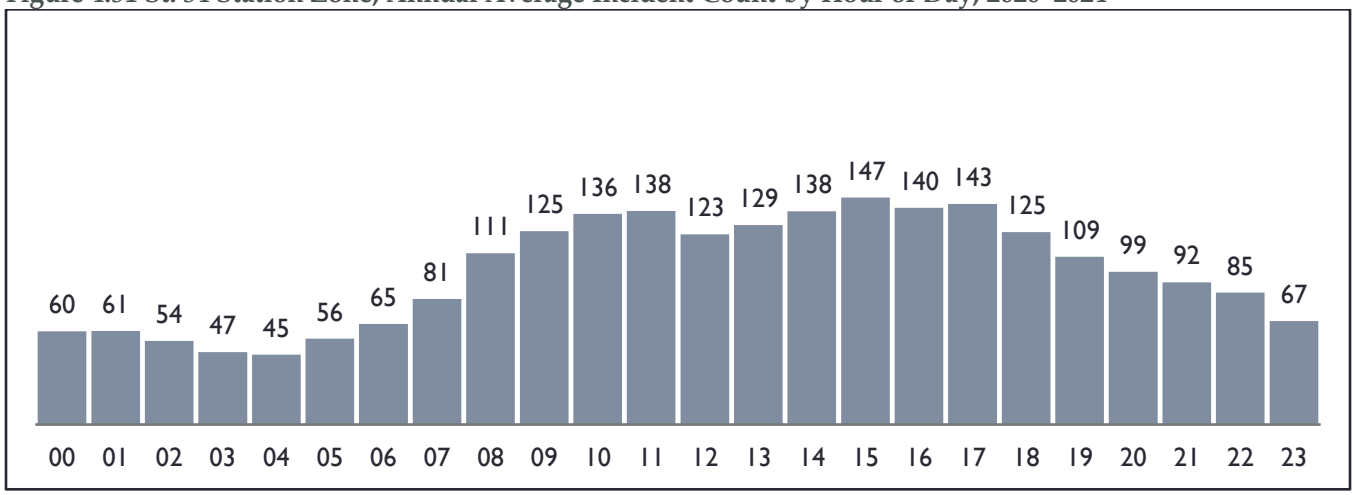
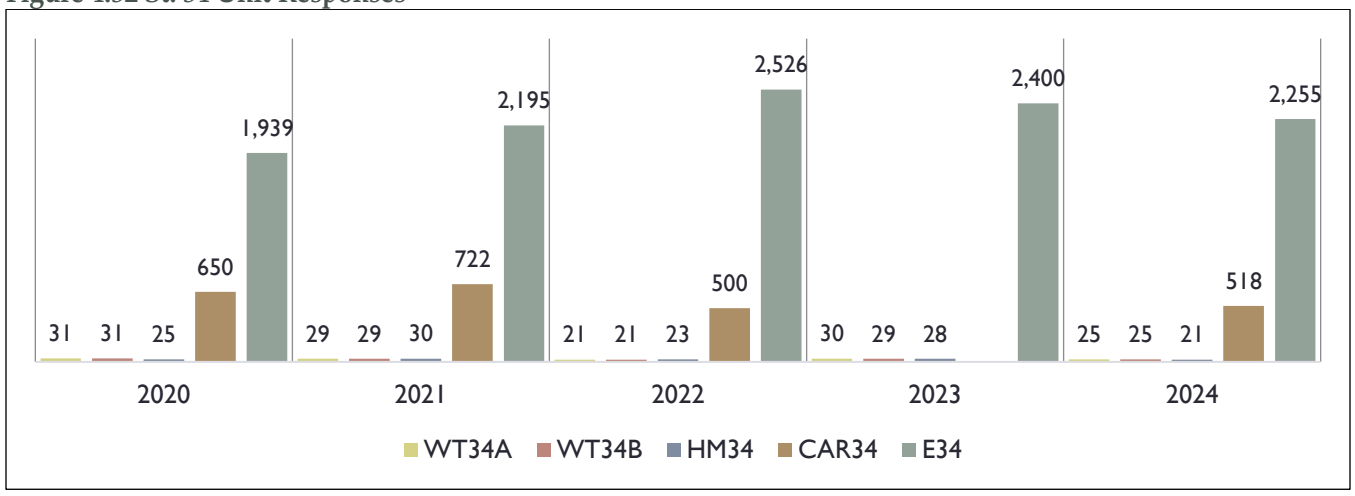


Figure 4.52 St. 34 Unit Responses



Station 35, King City

Station 35, located on Highway 99W just south of Durham Road, was constructed in 1972 and seismically upgraded in 2003. The 6,700-square-foot station houses a total of 18 full-time personnel. Four personnel (on each 24-hour, three-shift schedule) respond to incidents utilizing Engine 35 and can also respond in Water Tenders 35A and 35B when needed. At least one crewmember per shift is an EMT-Paramedic capable of providing advanced life support (ALS) treatment. An additional two EMT-Paramedics (on each 24-hour, three-shift schedule) respond utilizing Medic 35.

The 8.1 square miles of Station 35's station zone includes King City, portions of south Tigard and west Tualatin, and unincorporated territory in Washington County.

Figure 4.53 St. 35 Station Zone, Incident Density

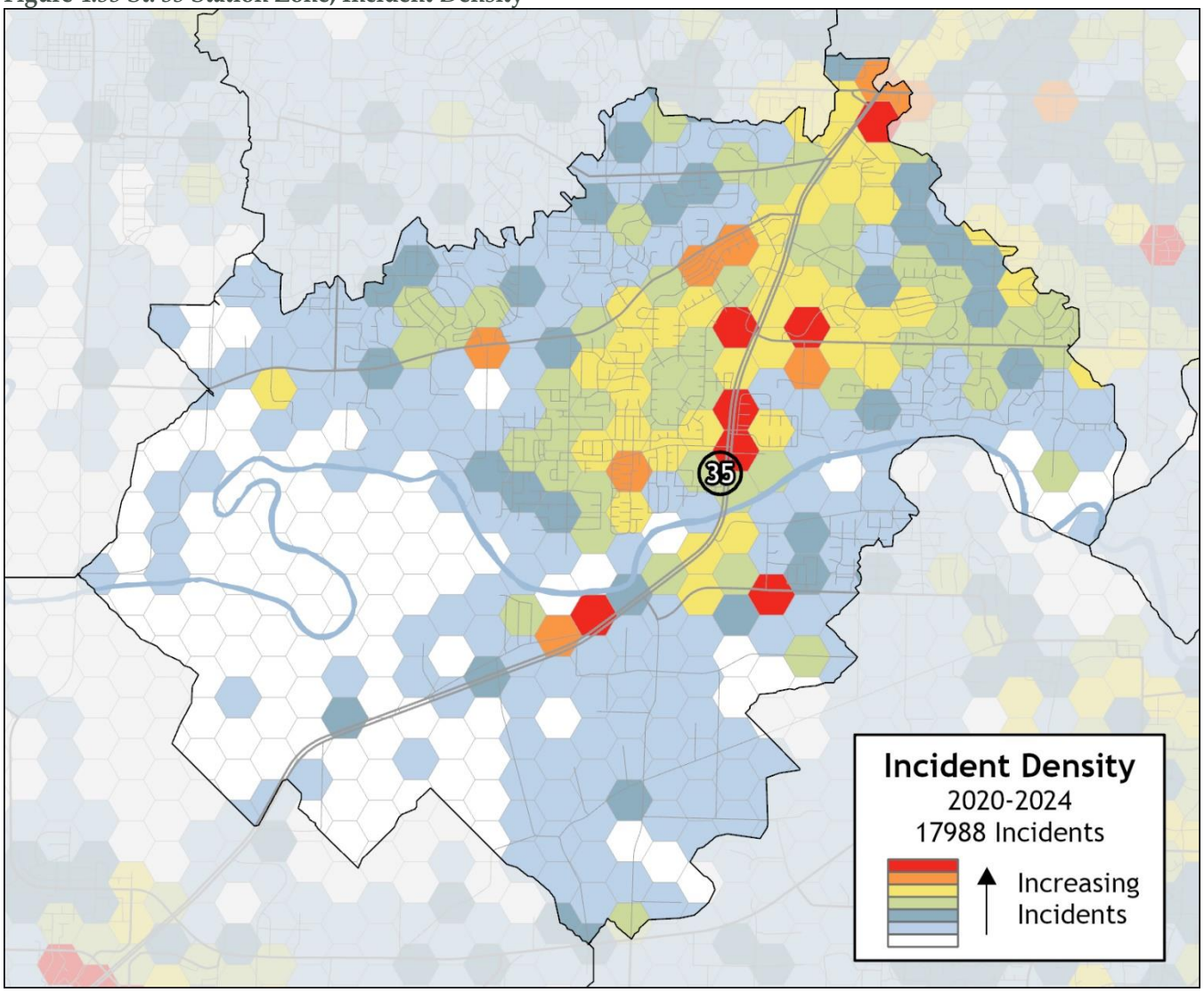


Figure 4.54 St. 35 Station Zone, Incident Count

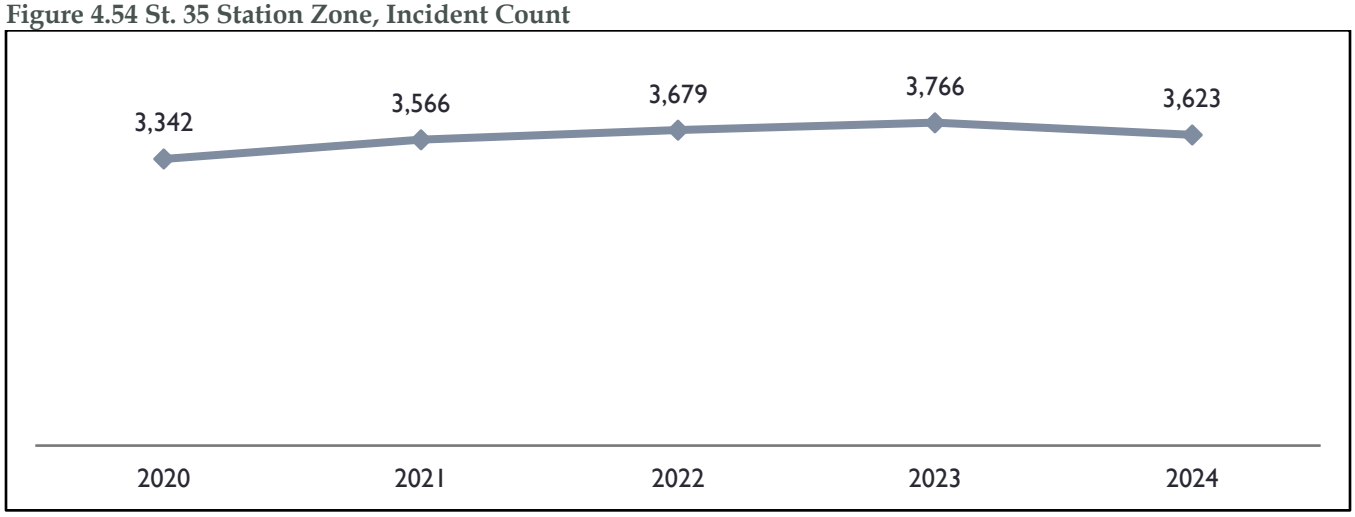


Figure 4.55 St. 35 Station Zone, Incident Summary

NFIRS Series	2020		2021		2022		2023		2024	
	Disp Call Type	*Sit Found*	*Disp Call Type*	*Sit Found*	*Disp Call Type*	*Sit Found*	*Disp Call Type*	*Sit Found*	*Disp Call Type*	*Sit Found*
Fire, Explosion	178	46	168	53	172	43	195	64	191	49
Overpressure	0	0	0	1	0	0	0	0	0	0
EMS/Rescue Call	2,736	2,337	2,982	2,628	3,102	2,828	3,136	2,975	3,009	2,886
Hazardous Condition	8	40	11	45	8	52	21	41	15	34
Service Call	420	338	405	225	397	171	414	119	407	159
Good Intent Call	0	408	0	475	0	427	0	398	0	332
False Call	0	173	0	139	0	157	0	165	0	163
Natural Condition	0	0	0	0	0	0	0	0	0	0
Other Situation	0	0	0	0	0	1	0	4	1	0
Total	3,342		3,566		3,679		3,766		3,623	

Figure 4.56 St. 35 Station Zone, Annual Average Incident Count by Month, 2020–2024

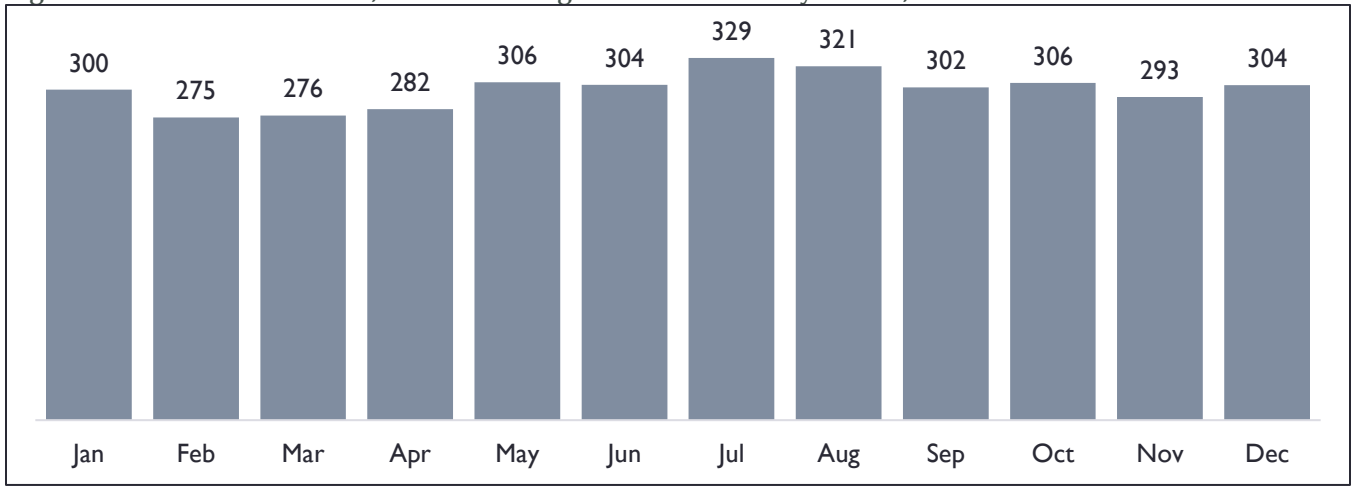


Figure 4.57 St. 35 Station Zone, Annual Average Incident Count by Day of Week, 2020–2024

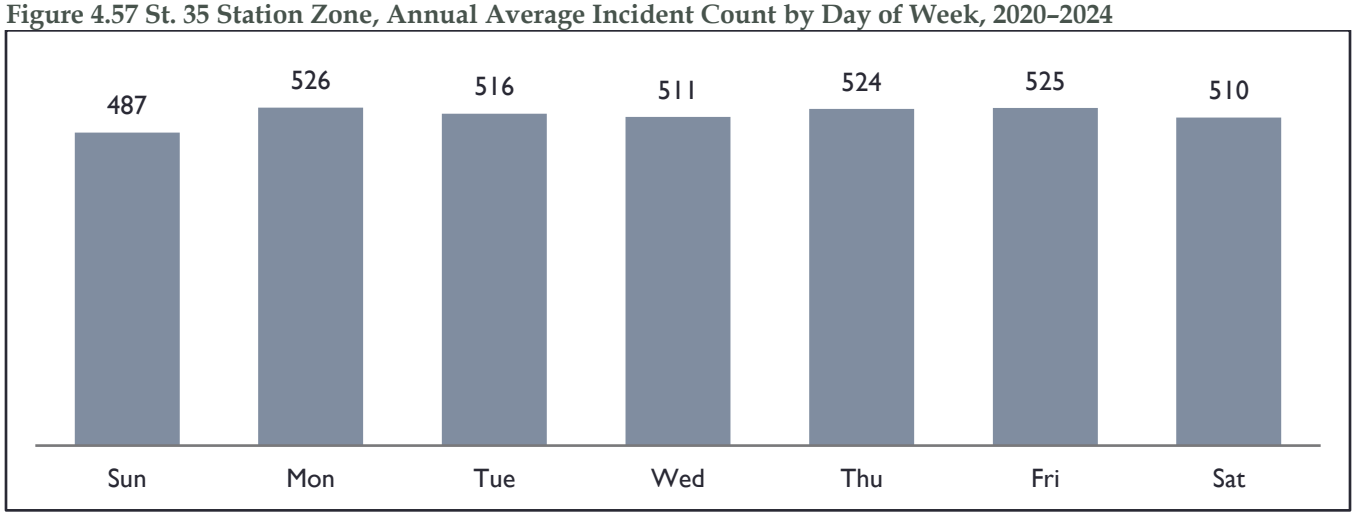


Figure 4.58 St. 35 Station Zone, Annual Average Incident Count by Hour of Day, 2020–2024

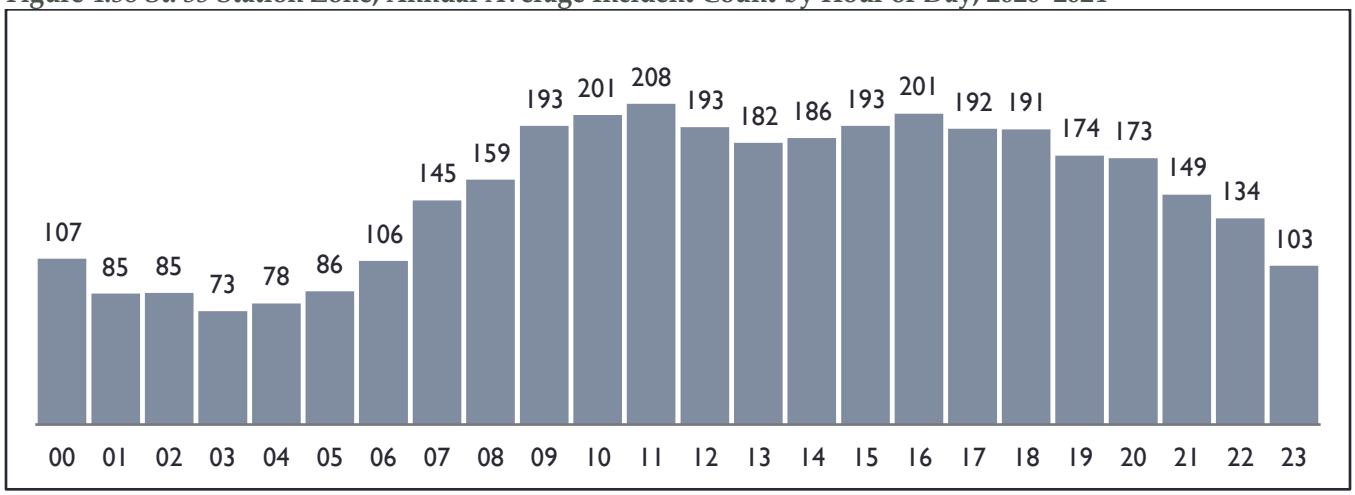
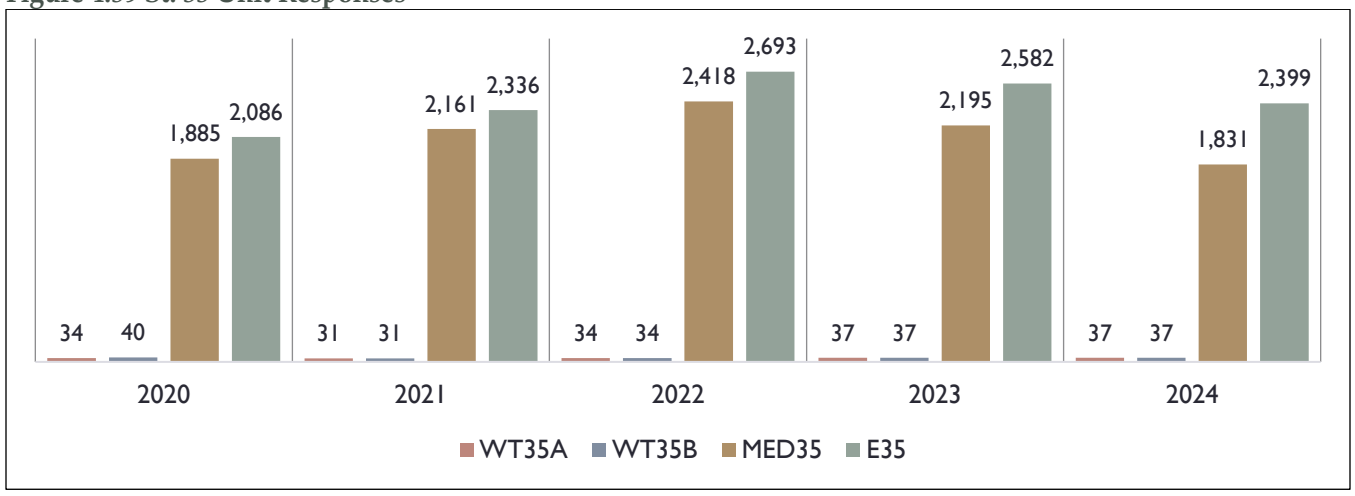


Figure 4.59 St. 35 Unit Responses



Station 39, McEwan Road

Station 39, located on McEwan Road in Tualatin, opened its doors on January 21, 2020. This 10,922-square-foot station houses a total of eight full-time personnel. Two personnel (on each 24-hour, three-shift schedule) respond to incidents utilizing Squad 39. Two additional personnel join the station (on a ten-hour, four day a week schedule) for a total of four crew members to respond out of Engine 39. The crew may also respond in Rehab 39, which serves as a resource for the District's entire service area. At least one crewmember is an EMT-Paramedic capable of providing advanced life support (ALS) treatment. Battalion Chief (C6) also responds from and maintains quarters at Station 39.

Station 39 has a Community Room used by a wide variety of neighborhood and community groups, as well as TVF&R personnel for training and meetings.

The 2.0 square miles of Station 39's station zone includes Rivergrove, most of Durham, and small portions of southeast Tigard and north Tualatin.

Figure 4.60 St. 39 Station Zone, Incident Density

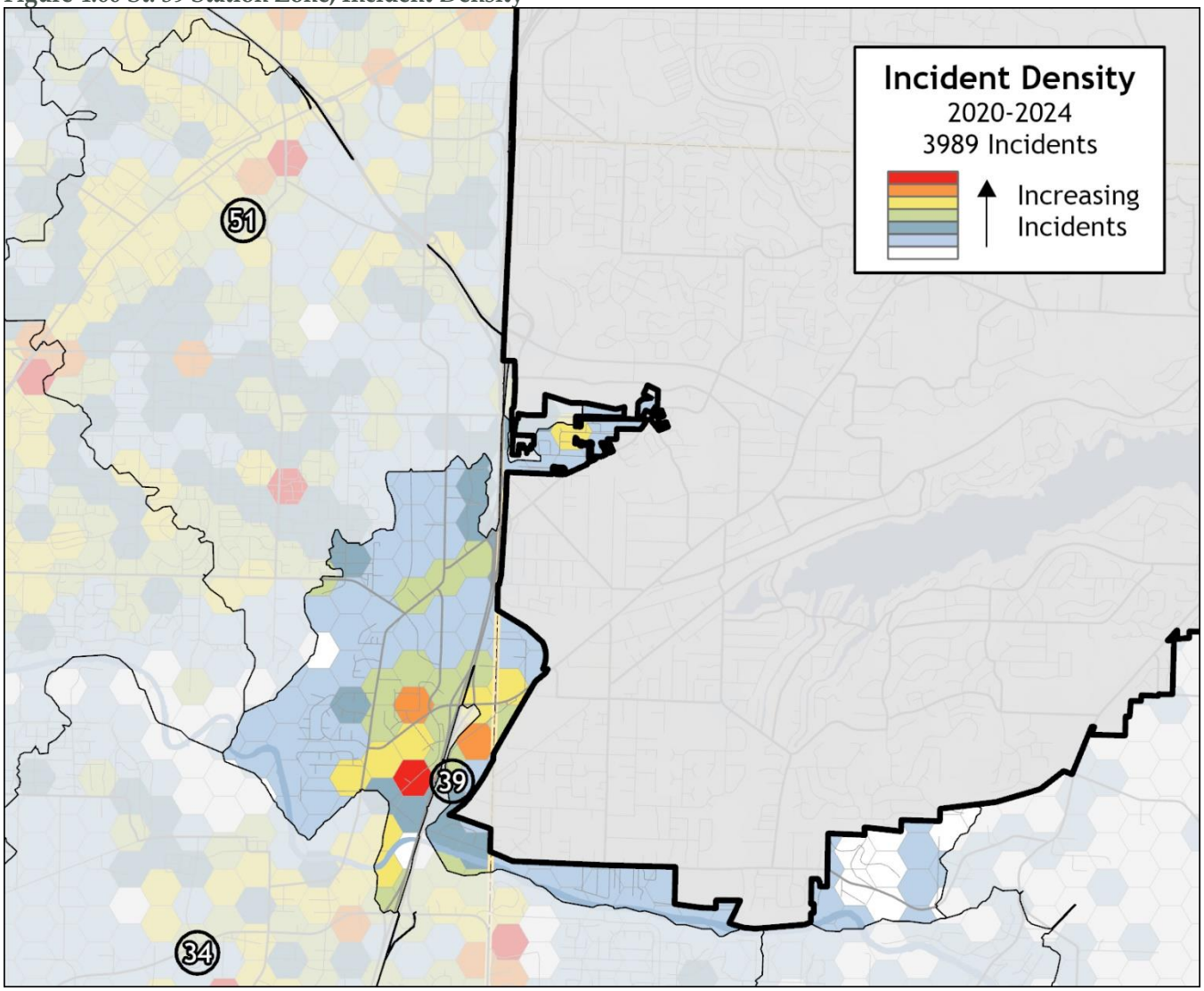


Figure 4.61 St. 39 Station Zone, Incident Count[10]

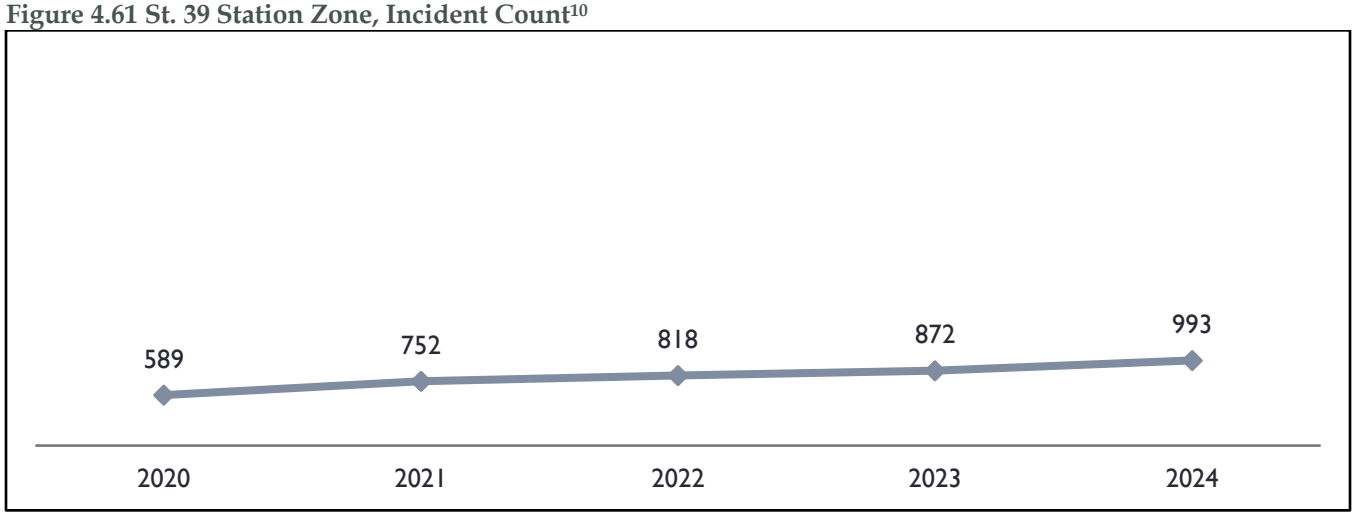
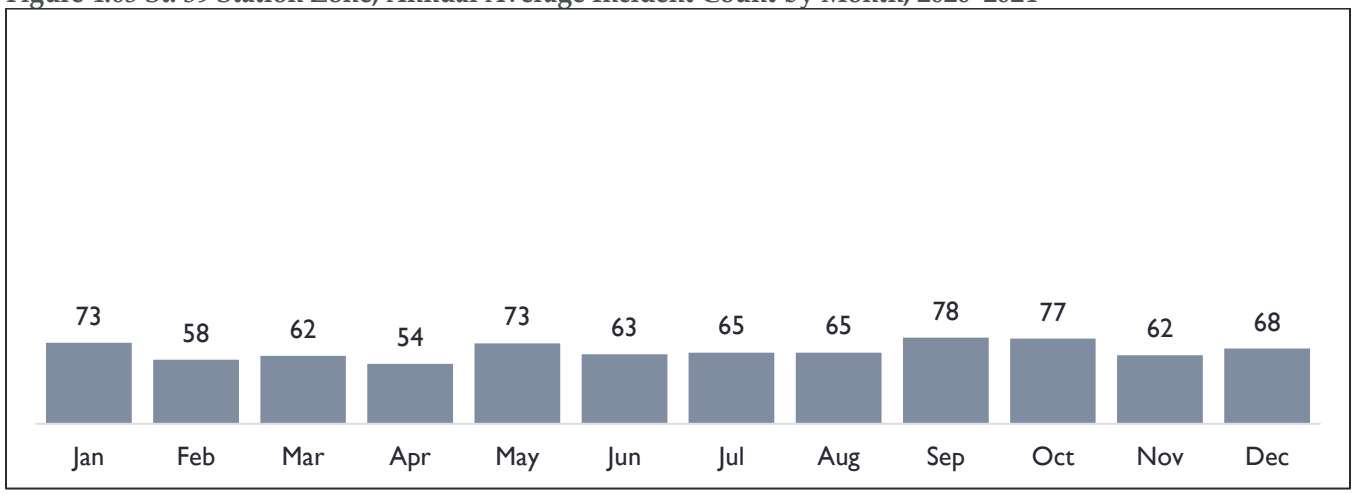


Figure 4.62 St. 39 Station Zone, Incident Summary

NFIRS Series	2020		2021		2022		2023		2024	
	Disp Call Type	*Sit Found*	*Disp Call Type*	*Sit Found*	*Disp Call Type*	*Sit Found*	*Disp Call Type*	*Sit Found*	*Disp Call Type*	*Sit Found*
Fire, Explosion	97	16	153	21	187	15	157	19	229	19
Overpressure	0	0	0	0	0	0	0	0	0	0
EMS/Rescue Call	454	368	545	476	549	484	625	570	668	595
Hazardous Condition	3	17	4	15	3	27	5	17	4	26
Service Call	35	20	50	26	79	28	85	36	91	47
Good Intent Call	0	108	0	122	0	148	0	127	0	146
False Call	0	60	0	92	0	116	0	103	0	159
Natural Condition	0	0	0	0	0	0	0	0	0	0
Other Situation	0	0	0	0	0	0	0	0	1	1
Total	589		752		818		872		993	

Figure 4.63 St. 39 Station Zone, Annual Average Incident Count by Month, 2020–2024



[10] Station 39 opened on January 21, 2020. Incident totals for the area serviced by Station 39 are included for all of 2020 and 2020–2024 combined to show the trends of this station zone.

Figure 4.64 St. 39 Station Zone, Annual Average Incident Count by Day of Week, 2020–2024

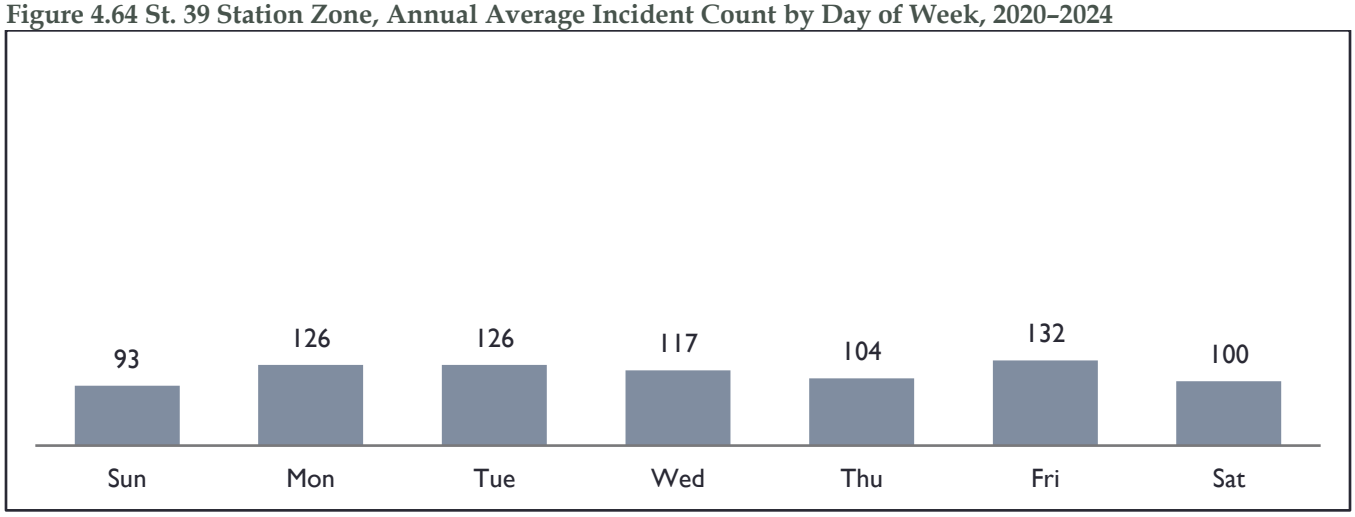


Figure 4.65 St. 39 Station Zone, Annual Average Incident Count by Hour of Day, 2020–2024

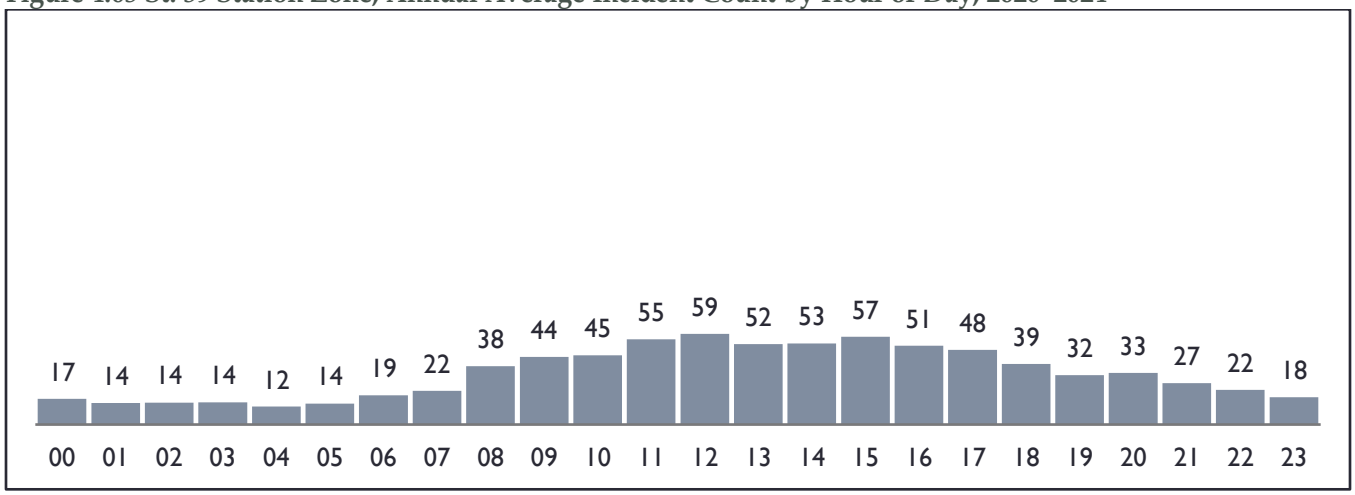
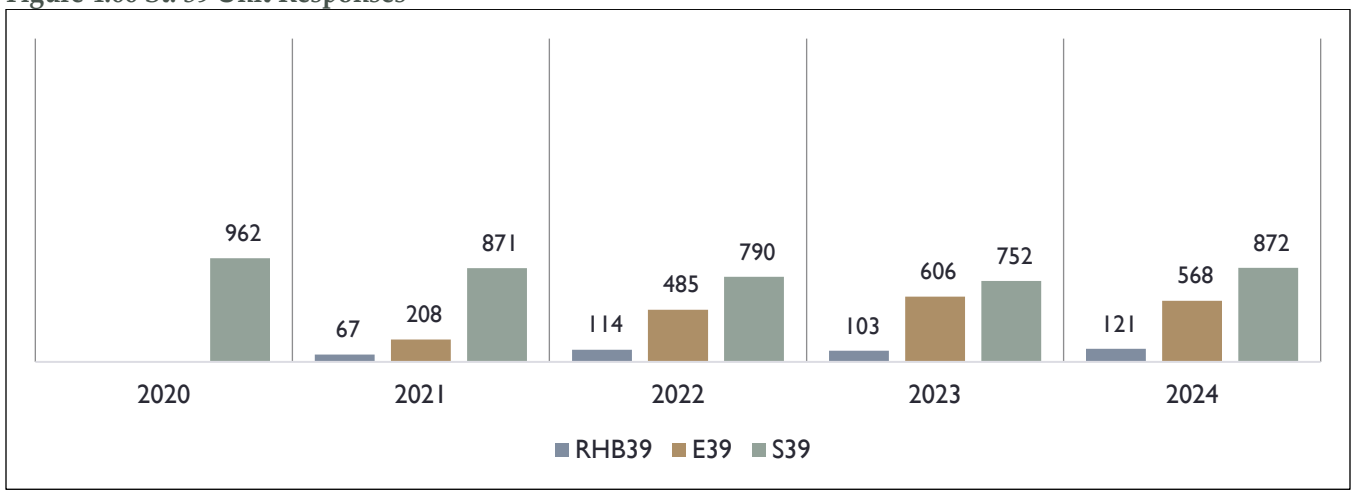


Figure 4.66 St. 39 Unit Responses[11]



[11] The 2020 response totals for Squad 39 started when they went into service on January 21, 2020.

Station 50, Walnut

Station 50, located on SW Walnut Street just east of Gaarde Street, was constructed in 2009. The 11,700-square-foot station houses a total of 12 full-time personnel. Four personnel (on each 24-hour, three-shift schedule) primarily respond to incidents utilizing Engine 50 and can also respond in Water Tenders 50A and 50B when needed. At least one crewmember per shift is an EMT-Paramedic capable of providing advanced life support (ALS) treatment.

Station 50 has a Community Room used by a wide variety of neighborhood and community groups, as well as TVF&R personnel for training and meetings. Volunteer Company 350 is also located at Station 50, responding out of Rehab 350 and Utility Pickup 350.

The 4.6 square miles of Station 50's station zone includes the west side of Tigard, a small portion of south Beaverton along Scholls Ferry Road, and portions of unincorporated Washington County and Bull Mountain.

Figure 4.67 St. 50 Station Zone, Incident Density

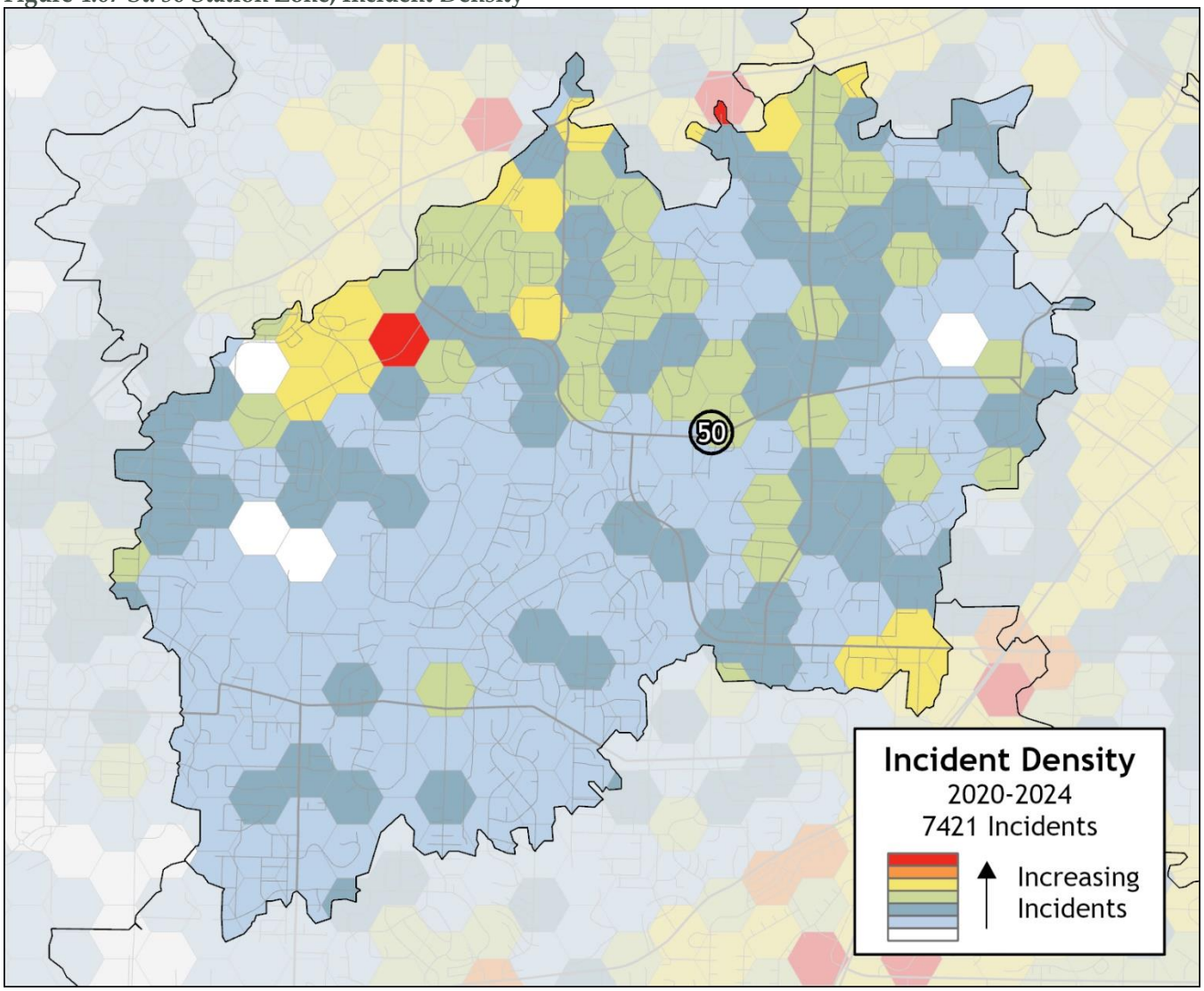


Figure 4.68 St. 50 Station Zone, Incident Count

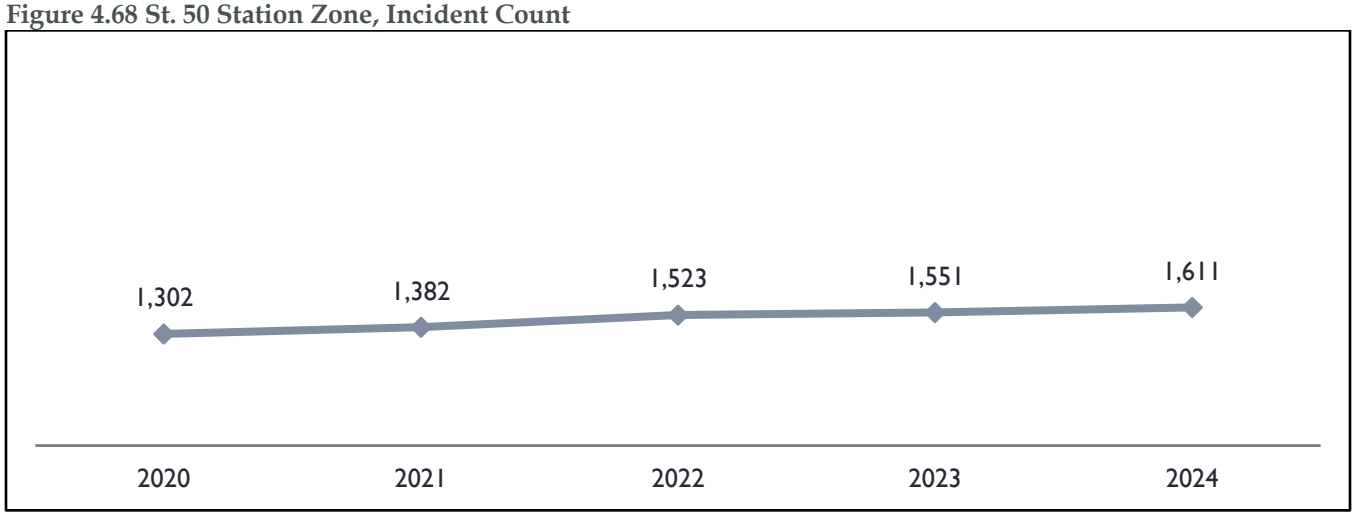


Figure 4.69 St. 50 Station Zone, Incident Summary

NFIRS Series	2020		2021		2022		2023		2024	
	Disp Call Type	*Sit Found*	*Disp Call Type*	*Sit Found*	*Disp Call Type*	*Sit Found*	*Disp Call Type*	*Sit Found*	*Disp Call Type*	*Sit Found*
Fire, Explosion	111	36	95	26	108	23	105	27	113	31
Overpressure	0	0	0	2	0	0	0	0	0	0
EMS/Rescue Call	1,031	898	1,132	1,004	1,269	1,120	1,257	1,158	1,315	1,185
Hazardous Condition	2	14	15	26	11	10	9	28	14	30
Service Call	158	94	140	61	135	86	180	92	169	71
Good Intent Call	0	173	0	182	0	200	0	167	0	199
False Call	0	87	0	81	0	84	0	77	0	93
Natural Condition	0	0	0	0	0	0	0	0	0	0
Other Situation	0	0	0	0	0	0	0	2	0	2
Total	1,302		1,382		1,523		1,551		1,611	

Figure 4.70 St. 50 Station Zone, Annual Average Incident Count by Month, 2020–2024

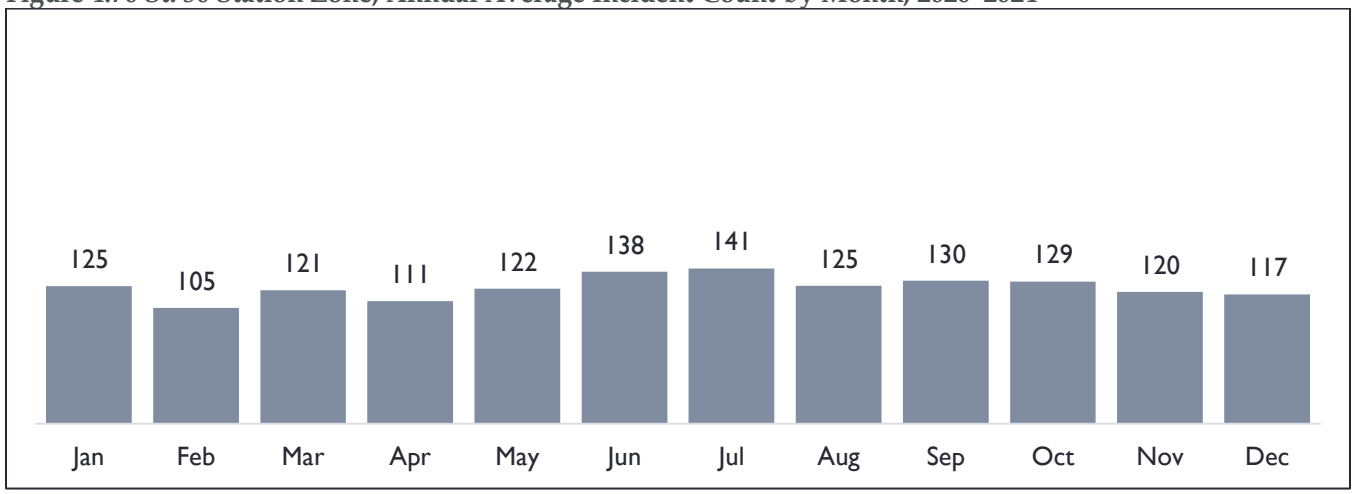


Figure 4.71 St. 50 Station Zone, Annual Average Incident Count by Day of Week, 2020–2024

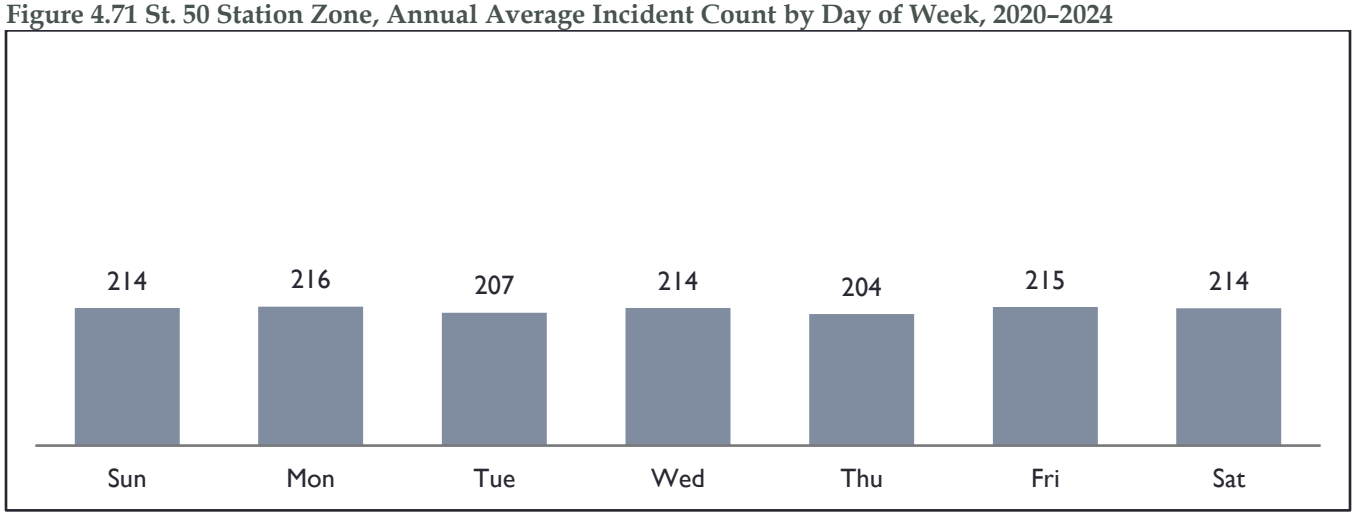


Figure 4.72 St. 50 Station Zone, Annual Average Incident Count by Hour of Day, 2020–2024

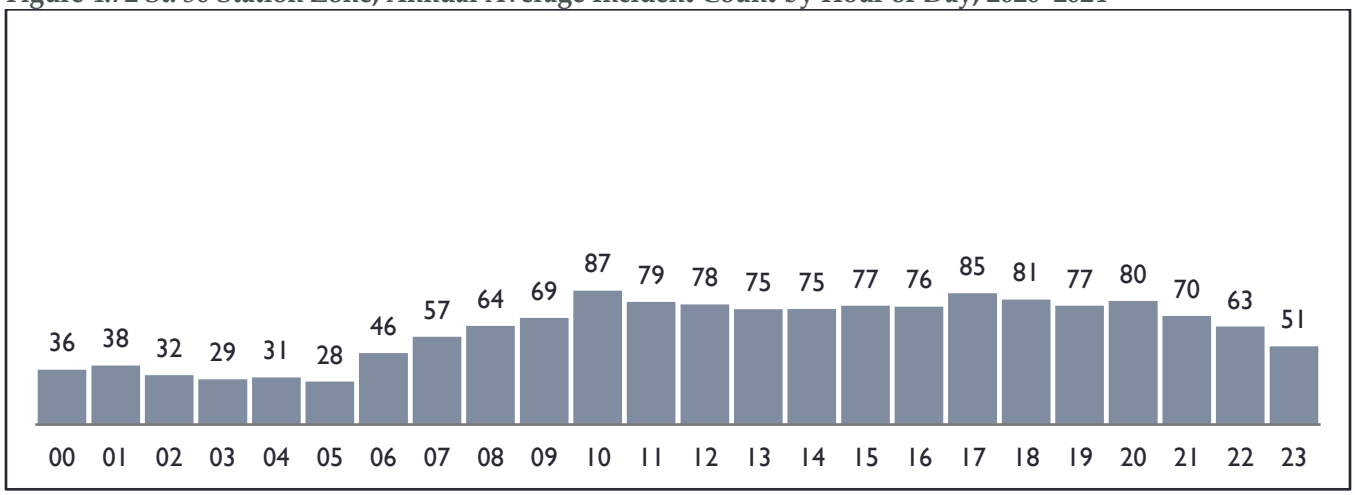


Figure 4.73 St. 50 Unit Responses

Station 51, Tigard

Station 51, located on SW Burnham Street between Main Street and Hall Boulevard, was constructed in 1993 and seismically strengthened and remodeled in 2015. The 10,552-square-foot station houses a total of 24 full-time personnel. Four personnel (on each 24-hour, three-shift schedule) respond to incidents primarily utilizing Heavy Rescue 51 and can also respond in Engine 51 and Rapid Extraction Modular Support 51 when needed. An additional four personnel (on each 24-hour, three-shift schedule) respond utilizing Truck 51. In addition to responses in the station zone, the truck and heavy rescue serve as resources for the District's entire service area. At least one crewmember per unit and shift is an EMT-Paramedic capable of providing ALS treatment.

The District's Technical Rescue Team is also housed at Station 51.

The 5.0 square miles of Station 51's station zone includes a large portion of Tigard.

Figure 4.74 St. 51 Station Zone, Incident Density

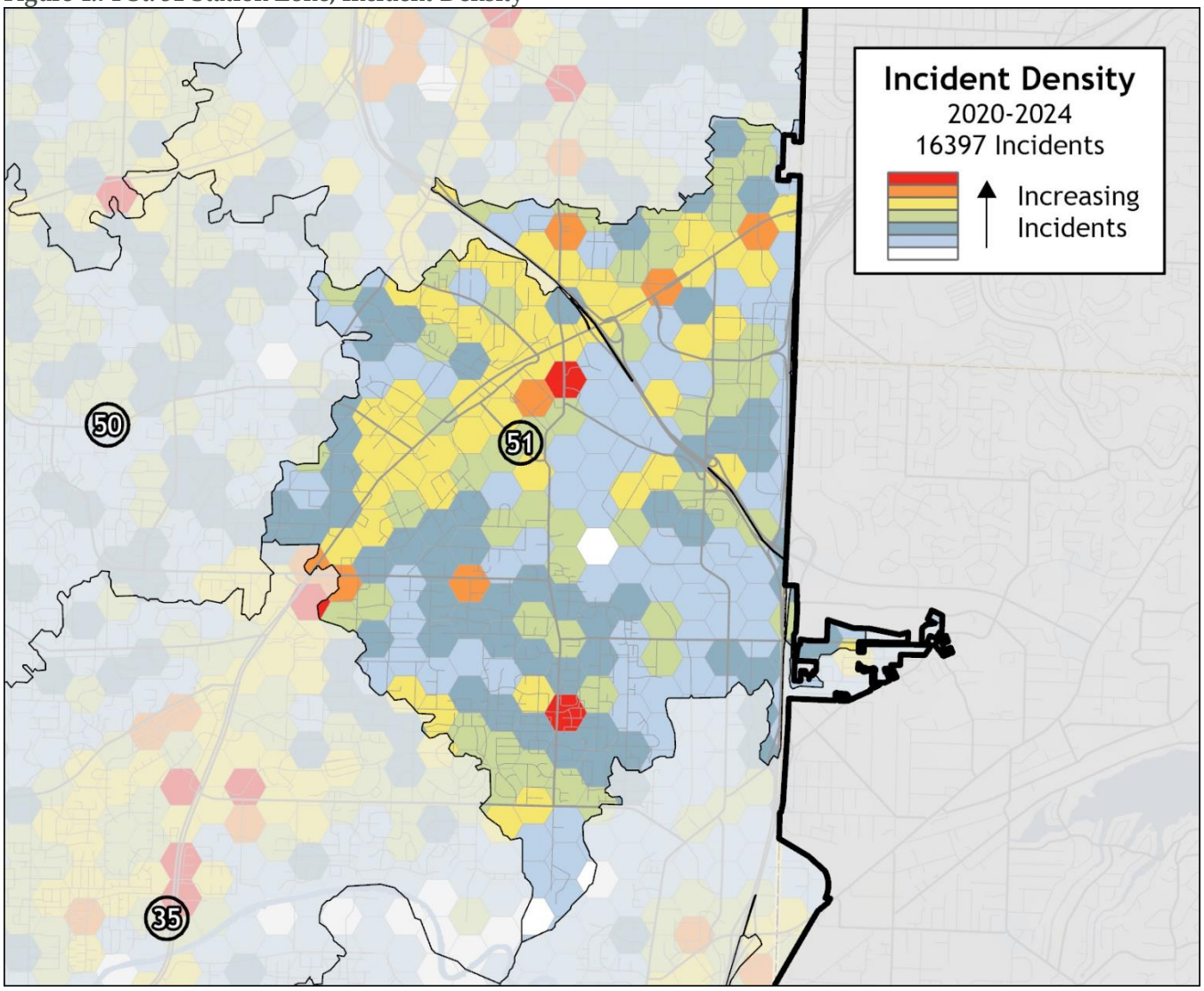


Figure 4.75 St. 51 Station Zone, Incident Count

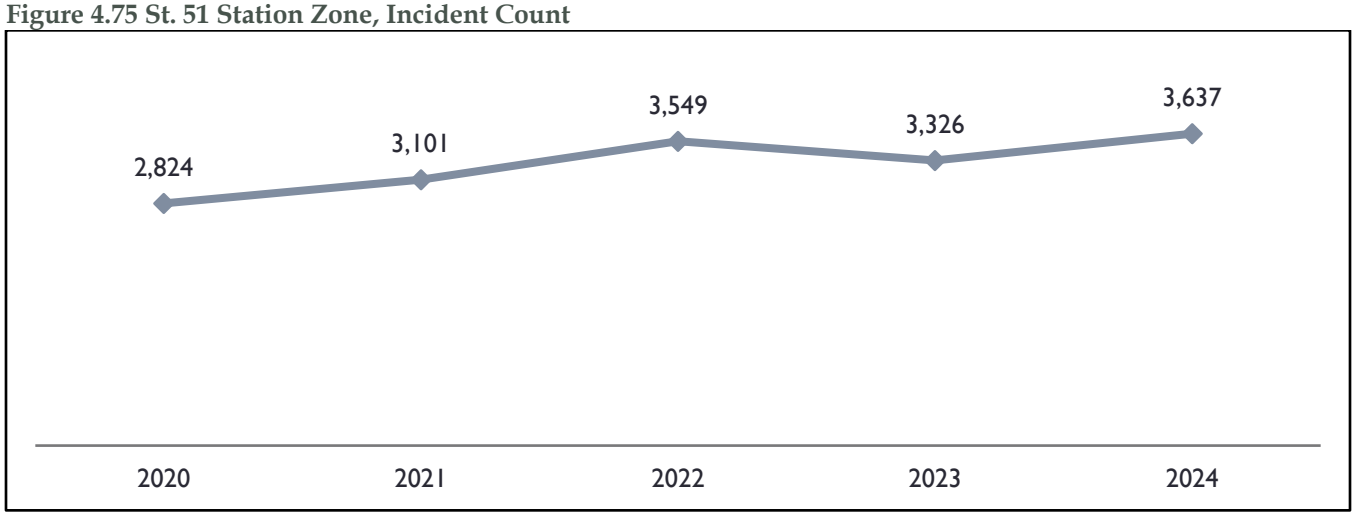


Figure 4.76 St. 51 Station Zone, Incident Summary

NFIRS Series	2020		2021		2022		2023		2024	
	Disp Call Type	*Sit Found*	*Disp Call Type*	*Sit Found*	*Disp Call Type*	*Sit Found*	*Disp Call Type*	*Sit Found*	*Disp Call Type*	*Sit Found*
Fire, Explosion	222	50	214	61	265	64	277	62	309	82
Overpressure	0	1	0	0	0	0	0	0	0	0
EMS/Rescue Call	2,392	1,947	2,633	2,253	3,001	2,564	2,794	2,476	2,992	2,573
Hazardous Condition	11	47	10	60	19	77	19	78	9	65
Service Call	199	147	244	113	263	142	236	113	323	155
Good Intent Call	0	502	0	476	0	521	0	428	0	587
False Call	0	130	0	137	0	179	0	168	0	175
Natural Condition	0	0	0	1	0	0	0	0	0	0
Other Situation	0	0	0	0	1	2	0	1	4	0
Total	2,824		3,101		3,549		3,326		3,637	

Figure 4.77 St. 51 Station Zone, Annual Average Incident Count by Month, 2020–2024

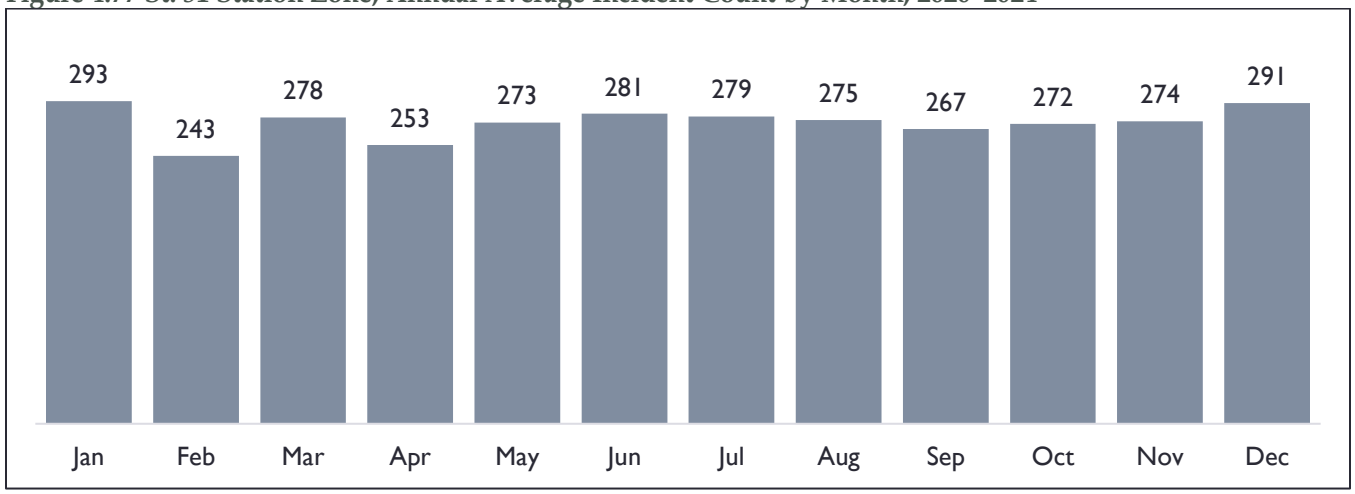


Figure 4.78 St. 51 Station Zone, Annual Average Incident Count by Day of Week, 2020–2024

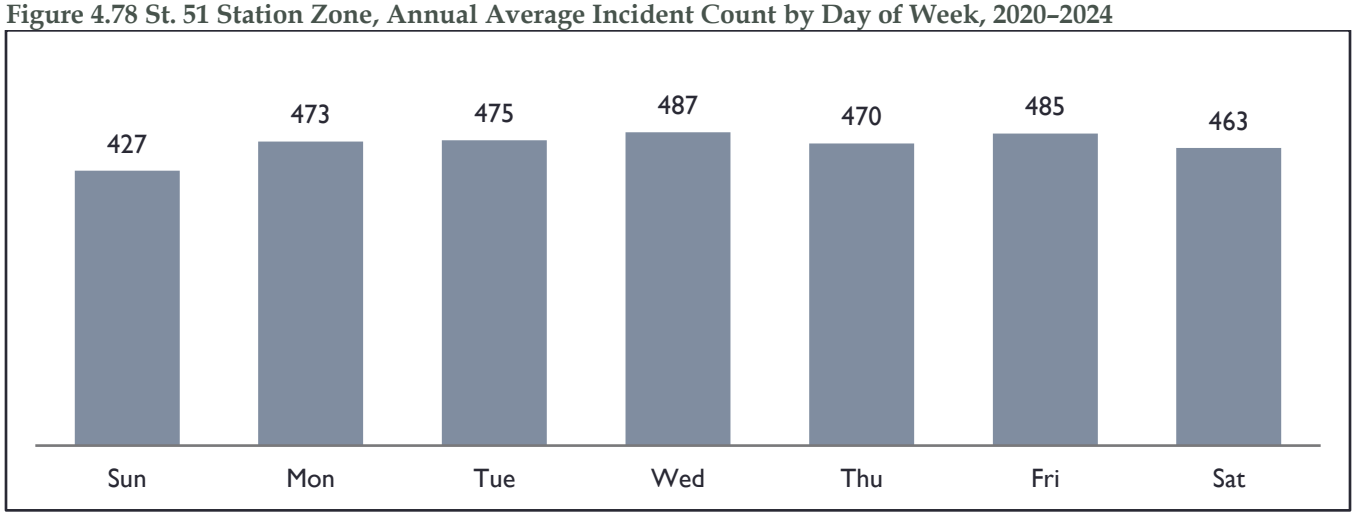


Figure 4.79 St. 51 Station Zone, Annual Average Incident Count by Hour of Day, 2020–2024

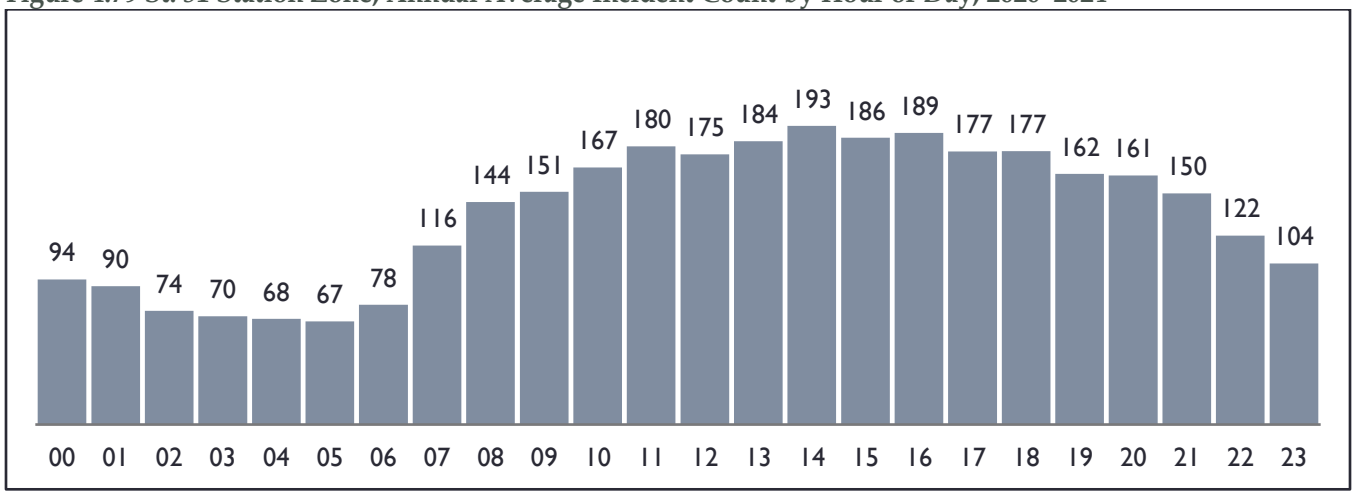
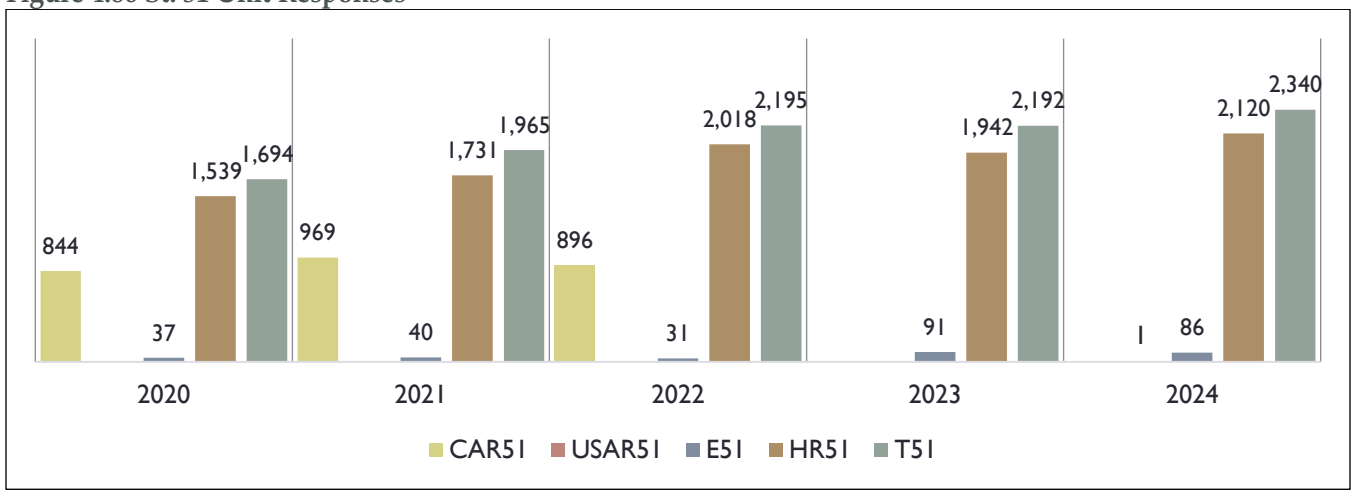


Figure 4.80 St. 51 Unit Responses



Station 52, Wilsonville

Station 52, located on SW Kinsman west of Interstate 5's main Wilsonville exit, was constructed in 1991 and seismically strengthened and remodeled in 2015. The 9,372-square-foot station houses a total of 12 full-time personnel (four personnel on each 24-hour, three-shift schedule). The crew responds to incidents primarily utilizing Engine 52 and can also respond in Heavy Brush 52 or Medic 52 when needed. At least one crewmember per shift is an EMT-Paramedic capable of providing advanced life support (ALS) treatment.

Station 52 also houses Heavy Squad 52, a regional Chemical, Biological, Radiological, Nuclear, Explosive (CBRNE) response unit, equipped to deploy on any event within the region requiring mass decontamination or mass casualty resources. Personnel at this station also assist with the management of the District's wildland program by housing one of three wildland caches (in conjunction with Stations 20 and 62). This equipment is taken when a team is deployed as part of a Clackamas County deployment.

The 13.9 square miles of Station 52's station zone includes central and south Wilsonville to the Willamette River and unincorporated Clackamas County to the west near the Yamhill County border.

Figure 4.81 St. 52 Station Zone, Incident Density

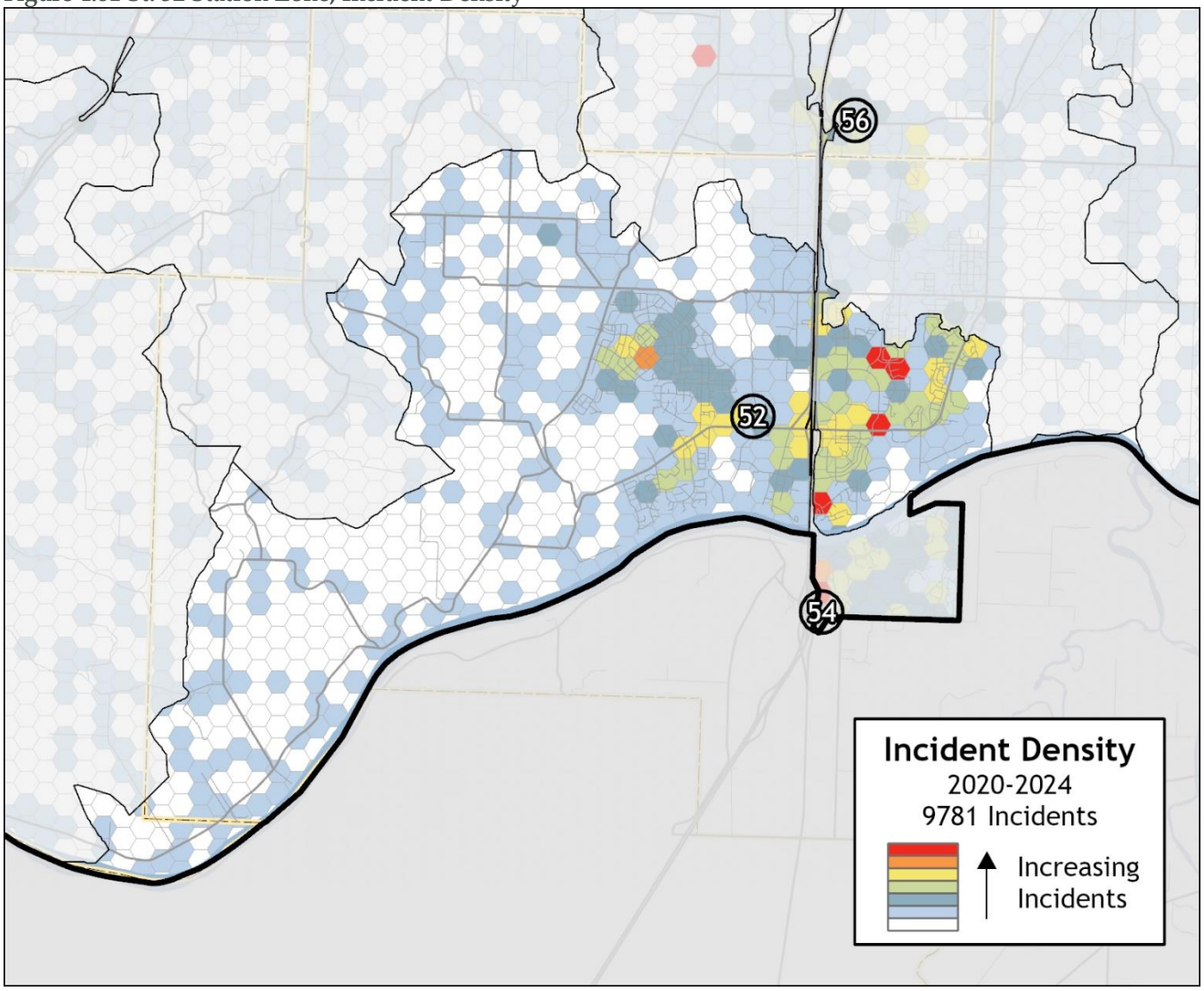


Figure 4.82 St. 52 Station Zone, Incident Count

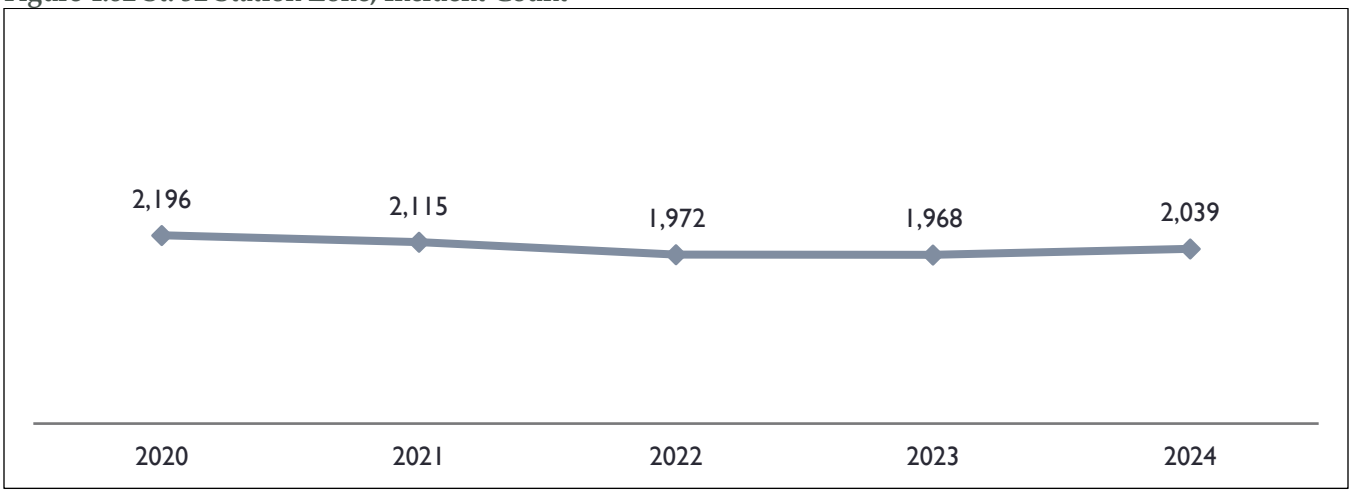


Figure 4.83 St. 52 Station Zone, Incident Summary

NFIRS Series	2020		2021		2022		2023		2024	
	Disp Call Type	*Sit Found*	*Disp Call Type*	*Sit Found*	*Disp Call Type*	*Sit Found*	*Disp Call Type*	*Sit Found*	*Disp Call Type*	*Sit Found*
Fire, Explosion	169	33	182	48	168	41	173	50	175	38
Overpressure	0	2	0	1	0	0	0	0	0	0
EMS/Rescue Call	1,790	1,591	1,721	1,584	1,630	1,468	1,588	1,490	1,646	1,510
Hazardous Condition	8	35	10	55	14	39	9	27	15	25
Service Call	229	181	202	88	160	73	197	84	201	99
Good Intent Call	0	209	0	196	0	173	0	168	0	214
False Call	0	143	0	142	0	174	0	149	0	153
Natural Condition	0	2	0	1	0	0	0	0	0	0
Other Situation	0	0	0	0	0	4	1	0	2	0
Total	2,196		2,115		1,972		1,968		2,039	

Figure 4.84 St. 52 Station Zone, Annual Average Incident Count by Month, 2020–2024

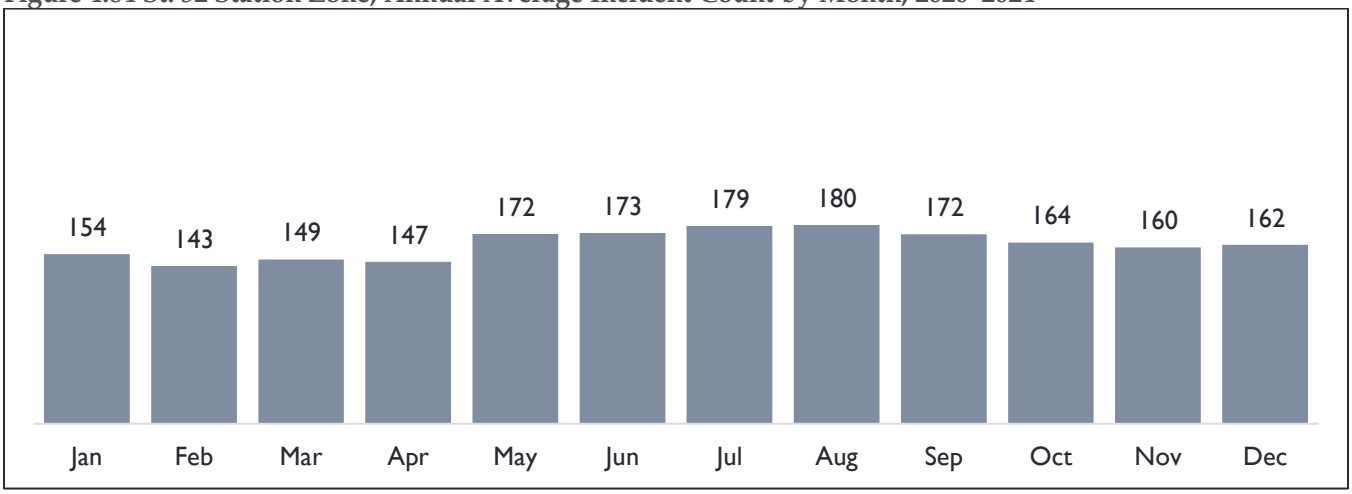


Figure 4.85 St. 52 Station Zone, Annual Average Incident Count by Day of Week, 2020–2024

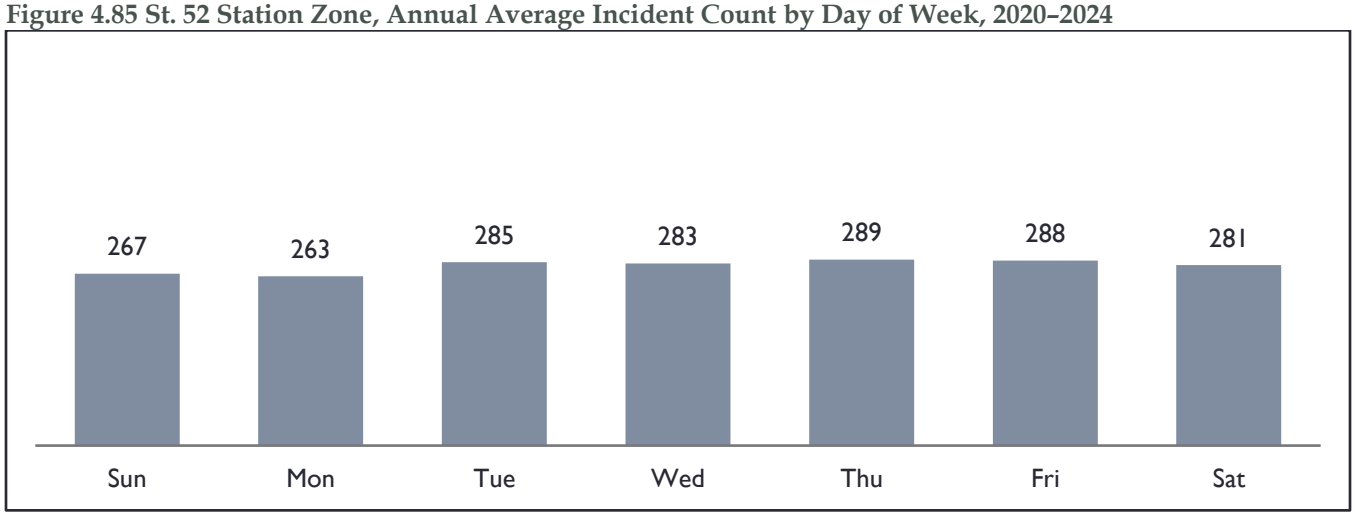


Figure 4.86 St. 52 Station Zone, Annual Average Incident Count by Hour of Day, 2020–2024

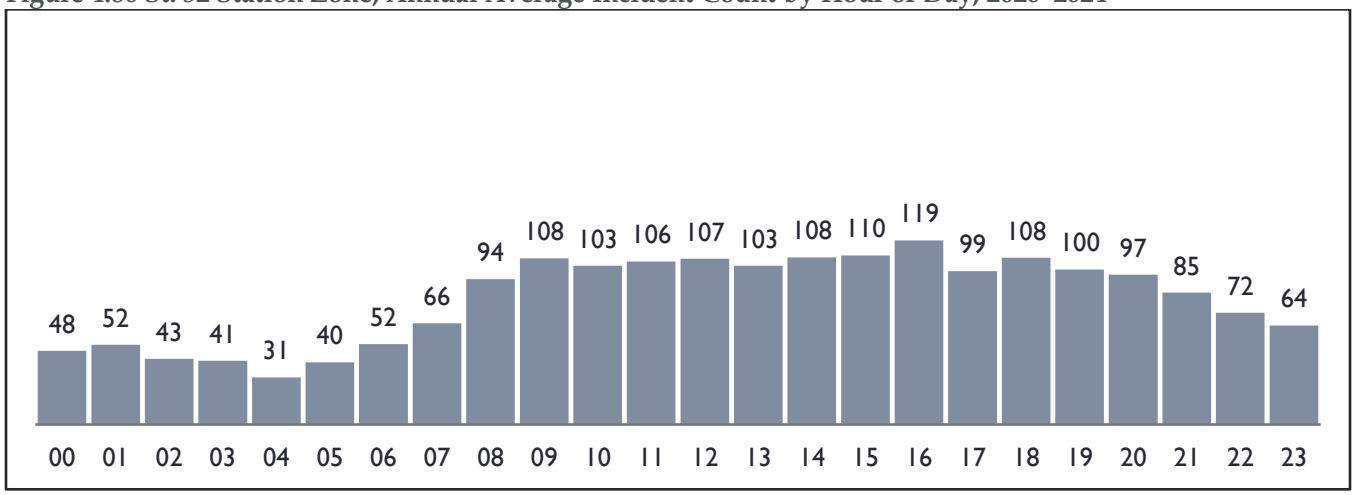
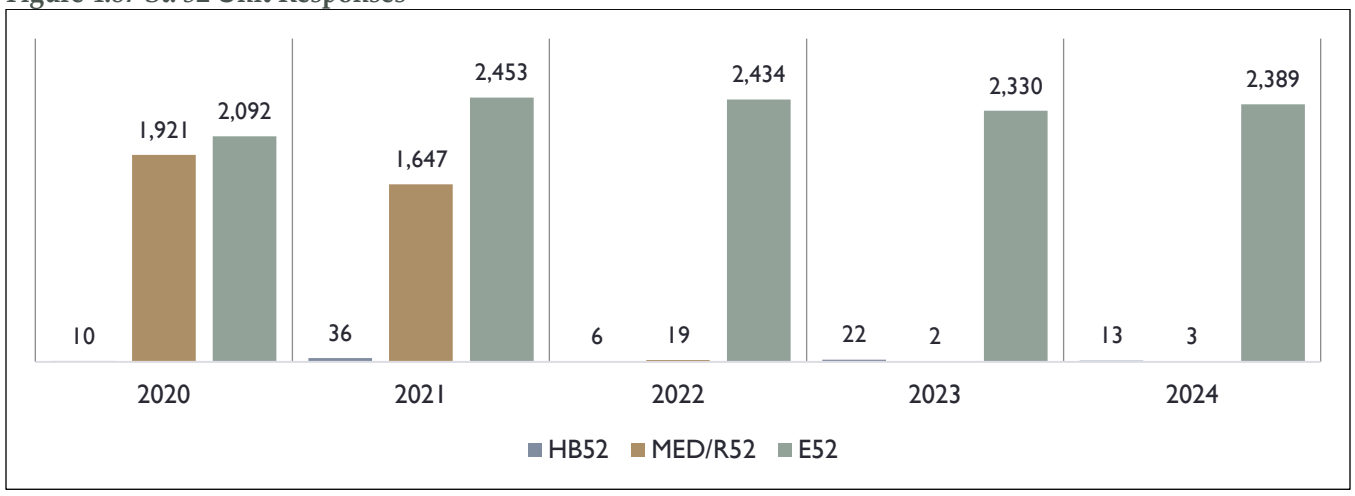


Figure 4.87 St. 52 Unit Responses



Station 53, Progress

Station 53, located on SW Scholls Ferry Road just north of Hall Boulevard and the Washington Square Mall, was originally constructed in 1966 and completely rebuilt in 2010. The 12,368-square-foot station houses a total of 14 full-time personnel. Four personnel (on each 24-hour, three-shift schedule) respond to incidents utilizing Engine 53 and can also respond in Medic 53 when needed. At least one crewmember per shift is an EMT-Paramedic capable of providing advanced life support (ALS) treatment. Two EMT-Paramedics (each on a twelve-hour, two-shift schedule) respond to APCP incidents utilizing Car 53.

Half of the District's Hazardous Materials Team is located at Station 53 (in conjunction with Station 34).

The 6.6 square miles of Station 53's station zone includes southeast Beaverton, portions of north Tigard, and unincorporated Washington County (Progress).

Figure 4.88 St. 53 Station Zone, Incident Density

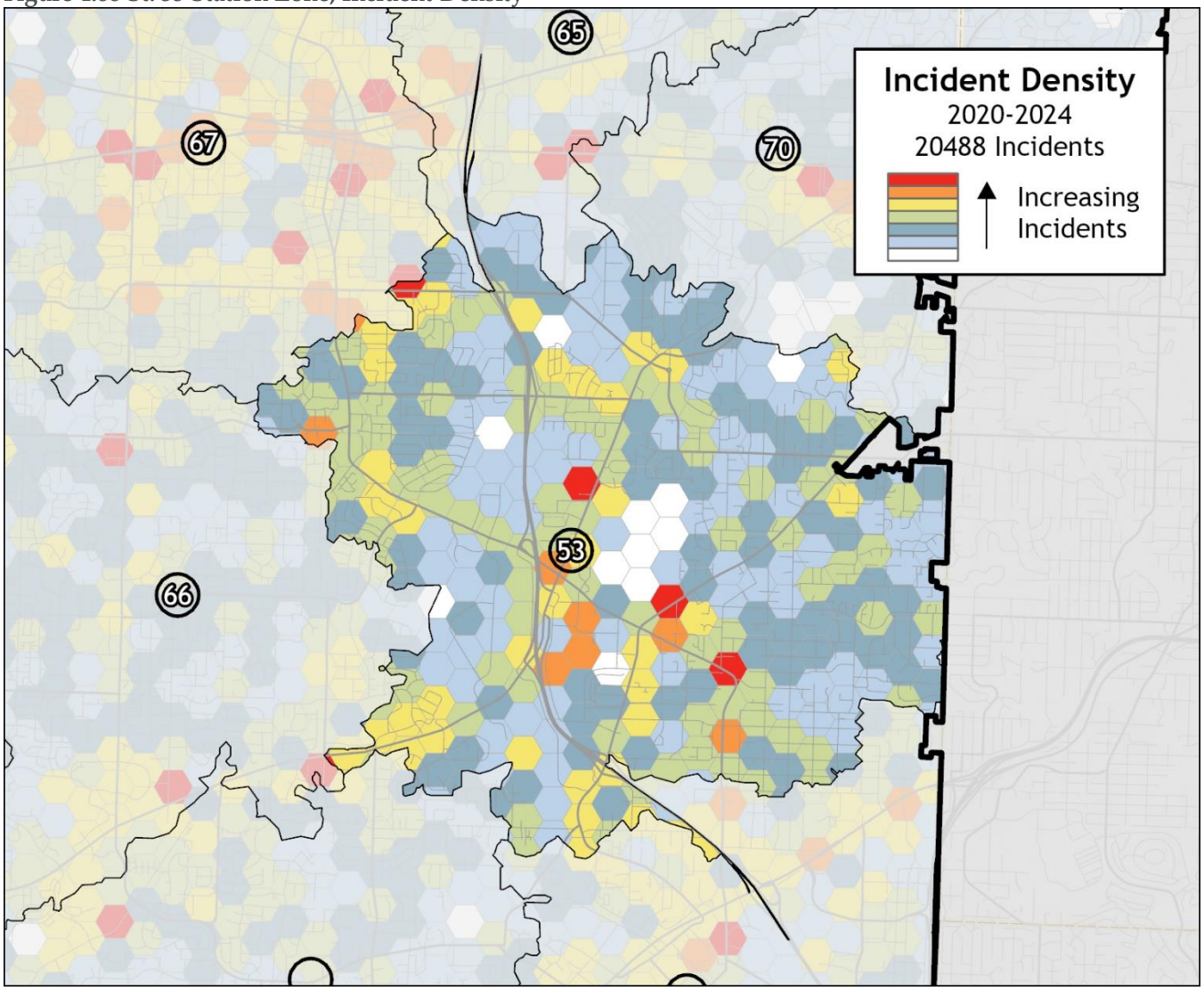


Figure 4.89 St. 53 Station Zone, Incident Count

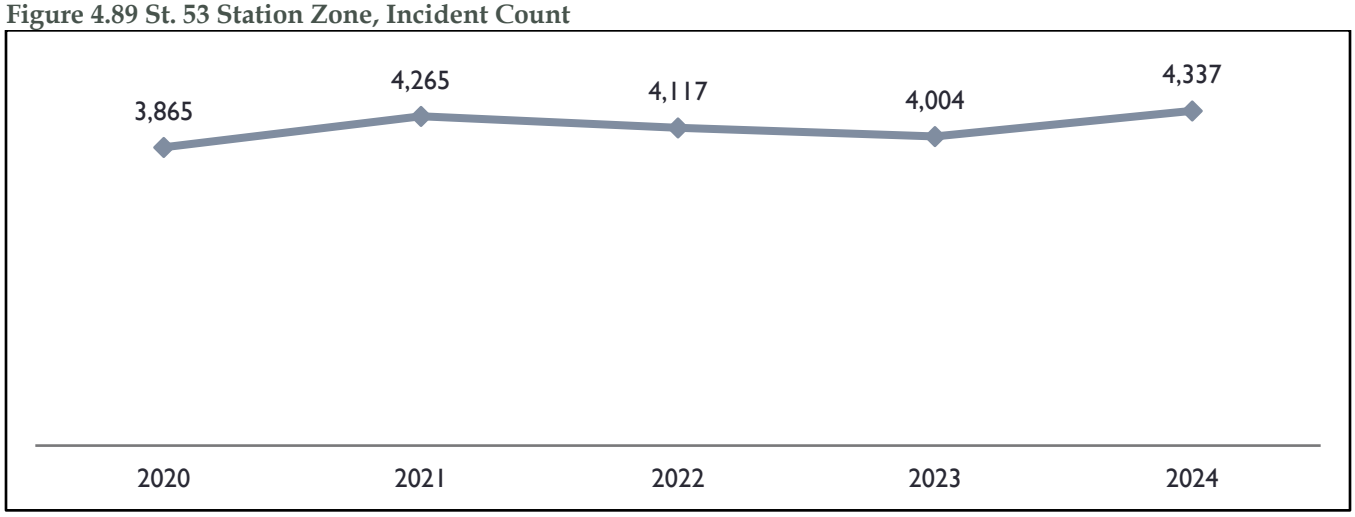


Figure 4.90 St. 53 Station Zone, Incident Summary

NFIRS Serie	2020		2021		2022		2023		2024	
	Disp Call Type	*Sit Found*	*Disp Call Type*	*Sit Found*	*Disp Call Type*	*Sit Found*	*Disp Call Type*	*Sit Found*	*Disp Call Type*	*Sit Found*
Fire, Explosion	295	68	276	71	294	67	314	79	353	68
Overpressure	0	1	0	2	0	0	0	0	0	0
EMS/Rescue Call	3,253	2,749	3,655	3,195	3,531	3,143	3,382	3,063	3,581	3,093
Hazardous Condition	20	80	14	102	17	99	10	92	32	113
Service Call	297	215	320	109	275	108	298	98	369	170
Good Intent Call	0	570	0	604	0	526	0	488	0	659
False Call	0	181	0	181	0	173	0	179	0	233
Natural Condition	0	1	0	1	0	0	0	1	0	0
Other Situation	0	0	0	0	0	1	0	4	2	1
Total	3,865		4,265		4,117		4,004		4,337	

Figure 4.91 St. 53 Station Zone, Annual Average Incident Count by Month, 2020–2024

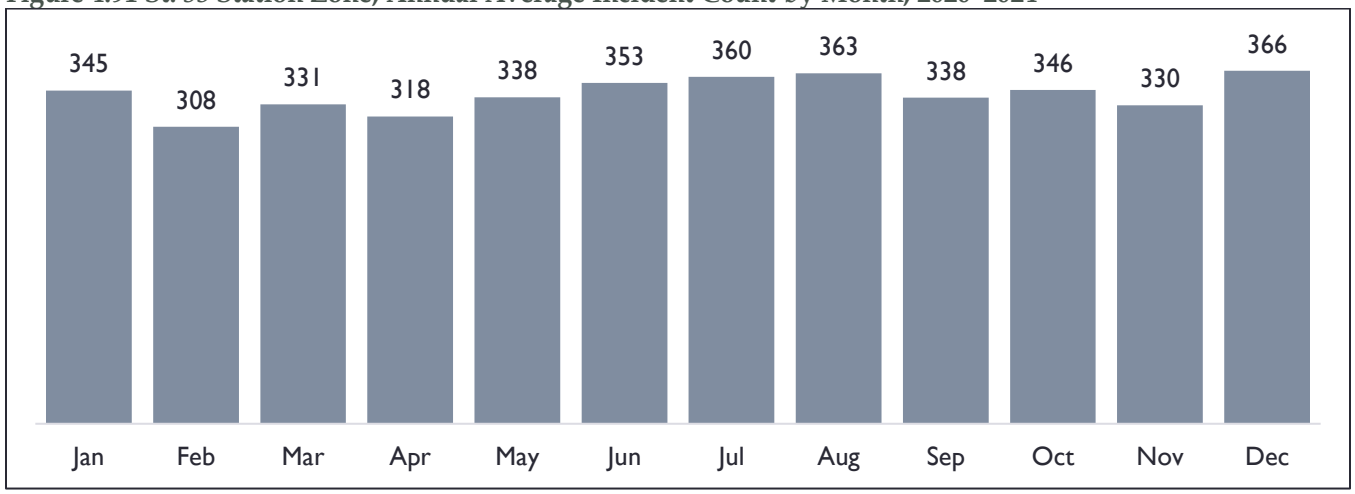


Figure 4.92 St. 53 Station Zone, Annual Average Incident Count by Day of Week, 2020–2024

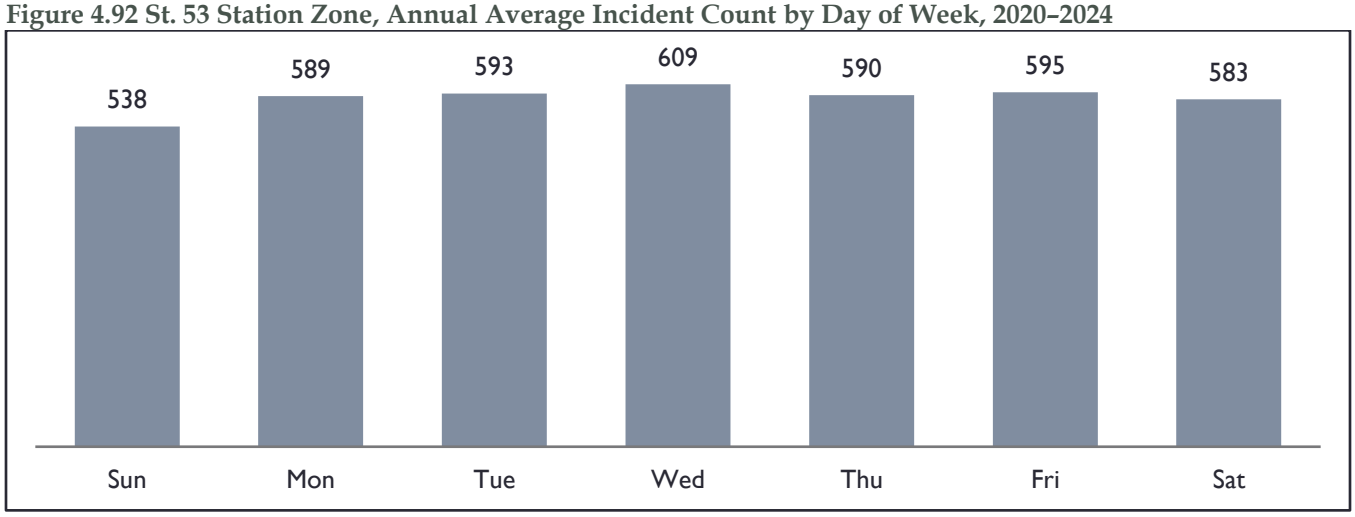


Figure 4.93 St. 53 Station Zone, Annual Average Incident Count by Hour of Day, 2020–2024

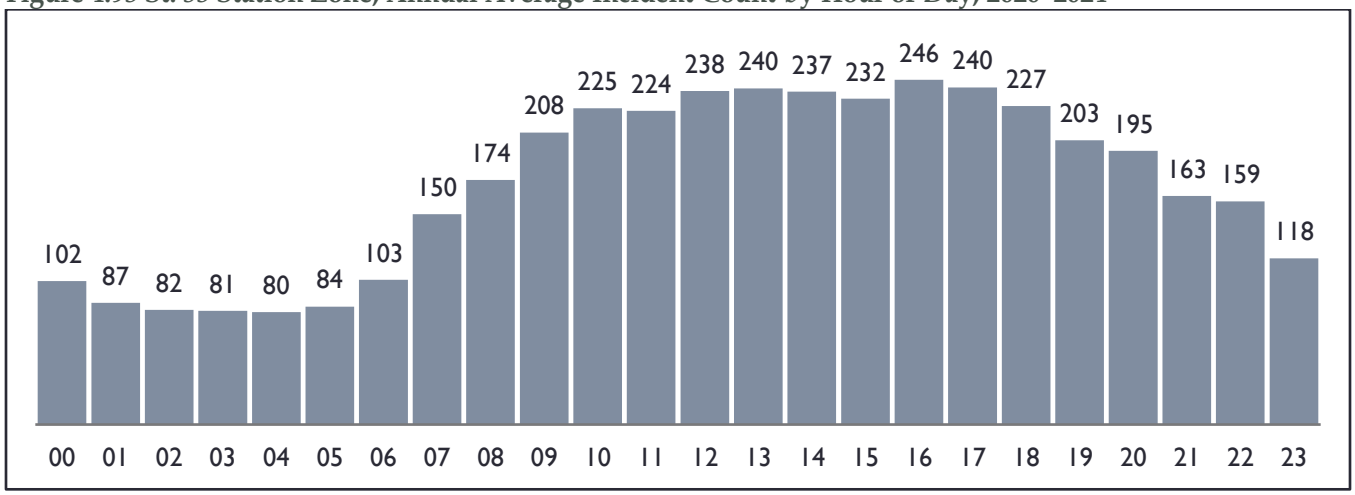
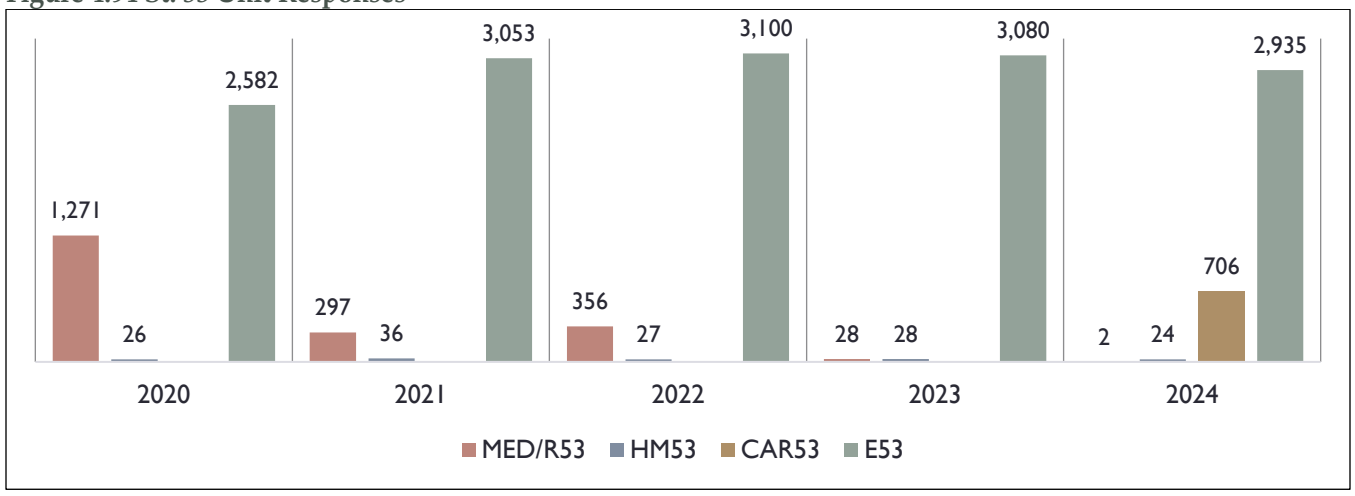


Figure 4.94 St. 53 Unit Responses



Station 54, Charbonneau

Station 54, located within the Willamette Professional Building just east of Interstate 5 on SW Miley Road, opened its doors on September 20, 2021. This 2,592-square-foot station houses a total of six full-time personnel (two Firefighter/EMT-Paramedics on each 24-hour, three-shift schedule). The crew responds to incidents utilizing Rescue 54 which also provides transport services in the District's portion of Clackamas County via a subcontract with American Medical Response (AMR).

The 0.8 square miles of Station 54's station zone includes the Wilsonville community of Charbonneau.

Figure 4.95 St. 54 Station Zone, Incident Density

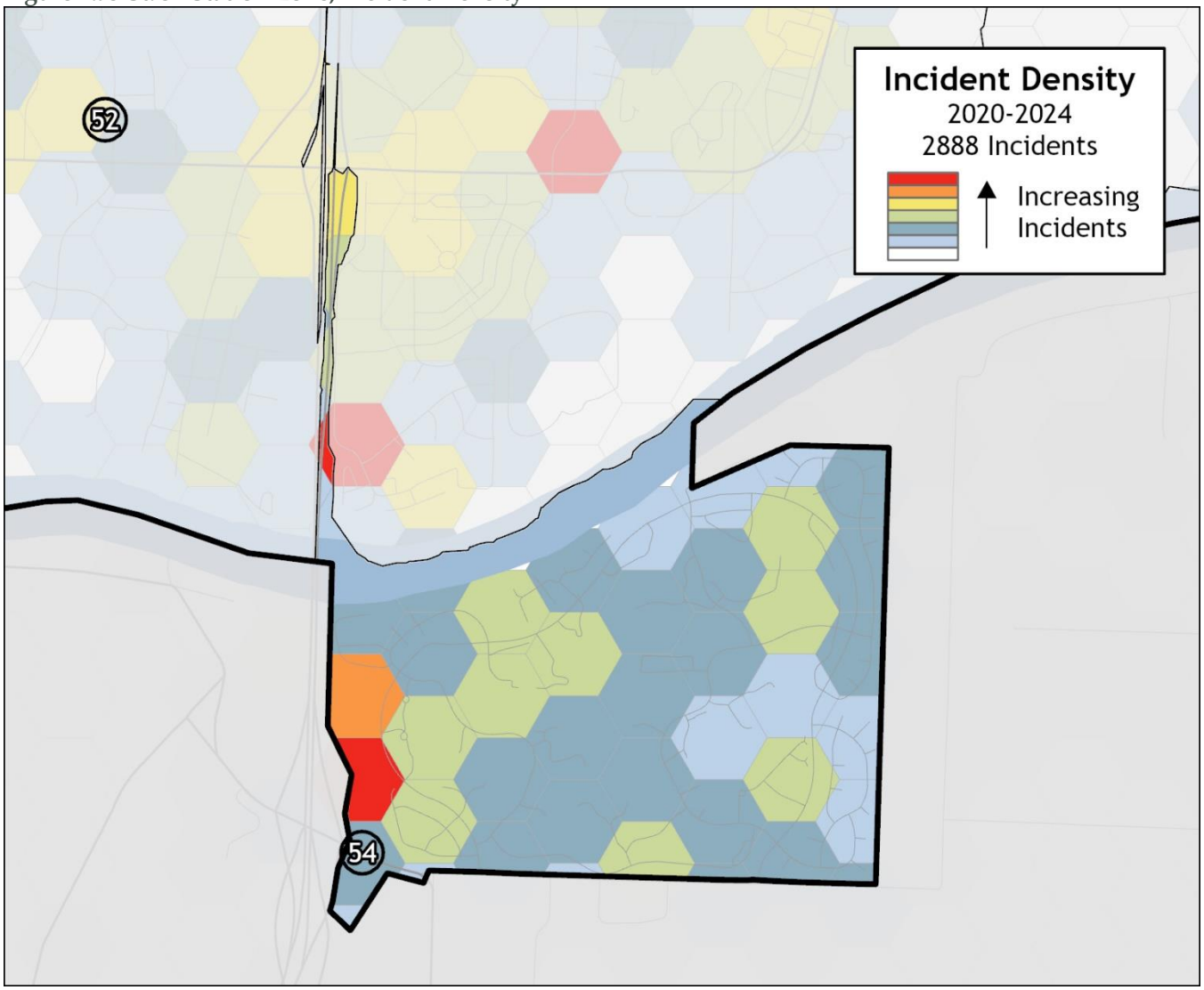


Figure 4.96 St. 54 Station Zone, Incident Count[12]

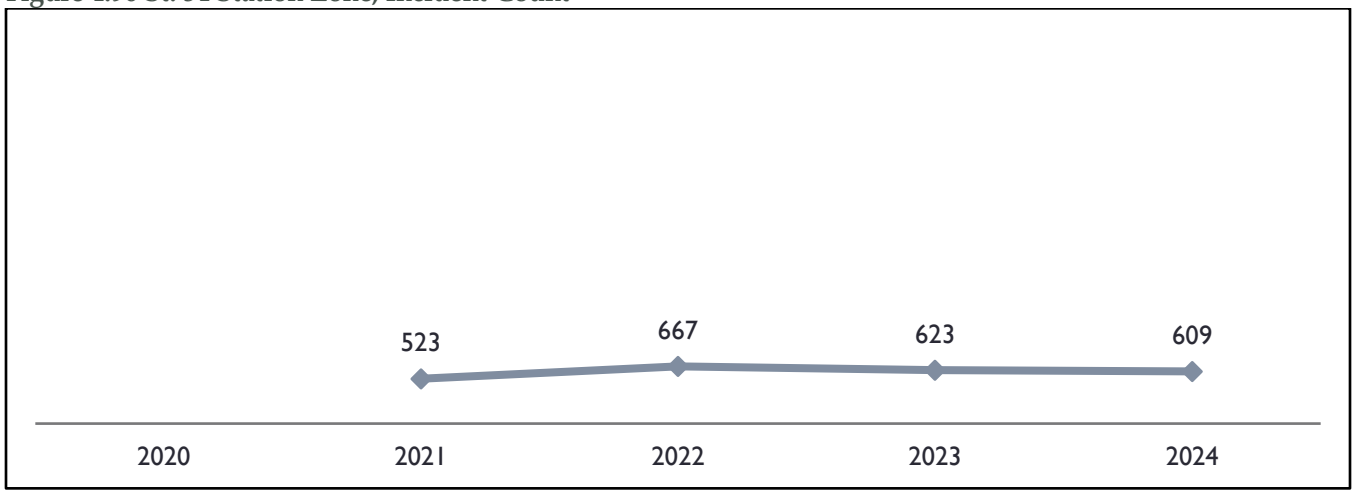
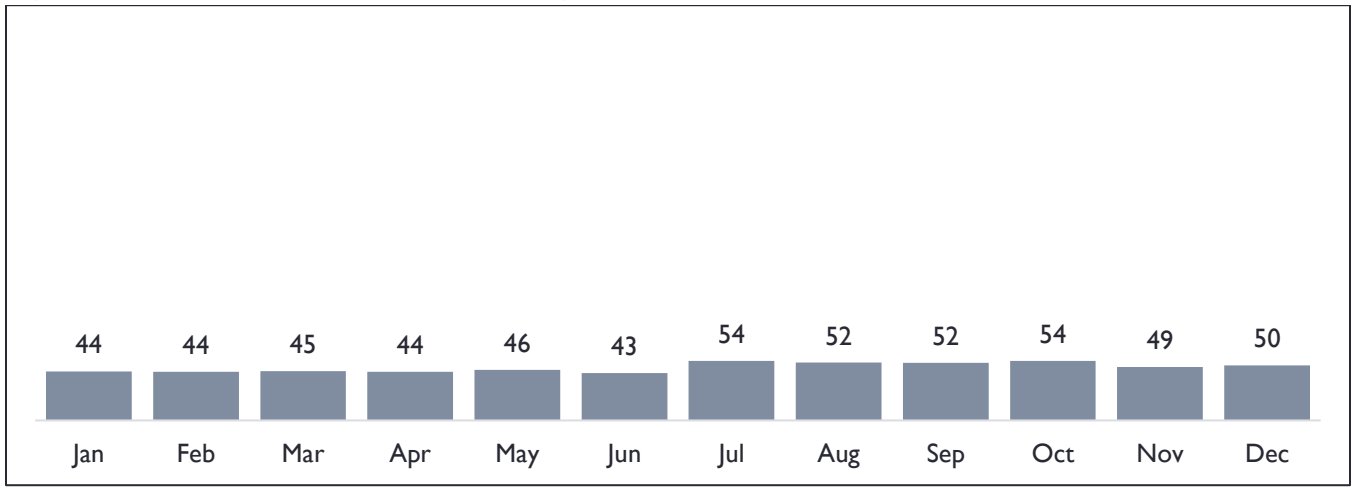


Figure 4.97 St. 54 Station Zone, Incident Summary

NFIRS Series	2020		2021		2022		2023		2024	
	Disp Call Type	*Sit Found*	*Disp Call Type*	*Sit Found*	*Disp Call Type*	*Sit Found*	*Disp Call Type*	*Sit Found*	*Disp Call Type*	*Sit Found*
Fire, Explosion			13	6	16	3	18	2	14	1
Overpressure			0	0	0	0	0	0	0	0
EMS/Rescue Call			463	451	591	592	529	537	495	503
Hazardous Condition			3	6	1	4	1	9	2	4
Service Call			44	27	59	19	75	27	98	40
Good Intent Call			0	16	0	28	0	26	0	40
False Call			0	17	0	21	0	22	0	21
Natural Condition			0	0	0	0	0	0	0	0
Other Situation			0	0	0	0	0	0	0	0
Total			523		667		623		609	

Figure 4.98 St. 54 Station Zone, Annual Average Incident Count by Month, 2020–2024



[12] Station 54 opened on September 20, 2021. Incident totals for the area serviced by Station 54 are included for all of 2021 and 2020–2024 combined to show the trends of this station zone.

Figure 4.99 St. 54 Station Zone, Annual Average Incident Count by Day of Week, 2020–2024

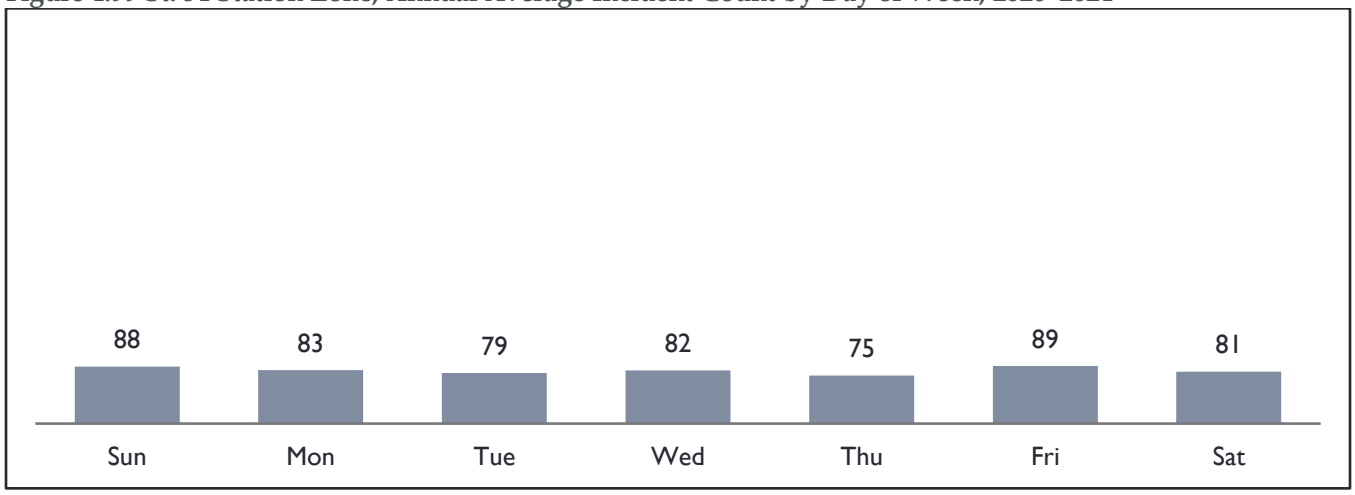


Figure 4.100 St. 54 Station Zone, Annual Average Incident Count by Hour of Day, 2020–2024

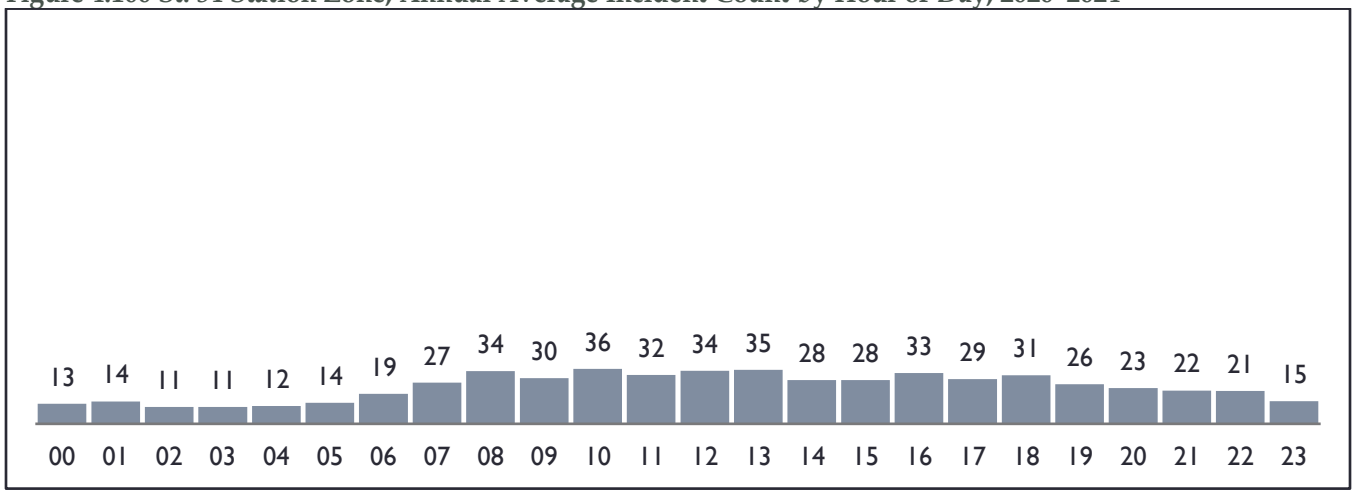
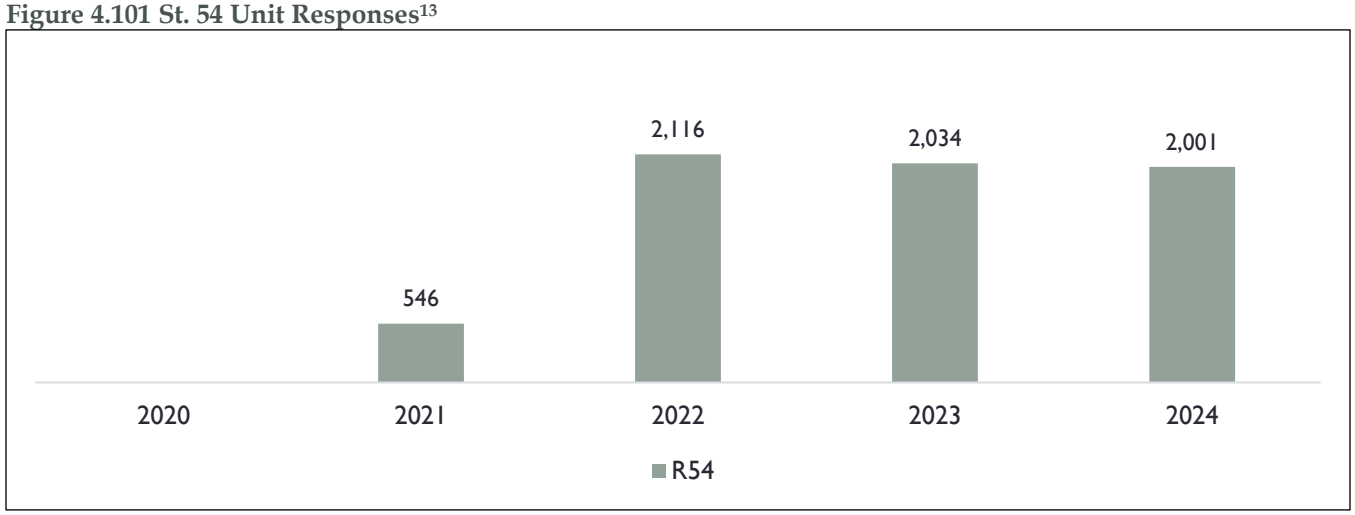


Figure 4.101 St. 54 Unit Responses[13]



[13] The 2021 response totals for Rescue 54 started when they went into service on September 20, 2021.

Station 55, Rosemont

Station 55, located on Hidden Springs Road just east of Rosemont Road, opened its doors on August 20, 2018. This 8,520-square-foot station houses a total of 12 full-time personnel (four personnel on each 24-hour, three-shift schedule). The crew responds to incidents utilizing Truck 55 and can also respond in Engine 55 when needed. In addition to responses in the station zone, the truck serves as a resource for the District's entire service area. At least one crewmember per shift is an EMT-Paramedic capable of providing advanced life support (ALS) treatment.

Station 55 also has a Community Room which is available for use by a wide variety of neighborhood and community groups, as well as TVF&R personnel for training and meetings.

The 6.7 square miles of Station 55's station zone includes northwest portions of West Linn as well as unincorporated areas of Clackamas County towards the Stafford area.

Figure 4.102 St. 55 Station Zone, Incident Density

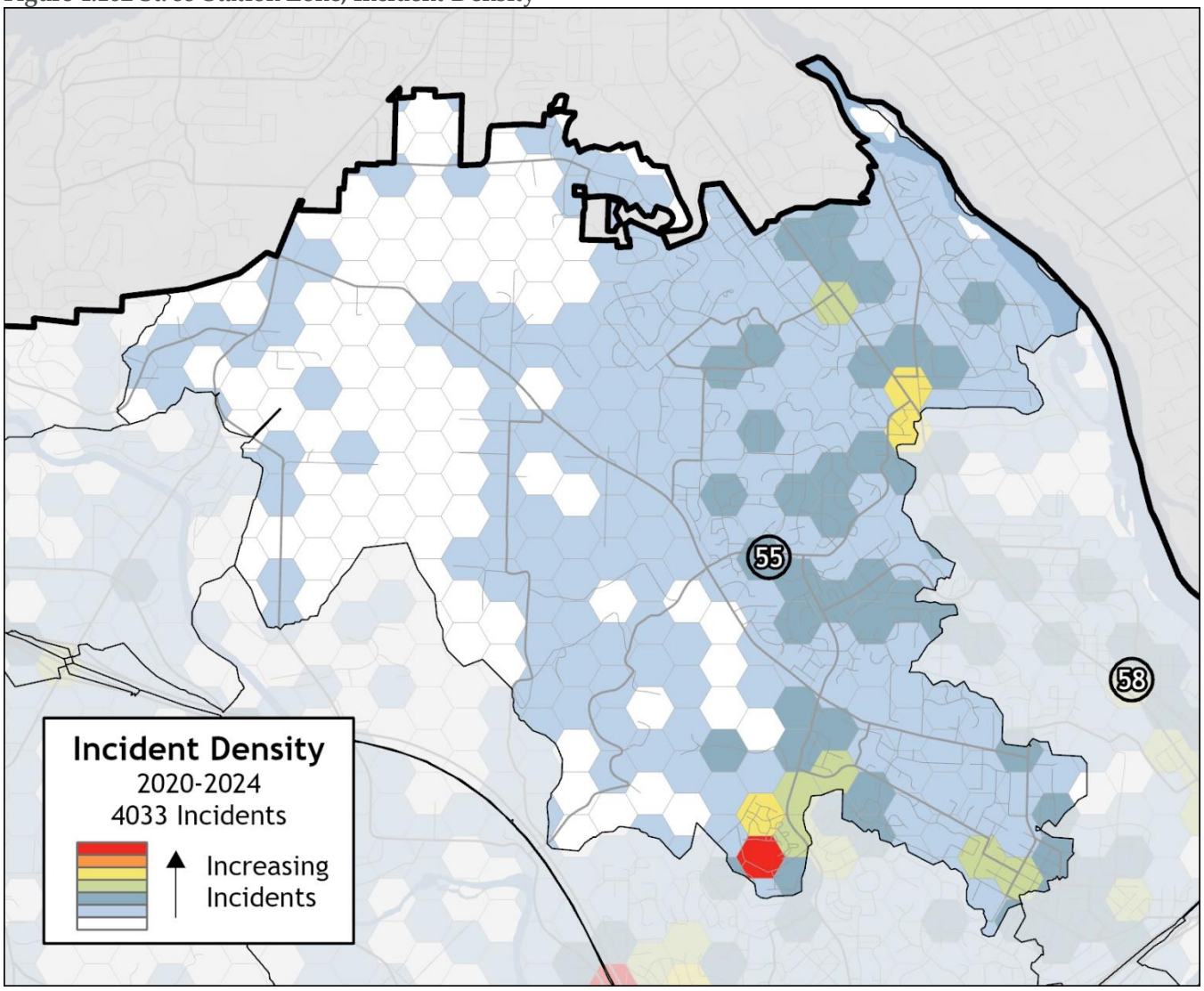


Figure 4.103 St. 55 Station Zone, Incident Count

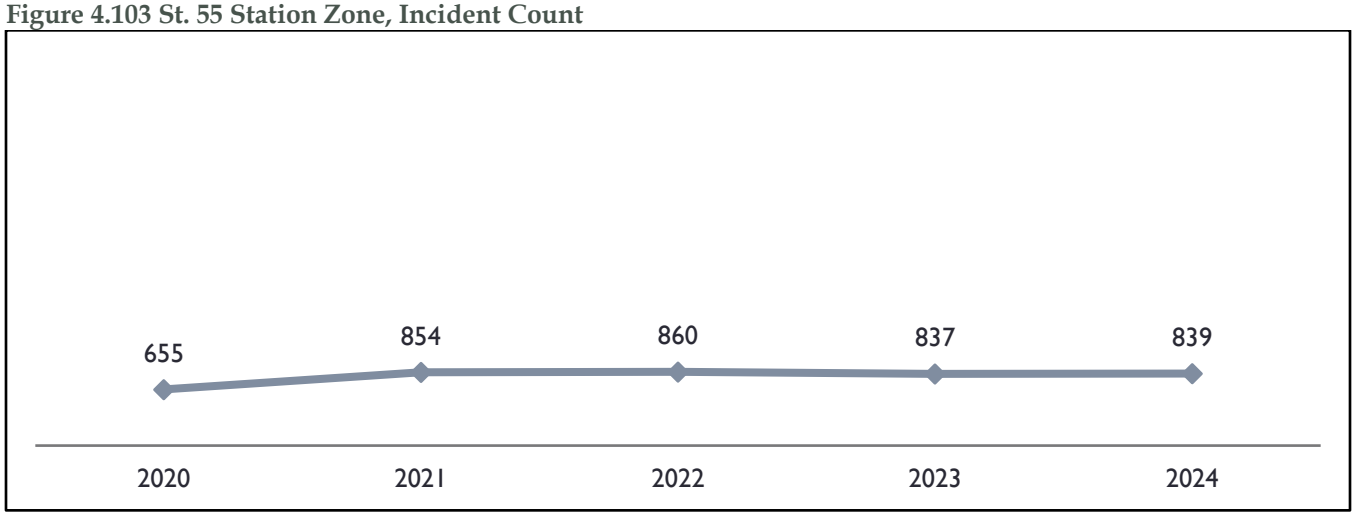


Figure 4.104 St. 55 Station Zone, Incident Summary

NFIRS Series	2020		2021		2022		2023		2024	
	Disp Call Type	*Sit Found*	*Disp Call Type*	*Sit Found*	*Disp Call Type*	*Sit Found*	*Disp Call Type*	*Sit Found*	*Disp Call Type*	*Sit Found*
Fire, Explosion	70	7	111	20	78	16	70	17	100	16
Overpressure	0	0	0	1	0	0	0	0	0	0
EMS/Rescue Call	488	446	633	614	698	666	692	649	644	586
Hazardous Condition	5	20	6	14	9	13	9	15	11	15
Service Call	92	30	104	37	75	24	66	41	82	35
Good Intent Call	0	81	0	99	0	85	0	55	0	104
False Call	0	70	0	66	0	56	0	59	0	82
Natural Condition	0	1	0	2	0	0	0	0	0	0
Other Situation	0	0	0	1	0	0	0	1	2	1
Total	655		854		860		837		839	

Figure 4.105 St. 55 Station Zone, Annual Average Incident Count by Month, 2020–2024

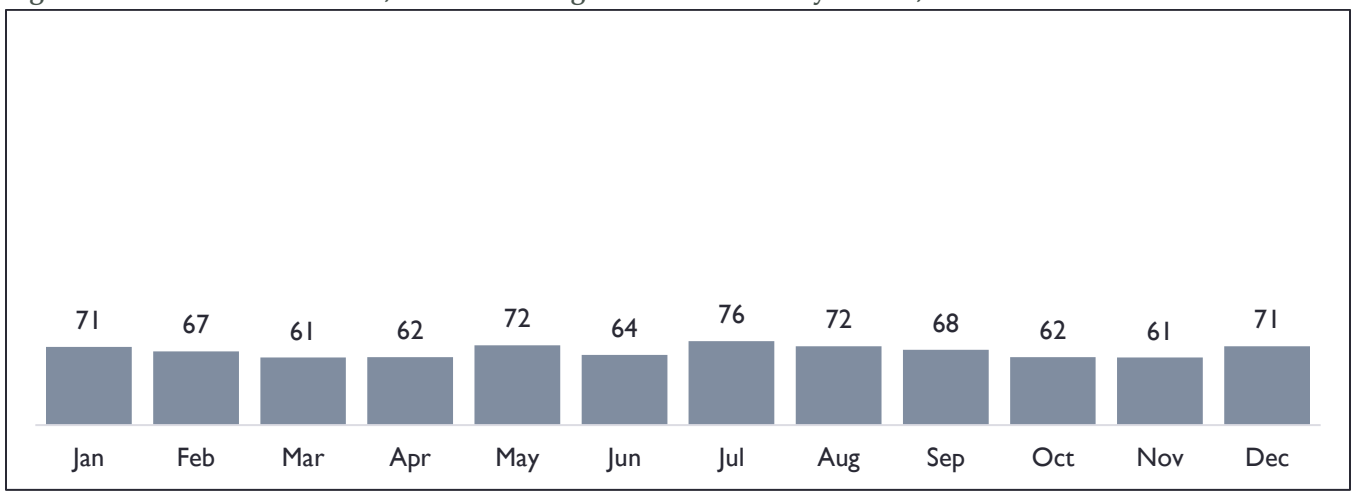


Figure 4.106 St. 55 Station Zone, Annual Average Incident Count by Day of Week, 2020–2024

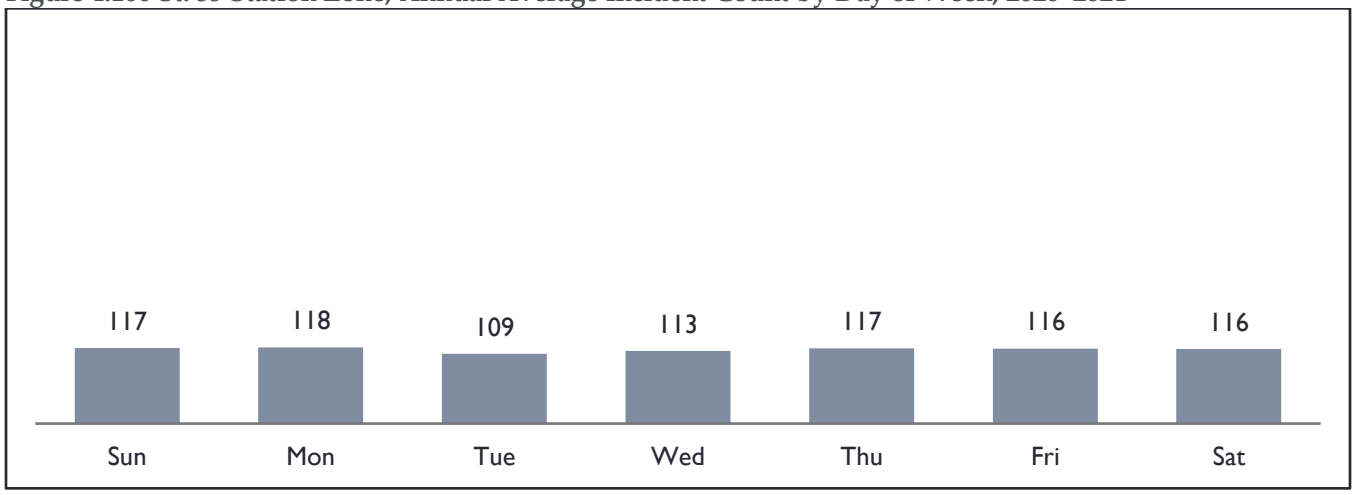


Figure 4.107 St. 55 Station Zone, Annual Average Incident Count by Hour of Day, 2020–2024

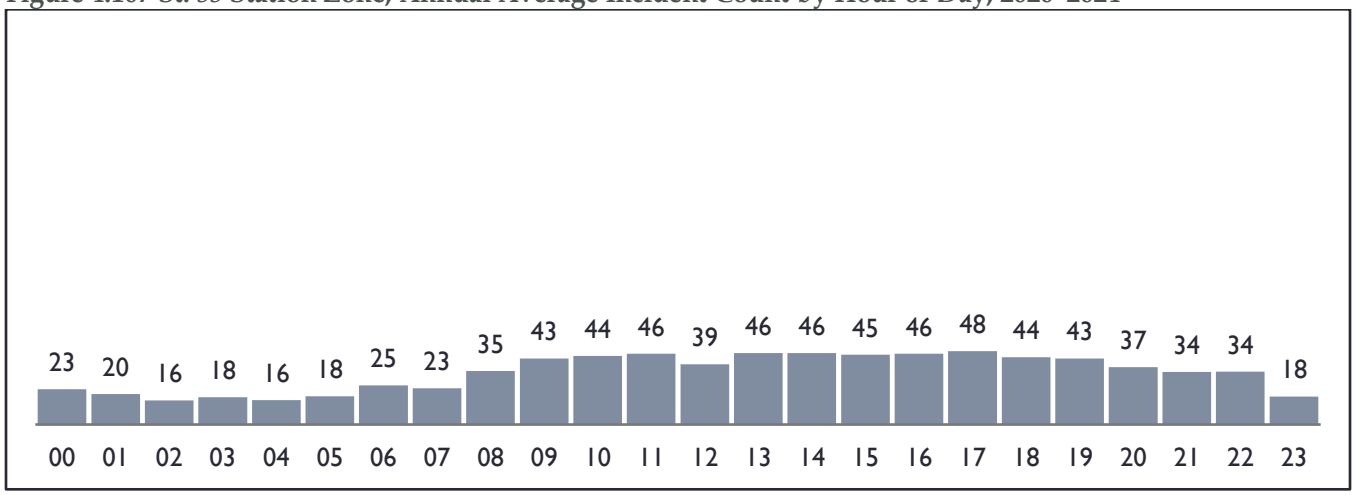
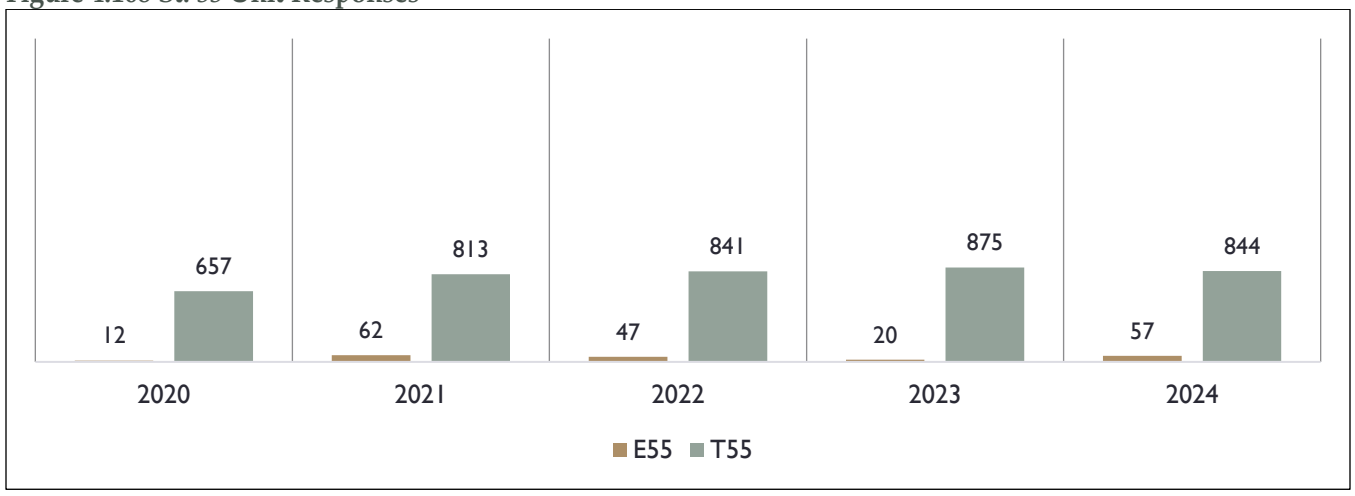


Figure 4.108 St. 55 Unit Responses



Station 56, Elligsen Road

Station 56, located on SW Elligsen Road just east of Interstate 5's north Wilsonville exit, was originally established in 1979 and completely rebuilt in 2013 to new seismic standards. The 19,545-square-foot station houses a total of 12 full-time personnel (four personnel on each 24-hour, three-shift schedule). The crew responds to incidents primarily utilizing Truck 56 and can also respond in Engine 56 or Medic 56 when needed. In addition to responses in the station zone, the truck serves as a resource for the District's entire service area. At least one crewmember per shift is an EMT-Paramedic capable of providing advanced life support (ALS) treatment.

The South Operating Center (SOC) facility is collocated with Station 56.

The 12.0 square miles of Station 56's station zone includes the south end of Tualatin, north side of Wilsonville, and unincorporated Washington and Clackamas counties.

Figure 4.109 St. 56 Station Zone, Incident Density

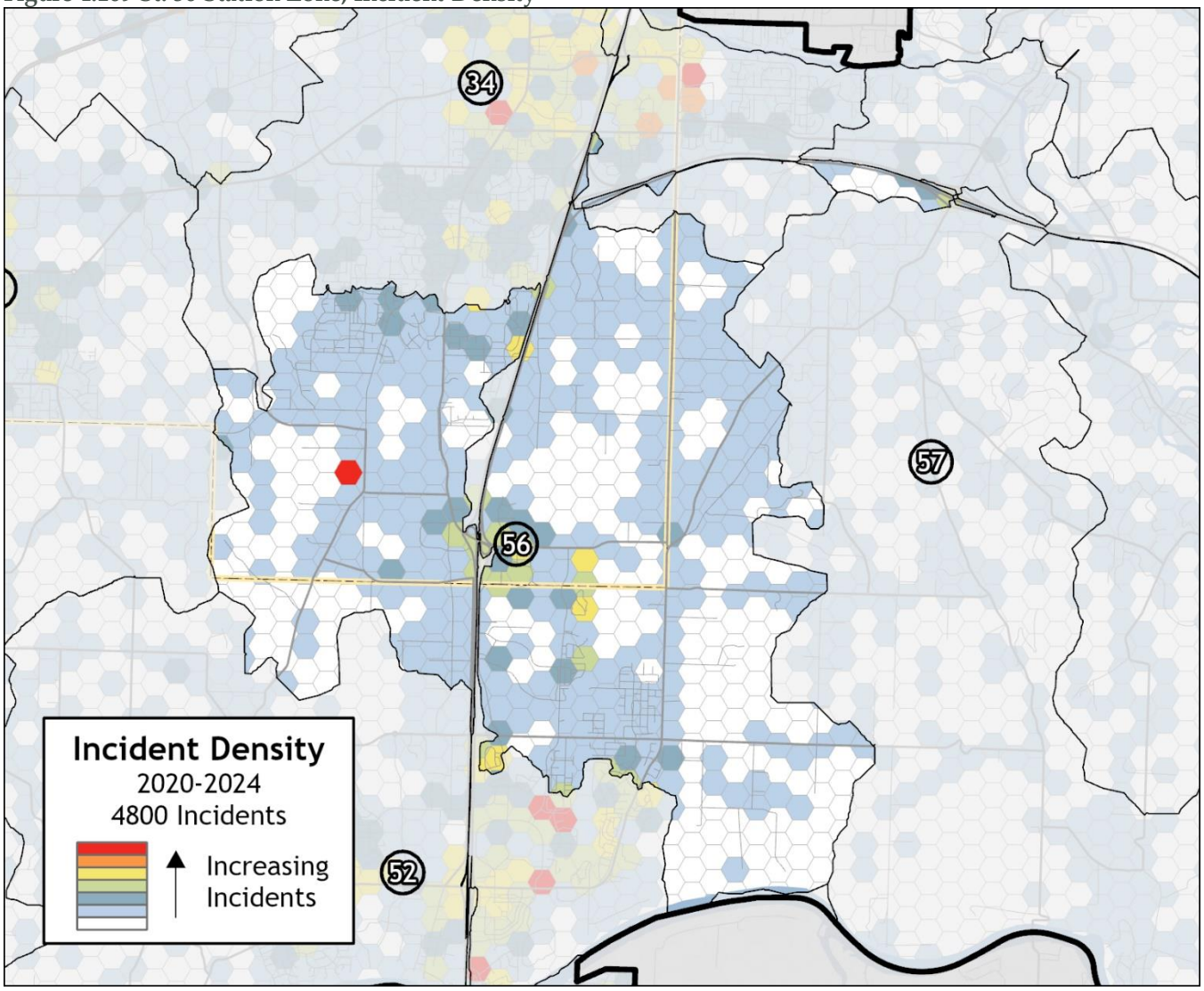


Figure 4.110 St. 56 Station Zone, Incident Count

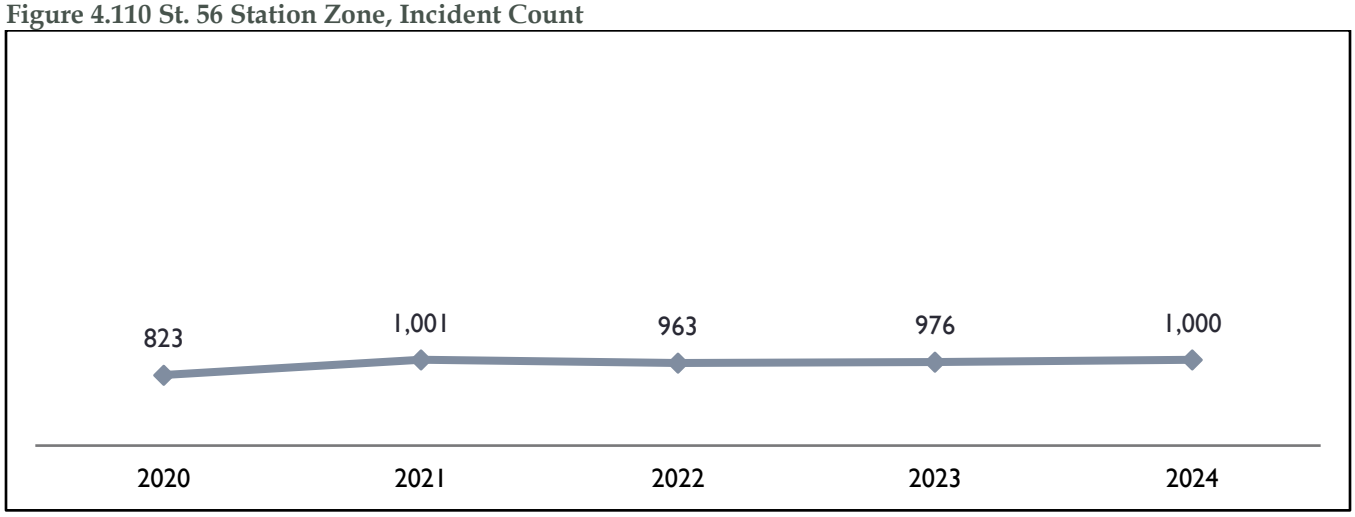


Figure 4.111 St. 56 Station Zone, Incident Summary

NFIRS Series	2020		2021		2022		2023		2024	
	Disp Call Type	*Sit Found*	*Disp Call Type*	*Sit Found*	*Disp Call Type*	*Sit Found*	*Disp Call Type*	*Sit Found*	*Disp Call Type*	*Sit Found*
Fire, Explosion	148	25	162	32	144	27	147	35	160	36
Overpressure	0	0	0	1	0	0	0	0	0	0
EMS/Rescue Call	594	521	756	658	733	656	730	630	749	646
Hazardous Condition	6	33	3	38	8	28	13	33	11	40
Service Call	75	44	80	44	78	37	85	50	79	35
Good Intent Call	0	120	0	144	0	130	0	147	0	150
False Call	0	79	0	83	0	81	0	79	0	93
Natural Condition	0	1	0	0	0	0	0	0	0	0
Other Situation	0	0	0	1	0	4	1	2	1	0
Total	823		1,001		963		976		1,000	

Figure 4.112 St. 56 Station Zone, Annual Average Incident Count by Month, 2020–2024

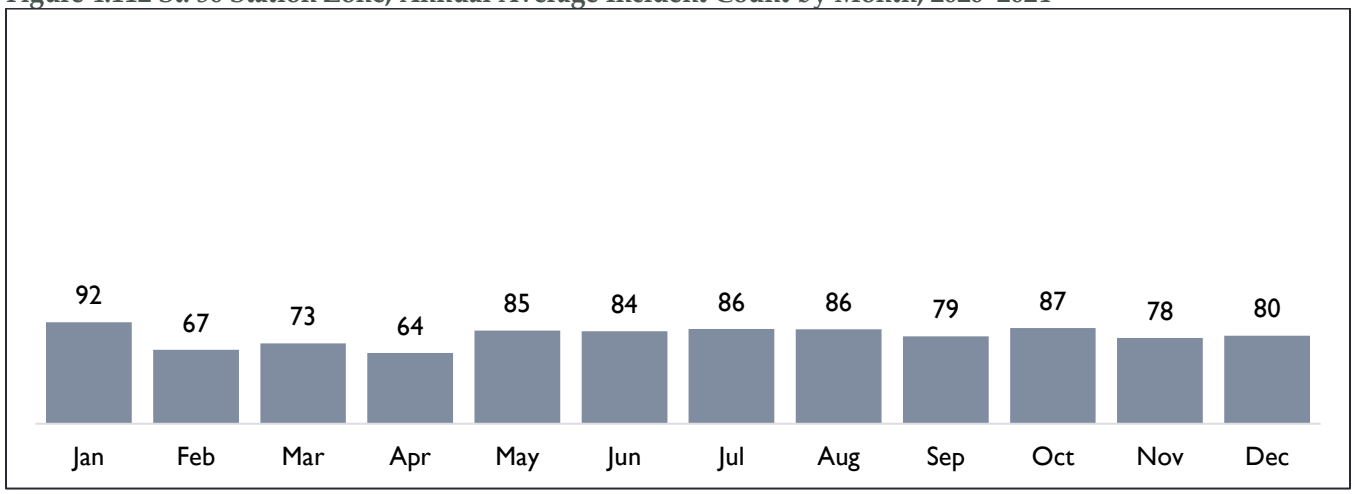


Figure 4.113 St. 56 Station Zone, Annual Average Incident Count by Day of Week, 2020–2024

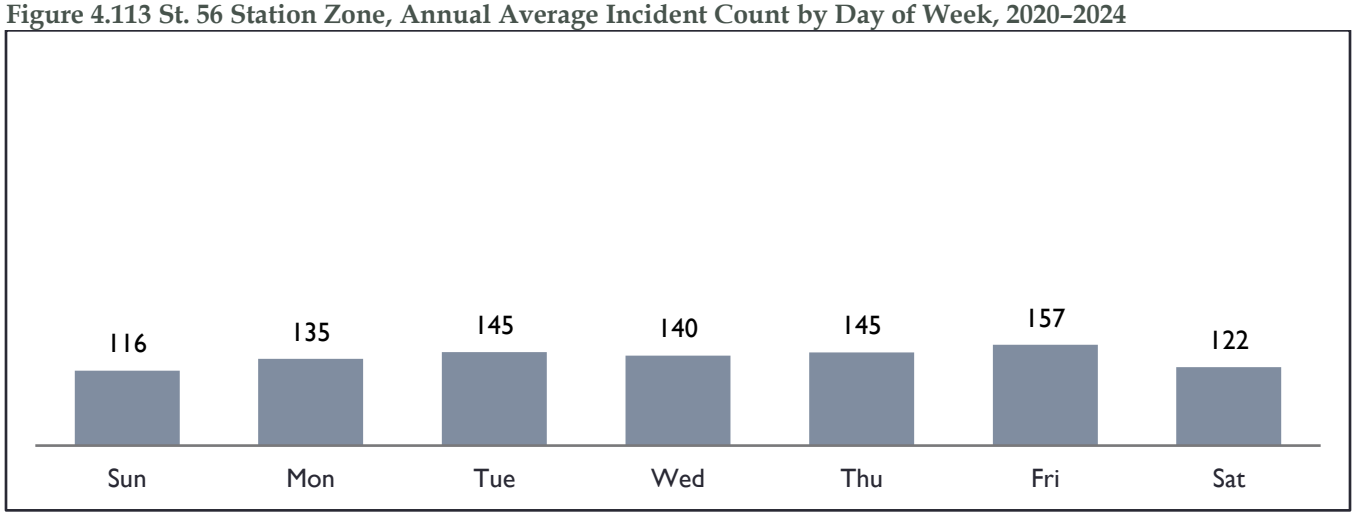


Figure 4.114 St. 56 Station Zone, Annual Average Incident Count by Hour of Day, 2020–2024

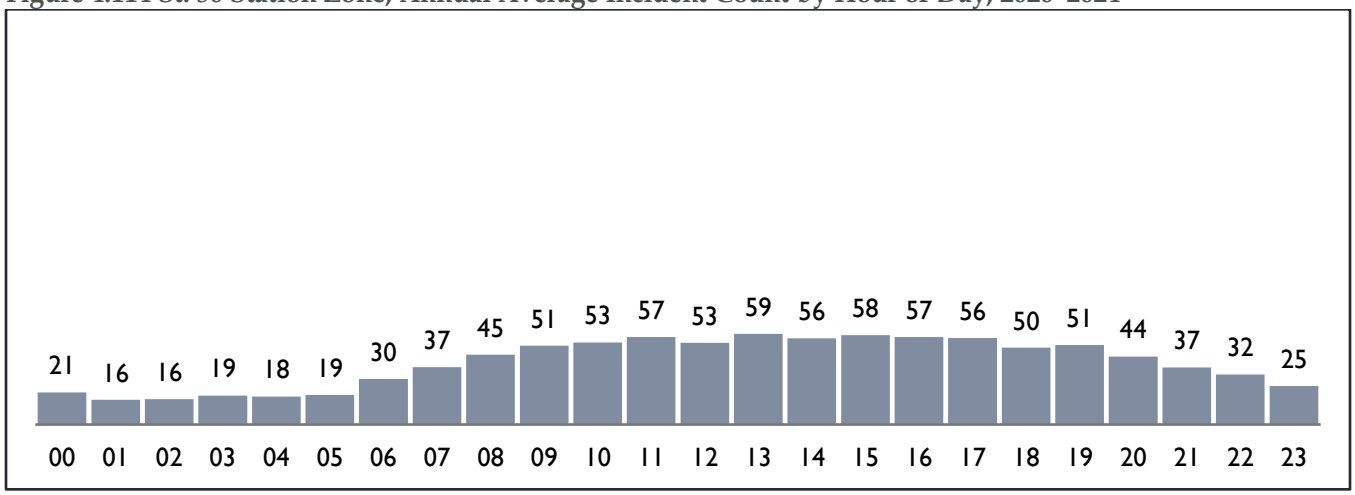
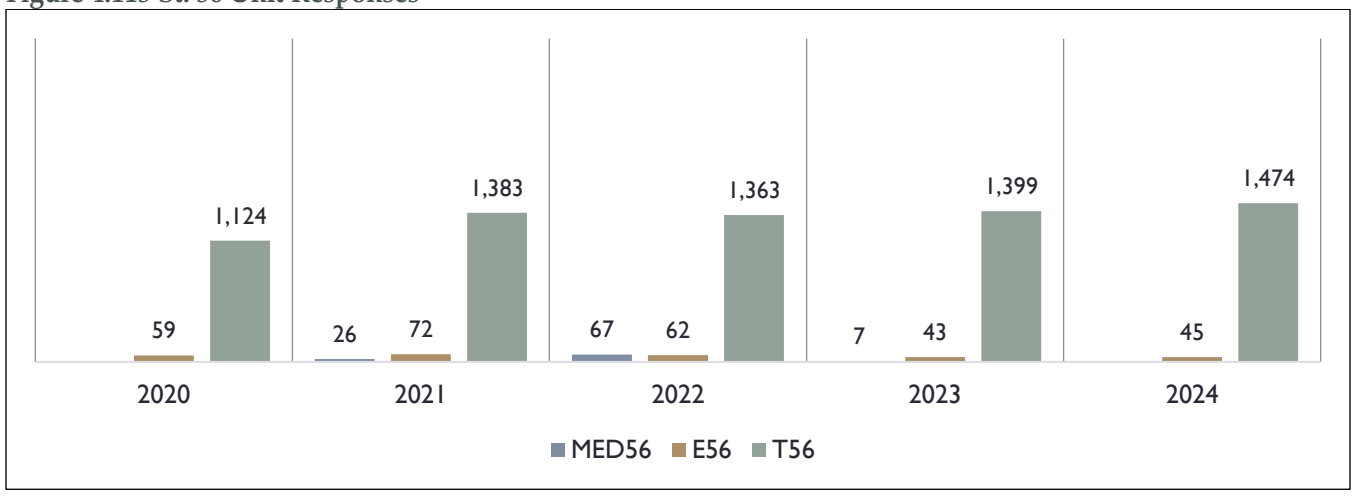


Figure 4.115 St. 56 Unit Responses



Station 57, Mountain Road

Station 57, located on SW Mountain Road, south of Interstate 205 off the Stafford Road exit, was originally constructed in 1995 as a residential home. The 2,200 square foot station and detached 3,600-square-foot apparatus bay houses a total of 12 full-time personnel (four personnel on each 24-hour, three-shift schedule). The crew responds to incidents primarily utilizing Engine 57 and can also respond in Brush Rig 57 when needed. At least one crewmember per shift is an EMT-Paramedic capable of providing advanced life support (ALS) treatment.

The 11.8 square miles of Station 57's station zone includes unincorporated territory between West Linn and Wilsonville in northwest Clackamas County.

Figure 4.116 St. 57 Station Zone, Incident Density

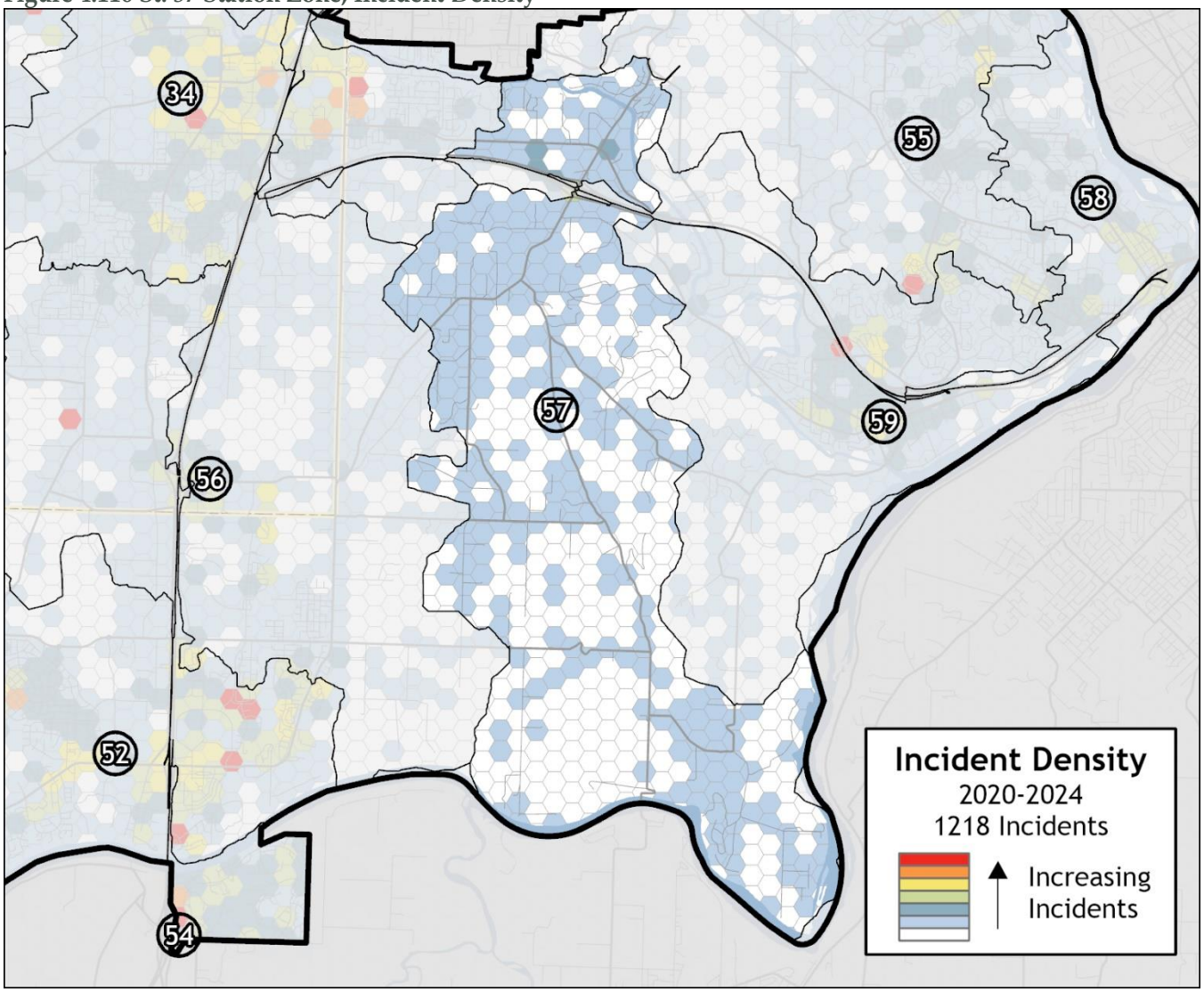


Figure 4.117 St. 57 Station Zone, Incident Count

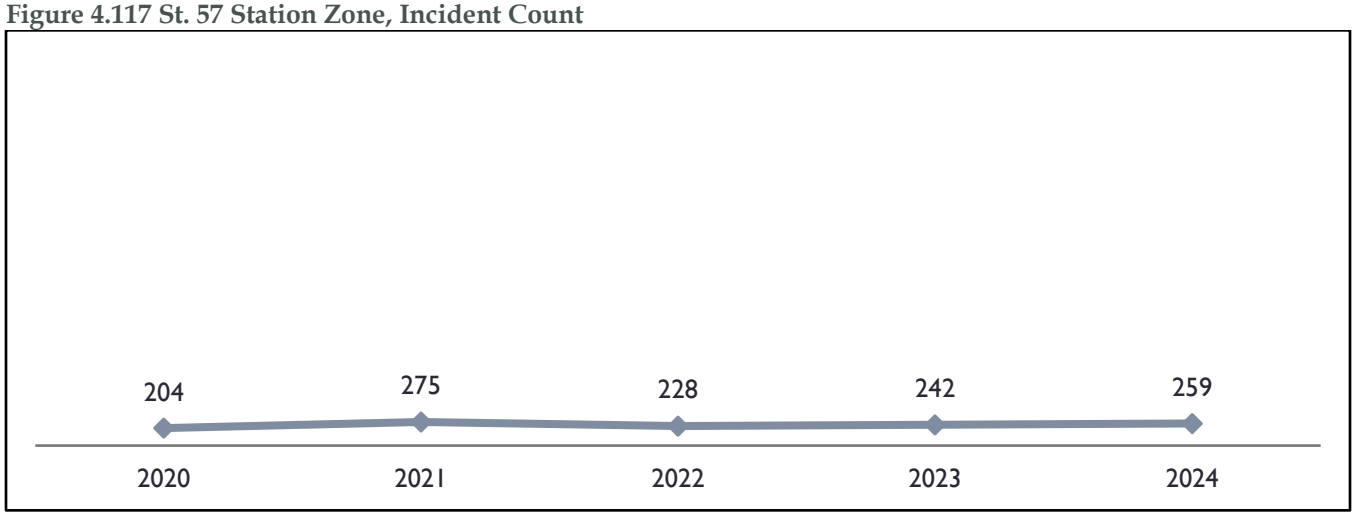


Figure 4.118 St. 57 Station Zone, Incident Summary

NFIRS Series	2020		2021		2022		2023		2024	
	Disp Call Type	*Sit Found*	*Disp Call Type*	*Sit Found*	*Disp Call Type*	*Sit Found*	*Disp Call Type*	*Sit Found*	*Disp Call Type*	*Sit Found*
Fire, Explosion	53	12	61	15	41	11	53	7	66	8
Overpressure	0	0	0	0	0	0	0	0	0	0
EMS/Rescue Call	121	93	177	131	165	124	155	121	165	133
Hazardous Condition	2	15	2	33	2	12	0	11	3	13
Service Call	28	13	35	13	20	13	34	15	23	12
Good Intent Call	0	48	0	59	0	49	0	62	0	71
False Call	0	22	0	24	0	19	0	24	0	22
Natural Condition	0	1	0	0	0	0	0	0	0	0
Other Situation	0	0	0	0	0	0	0	2	2	0
Total	204		275		228		242		259	

Figure 4.119 St. 57 Station Zone, Annual Average Incident Count by Month, 2020–2024

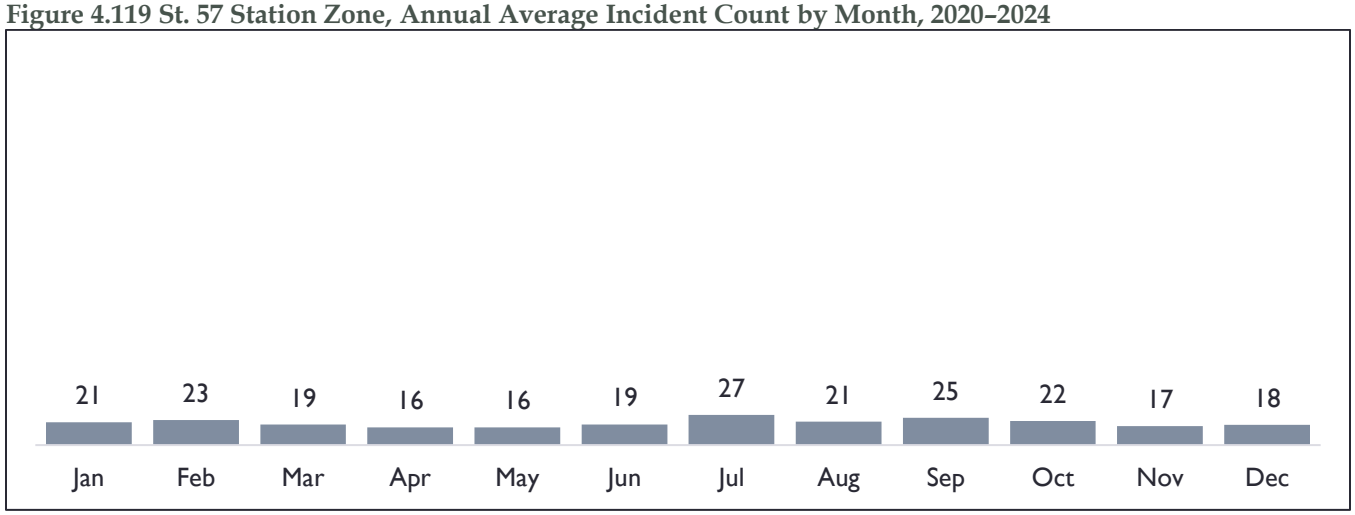


Figure 4.120 St. 57 Station Zone, Annual Average Incident Count by Day of Week, 2020–2024

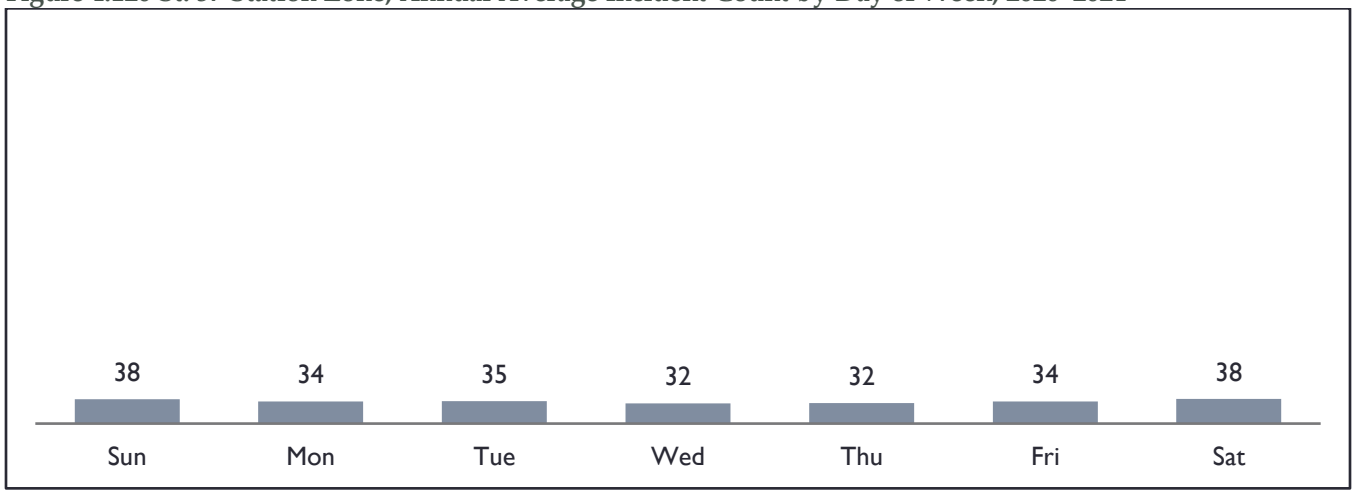


Figure 4.121 St. 57 Station Zone, Annual Average Incident Count by Hour of Day, 2020–2024

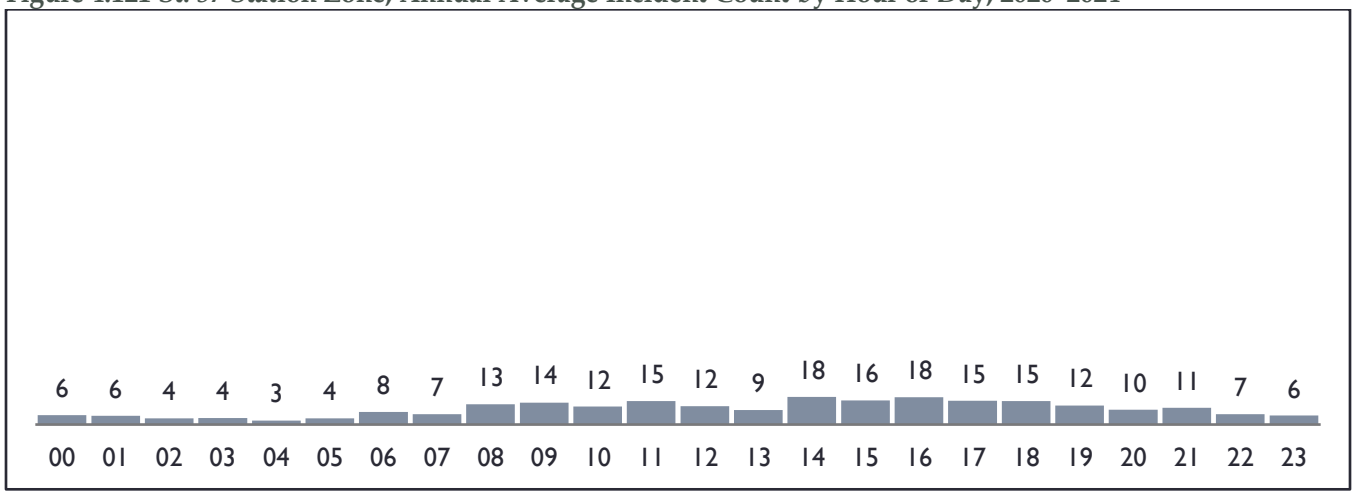
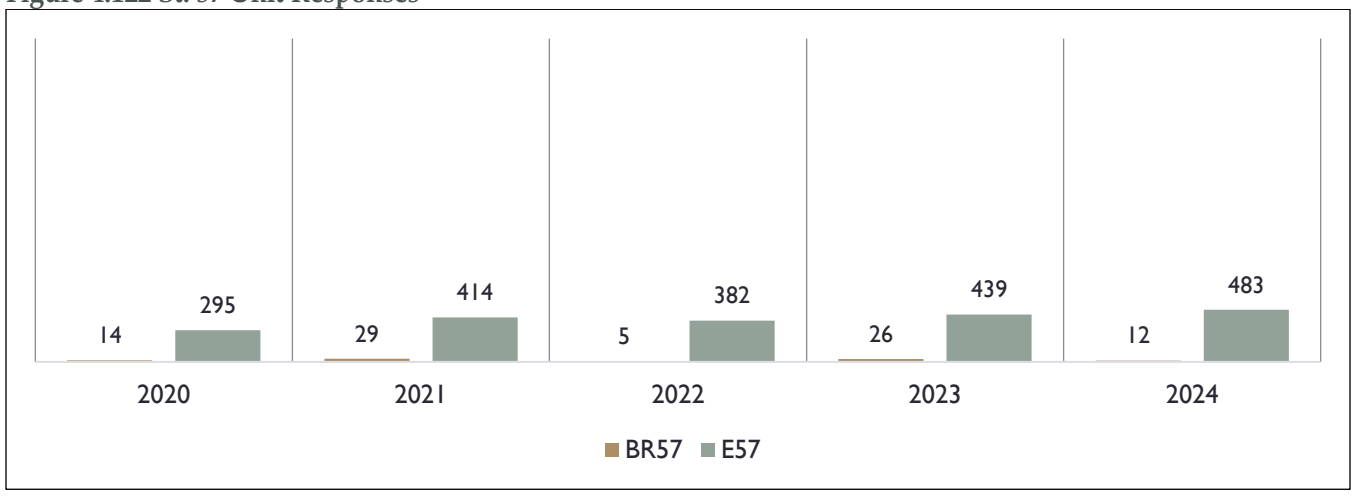


Figure 4.122 St. 57 Unit Responses



Station 58, Bolton

Station 58, located on Failing Street just north of Highway 43, was originally constructed in the early 1950s and completely rebuilt on a nearby site in 2010. The 12,800-square-foot station houses a total of 12 full-time personnel (four personnel on each 24-hour, three-shift schedule). The crew responds to incidents primarily utilizing Engine 58 and can also respond in Heavy Brush 58 when needed. At least one crewmember per shift is an EMT-Paramedic capable of providing advanced life support (ALS) treatment.

Station 58 has a Community Room used by a wide variety of neighborhood and community groups, as well as TVF&R personnel for training and meetings. The District's Mobile Command Center is located at Station 58 for use on incidents of extended duration.

The 2.9 square miles of Station 58's station zone includes the eastern portion of West Linn.

Figure 4.123 St. 58 Station Zone, Incident Density

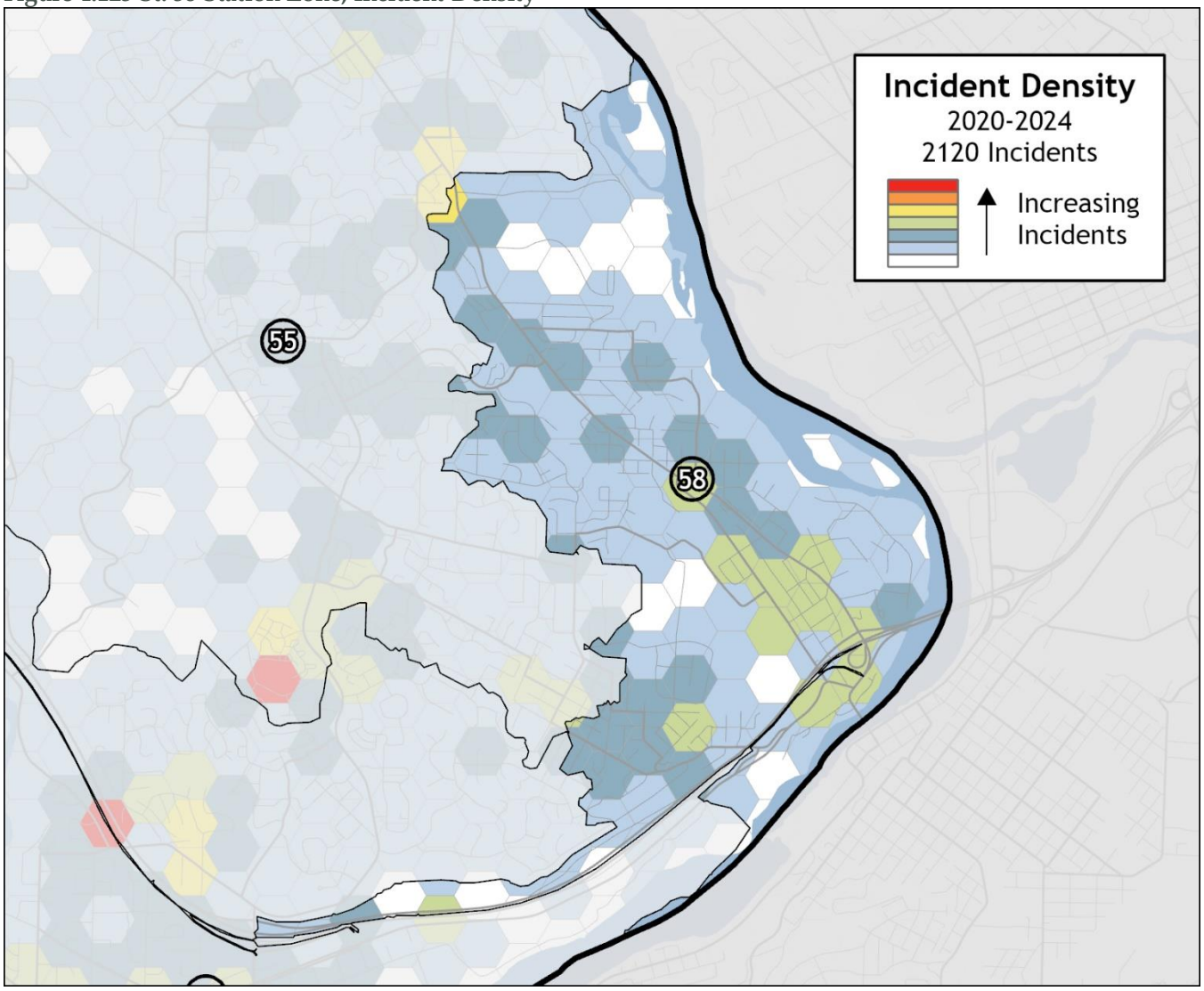


Figure 4.124 St. 58 Station Zone, Incident Count

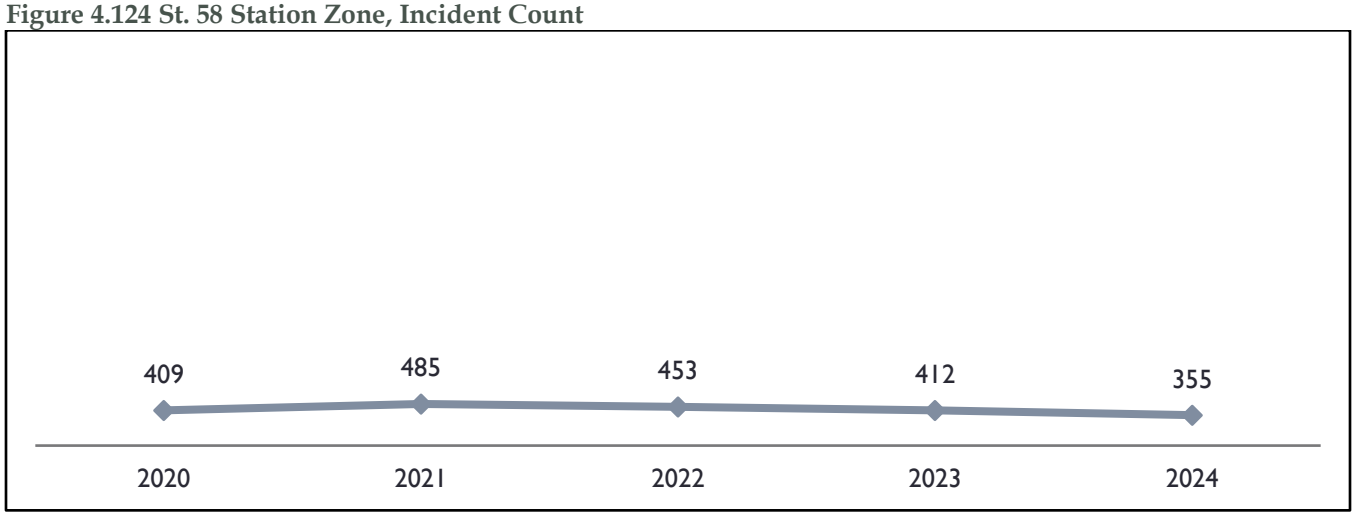


Figure 4.125 St. 58 Station Zone, Incident Summary

NFIRS Series	2020		2021		2022		2023		2024	
	Disp Call Type	*Sit Found*	*Disp Call Type*	*Sit Found*	*Disp Call Type*	*Sit Found*	*Disp Call Type*	*Sit Found*	*Disp Call Type*	*Sit Found*
Fire, Explosion	46	9	47	8	32	8	26	9	34	11
Overpressure	0	1	0	2	0	0	0	0	0	0
EMS/Rescue Call	309	256	369	309	372	319	337	301	282	251
Hazardous Condition	5	16	4	31	3	19	2	14	5	16
Service Call	49	32	65	28	46	20	47	14	34	16
Good Intent Call	0	71	0	79	0	61	0	54	0	34
False Call	0	23	0	26	0	25	0	20	0	27
Natural Condition	0	1	0	2	0	0	0	0	0	0
Other Situation	0	0	0	0	0	1	0	0	0	0
Total	409		485		453		412		355	

Figure 4.126 St. 58 Station Zone, Annual Average Incident Count by Month, 2020–2024

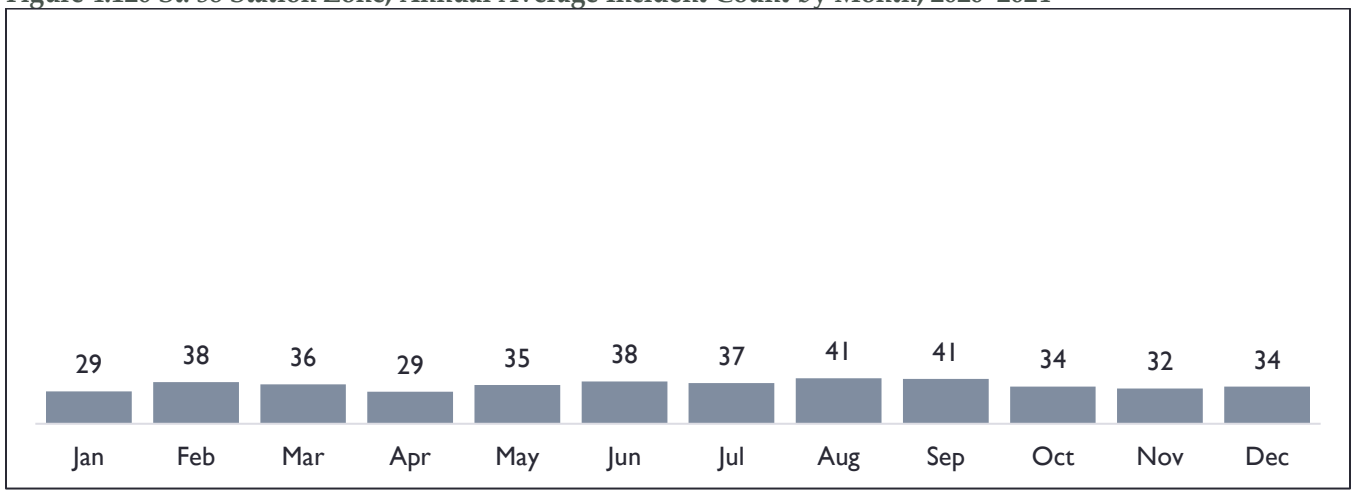


Figure 4.127 St. 58 Station Zone, Annual Average Incident Count by Day of Week, 2020–2024

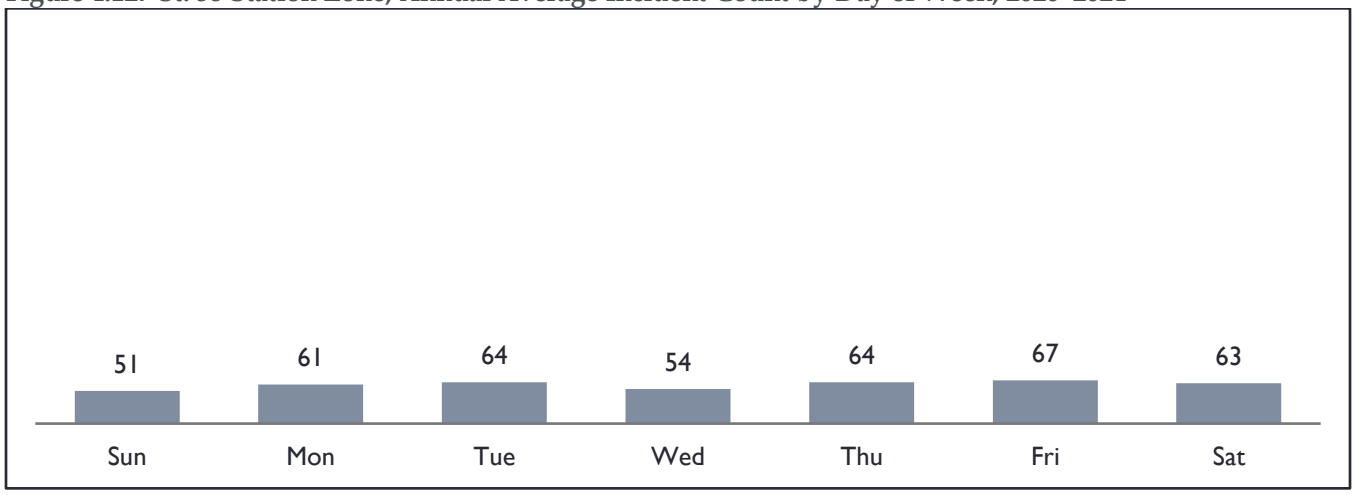


Figure 4.128 St. 58 Station Zone, Annual Average Incident Count by Hour of Day, 2020–2024

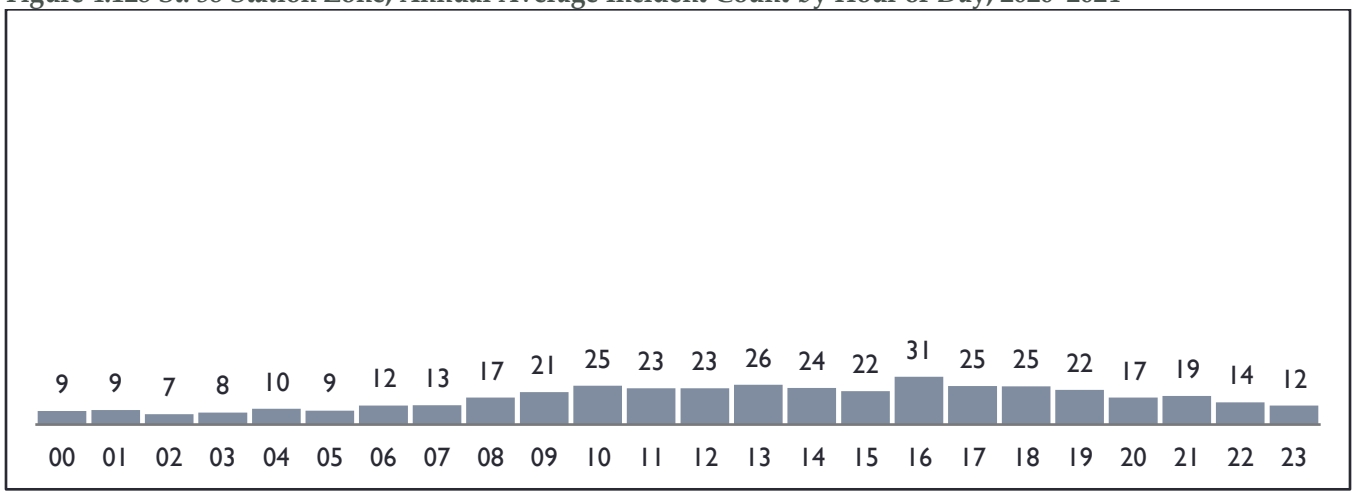
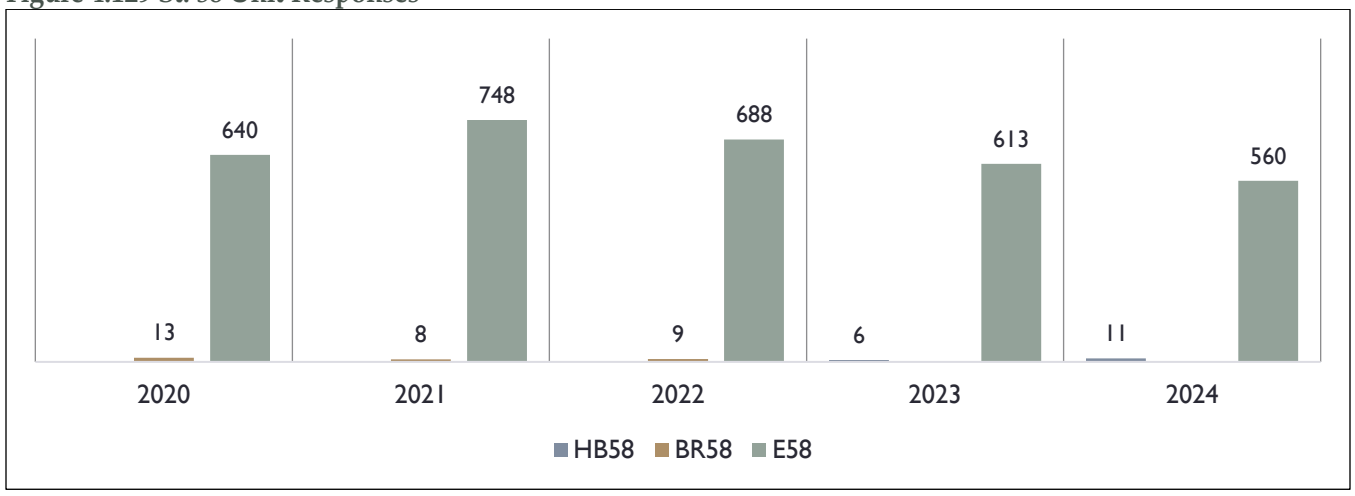


Figure 4.129 St. 58 Unit Responses



Station 59, Willamette

Station 59, located on Willamette Falls Drive, south of Interstate 205 off the 10th Street exit, was originally constructed in the 1940s or early 1950s and completely rebuilt in 2010. The 12,260-square-foot station houses a total of 12 full-time personnel (four personnel on each 24-hour, three-shift schedule). The crew responds to incidents utilizing Engine 59. At least one crewmember per shift is an EMT-Paramedic capable of providing advanced life support (ALS) treatment.

Station 59 has a Community Room used by a wide variety of neighborhood and community groups, as well as TVF&R personnel for training and meetings. Half of the District's Water Rescue Team is housed at Station 59 (in conjunction with Station 20).

The 7.6 square miles of Station 59's station zone includes the southern portion of West Linn and an area of unincorporated Clackamas County.

Figure 4.130 St. 59 Station Zone, Incident Density

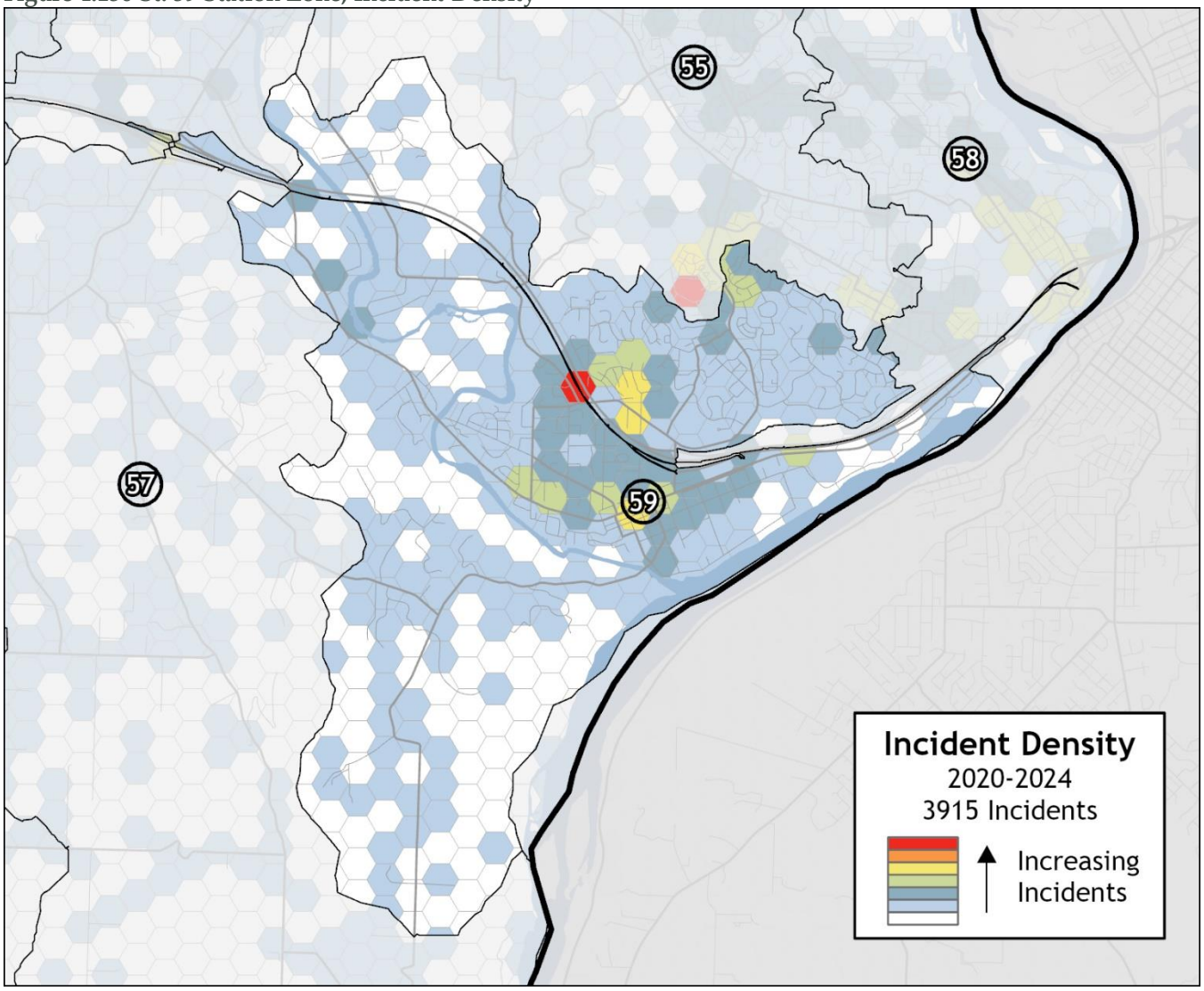


Figure 4.131 St. 59 Station Zone, Incident Count

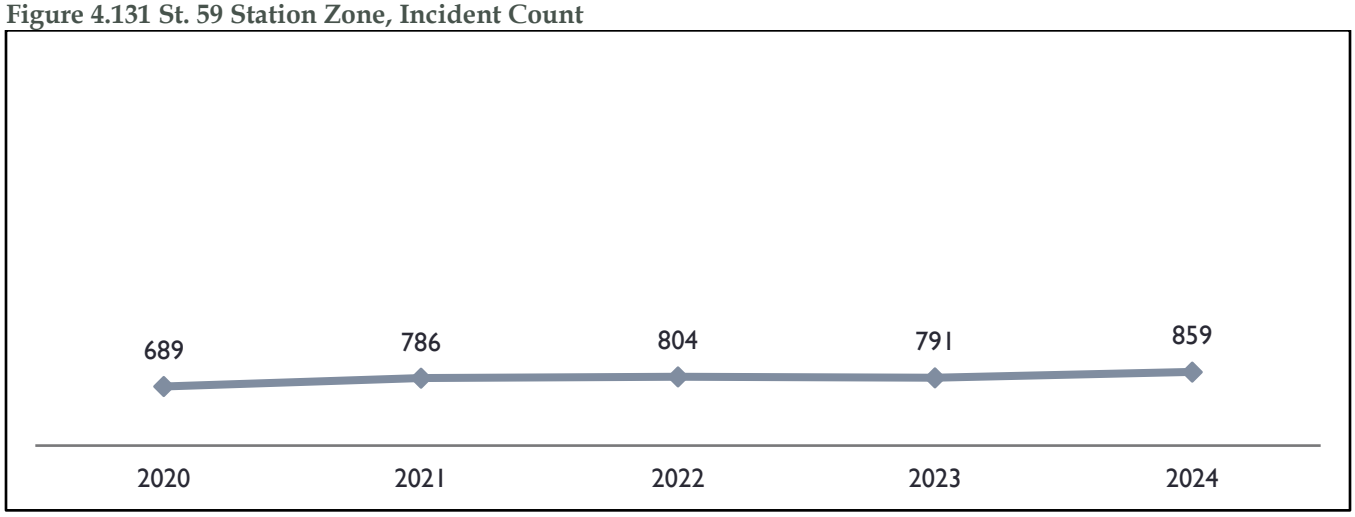


Figure 4.132 St. 59 Station Zone, Incident Summary

NFIRS Series	2020		2021		2022		2023		2024	
	Disp Call Type	*Sit Found*	*Disp Call Type*	*Sit Found*	*Disp Call Type*	*Sit Found*	*Disp Call Type*	*Sit Found*	*Disp Call Type*	*Sit Found*
Fire, Explosion	98	20	99	20	87	12	94	19	74	18
Overpressure	0	1	0	1	0	0	0	0	0	0
EMS/Rescue Call	517	467	562	533	613	585	616	573	695	630
Hazardous Condition	3	23	9	30	5	16	10	23	10	18
Service Call	71	32	116	36	99	39	71	24	79	30
Good Intent Call	0	99	0	109	0	89	0	84	0	103
False Call	0	46	0	57	0	62	0	66	0	60
Natural Condition	0	1	0	0	0	0	0	0	0	0
Other Situation	0	0	0	0	0	1	0	2	1	0
Total	689		786		804		791		859	

Figure 4.133 St. 59 Station Zone, Annual Average Incident Count by Month, 2020–2024

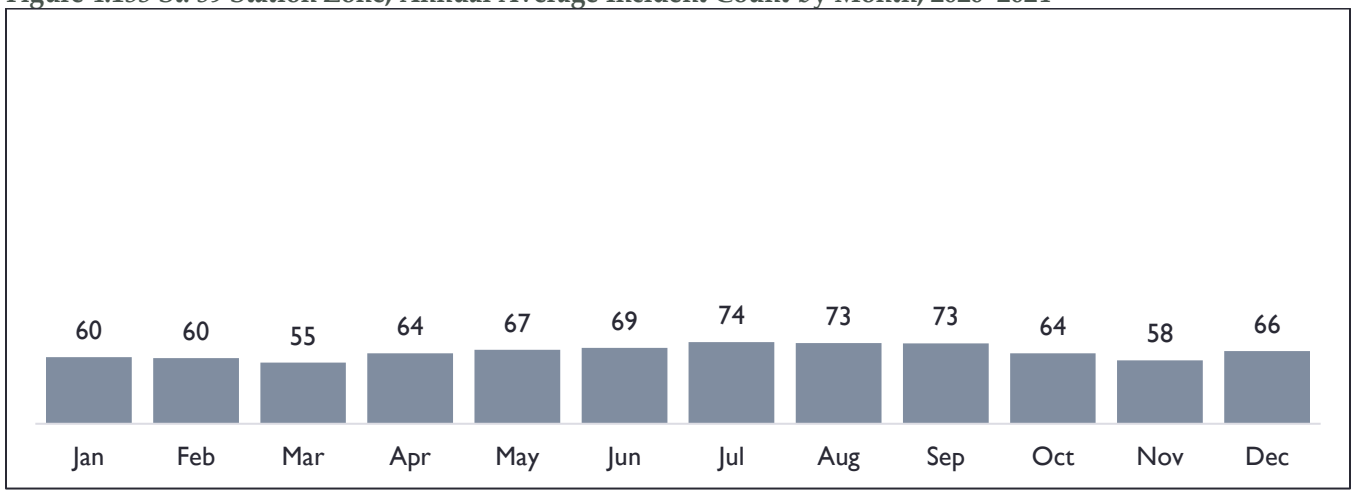


Figure 4.134 St. 59 Station Zone, Annual Average Incident Count by Day of Week, 2020–2024

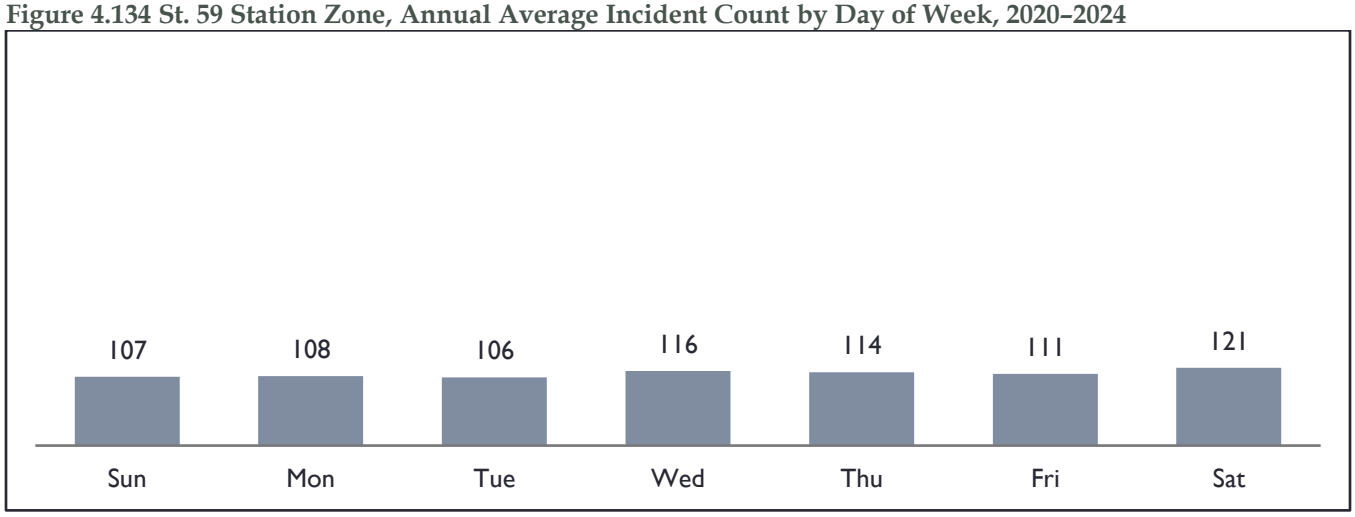


Figure 4.135 St. 59 Station Zone, Annual Average Incident Count by Hour of Day, 2020–2024

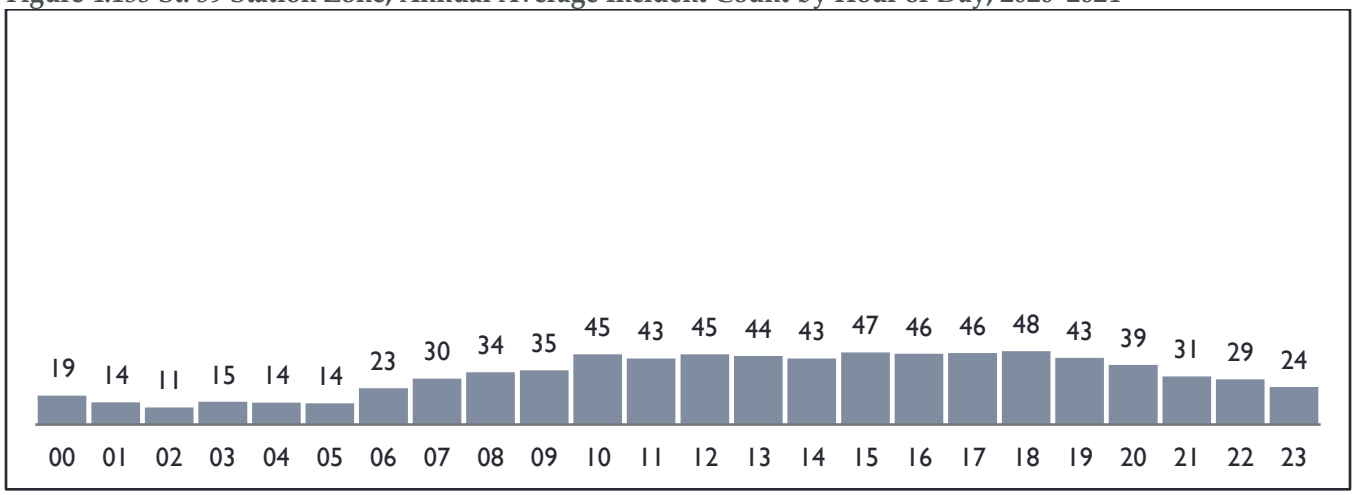
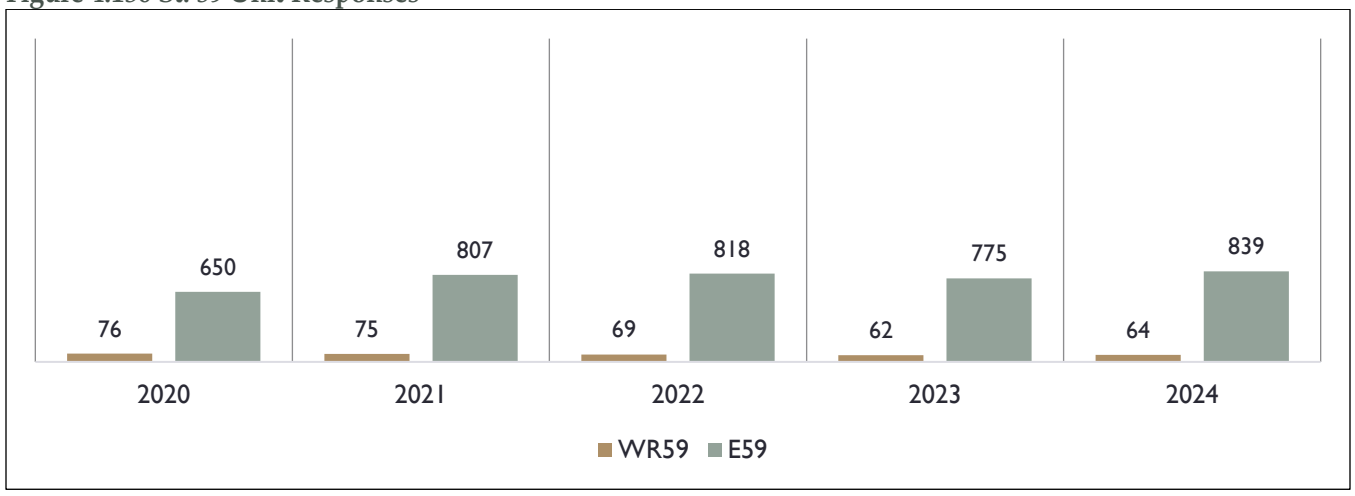


Figure 4.136 St. 59 Unit Responses



Station 60, Cornell Road

Station 60, located on NW Cornell Road just west of Miller Road, was constructed in 1996. This 6,600-square-foot station houses a total of 12 full-time personnel (four personnel on each 24-hour, three-shift schedule). The crew responds to incidents primarily utilizing Engine 60 and can also respond in Brush Rig 60 when needed. At least one crewmember per shift is an EMT-Paramedic capable of providing advanced life support (ALS) treatment.

The 6.9 square miles of Station 60's station zone includes mostly unincorporated portions of Washington County north of Beaverton (West Haven-Sylvan and a portion of Cedar Mill) and Multnomah County near the Portland border.

Figure 4.137 St. 60 Station Zone, Incident Density

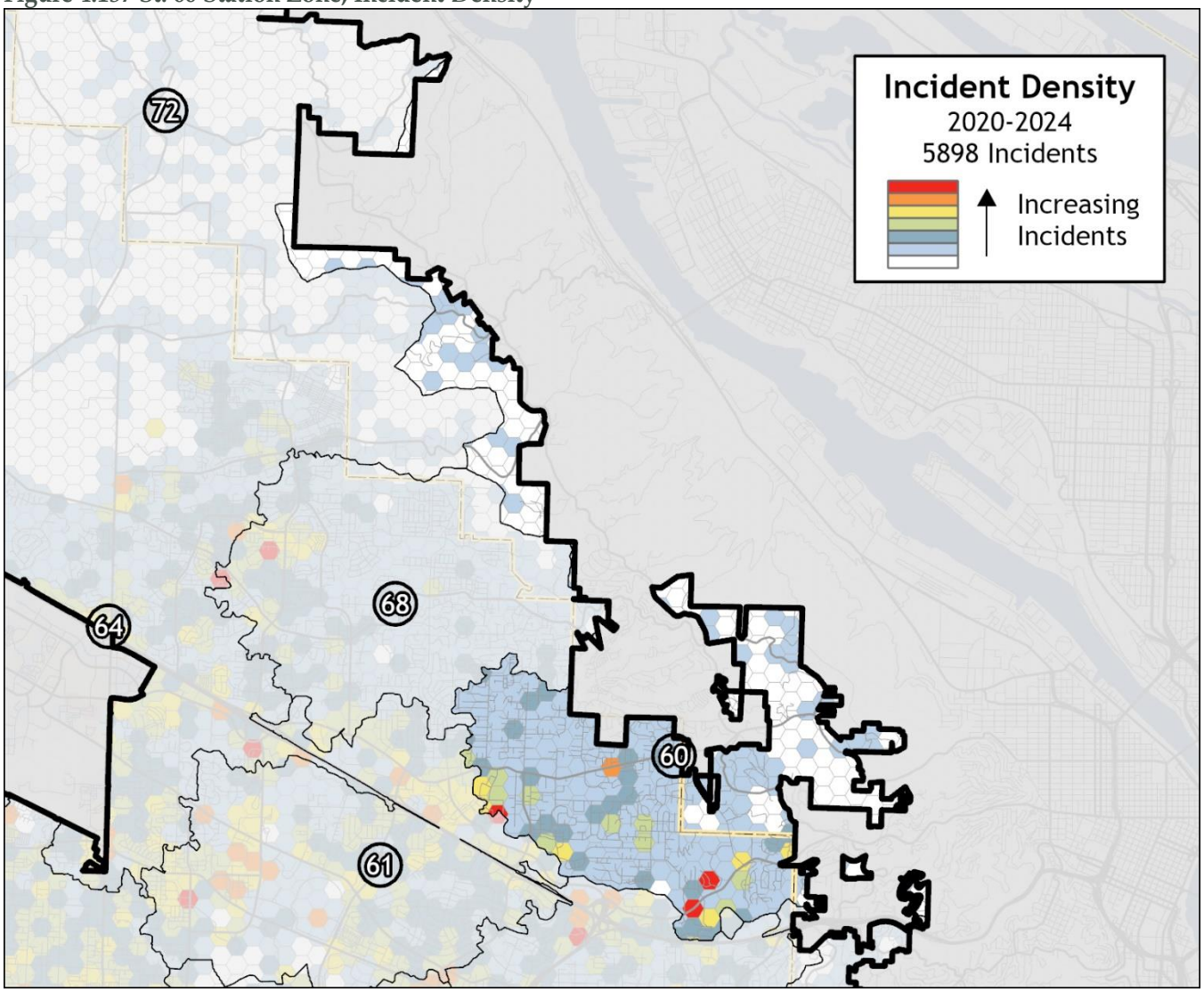


Figure 4.138 St. 60 Station Zone, Incident Count

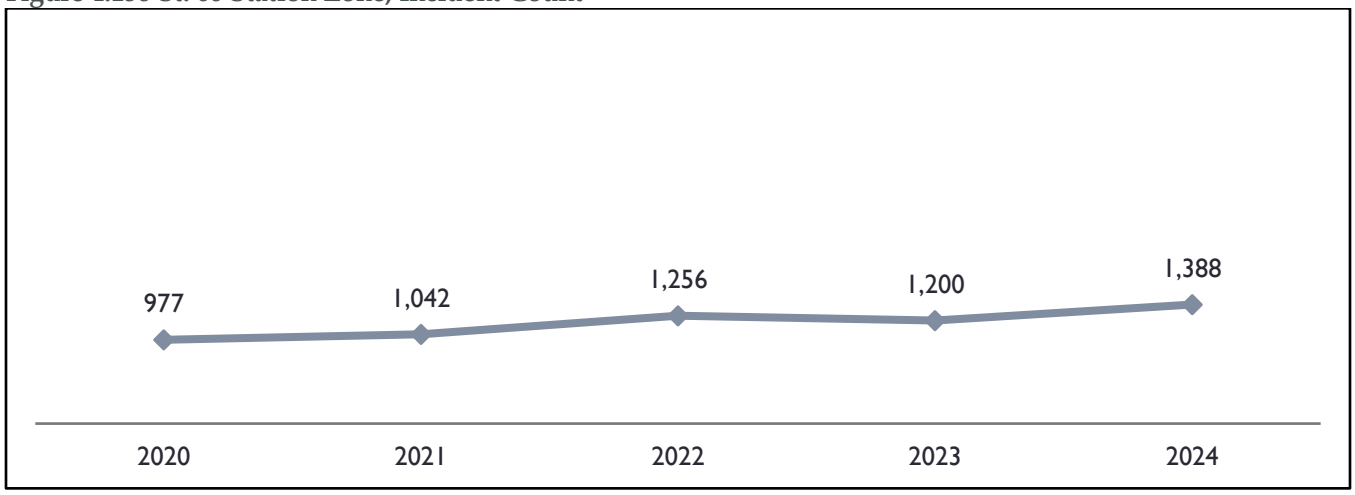


Figure 4.139 St. 60 Station Zone, Incident Summary

NFIRS Series	2020		2021		2022		2023		2024	
	Disp Call Type	*Sit Found*	*Disp Call Type*	*Sit Found*	*Disp Call Type*	*Sit Found*	*Disp Call Type*	*Sit Found*	*Disp Call Type*	*Sit Found*
Fire, Explosion	83	13	112	18	127	10	129	21	148	15
Overpressure	0	0	0	0	0	0	0	0	0	0
EMS/Rescue Call	799	697	814	745	974	915	950	892	1,054	996
Hazardous Condition	5	19	6	25	14	37	8	21	9	28
Service Call	90	51	110	37	141	51	113	41	177	93
Good Intent Call	0	132	0	128	0	143	0	130	0	158
False Call	0	65	0	89	0	98	0	94	0	90
Natural Condition	0	0	0	0	0	2	0	0	0	8
Other Situation	0	0	0	0	0	0	0	1	0	0
Total	977		1,042		1,256		1,200		1,388	

Figure 4.140 St. 60 Station Zone, Annual Average Incident Count by Month, 2020–2024

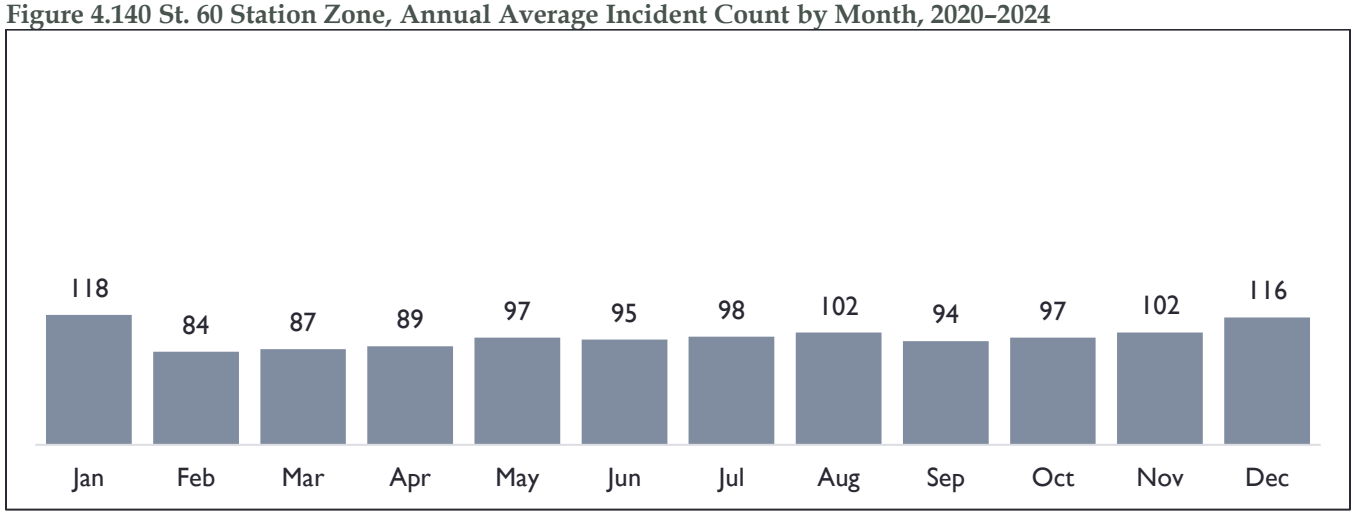


Figure 4.141 St. 60 Station Zone, Annual Average Incident Count by Day of Week, 2020–2024

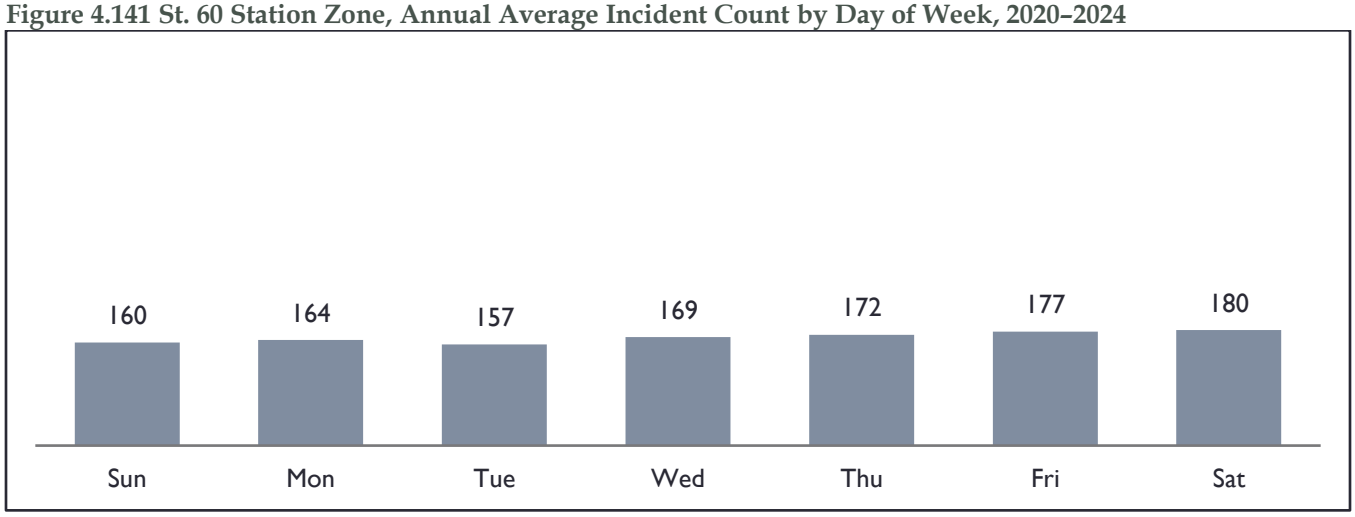


Figure 4.142 St. 60 Station Zone, Annual Average Incident Count by Hour of Day, 2020–2024

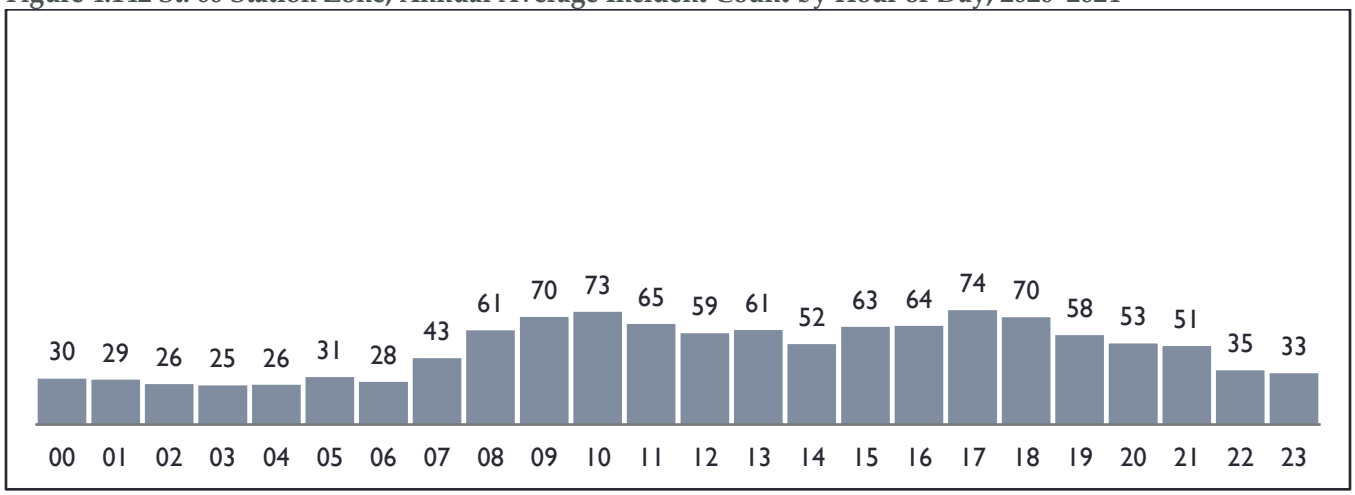
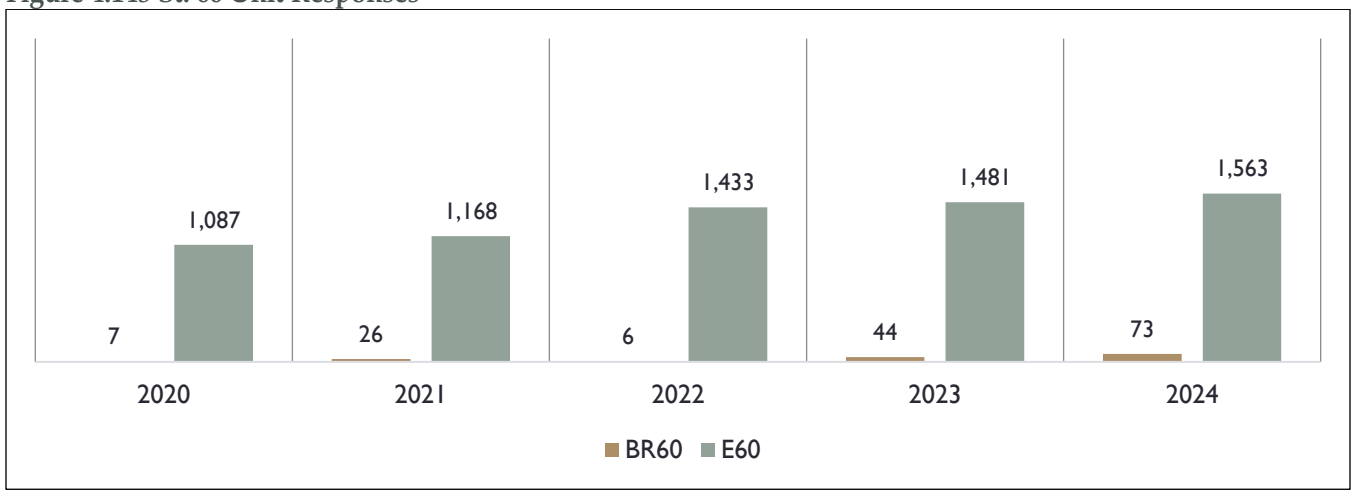


Figure 4.143 St. 60 Unit Responses



Station 61, Butner Road

Station 61, located on the SE corner of Murray Boulevard and Butner Road, was constructed in 1999. This 7,700-square-foot station houses a total of 12 full-time personnel. Four personnel (on each 24-hour, three-shift schedule) respond to incidents utilizing Engine 61. At least one crewmember per shift is an EMT-Paramedic capable of providing advanced life support (ALS) treatment.

The 6.1 square miles of Station 61's station zone includes northern Beaverton and unincorporated Washington County near Cedar Mill.

Figure 4.144 St. 61 Station Zone, Incident Density

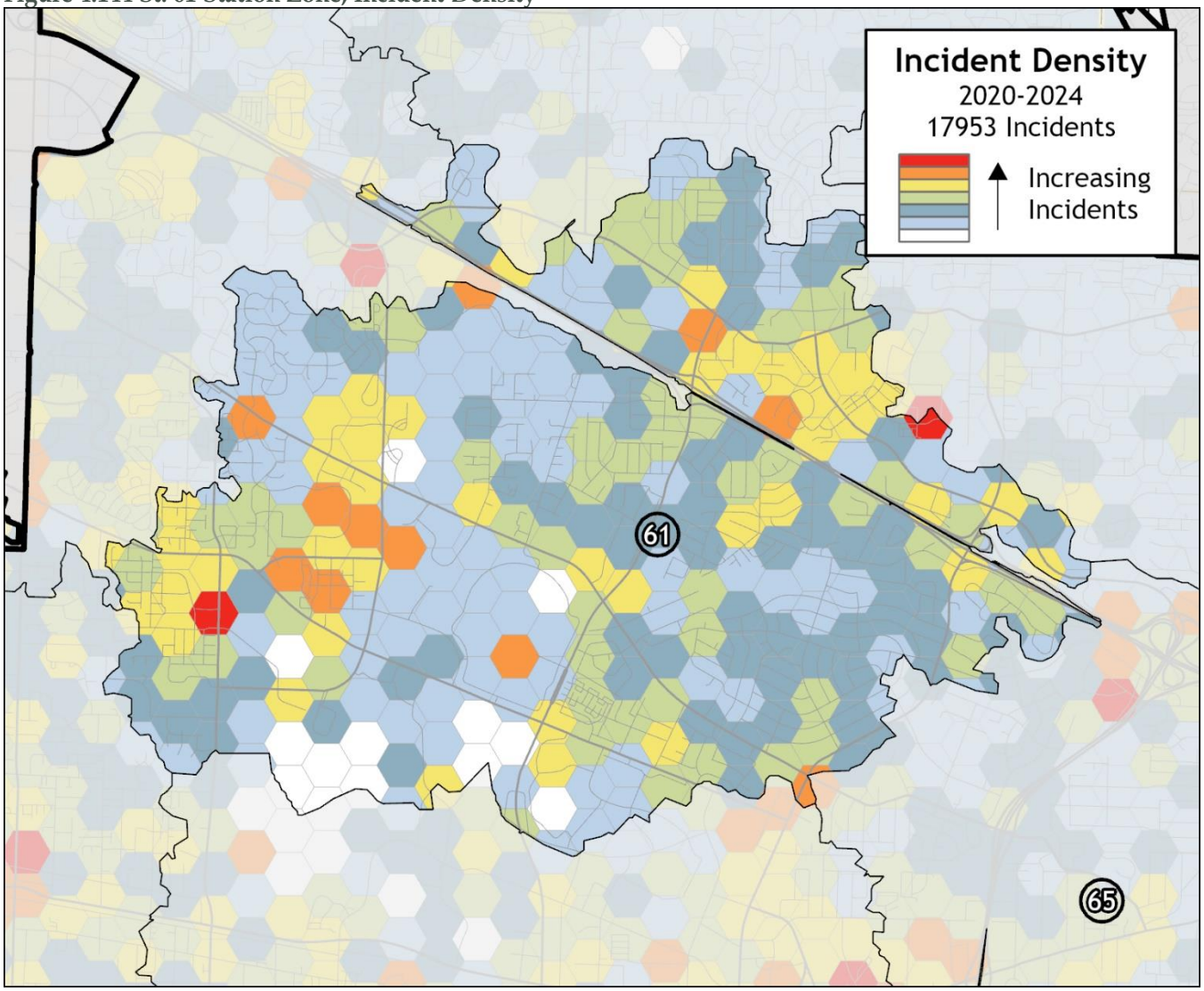


Figure 4.145 St. 61 Station Zone, Incident Count

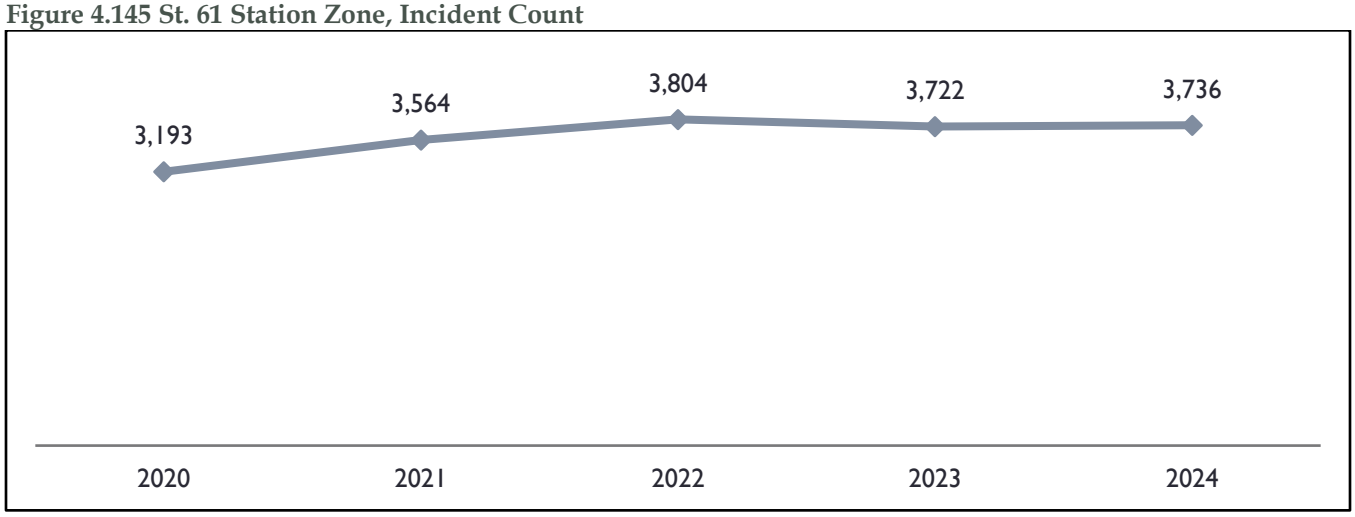


Figure 4.146 St. 61 Station Zone, Incident Summary

NFIRS Series	2020		2021		2022		2023		2024	
	Disp Call Type	*Sit Found*	*Disp Call Type*	*Sit Found*	*Disp Call Type*	*Sit Found*	*Disp Call Type*	*Sit Found*	*Disp Call Type*	*Sit Found*
Fire, Explosion	275	75	303	94	310	85	367	96	338	77
Overpressure	0	1	0	3	0	0	0	0	0	0
EMS/Rescue Call	2,608	2,135	2,990	2,520	3,152	2,709	3,045	2,601	3,104	2,582
Hazardous Condition	16	76	21	92	17	101	23	86	14	94
Service Call	294	182	250	96	325	146	287	116	279	100
Good Intent Call	0	571	0	605	0	590	0	611	0	674
False Call	0	151	0	154	0	172	0	210	0	209
Natural Condition	0	1	0	0	0	0	0	0	0	0
Other Situation	0	1	0	0	0	1	0	2	1	0
Total	3,193		3,564		3,804		3,722		3,736	

Figure 4.147 St. 61 Station Zone, Annual Average Incident Count by Month, 2020–2024

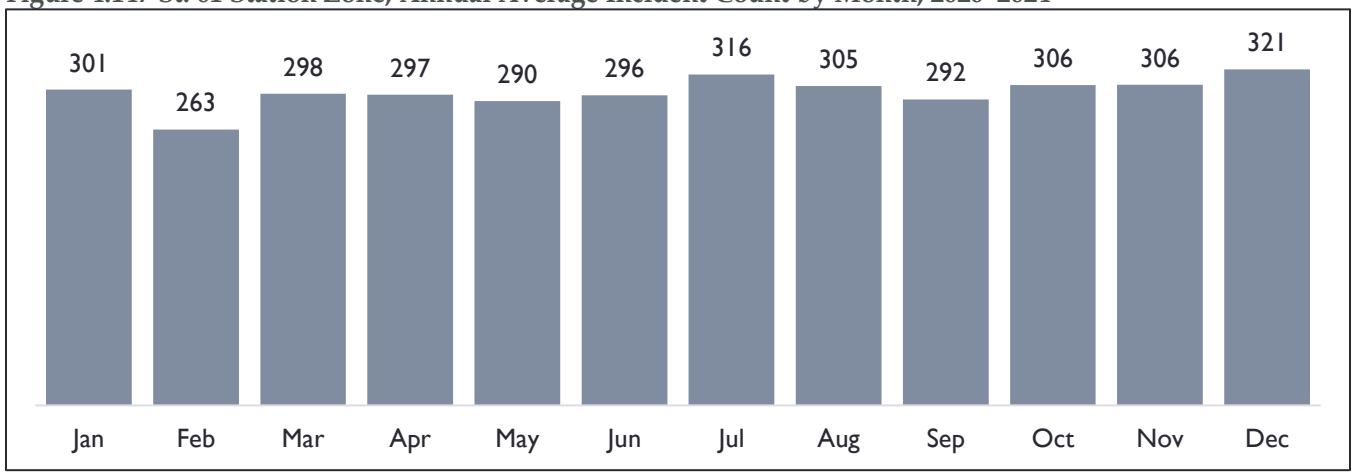


Figure 4.148 St. 61 Station Zone, Annual Average Incident Count by Day of Week, 2020–2024

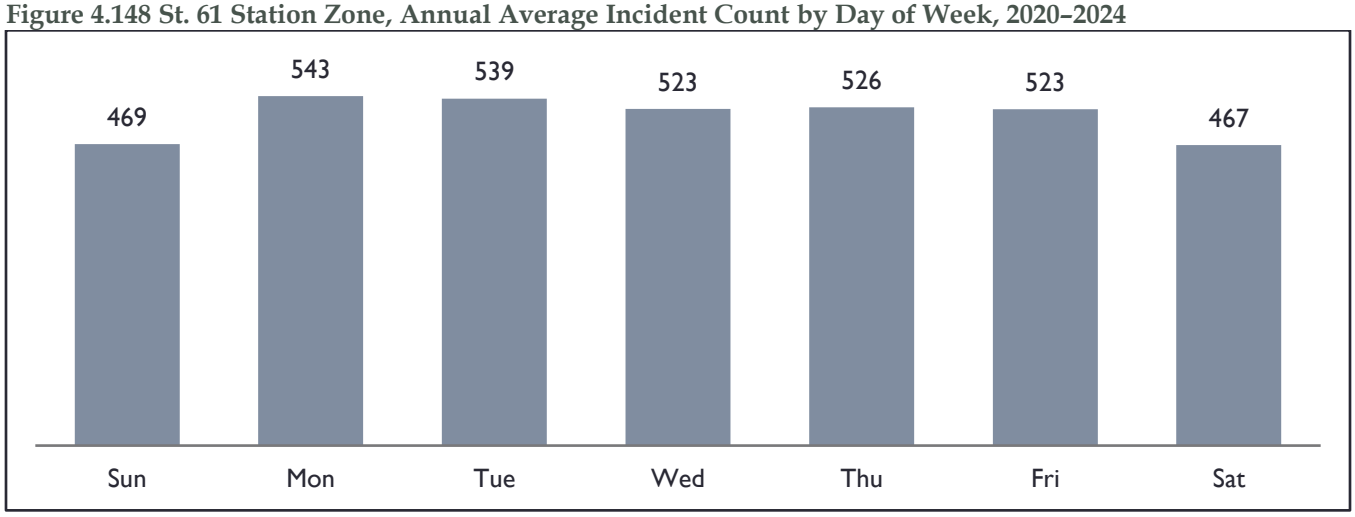


Figure 4.149 St. 61 Station Zone, Annual Average Incident Count by Hour of Day, 2020–2024

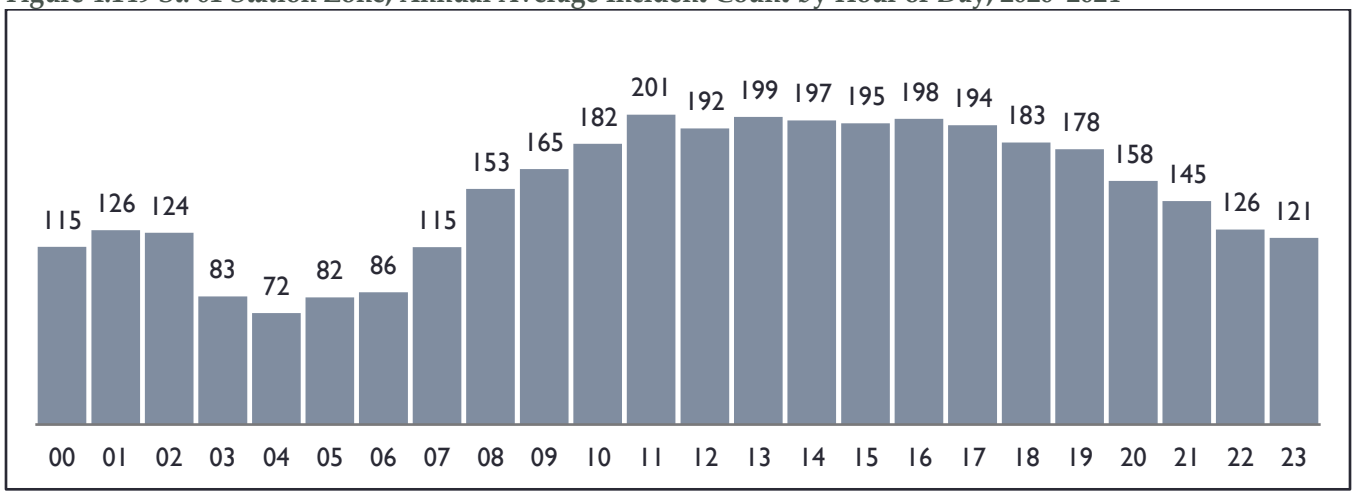
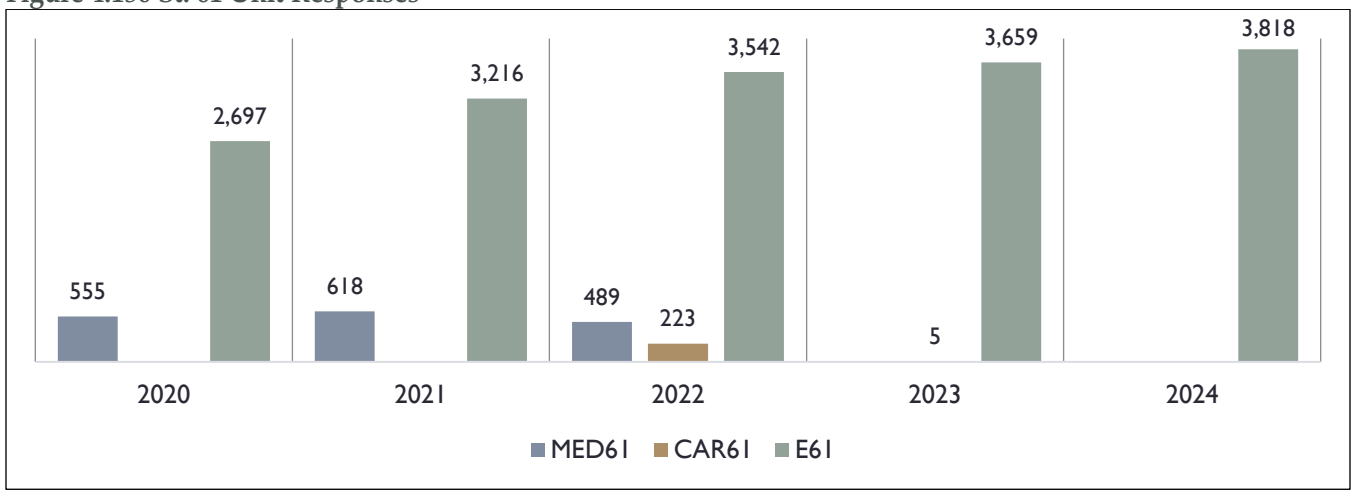


Figure 4.150 St. 61 Unit Responses



Station 62, Aloha

Station 62, located on SW 209th Avenue just south of Tualatin Valley Highway, was constructed in 1980. This 15,000-square-foot station houses a total of 12 full-time personnel. Four personnel (on each 24-hour, three-shift schedule) respond to incidents primarily utilizing Engine 62 and can also respond in Water Tenders 62A and 62B when needed. At least one crewmember per shift is an EMT-Paramedic capable of providing advanced life support (ALS) treatment.

Personnel at this station also assist with the management of the District's wildland program by housing one of three wildland caches (in conjunction with Stations 20 and 52). This equipment is taken when a team is deployed as part of a Washington County deployment.

The 21.1 square miles of Station 62's station zone includes a large portion of Aloha, as well as areas of unincorporated Washington County between Beaverton and Hillsboro, and south of Hillsboro.

Figure 4.151 St. 62 Station Zone, Incident Density

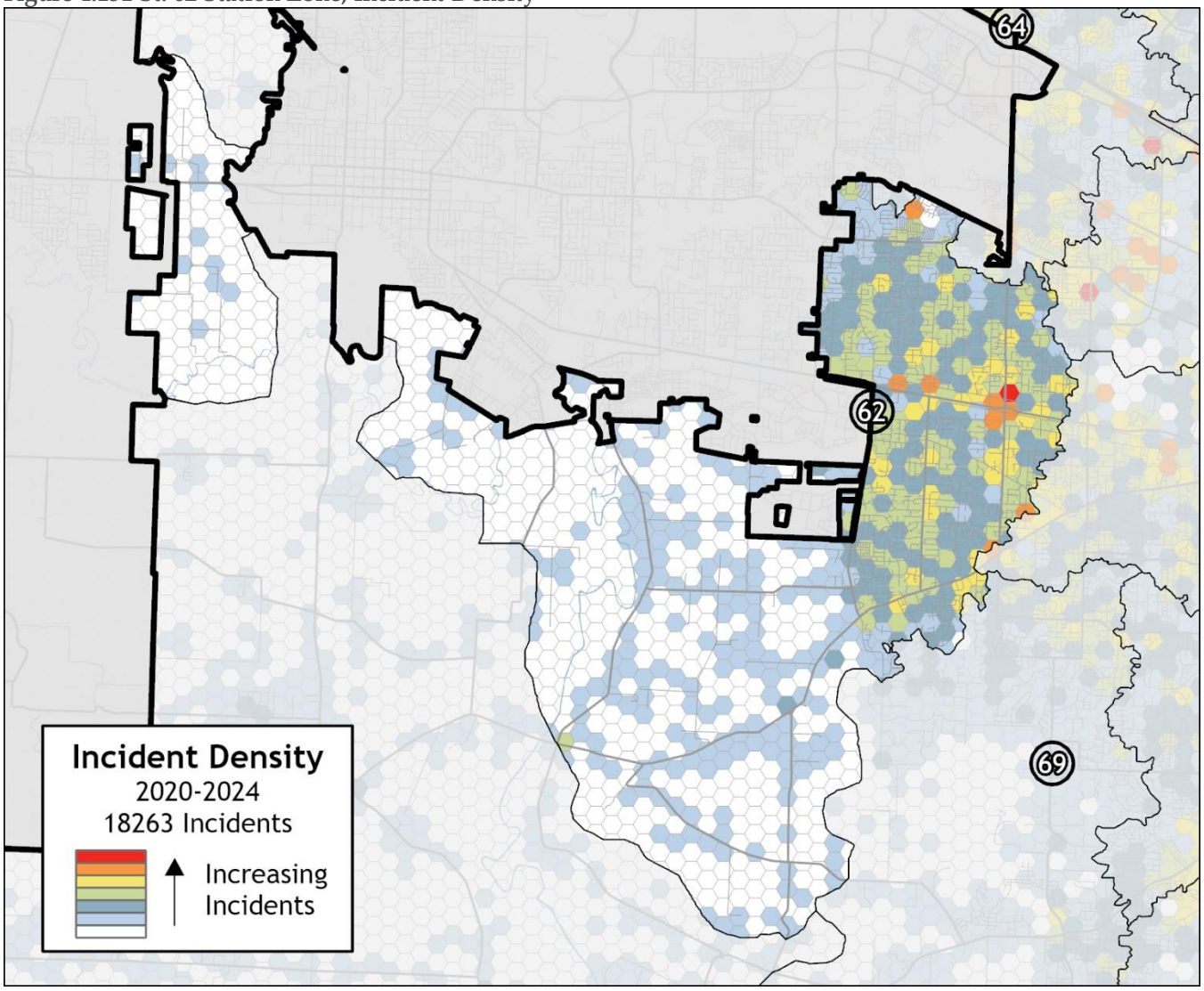


Figure 4.152 St. 62 Station Zone, Incident Count

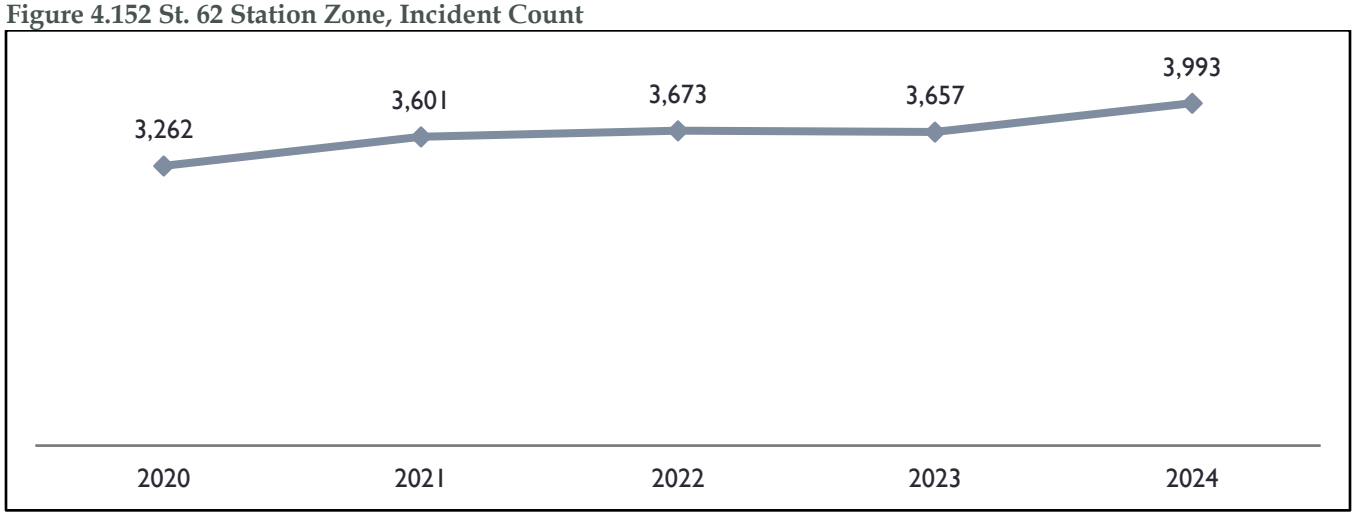


Figure 4.153 St. 62 Station Zone, Incident Summary

NFIRS Series	2020		2021		2022		2023		2024	
	Disp Call Type	*Sit Found*	*Disp Call Type*	*Sit Found*	*Disp Call Type*	*Sit Found*	*Disp Call Type*	*Sit Found*	*Disp Call Type*	*Sit Found*
Fire, Explosion	255	71	221	78	226	64	243	84	312	73
Overpressure	0	5	0	2	0	0	0	0	0	0
EMS/Rescue Call	2,603	2,086	2,989	2,434	3,052	2,678	3,014	2,631	3,251	2,718
Hazardous Condition	13	49	12	69	10	59	27	63	17	65
Service Call	391	236	379	180	384	147	373	146	411	163
Good Intent Call	0	660	0	679	0	589	0	585	0	776
False Call	0	155	0	159	0	134	0	145	0	196
Natural Condition	0	0	0	0	0	0	0	1	0	0
Other Situation	0	0	0	0	1	2	0	2	2	2
Total	3,262		3,601		3,673		3,657		3,993	

Figure 4.154 St. 62 Station Zone, Annual Average Incident Count by Month, 2020–2024

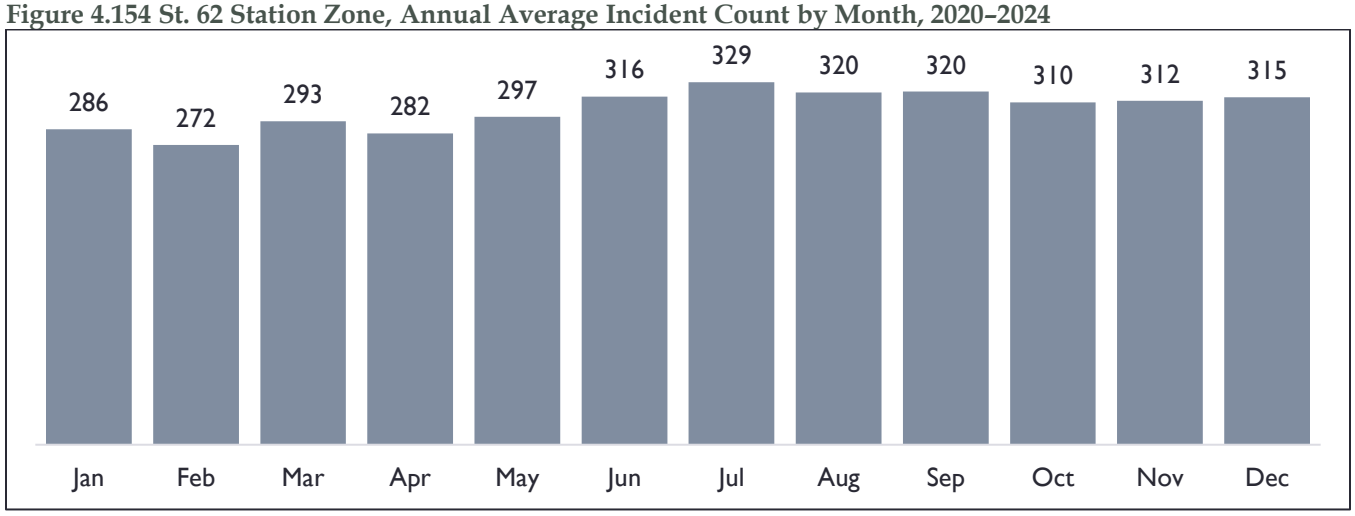


Figure 4.155 St. 62 Station Zone, Annual Average Incident Count by Day of Week, 2020–2024

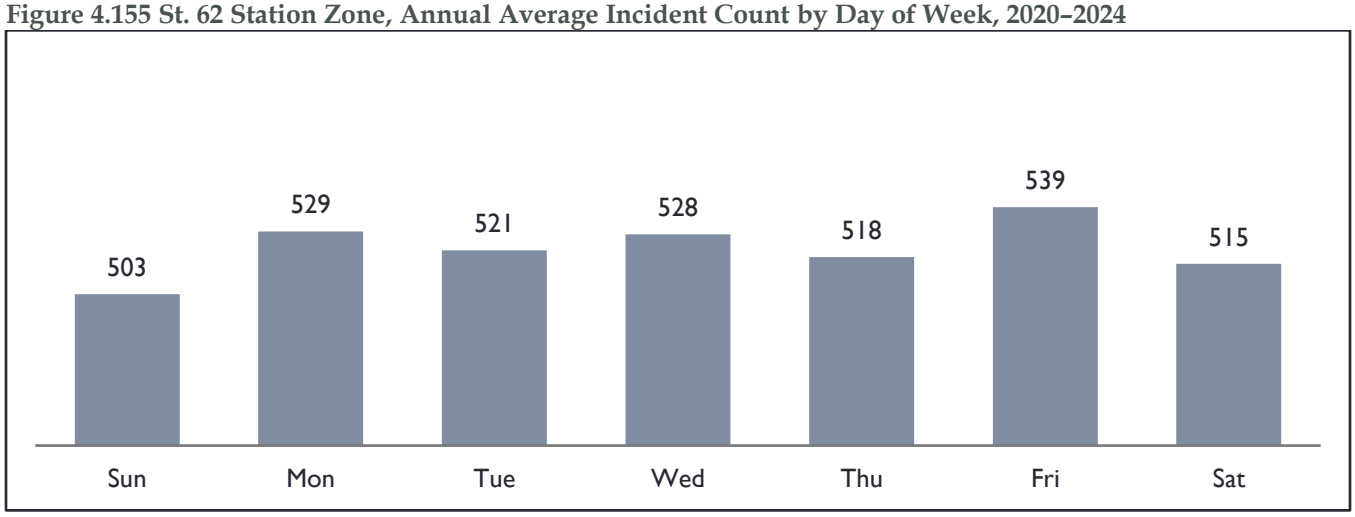


Figure 4.156 St. 62 Station Zone, Annual Average Incident Count by Hour of Day, 2020–2024

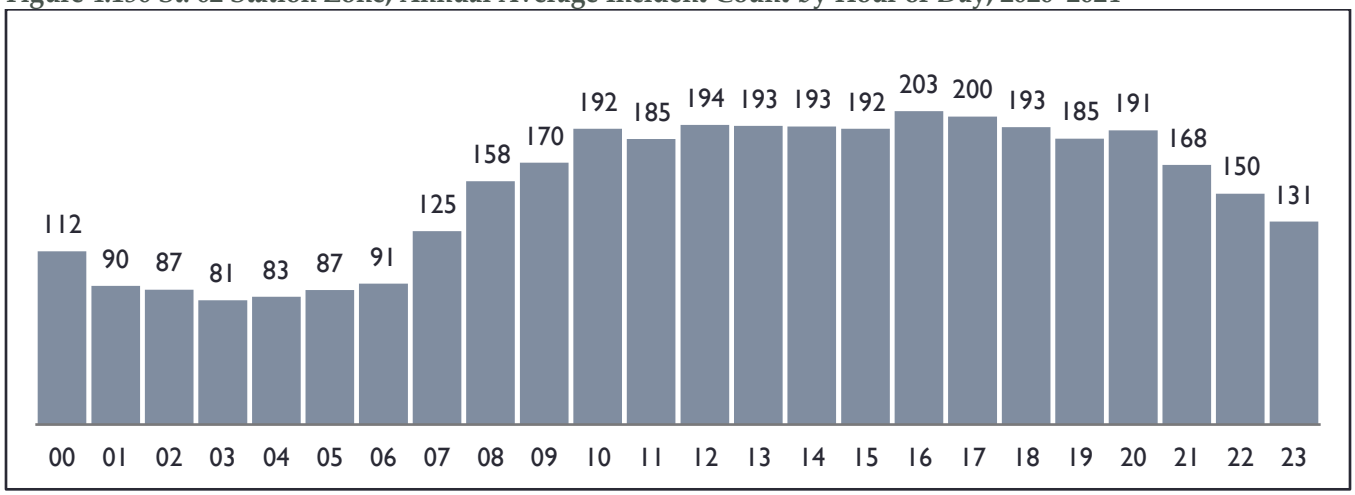
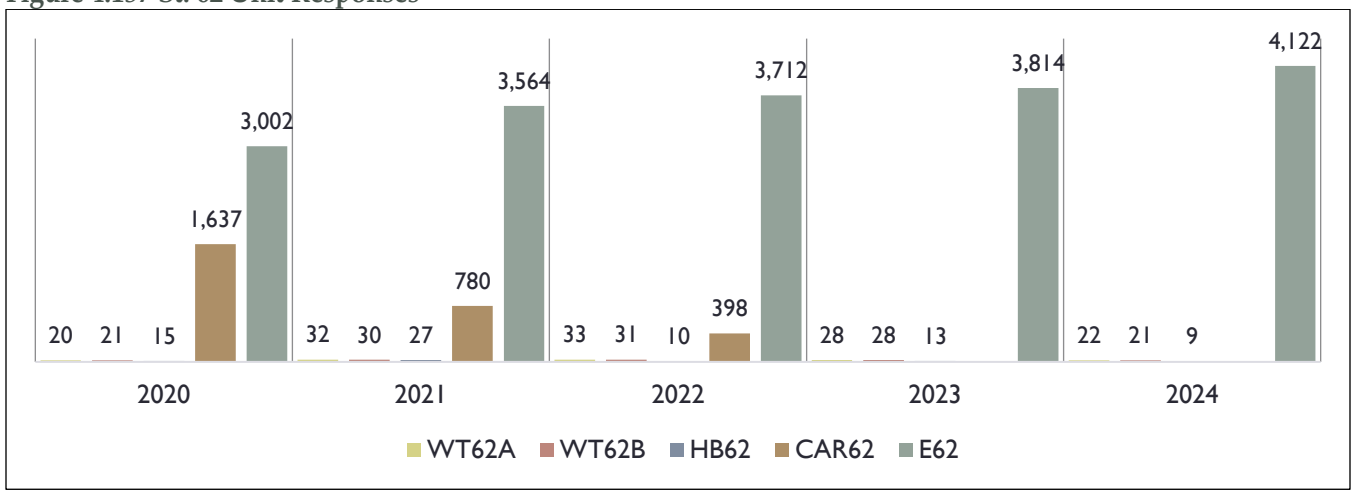


Figure 4.157 St. 62 Unit Responses



Station 64, Somerset

Station 64, located on NW 185th Avenue just north of Highway 26, was constructed in 1970 and completely remodeled in 2017. The 9,341-square-foot station houses a total of 14 full-time personnel. Four personnel (on each 24-hour, three-shift schedule) respond to incidents primarily utilizing Engine 64 and can also respond in Heavy Brush 64 when needed. At least one crewmember per shift is an EMT-Paramedic capable of providing advanced life support (ALS) treatment. Two Firefighter/EMT-Paramedics (on a 10-hour, four day a week schedule) respond to incidents utilizing Rescue 64.

The 34.4 square miles of Station 64's station zone includes portions of northern Aloha and Beaverton, as well as unincorporated Washington and Multnomah counties (Rock Creek and north into the Skyline area).

Figure 4.158 St. 64 Station Zone, Incident Density

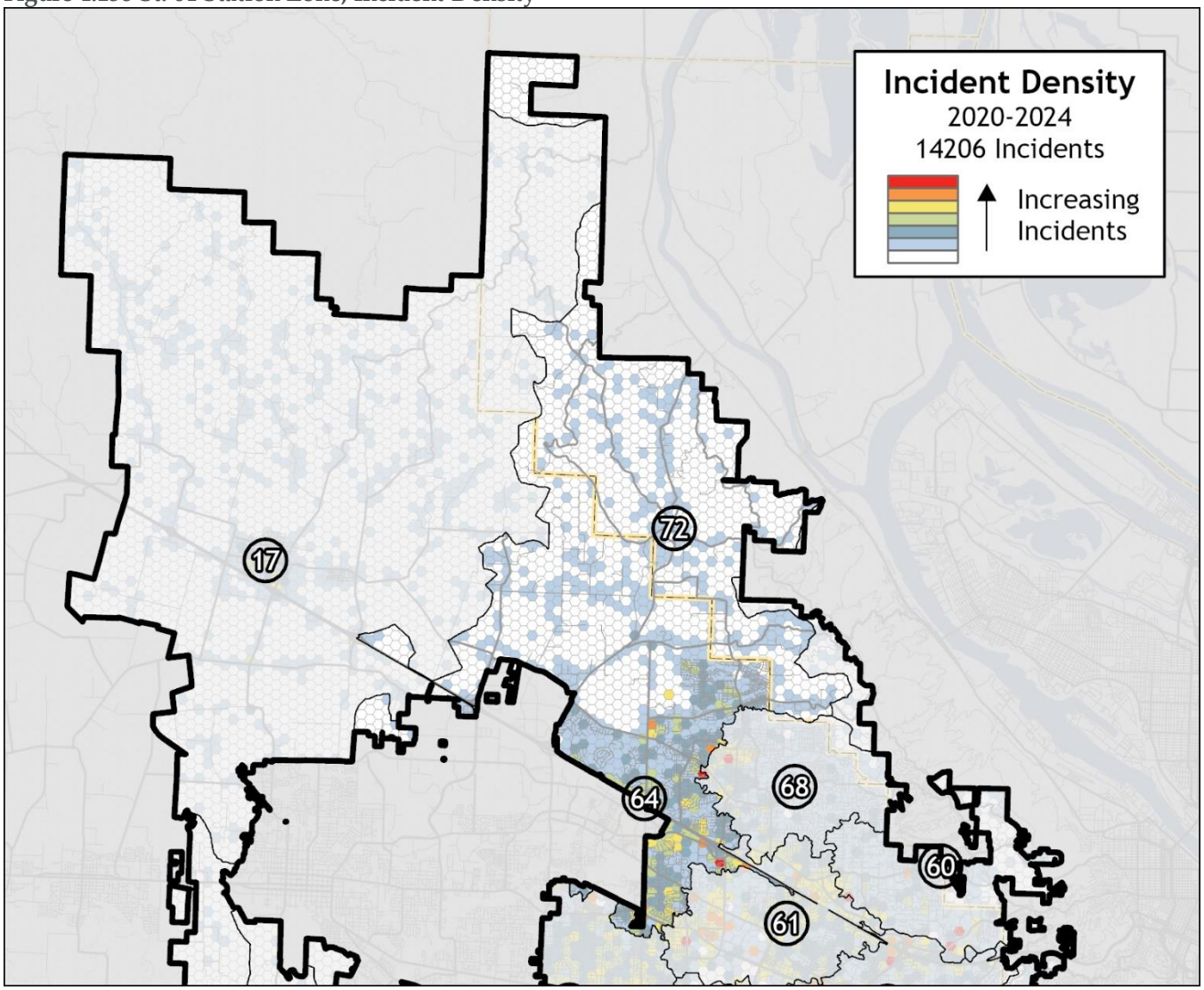


Figure 4.159 St. 64 Station Zone, Incident Count

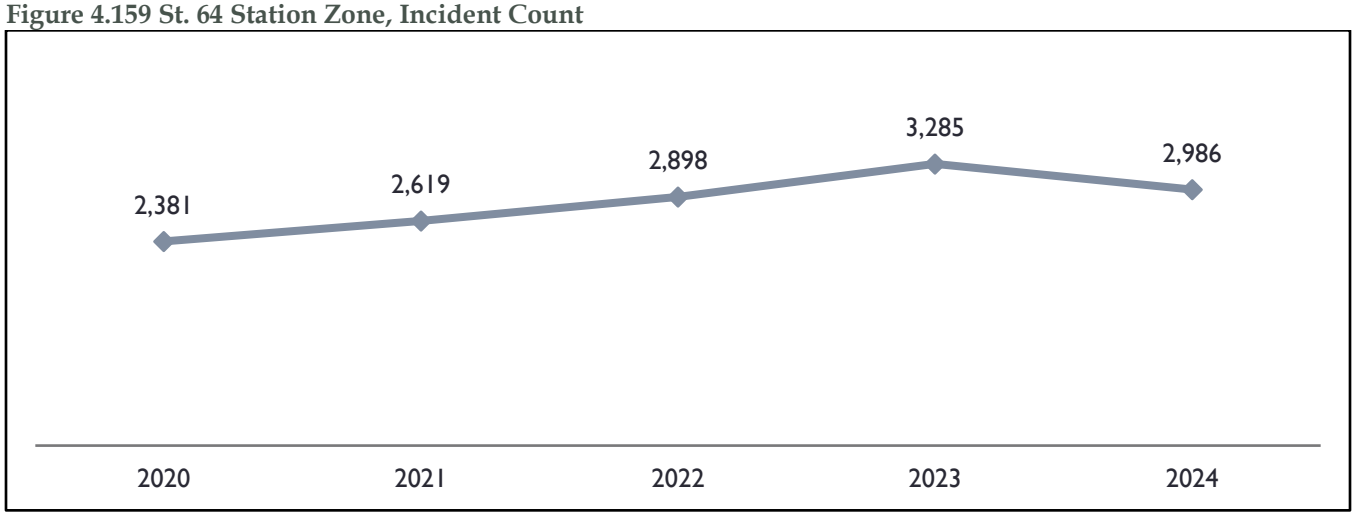


Figure 4.160 St. 64 Station Zone, Incident Summary

NFIRS Series	2020		2021		2022		2023		2024	
	Disp Call Type	*Sit Found*	*Disp Call Type*	*Sit Found*	*Disp Call Type*	*Sit Found*	*Disp Call Type*	*Sit Found*	*Disp Call Type*	*Sit Found*
Fire, Explosion	229	74	196	62	200	42	260	90	224	70
Overpressure	0	0	0	1	0	0	0	0	0	0
EMS/Rescue Call	1,866	1,599	2,165	1,906	2,423	2,138	2,729	2,403	2,464	1,985
Hazardous Condition	5	61	17	67	15	85	23	61	18	66
Service Call	281	175	241	113	260	89	273	102	278	104
Good Intent Call	0	327	0	362	0	385	0	460	0	589
False Call	0	145	0	108	0	157	0	167	0	167
Natural Condition	0	0	0	0	0	0	0	0	0	2
Other Situation	0	0	0	0	0	2	0	2	2	3
Total	2,381		2,619		2,898		3,285		2,986	

Figure 4.161 St. 64 Station Zone, Annual Average Incident Count by Month, 2020–2024

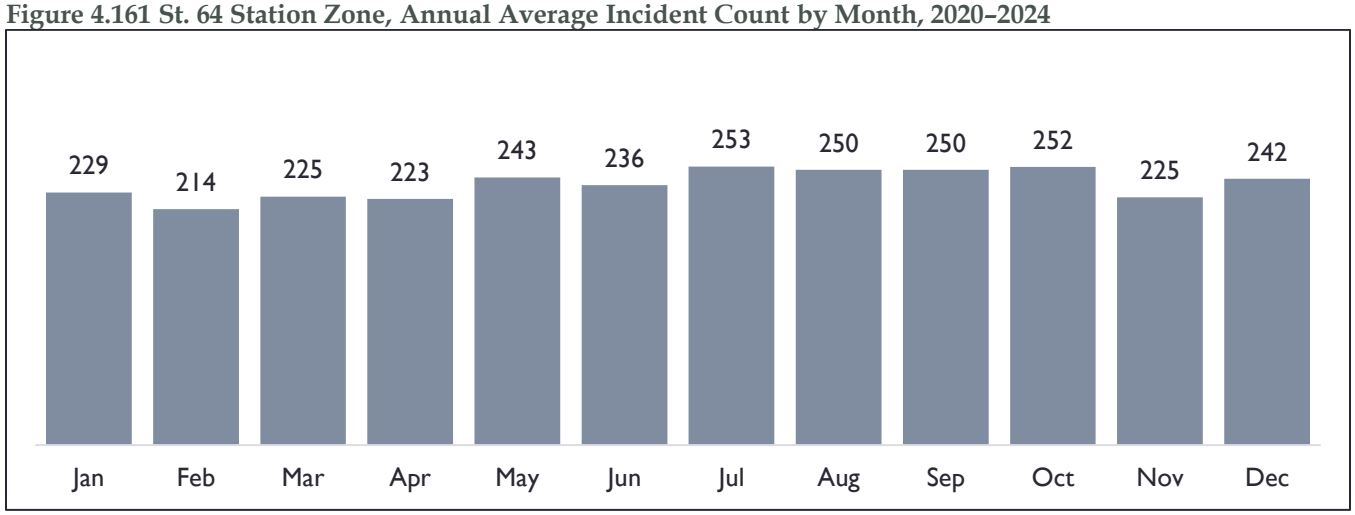


Figure 4.162 St. 64 Station Zone, Annual Average Incident Count by Day of Week, 2020–2024

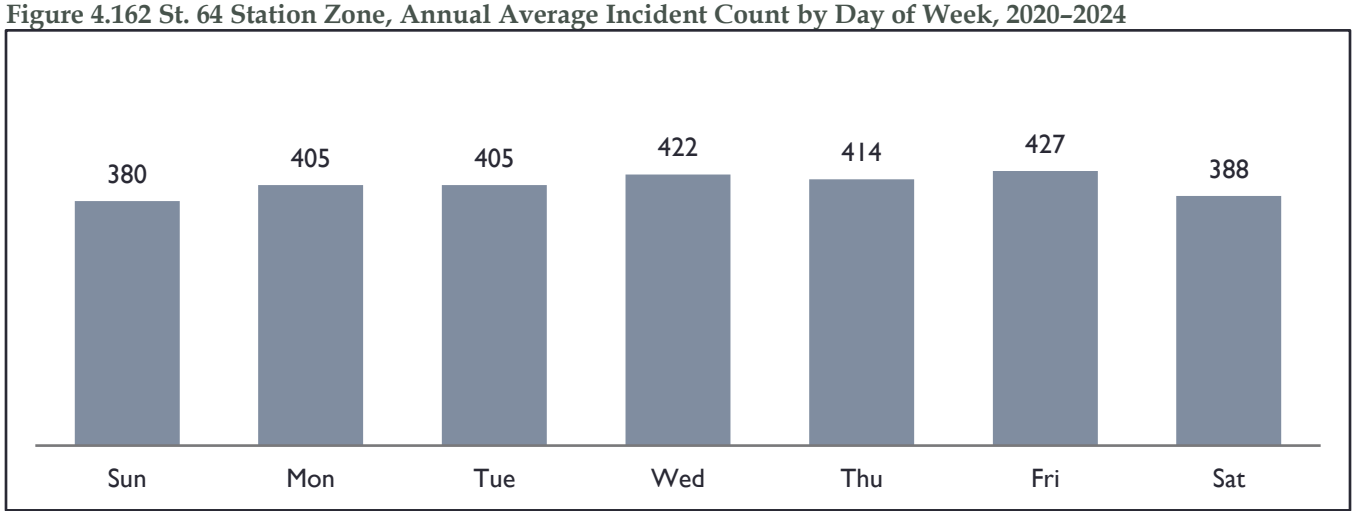


Figure 4.163 St. 64 Station Zone, Annual Average Incident Count by Hour of Day, 2020–2024

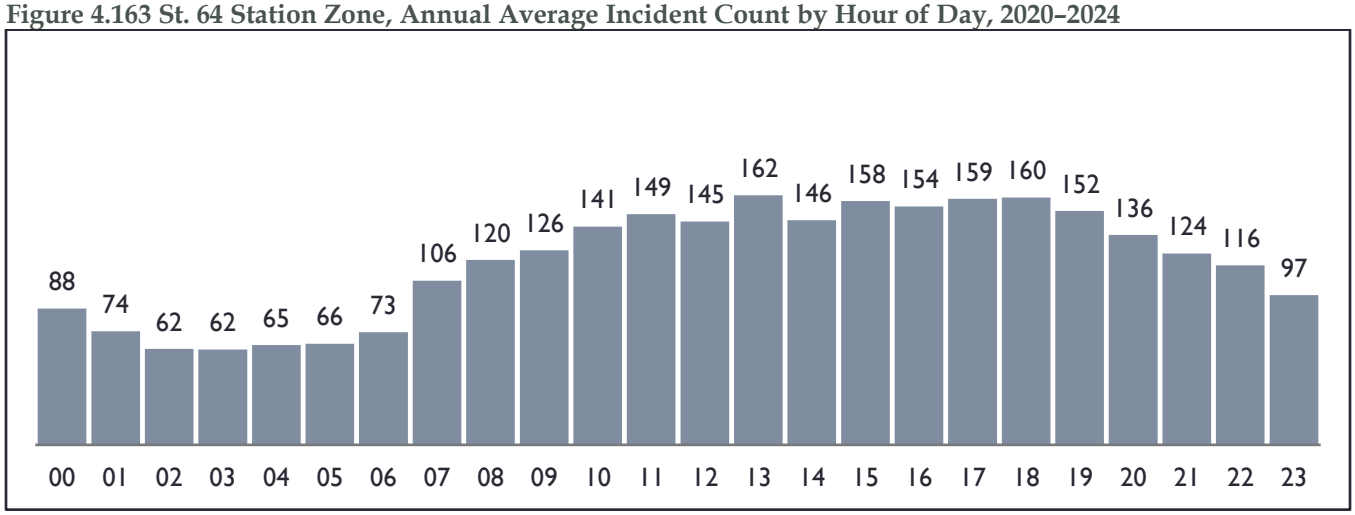
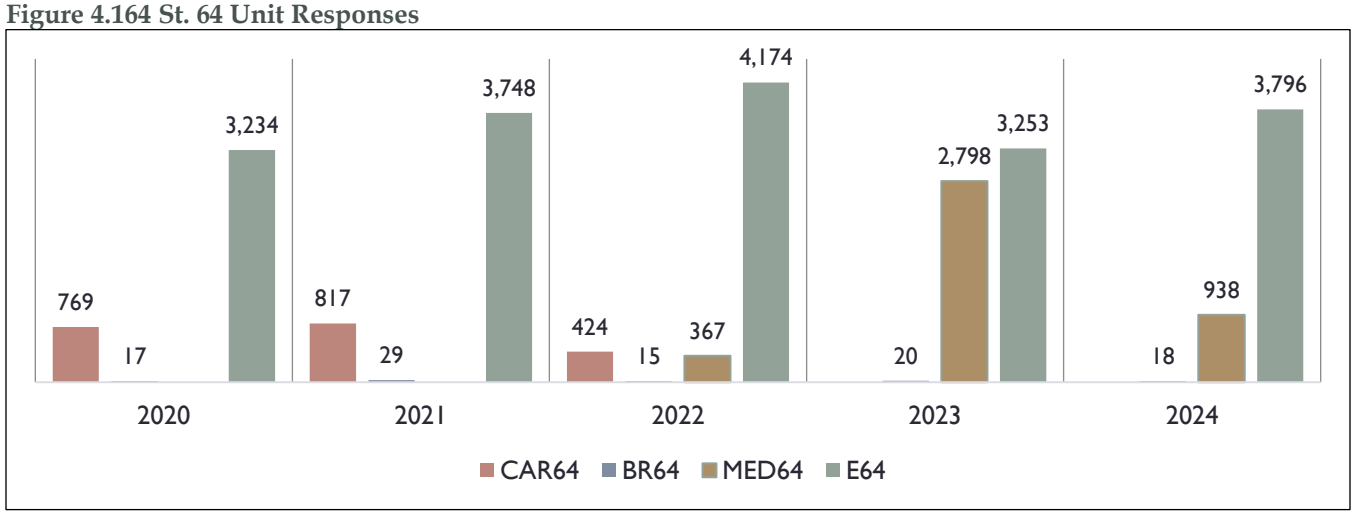


Figure 4.164 St. 64 Unit Responses



Station 65, West Slope

Station 65, located on SW 103rd Avenue between Canyon Road (Highway 8) and Walker Road, was originally constructed in 1968 and completely rebuilt and relocated in 2012. The 10,111-square-foot station houses a total of 12 full-time personnel. Four personnel (on each 24-hour, three-shift schedule) respond to incidents primarily utilizing Engine 65 and can also respond in Water Tenders 65A and 65B when needed. At least one crewmember per shift is an EMT-Paramedic capable of providing advanced life support (ALS) treatment.

Station 65 has a Community Room used by a wide variety of neighborhood and community groups, as well as TVF&R personnel for training and meetings.

The 3.7 square miles of Station 65's station zone primarily contains unincorporated territory in Washington county (West Slope), as well as portions of Beaverton.

Figure 4.165 St. 65 Station Zone, Incident Density

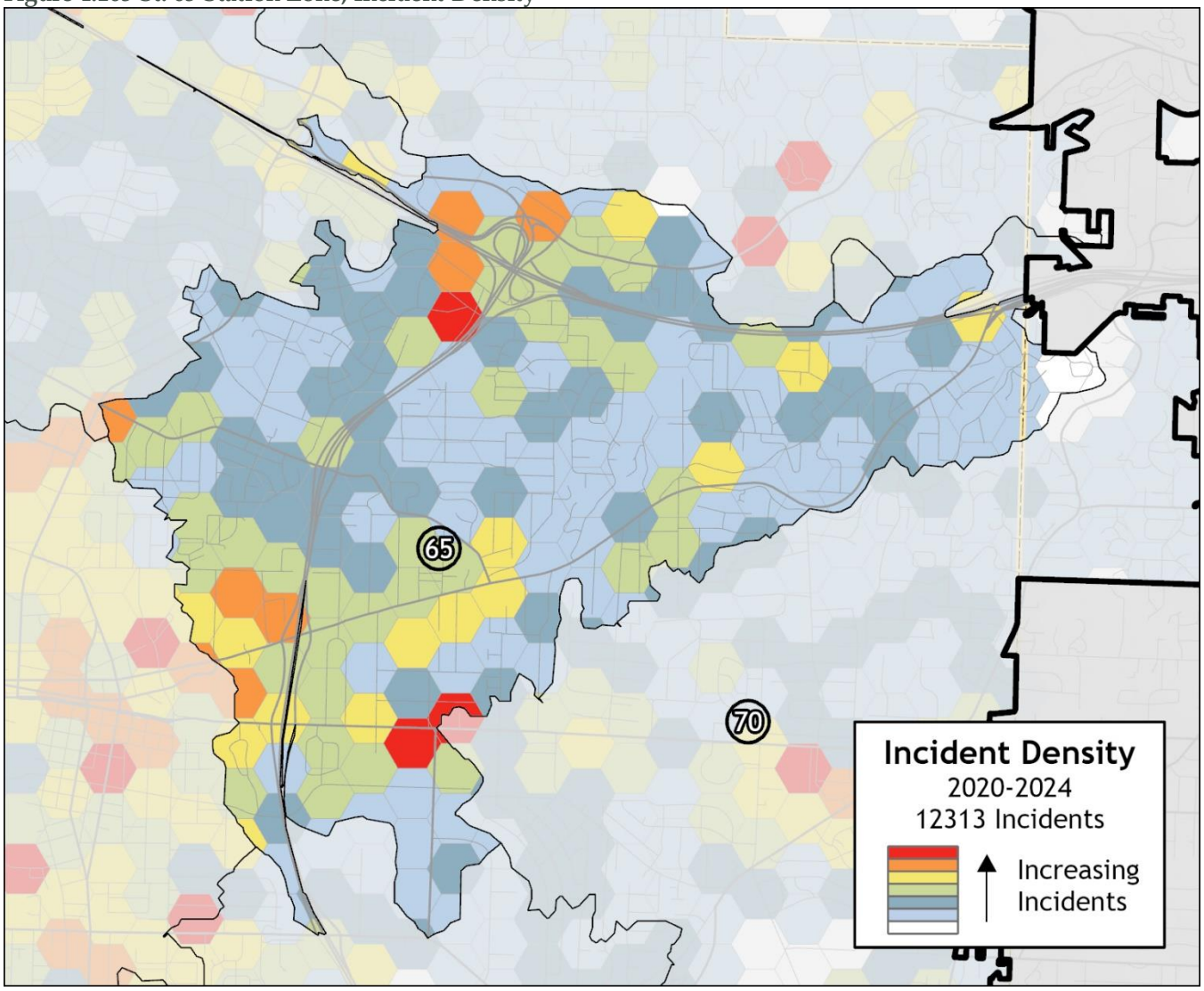


Figure 4.166 St. 65 Station Zone, Incident Count

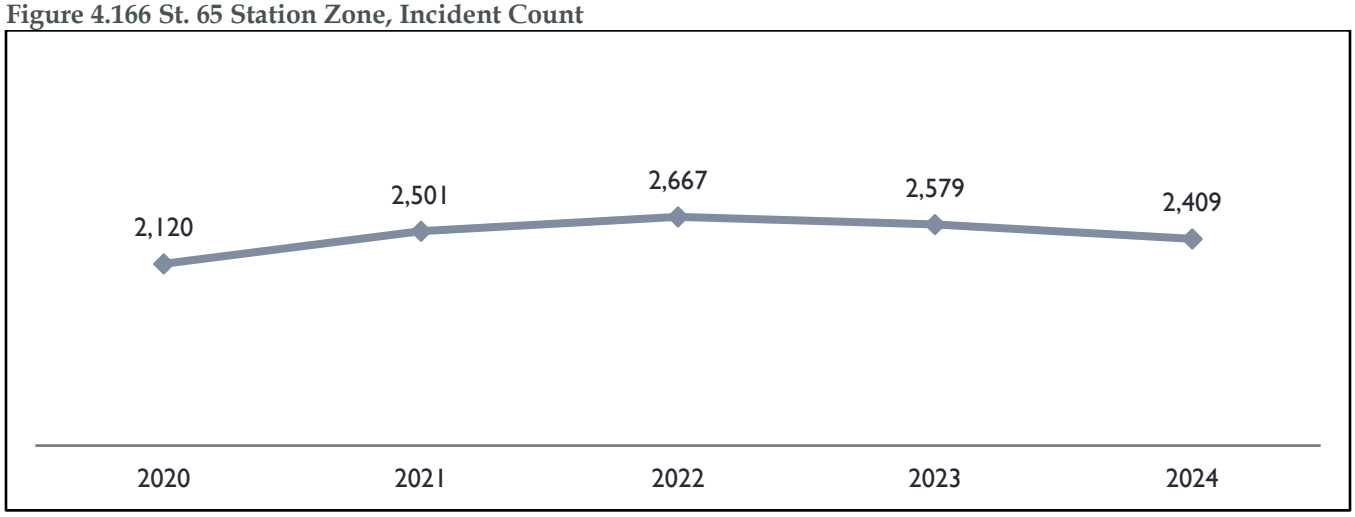


Figure 4.167 St. 65 Station Zone, Incident Summary

NFIRS Series	2020		2021		2022		2023		2024	
	Disp Call Type	*Sit Found*	*Disp Call Type*	*Sit Found*	*Disp Call Type*	*Sit Found*	*Disp Call Type*	*Sit Found*	*Disp Call Type*	*Sit Found*
Fire, Explosion	162	46	170	49	203	57	215	62	221	54
Overpressure	0	3	0	1	0	0	0	0	0	0
EMS/Rescue Call	1,824	1,398	2,185	1,741	2,293	2,010	2,237	1,898	2,021	1,682
Hazardous Condition	11	60	6	72	8	65	10	65	18	91
Service Call	123	90	140	73	163	77	117	67	148	66
Good Intent Call	0	453	0	479	0	371	0	376	0	387
False Call	0	69	0	86	0	86	0	110	0	124
Natural Condition	0	0	0	0	0	0	0	0	0	3
Other Situation	0	1	0	0	0	1	0	1	1	2
Total	2,120		2,501		2,667		2,579		2,409	

Figure 4.168 St. 65 Station Zone, Annual Average Incident Count by Month, 2020–2024

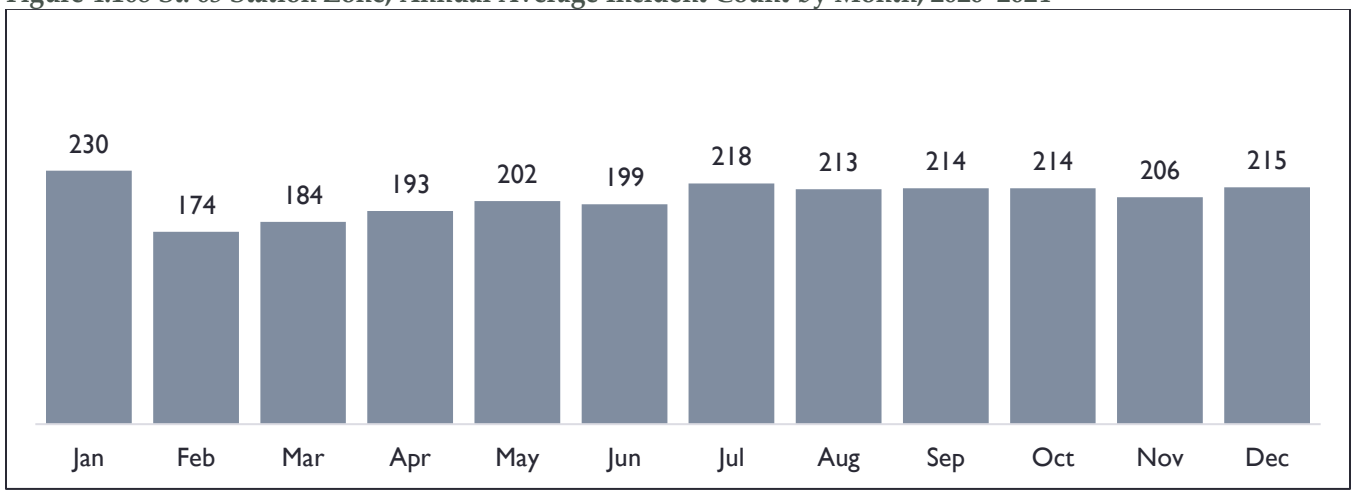


Figure 4.169 St. 65 Station Zone, Annual Average Incident Count by Day of Week, 2020–2024

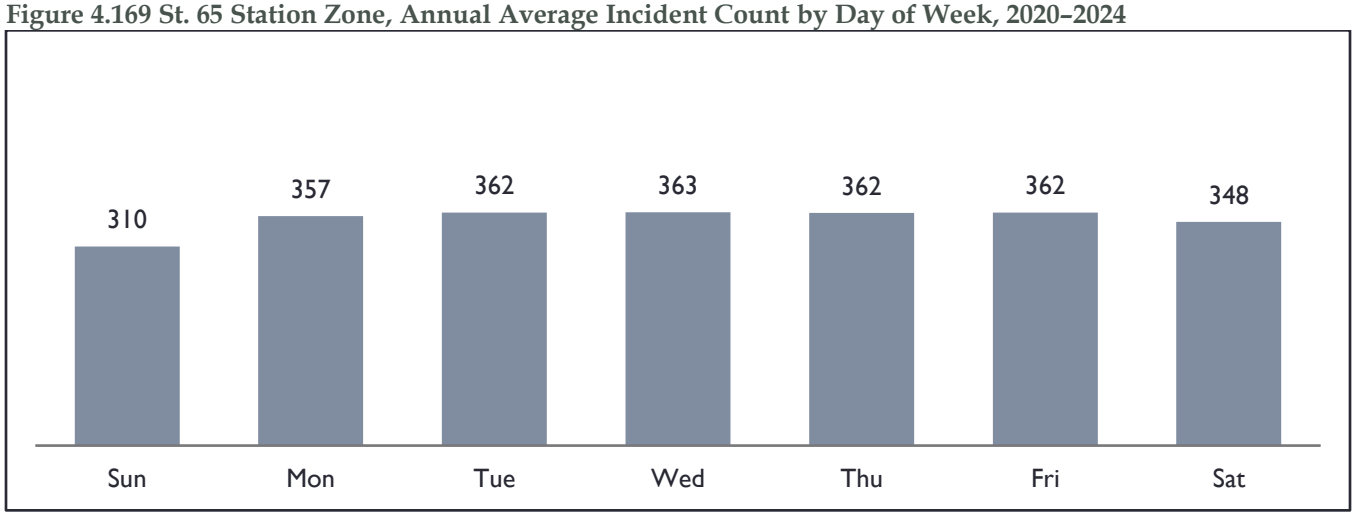


Figure 4.170 St. 65 Station Zone, Annual Average Incident Count by Hour of Day, 2020–2024

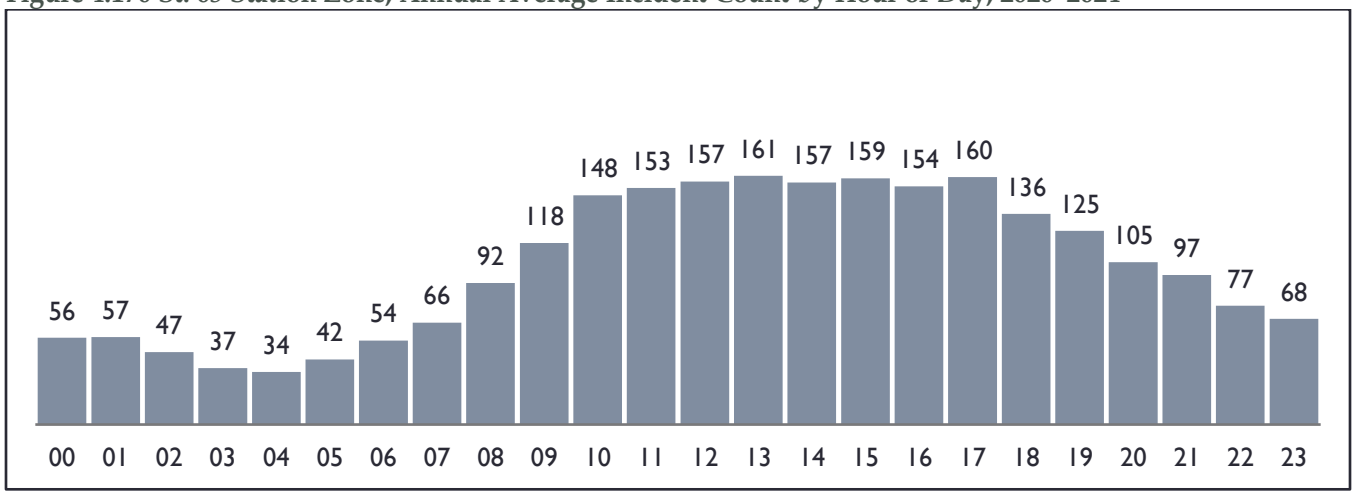
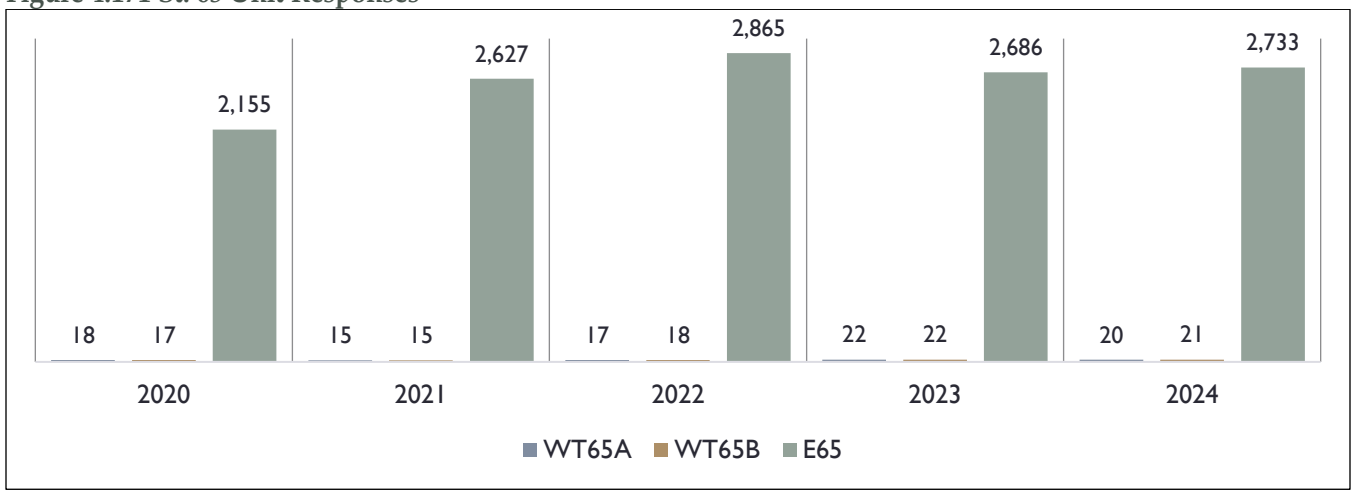


Figure 4.171 St. 65 Unit Responses



Station 66, Brockman Road

Station 66, located on the SE corner of Brockman Street and Davies Road just east of Murray Boulevard, was constructed in 1974 and remodeled in 2008. The 7,494-square-foot station houses a total of 12 full-time personnel. Four personnel (on each 24-hour, three-shift schedule) respond to incidents utilizing Engine 66 and can also respond in Medic 66 when needed. At least one crewmember per shift is an EMT-Paramedic capable of providing advanced life support (ALS) treatment.

The 4.7 square miles of Station 66's First-Due Area includes south Beaverton (Murrayhill).

Figure 4.172 St. 66 Station Zone, Incident Density

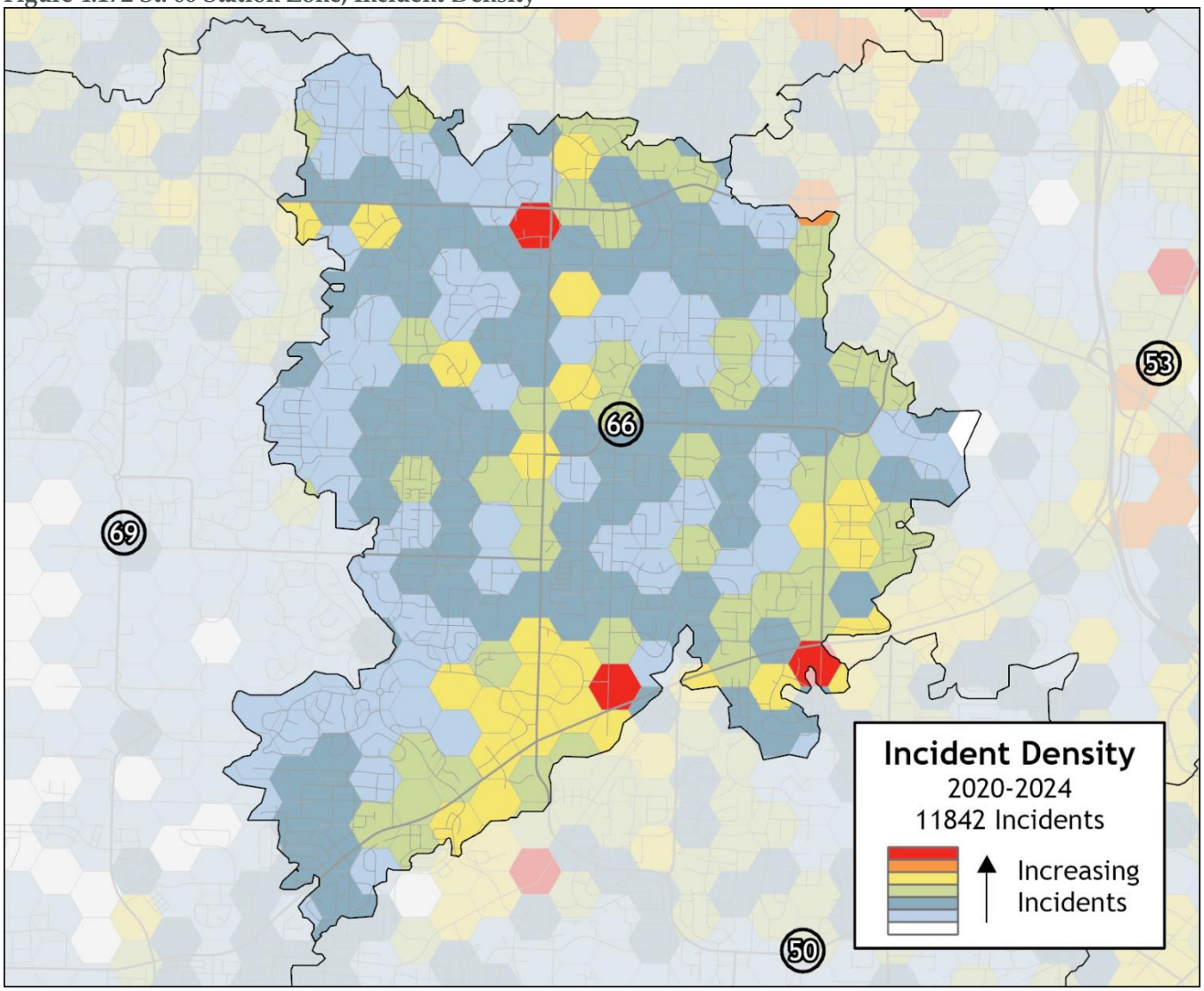


Figure 4.173 St. 66 Station Zone, Incident Count

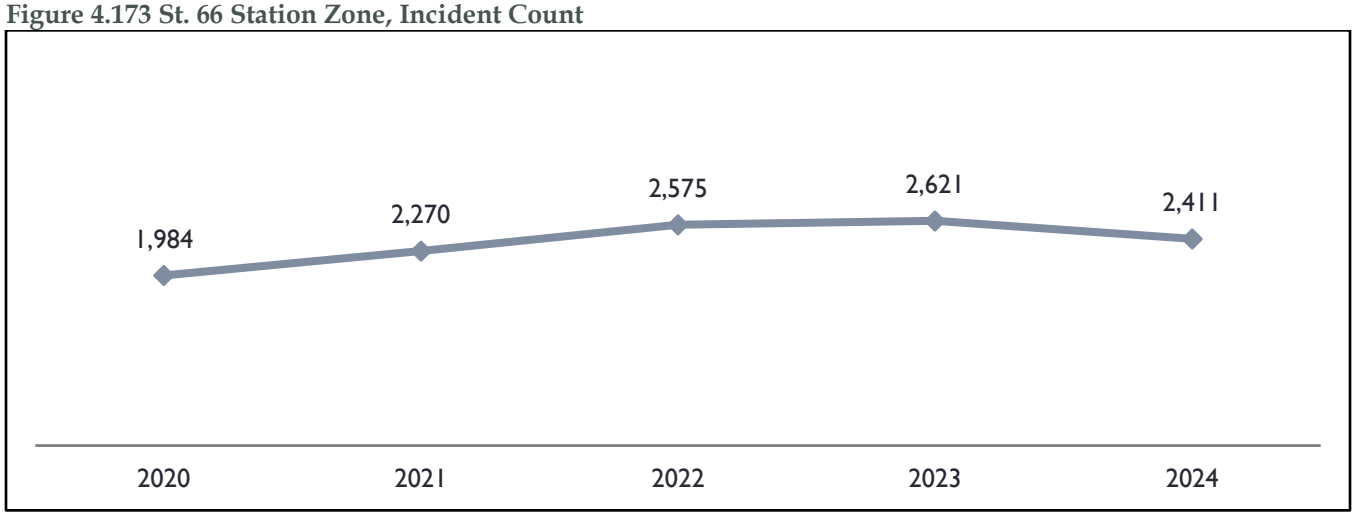


Figure 4.174 St. 66 Station Zone, Incident Summary

NFIRS Series	2020		2021		2022		2023		2024	
	Disp Call Type	*Sit Found*	*Disp Call Type*	*Sit Found*	*Disp Call Type*	*Sit Found*	*Disp Call Type*	*Sit Found*	*Disp Call Type*	*Sit Found*
Fire, Explosion	155	47	144	45	134	34	154	55	158	44
Overpressure	0	0	0	1	0	0	0	0	0	0
EMS/Rescue Call	1,603	1,431	1,892	1,735	2,200	2,064	2,200	2,105	2,027	1,785
Hazardous Condition	14	46	11	35	11	56	12	29	9	27
Service Call	212	109	223	95	229	83	255	85	216	94
Good Intent Call	0	233	0	248	0	208	0	209	0	321
False Call	0	117	0	109	0	129	0	138	0	138
Natural Condition	0	1	0	1	0	0	0	0	0	0
Other Situation	0	0	0	1	1	1	0	0	1	2
Total	1,984		2,270		2,575		2,621		2,411	

Figure 4.175 St. 66 Station Zone, Annual Average Incident Count by Month, 2020–2024

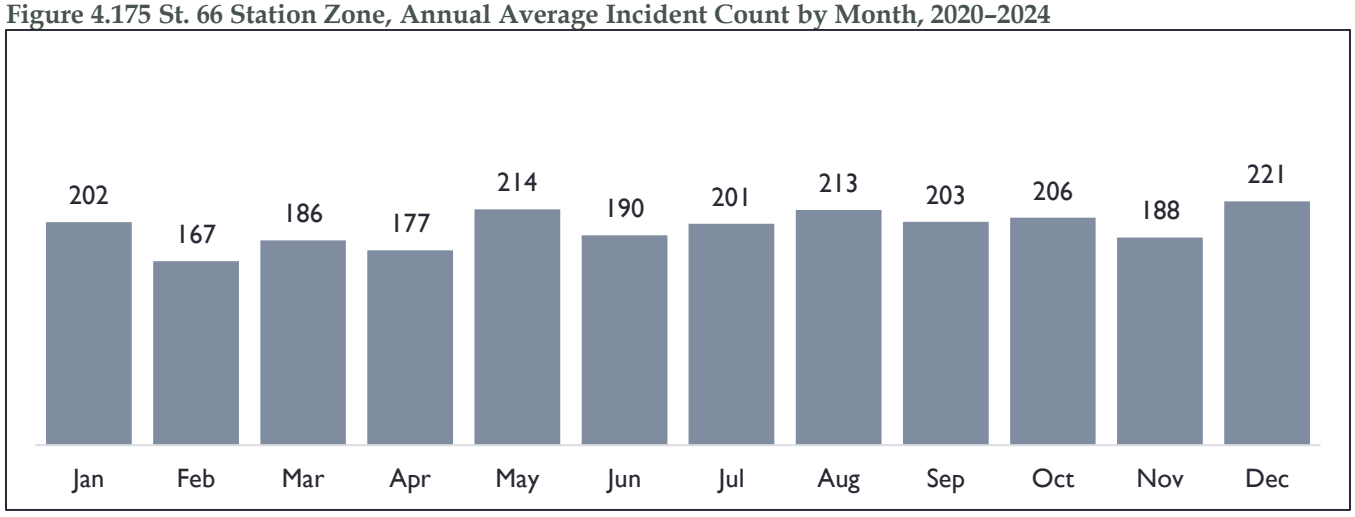


Figure 4.176 St. 66 Station Zone, Annual Average Incident Count by Day of Week, 2020–2024

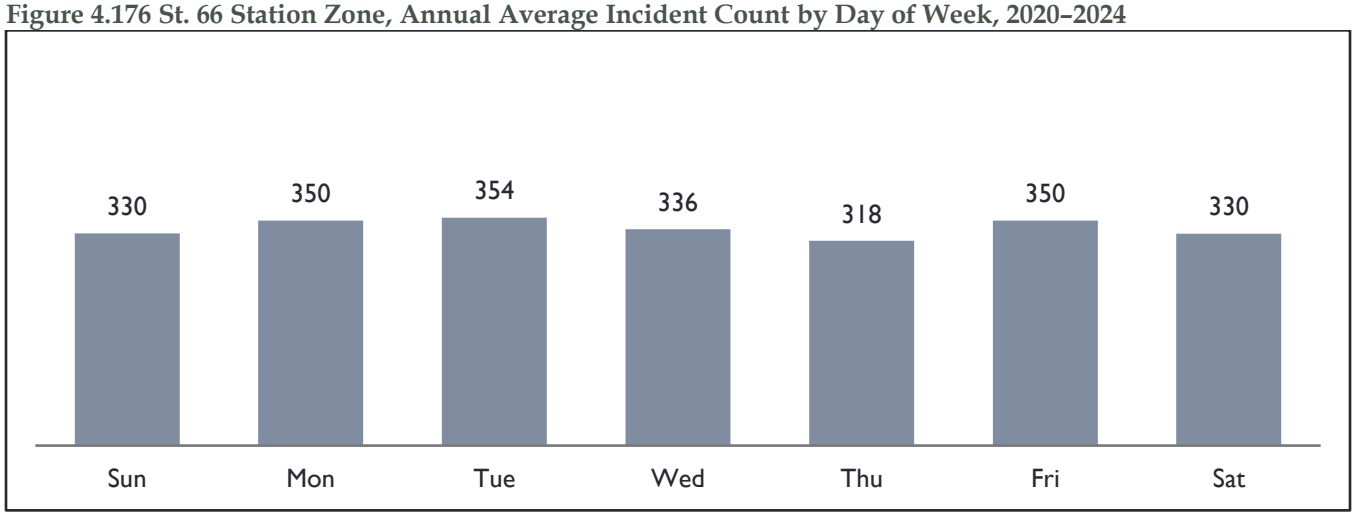


Figure 4.177 St. 66 Station Zone, Annual Average Incident Count by Hour of Day, 2020–2024

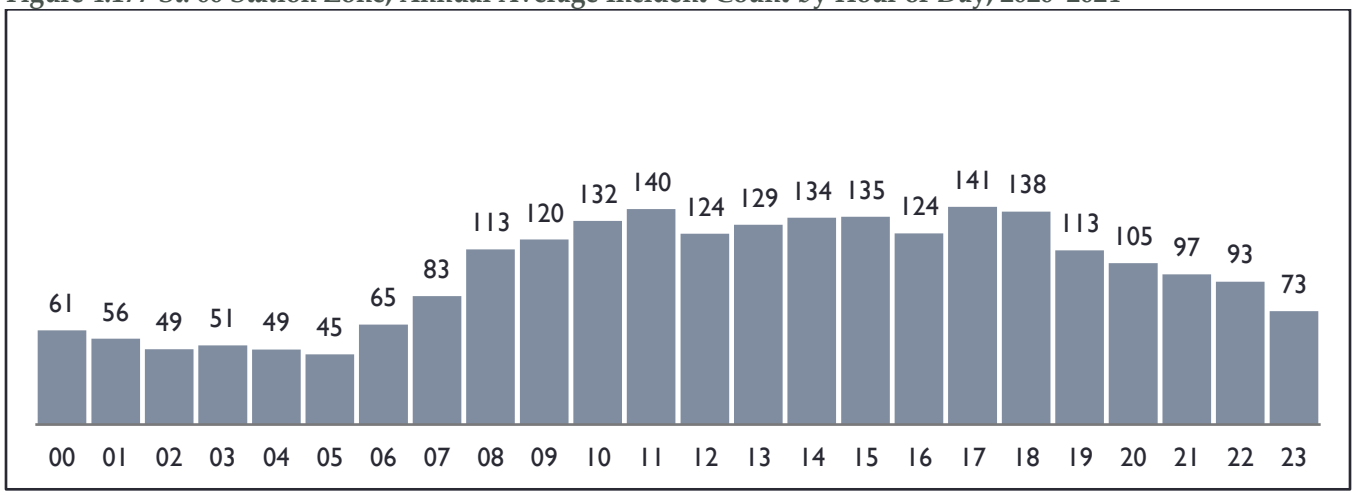
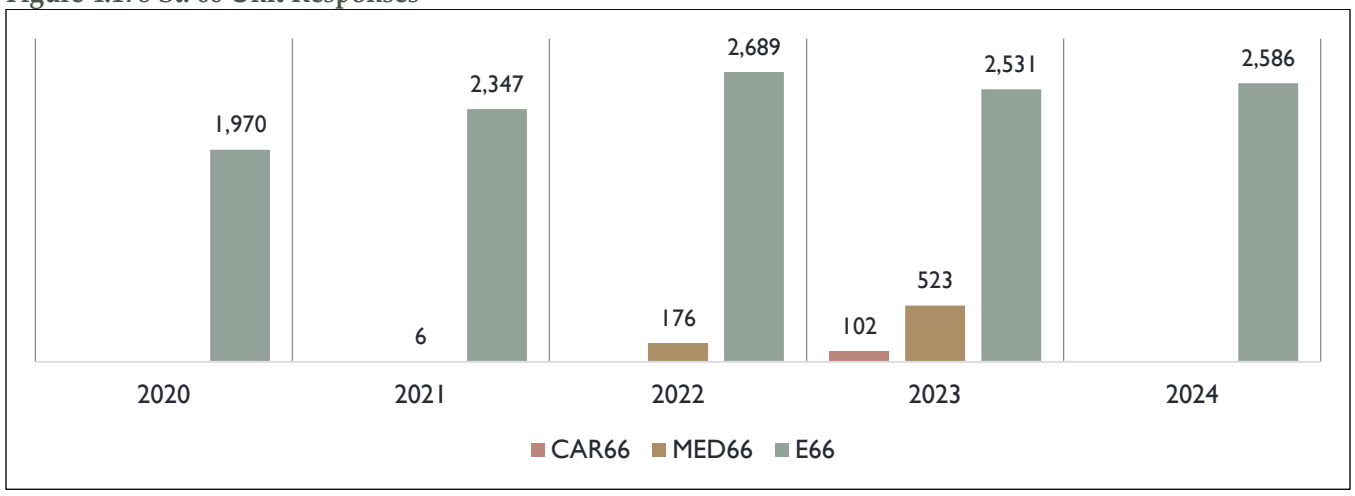


Figure 4.178 St. 66 Unit Responses



Station 67, Farmington Road

Station 67, located on SW Farmington Road between Murray Boulevard and Hocken Avenue, was constructed in 1998. The 11,000-square-foot station houses a total of 24 full-time personnel. Four personnel (on each 24-hour, three-shift schedule) respond to incidents utilizing Engine 67, and an additional four personnel (on each 24-hour, three-shift schedule) respond utilizing Truck 67. In addition to the station zone, the truck serves as a resource for the District's entire service area. At least one crewmember per unit and shift is an EMT-Paramedic capable of providing advanced life support (ALS) treatment. Battalion Chief (C5) also responds from and maintains quarters at Station 67.

The 5.9 square miles of Station 67's station zone includes central Beaverton and areas of unincorporated Washington County, including a portion of Aloha.

Figure 4.179 St. 67 Station Zone, Incident Density

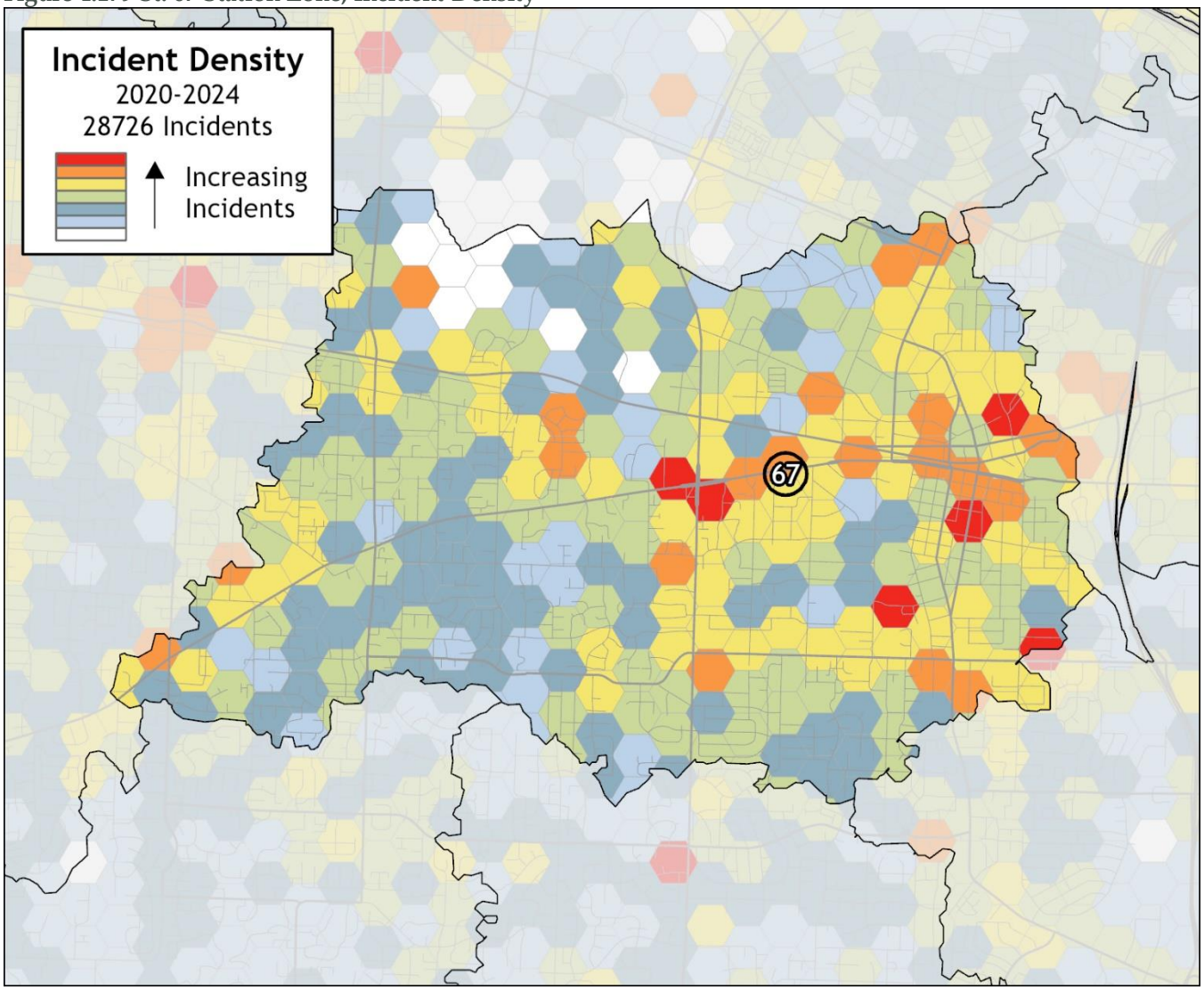


Figure 4.180 St. 67 Station Zone, Incident Count

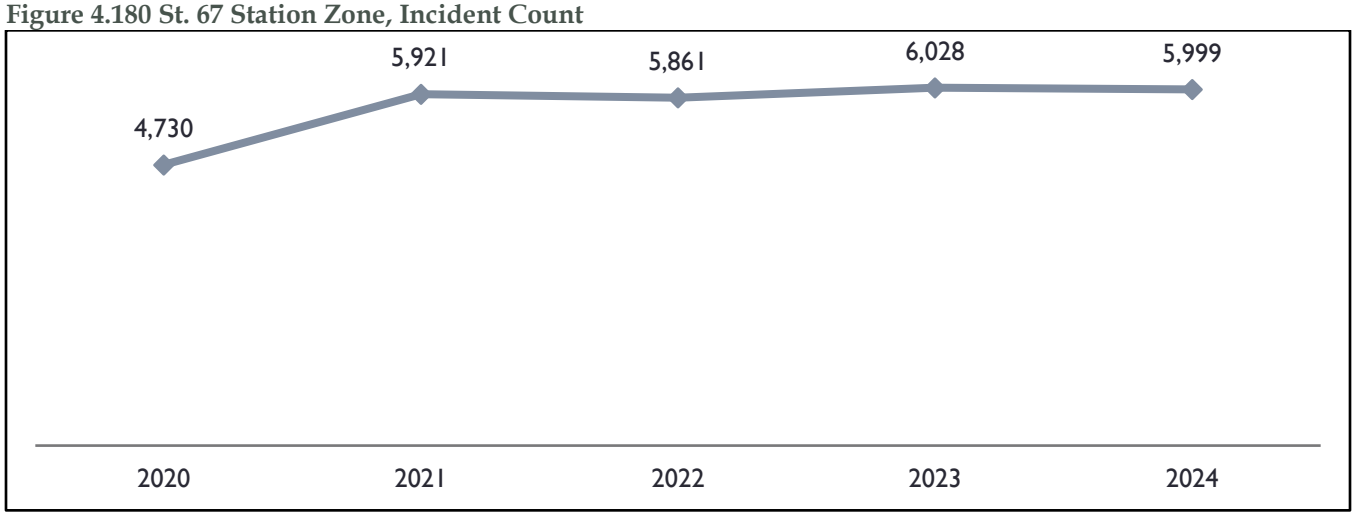


Figure 4.181 St. 67 Station Zone, Incident Summary

NFIRS Series	2020		2021		2022		2023		2024	
	Disp Call Type	*Sit Found*	*Disp Call Type*	*Sit Found*	*Disp Call Type*	*Sit Found*	*Disp Call Type*	*Sit Found*	*Disp Call Type*	*Sit Found*
Fire, Explosion	350	136	417	151	362	128	421	167	363	124
Overpressure	0	4	0	1	0	0	0	0	0	0
EMS/Rescue Call	4,036	3,247	4,994	4,220	5,067	4,336	5,203	4,507	5,144	4,372
Hazardous Condition	10	90	28	112	23	105	27	100	39	120
Service Call	334	279	482	234	409	208	377	189	450	207
Good Intent Call	0	796	0	972	0	861	0	842	0	930
False Call	0	177	0	228	0	219	0	218	0	242
Natural Condition	0	0	0	1	0	0	0	0	0	0
Other Situation	0	1	0	2	0	4	0	5	3	4
Total	4,730		5,921		5,861		6,028		5,999	

Figure 4.182 St. 67 Station Zone, Annual Average Incident Count by Month, 2020–2024

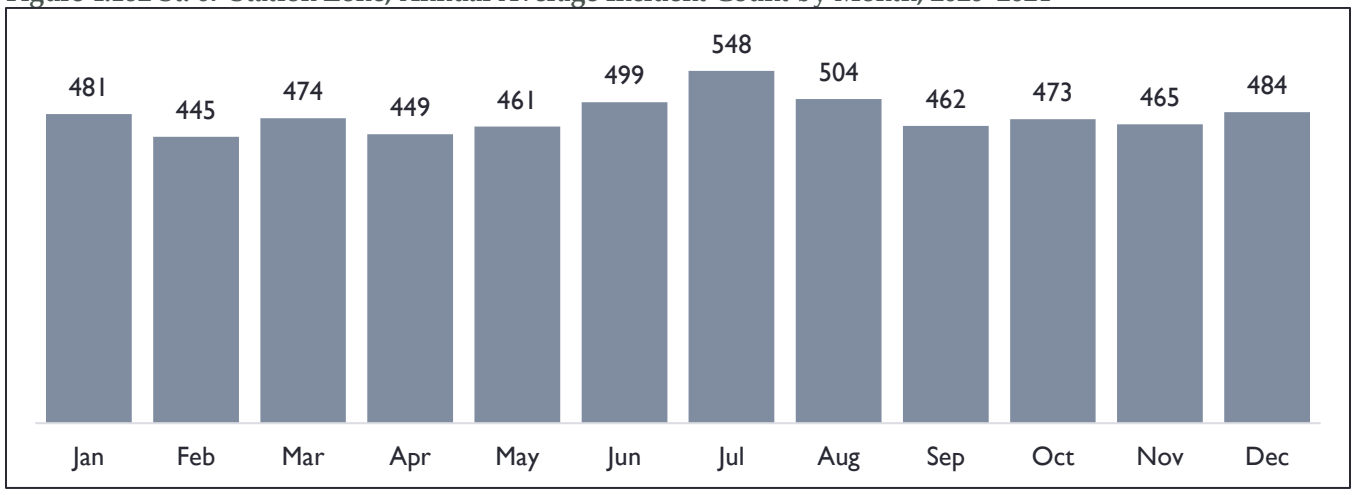


Figure 4.183 St. 67 Station Zone, Annual Average Incident Count by Day of Week, 2020–2024

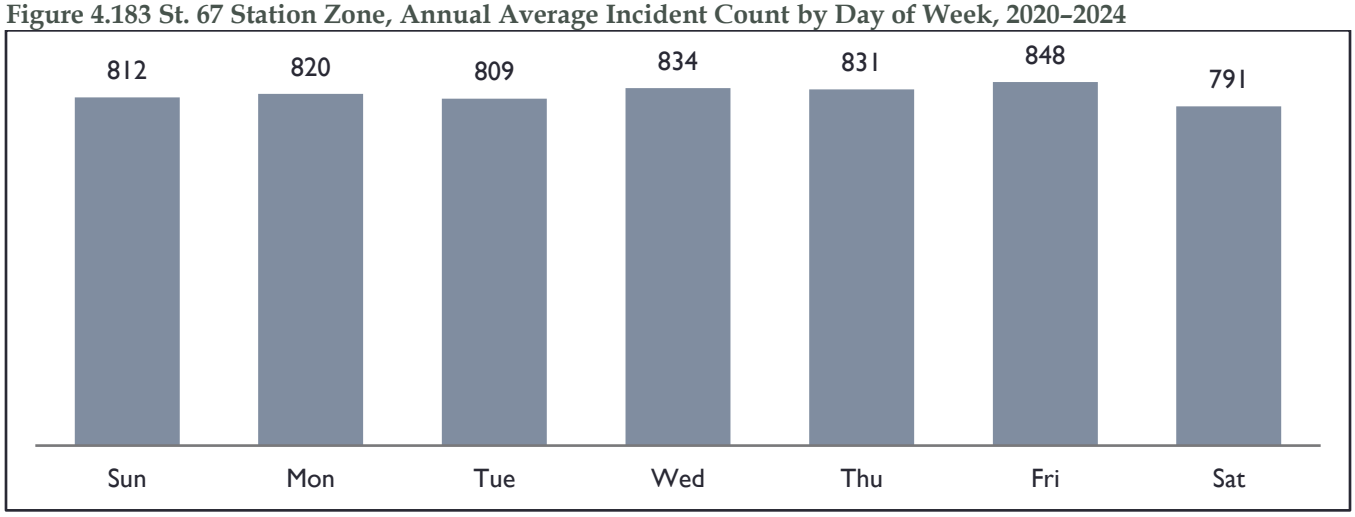


Figure 4.184 St. 67 Station Zone, Annual Average Incident Count by Hour of Day, 2020–2024

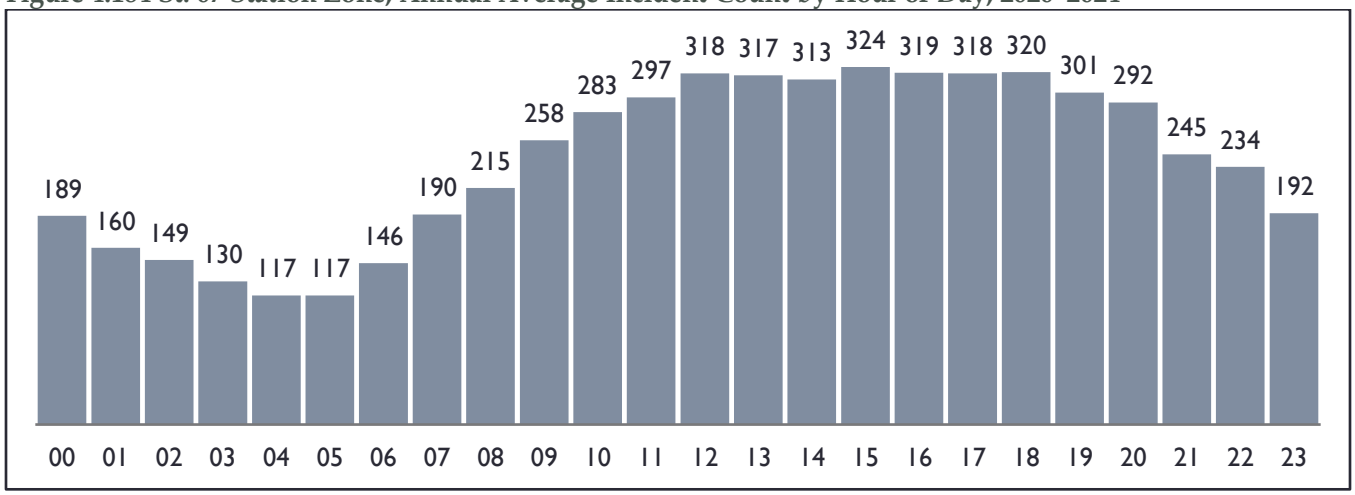
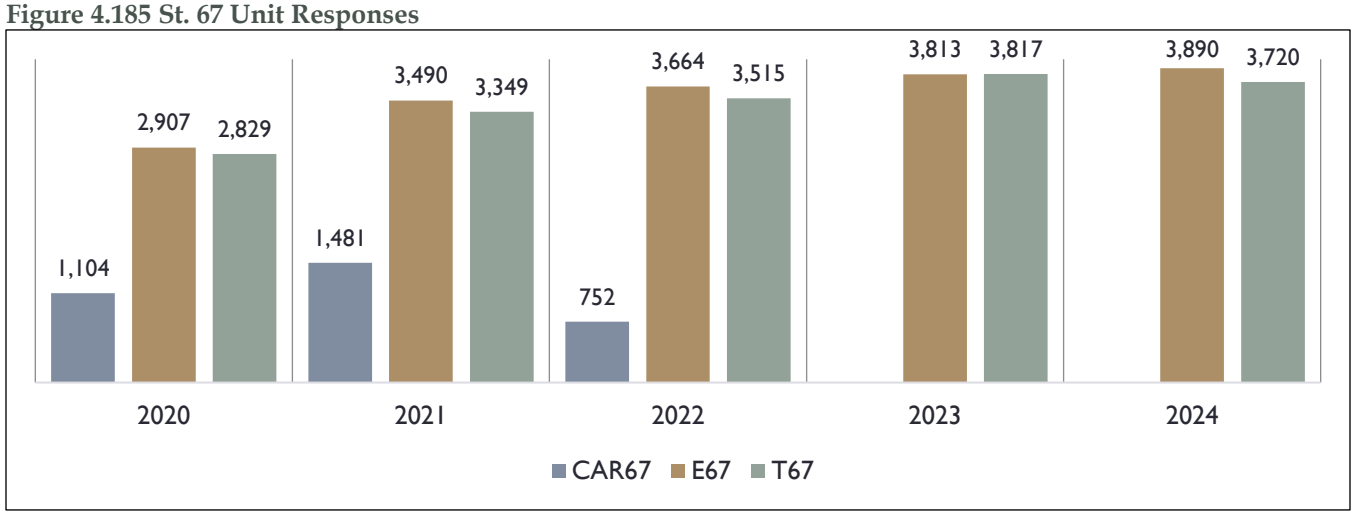


Figure 4.185 St. 67 Unit Responses



Station 68, Bethany

Station 68, located on the corner of NW Evergreen Street and Thompson Road, was originally constructed in 1970 as a residential home and completely rebuilt and relocated in 2014. The 10,540-square-foot station houses a total of 12 full-time personnel (four personnel on each 24-hour, three-shift schedule). The crew responds to incidents primarily utilizing Truck 68 and can also respond in Engine 68 when needed. In addition to responses in the station zone, the truck serves as a resource for the District's entire service area. At least one crewmember per shift is an EMT-Paramedic capable of providing advanced life support (ALS) treatment.

Station 68 has a Community Room used by a wide variety of neighborhood and community groups, as well as TVF&R personnel for training and meetings.

The 5.5 square miles of Station 68's station zone includes primarily unincorporated territory in Washington and Multnomah counties (Oak Hills and Bethany).

Figure 4.186 St. 68 Station Zone, Incident Density

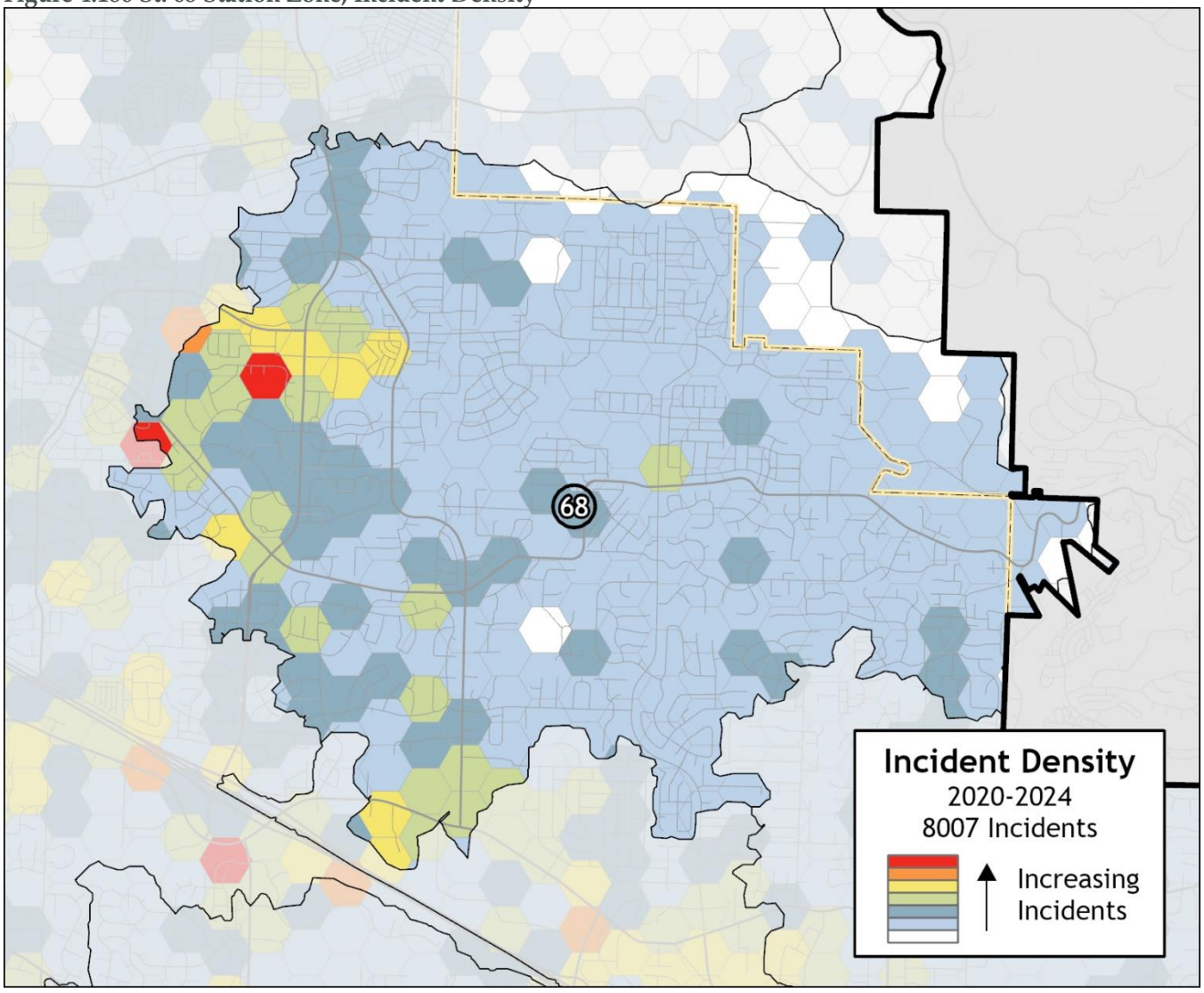


Figure 4.187 St. 68 Station Zone, Incident Count

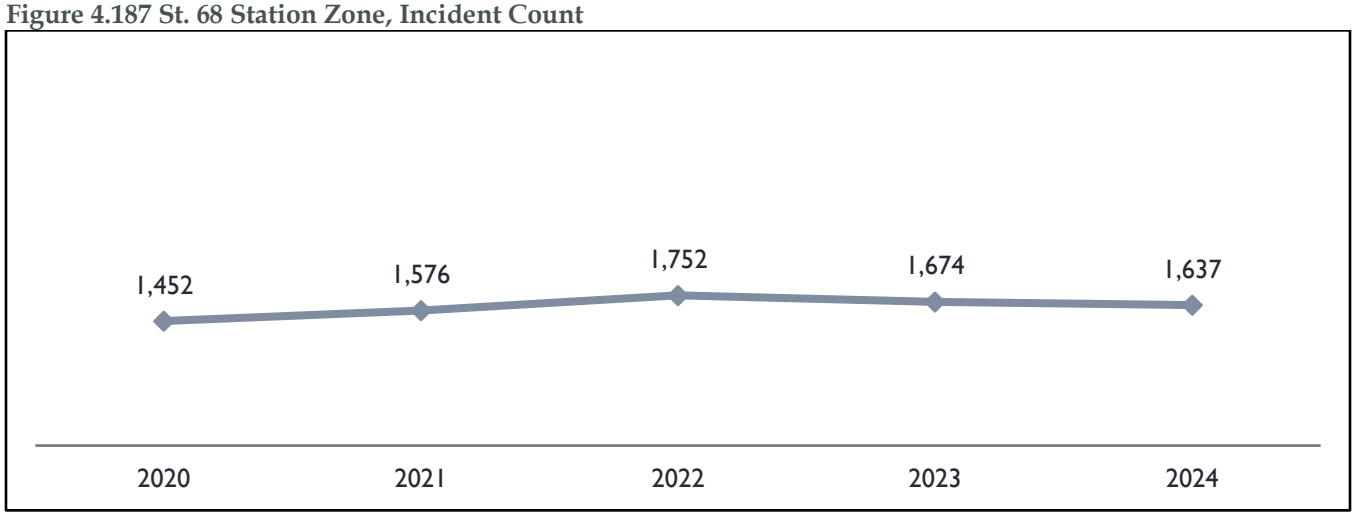


Figure 4.188 St. 68 Station Zone, Incident Summary

NFIRS Series	2020		2021		2022		2023		2024	
	Disp Call Type	*Sit Found*	*Disp Call Type*	*Sit Found*	*Disp Call Type*	*Sit Found*	*Disp Call Type*	*Sit Found*	*Disp Call Type*	*Sit Found*
Fire, Explosion	107	18	93	26	125	17	102	15	110	26
Overpressure	0	1	0	0	0	0	0	0	0	0
EMS/Rescue Call	1,160	1,036	1,298	1,248	1,451	1,389	1,388	1,319	1,327	1,159
Hazardous Condition	7	32	13	20	14	30	5	30	14	38
Service Call	178	101	172	41	162	50	179	47	186	52
Good Intent Call	0	164	0	144	0	155	0	154	0	252
False Call	0	99	0	96	0	110	0	108	0	110
Natural Condition	0	1	0	0	0	0	0	0	0	0
Other Situation	0	0	0	1	0	1	0	1	0	0
Total	1,452		1,576		1,752		1,674		1,637	

Figure 4.189 St. 68 Station Zone, Annual Average Incident Count by Month, 2020–2024

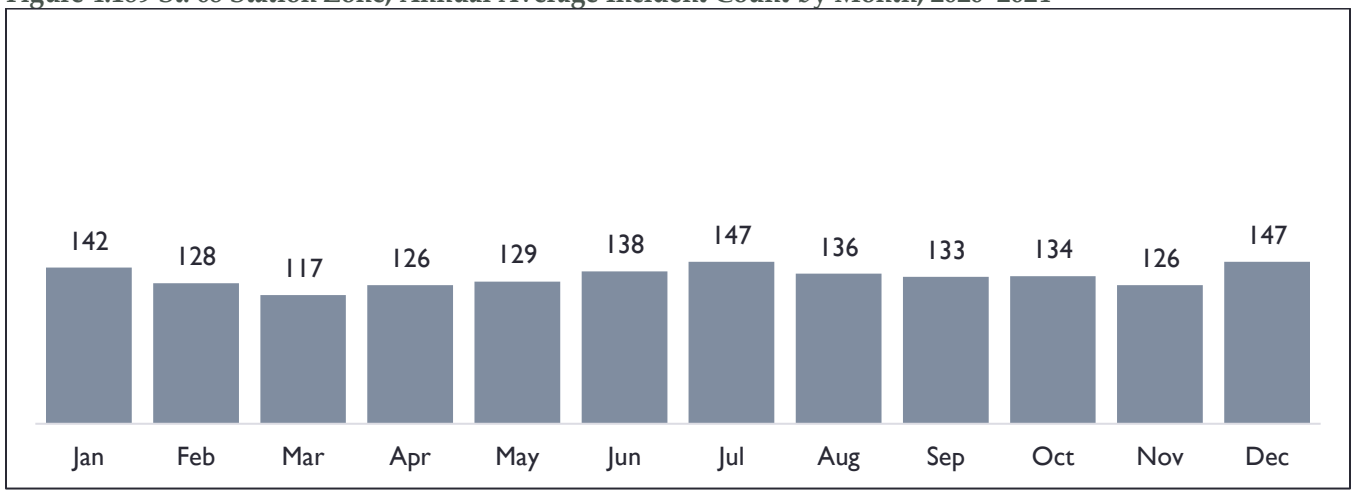


Figure 4.190 St. 68 Station Zone, Annual Average Incident Count by Day of Week, 2020–2024

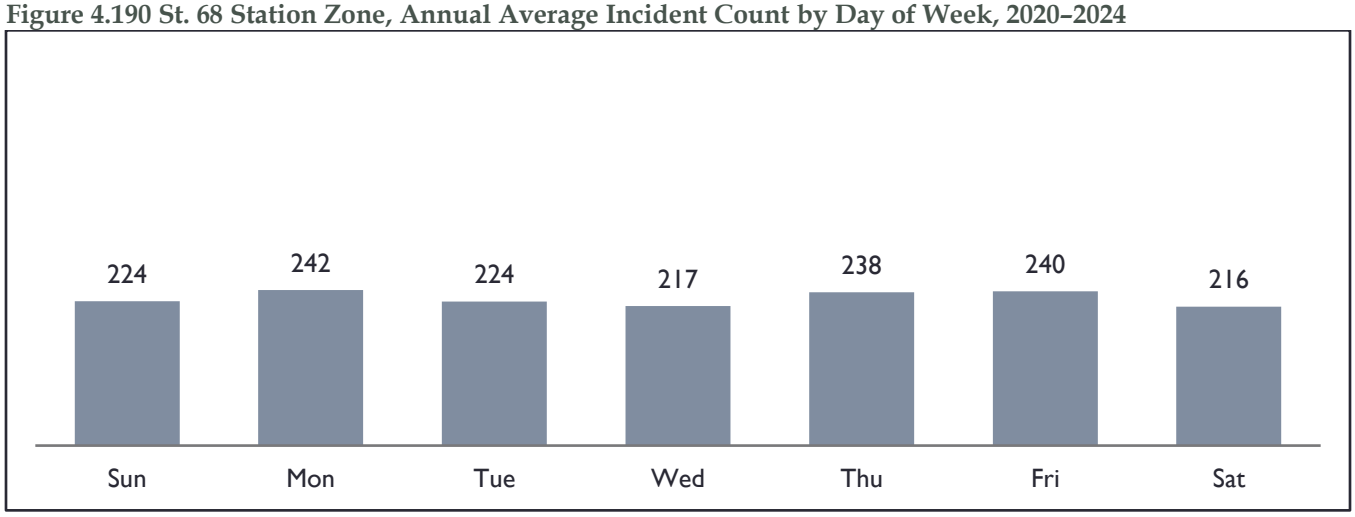


Figure 4.191 St. 68 Station Zone, Annual Average Incident Count by Hour of Day, 2020–2024

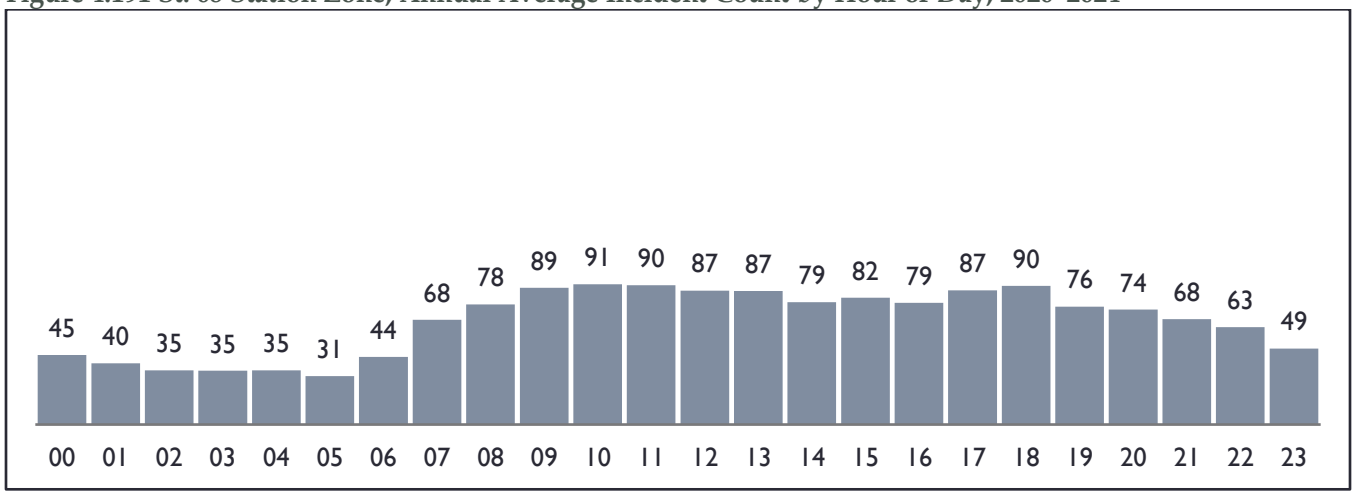
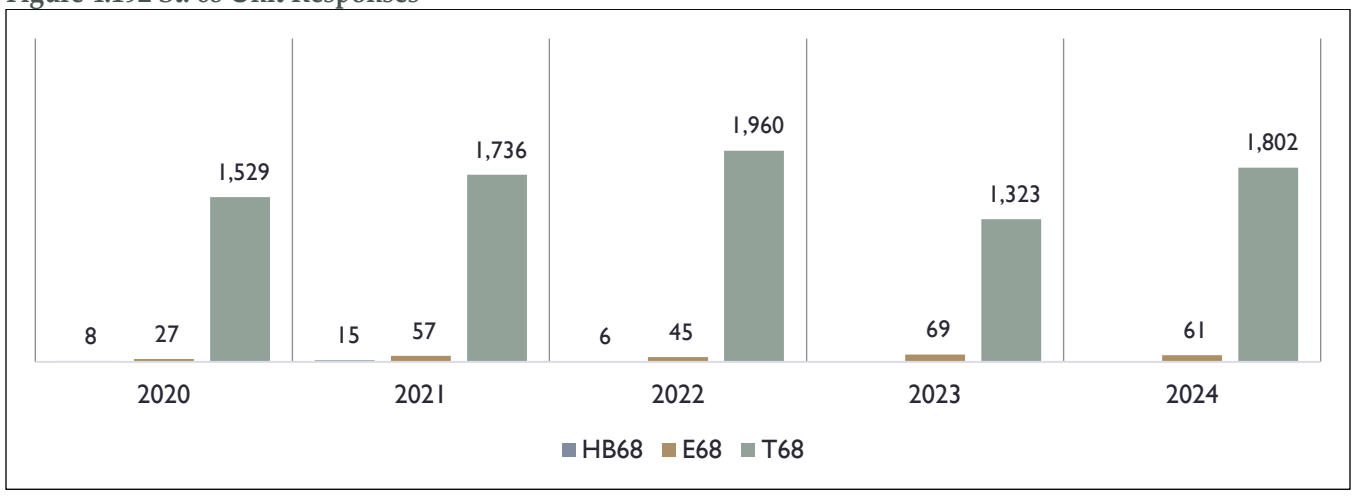


Figure 4.192 St. 68 Unit Responses



Station 69, Cooper Mountain

Station 69, located on SW 175th Avenue near the top of Cooper Mountain, was constructed in 1981 and completely remodeled in 2017. The 7,878-square-foot station houses a total of 12 full-time personnel (four personnel on each 24-hour, three-shift schedule). The crew responds to incidents primarily utilizing Engine 69 and can also respond in Heavy Brush 69 when needed. At least one crewmember per shift is an EMT-Paramedic capable of providing advanced life support (ALS) treatment.

Personnel at this station also assist in the management of vacancy scheduling for all stations throughout TVF&R.

The 13.2 square miles of Station 69's station zone includes unincorporated Washington County and portions of west and southwest Beaverton.

Figure 4.193 St. 69 Station Zone, Incident Density

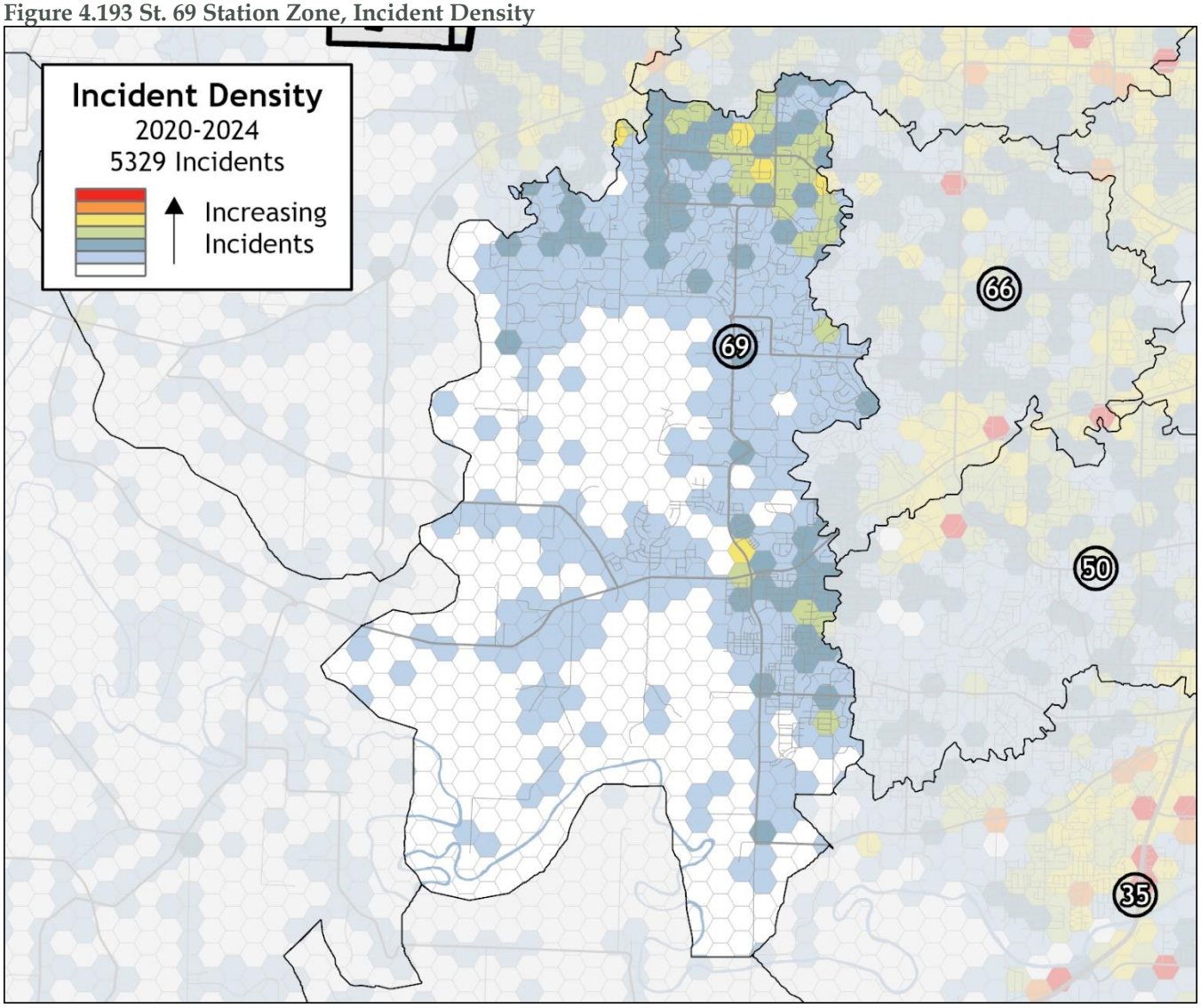


Figure 4.194 St. 69 Station Zone, Incident Count

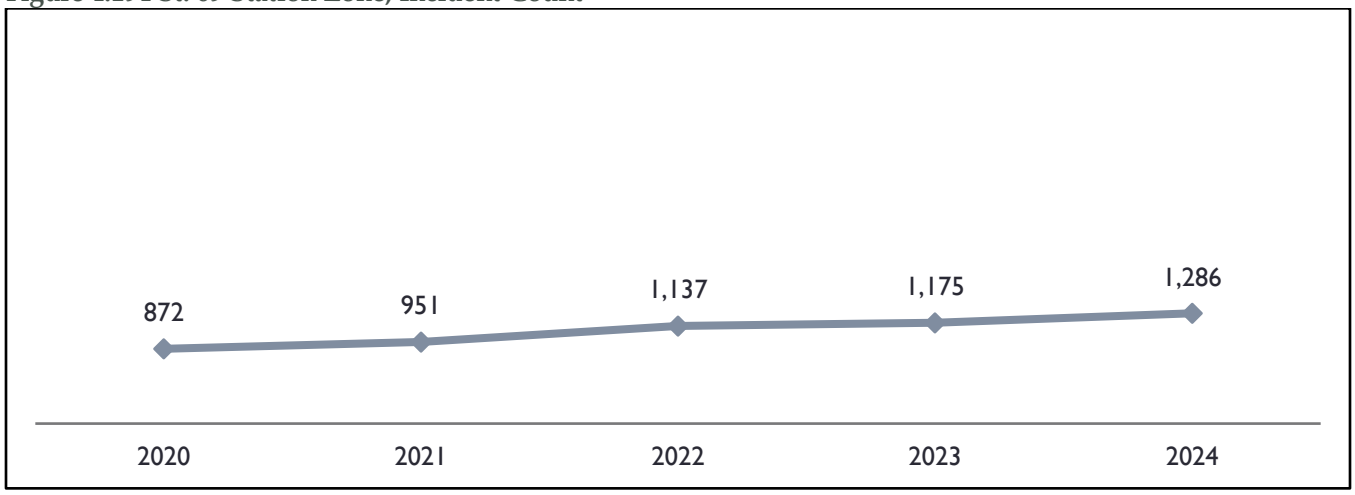


Figure 4.195 St. 69 Station Zone, Incident Summary

NFIRS Series	2020		2021		2022		2023		2024	
	Disp Call Type	*Sit Found*	*Disp Call Type*	*Sit Found*	*Disp Call Type*	*Sit Found*	*Disp Call Type*	*Sit Found*	*Disp Call Type*	*Sit Found*
Fire, Explosion	79	17	85	17	83	21	77	20	117	19
Overpressure	0	1	0	1	0	0	0	0	0	0
EMS/Rescue Call	694	572	759	661	920	803	969	843	1,039	877
Hazardous Condition	4	28	12	37	9	33	16	35	6	38
Service Call	95	47	95	43	125	64	113	66	124	73
Good Intent Call	0	156	0	125	0	143	0	145	0	190
False Call	0	51	0	67	0	72	0	65	0	88
Natural Condition	0	0	0	0	0	0	0	0	0	0
Other Situation	0	0	0	0	0	1	0	1	0	1
Total	872		951		1,137		1,175		1,286	

Figure 4.196 St. 69 Station Zone, Annual Average Incident Count by Month, 2020–2024

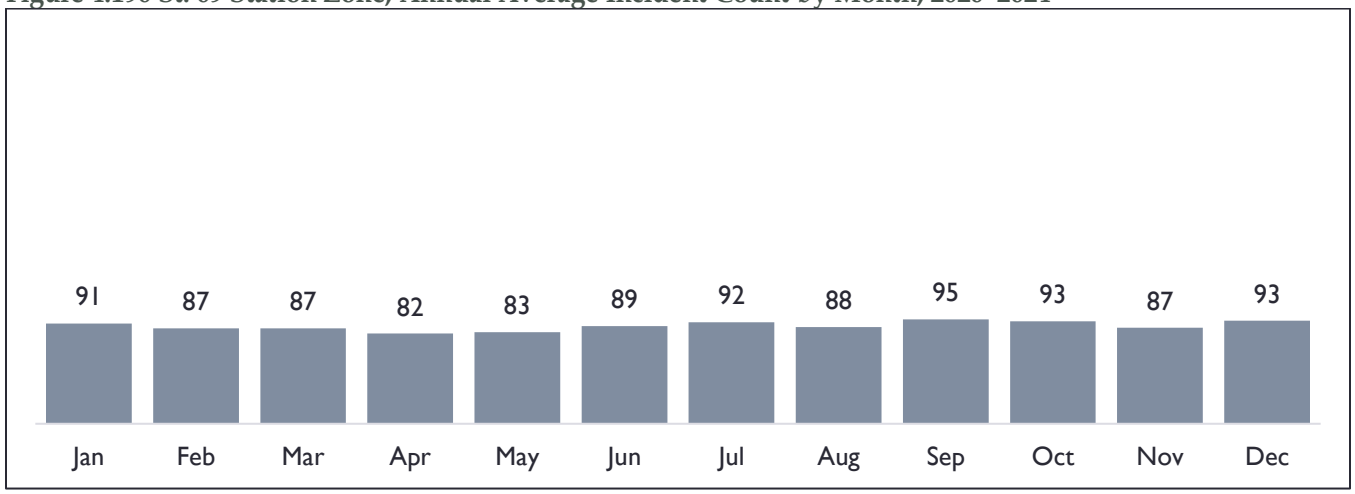


Figure 4.197 St. 69 Station Zone, Annual Average Incident Count by Day of Week, 2020–2024

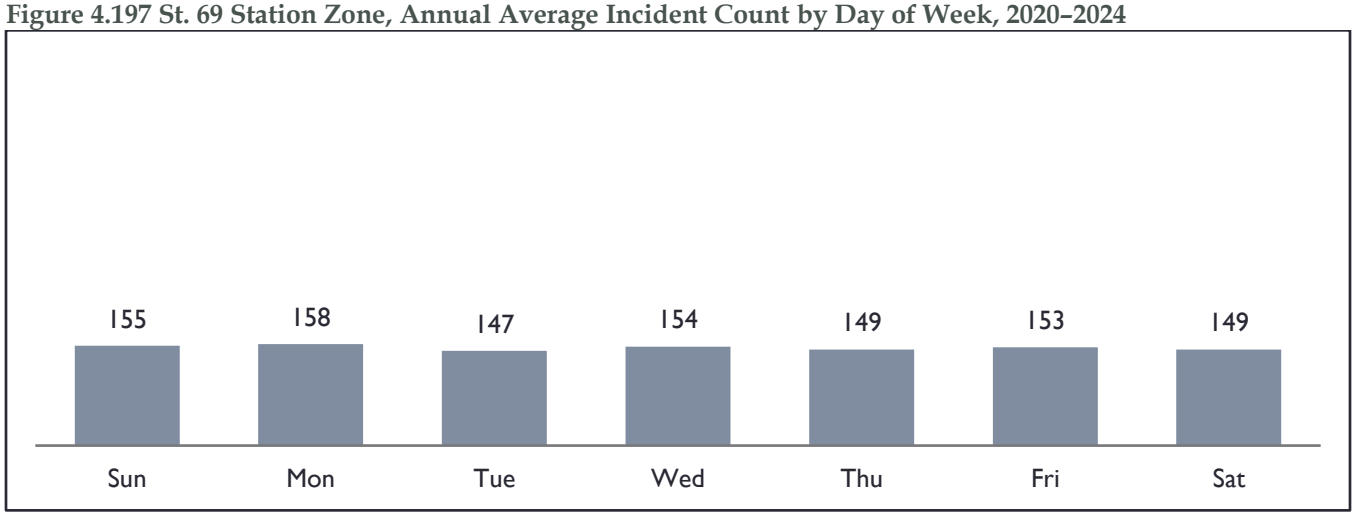


Figure 4.198 St. 69 Station Zone, Annual Average Incident Count by Hour of Day, 2020–2024

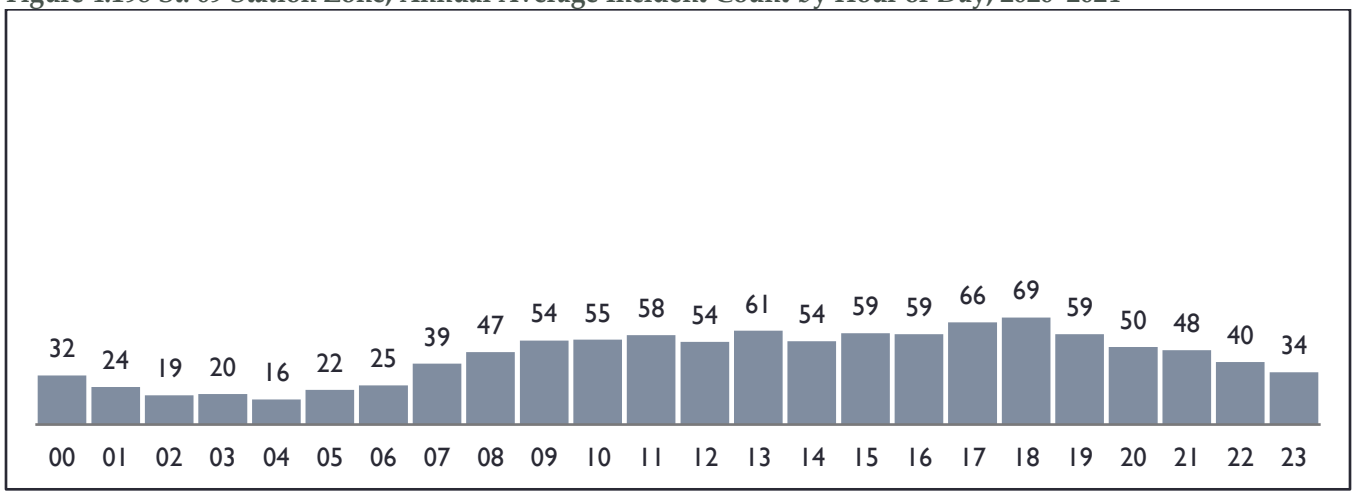
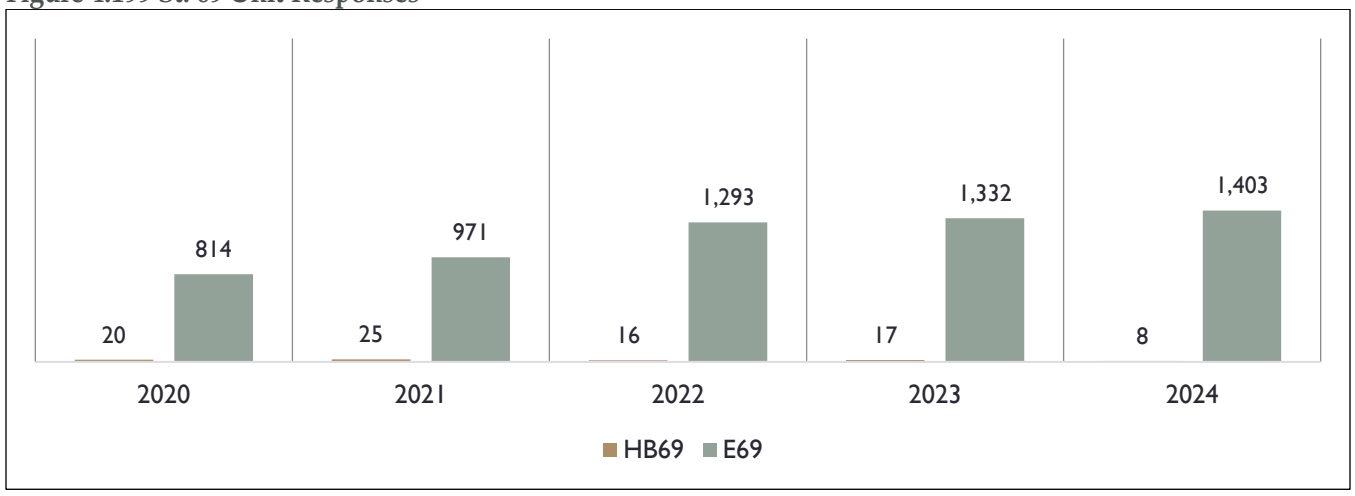


Figure 4.199 St. 69 Unit Responses



Station 70, Raleigh Hills

Station 70, located on SW Beaverton Hillsdale Highway and SW Laurelwood Avenue, was constructed in 2015. This 1,951-square-foot station staffs a total of six full-time personnel. Two Firefighter/EMT-Paramedics (on each 24-hour, three-shift schedule) respond to incidents utilizing Squad 70.

The 3.4 square miles of Station 70's station zone includes the Raleigh Hills neighborhood as well as portions of west Beaverton, and the Raleigh Hills neighborhood.

Figure 4.200 St. 70 Station Zone, Incident Density

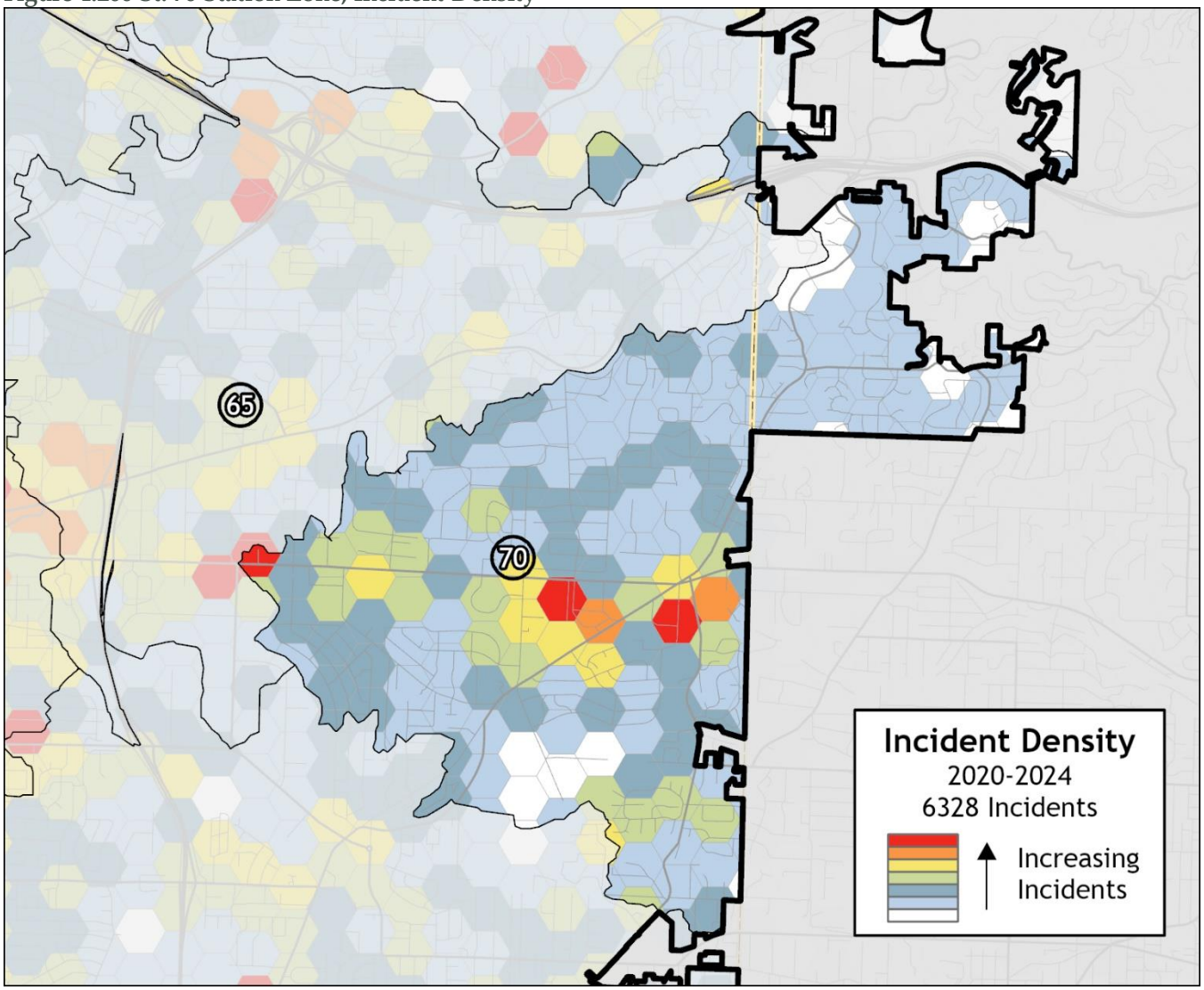


Figure 4.201 St. 70 Station Zone, Incident Count

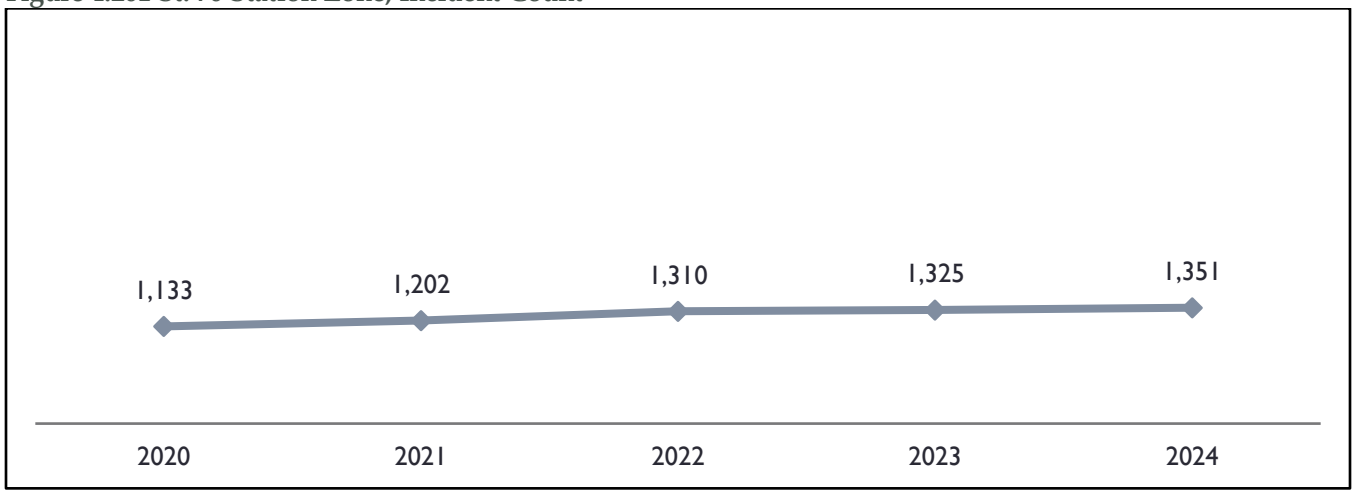


Figure 4.202 St. 70 Station Zone, Incident Summary

NFIRS Series	2020		2021		2022		2023		2024	
	Disp Call Type	*Sit Found*	*Disp Call Type*	*Sit Found*	*Disp Call Type*	*Sit Found*	*Disp Call Type*	*Sit Found*	*Disp Call Type*	*Sit Found*
Fire, Explosion	87	14	120	22	104	18	106	32	127	22
Overpressure	0	0	0	0	0	0	0	0	0	0
EMS/Rescue Call	944	811	946	876	1,040	992	1,065	999	1,066	983
Hazardous Condition	1	26	4	21	15	36	6	30	8	30
Service Call	101	83	132	56	151	45	148	52	150	52
Good Intent Call	0	121	0	156	0	158	0	143	0	156
False Call	0	78	0	71	0	60	0	67	0	96
Natural Condition	0	0	0	0	0	0	0	0	0	11
Other Situation	0	0	0	0	0	1	0	2	0	1
Total	1,133		1,202		1,310		1,325		1,351	

Figure 4.203 St. 70 Station Zone, Annual Average Incident Count by Month, 2020–2024

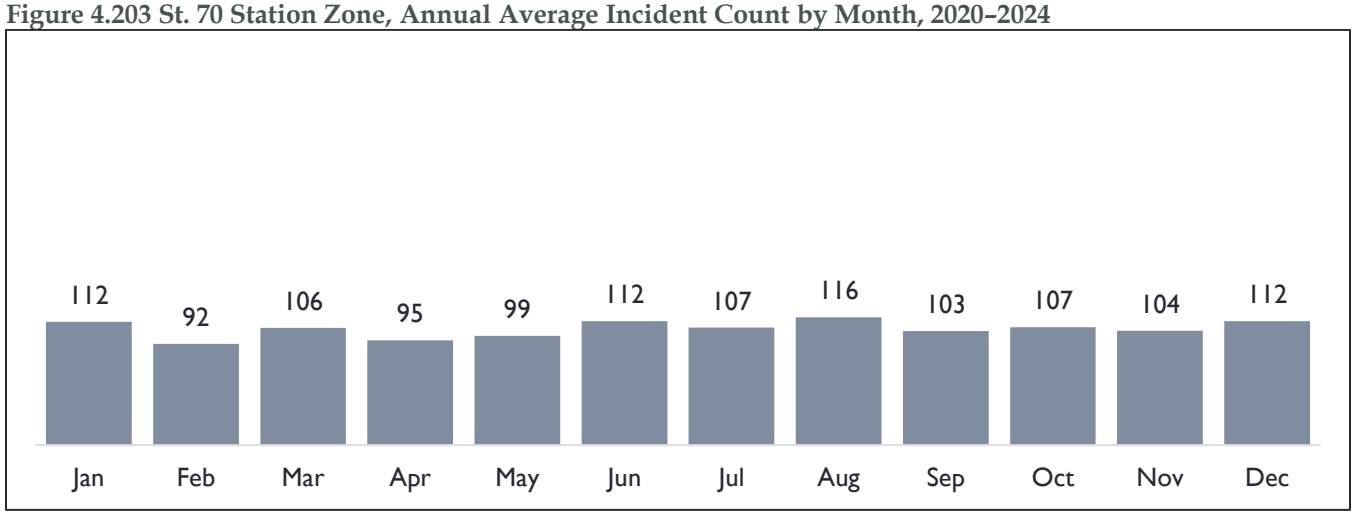


Figure 4.204 St. 70 Station Zone, Annual Average Incident Count by Day of Week, 2020–2024

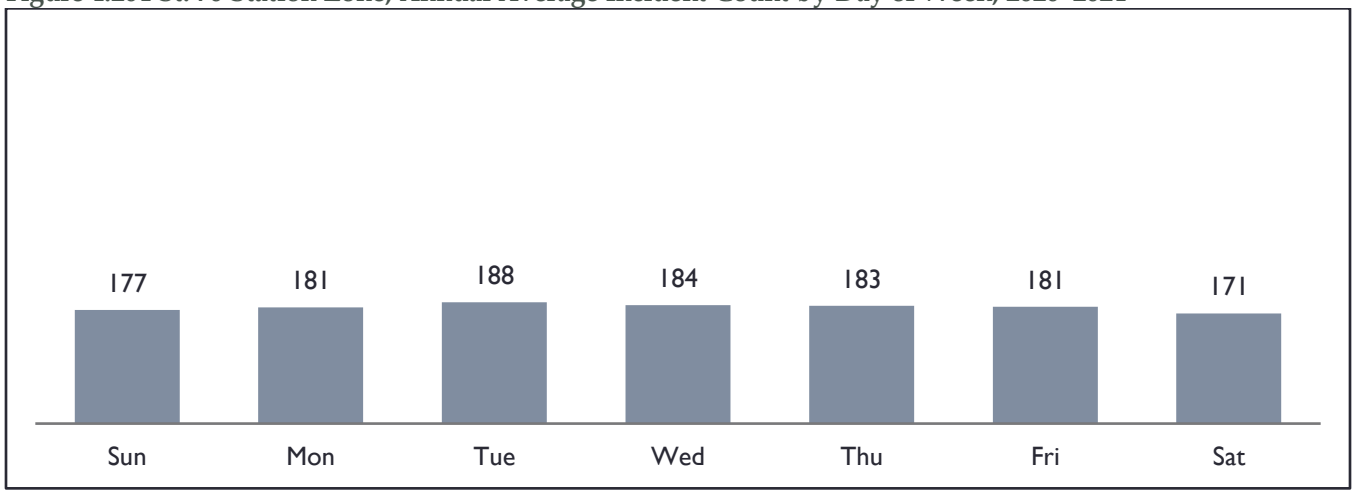


Figure 4.205 St. 70 Station Zone, Annual Average Incident Count by Hour of Day, 2020–2024

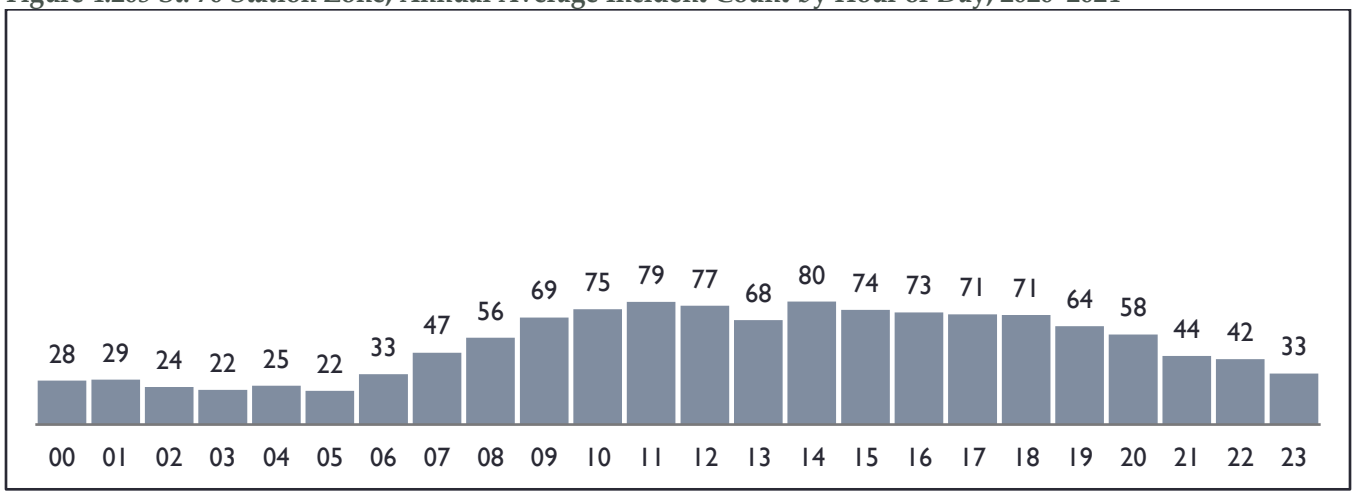
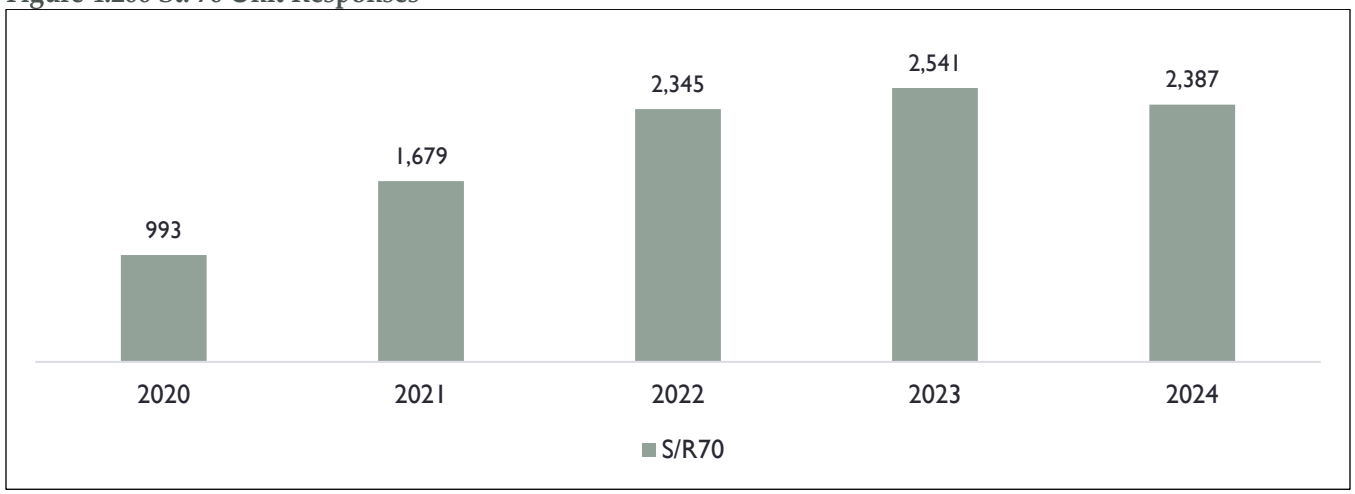


Figure 4.206 St. 70 Unit Responses



SECTION 5: PRE-PLANNING

TVF&R uses mobile data computers (MDCs) installed in all frontline apparatus to assist with incident response. MDCs provide crewmembers with an electronic mapping system tied to CAD, in conjunction with digital pre-incident plans (pre-plans). This electronic system is used as an aid to the response process and is backed up by "offline" response aids should the network system go down. Pre-plans show the footprints and dimensions of prioritized individual properties, along with standardized symbols and building features. They aid firefighters in deploying resources and conducting enroute analysis of the structure to which they are responding.

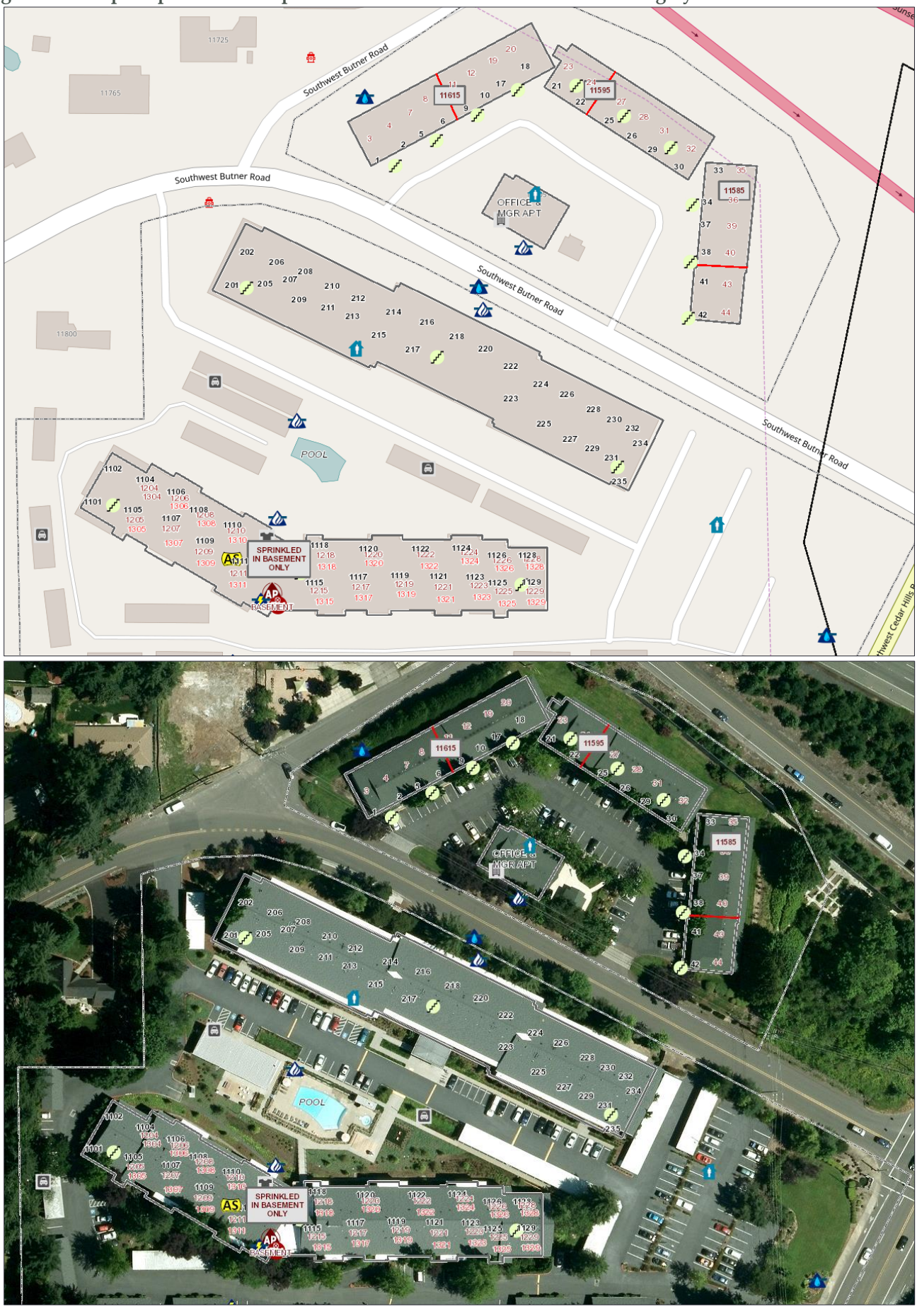
Pre-plans are not created for every property in the District. Pre-plan priorities are based on the occupancy types that pose a risk to firefighters first and general life safety second. This may include commercial, industrial, institutional properties, as well as some target hazards identified by the first-due company. In some cases, firefighters may not have access to properties to develop a pre-plan (e.g., property owner refuses access or information). Pre-plans are created, reviewed, and revised by priority and are subject to the availability of resources and budget funding; therefore, pre-plans may not always be current.

Pre-plans are accessible via the District's Enterprise Geospatial Information System (EGIS). EGIS is available to crewmembers via apparatus mobile devices and the MDC's internet browser. As crews respond to an incident and zoom in to the incident address, pre-plan features for routing, hazards, and ultimately the building information appear.

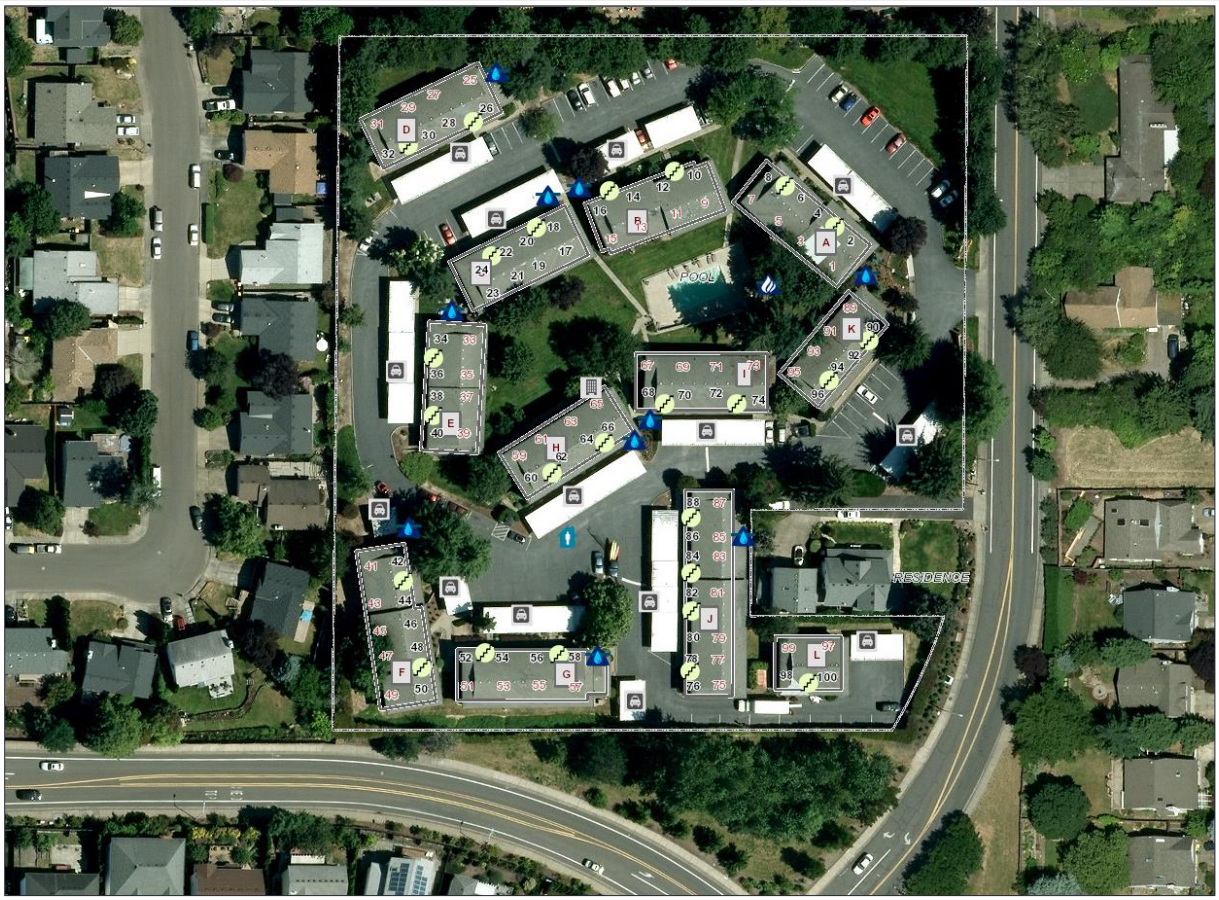
Pre-plans can be edited in the field or back at the station by firefighters directly. Any additions or revisions are automatically saved and made available instantaneously to all other users in EGIS. This geospatial format also allows firefighters the ability to turn on/off other layers of information available in the system (e.g., topography, aerial, responsible party information, traffic).

TVF&R has also administered EGIS for all fire departments in Washington, Clackamas, and Columbia Counties since the three counties began using the same CAD system. This regional program is referred to as REGIS. The program provides crews with the ability to view CAD narrative, unit AVL, and structure pre-plans of the neighboring agency when they respond to automatic-aid incidents. The District administers logins and training for all users in the system, while each county fire defense board assigns two chief officers to sit on a REGIS Steering Committee to help guide future development of the system and to ensure standardization in all aspects of REGIS.

Figure 5.1 Sample Apartment Complex Pre-Plans with and without Aerial Imagery




Southwest Westbury Terrace
Southwest 135th Avenue
Southwest Walnut Street
Southwest 135th Avenue
POOL
RESIDENCE
Castle Hill
12010
12001
12032
12023
12054
12045
12076
12067
12098
12087
12112
12154
12196
12218
12103
13733


POOL
RESIDENCE

SECTION 6: FIRE RISK

Conducting a risk assessment is not only complex, but unique at the same time. Risk assessment considers the specific densities of population, zoning, geography, call types, call density, politics, finance, transportation, and even natural occurring events. The one constant in risk assessment is the equation that exists between the possible consequences that could occur and the probability of it occurring. The first assessment of risk is based upon population density. In general, where there are people, there is risk. All the population density analysis is based upon the most current census data available.

An additional assessment for fire risk is based upon zoning classifications. Each of these nine categories has very specific criteria that have been evaluated by command officers to assess the risk of operating within each of the zoning classifications. With each revision of the risk assessment process, a greater level of granularity will be developed within each zoning classification. As an example, the zoning classification of Single-Family Residential may get further broken down by the size of the structure, the availability of a municipal water source, or the proximity to a depth of fire service resource.

Risk is also based upon probability. Retrospective performance data is reviewed to understand the frequency with which units have responded to any of the designated zones (Figures 6.20 and 6.21). The more frequent the response to a designated zone, the higher the probability some form of consequence is occurring within that designated zone. As previously mentioned, greater granularity in probability analysis will continue as the process (amount of data to analyze) matures.

COMMERCIAL ZONING

TVF&R's service area includes a full range of commercial occupancies and businesses. Generally, these include small- to large-scale commercial occupancies, low- to mid-rise office buildings, and retail and service zones.

Occupancy Types: Most of these facilities can be described as banks, medical clinics/offices, professional services (architects, attorneys, etc.), and retail or wholesale stores; therefore, due to larger building sizes and the assembly of many people, there is increased impact to operations in this zoning classification.

Construction Types: Construction may include combustible and heavy timber construction, which at times requires a larger resource commitment; therefore, there is increased impact to operations in this zoning classification.

Structure Heights: Includes both single- and multi-story buildings requiring the use of aerial apparatus and multiple ground ladders; therefore, there is increased impact to operations in this zoning classification.

Access to Structures: Typical commercial occupancies have more than adequate access to the physical structure. They are commonly surrounded by large parking areas allowing for ease of apparatus access, staging, egress, and fireground operations; therefore, there is minimal impact to operations in this zoning classification.

Exposures: Based upon the configuration of commercial occupancies and the parking designation areas required by code, exposures will likely be limited within a complex such as a strip mall or business plaza; therefore, there is moderate impact to operations in this zoning classification.

Water Supply: Municipal water supplies are readily available to commercial occupancies, and most buildings have an ISO rating of Class 2 or 3; therefore, there is minimal impact to operations in this zoning classification.

Built-In Protections: Many of the commercial occupancies have some form of built-in protection ranging from area separation and firewalls to sprinkler and fire alarm systems; therefore, there is minimal impact to operations in this zoning classification.

Rescue Difficulty: Due to multiple access points and the larger size, height, and occupancy load of commercial buildings, rescue scenarios and evacuations may prove more difficult; therefore, there is increased impact to operations in this zoning classification.

Special Considerations: Many of the commercial occupancies house manufacturing equipment, so additional deployment resources may be required to mitigate incident severity; therefore, there is increased impact to operations in this zoning classification.

Natural Feature Impacts: Many of the commercial occupancies are located near natural features such as watersheds and wetlands. Despite this proximity, the natural features do not pose significant negative impact to firefighting operations, although coordination with other agencies such as the Department of Environmental Quality (DEQ) and water purveyors may be required if a large fire occurs; therefore, there is minimal impact to operations in this zoning classification.

Transportation Impacts: Most of the commercial occupancies are easily located off major thoroughfares or main arterials; therefore, there is minimal impact to operations within this zoning classification, aside from predictable traffic movement.

Geo-Political Impacts: TVF&R serves multiple municipal and county governments with different building officials, local resources, and political climates; therefore, there is increased impact to operations from a geo-political standpoint. Further, a major incident at a commercial occupancy may have long-term economic impacts for the facility, which can adversely affect assessed valuation.

Figure 6.1 Fire Risk Impact Contribution by Category, Commercial Zoning

Category	No Impact *0*	Minimal Impact *1–3*	Moderate Impact *4–7*	High Impact *8–10*
Occupancy Types			7	
Construction Types			4	
Structure Heights			5	
Access to Structure		2		
Exposures			4	
Water Supply		2		
Built-In Protection			4	
Rescue Difficulty			5	
Special Considerations			4	
Natural Features		3		
Transportation Impacts			4	
Geo-Political Impacts			7	
Sub-Total	0	7	44	0

Figure 6.2 Fire Risk Impact Rating, Commercial Zoning

No Impact *0*	Minimal Impact *1–39*	**51** Moderate Impact *40–89*	High Impact *90–120*

Static Impact Statement, Commercial Zoning

The commercial occupancies zoning classification is scattered across Tualatin Valley Fire & Rescue's service area. Based upon the factors stated above, this zoning classification has a moderate impact rating.

INDUSTRIAL ZONING

TVF&R's service area includes industrial areas that permit varied activity. This includes bottling, light and heavy manufacturing, processing, fabrication, finishing, and distribution. Additionally, this zone will include chemical and hazardous materials processing, which may impact health, property and the environment.

Occupancy Types: Industrial zone occupancies can be comprised of light and heavy industrial manufacturing, processing, generation, or storage of materials that constitute a physical or health hazard. Additional light and moderate industrial uses include food processing, construction machinery, printing and publishing, woodworking, metal products, and high-piled storage; therefore, there is a high impact for this zoning classification.

Construction Types: The industrial occupancies are constructed with non-combustible, combustible, and heavy timber materials, which at times, require a larger resource commitment; therefore, there is an increased impact for this zoning classification.

Structure Heights: Industrial occupancies are typically housed in factory or warehouse settings that can exceed thirty feet in height. Additionally, there can be high-rack storage, large industrial equipment, and processes, which can create a disorienting environment. Use of aerial apparatus and multiple ground ladders is needed for operations in this zoning classification; therefore, there is a high impact to operations in this zoning classification.

Access to Structures: Typical industrial occupancies have adequate access to the physical structures, but there may be multiple buildings within a campus, as well as many different entrances, which can create confusion during small and large incidents. Industrial occupancies are commonly surrounded by large parking areas allowing for ease of apparatus access, staging, egress, and fire ground operations; therefore, there is moderate impact to operations in this zoning classification.

Exposures: Based upon the configuration of industrial occupancies and the parking designation areas required by code, exposures will be limited within a facility or campus; therefore, there is moderate impact to operations in this zoning classification.

Water Supply: Municipal water supplies are readily available to industrial occupancies, and most buildings have an ISO rating of Class 2 or 3; therefore, there is minimal impact to operations in this zoning classification.

Built-In Protections: Most of the industrial occupancies have built-in protection ranging from area separation and firewalls to sprinkler and fire alarm systems; therefore, there is minimal impact to operations in this zoning classification.

Rescue Difficulty: Due to multiple access points and the larger size, height, occupancy load, and hazardous materials potential of industrial buildings, rescue scenarios and evacuations may prove difficult; therefore, there is moderate impact to operations in this zoning classification.

Special Considerations: Nearly all the industrial occupancies house manufacturing equipment and hazardous materials, so additional deployment of operational, mutual aid, and specialty team resources may be required to mitigate incident severity; therefore, there is increased impact to operations in this zoning classification.

Natural Feature Impacts: Some of the industrial occupancies are located near natural features such as watersheds and wetlands. The potential proximity to natural features does not pose significant negative impact to firefighting operations, although coordination with other agencies such as DEQ and

water purveyors may be required if a large fire occurs; therefore, there is moderate impact to operations in this zoning classification.

Transportation Impacts: All the industrial occupancies are easily located off major thoroughfares or main arterials; therefore, there is minimal impact to operations within this zoning classification, aside from predictable traffic movement.

Geo-Political Impacts: Tualatin Valley Fire & Rescue serves multiple municipal and county governments with different building officials, local resources, and political climates; therefore, there is increased impact to operations from a geo-political standpoint. Further, a major incident at an industrial occupancy may have long-term economic impacts for the facility, which can adversely affect assessed valuation.

Figure 6.3 Fire Risk Impact Contribution by Category, Industrial Zoning

Category	No Impact *0*	Minimal Impact *1–3*	Moderate Impact *4–7*	High Impact *8–10*
Occupancy Types				8
Construction Types			6	
Structure Heights				8
Access to Structure			6	
Exposures			5	
Water Supply		2		
Built-In Protection			4	
Rescue Difficulty			7	
Special Considerations			6	
Natural Features		3		
Transportation Impacts		3		
Geo-Political Impacts			7	
Sub-Total	0	8	41	16

Figure 6.4 Fire Risk Impact Rating, Industrial Zoning

No Impact *0*	Minimal Impact *1–39*	**65** Moderate Impact *40–89*	High Impact *90–120*

Static Impact Statement, Industrial Zoning

The industrial occupancies zoning classification is scattered across Tualatin Valley Fire & Rescue's service area. Based upon the factors stated above, this zoning classification has a moderate impact rating.

MIXED-USE EMPLOYMENT ZONING

TVF&R's service area includes mixed-use employment zones that encompass businesses such as light industrial, office, retail, and warehouses and are incorporated into business park complexes or housed in shell buildings.

Occupancy Types: Mixed-use employment occupancies include banks, medical clinics/offices, professional services (architects, attorneys, etc.), retail/wholesale stores, and salesrooms with larger building sizes and the assembly of many people; therefore, there is moderate impact to operations in this zoning classification.

Construction Types: Mixed-use employment occupancies include combustible and heavy timber construction, which at times, require a larger resource commitment; therefore, there is moderate impact to operations in this zoning classification.

Structure Heights: Mixed-use employment occupancies include both single- and multi-story buildings, which require the use of aerial apparatus and multiple ground ladders; therefore, there is minimal impact to operations in this zoning classification.

Access to Structures: Typical mixed-use employment occupancies have more than adequate access to the physical structures. They are commonly surrounded by large parking areas allowing for ease of apparatus access, egress, staging, and fire ground operations; therefore, there is minimal impact to operations in this zoning classification.

Exposures: Based upon the configuration of mixed-use employment occupancies and the parking designation areas required by code, exposures will be limited within a complex such as a strip mall or business plaza; therefore, there is minimal impact to operations in this zoning classification.

Water Supply: Municipal water supplies are readily available to mixed-use employment occupancies, and most buildings have an ISO rating of Class 2 or 3; therefore, there is minimal impact to operations in this zoning classification.

Built-In Protections: Many of the mixed-use employment occupancies have some form of built-in protection ranging from area separation and firewalls to sprinkler and fire alarm systems; therefore, there is minimal impact to operations in this zoning classification.

Rescue Difficulty: Due to multiple access points and the larger size, height, and occupancy load of mixed-use employment buildings, rescue scenarios and evacuations may prove difficult; therefore, there is moderate impact to operations in this zoning classification.

Special Considerations: Many of the mixed-use employment occupancies include light industrial and fabrication facilities, retail stores, and warehouse distribution centers, which may require additional deployment resources to mitigate incident severity; therefore, there is moderate impact to operations in this zoning classification.

Natural Feature Impacts: Many of the mixed-use employment occupancies are located near natural features such as watersheds and wetlands. Despite this proximity, the natural features do not pose significant negative impact to firefighting operations, although coordination with other agencies such as DEQ and water purveyors may be required if a large fire occurs; therefore, there is minimal impact to operations in this zoning classification.

Transportation Impacts: Most of the mixed-use employment occupancies are easily located off major thoroughfares or main arterials; therefore, there is minimal impact to operations within this zoning classification, aside from predictable traffic movement.

Geo-Political Impacts: Tualatin Valley Fire & Rescue serves multiple municipal and county governments with different building officials, local resources, and political climates; therefore, there is moderate impact to operations in this zoning classification.

Figure 6.5 Fire Risk Impact Contribution by Category, Mixed-Use Employment Zoning

Category	No Impact *0*	Minimal Impact *1–3*	Moderate Impact *4–7*	High Impact *8–10*
Occupancy Types			4	
Construction Types			4	
Structure Heights		3		
Access to Structure		3		
Exposures		3		
Water Supply		3		
Built-In Protection			4	
Rescue Difficulty			4	
Special Considerations			4	
Natural Features		3		
Transportation Impacts		3		
Geo-Political Impacts			4	
Sub-Total	0	18	24	0

Figure 6.6 Fire Risk Impact Rating, Mixed-Use Employment Zoning

No Impact *0*	Minimal Impact *1–39*	**42** Moderate Impact *40–89*	High Impact *90–120*

Static Impact Statement, Mixed-Use Employment Zoning

The mixed-use employment zoning classification is scattered across Tualatin Valley Fire & Rescue's service area. Based upon the factors stated above, this zoning classification has a moderate impact rating.

MIXED-USE RESIDENTIAL ZONING

TVF&R's service area includes mixed-use residential zones that have a high combination of commercial office and residential occupancies, including mixed uses in a single building.

Occupancy Types: Mixed-use residential occupancies include an array of multi-story commercial office and residential occupancies with a blend of combined ground-floor dining establishments, barbers, general mercantile, etc., and residential living spaces above; therefore, there is moderate impact to operations in this zoning classification.

Construction Types: Mixed-use residential occupancies include combustible and heavy timber construction, which at times, require a larger resource commitment; therefore, there is moderate impact to operations in this zoning classification.

Structure Heights: Mixed-use residential occupancies include both single- and multi-story buildings, which require the use of aerial apparatus and multiple ground ladders; therefore, there is moderate impact to operations in this zoning classification.

Access to Structures: Typical mixed-use residential occupancies have more than adequate access to the physical structures. They are commonly surrounded by large parking areas allowing for ease of apparatus access, staging, egress, and fire ground operations; therefore, there is minimal impact to operations in this zoning classification.

Exposures: Based upon the configuration of mixed-use residential occupancies and the parking designation areas required by code, exposures will be limited within a complex such as a strip mall or business plaza; therefore, there is minimal impact to operations in this zoning classification.

Water Supply: Municipal water supplies are readily available to mixed-use residential occupancies and most buildings have an ISO rating of Class 2 or 3; therefore, there is minimal impact to operations in this zoning classification.

Built-In Protections: Most of the mixed-use residential occupancies have some form of built-in protection ranging from area separation and firewalls to sprinkler and fire alarm systems. However, some of the older buildings have limited built-in protection and lack automatic sprinkler and/or fire alarm systems; therefore, there is moderate impact to operations in this zoning classification.

Rescue Difficulty: Due to limited access points in older buildings and the larger size, height, and occupancy load of mixed-use residential buildings, rescue scenarios and evacuations may prove difficult; therefore, there is moderate impact to operations in this zoning classification.

Special Considerations: Many of the mixed-use residential occupancies include a multi-story mix of commercial office and residential occupancies, including ground-floor dining establishments, barbers, general mercantile, etc., with residential living spaces above; therefore, there is moderate impact to operations in this zoning classification.

Natural Feature Impacts: Only a few of the mixed-use residential occupancies are located near natural features such as watersheds and wetlands. Despite this proximity, the natural features do not pose significant negative impact to firefighting operations, although coordination with other agencies such as DEQ and water purveyors may be required if a large fire occurs; therefore, there is minimal impact to operations in this zoning classification.

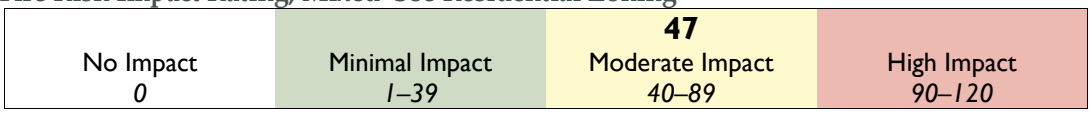
Transportation Impacts: Most of the mixed-use residential occupancies are easily located off major thoroughfares or main arterials; therefore, there is minimal impact to operations within this zoning classification, aside from predictable traffic movement.

Geo-Political Impacts: Tualatin Valley Fire & Rescue serves multiple municipal and county governments with different building officials, local resources, and political climates; therefore, there is increased impact to operations with this geo-political faction. Further, a major incident at a mixed-use residential occupancy may have long-term economic impacts for the facility, which can adversely affect assessed valuation; therefore, there is moderate impact to operations in this zoning classification.

Figure 6.7 Fire Risk Impact Contribution by Category, Mixed-Use Residential Zoning

Category	No Impact *0*	Minimal Impact *1–3*	Moderate Impact *4–7*	High Impact *8–10*
Occupancy Types			4	
Construction Types			4	
Structure Heights			4	
Access to Structure		3		
Exposures			4	
Water Supply			4	
Built-In Protection			4	
Rescue Difficulty			4	
Special Considerations			7	
Natural Features		2		
Transportation Impacts		3		
Geo-Political Impacts			4	
Sub-Total	0	8	39	0

Figure 6.8 Fire Risk Impact Rating, Mixed-Use Residential Zoning



Static Impact Statement, Mixed-Use Residential Zoning

The mixed-use residential occupancies zoning classification is scattered across Tualatin Valley Fire & Rescue's service area. Based upon the factors stated above, this zoning classification has a moderate impact rating.

MULTI-FAMILY RESIDENTIAL ZONING

Tualatin Valley Fire & Rescue's service area includes multi-family residential zones that vary in development sizes. This type of zone can have higher transient population and includes a limited number of retail commercial uses that serve the day-to-day needs of surrounding neighborhoods.

Occupancy Types: Tualatin Valley Fire & Rescue's multi-family residential occupancies include an array of townhouses, row homes, and multi-family units. This zone has a higher transient population, which increases the level of risk for fire incidents; therefore, there is moderate impact to operations in this zoning classification.

Construction Types: The multi-family residential occupancies include combustible and heavy timber construction, which at times, require a larger resource commitment; therefore, there is moderate impact to operations in this zoning classification.

Structure Heights: Multi-family residential occupancies include both single- and multi-story buildings, which require the use of aerial apparatus and multiple ground ladders; therefore, there is moderate impact to operations in this zoning classification.

Access to Structures: Typical multi-family residential occupancies have adequate access to the physical structures. They are commonly surrounded by large parking areas allowing for apparatus access, egress, staging, and fire ground operations; therefore, there is minimal impact to operations in this zoning classification.

Exposures: Based upon the configuration of multi-family residential occupancies and the parking designation areas required by code, exposures will be limited to the building of origin, but could spread to adjacent units causing water and smoke damage, which may result in additional displacements; therefore, there is moderate impact to operations in this zoning classification.

Water Supply: Municipal water supplies are readily available to multi-family residential occupancies and most buildings have an ISO rating of Class 2 or 3; therefore, there is minimal impact to operations in this zoning classification.

Built-In Protections: Many of the multi-family residential occupancies have some form of built-in protection ranging from area separation and firewalls to sprinkler and fire alarm systems. Although, there are some older buildings that have limited built-in protection and lack automatic sprinkler and/or fire alarm systems; therefore, there is moderate impact to operations in this zoning classification.

Rescue Difficulty: Due to multiple access points and the larger size, height, and occupancy load of multi-family residential buildings, rescue scenarios and evacuations may prove more difficult; therefore, there is moderate impact to operations in this zoning classification.

Special Considerations: Many of the multi-family residential occupancies are older structures that have not been updated to current fire and life safety codes. This older construction allows for rapid spread of smoke and fire; therefore, there is moderate impact to operations in this zoning classification.

Natural Feature Impacts: Some of the multi-family residential occupancies are located near natural features such as watersheds and wetlands. Despite this proximity, the natural features do not pose significant negative impact to firefighting operations, although coordination with other agencies such as DEQ and water purveyors may be required if a large fire occurs; therefore, there is minimal impact to operations in this zoning classification.

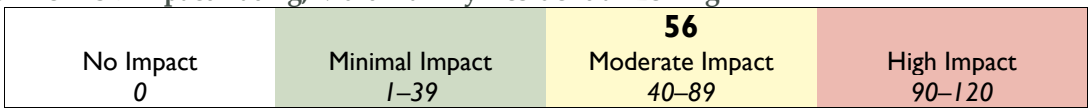
Transportation Impacts: Most of the multi-family occupancies are easily located off major thoroughfares or main arterials; therefore, there is minimal impact to operations within this zoning classification, aside from predictable traffic movement.

Geo-Political Impacts: Tualatin Valley Fire & Rescue serves multiple municipal and county governments with different building officials, local resources, and political climates; therefore, there is increased impact to operations with this geo-political faction. Further, a major incident at a multi-family residential occupancy may have long-term economic impacts for the facility and tenants; therefore, there is moderate impact to operations in this zoning classification.

Figure 6.9 Fire Risk Impact Contribution by Category, Multi-Family Residential Zoning

Category	No Impact *0*	Minimal Impact *1–3*	Moderate Impact *4–7*	High Impact *8–10*
Occupancy Types			7	
Construction Types			7	
Structure Heights			4	
Access to Structure		3		
Exposures			5	
Water Supply		3		
Built-In Protection			5	
Rescue Difficulty			5	
Special Considerations			7	
Natural Features		3		
Transportation Impacts		3		
Geo-Political Impacts			4	
Sub-Total	0	12	44	0

Figure 6.10 Fire Risk Impact Rating, Multi-Family Residential Zoning



Static Impact Statement, Multi-Family Residential Zoning

The multi-family residential occupancies zoning classification is scattered across Tualatin Valley Fire & Rescue's service area. Based upon the factors stated above, this zoning classification has a moderate impact rating.

PARKS AND OPEN SPACES ZONING

TVF&R's service area zoned parks and open spaces include outdoor recreation areas, nature preserves, protected wetlands, and pedestrian and bicycle corridors.

Occupancy Types: Parks and open spaces include areas such as Cook Park, Summerlake Park, Magnus Tree Farm, Willamette Park, Tualatin Hills Nature Park, and Jenkins Estate. Structures on these sites are typically limited to restroom and concession facilities, though there are a few locations featuring

small buildings that can accommodate group gatherings; therefore, there is minimal impact to operations in this zoning classification.

Construction Types: Though parks and open spaces may include buildings with combustible construction, there is minimal impact to operations in this zoning classification relative to structures.

Structure Heights: Parks and opens spaces do not have buildings with significant structure heights; therefore, there is minimal impact to operations in this zoning classification.

Access to Structures: Structures in parks and open spaces have adequate access. They are typically surrounded by parking areas allowing for ease of apparatus access, staging, egress, and fireground operations; therefore, there is minimal impact to operations in this zoning classification.

Exposures: Based upon the configuration of parks and open spaces, exposures will be limited to the site; therefore, there is moderate impact to operations in this zoning classification.

Water Supply: Municipal water supplies are usually available near parks and open spaces. If a natural cover fire occurs in a park or open space where there are no hydrants, water shuttle operations can sufficiently limit fire spread; therefore, there is minimal impact to operations in this zoning classification (Figure 6.19).

Built-In Protections: Many of the structures in parks and open spaces have some form of built-in protection ranging from area separation and firewalls to sprinkler and fire alarm systems; therefore, there is minimal impact to operations in this zoning classification.

Rescue Difficulty: Parks and open spaces typically have multiple access points; therefore, there is minimal impact to operations in this zoning classification. In instances requiring high-angle, confined space, or surface water rescue operations, specialty teams will be utilized without disrupting District-wide response.

Special Considerations: There are no special considerations for parks and open spaces.

Natural Feature Impacts: Some of the parks and open spaces contain natural features such as watersheds, wetlands, and protected animal and plant species. The natural features do not pose significant negative impact to firefighting operations though coordination with other agencies such as DEQ, parks departments, utility companies (when substations are co-located), and water purveyors may be required if a natural cover or structure fire occurs. There is minimal impact to operations in this zoning classification.

Transportation Impacts: Most of the parks and open spaces are easily located off major thoroughfares or main arterials; therefore, there is minimal impact to operations within this zoning classification.

Geo-Political Impacts: Most of the parks and open spaces owned and operated by a single jurisdiction; therefore, there is minimal impact to operations from a geo-political standpoint.

Figure 6.11 Fire Risk Impact Contribution by Category, Parks and Open Spaces Zoning

Category	No Impact *0*	Minimal Impact *1–3*	Moderate Impact *4–7*	High Impact *8–10*
Occupancy Types		1		
Construction Types		1		
Structure Heights		1		
Access to Structure		1		
Exposures		1		
Water Supply		2		
Built-In Protection		1		
Rescue Difficulty		2		
Special Considerations	0			
Natural Features		2		
Transportation Impacts		1		
Geo-Political Impacts		1		
Sub-Total	0	14	0	0

Figure 6.12 Fire Risk Impact Rating, Parks and Open Spaces Zoning

	14		
No Impact *0*	Minimal Impact *1–39*	Moderate Impact *40–89*	High Impact *90–120*

Static Impact Statement, Open Spaces Zoning

The parks and open spaces zoning classification is scattered across Tualatin Valley Fire & Rescue's service area. Based upon the factors stated above, this zoning classification has a minimal impact rating.

PUBLIC FACILITIES ZONING

Most of these facilities in TVF&R's service area constitute city halls, police stations, fire stations, special district buildings, and other government buildings.

Occupancy Types: In general, public facilities are moderately sized and are used for assembly of numerous staff members to complete work; therefore, based upon the larger building size and the assembly of many people, there is an increased impact to operations in this zoning classification.

Construction Types: Public facilities include a mixture of Type I through V construction types. However, these buildings tend to migrate more toward combustible and heavy timber construction, which at times, require a larger resource commitment; therefore, there is moderate impact to operations in this zoning classification.

Structure Heights: Many public facilities include both single- and multi-story buildings, which require the use of aerial apparatus and multiple ground ladders; therefore, there is moderate impact to operations in this zoning classification.

Access to Structures: Typical public facilities have more than adequate access to the physical structure itself and are commonly surrounded by large public parking spaces allowing for ease of apparatus access and egress; therefore, there are minimal impacts in this zoning classification.

Exposures: Based upon the configuration of many of the public facilities and the designated parking required of these buildings, exposures are minimal; therefore, there is minimal impact in this zoning classification.

Water Supply: City water supply is readily available to the public facilities, and all buildings fall within an ISO Class 2 or 3 rating; therefore, there is minimal impact in this zoning classification.

Built-In Protections: Many, if not all the public facilities have some type of built-in protection system, at least a fire alarm system; therefore, there is minimal impact in this zoning classification.

Rescue Difficulty: Due to the larger size and height of these buildings, and based upon the potential for a larger occupancy load (based upon time of day), rescue scenarios may prove to be more difficult in public facilities; therefore, there is moderate impact within this zoning classification.

Special Considerations: There are no special factors for this zoning classification.

Natural Feature Impacts: Public facilities are scattered throughout TVF&R's service area, none of which are larger arranged or abut major natural features. While some of them are within various natural features, they do not pose any significant negative contribution to firefighting operations within this zoning classification, although coordination with other agencies such as DEQ and water purveyors may be required if a large fire occurs. There is minimal impact to operations in this zoning classification.

Transportation Impacts: Most of the public facilities are easily located off major thoroughfares or main arterials. There are few exceptions to this; therefore, there are minimal transportation impacts to operations within this zoning classification, aside from predictable traffic movement.

Geo-Political Impacts: Within the core service area of TVF&R, there are minimal impacts, however, as you move further to the outer rings of the service area, it is highly likely resources from automatic or mutual aid departments will be involved. Therefore, there are geo-political impacts for this zoning classification.

Figure 6.13 Fire Risk Impact Contribution by Category, Public Facilities Zoning

Category	No Impact *0*	Minimal Impact *1–3*	Moderate Impact *4–7*	High Impact *8–10*
Occupancy Types			7	
Construction Types			4	
Structure Heights			7	
Access to Structure		2		
Exposures		2		
Water Supply		2		
Built-In Protection			4	
Rescue Difficulty			5	
Special Considerations	0			
Natural Features		1		
Transportation Impacts		2		
Geo-Political Impacts			4	
Sub-Total	0	9	31	0

Figure 6.14 Fire Risk Impact Rating, Public Facilities Zoning

No Impact *0*	Minimal Impact *1–39*	**40** Moderate Impact *40–89*	High Impact *90–120*

Static Impact Statement, Public Facilities Zoning

The public facilities zoning classification is scattered across Tualatin Valley Fire & Rescue's service area. Based upon the factors stated above, this zoning classification has a moderate impact rating.

RURAL ZONING

TVF&R's service area zoned rural includes unincorporated areas and concentrates on township and county zoning outside of municipalities. The land is intended for commercial-scale agricultural production or forestry. In addition, there may be areas zoned rural residential or future urban. The lots are typically larger than five acres.

Occupancy Types: Rural zoning includes agricultural buildings, such as barns and dairy production sites, as well as single-family homes.

Construction Types: Rural zones may include buildings with combustible and heavy timber construction; therefore, there is moderate impact to operations in this zoning classification.

Structure Heights: Rural zones do not have buildings with significant structure heights; therefore, there is moderate impact to operations in this zoning classification.

Access to Structures: Access to structures in rural areas may be limited in some instances due to limited transportation corridors, as well as narrow roads and driveways. In addition, staging, egress, fireground operations, and water shuttle activities may prove challenging; therefore, there is a high impact to operations in this zoning classification.

Exposures: While structural exposures may be limited to the buildings on an affected site in a rural zone, there are significant natural cover and forest exposures in rural and forest areas; therefore, there is a high impact to operations in this zoning classification.

Water Supply: Many of the rural areas lack fire hydrants or adequate alternative water supplies; therefore, there is a high impact to operations in this zoning classification (Figure 6.19).

Built-In Protections: Many of the large structures in rural zones predate building codes requiring built-in protection ranging from area separation and firewalls to sprinkler and fire alarm systems; therefore, there is moderate impact to operations in this zoning classification.

Rescue Difficulty: Some of the rural areas (such as Skyline and other parts of Multnomah County) also contain ridges, canyons, and difficult terrain; therefore, there is moderate impact to operations in this zoning classification.

Special Considerations: Many of the rural zones contain wildland urban interface areas. Further, there are many large, high-value homes without proper fire sprinkler systems, which may constitute a significant loss to property owners should they experience a fire.

Natural Feature Impacts: Some of rural zones contain regional agricultural resources and natural features such as watersheds, wetlands, and protected animal and plant species. As referenced in the access and water supply sections, the natural features in the rural zones may increase risk to operations; therefore, there is a moderate impact to operations in this zoning classification.

Transportation Impacts: There are reduced transportation corridors and arterials in the rural zones; therefore, there is moderate impact to operations within this zoning classification.

Geo-Political Impacts: Many of the rural zones are near jurisdictional boundaries, which may increase the need for automatic or mutual aid response and interagency cooperation from agencies such as the Oregon Department of Forestry; therefore, there is increased impact to operations from a geo-political standpoint.

Figure 6.15 Fire Risk Impact Contribution by Category, Rural Zoning

Category	No Impact *0*	Minimal Impact *1–3*	Moderate Impact *4–7*	High Impact *8–10*
Occupancy Types		3		
Construction Types			4	
Structure Heights			4	
Access to Structure				8
Exposures				8
Water Supply				8
Built-In Protection				7
Rescue Difficulty			4	
Special Considerations			4	
Natural Features			6	
Transportation Impacts			5	
Geo-Political Impacts			4	
Sub-Total	0	3	31	31

Figure 6.16 Fire Risk Impact Rating, Rural Zoning

Static Impact Statement, Rural Zoning

The rural zoning classification is mostly on the outer ring of Tualatin Valley Fire & Rescue's service area. Based upon the factors stated above, this zoning classification has a moderate impact rating.

SINGLE-FAMILY RESIDENTIAL ZONING

TVF&R's service area zoned single-family residential provides housing in urban settings in varying lot sizes and densities. These areas may include neighborhood businesses that provide limited retail and commercial uses to serve the day-to-day needs of the residents in the surrounding neighborhoods.

Occupancy Types: Single-family residential occupancy types include houses of various sizes and layouts. Additionally, there is a complement of small-scale commercial districts that support retail, grocery, dining, and other service establishments.

Construction Types: Single-family residential occupancies usually include combustible construction, and in cases of very large single-family homes, heavy timber construction may be used; therefore, there is moderate impact to operations in this zoning classification.

Structure Heights: Single-family residential occupancies are typically limited to single- or two-story buildings, which require the use of ground ladders; therefore, there is moderate impact to operations in this zoning classification.

Access to Structures: There is a variance in access to single-family residential occupancies within TVF&R's service area. There are some single-family residential occupancies in areas with limited egress with narrow driveways. Most single-family residential occupancies are in subdivisions off main transportation corridors or arterials, which have more than adequate access to the physical structures; therefore, there is minimal impact to operations in this zoning classification.

Exposures: Based upon the configuration and location of most single-family residential occupancies, exposures will usually be limited to nearby homes. There are instances where single-family residential occupancies are in wildland urban interface areas; therefore, there is moderate impact to operations in this zoning classification.

Water Supply: Municipal water supplies are typically available to single-family residential occupancies. There are some instances when single-family residential occupancies are in non-hydranted areas, which will require access to alternative water supplies and shuttle operations; therefore, there is moderate impact to operations in this zoning classification (Figure 6.19).

Built-In Protections: Only a small percentage of single-family residential occupancies have some form of built-in protection such as firewalls or sprinkler and fire alarm systems; therefore, there is moderate impact to operations in this zoning classification.

Rescue Difficulty: Due to multiple access points, smaller size, low height, and minimal occupancy load of single-family residential occupancies, rescue scenarios and evacuations can be achieved with existing resources; therefore, there is minimal impact to operations in this zoning classification.

Special Considerations: There are no special factors for this zoning classification.

Natural Feature Impacts: Some of the single-family residential occupancies are located near natural features such as watersheds and wetlands. Despite this proximity, the natural features do not pose significant negative impact to firefighting operations; therefore, there is minimal impact to operations in this zoning classification.

Transportation Impacts: Most of the single-family residential occupancies are easily located off major thoroughfares or main arterials; therefore, there is minimal impact to operations within this zoning classification, aside from predictable traffic movement.

Geo-Political Impacts: There are no geo-political impacts for this zoning classification.

Figure 6.17 Fire Risk Impact Contribution by Category, Single-Family Residential Zoning

Category	No Impact *0*	Minimal Impact *1–3*	Moderate Impact *4–7*	High Impact *8–10*
Occupancy Types		2		
Construction Types		2		
Structure Heights		1		
Access to Structure		2		
Exposures			4	
Water Supply			4	
Built-In Protection			4	
Rescue Difficulty		2		
Special Considerations	0			
Natural Features		2		
Transportation Impacts		2		
Geo-Political Impacts	0			
Sub-Total	0	13	12	0

Figure 6.18 Fire Risk Impact Rating, Single-Family Residential Zoning

No Impact *0*	**25** Minimal Impact *1–39*	Moderate Impact *40–89*	High Impact *90–120*

Static Impact Statement, Single-Family Residential Zoning

The single-family residential zoning classification is scattered across Tualatin Valley Fire & Rescue's service area. Based upon the factors stated above, this zoning classification has a minimal impact rating.

Figure 6.19 Hydrant Coverage

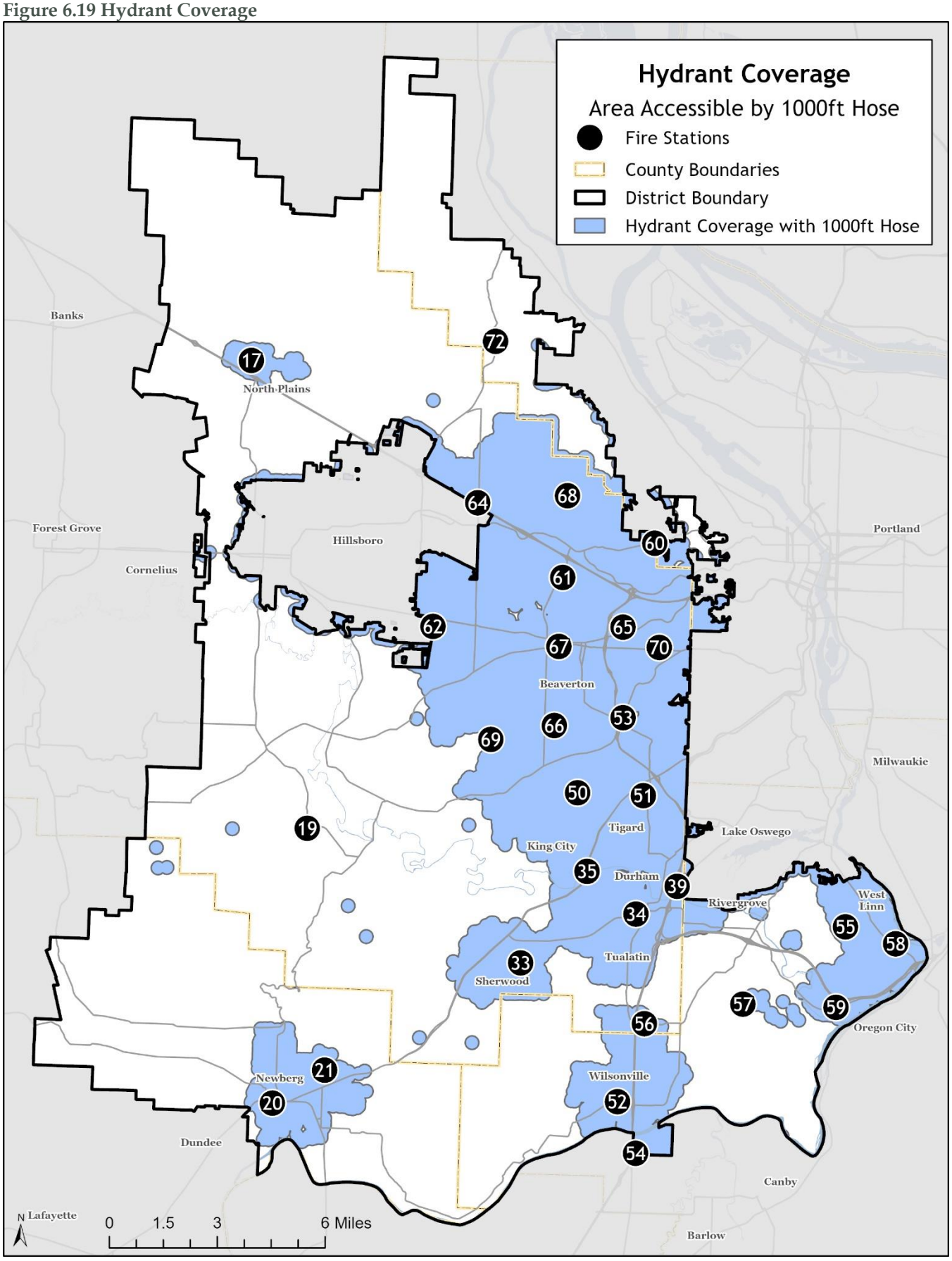


Figure 6.20 Structure Fire Incident Density (2020–2024), Planning Zones

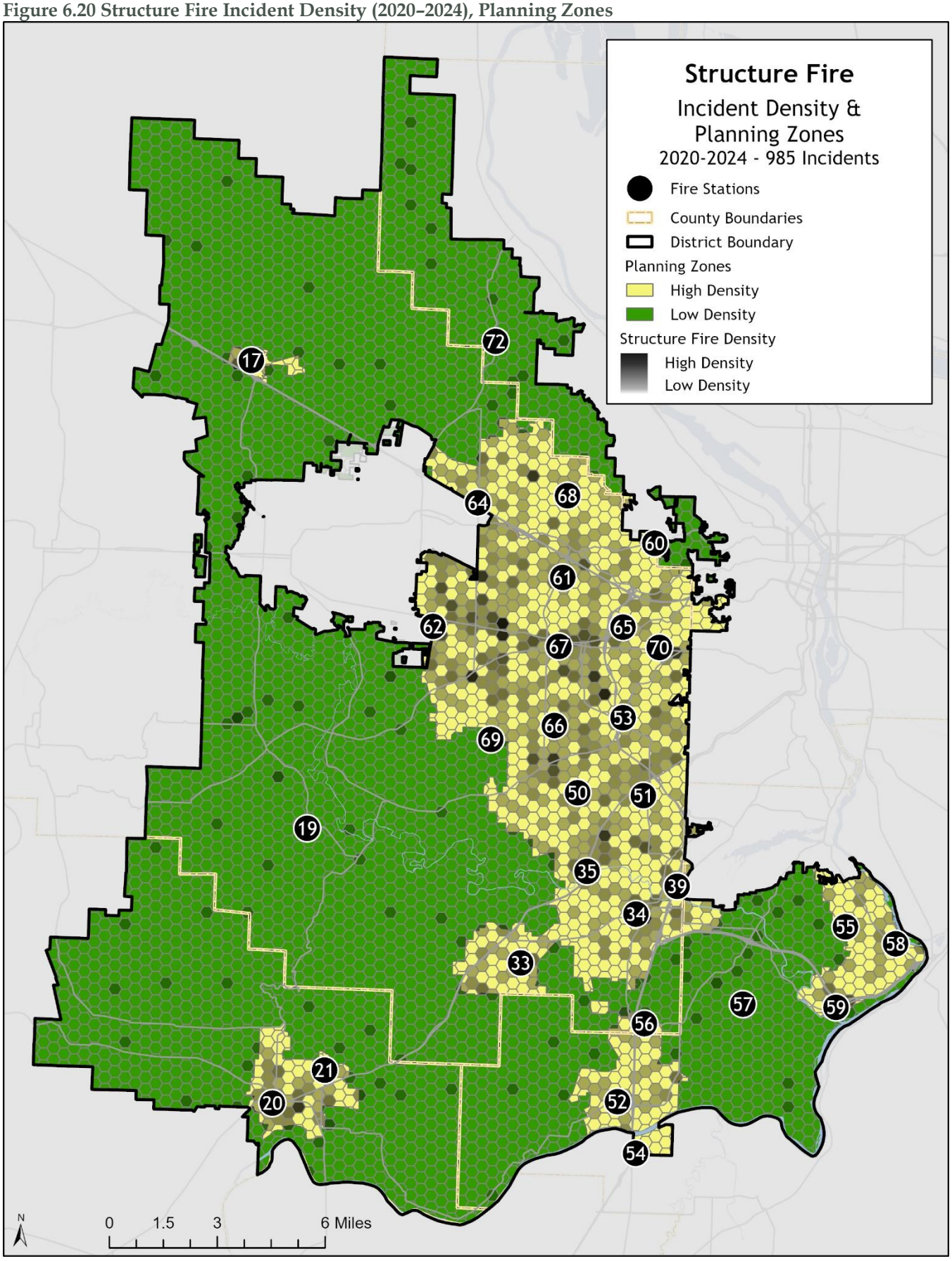
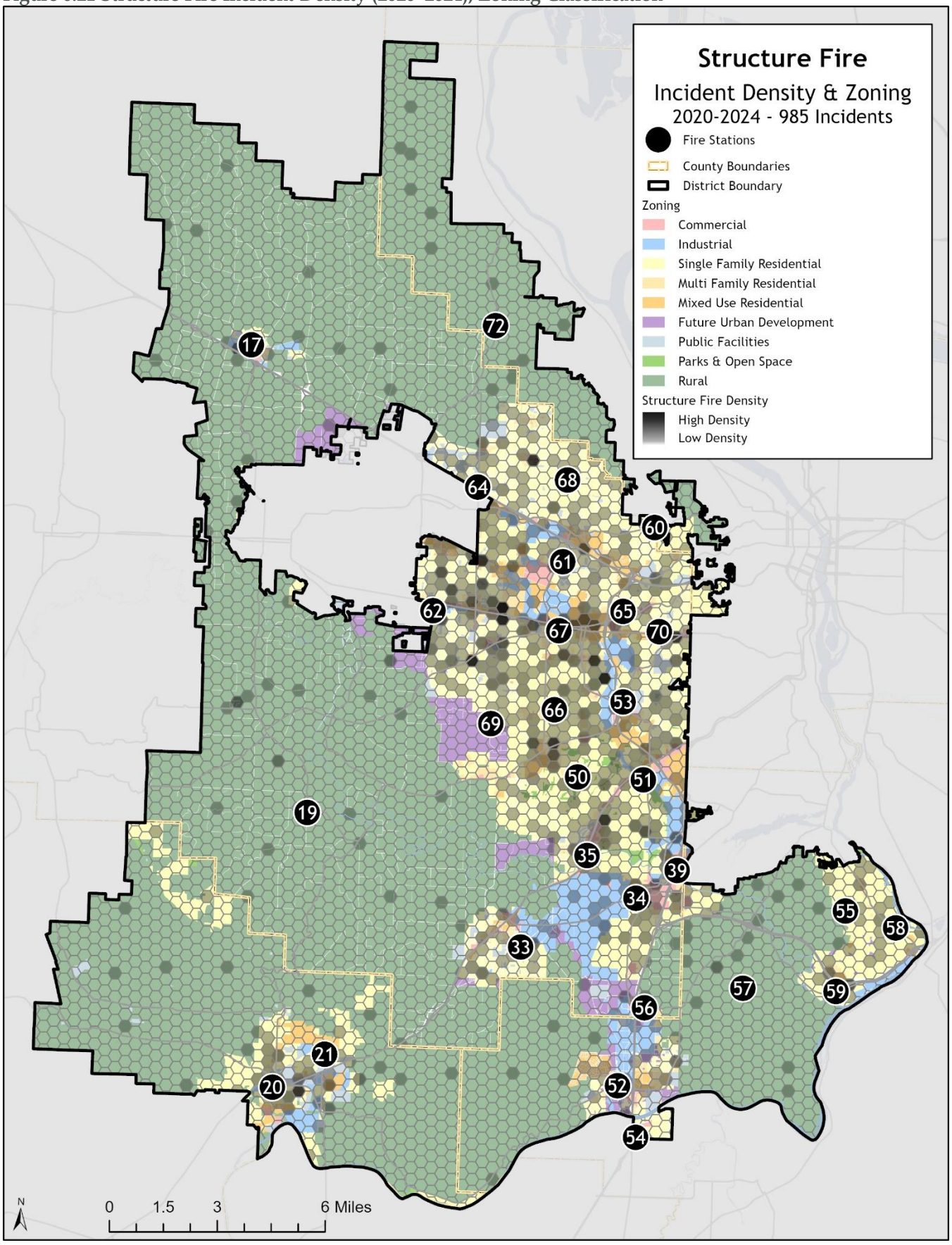


Figure 6.21 Structure Fire Incident Density (2020–2024), Zoning Classification



SECTION 7: EMS RISK

Eighty percent of the District's dispatched emergency calls are medical in nature and include patients with a wide range of conditions—from non-emergency to life-and-death. Common factors that can impact these situations include:

- Incident Location: Heavy traffic, commercial or apartment complexes with multiple buildings, traffic-calming devices, freeway responses.
- Patient Accessibility: Stairs, locked doors, small rooms, narrow hallways, rural, outdoor properties.
- Patient Weight: Moving and packaging a large, unconscious patient.
- Communication: Caller may not give the dispatcher correct or complete information; language barriers.

EMS risk is based largely on people—their location and their age. The first assessment of EMS risk is based upon population density. EMS risk is also based upon patient age. As indicated in Figure 7.3, an aging population has a correlation to the risk seen within the TVF&R service area.

Figure 7.1 Code 3 EMS Incident Density (2020–2024), Planning Zones

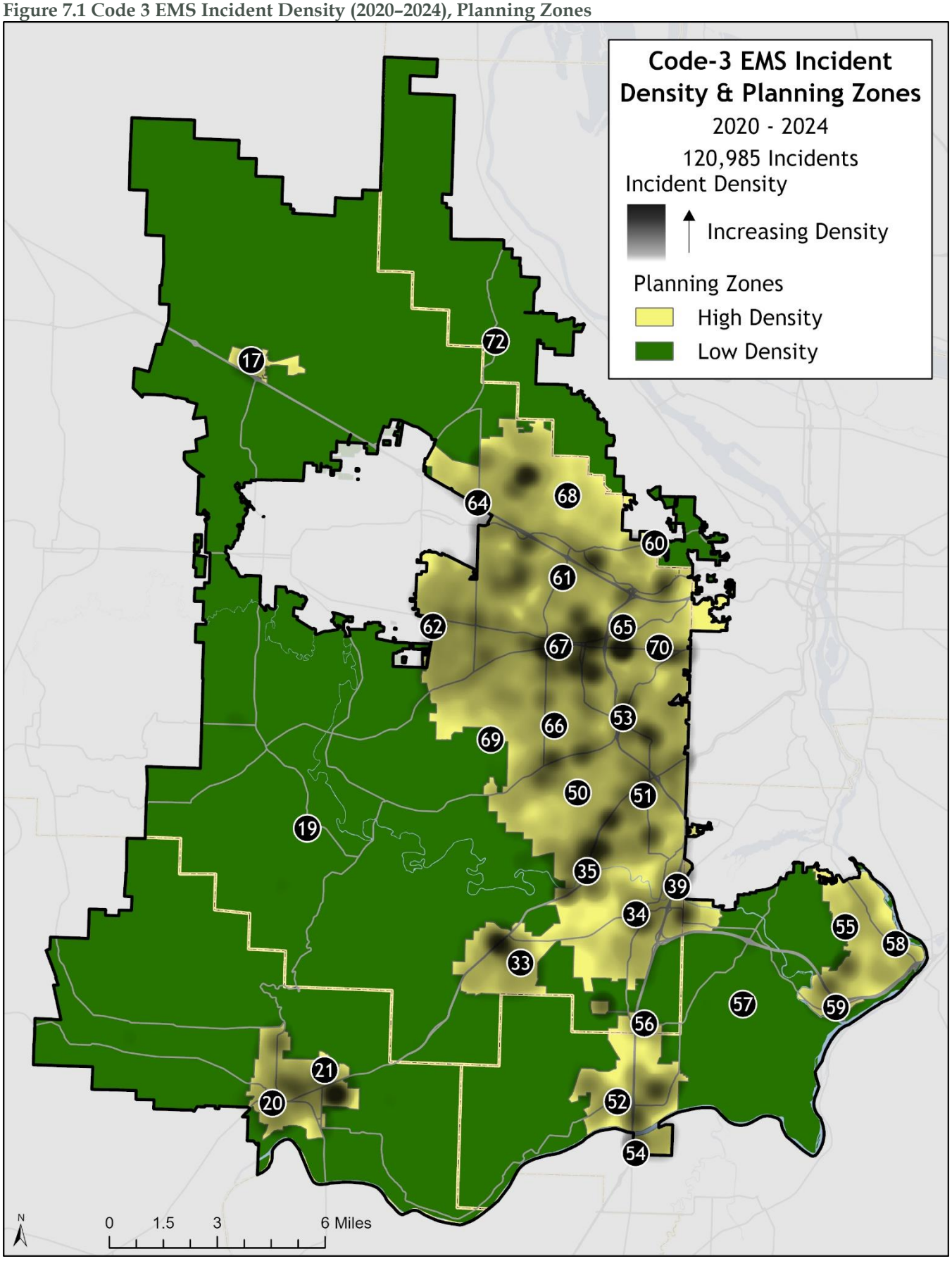


Figure 7.2 Code 3 EMS Incident Density (2020–2024), Zoning Classification

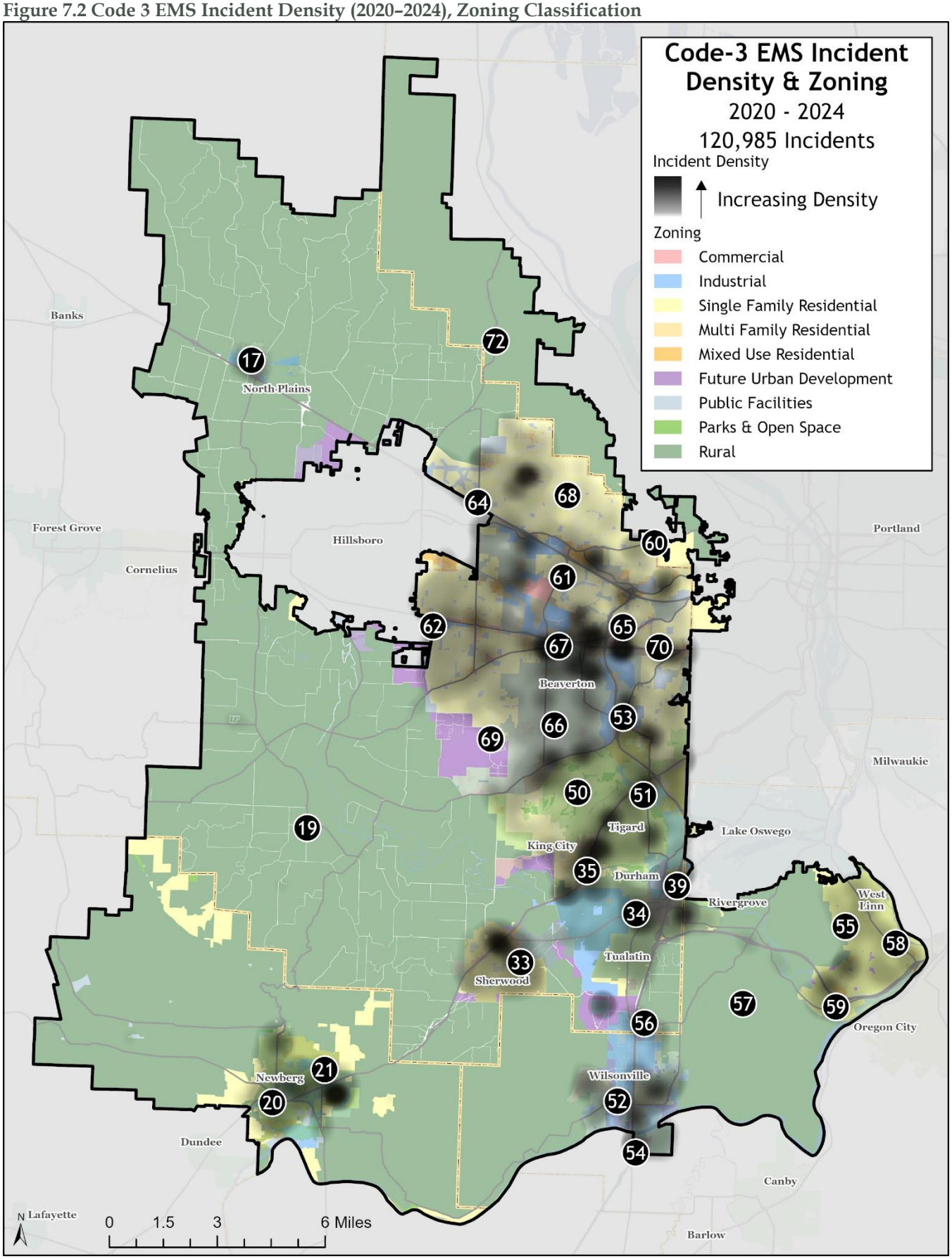
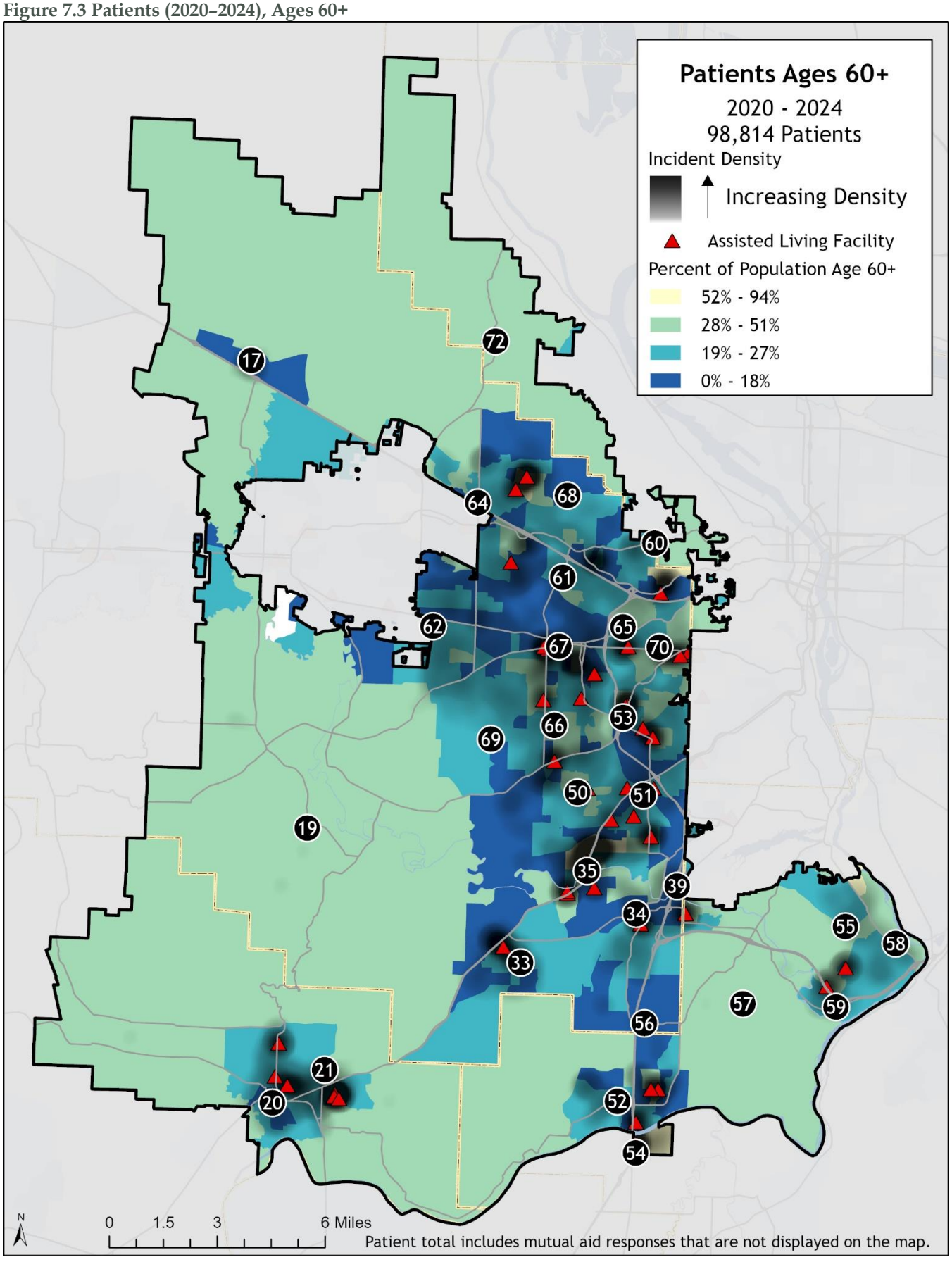


Figure 7.3 Patients (2020–2024), Ages 60+



In addition to assessing risk by population density and age, the following are considered high-risk events for patients in the District's service area.

Sudden Out-of-Hospital Cardiac Arrest

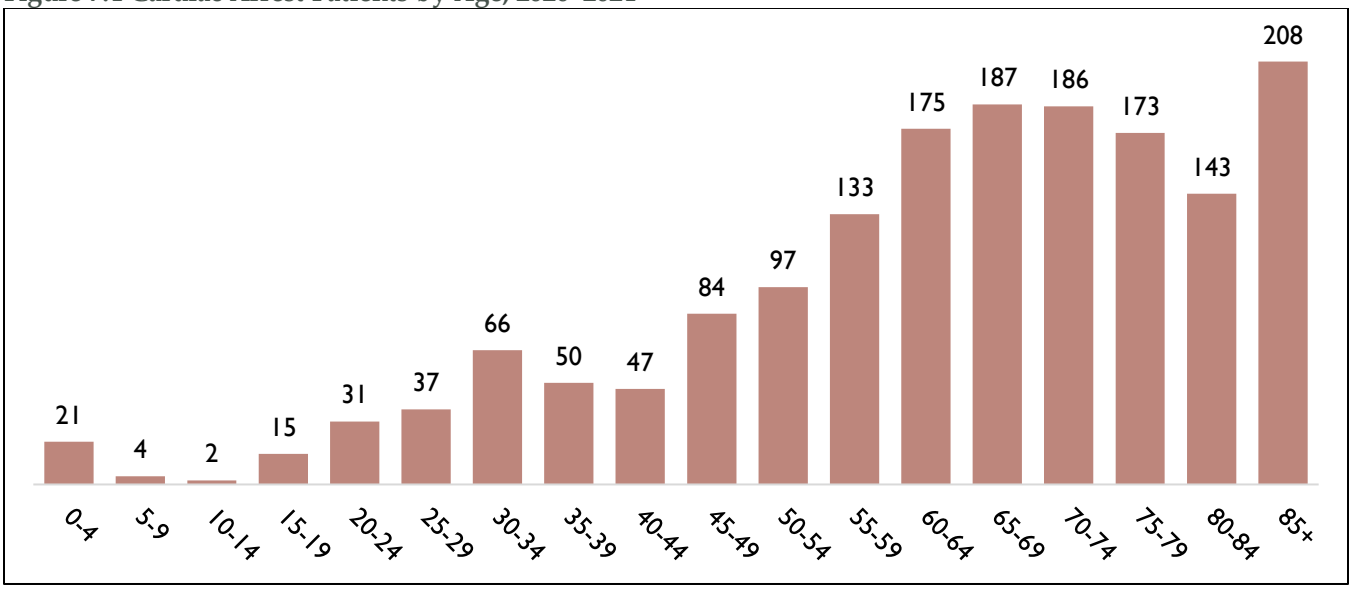
One of the highest levels of risk for patients is sudden out-of-hospital cardiac arrest (SOHCA) in people 60 years of age or older. For each minute following SOHCA without cardiopulmonary resuscitation (CPR) and defibrillation, the likelihood of survival decreases 7–10%.[14] Therefore, reaching the patient and starting CPR as soon as possible is critical. Dispatchers now use a rapid call triage system designed to identify SOHCA. When the call is identified as SOHCA the dispatcher instructs 9-1-1 callers to perform hands-only CPR. The District's law enforcement partners, who may arrive prior to EMS, are also dispatched to cardiac arrest calls. Many officers are equipped with automated external defibrillators (AED) and are trained to provide hands-only CPR.

TVF&R became the first fire department in Oregon to implement the PulsePoint application in 2013. This smartphone app alerts subscribers, who have indicated they are CPR-trained, to a sudden out of hospital cardiac arrest event in a public location. The alert is triggered by the dispatch center at the same time emergency response personnel are dispatched. The app uses advanced GPS technology to notify subscribers within a quarter mile of a cardiac arrest event in a public place.

In 2017, TVF&R implemented an enhancement to PulsePoint called Verified Responder. Verified Responder notifies off-duty firefighters, with AEDs within one-half mile, of a sudden out of hospital cardiac arrest event in public locations and at private residences within the TVF&R service area.

This type of incident requires a significant amount of EMS personnel and advanced life support skills to coordinate cardiac arrest care. Personnel are needed to orchestrate the sequence of high-performance CPR and defibrillation, electrocardiogram (ECG) interpretation, intravenous access (IV), medication intervention, airway management, documentation, patient packaging, transportation, and family care. TVF&R personnel strive to achieve return of spontaneous circulation (ROSC) prior to transport. District personnel routinely continue care enroute to the hospital. Once ROSC is achieved, a 12-lead ECG is obtained to determine if cardiac catheterization lab intervention is required.

Figure 7.4 Cardiac Arrest Patients by Age, 2020–2024



[14] "Sudden Cardiac Arrest - Advocacy." *Sudden Cardiac Arrest - Advocacy*. N.p., n.d. Web. 09 Oct. 2012. <http://www.heart.org/HEARTORG/Advocate/IssuesandCampaigns/Sudden-Cardiac-Arrest---Advocacy_UCM_312652_Article.jsp>.

The cardiac arrest totals represented above include all patients with a clinical impression of cardiac arrest, for all etiologies and causes, for the specified calendar years.

In addition to this cardiac arrest reporting, TVF&R also performs an in-depth annual review of cardiac arrest survivability utilizing Utstein-style guidelines. Utstein-style definitions are highly regarded standards used nationwide to create uniformity in the reporting of SOHCA. The Utstein-style includes non-traumatic SOHCA cases where patients received an AED shock by a bystander or law enforcement official prior to the arrival of EMS responders, or resuscitation (chest compressions or defibrillation) was attempted by an EMS responder.

TVF&R reports cardiac arrest survivability per the Utstein survival rate definition: patients who survived to hospital discharge after experiencing cardiac arrest with a shockable (ventricular fibrillation or pulseless ventricular tachycardia) initial rhythm, and the arrest was witnessed by a bystander. TVF&R also reports the survival rate for those same cases where bystander CPR or chest compressions were provided.

Figure 7.5 Cardiac Arrest Survivability[15]

Year	Cardiac Arrests (All)	Survivors (All)	Overall Survival Rate	Utstein Cases	Utstein Survival	Utstein Survivors w/ Bystander CPR Survival Rate	Utstein Survival Rate	National Utstein Survival Rate	Oregon Utstein Survival Rate
2020	519	38	7.32%	**46**	**11**	32.35%	**23.91%**	**29.20%**	**29.40%**
2021	612	55	8.99%	**44**	**19**	43.90%	**43.18%**	**29.00%**	**31.70%**
2022	584	38	6.51%	**39**	**22**	52.78%	**56.41%**	**30.70%**	**-**
2023	528	39	7.39%	**43**	**14**	38.24%	**32.56%**	**32.80%**	**-**
2024	541	40	7.39%	**48**	**22**	44.19%	**44.19%**	**-**	**-**

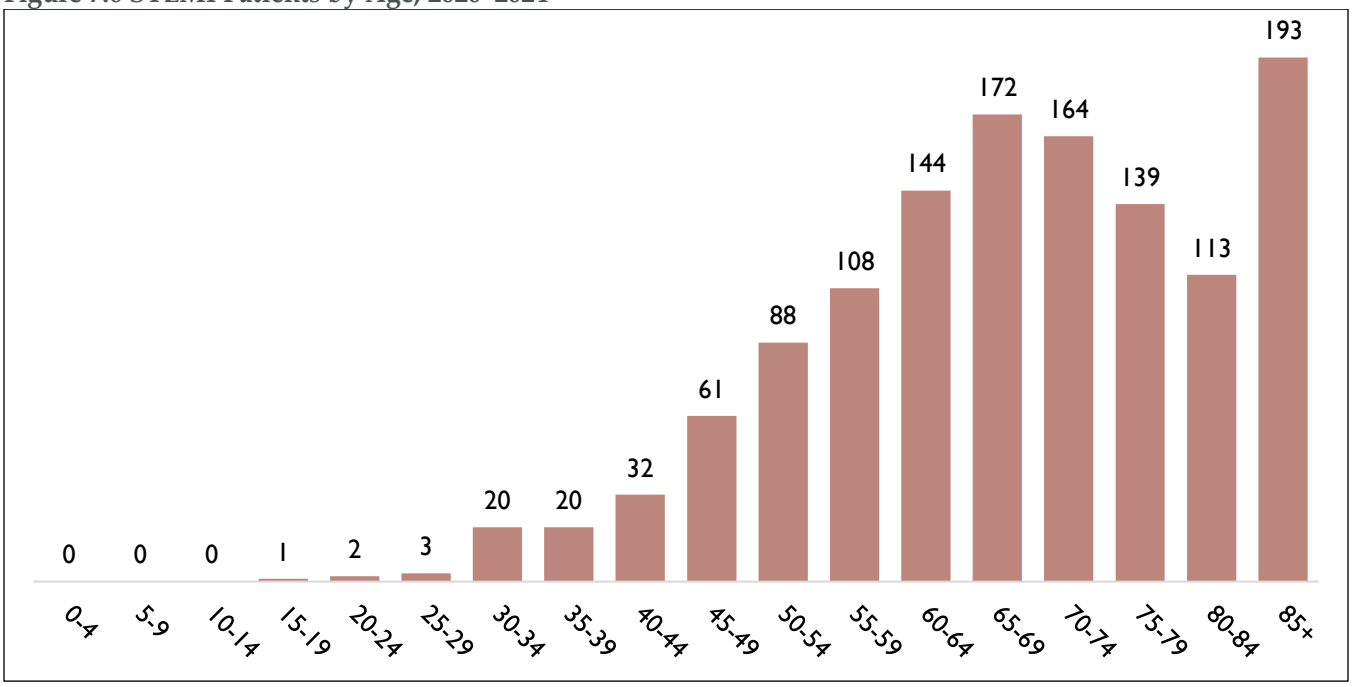
[15] The National Utstein Survival Rate for 2024 and the Oregon Utstein Survival Rates for 2022-2024 were unavailable at the time of publishing.

STEMI

ST-Elevation Myocardial Infarction (STEMI) is a time-critical event for patients. It requires rapid assessment and transmission of the 12-lead ECG and rapid transportation to a percutaneous coronary intervention (PCI)-capable hospital. The risk for a cardiac arrest during STEMI is high, creating a need for additional personnel.

Door-to-balloon (D2B) is the time interval between a STEMI patient's arrival at the emergency department door to a balloon catheter being inserted into a blocked coronary artery. The American Heart Association recommends a D2B interval of no more than 90 minutes. More recent literature suggests STEMI patients should receive treatment within 90 minutes of first contact with EMS, called EMS-to-balloon (E2B). Evidence shows early hospital notification of an incoming STEMI patient decreases the D2B time, and ultimately, improves the patient's chance for survival and quality of life. EMS staff reviews STEMI data with PCI-capable hospitals and county EMS as part of the quality improvement process.

Figure 7.6 STEMI Patients by Age, 2020–2024

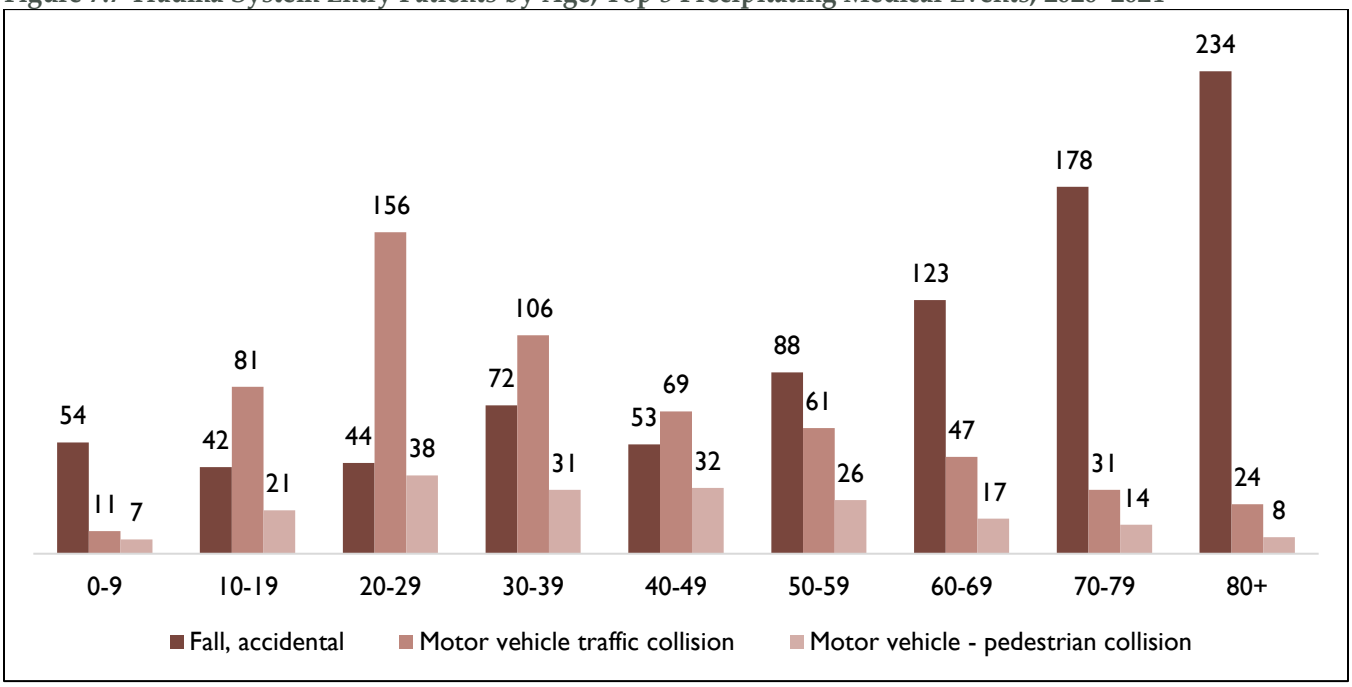


TRAUMA

The region's system of trauma care has been legislated since 1988 and is supported by two level-one trauma centers, Legacy Emanuel Medical Center and Oregon Health & Science University (OHSU). Patients with severe traumatic injuries from motor vehicle crashes, falls from heights, or penetrating injuries such as gunshot wounds or stabbings, need rapid assessment, treatment, and transportation to these specialized facilities. Trauma care has long been a time-sensitive incident type, with the critical need to quickly deliver a patient to a trauma surgeon to minimize the extent of injury.

Extrication from vehicles can delay the time to definitive care and complicate patient treatment at the scene. In addition to personnel who access and treat the patient, extra personnel are required for incident command, triage, traffic control, and extrication. Incidents with multiple patients increase the need for extra personnel for scene coordination. Farms, industrial complexes, or rural locations offer additional challenges and often require the use of an air ambulance, which requires landing zone coordination.

Figure 7.7 Trauma System Entry Patients by Age, Top 3 Precipitating Medical Events, 2020–2024

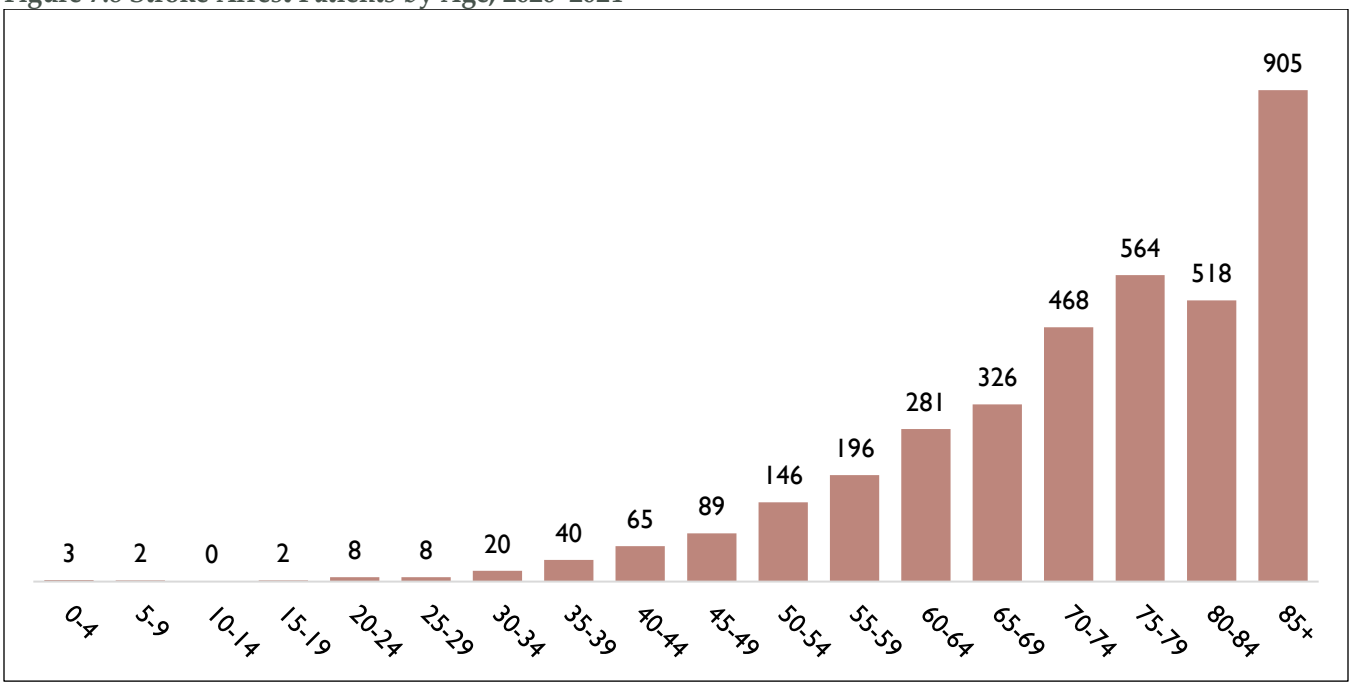


STROKE

Each year, an estimated 795,000 people experience the effects of a stroke.[16] A stroke is a time-critical event affecting the brain. Pre-hospital care requires determination of onset of the stroke in less than four-and-a-half hours, calculating a stroke severity scale, and early notification of the receiving hospital. Risks associated with this time-critical event require additional personnel. Treatments include IV access, blood glucose monitoring, ECG, and critical airway management in severely affected patients.

Most Portland metro area hospitals have been designated as Primary Stroke Centers (PSCs) by the Joint Commission for Accreditation and the American Stroke Association to improve the morbidity of this often-devastating condition. Significant delays to definitive care at a PSC increase morbidity and mortality. Staff is working with designated stroke centers to improve coordination of care with the receiving stroke care teams to improve patient outcomes and have implemented stroke screening protocols that identify strokes and direct the providers to transport to the closest PSC-capable hospital.

Figure 7.8 Stroke Arrest Patients by Age, 2020–2024



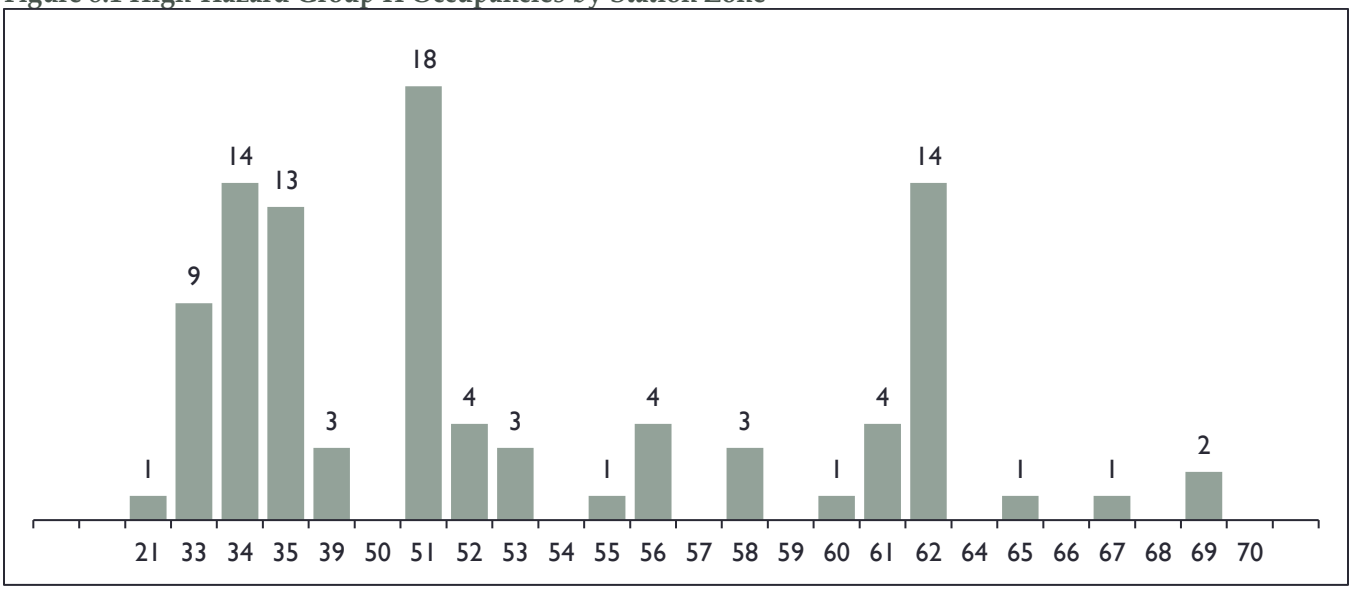
[16] "The Internet Stroke Center." *The Internet Stroke Center. An Independent Web Resource for Information about Stroke Care and Research.*, www.strokecenter.org/patients/about-stroke/stroke-statistics/.

SECTION 8: SPECIAL OPERATIONS RISK

HAZARDOUS MATERIALS

The District's service area contains light and heavy industrial facilities concentrated in areas in the north and south regions, with commercial occupancies and businesses that have hazardous materials on site intermixed throughout the District. Industrial processing and manufacturing result in a predictable association to chemical production and transportation of hazardous materials. Typically, hazardous materials are shipped to distribution facilities in Tualatin via railways and distributed to manufacturing and processing zones in Tigard and South Beaverton via roadways. The risk of a fixed-facility incident is highest during daytime production hours. High-hazard Group H occupancies include, among others, the use of a building or structure, or a portion thereof, that involves the manufacturing, processing, generation, or storage of materials that constitute a physical or health hazard in quantities more than those allowed in control areas.[17] Figures 8.1 and 8.2 illustrate High-hazard Group H occupancies by geographical concentration. The two highest concentrations of H-Class occupancies are in the Tualatin and Tigard areas.

Figure 8.1 High-Hazard Group H Occupancies by Station Zone



Hazardous Materials Transportation

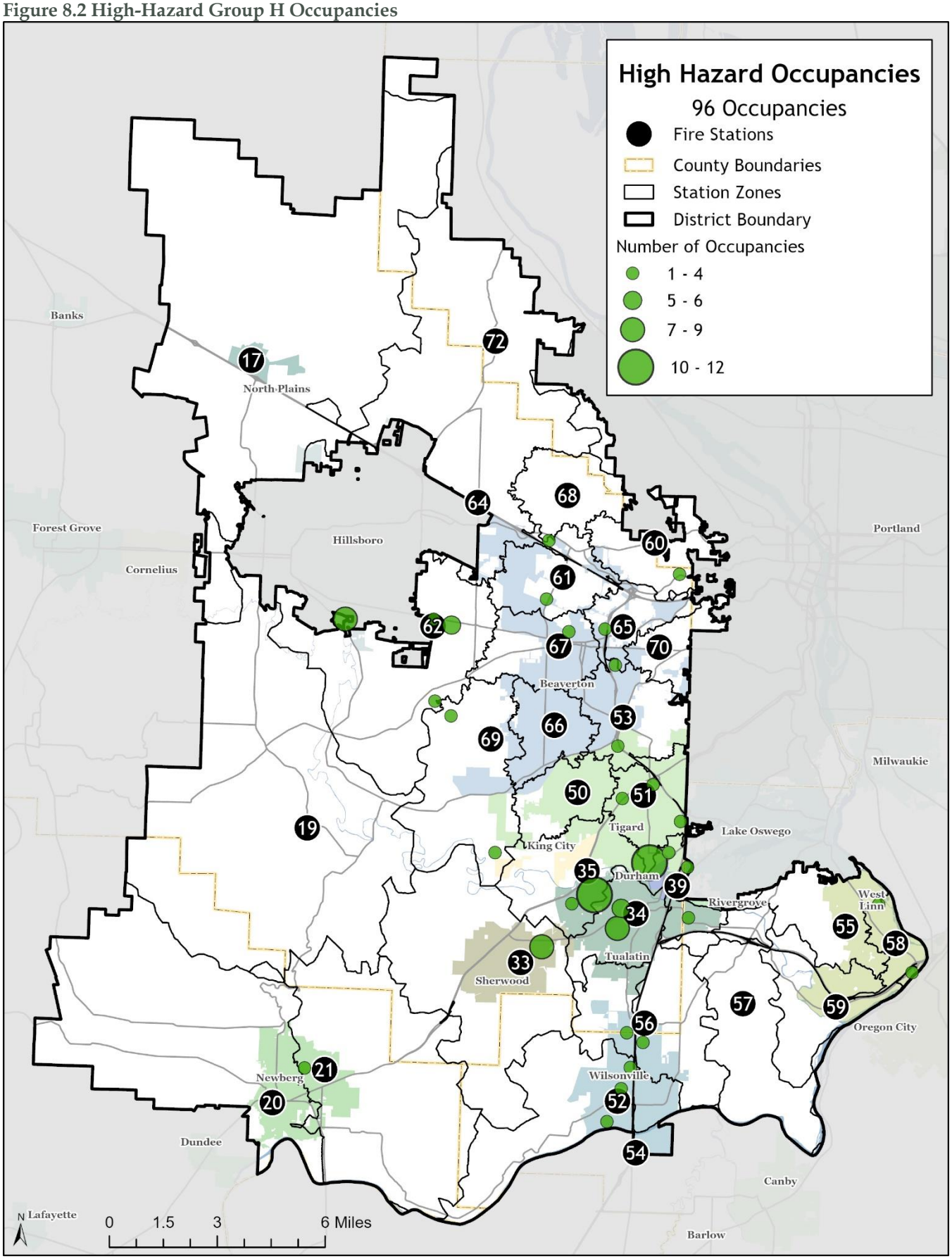
Through a commodity flow study completed in 2010, Oregon State University in cooperation with the Oregon Department of Transportation concluded most hazardous commodities transported through the District's service area are transported on the major thoroughfares: Interstates 5 and 205 and Highways 26, 99, and 217.

Class 3 (flammable liquids) hazardous commodities account for many transported hazardous products, followed by Class 8 (corrosive) and Class 9 (miscellaneous). The highest numbers of hazardous materials are shipped during the month of June, while the lowest numbers are shipped during the months of November and December. Radioactive materials shipped to the Portland area from the southern regions via Interstate 5 constitute 28% of the overall radioactive shipments in the state.

In addition, Burlington Northern Santa Fe and Union Pacific rail services travel through the District's service area delivering hazardous materials to distribution centers in Tualatin and Tigard.

[17] *Oregon Structural Specialty Code*. State of Oregon, 2019.

Figure 8.2 High-Hazard Group H Occupancies



TECHNICAL RESCUE

The Technical Rescue Team is skilled in five disciplines: heavy vehicle and machinery extrication, high-angle rope rescue, confined space rescue, trench rescue, and structural collapse rescue. Each technical rescue discipline is fundamentally distinct in nature, requiring different risk assessment metrics for each. For instance, terrain is the primary factor for high-angle rescue risk but is irrelevant for confined space rescue risk.

Overall, the requisite conditions for some type of technical rescue event span most of the District's service area. The most common event—heavy vehicle extrication—is distributed over a broad area. The most dangerous event—large-scale collapse of structures—is also diffusely distributed. Given these factors, the optimal site for the team is a central location within the District boundary having good access to major arterials (Station 51).

Historical data indicates a high probability for a heavy extrication event (primarily vehicle collisions), and relatively low probability for the other four disciplines. Nevertheless, these other events can and have occurred.

Confined Space Rescue

For the purposes of the fire service and the Occupational Safety and Health Administration (OSHA), confined spaces are those large enough to enter, but are not intended for continuous human occupation, and have limited means of entry/exit. Determining the geographical distribution of confined spaces is particularly problematic; they can be located essentially anywhere in the District. General locations may include rural (e.g., wells, silos), urban (e.g., utility vaults, tanks), and marine environments (e.g., boats, barges, dams). There are no requirements for industries to register their confined spaces; therefore, many of them are unknown to the District.

Heavy Vehicle and Machinery Extrication

Events in which extrication may be used include vehicle collisions, industrial machinery entanglement, and train vs. pedestrian accidents. All fire crews are trained and equipped for basic vehicle extrication. When a situation requires more complex extrication, the team is dispatched. Heavy vehicle extrication events occur on a variety of road types, not just high-speed arterials. Determining the geographic distribution of industrial machinery is somewhat problematic due to a lack of associated data. As a surrogate, risk can be inferred through industrial zoning areas (Figure 1.16).

High-Angle Rope Rescue

Risk in this discipline is terrain- and structure-dependent. At-risk terrain includes moderate and steep slopes, and rivers (Figure 1.14). At-risk structures include those greater than three stories high because the height exceeds the reach of ground ladders (Figure 8.3). Temporary structures, such as industrial cranes and suspended scaffolding (e.g., under bridge decks), elevate risk for the duration of the project.

Structural Collapse Rescue

Risk factors include precipitating events, density, and resistance. Precipitating events vary widely and include both natural and manufactured phenomena. Examples include fire, earthquake, precipitation, landslide, flooding, explosion, and vehicle or aircraft impact. Risk areas associated with landslides and flooding are illustrated in Figure 8.4. Risk associated with the other event types are distributed homogenously across the District.

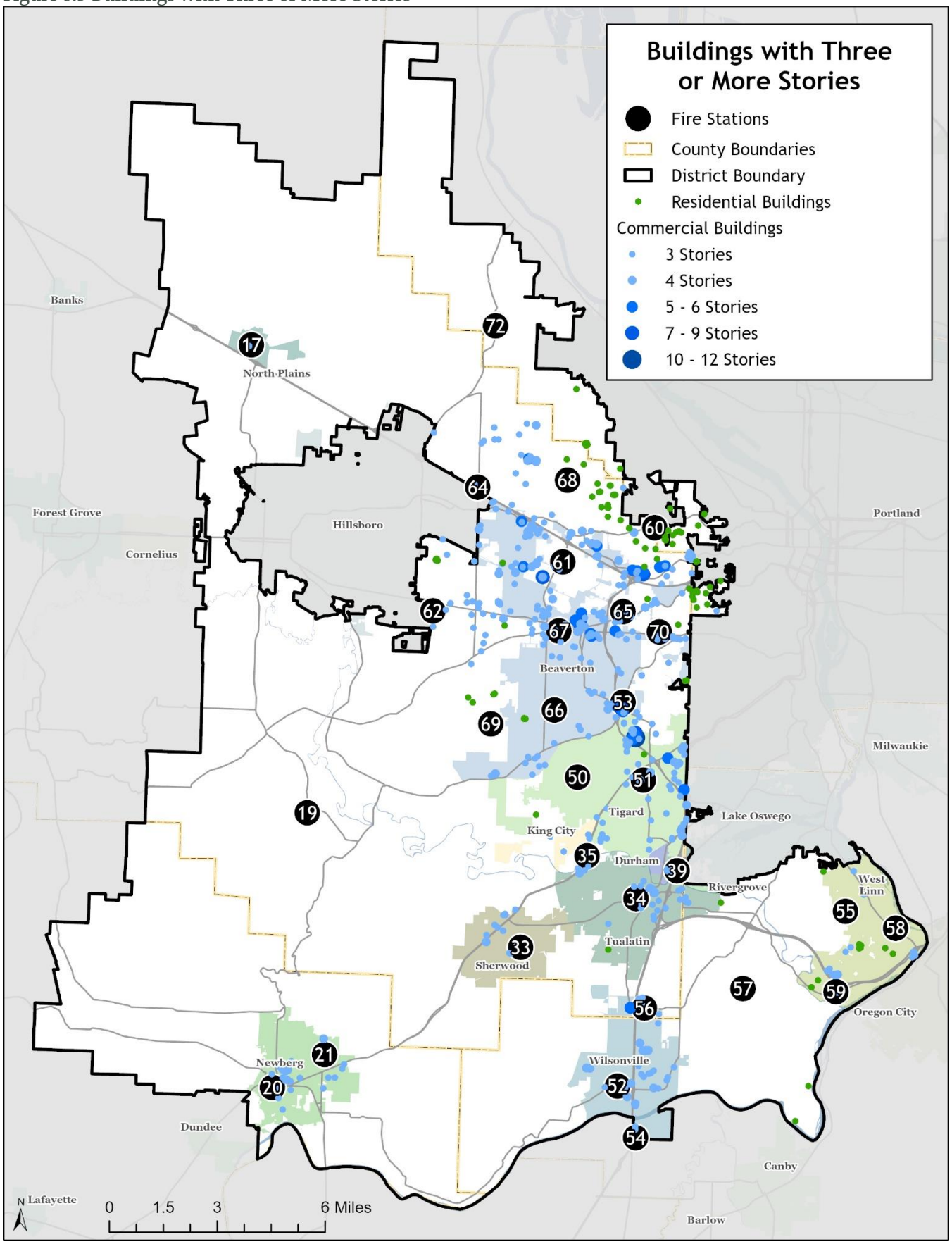
Density is defined as the amount of structural volume in an area (size and spacing of buildings). A given precipitating event can do more damage if it strikes an area of dense development. A significant portion of the District is composed of fairly dense horizontal development (Figure 8.5). Vertical development (high-rise) is very limited.

Resistance to collapse is dependent on materials, engineering practices, and building codes in effect at the time of construction. Risk is generally higher in older buildings. Most structural development within the District has occurred in the last 75 years, with most large structures having been constructed in the past 40 years.

Trench Rescue

There is risk where utilities such as sewer, gas, water, and electric lines have been buried. In most cases, these are located under or adjacent to roadways.

Figure 8.3 Buildings with Three or More Stories[18]



[18] Data on multi-story buildings is not consistently updated across the District.

Figure 8.4 Flood and Landslide Zones

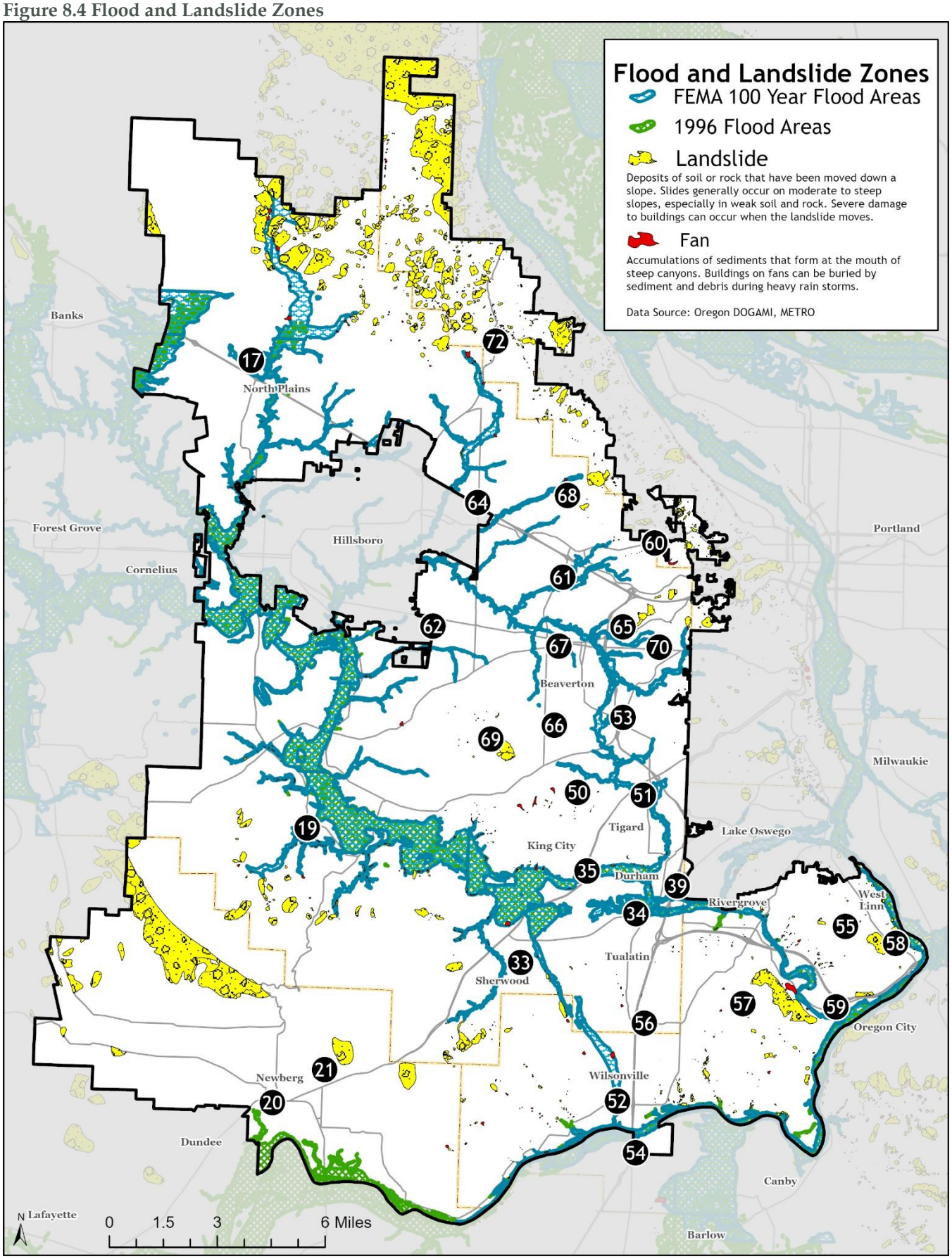
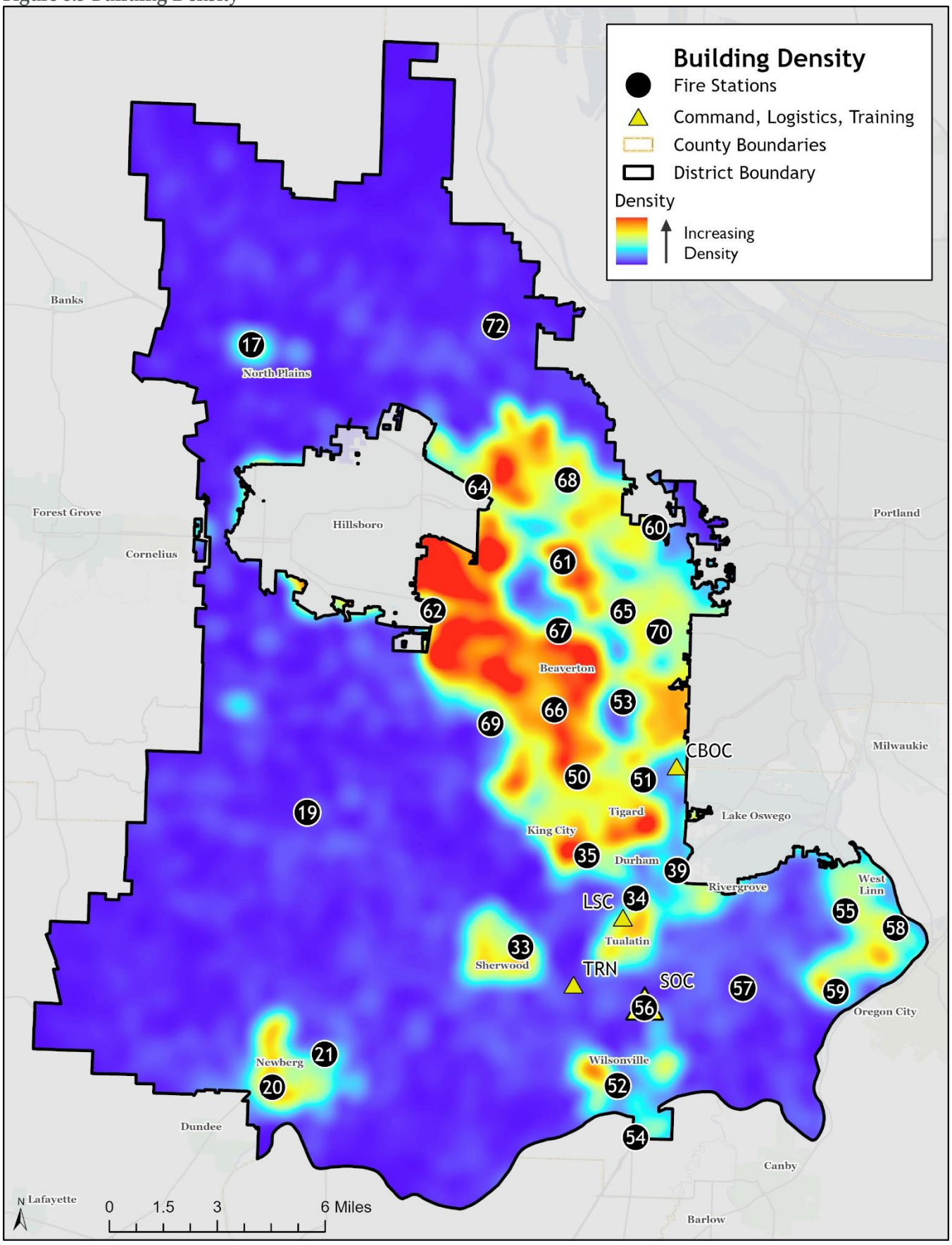


Figure 8.5 Building Density



WATER RESCUE

There are certain categorical risks and geographical areas both inside and outside of the District's service area to which the Water Rescue Team may respond to mitigate potentially threatened persons, property, and/or environment. Three primary risk factors are used to assist staff in identifying where to locate response resources in the types and numbers needed to effectively respond to likely emergencies: climate/topography, water-related recreational activities, and target hazards.

Climate/Topography

With the eastern border of Clackamas County extending well into Mt. Hood National Forest and the western border of Washington County at the edge of the coast range, snowfall and watershed become factors in calculating water risk elements at the valley floor. In addition to specific temperature, the rates of temperature rise or fall combined with precipitation are also key factors in determining downstream river flows and water temperatures. The primary rivers impacting water-related special operations for the District are the Willamette, Tualatin, Molalla, Pudding, Yamhill, and Clackamas.

Water-Related Recreational Activities

Annually, the bodies of water within Washington, Yamhill, and Clackamas counties play host to an estimated one million people looking to participate in recreational activities. Some of the most common activities taking place on or in the water include cooling off at a local swimming hole, boating, paddling, hiking at the water's edge, fishing, bird watching, camping along the riverfront, and taking day trips to many local, state, and national parks, which share a shoreline with the waterways.

Target Hazards

Holidays/Weekends

- Memorial Day
- Independence Day
- Labor Day
- Summer Vacation (local schools)

Willamette River System

- Willamette Falls (above/below)
- Willamette River Narrows (upper/lower)
- Dahl Beach
- Sportcraft Marina
- Area Bridges/Overpasses

Clackamas River System

- High Rocks
- Carver Undercut
- Area Bridges/Overpasses

Tualatin River

- Low Head Dam
- Swiftshore Park
- Tualatin Flood Waters
- Area Bridges/Overpasses

Molalla River

- Party Rock
- Forest Service Access Road

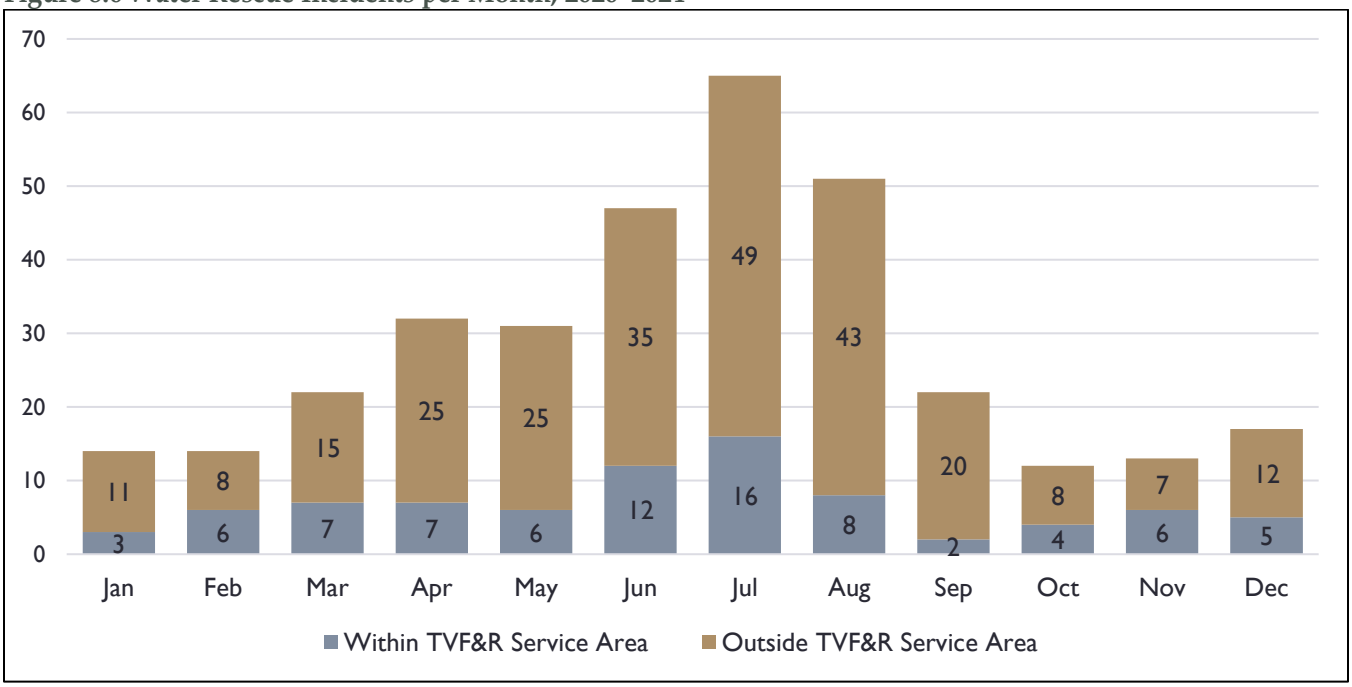
Lakes

- Henry Hagg Lake
- Lake Oswego

Summary

Combinations of the risk factors outlined above can result in periods of high risk resulting in an increase of Water Rescue Team responses even with local, county, and state multifaceted prevention efforts.

Figure 8.6 Water Rescue Incidents per Month, 2020–2024



SECTION 9: SPECIAL RISK

MAJOR INCIDENT PREPAREDNESS AND RESPONSE

The District maintains an Emergency Operations Plan (EOP) that describes the philosophy, organizational structure, and operational functions for the management of large-scale incidents. The EOP provides a framework to guide TVF&R's efforts to prepare for, respond to, and recover from major emergencies and disasters.

A component of this plan is the development of a hazard vulnerability analysis. A hazard analysis allows TVF&R to focus its energy and resources on those hazards that are most likely and would have the most serious impact on its citizens. The following analysis is a broad overview of the hazards that may affect the District, considered in terms of their potential impact on District operations and the people it serves. Given District size and geographic/physiographic diversity, it is important to recognize each hazard covers a range of probabilities and vulnerabilities (e.g., Skyline has a much greater wildfire hazard than Central Beaverton).

Category totals are determined by multiplying the weighting factor by the severity rating for each criterion listed (higher scores indicate greater risk). The results are listed in descending order of score.

Severity Rating

Low	1–3 points
Medium	4–6 points
High	7–10 points

Event history *(weighting factor = 2)*: based on significant events per 100 years.

Low	0–1 event/100 years
Medium	2–3 events/100 years
High	4+ events/100 years

Vulnerability *(weighting factor = 5)*: based on estimated percentage of population or property likely to be affected by the incident.

Low	<1% affected
Medium	1–10% affected
High	>10% affected

Maximum Threat *(weighting factor = 10)*: also based on affected population or property.

Low	<5% affected
Medium	5–25% affected
High	>25% affected

Probability *(weighting factor = 7)*: based on the likelihood of another occurrence with significant District impact within a specified period.

Low	≤ 1 chance/50 years (≤ 2% annual)
Medium	> 1 chance/50 years (> 2% annual)
High	> 1 chance/10 years (> 10% annual)

Severe Weather

Includes windstorms, snow, and ice storms, and extended periods of extreme heat or cold, but not floods. Extreme heat events are considered in terms of their impact on District residents, but not in conjunction with either drought or increased fire risk.

History: High (18 points)
Vulnerability: High (35 points)
Maximum Threat: High (90 points)
Probability: High (56 points)
Total: 199 points

Earthquake

Includes associated hazards such as landslides and rockfalls that could be triggered by an earthquake. Although the region has a history of small earthquakes, actual damage has been slight. Principal risk resides with a Cascadia Subduction Zone earthquake, possibly in excess of Magnitude 9, and with local crustal earthquakes that could cause more local but less regional impact (Figures 9.1 and 9.2).

History: Low (6 points)
Vulnerability: High (50 points)
Maximum Threat: High (100 points)
Probability: Low (7 points)
Total: 163 points

Infectious Disease Outbreak

Includes pandemics, other novel disease outbreaks (e.g., SARS), and large-scale food- and water-borne disease outbreaks, but not seasonal disease cycles or acts of terrorism.

History: Medium (12 points)
Vulnerability: Low (15 points)
Maximum Threat: High (100 points)
Probability: Medium (35 points)
Total: 162 points

Hazardous Materials

Includes fixed-site and transportation incidents as well as drug labs, but not acts of terrorism. TVF&R's Fire & Life Safety staff within Operations maintains information on sites using/storing hazardous materials; this information is supplied by businesses as required by state and federal law. Fire & Life Safety staff, in coordination with TVF&R's Hazardous Materials Team, also works with law enforcement to maintain awareness on non-reporting sites such as clandestine drug labs.

History: High (14 points)
Vulnerability: High (35 points)
Maximum Threat: Medium (60 points)
Probability: High (49 points)
Total: 158 Points

Figure 9.1 Relative Earthquake Hazard

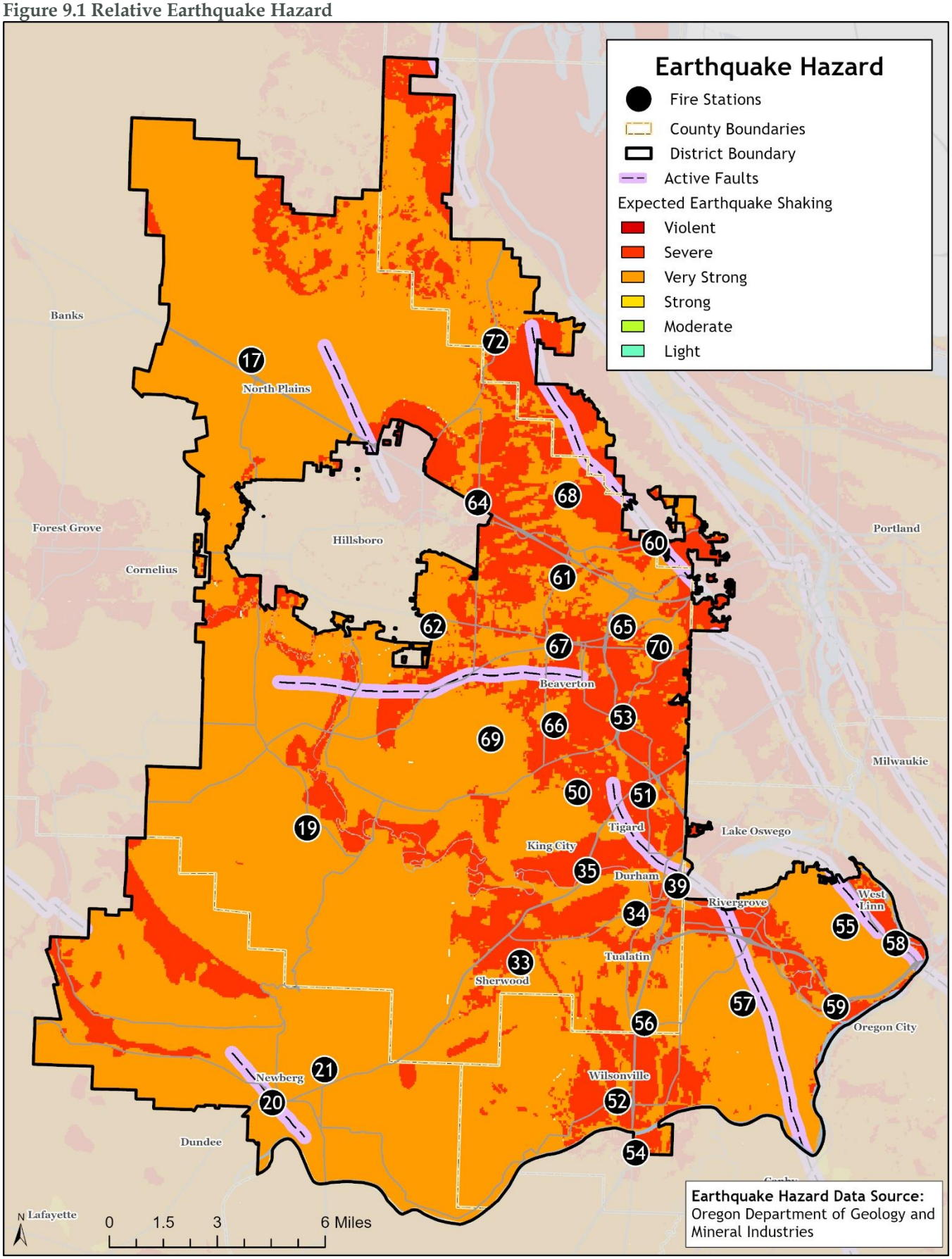
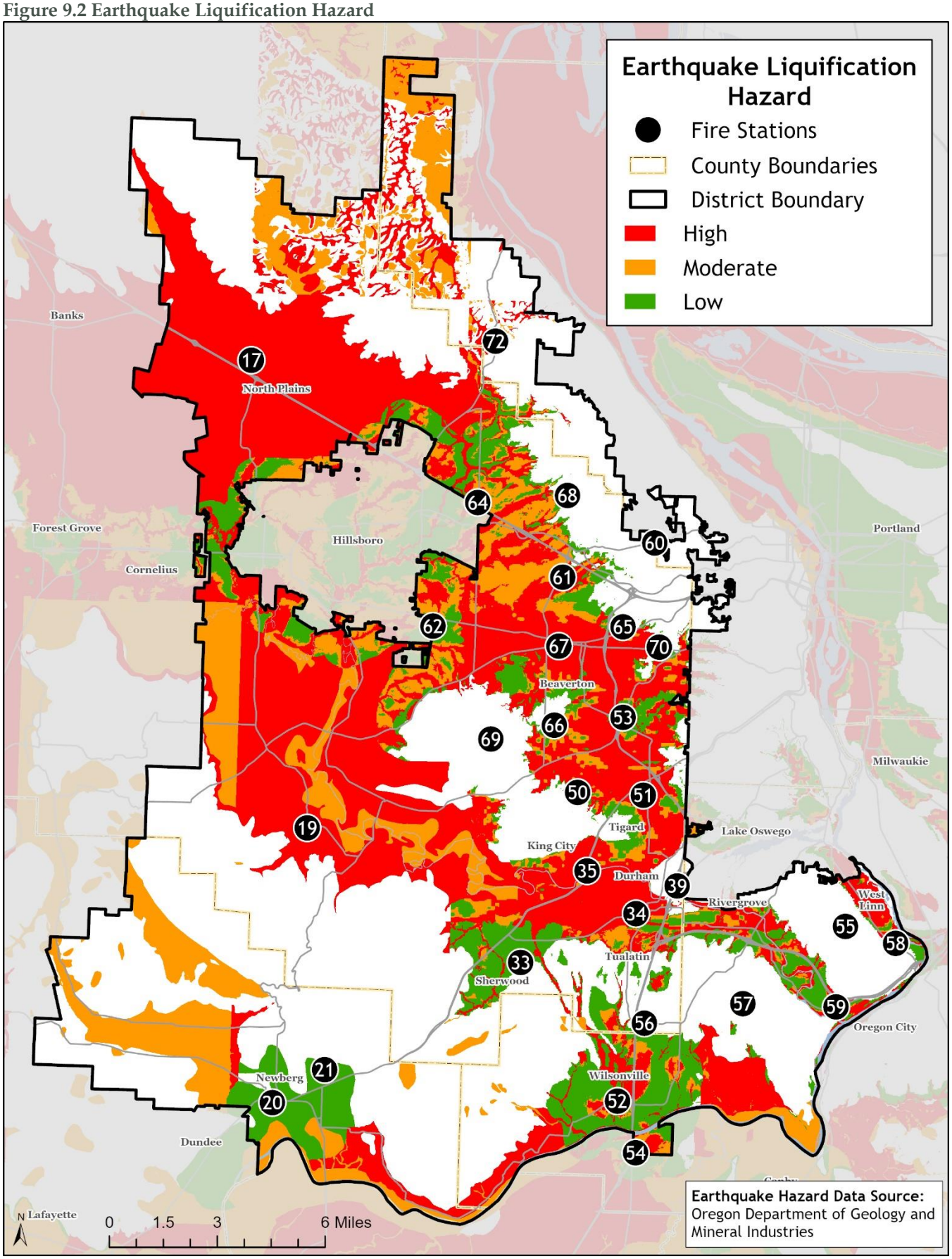


Figure 9.2 Earthquake Liquification Hazard



Utility Failure

Includes shortage or loss of power for periods greater than 24 hours, and shortages of fuels and pipeline interruptions (except for those that qualify as hazardous materials), such as oil, gasoline, and diesel.

History: Low (6 points)
Vulnerability: Medium (30 points)
Maximum Threat: High (80 points)
Probability: Medium (28 points)
Total: 144 points

Volcanic Activity

Includes ash-fall that might result from an eruption of Mt. Saint Helens or Mt. Hood. The District does not have any direct exposure to lahars or lava flows.

History: Medium (8 points)
Vulnerability: High (40 points)
Maximum Threat: High (80 points)
Probability: Low (7 points)
Total: 135 points

Fire

Small urban and interface fires are relatively common within the District. Most are handled easily through mutual aid without activation of the Emergency Operations Plan. The District faces a threat of wildland/urban interface fires from large areas of mostly undeveloped property within and adjacent to District boundaries, in incorporated and unincorporated areas.

History: High (16 points)
Vulnerability: Medium (25 points)
Maximum Threat: Medium (50 points)
Probability: High (49 points)
Total: 140 points

Flood

The District contains substantial portions of two rivers (Willamette and Tualatin) and several smaller streams subject to flooding. Despite flood controls, there is a history of minor and severe flooding (the last severe flood causing significant damage to Tualatin in 1996). Flooding related to dam failure is considered separately in this analysis.

History: High (20 points)
Vulnerability: Medium (25 points)
Maximum Threat: Medium (50 points)
Probability: Medium (42 points)
Total: 137 points

Civil Disturbance/Terrorism

Includes riots, violent protests or strikes, and acts of terrorism, as well as related infrastructure disruptions (regardless of where they occur).

History: Low (4 points)
Vulnerability: Low (15 points)
Maximum Threat: High (90 points)
Probability: Low (14 points)
Total: 123 points

Transportation

Non-hazardous materials incidents involving automobiles, aircraft, and rail.

History: High (20 points)
Vulnerability: Low (5 points)
Maximum Threat: Low (20 points)
Probability: High (70 points)
Total: 115 points

Drought

Extreme and prolonged drought may threaten drinking water and fire suppression supplies, as well as water-dependent agriculture and industry.

History: Medium (8 points)
Vulnerability: Medium (20 points)
Maximum Threat: Medium (40 points)
Probability: Low (14 points)
Total: 82 points

Dam Failure

Includes the Tualatin River basin downstream from Scoggins Dam and any of the hydroelectric dams on the Clackamas River (directly affecting a very small portion of West Linn).

History: Low (2 points)
Vulnerability: Low (5 points)
Maximum Threat: Low (10 points)
Probability: Low (7 points)
Total: 24 points

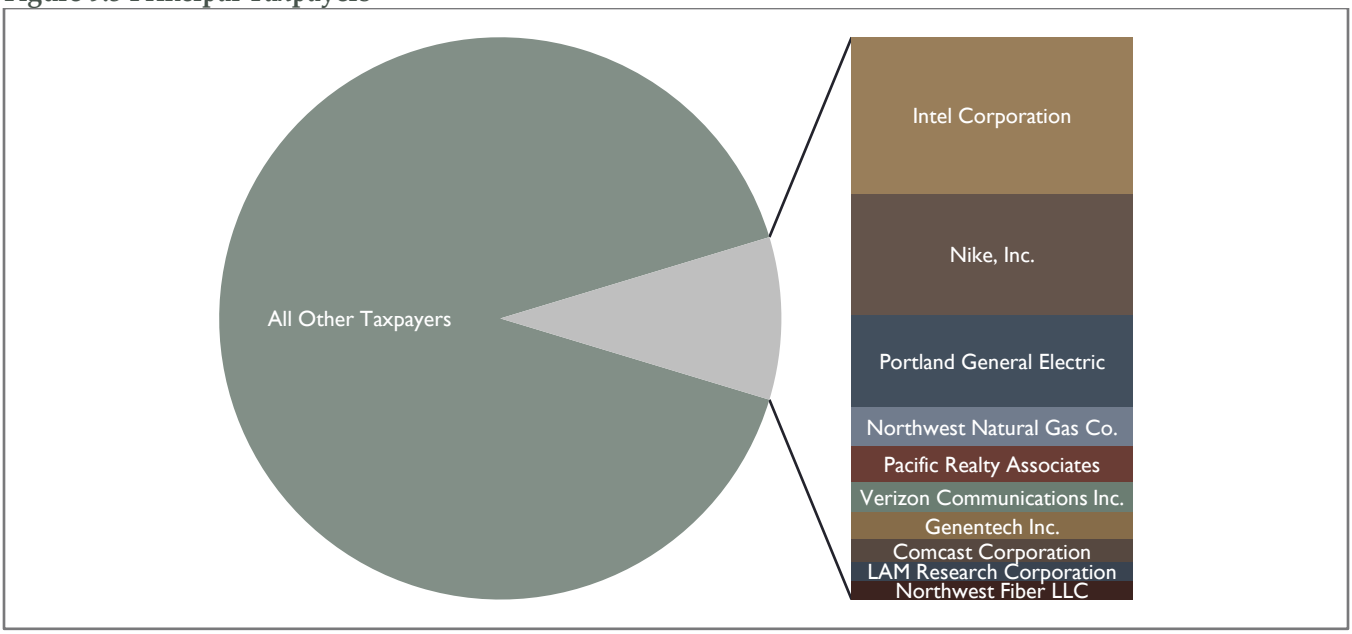
FINANCIAL

While many fire departments could experience substantial financial risk from the loss of a single or multiple larger taxpaying occupancies, this risk is minimized with TVF&R. The reasoning is threefold:

1. The District's taxing authority resides within 11 cities and portions of four counties, thus creating a geographically broad assessed valuation base.
2. Financial risk is mitigated by the spread between assessed valuation and market valuation. While these two variables have come closer together, there is still a gap that provides for a level of risk mitigation.
3. Financial risk is further mitigated as no one taxpaying entity comprises a significant portion of the District's total assessed valuation upon which taxes are levied. As an example, the ten principal taxpaying entities within the District makeup only 9.34 percent of the total assessed valuation the District levies taxes against.

This is not to say there is no financial risk to the District should a major incident occur that modifies the overall assessed valuation the District can levy taxes against, the risk is simply minimized based upon the size and geographic diversity of the assessed valuation.

Figure 9.3 Principal Taxpayers[2]



	Taxable Assessed Value	% of Taxable Assessed Valuation
Intel Corporation	$1,895,002,799	2.60%
Nike, Inc.	$1,464,501,430	2.01%
Portland General Electric	$1,124,597,930	1.54%
Northwest Natural Gas Co.	$468,313,450	0.64%
Pacific Realty Associates	$440,231,557	0.60%
Verizon Communications Inc.	$360,262,000	0.49%
Genentech Inc.	$328,238,530	0.45%
Comcast Corporation	$274,530,000	0.38%
LAM Research Corporation	$230,442,558	0.32%
Northwest Fiber LLC	$223,356,900	0.31%
All Other Taxpayers	$66,101,474,316	90.66%
Total Assessed Value	$72,910,951,470	100.00%

SECTION 10: CRITICAL TASKS & ERF

Critical tasking and Effective Response Force (ERF) analysis determines the staffing levels, number of units needed, and duties to perform at an emergency scene. A fire department must be able to determine what tasks need to be completed to have a positive influence on the outcome of the situation, and the number of personnel and apparatus required to complete those tasks.

Through a structured risk management plan, the following risk/benefit value statement provides direction to on-scene personnel engaged in evaluating conditions. This value statement is also incorporated into the District's Fire & Rescue Protocols.

1. Within a structured plan, we may risk our lives to protect savable lives.
2. Within a structured plan, we may risk our lives to protect savable property.
3. We will NOT risk our lives at all to save lives or property that is already lost.

STRUCTURE FIRE

The variables of fire growth dynamics and property and life risk combine to determine the fire scene tasks that must be accomplished to mitigate loss. These tasks are interrelated but can be separated into two basic types: fire mitigation and life safety. Fire mitigation tasks are those related to controlling and extinguishing the fire. Life safety tasks are those related to finding trapped victims and safely removing them from the structure.

The decisions on which tactics to use depend upon the stage of the fire and the threat to life safety. If the fire is in a pre-flashover stage, firefighters can make an offensive fire attack into the building by using hand lines to attack the fire and shield trapped victims until they can be removed from the building. If the fire is in its post-flashover stage and has extended beyond the capacity or mobility of handheld hoses, or if structural damage is a threat to firefighters' safety, the structure is typically declared lost and master streams are deployed to extinguish the fire and keep it from advancing to surrounding exposures.

Life safety tasks are based upon the number of occupants, their location, their status (e.g., awake versus sleeping), and their ability to take self-preserving action. For example, ambulatory adults need less assistance than non-ambulatory adults require. The elderly and small children generally always require more assistance.

TVF&R utilizes aggressive offensive attacks whenever possible. The first objective is to put a hose line between the victims and the fire and to rescue those victims by removing them from proximity to the hazard. The second is to contain the fire to the room of origin.

Before on-scene procedures can be established, the initial Incident Commander (IC) must select an appropriate initial strategy—offensive or defensive. In addition, all TVF&R incidents are managed using an established Incident Command System (ICS).

An offensive strategy is an aggressive interior fire attack. The top priority is rescue of trapped victims. Because the District desires to limit the number of fires that spread beyond the room of origin and to limit fire-related deaths and injuries, the aggressive offensive attack is utilized wherever possible, given safety and other relevant concerns.

Importantly, TVF&R has established Fire & Rescue Protocols that clearly define safe and effective operating practices for firefighters who enter IDLH environments. Firefighters operating in hazardous environments are required to work in teams of two or more, and during initial operations, when only one team is operating, a minimum of four personnel are required prior to entry into any IDLH area.

While exceptions to the protocol are allowed under conditions where there is a highly suspected life threat that requires immediate intervention, these situations are uncommon and always trigger a comprehensive post incident analysis.

On any fire with sustained interior (offensive) operations, TVF&R protocols require a Rapid Intervention Team (RIT) be immediately available for every point of entry. These teams require a minimum of two firefighters with a complete complement of equipment and a RIT pack, which is equipped with extra air, mask, radio, and rescue equipment in the event the RIT is engaged to rescue a trapped or missing firefighter. This team can be initiated through any truck company deployed on every task force or assigned/transitioned to Heavy Rescue 51 which is deployed on every first alarm or greater.

Interior operations also require truck company operations. Primary functions are based on making the structure as safe as possible for interior operations. This entails, among other functions, securing the utilities, making multiple egress points, forcing entry and egress if required, managing smoke removal, and conducting primary searches.

A defensive strategy is one that allows for no interior fire attack, except as may be necessary to rescue trapped firefighters. No attempts are made to rescue civilian victims because in circumstances where defensive tactics are warranted, victims are presumed to be beyond rescue. Nearly all firefighting is performed from outside the structure with the goal of containing the fire to the initial structure involved.

TVF&R protocols require all fire personnel who were exposed to products of combustion in an IDLH area, or any area within the immediate perimeter of any fire, to undergo decontamination and rehabilitation. Effective June 30, 2020, these processes are directed by Squad/Rehab 39, which is deployed on every task force or greater. Volunteer companies also respond to these incidents to support Squad/Rehab 39 with rehabilitation.

Figure 10.1 represents the critical tasks and associated minimum number of personnel (ERF) required to complete those tasks based upon a moderate-risk structure fire, single-family residential scenario.

Figure 10.1 Structure Fire ERF

Task	Personnel
Attack Line	2
Pump Operator	1
Water Supply	1
Back-Up Line	2
RIT	2
Command/Safety	1
Search and Rescue	2
Ventilation	2
Utilities/Exposures	2
TOTAL	15

In the event of a substantial (greater alarm) fire, or at the request of a battalion chief, a designated Incident Management Team comprised of chief officers and other staff can arrive on scene to provide command support. The dispatch of the Incident Management Team provides an IC, deputy incident commander, section chiefs for logistics and planning, a public information officer, and other support personnel. This relieves the on-scene commander of responsibilities not directly related to command of incident operations.

Critical task and associated ERF requirements will continue to be analyzed and outlined in future revisions of the Standards of Cover to account for the risk impact ratings of additional zoning classifications within TVF&R's service area.

The following maps represent the District's hypothetical structure fire ERF performance in the two planning zones. Utilizing station and apparatus location, road networks, and speed classifications, the NFPA 1710 travel performance objectives were applied. This planning tool assists staff when evaluating the deployment of resources and the District's ability to meet its concentration objectives.

Figure 10.2 Hypothetical Structure Fire ERF Performance, High Density Planning Zone

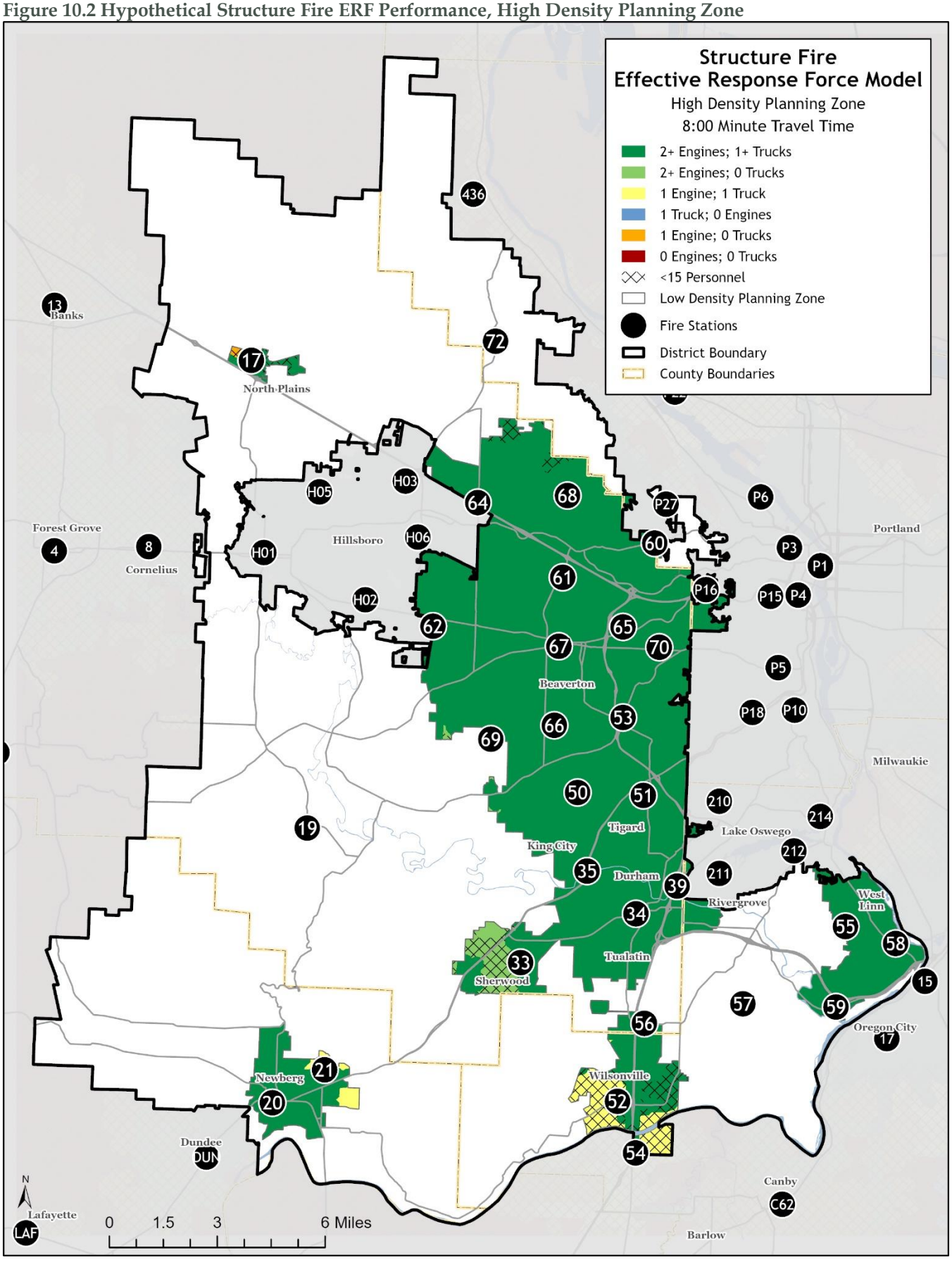
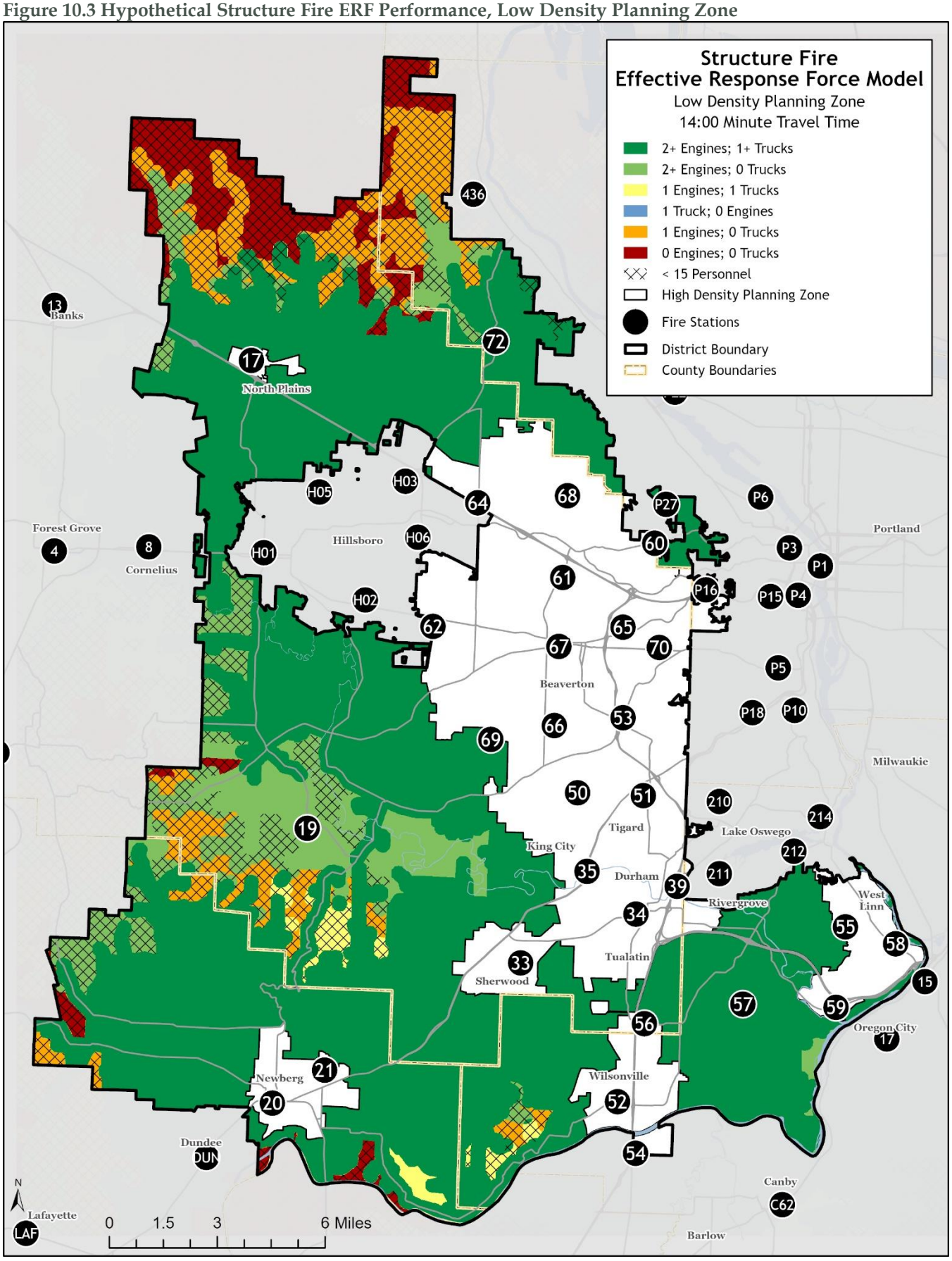


Figure 10.3 Hypothetical Structure Fire ERF Performance, Low Density Planning Zone



EMS

Initial EMS response is determined by dispatchers who utilize an approved Emergency Medical Dispatch (EMD) system. The response can be amended after EMS personnel have assessed the scene. The objective is to deliver an effective number of highly trained personnel to patients in a timely manner based upon the tasks needed to treat the patient. Every fire company staffs a crew with at least one paramedic and carries equipment to provide advanced life support upon arrival. The District's EMS ERF does not reflect two additional personnel who arrive via private ALS ambulance.

Figure 10.4 EMS ERF

Tasks	Personnel
Assessment, Cardiac Monitoring/Interpretation, Documentation, IV Access, Medication	2

Figure 10.5 Cardiac Arrest & Drowning ERF

Tasks	Personnel
Airway Management, Assessment, Cardiac Monitoring/Interpretation, Defibrillation, Documentation, CPR, IV Access, Medication	6

The following maps represent the District's hypothetical EMS ERF performance in the two planning zones. Utilizing station and apparatus location, road networks, and speed classifications, the NFPA 1710 travel performance objectives were applied. This planning tool assists staff when evaluating the deployment of resources and the District's ability to meet its concentration objectives.

Figure 10.6 Hypothetical EMS ERF Performance, High Density Planning Zone

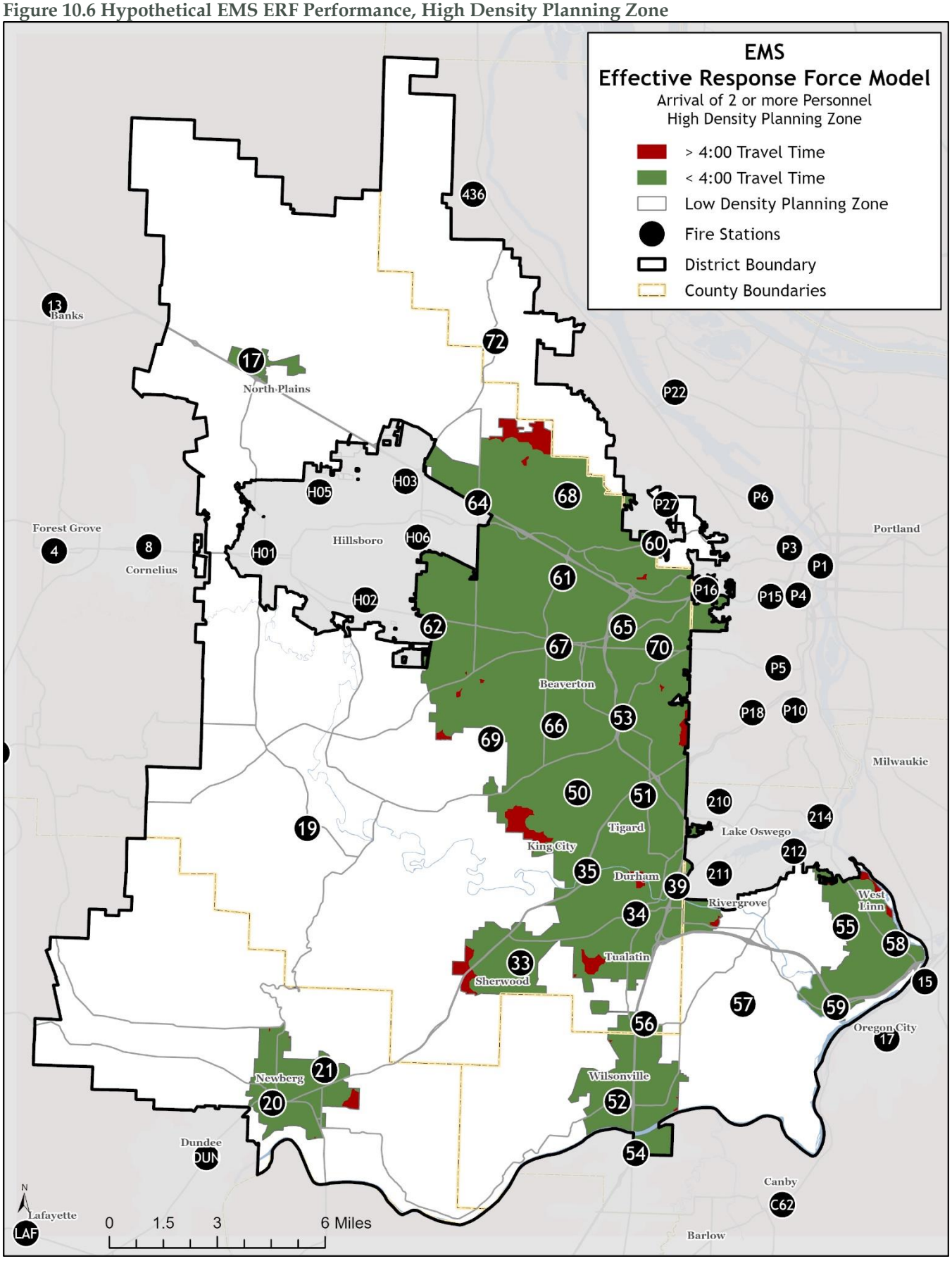


Figure 10.7 Hypothetical EMS ERF Performance, Low Density Planning Zone

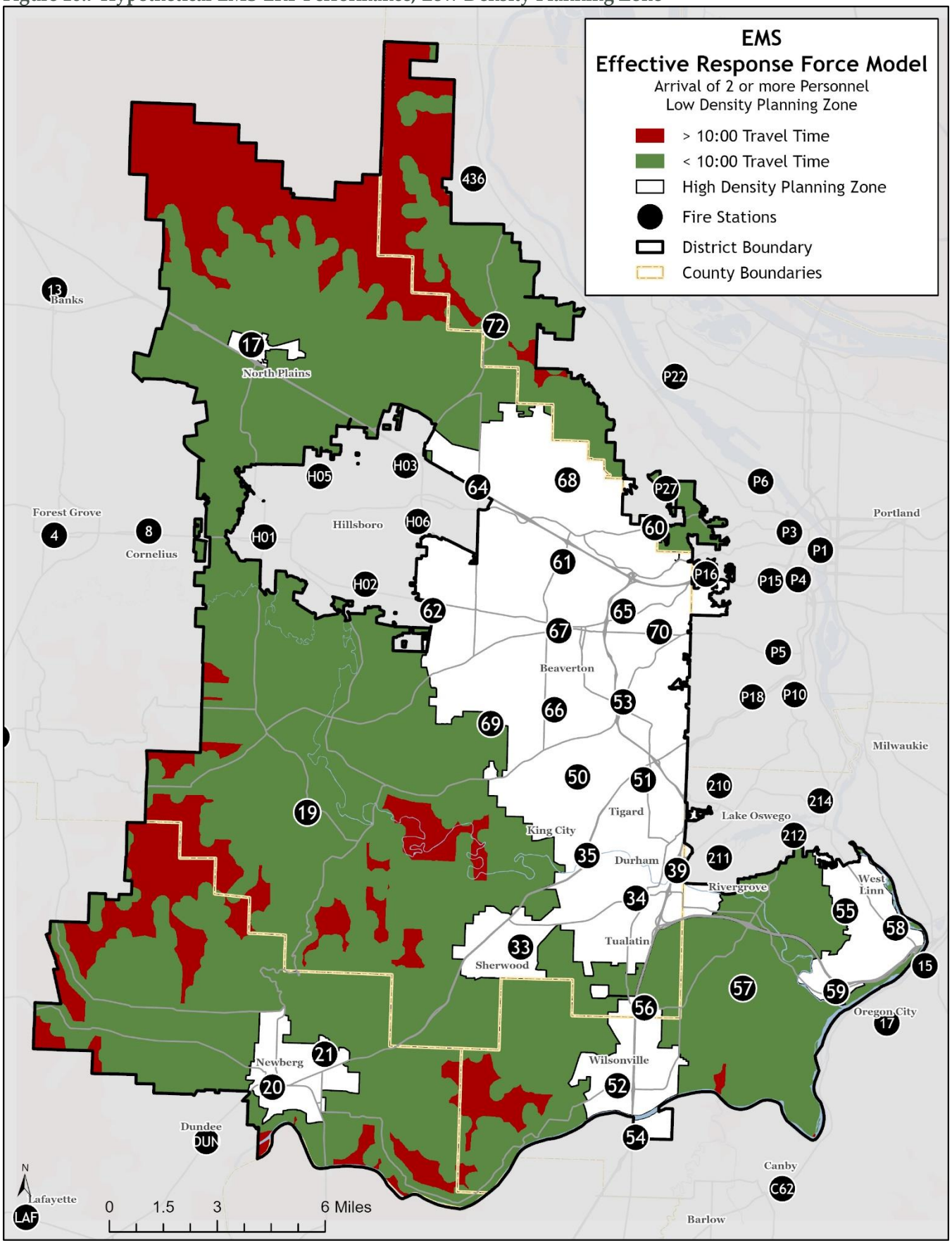


Figure 10.8 Hypothetical Cardiac Arrest & Drowning ERF Performance, High Density Planning Zone

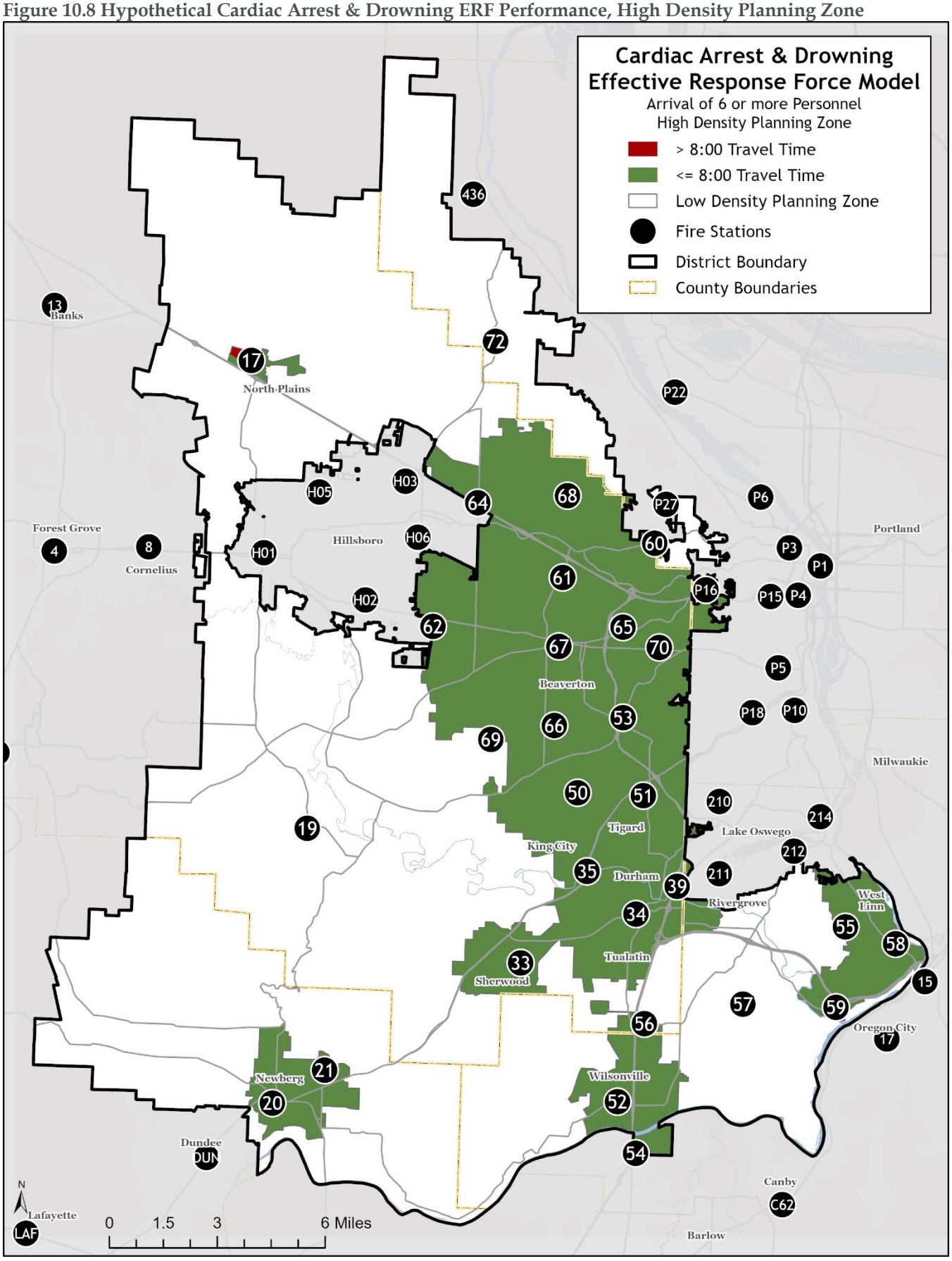
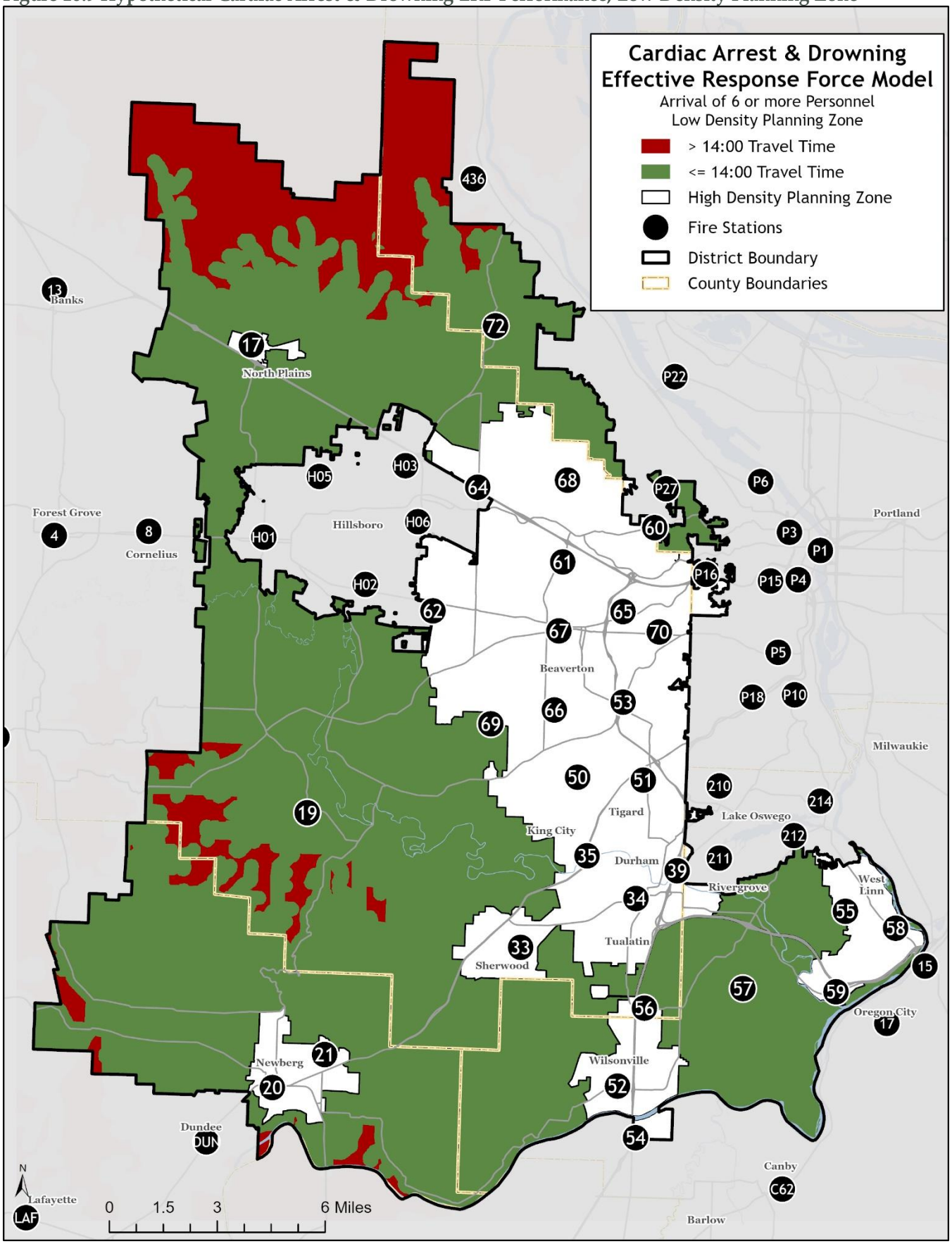


Figure 10.9 Hypothetical Cardiac Arrest & Drowning ERF Performance, Low Density Planning Zone



SPECIAL OPERATIONS: HAZARDOUS MATERIALS

The ERF for hazardous materials incidents requiring technician-level interventions consists of a minimum of seven HazMat Team personnel. The response force can implement a scene assessment, designating a hot/warm zone, identifying product, determining life safety and environmental damage assessment, conducting a risk vs. benefit analysis, and decontaminating personnel.

Figure 10.10 represents the HazMat Team positions and the number of personnel needed to staff each position. If the team is at minimum staffing, the communications and resource positions will be combined.

Figure 10.10 Hazardous Materials ERF

Position	Personnel
Team Leader	1
HazMat Safety	1
Communications	1
Resource	1
Entry Team	2
Backup Team	2
TOTAL	8

SPECIAL OPERATIONS: TECHNICAL RESCUE

The following technical rescue ERF tables depict the critical tasks in each discipline and the number of personnel required to accomplish each one. In the event of a more complex incident, the required force will be scaled up accordingly using the Incident Command System.

Figure 10.11 Confined Space Rescue ERF

Task	Personnel
Incident Command	1
Technical Rescue Officer	1
Technical Safety Officer	1
Rigger	1
Main Line	1
Safety Line	1
Haul Team	3
Entry Team	2
Backup Team	2
Attendant	1
Communication	1
Air Supply	2
Air Monitoring	1
Ventilation	2
Runners	2
Lockout/Tagout	1
TOTAL	23

Figure 10.12 Heavy Vehicle and Machinery Extrication ERF

Task	Personnel
Incident Command	1
Technical Rescue Officer	1
Technical Safety Officer	1
Power Disconnect or Lock/Tagout	1
Stabilization	4
Extrication	4
Hose Line	2
Medical	3/patient
TOTAL	17

Figure 10.13 High-Angle Rope Rescue ERF

Task	Personnel
Incident Command	1
Technical Rescue Officer	1
Technical Safety Officer	1
Rigger	1
Rescuer	2
Backup	2
Edge Control	1
Main Line	1
Haul Team	3
Safety Line	1
TOTAL	14

Figure 10.14 Structural Collapse Rescue ERF

Task	Personnel
Incident Command	1
Technical Rescue Officer	1
Technical Safety Officer	1
Search Team	4
Shore Team	4
Cut/Runner Team	4
TOTAL	15

Figure 10.15 Trench Rescue ERF

Task	Personnel
Incident Command	1
Technical Rescue Officer	1
Technical Safety Officer	1
Vent	1
Heat	1
Dewater	1
Air Monitor	1
Panel Team	4
Shore Team	4
Entry Team	2
Backup Team	2
Materials Issue	2
Runners	4
TOTAL	25

SPECIAL OPERATIONS: WATER RESCUE

Tasks

The variables of water dynamics, life risk, body recovery, and property loss combined determine the water-related tasks that must be accomplished to mitigate loss. These tasks can be outlined in three basic groups: surface/swift water rescue, boat rescue, and water-related support tasks.

Surface and Swift Water Rescue Tasks

These tasks are focused on utilizing surface and swift water technicians (rescue swimmers) to affect the search for and/or rescue of victims in or around water of various conditions. Water types may include static, dynamic, ice covered, swamp-like, and mud lands. To provide for the safety of both the rescuer and victim, a low-to-high risk algorithm has evolved for the implementation of various rescue methods. Under times of stress, the implementation of this algorithm helps to prevent a rescuer from endangering themself and the victim, thus providing a sound, step-by-step approach when affecting a rescue. As the algorithm progresses, the danger and threat to the rescuer and victim increases. The algorithm is *Talk*, *Reach*, *Wade*, *Throw*, *Row*, *Go, Tow,* and *Helo*.

Boat Rescue Tasks

These tasks can be broken down into two main classifications: boat operator and rescue boat operator. Boat operator skills involve the basic skills required to trailer, launch, retrieve, perform slow- and high-speed maneuvers, and conduct emergency operations. These skills are considered the foundation skills to rescue boat operator tasks.

Rescue boat operator skills involve precise handling of rescue boats in all water types, including ferry angles, holding in place against elements such as wind and current, working in close quarters with other vessels, anticipating the effects of elements on victims and vessels stranded in water, and victim and rescuer pickoffs from dynamic water situations. Therefore, these tasks require a solid ability to read various water situations related to depth, speed, currents, aeration, debris flow/river levels, temperature, likely river traffic, and known boating/target hazards in or near the water.

Water-Related Support Tasks

As a result of being a public safety Water Rescue Team, the District has some added ability to assist in various other emergency operations related to the water environment.

- Wildland/Boat Fires: Portable high-pressure pump and hose able to deliver up to 200gpm.
- HazMat Assessment/Booming: Ability to deploy booms on hydrocarbon-type spills.
- SCUBA Diver Support: Tending divers or providing transport and/or dive platform.
- Night Vision Devices: Search ability over large areas during hours of darkness.
- 12-foot Catch Pole: For rescue or recovery.

Operation Modes

The Water Rescue Team operates in one of two modes when called to a water rescue incident: rescue mode or recovery mode.

Rescue Mode

The Water Rescue Team will maintain rescue mode as long as the victim is deemed potentially viable. Rescue mode is broken down further into two types of water rescue incidents: confirmed drowning and unknown type. In an unknown type of incident, the team will act quickly in an attempt to mitigate loss of life. This type of search and/or rescue may last moments to hours depending upon the surrounding situation and environment. In a confirmed drowning incident, the rescue team utilizes current "Metro Regional EMS Consortium Patient Treatment Protocols" to dictate the mode of action.

Recovery Mode

When the decision is made the victim is no longer viable, the team will transition to recovery mode. When operating in recovery mode, time will be taken for additional planning while using a wider range of resources to ensure full safety measures are in place. Recovery mode typically involves a slower working pace than rescue mode. This type of search or recovery can take hours or days depending upon the surrounding situation and environment.

Water Rescue Response

The foundational elements of the Water Rescue Team functions are based on DPSST curriculums for the following coursework: marine awareness, deckhand, boat operator, rescue boat operator, surface water rescue level I and II, and swift water rescue technician. This training, combined with additional annual compliance training, results in clear and defined operating practices for water rescue technicians who enter the water environment.

Furthermore, it is recognized throughout Washington and Clackamas counties that a basic water rescue alarm will surpass the capabilities of any one agency to provide an ERF to mitigate the event; therefore, automatic aid has been established in both Washington and Clackamas counties in the form of a Water Rescue Consortium. Agencies involved in the consortiums participate in regular training and ensure common practices, based on DPSST standards, are in place. In addition, regular meetings and post incident analysis reviews are essential to ensuring safety and performance of all members.

Water rescue responses differ dramatically depending on whether the incidents are shore-based vs. boat-based, swift water vs. flat water, above surface vs. below surface, and whether there are access limitations.

Figure 10.16 Water Rescue Technical Level ERF

Task	Personnel
Rescue Swimmers	2*
Deckhand/Backup Swimmers	2*
Boat Operator	2*
Support	2
Command/Safety	1
Upstream Lookout	1
Downstream Safety (RIT)	2*
TOTAL	12

**Trained Water Rescue Technician Level*

The District will arrive to all water-related incidents in a timely manner, with personnel sufficiently trained and equipped to initiate rescue efforts to prevent life and property loss and/or mitigation efforts to prevent environmental damage, while providing for the safety of responders. Often the ERF includes working in conjunction with additional specially trained and organized regional resources.

SECTION 11: PERFORMANCE MEASUREMENT

DATA REPORTING METHODOLOGY

Dispatch Call Types, rather than Situation Found incident types, are used for response performance analysis. Regardless of what crews found when they arrived on scene, the Dispatch Call Type determines the initial response. The incident type categories used for response analysis are:

Traffic Accident: Includes Dispatch Call Types involving motor vehicle collisions.

Cardiac Arrest: Includes the Dispatch Call Type cardiac arrest.

Drowning: Includes the Dispatch Call Type drowning/water-related injury.

EMS: Includes Dispatch Call Types in the EMS series, excluding cardiac arrest, drowning/water-related injury, and those involving Traffic Accidents.

Structure Fire: Includes Dispatch Call Types of residential, commercial, barn, and chimney fires. Concentration analysis requires a minimum arrival of one truck, two engines, and any other combination of units until 15 personnel have arrived.

Non-Structure Fire: Includes Dispatch Call Types in the fire series, excluding structure fire.

Hazardous Materials: Includes Dispatch Call Types of bomb threat, explosion/hazmat, natural gas leak, odor investigation, toxic exposure, and train incident.

Technical Rescue: Includes Dispatch Call Types of industrial/machinery accident, technical rescue, and train incident.

Water Rescue: Includes Dispatch Call Types of drowning/water-related injury and marine rescue.

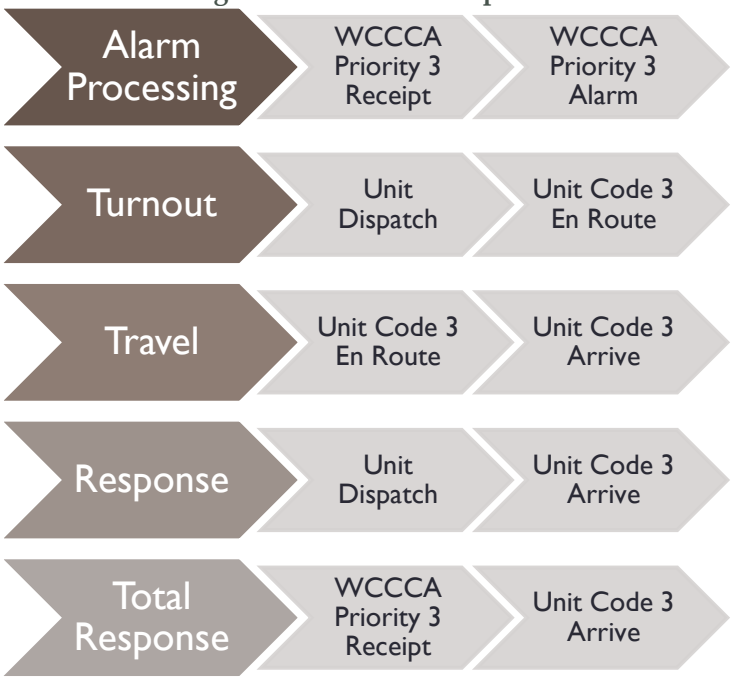
Performance of the first-arriving unit (distribution) is analyzed for all incident type categories. Performance of the Effective Response Force/ERF (concentration) as outlined in Section 10 is analyzed for the incident type categories as noted below.

Figure 11.1 Minimum Personnel Arrival Objective

Call Type	Distribution (First-Arriving)	Concentration (Effective Response Force/ERF)
Traffic Accident	1	n/a
Cardiac Arrest	1	6
Drowning	1	6
EMS	1	2
Structure Fire	1	15 (with minimum 1 truck and 2 engines)
Non-Structure Fire	1	n/a
Hazardous Materials	1	n/a
Technical Rescue	1	n/a
Water Rescue	1	n/a

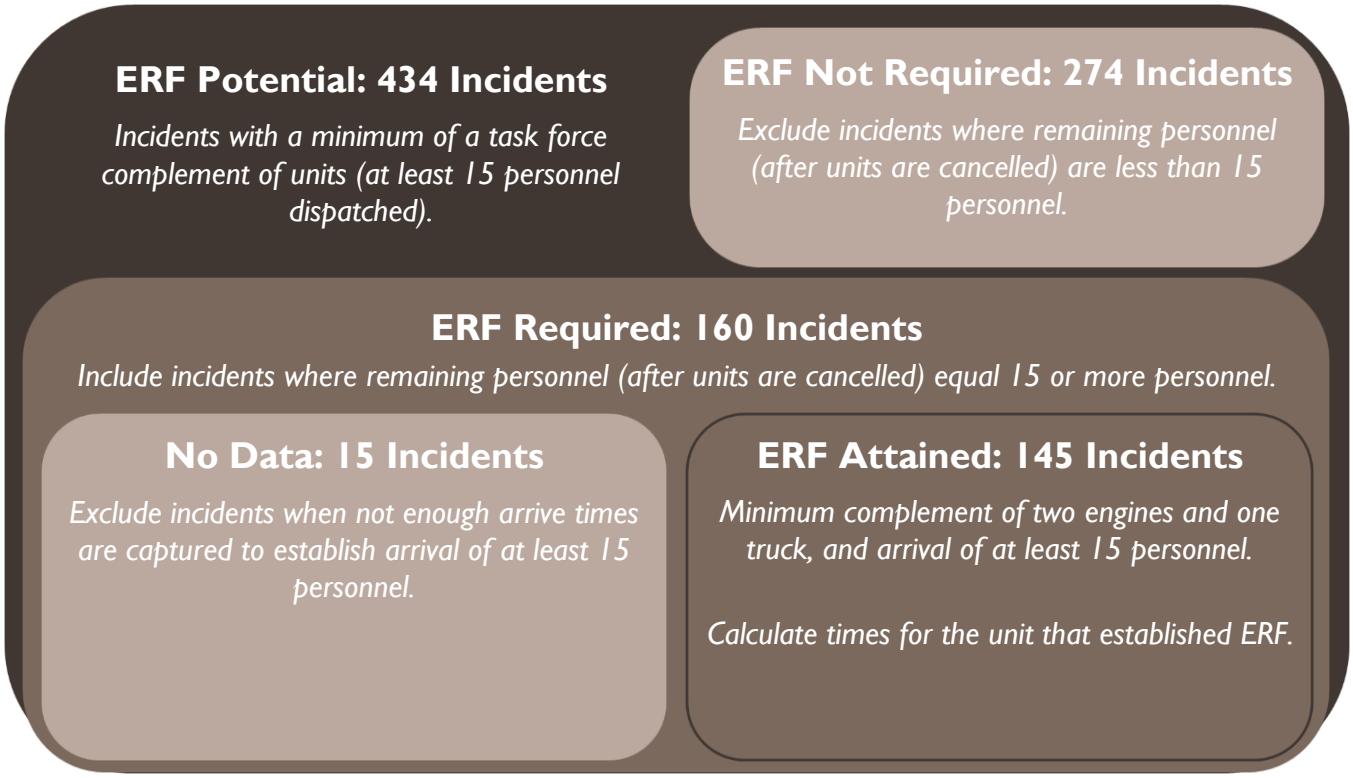
Within these incident categories, response performance is analyzed for five time segments based on specified timestamps. Response performance is only analyzed for Code 3 responses.

Figure 11.2 Response Performance Time Segments and Timestamps



A workflow for analyzing structure fire ERF has been established. The intent of the workflow is to ensure analysis is performed only for those structure fires requiring the establishment of an effective response force, and not structure fires where less units and personnel were needed (e.g., multiple-unit response with a recall of units). Additionally, this workflow identifies those structure fires that cannot be analyzed due to lack of captured arrive times. This information can then be used to educate crews on the importance of capturing this timestamp.

Figure 11.3 Structure Fire ERF Workflow



PLANNING ZONES

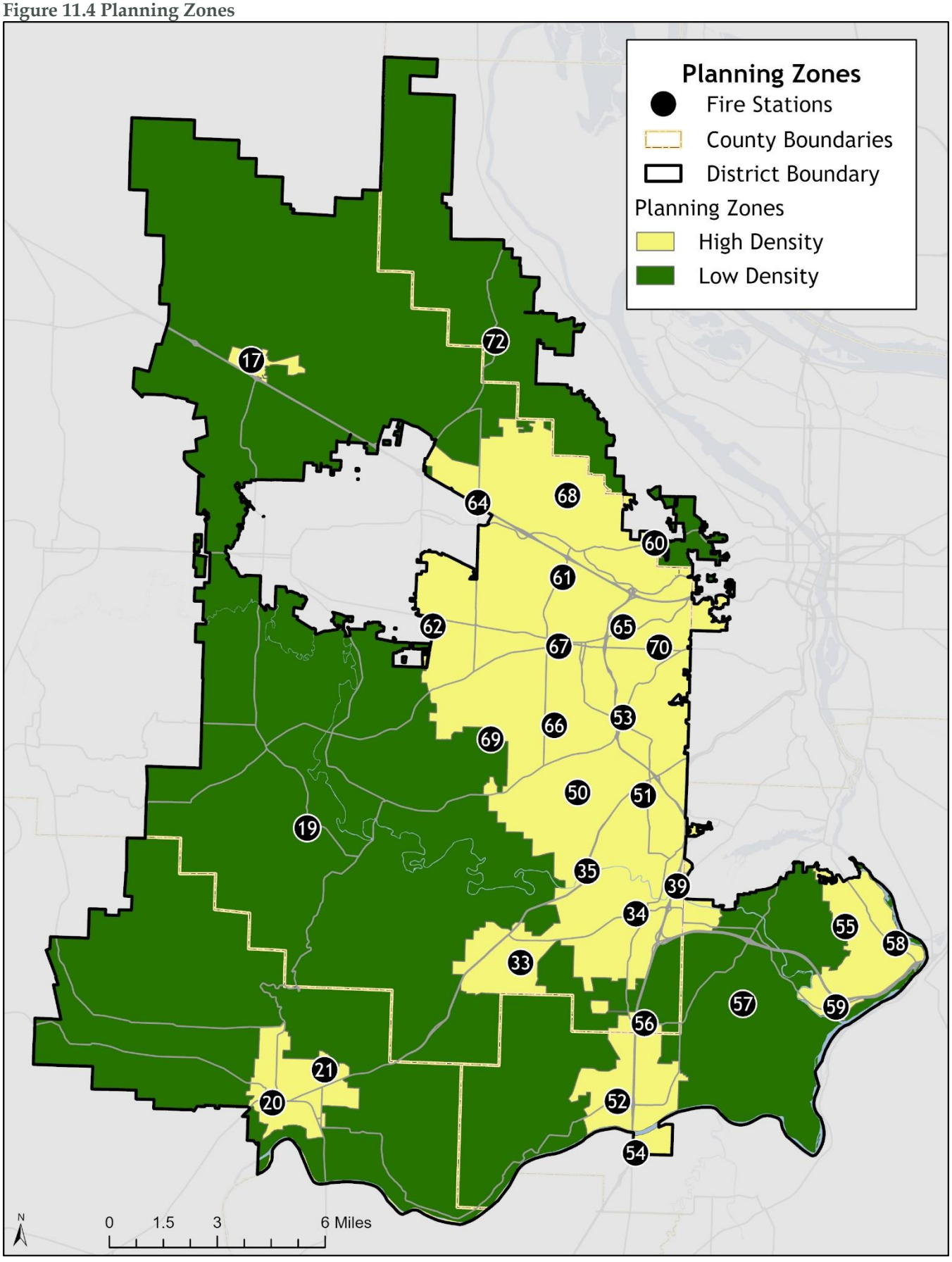
The District's two planning zones are geographical areas used to assess risk and measure response performance. Population and other factors are utilized in determining planning zones so risk and performance are classified appropriately.

The planning zones are based on aggregates of the population definitions from Section 1 with additional factors and are classified as follows:

High Density: A planning zone designation within both the incorporated and unincorporated areas of the District with a population density of over 2,001 people per square mile. Industrial zoning classifications, commercial zoning classifications, as well as major freeways (Interstate Highways I-5 and I-205, U.S. Highway 26, and Oregon State Highway 217) also fall under this designation. Additionally, low-density areas surrounded or adjacent to high-density areas are individually evaluated and added/excluded based on geographic location.

Low Density: A planning zone designation within both the incorporated and unincorporated areas of the District with a population density of 2,000 people or less per square mile. Mixed-use residential zoning classification is also considered in this designation. Additionally, high-density areas surrounded or adjacent to low-density areas are individually evaluated and added/excluded based on geographic location.

Figure 11.4 Planning Zones



RESPONSE PERFORMANCE BASELINES AND BENCHMARKS

Figure 11.5 Performance Benchmark (90th Percentile)

First-Arriving Unit

Incident Type	Alarm Processing	Turnout	Travel	Response	Total Response
Traffic Accident	n/a	1:20	4:00	5:20	n/a
Cardiac Arrest	1:04	1:00	4:00	5:00	6:04
Drowning	1:04	1:00	4:00	5:00	6:04
EMS	1:04	1:00	4:00	5:00	6:04
Structure Fire	1:04	1:20	4:00	5:20	6:24
Non-Structure Fire	n/a	1:20	4:00	5:20	n/a
Hazardous Materials	n/a	1:20	4:00	5:20	n/a
Technical Rescue	n/a	1:20	4:00	5:20	n/a
Water Rescue	n/a	1:20	4:00	5:20	n/a

Second-Arriving Unit (Minimum Four Personnel)

Incident Type	Alarm Processing	Turnout	Travel	Response	Total Response
Structure Fire	1:04	1:20	6:00	7:20	8:24

Effective Response Force (ERF)

Incident Type	Alarm Processing	Turnout	Travel	Response	Total Response
Traffic Accident	n/a	n/a	n/a	n/a	n/a
Cardiac Arrest	1:04	1:00	8:00	9:00	10:04
Drowning	1:04	1:00	8:00	9:00	10:04
EMS	1:04	1:00	4:00	5:00	6:04
Structure Fire	1:04	1:20	8:00	9:20	10:24
Non-Structure Fire	n/a	n/a	n/a	n/a	n/a
Hazardous Materials	n/a	n/a	n/a	n/a	n/a
Technical Rescue	n/a	n/a	n/a	n/a	n/a
Water Rescue	n/a	n/a	n/a	n/a	n/a

Figure 11.6 TVF&R Baseline Performance

First-Arriving Unit

Incident Type	Planning Zone	Alarm Processing*		Turnout*		Travel		Response		Total Response	
		TVF&R Baseline	*Incidents Calculated*	TVF&R Baseline	*Incidents Calculated*	TVF&R Baseline	*Incidents Calculated*	TVF&R Baseline	*Incidents Calculated*	TVF&R Baseline	*Incidents Calculated*
Traffic Accident	High Density	1:53	*1,989*	2:36	*2,400*	6:57	*1,166*	8:51	*1,169*	10:13	*1,169*
	Low Density					11:24	*234*	13:07	*235*	15:14	*235*
Cardiac Arrest	High Density	1:55	*1,562*	2:06	*3,335*	5:58	*1,365*	7:26	*1,370*	9:02	*1,370*
	Low Density					12:40	*88*	14:37	*88*	17:05	*88*
Drowning	High Density	0:33	*2*	1:55	*3*	4:38	*2*	6:37	*2*	6:57	*2*
	Low Density					-	*0*	-	*0*	-	*0*
EMS	High Density	2:26	*23,779*	2:24	*19,774*	7:08	*14,953*	8:46	*15,025*	10:40	*15,024*
	Low Density					13:53	*625*	15:23	*628*	17:05	*628*
Structure Fire	High Density	2:12	*540*	3:10	*3,272*	6:44	*472*	8:43	*476*	10:24	*476*
	Low Density					12:31	*38*	15:08	*38*	16:27	*38*
Non-Structure Fire	High Density	3:08	*1,267*	4:03	*909*	8:22	*317*	10:24	*317*	12:18	*317*
	Low Density					18:18	*84*	19:22	*84*	21:40	*84*
Hazardous Materials	High Density	3:43	*390*	3:24	*191*	7:57	*112*	9:08	*113*	12:49	*113*
	Low Density					8:17	*8*	10:40	*8*	11:55	*8*
Technical Rescue	High Density	2:28	*4*	2:07	*5*	5:41	*3*	6:32	*3*	8:26	*3*
	Low Density					-	*0*	-	*0*	-	*0*
Water Rescue	High Density	8:08	*19*	5:19	*53*	8:40	*8*	11:22	*8*	17:41	*8*
	Low Density					13:11	*4*	15:03	*4*	23:46	*4*

Effective Response Force (ERF)

Incident Type	Planning Zone	Alarm Processing*		Turnout*		Travel		Response		Total Response	
		TVF&R Baseline	*Incidents Calculated*	TVF&R Baseline	*Incidents Calculated*	TVF&R Baseline	*Incidents Calculated*	TVF&R Baseline	*Incidents Calculated*	TVF&R Baseline	*Incidents Calculated*
Cardiac Arrest	High Density	1:55	*1,562*	2:19	*657*	8:42	*617*	10:32	*617*	12:49	*617*
	Low Density					18:00	*40*	19:32	*40*	21:40	*40*
Drowning	High Density	0:33	*2*	0:00	*1*	6:20	*1*	6:20	*1*	10:34	*1*
	Low Density					-	*0*	-	*0*	-	*0*
EMS	High Density	2:26	*23,779*	2:20	*15,555*	7:08	*14,915*	8:46	*14,987*	10:41	*14,986*
	Low Density					13:51	*620*	15:22	*623*	16:59	*623*
Structure Fire	High Density	2:12	*540*	3:17	*127*	16:17	*115*	18:27	*115*	22:36	*115*
	Low Density					17:19	*12*	19:30	*12*	31:14	*12*

*The location of the incident does not influence performance during the alarm processing and turnout time intervals; therefore, an overall objective is applied.

2024 TVF&R Baseline Histograms

Alarm Processing Performance

Figure 11.7 Alarm Processing Performance, Traffic Accident

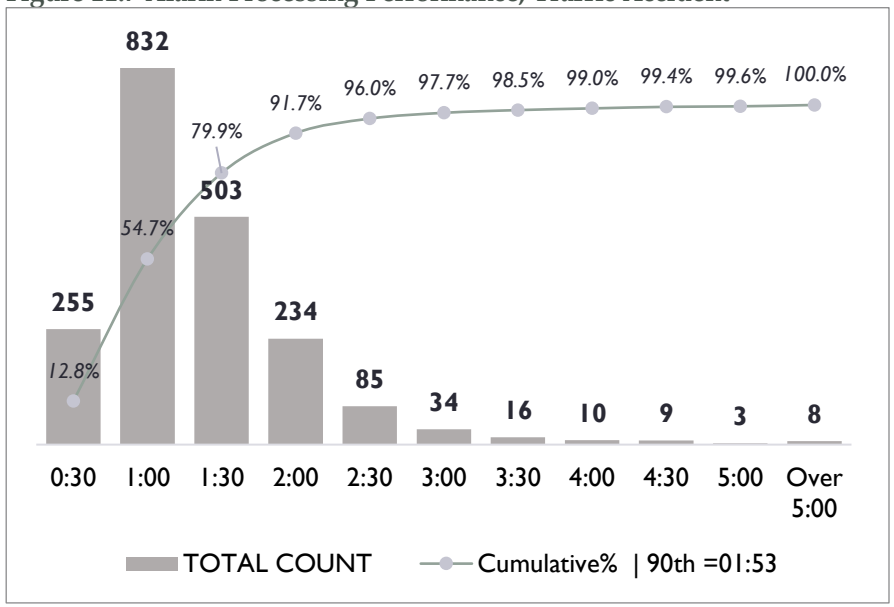


Figure 11.8 Alarm Processing Performance, Cardiac Arrest

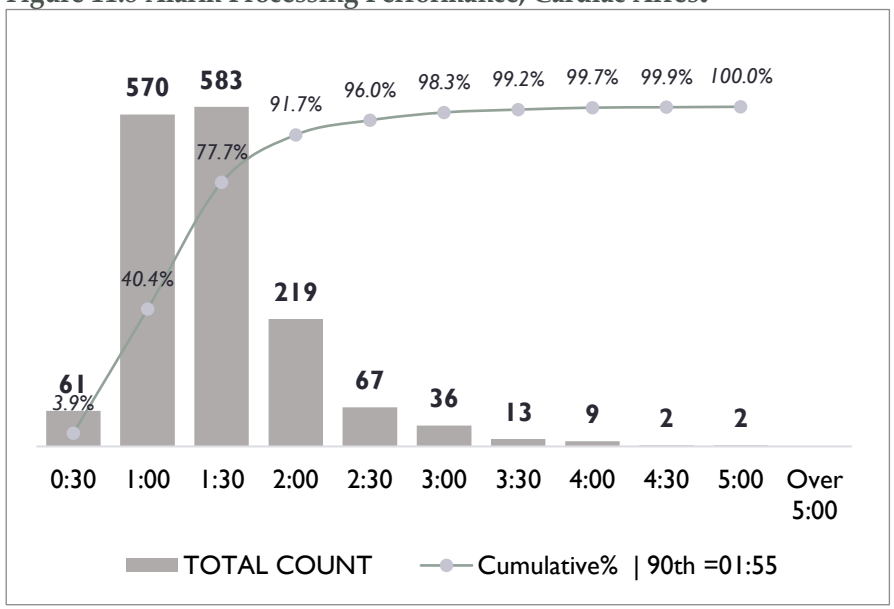


Figure 11.9 Alarm Processing Performance, Drowning

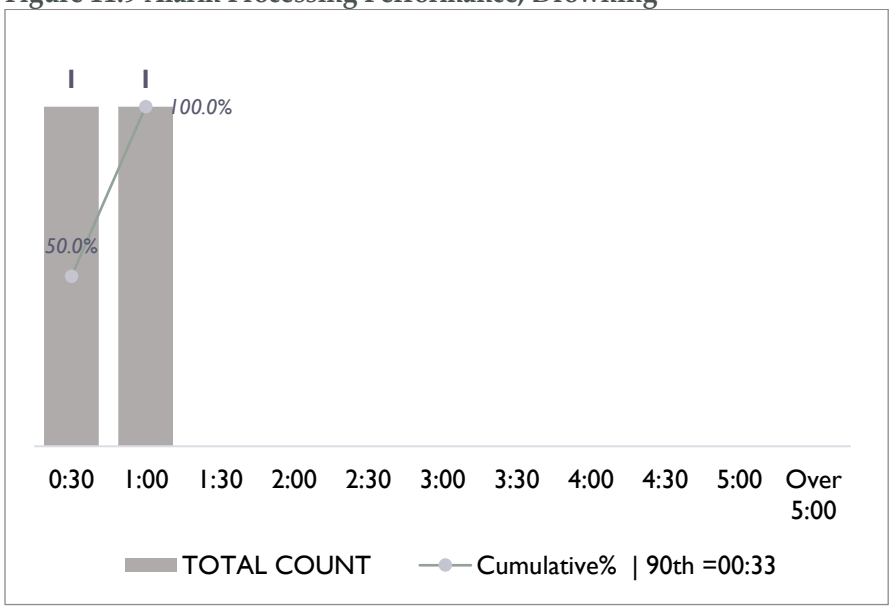


Figure 11.10 Alarm Processing Performance, EMS

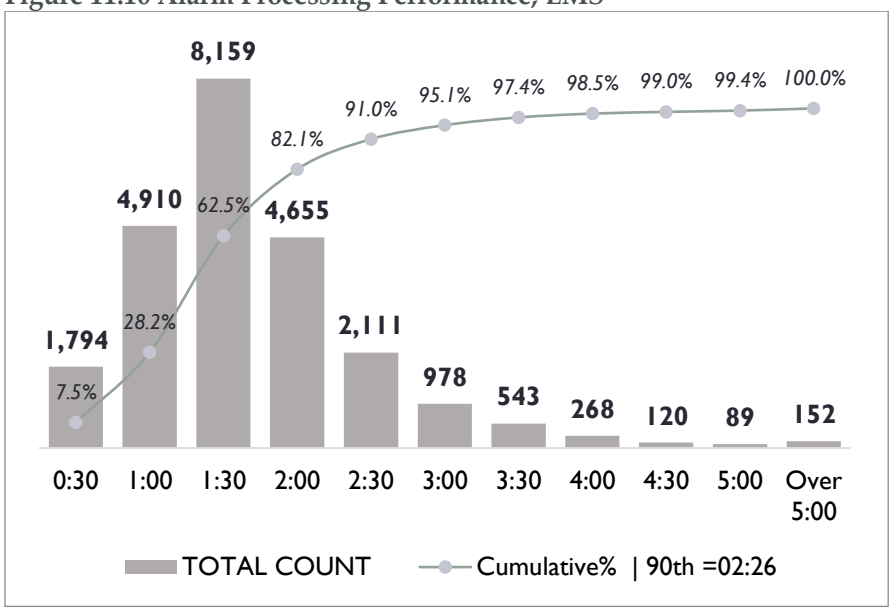


Figure 11.11 Alarm Processing Performance, Structure Fire

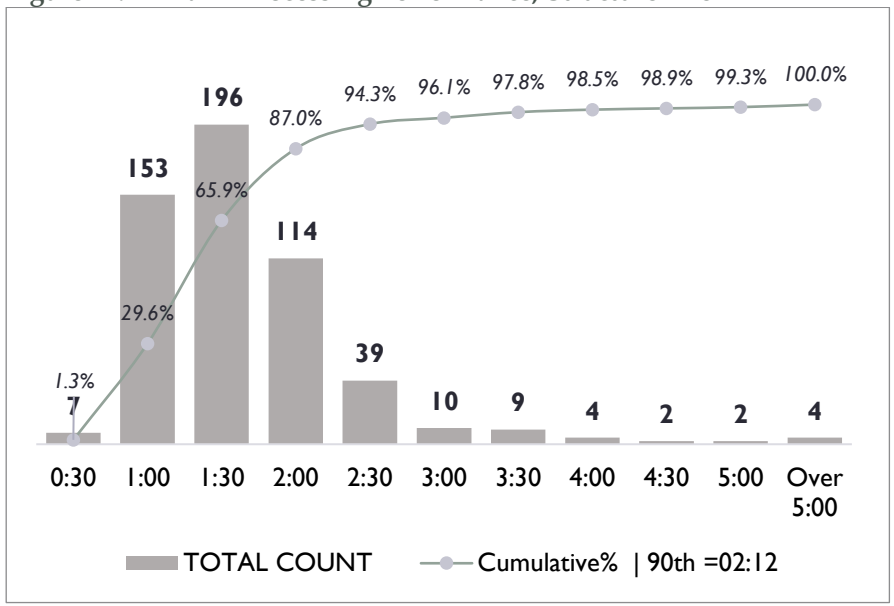


Figure 11.12 Alarm Processing Performance, Non-Structure Fire

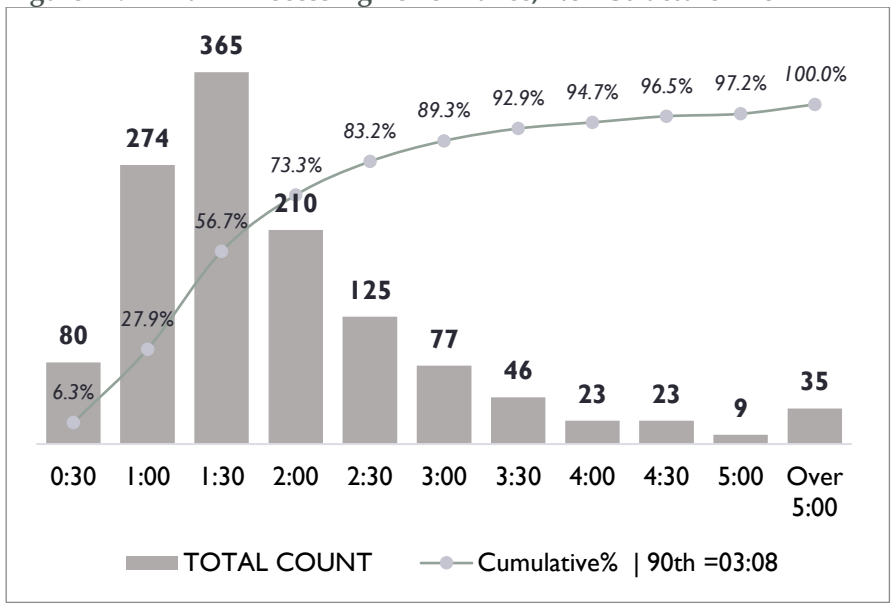


Figure 11.13 Alarm Processing Performance, Hazardous Materials

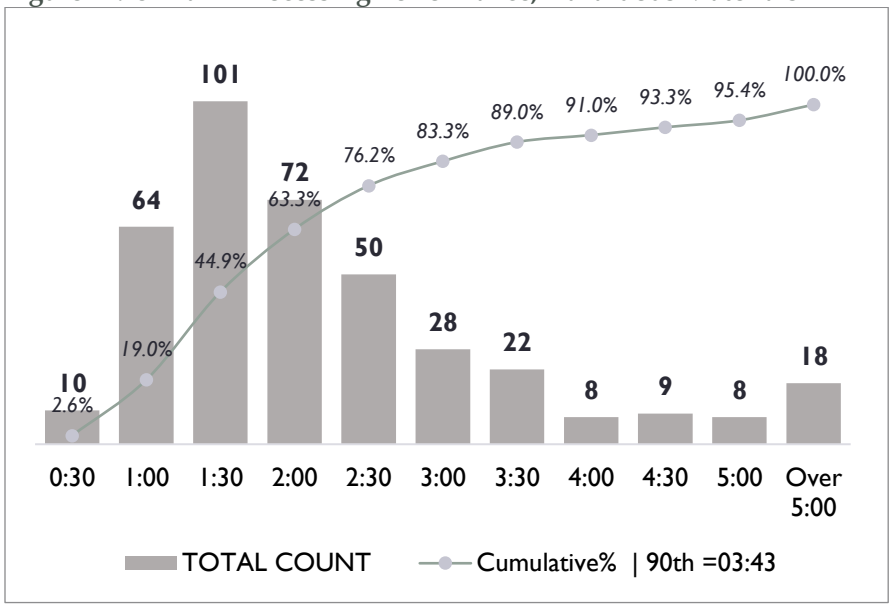


Figure 11.14 Alarm Processing Performance, Technical Rescue

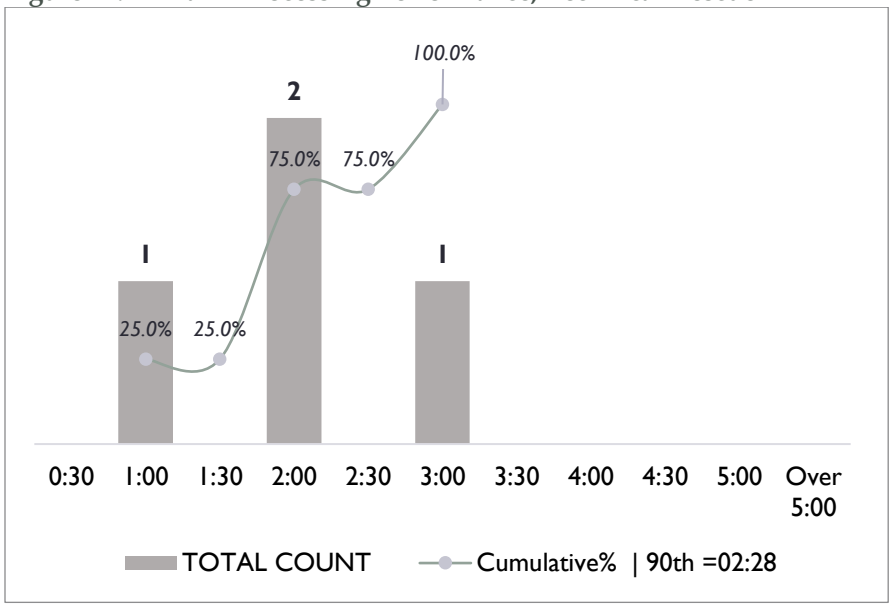
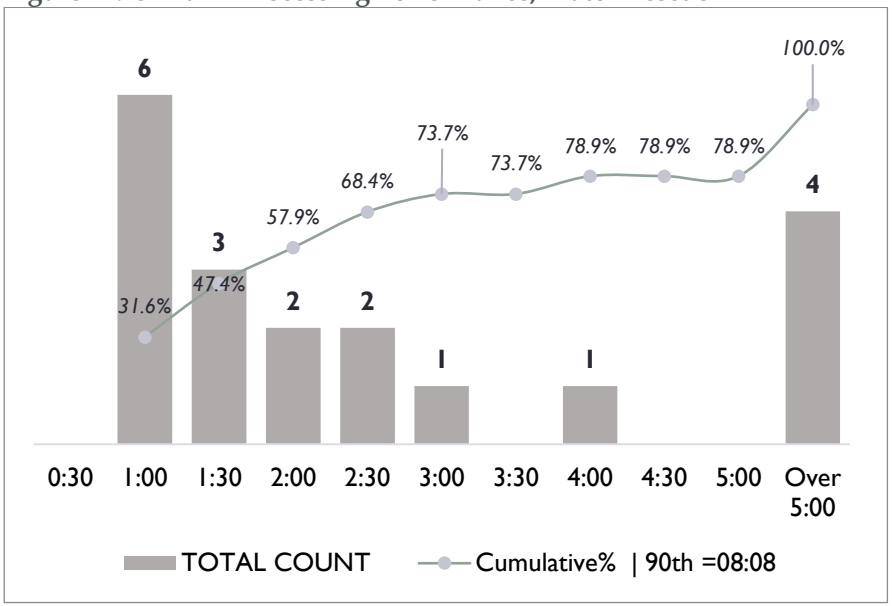


Figure 11.15 Alarm Processing Performance, Water Rescue



First-Arriving Unit Turnout Performance

Figure 11.16 First-Arriving Unit Turnout Performance, Traffic Accident

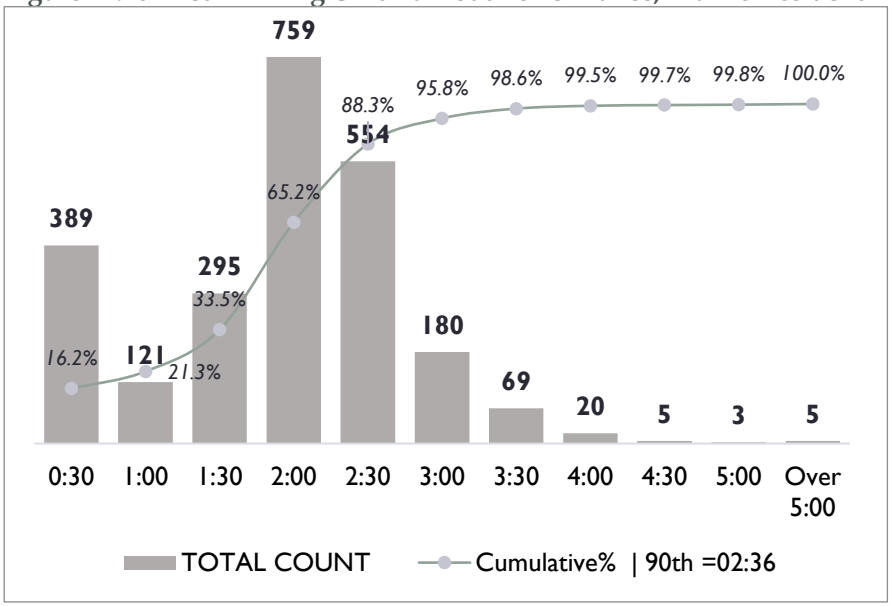


Figure 11.17 First-Arriving Unit Turnout Performance, Cardiac Arrest

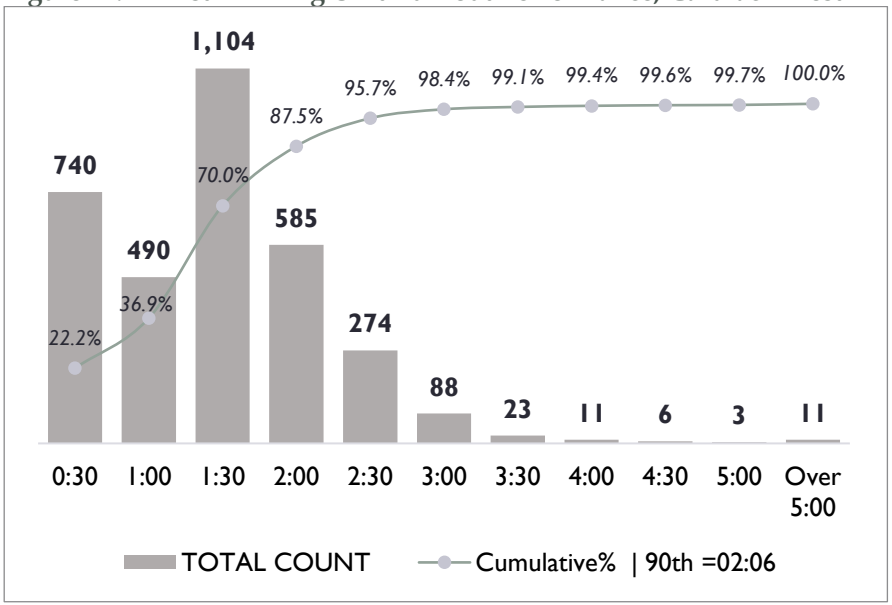


Figure 11.18 First-Arriving Unit Turnout Performance, Drowning

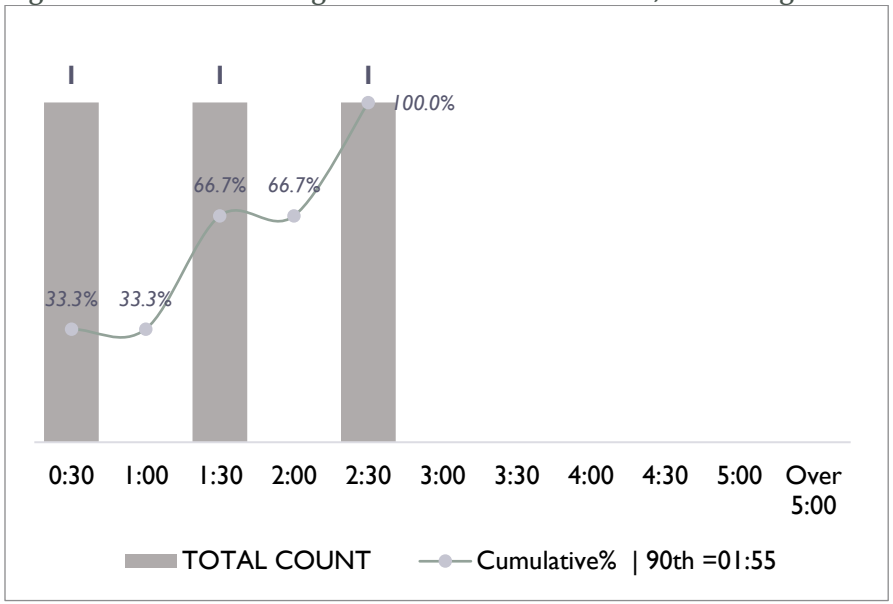


Figure 11.19 First-Arriving Unit Turnout Performance, EMS

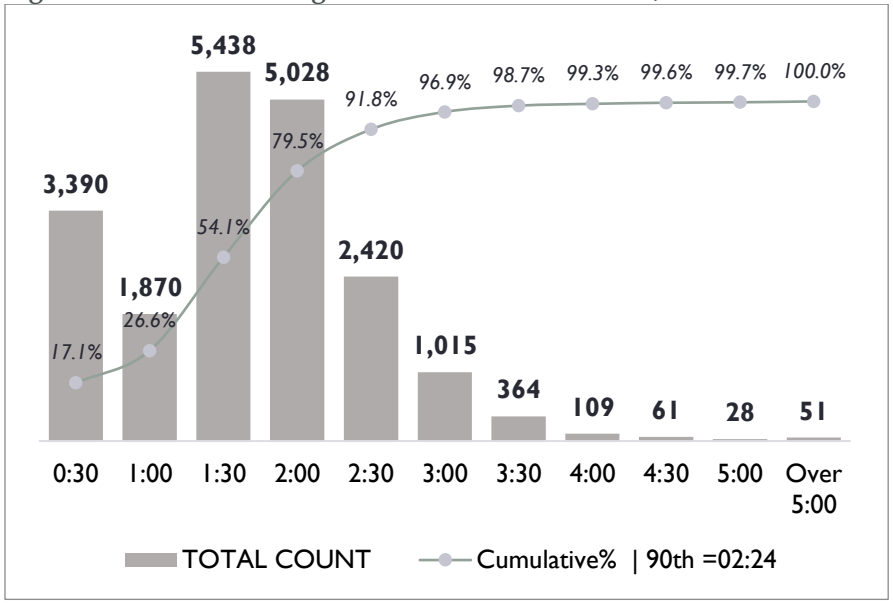


Figure 11.20 First-Arriving Unit Turnout Performance, Structure Fire

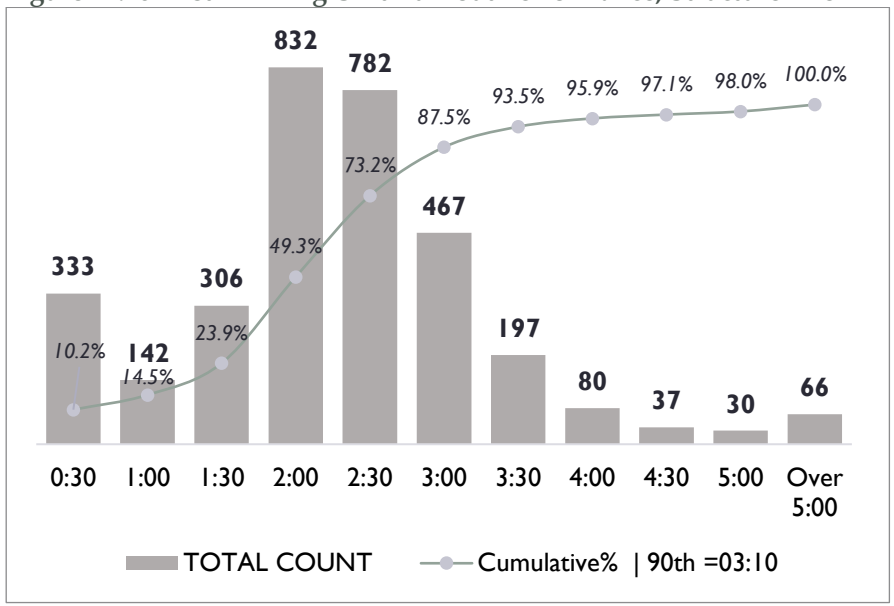


Figure 11.21 First-Arriving Unit Turnout Performance, Non-Structure Fire

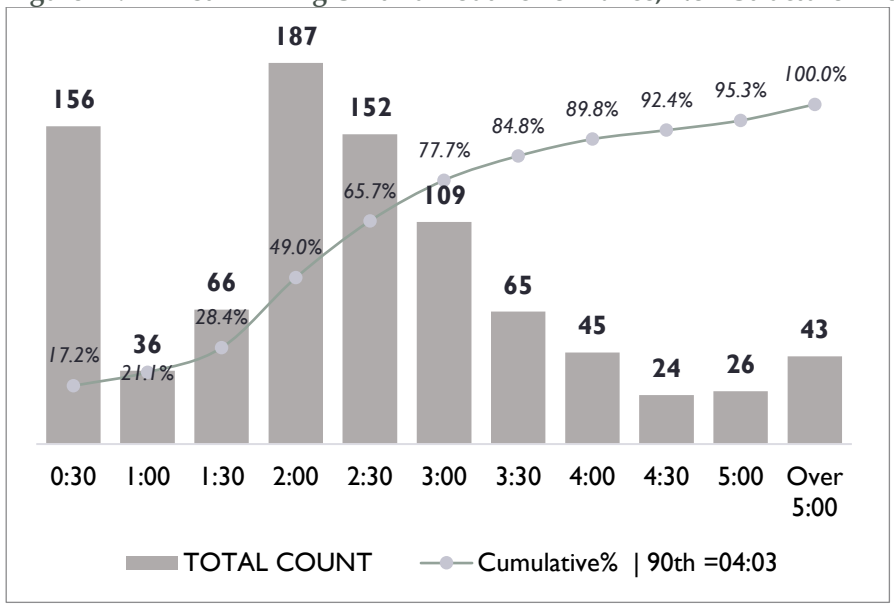


Figure 11.22 First-Arriving Unit Turnout Performance, Hazardous Materials

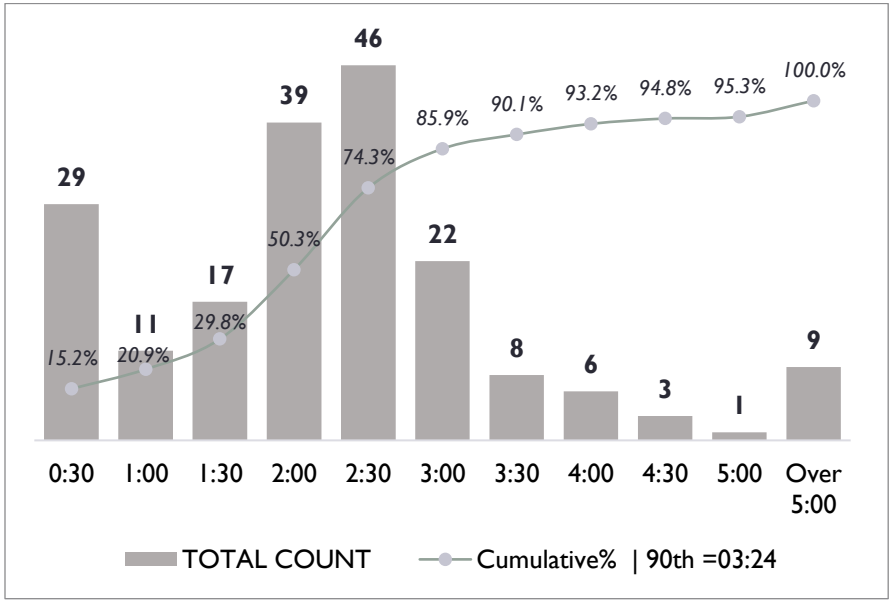


Figure 11.23 First-Arriving Unit Turnout Performance, Technical Rescue

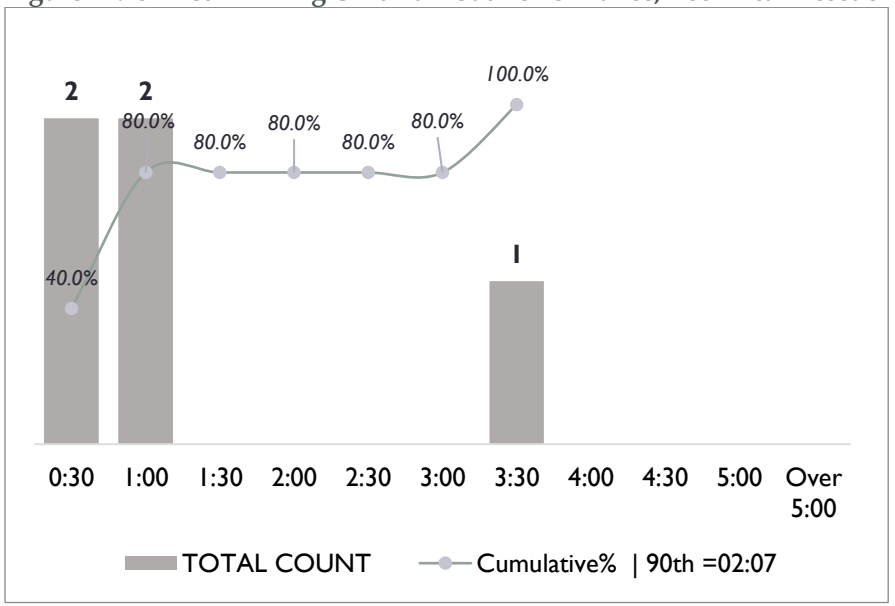
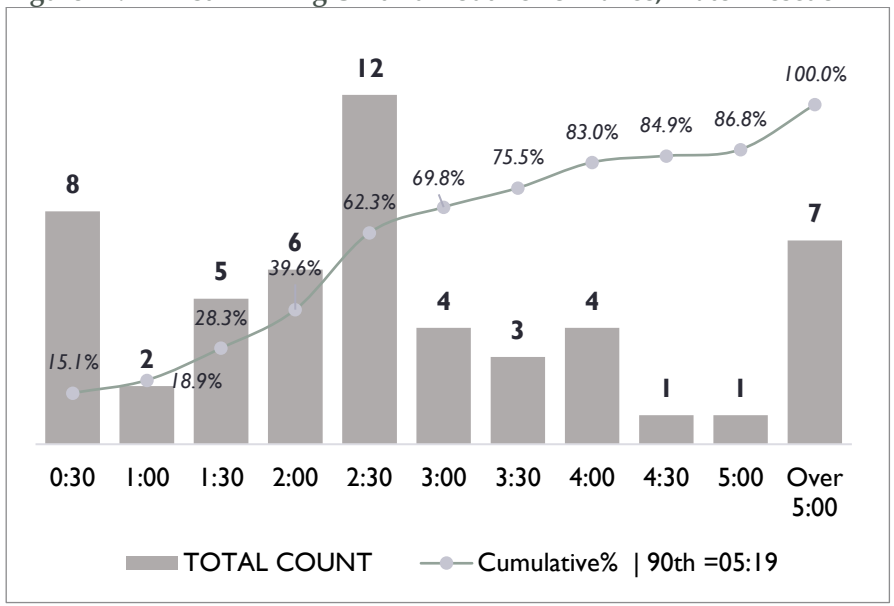


Figure 11.24 First-Arriving Unit Turnout Performance, Water Rescue



First-Arriving Unit Travel Performance

Figure 11.25 First-Arriving Unit Travel Performance, High Density Planning Zone, Traffic Accident

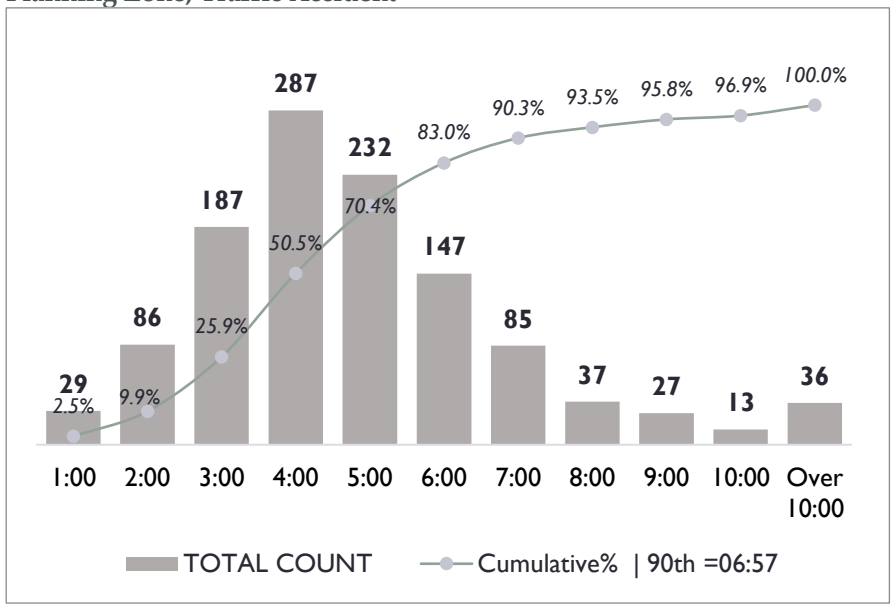


Figure 11.26 First-Arriving Unit Travel Performance, High Density Planning Zone, Cardiac Arrest

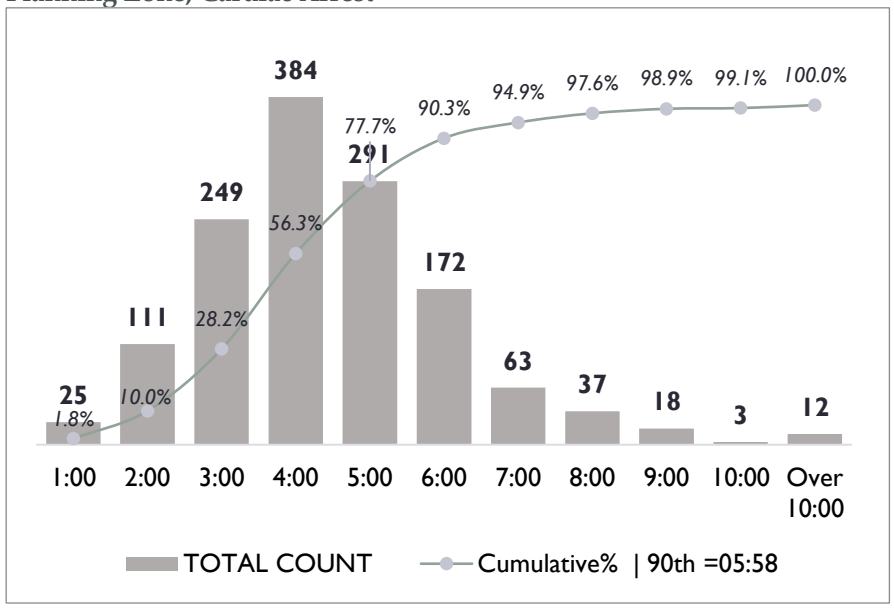


Figure 11.27 First-Arriving Unit Travel Performance, High Density Planning Zone, Drowning

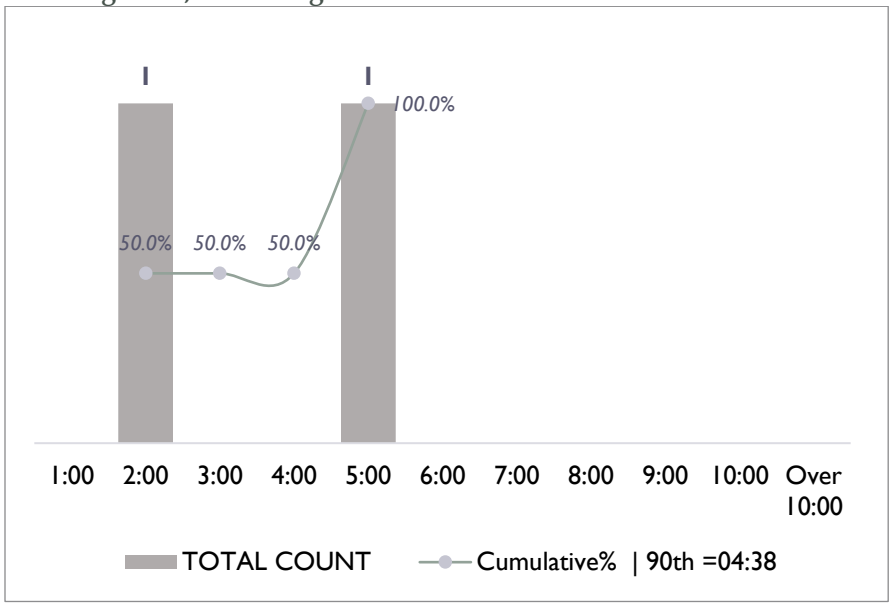


Figure 11.28 First-Arriving Unit Travel Performance, High Density Planning Zone, EMS

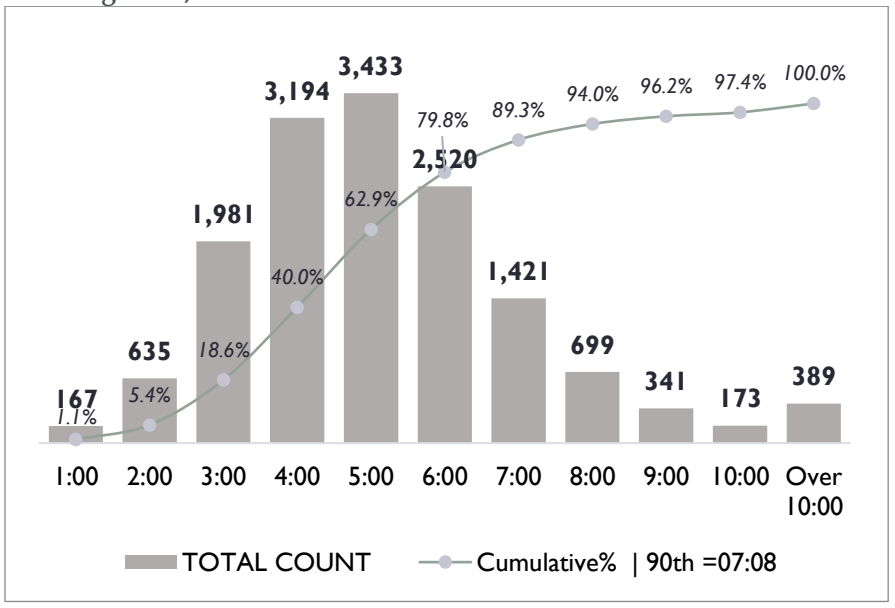


Figure 11.29 First-Arriving Unit Travel Performance, High Density Planning Zone, Structure Fire

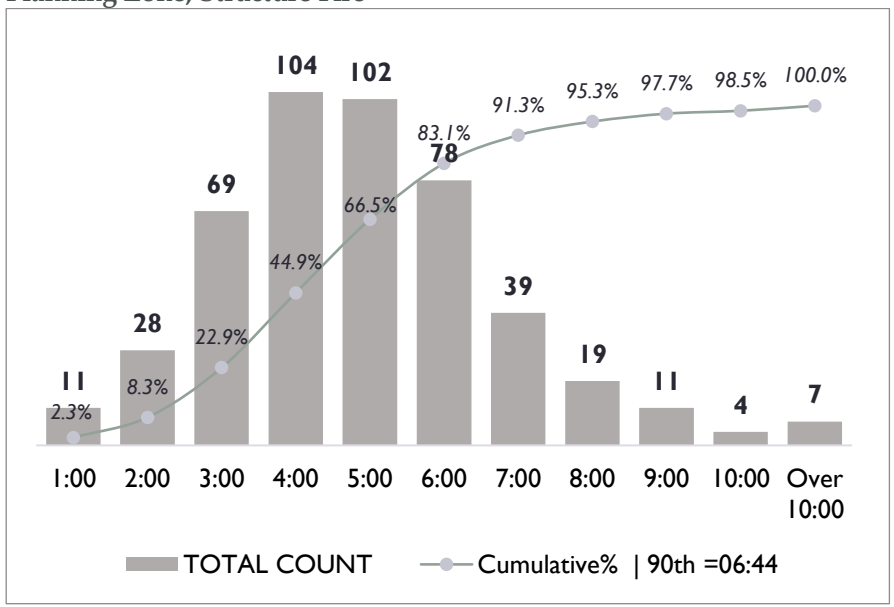


Figure 11.30 First-Arriving Unit Travel Performance, High Density Planning Zone, Non-Structure Fire

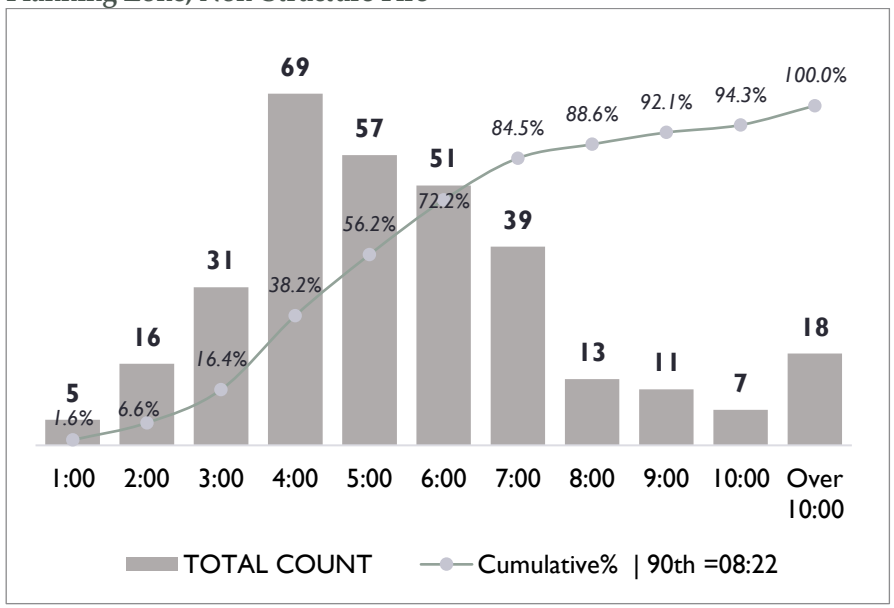


Figure 11.31 First-Arriving Unit Travel Performance, High Density Planning Zone, Hazardous Materials

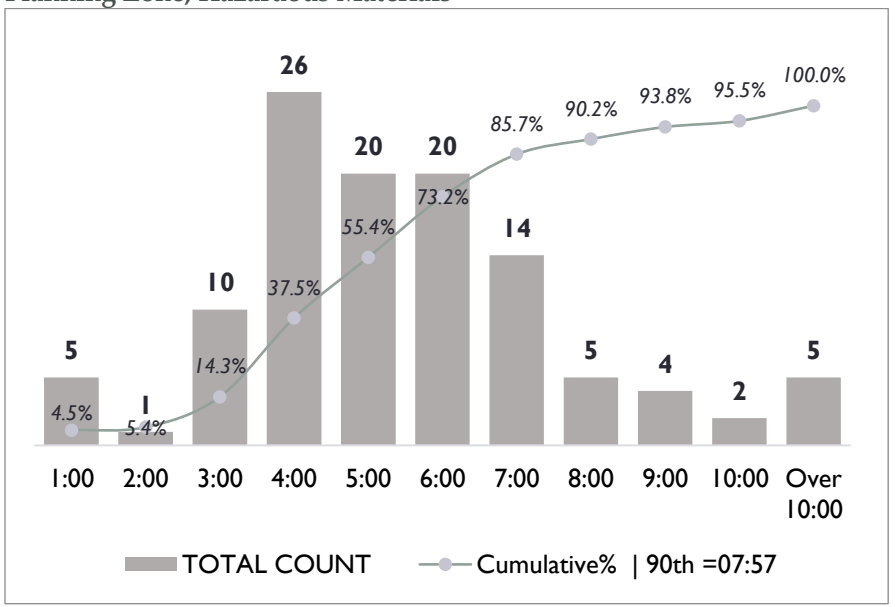


Figure 11.32 First-Arriving Unit Travel Performance, High Density Planning Zone, Technical Rescue

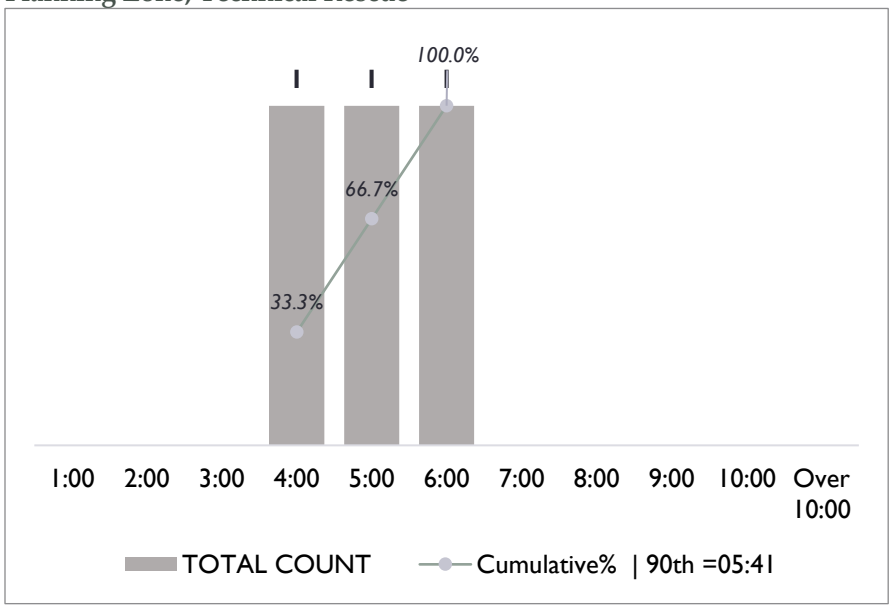


Figure 11.33 First-Arriving Unit Travel Performance, High Density Planning Zone, Water Rescue

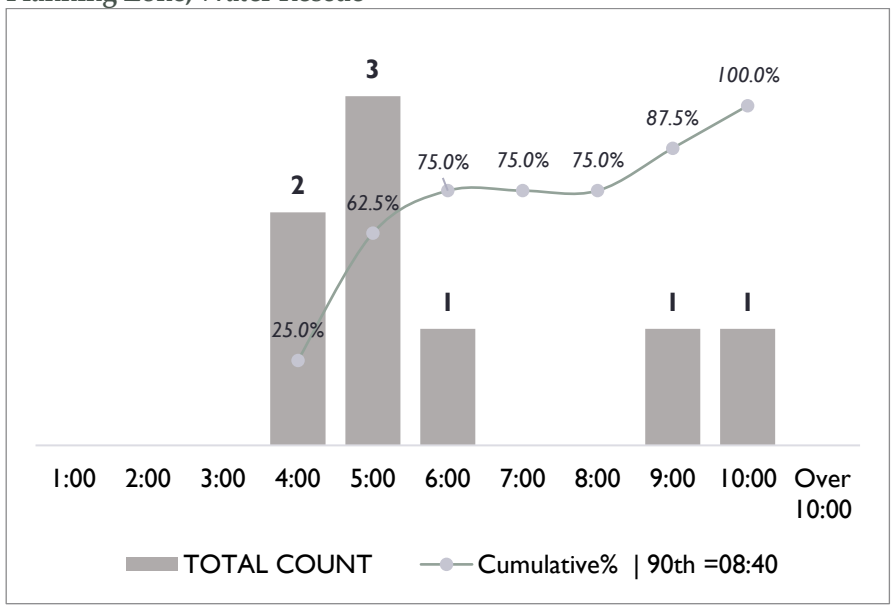


Figure 11.34 First-Arriving Unit Travel Performance, Low Density Planning Zone, Traffic Accident

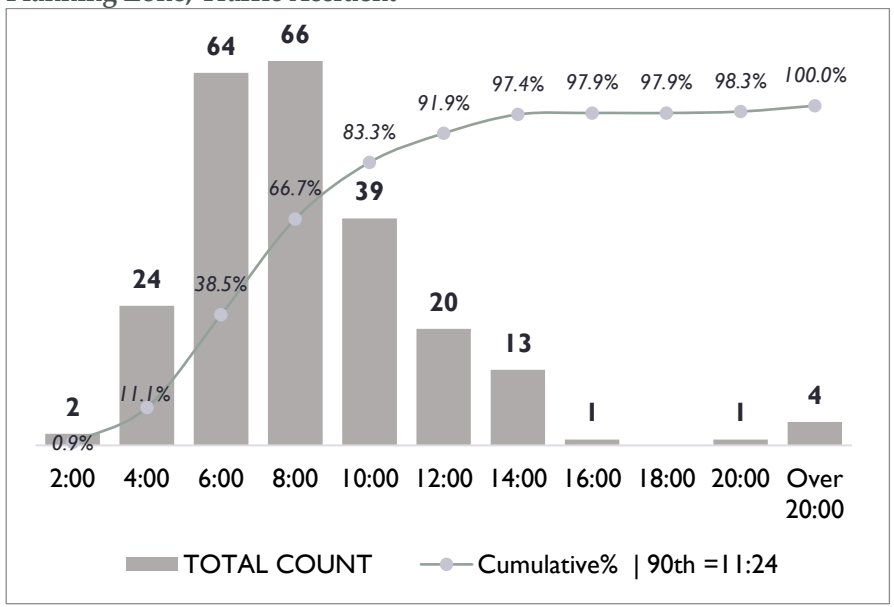


Figure 11.35 First-Arriving Unit Travel Performance, Low Density Planning Zone, Cardiac Arrest

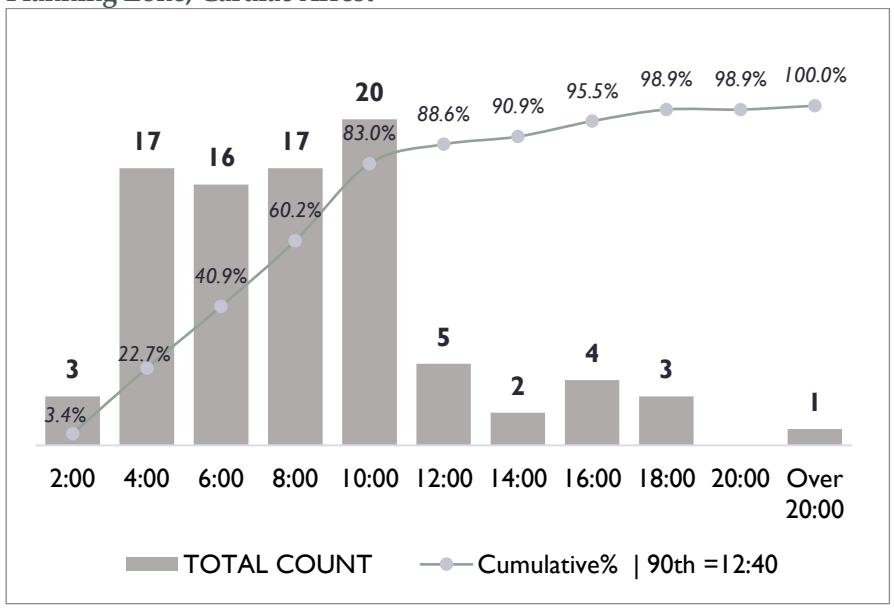


Figure 11.36 First-Arriving Unit Travel Performance, Low Density Planning Zone, Drowning

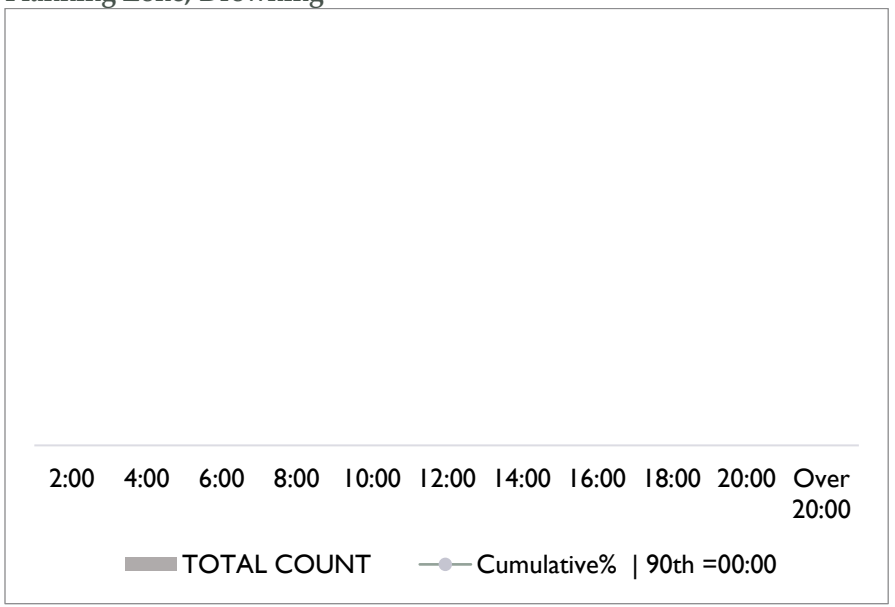


Figure 11.37 First-Arriving Unit Travel Performance, Low Density Planning Zone, EMS

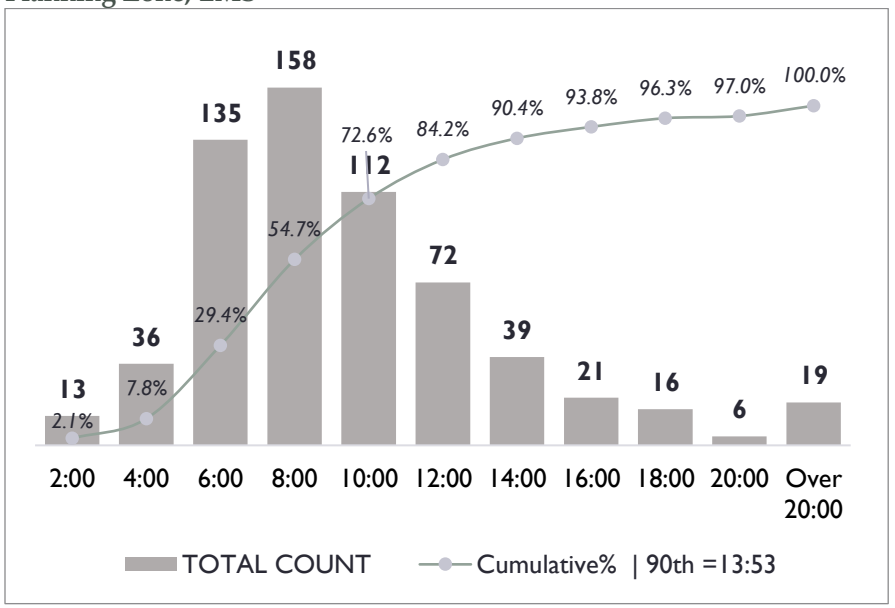


Figure 11.38 First-Arriving Unit Travel Performance, Low Density Planning Zone, Structure Fire

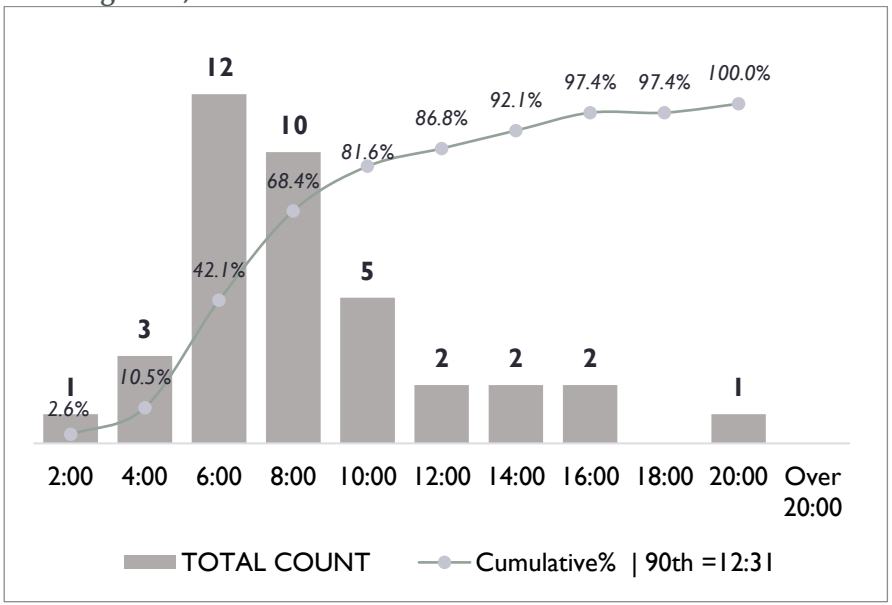


Figure 11.39 First-Arriving Unit Travel Performance, Low Density Planning Zone, Non-Structure Fire

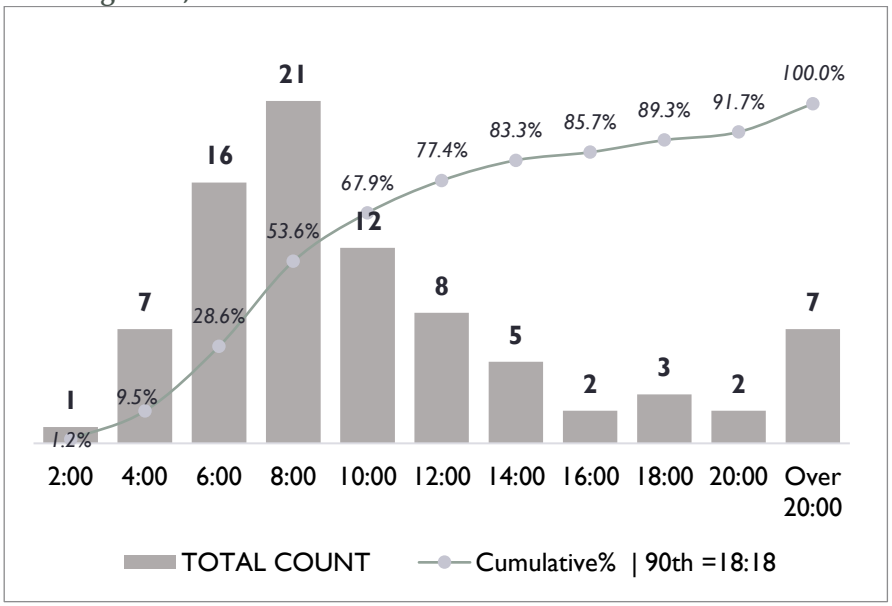


Figure 11.40 First-Arriving Unit Travel Performance, Low Density Planning Zone, Hazardous Materials

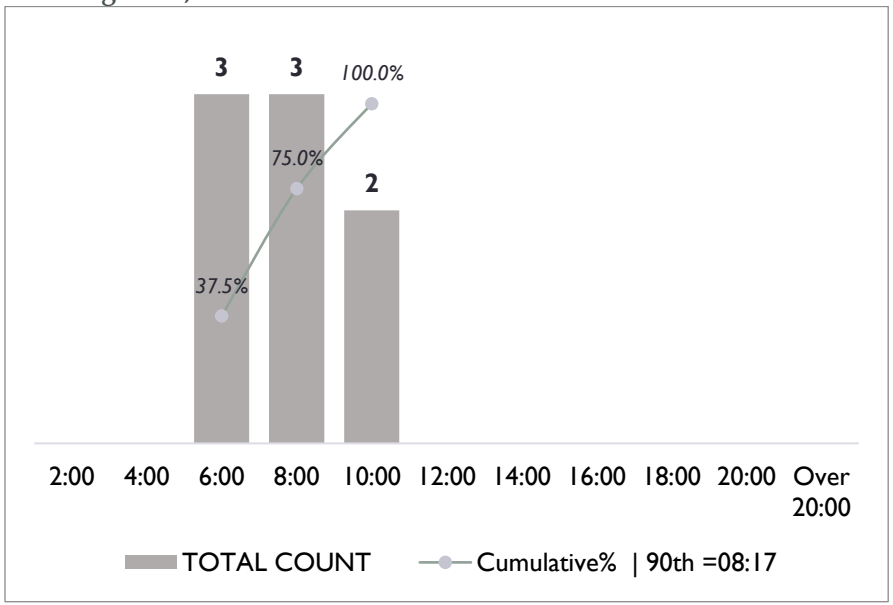


Figure 11.41 First-Arriving Unit Travel Performance, Low Density Planning Zone, Technical Rescue

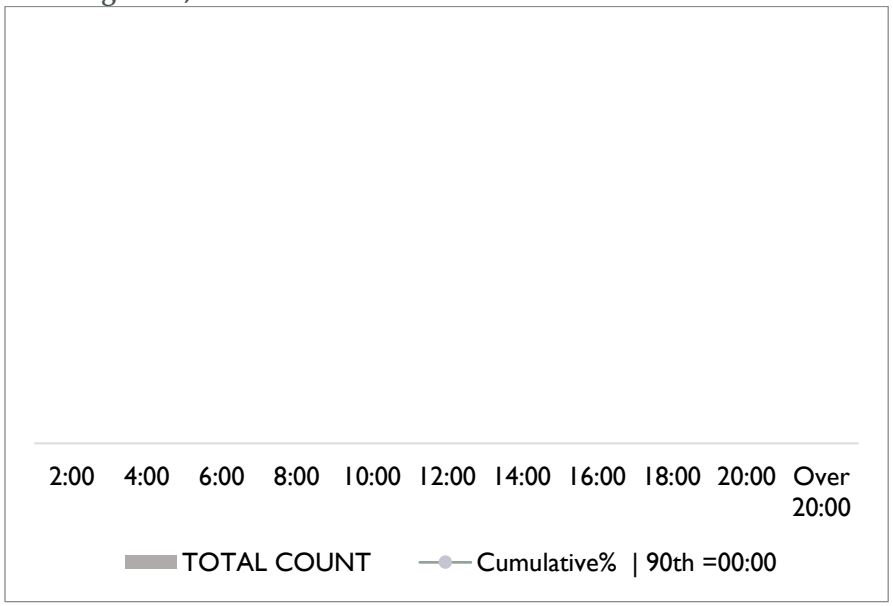
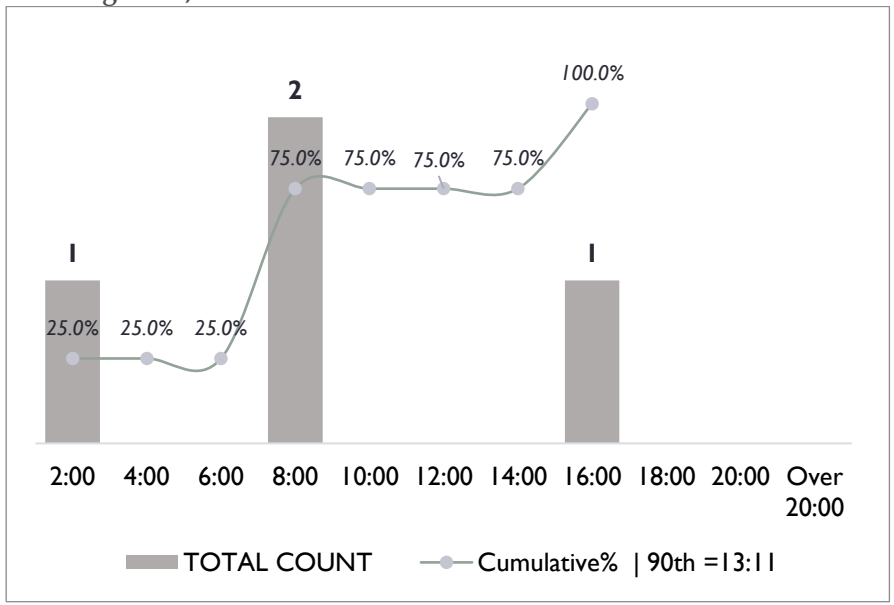


Figure 11.42 First-Arriving Unit Travel Performance, Low Density Planning Zone, Water Rescue



First-Arriving Unit Response Performance

Figure 11.43 First-Arriving Unit Response Performance, High Density Planning Zone, Traffic Accident

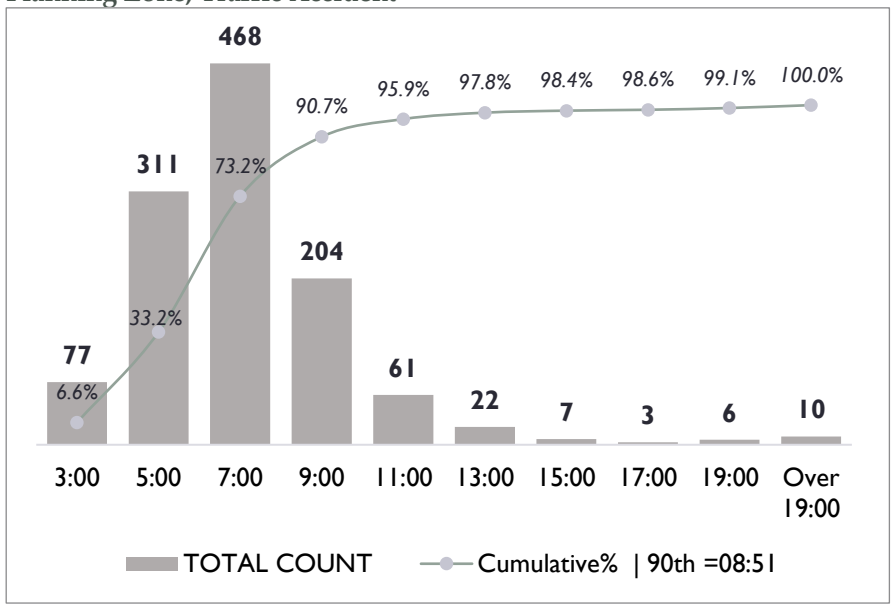


Figure 11.44 First-Arriving Unit Response Performance, High Density Planning Zone, Cardiac Arrest

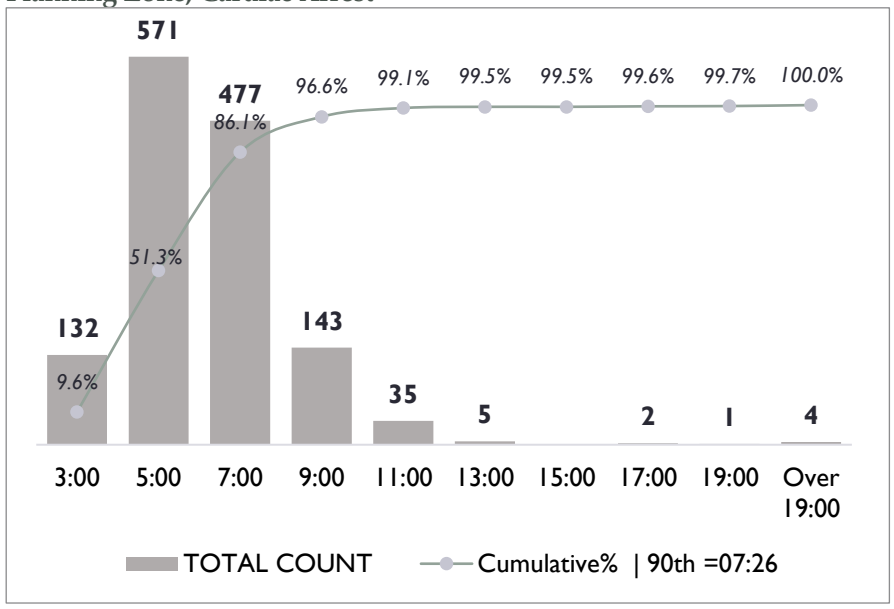


Figure 11.45 First-Arriving Unit Response Performance, High Density Planning Zone, Drowning

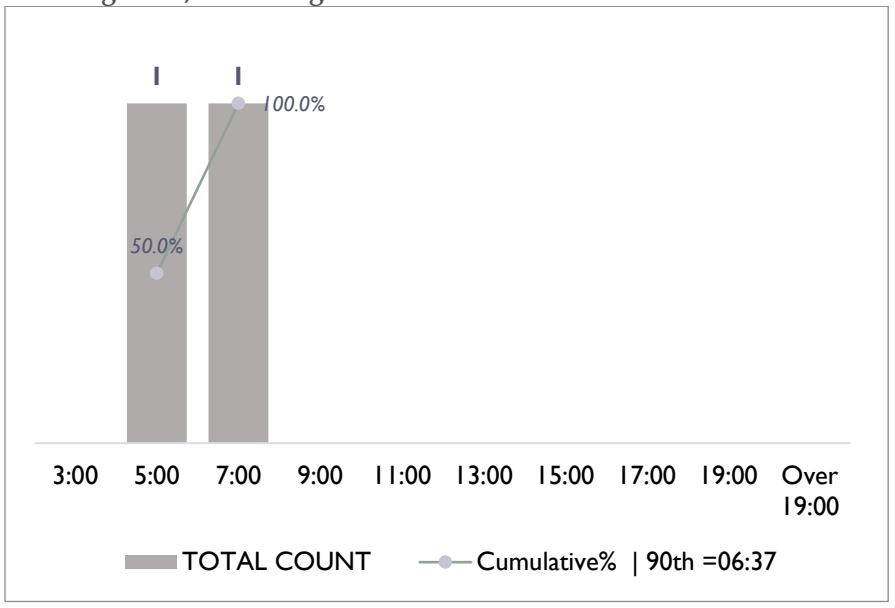


Figure 11.46 First-Arriving Unit Response Performance, High Density Planning Zone, EMS

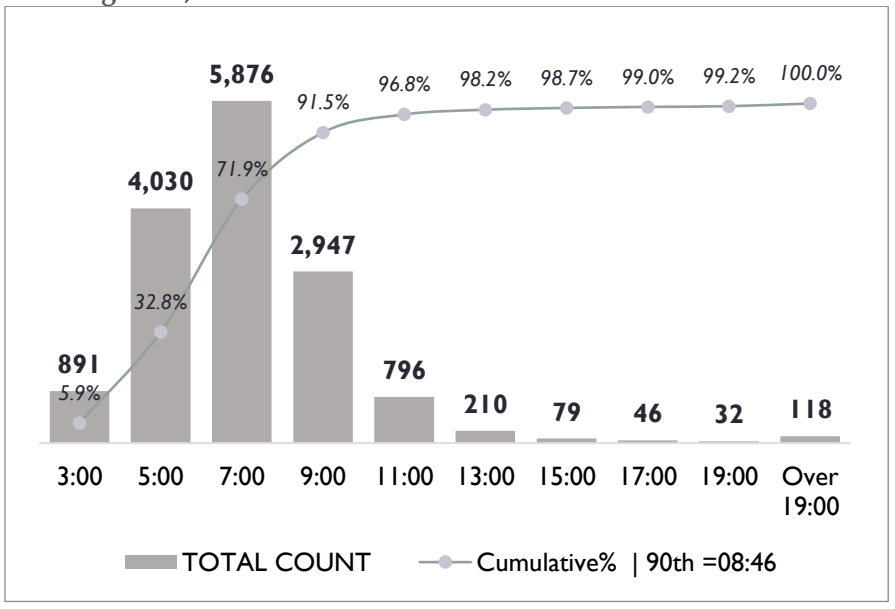


Figure 11.47 First-Arriving Unit Response Performance, High Density Planning Zone, Structure Fire

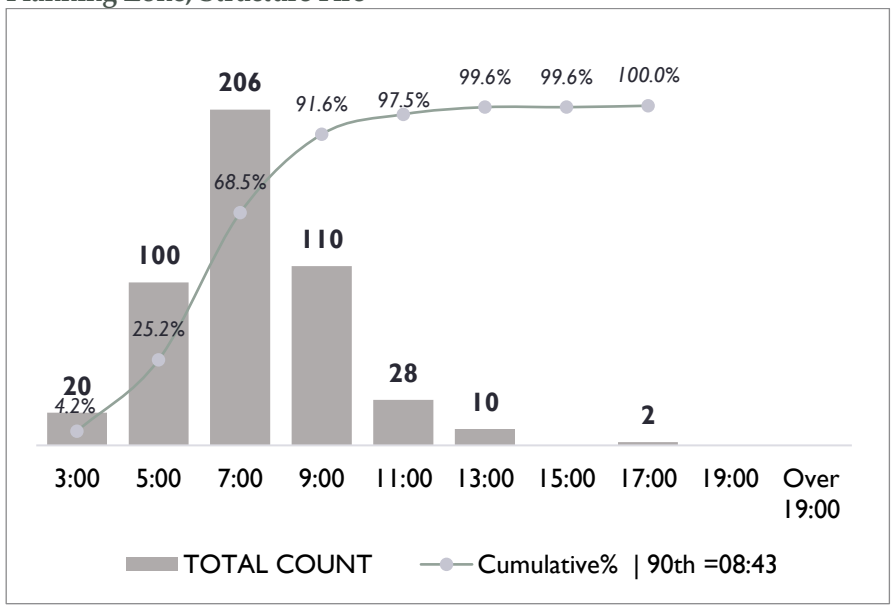


Figure 11.48 First-Arriving Unit Response Performance, High Density Planning Zone, Non-Structure Fire

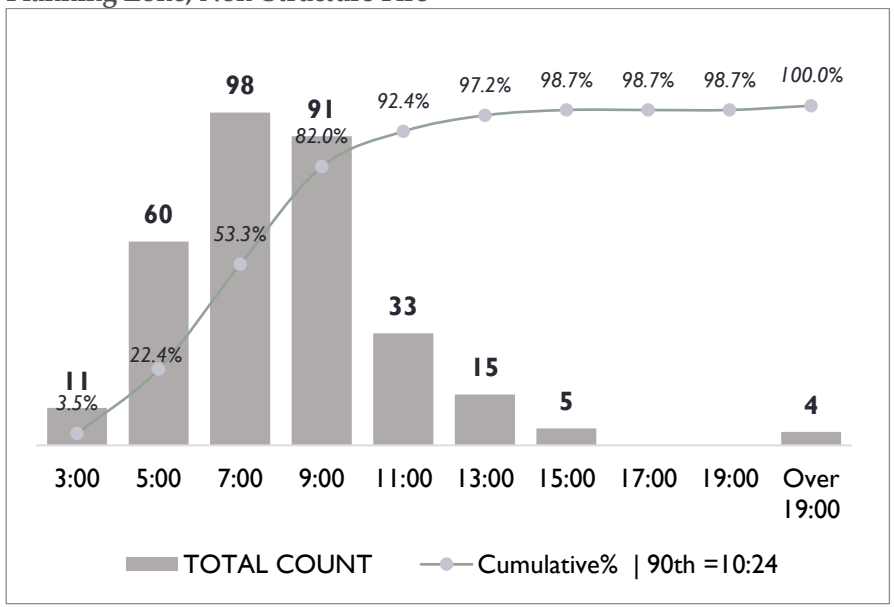


Figure 11.49 First-Arriving Unit Response Performance, High Density Planning Zone, Hazardous Materials

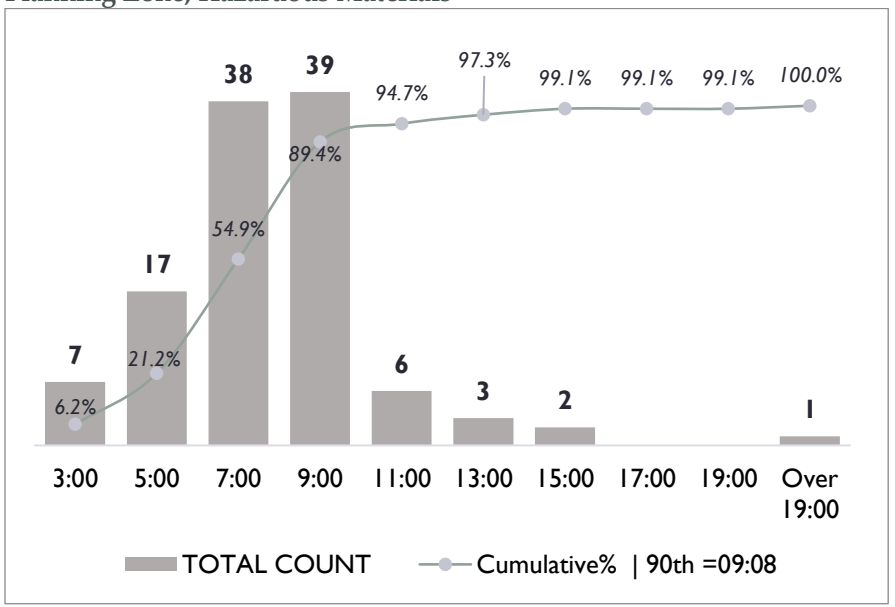


Figure 11.50 First-Arriving Unit Response Performance, High Density Planning Zone, Technical Rescue

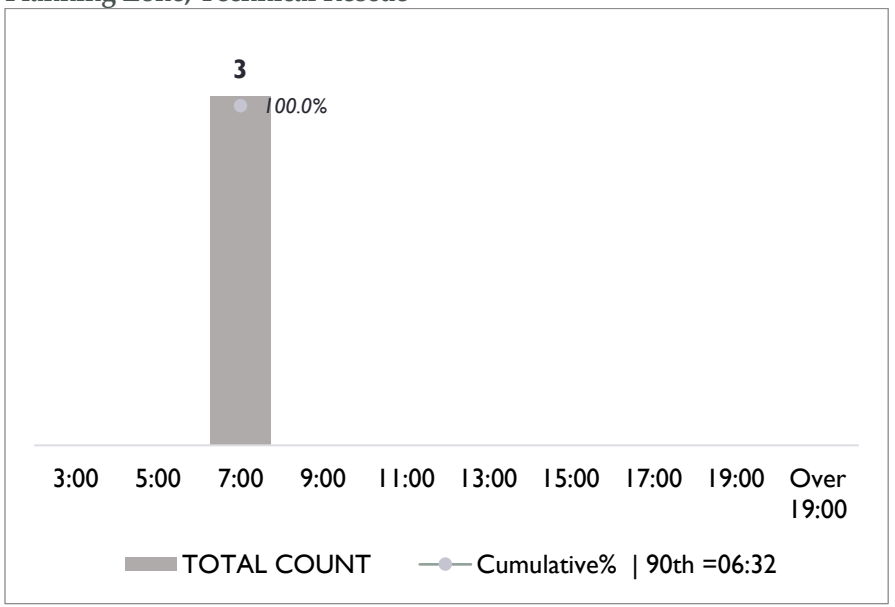


Figure 11.51 First-Arriving Unit Response Performance, High Density Planning Zone, Water Rescue

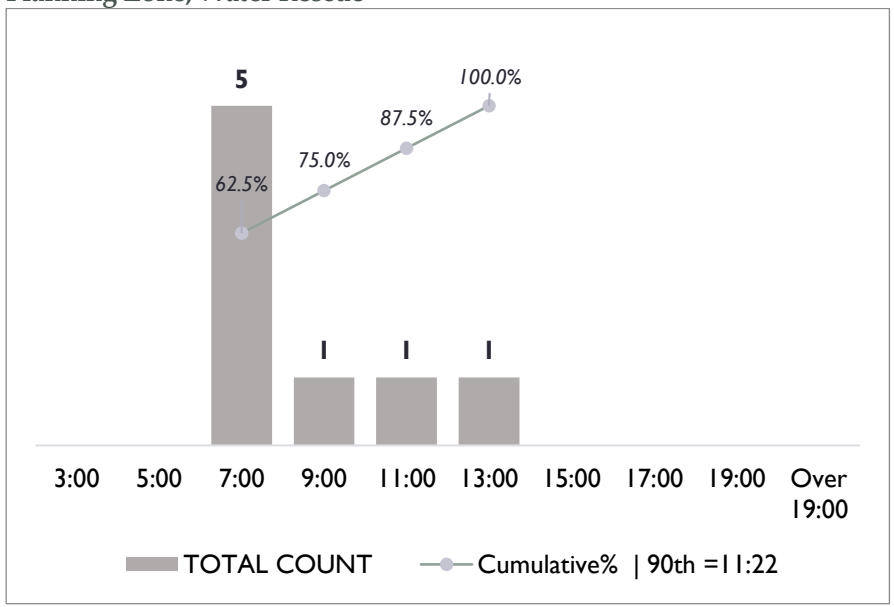


Figure 11.52 First-Arriving Unit Response Performance, Low Density Planning Zone, Traffic Accident

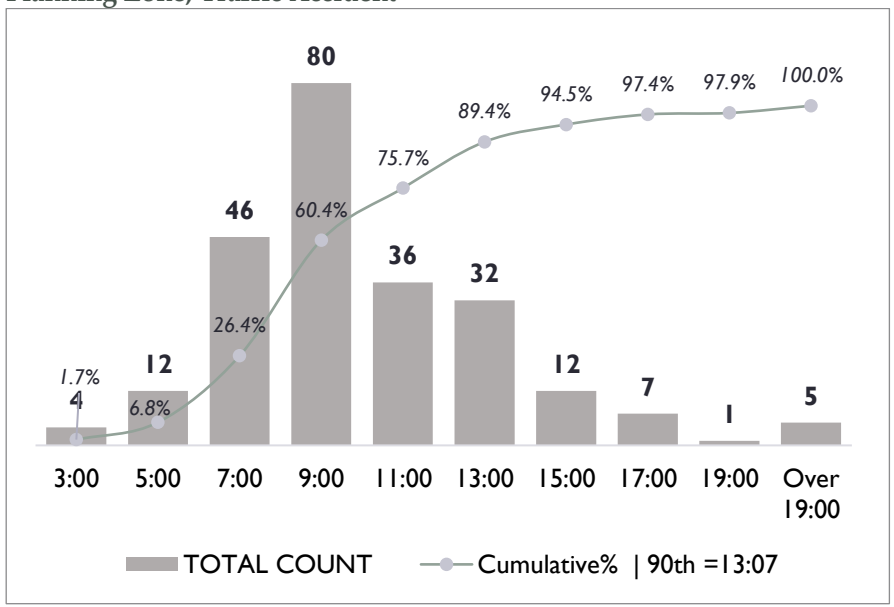


Figure 11.53 First-Arriving Unit Response Performance, Low Density Planning Zone, Cardiac Arrest

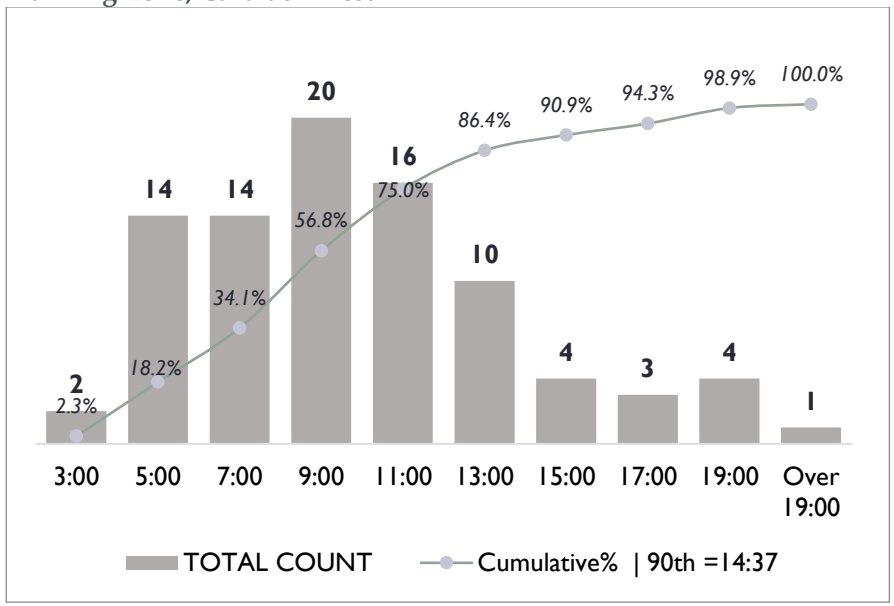


Figure 11.54 First-Arriving Unit Response Performance, Low Density Planning Zone, Drowning

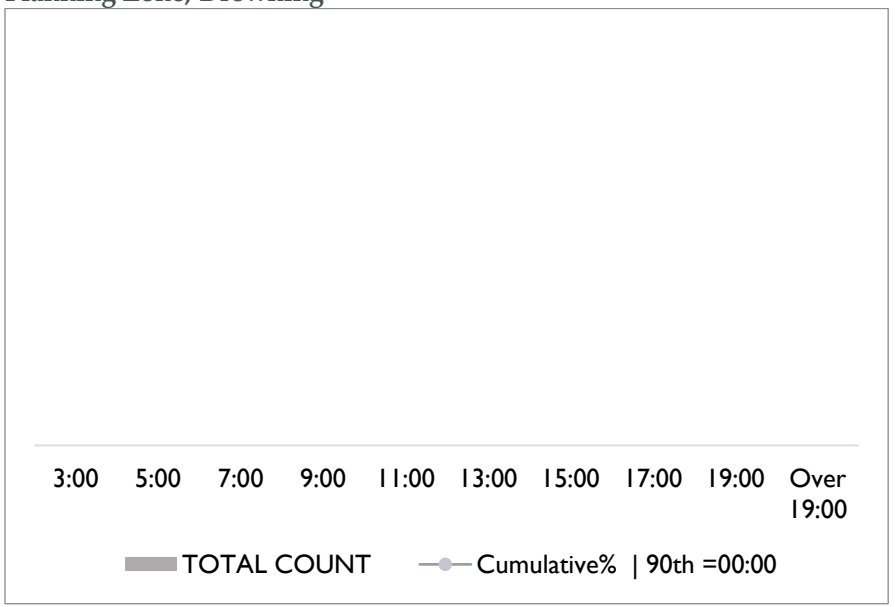


Figure 11.55 First-Arriving Unit Response Performance, Low Density Planning Zone, EMS

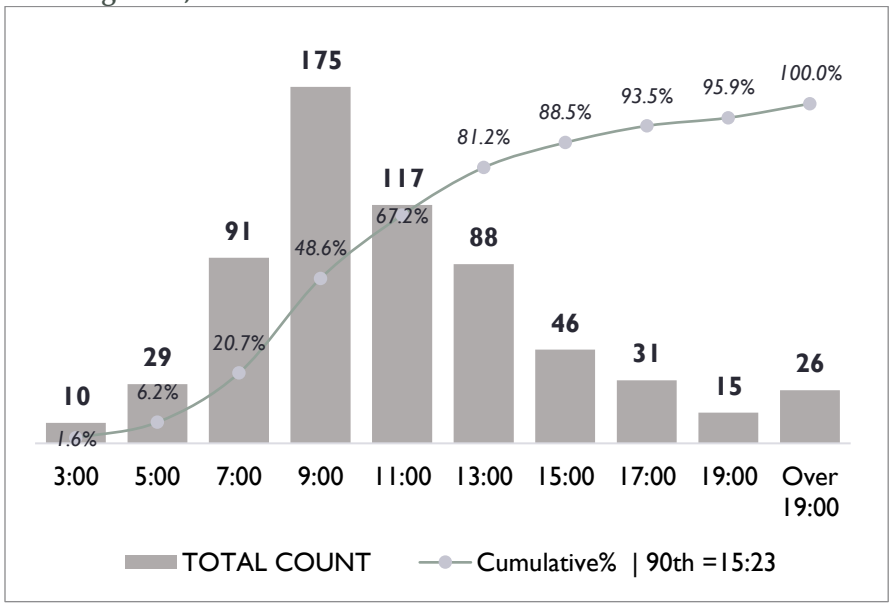


Figure 11.56 First-Arriving Unit Response Performance, Low Density Planning Zone, Structure Fire

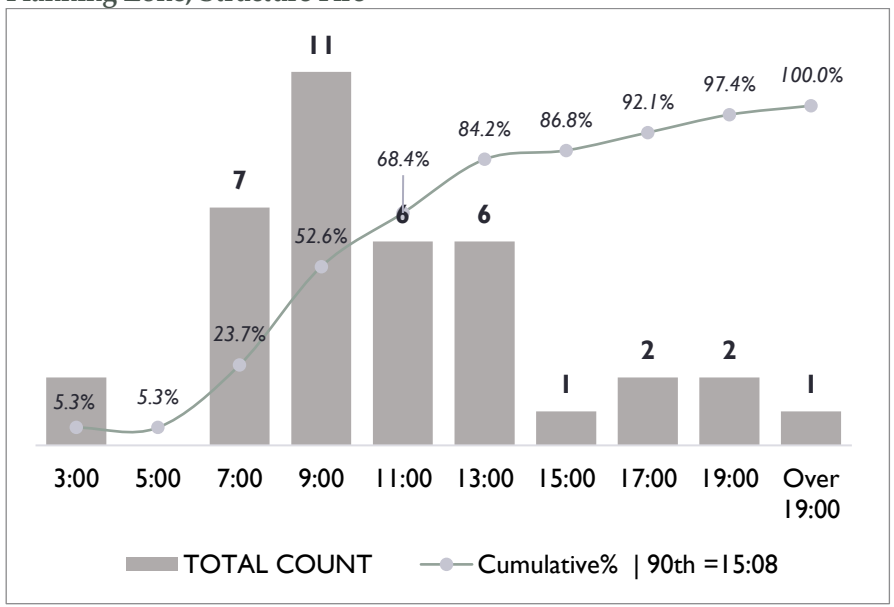


Figure 11.57 First-Arriving Unit Response Performance, Low Density Planning Zone, Non-Structure Fire

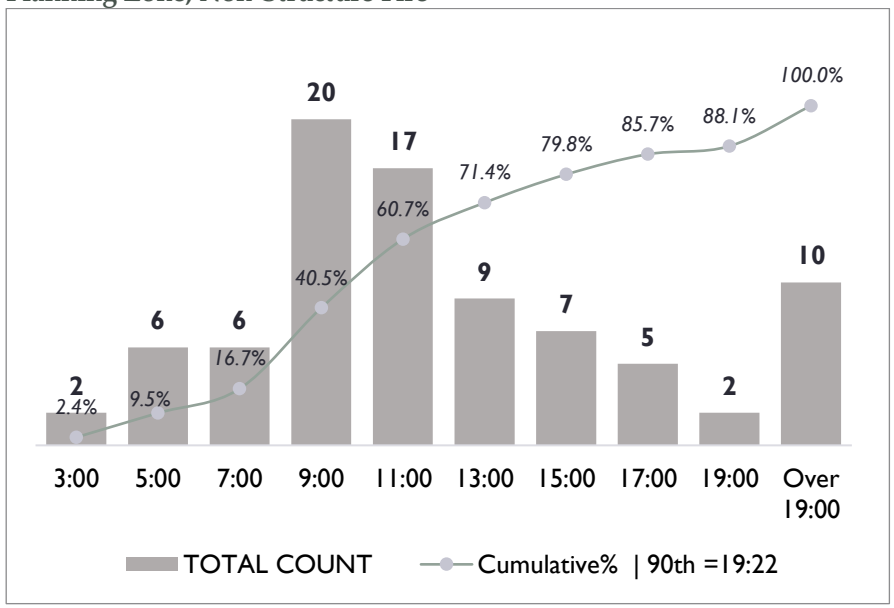


Figure 11.58 First-Arriving Unit Response Performance, Low Density Planning Zone, Hazardous Materials

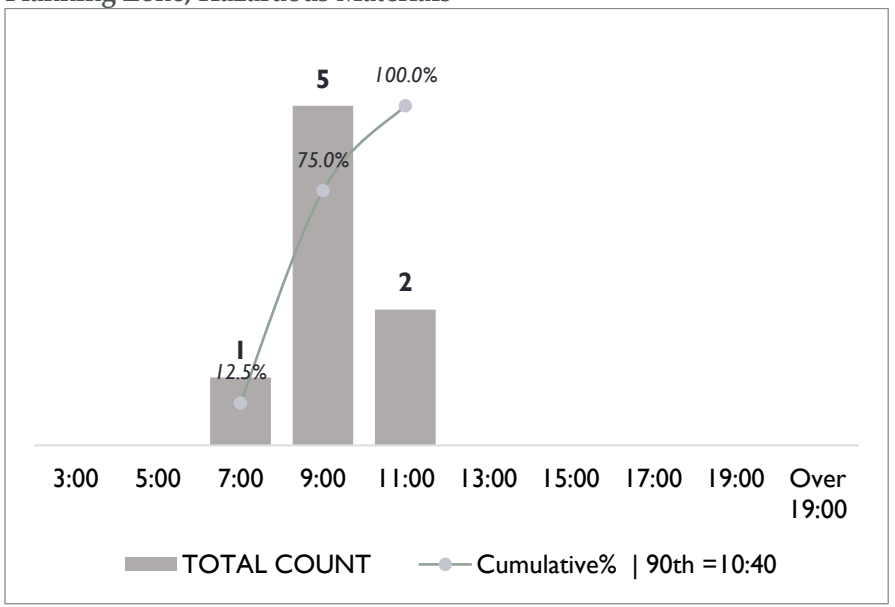


Figure 11.59 First-Arriving Unit Response Performance, Low Density Planning Zone, Technical Rescue

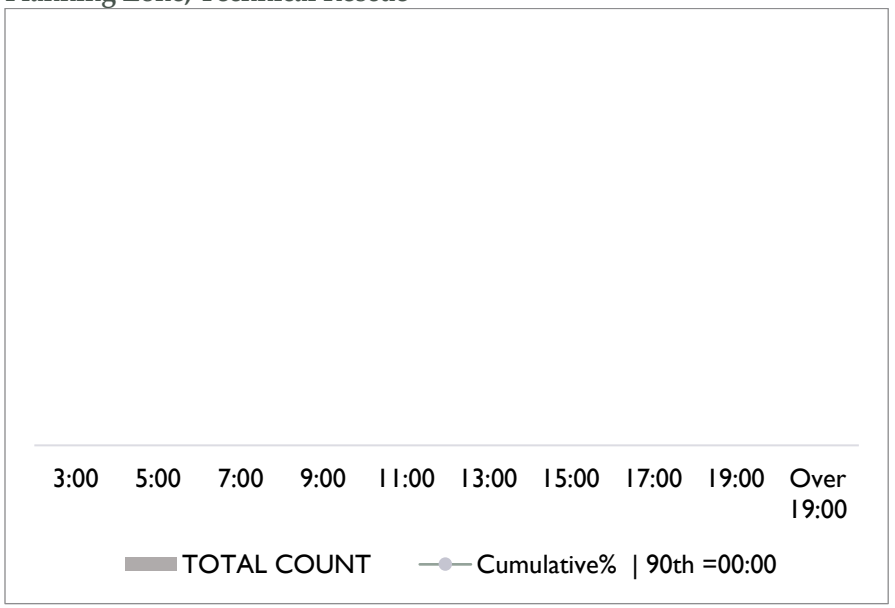
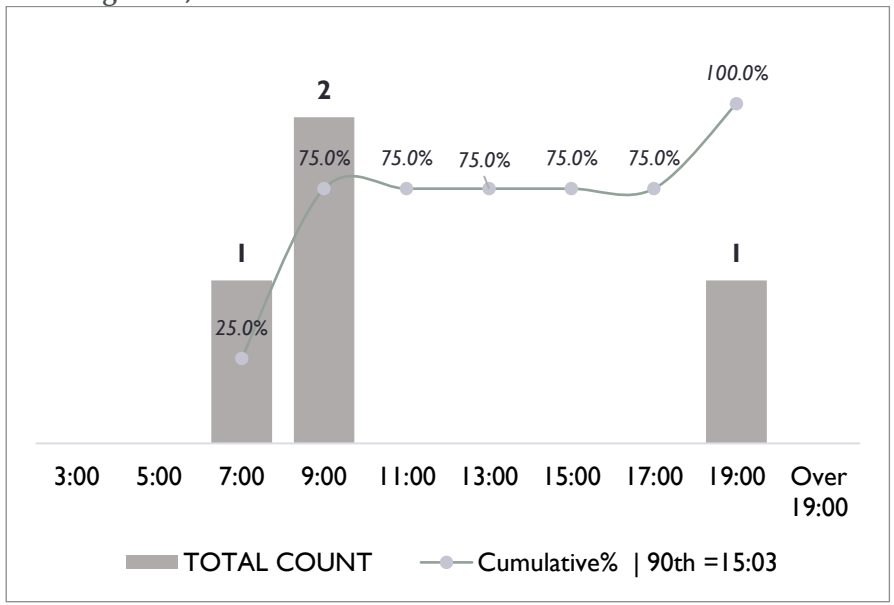


Figure 11.60 First-Arriving Unit Response Performance, Low Density Planning Zone, Water Rescue



First-Arriving Unit Total Response Performance

Figure 11.61 First-Arriving Unit Total Response Performance, High Density Planning Zone, Traffic Accident

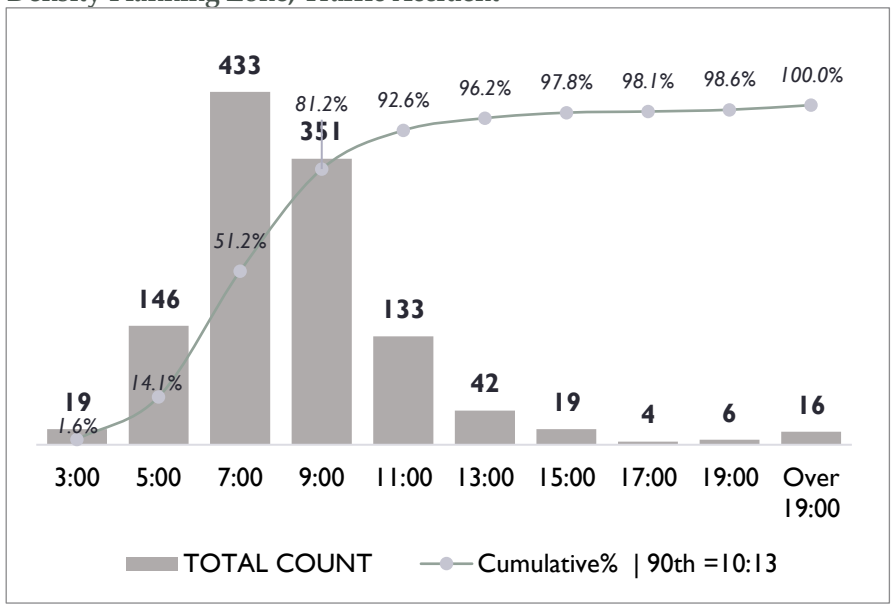


Figure 11.62 First-Arriving Unit Total Response Performance, High Density Planning Zone, Cardiac Arrest

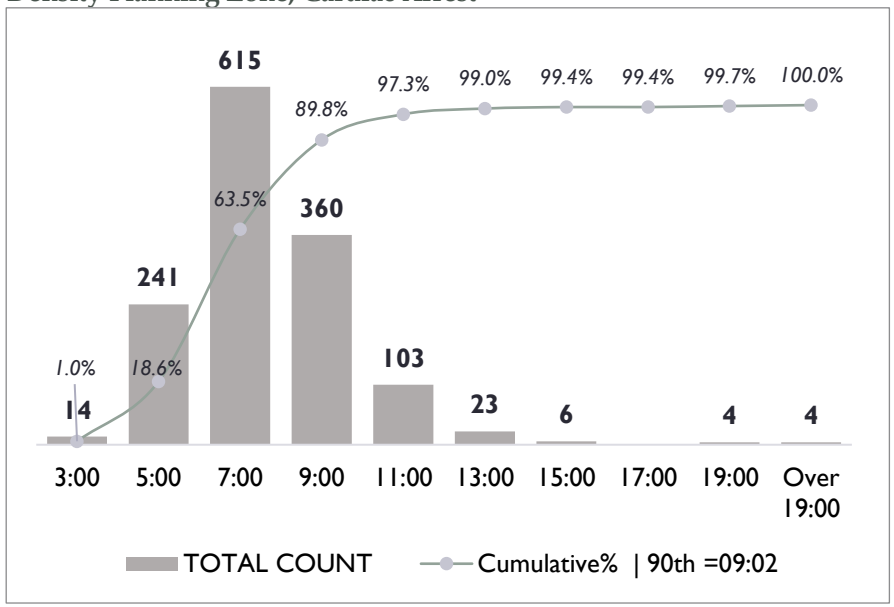


Figure 11.63 First-Arriving Unit Total Response Performance, High Density Planning Zone, Drowning

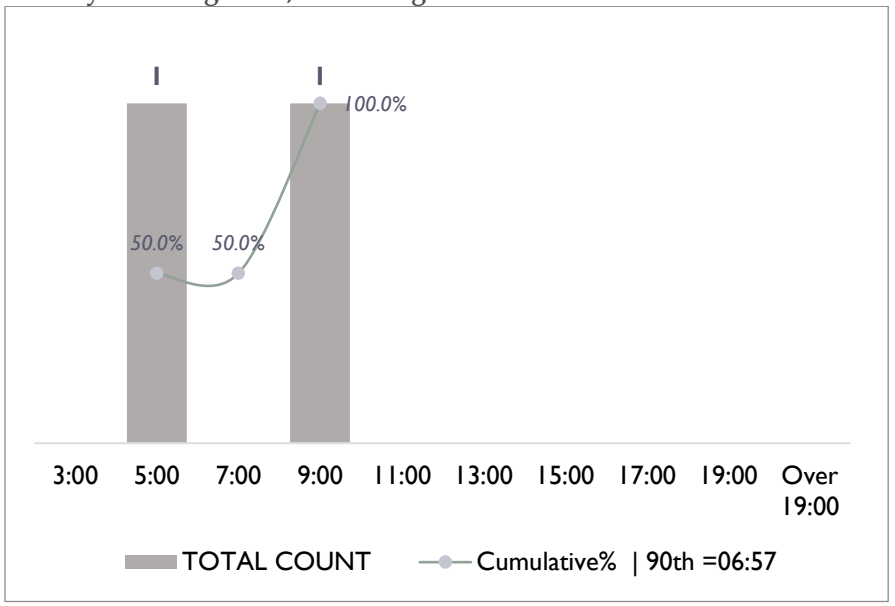


Figure 11.64 First-Arriving Unit Total Response Performance, High Density Planning Zone, EMS

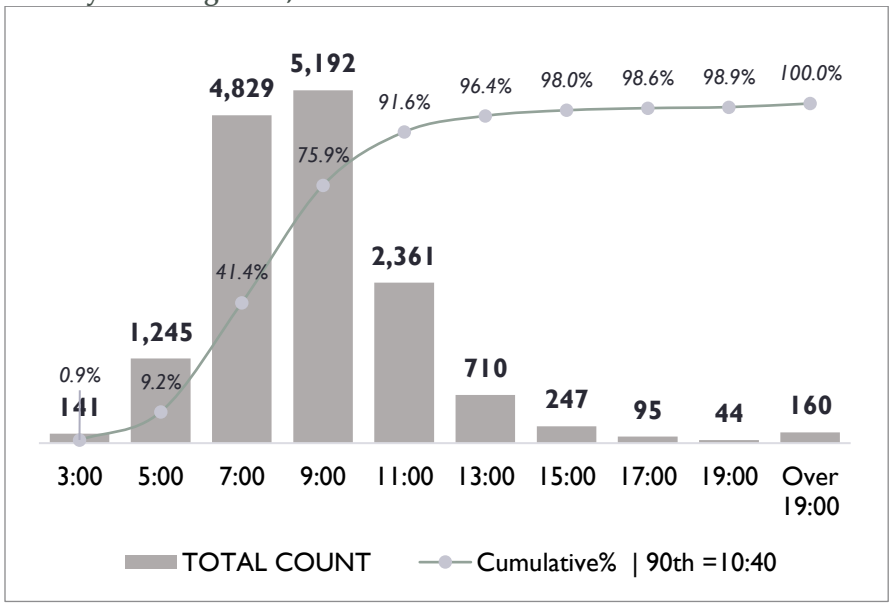


Figure 11.65 First-Arriving Unit Total Response Performance, High Density Planning Zone, Structure Fire

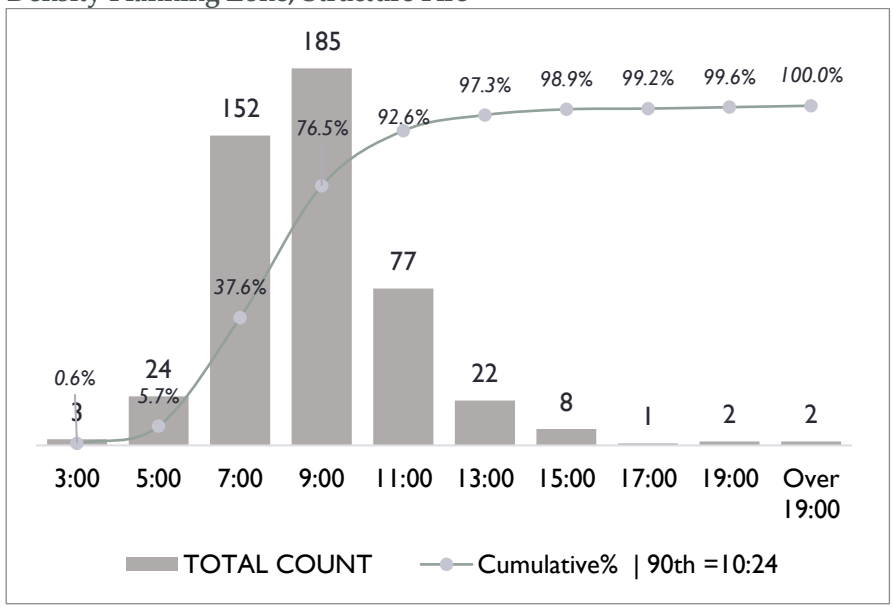


Figure 11.66 First-Arriving Unit Total Response Performance, High Density Planning Zone, Non-Structure Fire

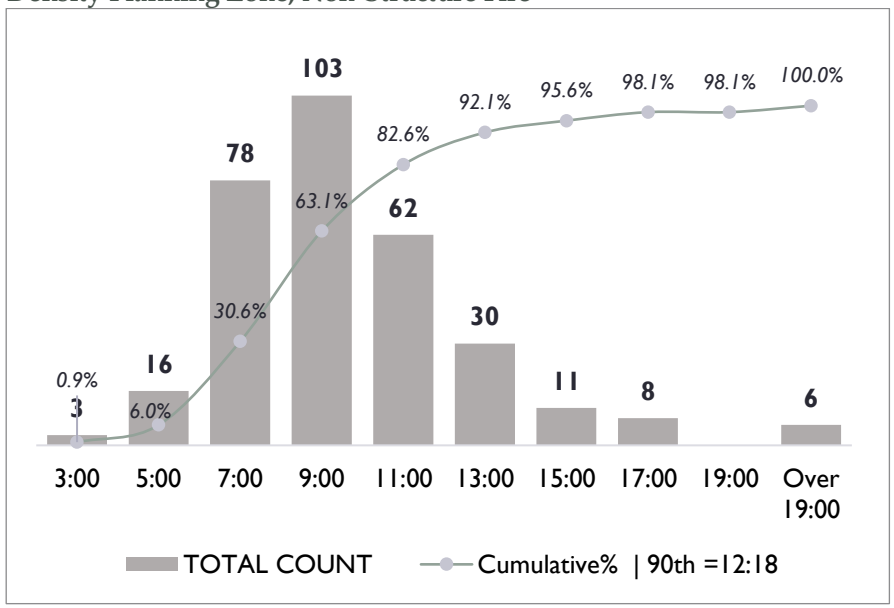


Figure 11.67 First-Arriving Unit Total Response Performance, High Density Planning Zone, Hazardous Materials

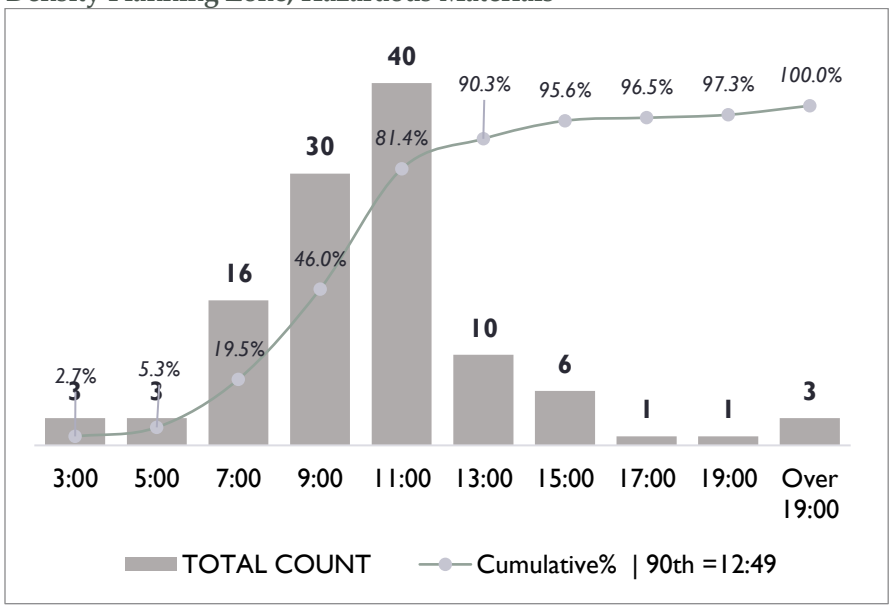


Figure 11.68 First-Arriving Unit Total Response Performance, High Density Planning Zone, Technical Rescue

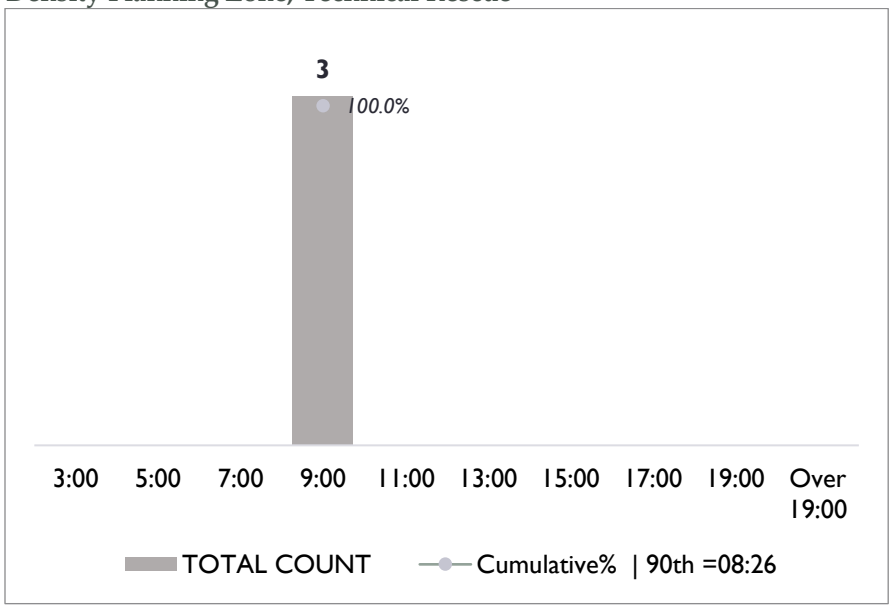


Figure 11.69 First-Arriving Unit Total Response Performance, High Density Planning Zone, Water Rescue

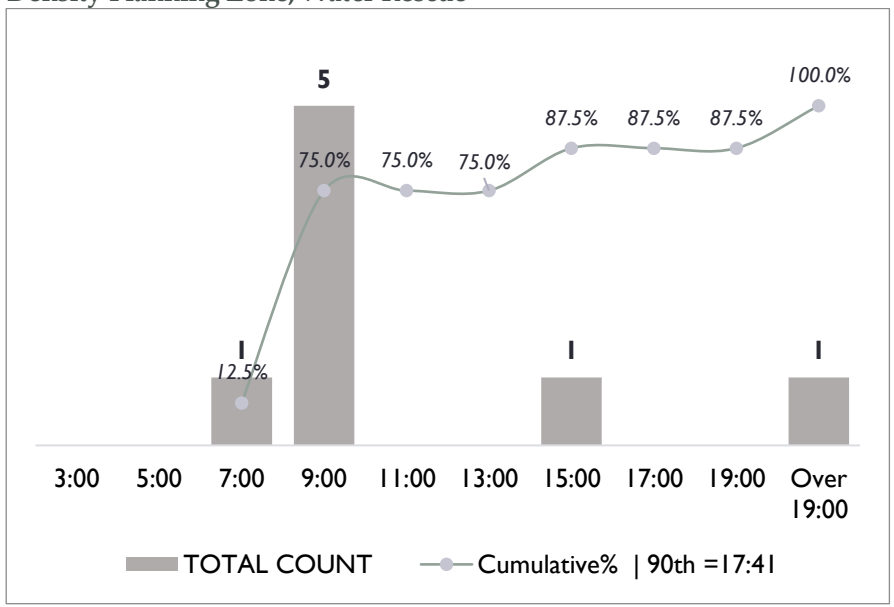


Figure 11.70 First-Arriving Unit Total Response Performance, Low Density Planning Zone, Traffic Accident

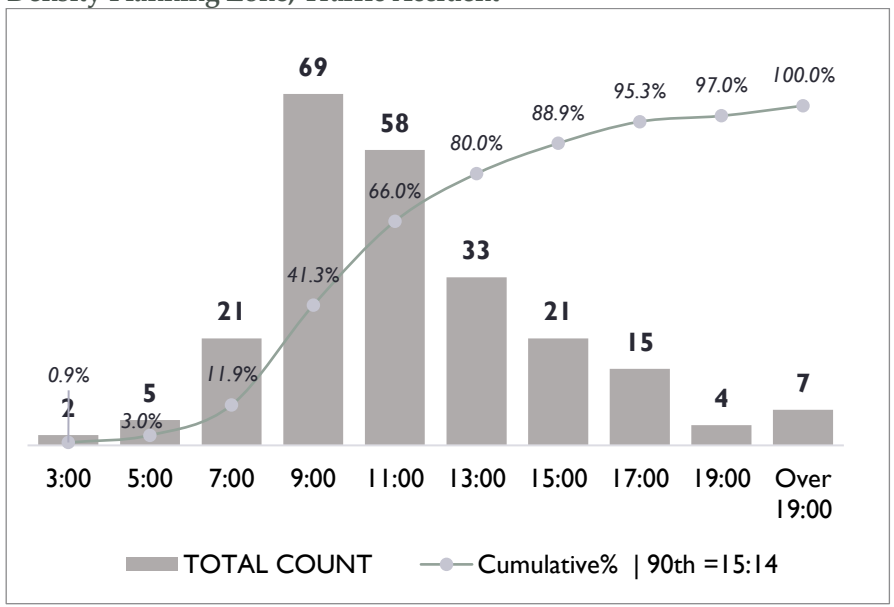


Figure 11.71 First-Arriving Unit Total Response Performance, Low Density Planning Zone, Cardiac Arrest

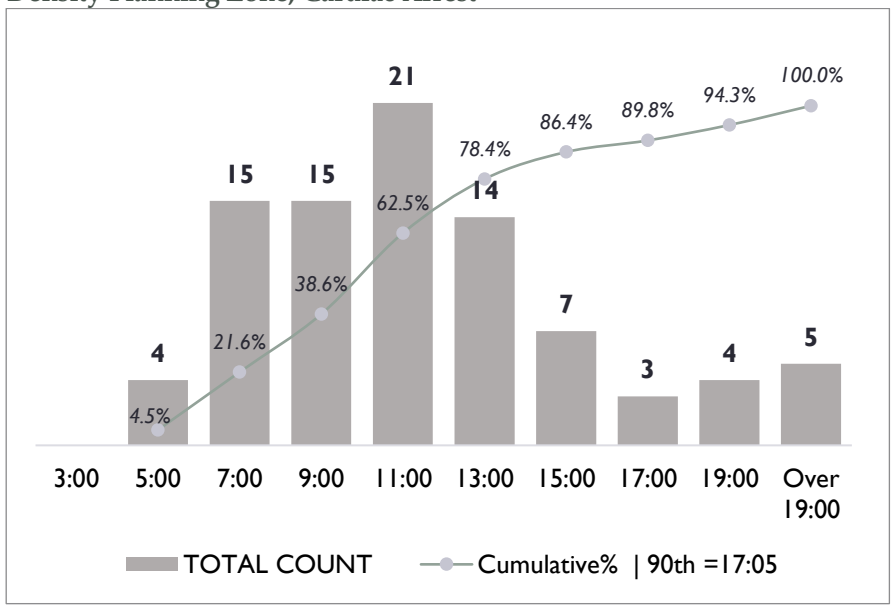


Figure 11.72 First-Arriving Unit Total Response Performance, Low Density Planning Zone, Drowning

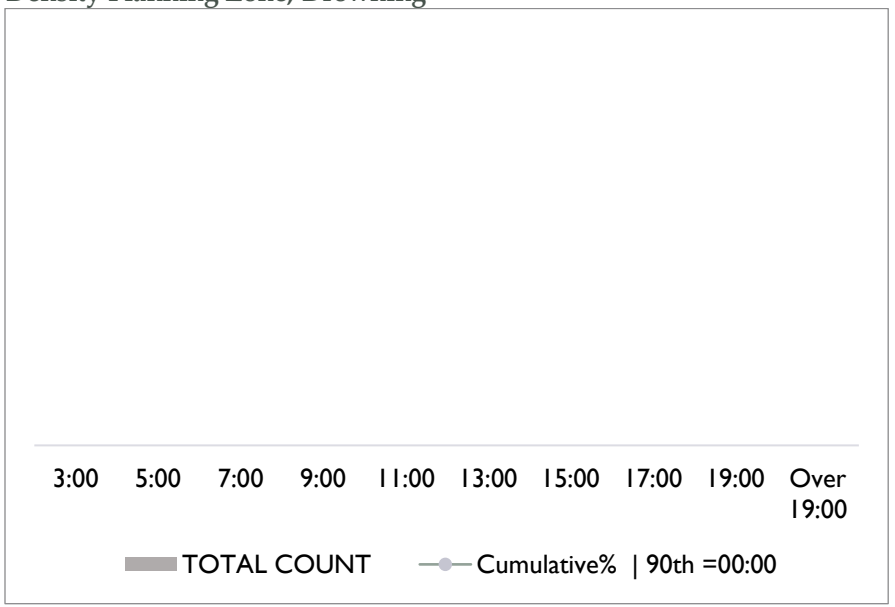


Figure 11.73 First-Arriving Unit Total Response Performance, Low Density Planning Zone, EMS

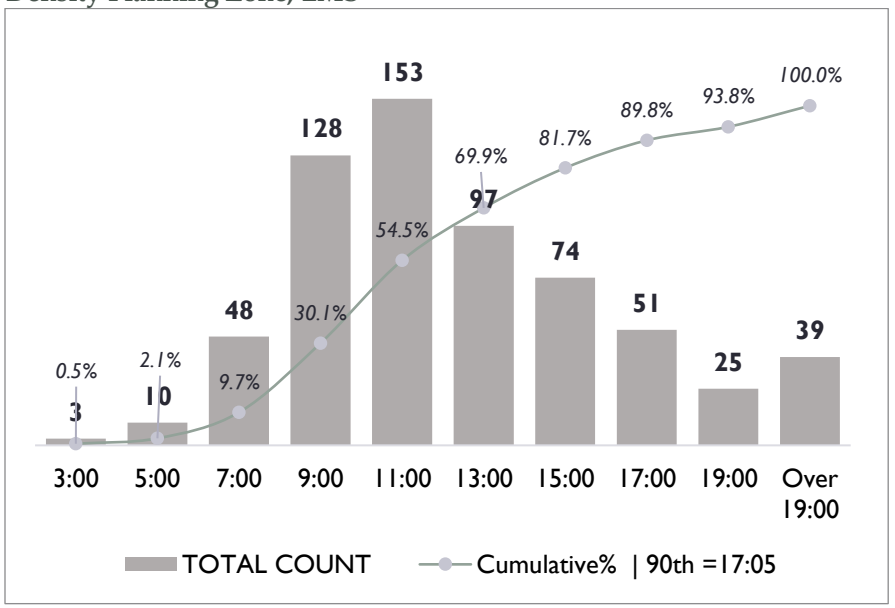


Figure 11.74 First-Arriving Unit Total Response Performance, Low Density Planning Zone, Structure Fire

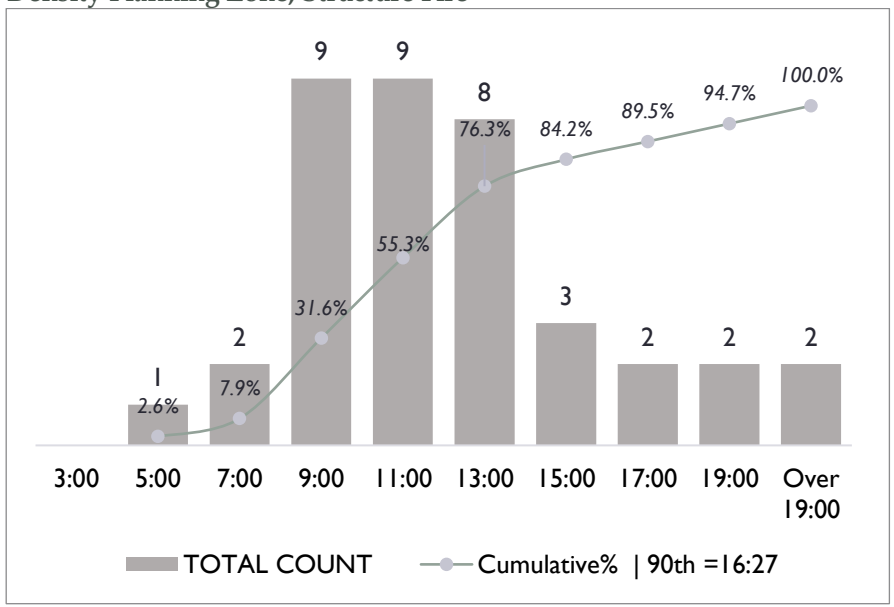


Figure 11.75 First-Arriving Unit Total Response Performance, Low Density Planning Zone, Non-Structure Fire

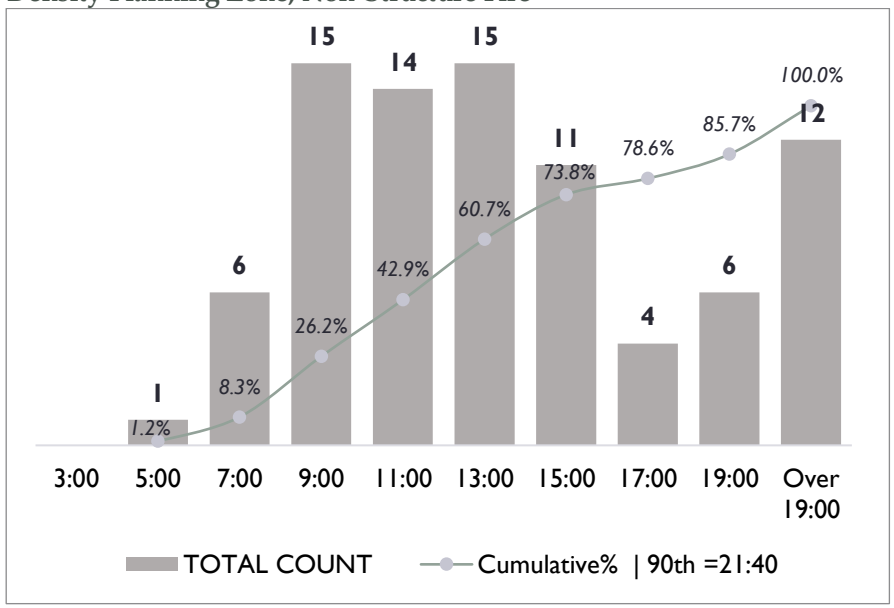


Figure 11.76 First-Arriving Unit Total Response Performance, Low Density Planning Zone, Hazardous Materials

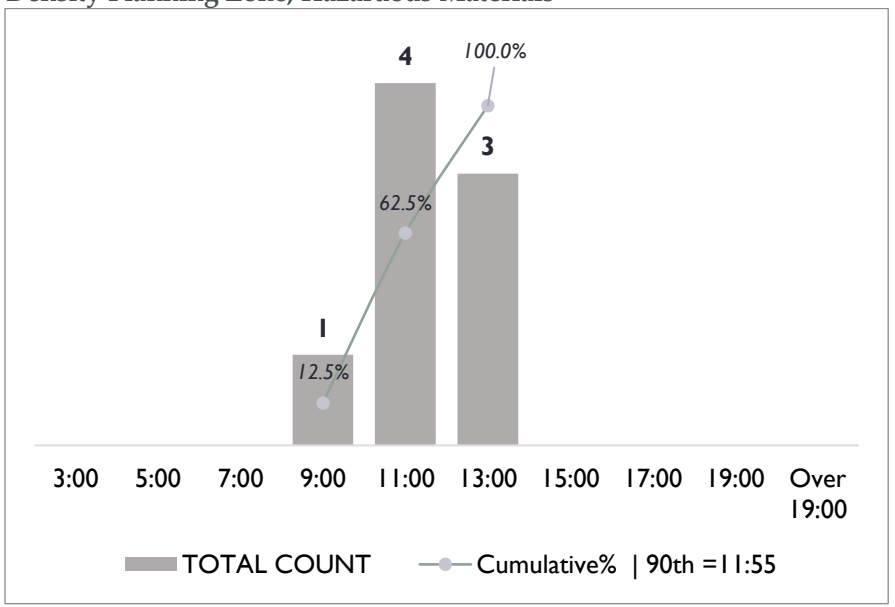


Figure 11.77 First-Arriving Unit Total Response Performance, Low Density Planning Zone, Technical Rescue

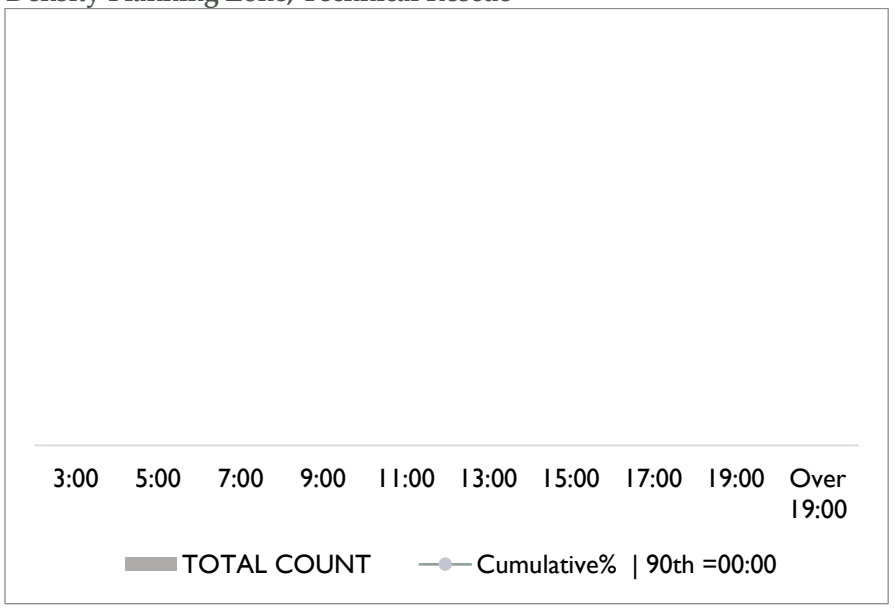
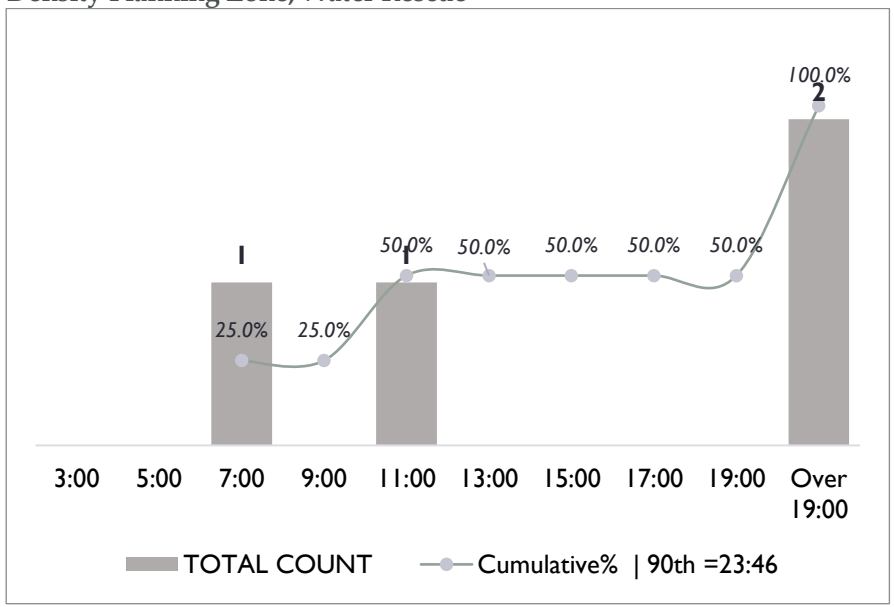


Figure 11.78 First-Arriving Unit Total Response Performance, Low Density Planning Zone, Water Rescue



ERF Turnout Performance

Figure 11.79 ERF Turnout Performance, Cardiac Arrest

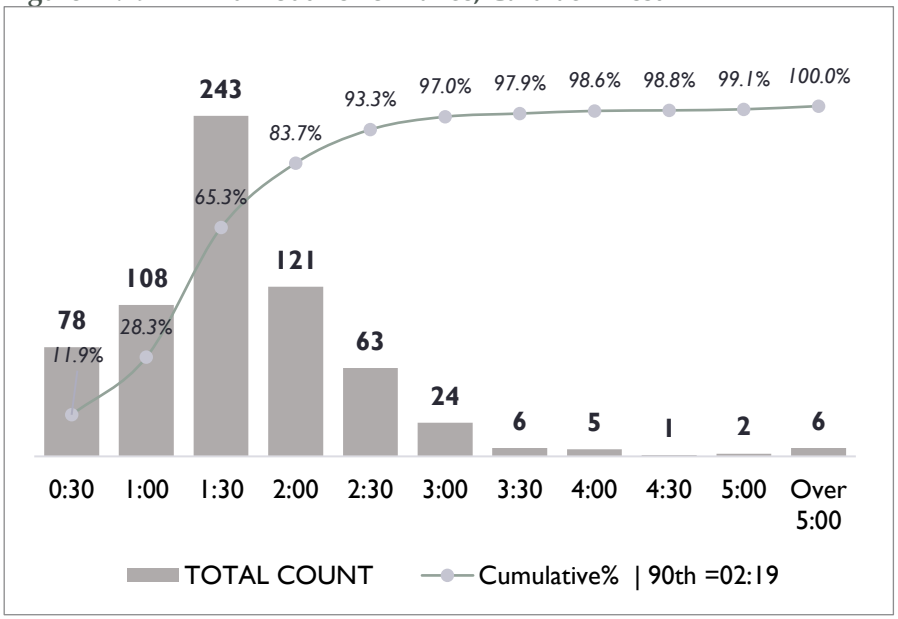


Figure 11.80 ERF Turnout Performance, Drowning

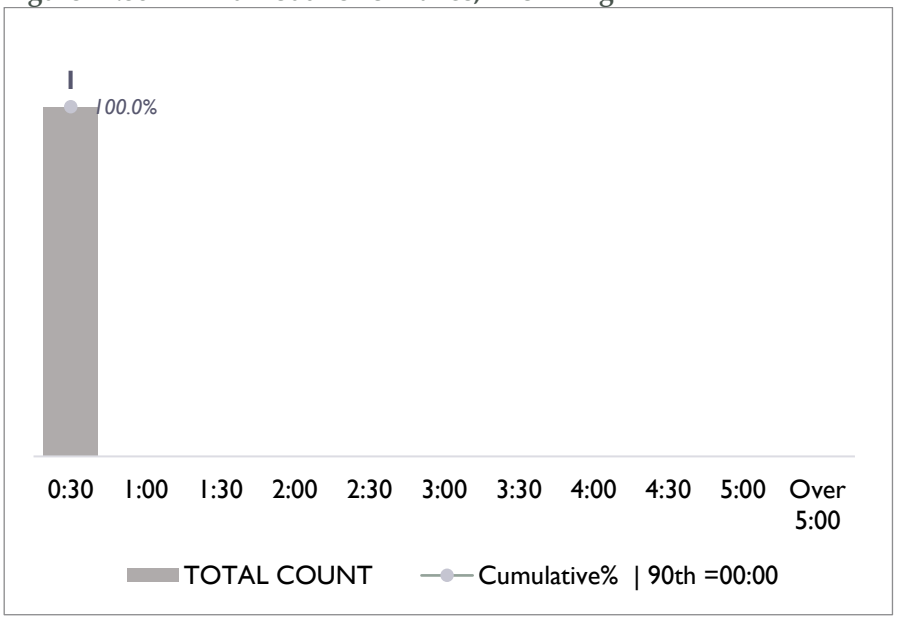


Figure 11.81 ERF Turnout Performance, EMS

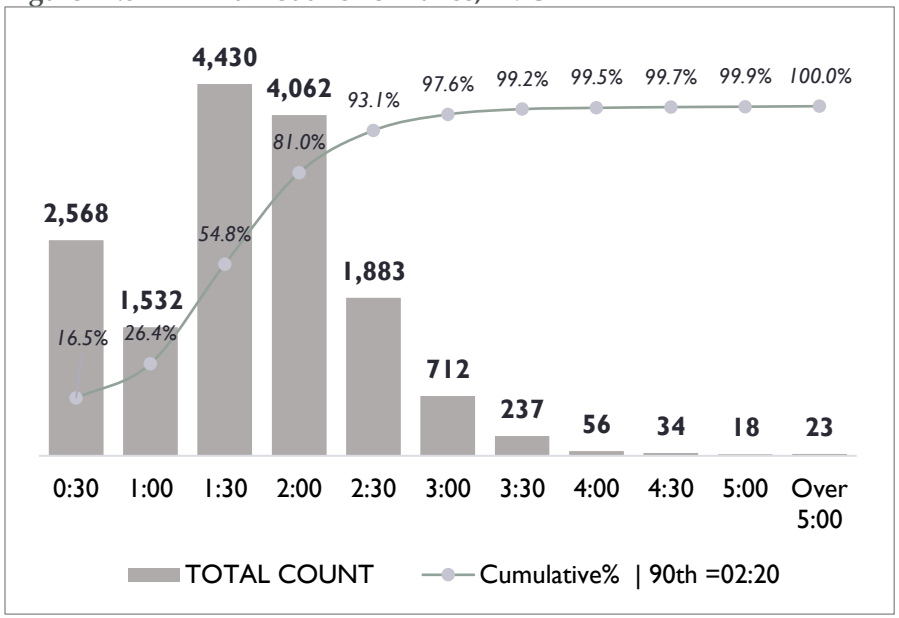
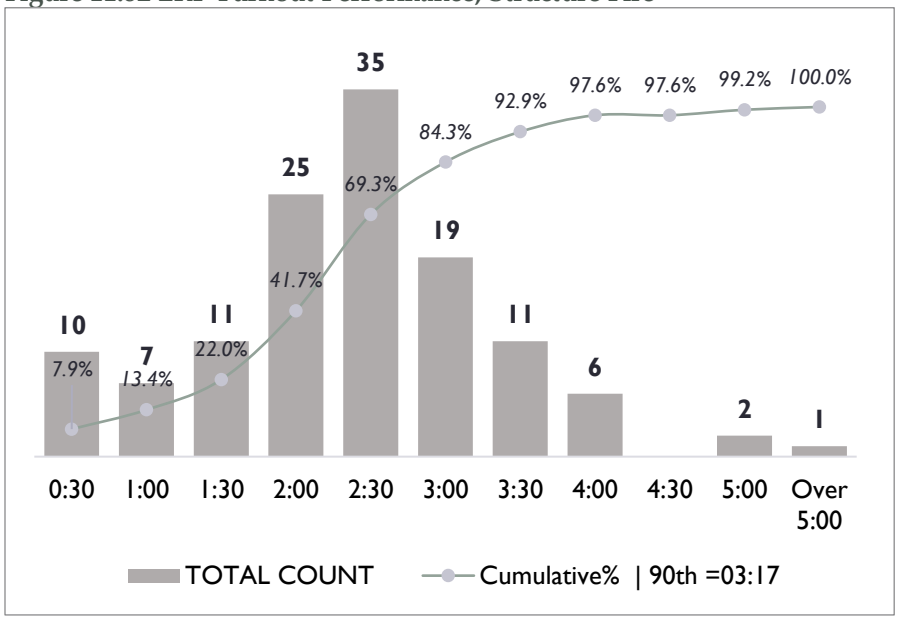


Figure 11.82 ERF Turnout Performance, Structure Fire



ERF Travel Performance

Figure 11.83 ERF Travel Performance, High Density Planning Zone, Cardiac Arrest

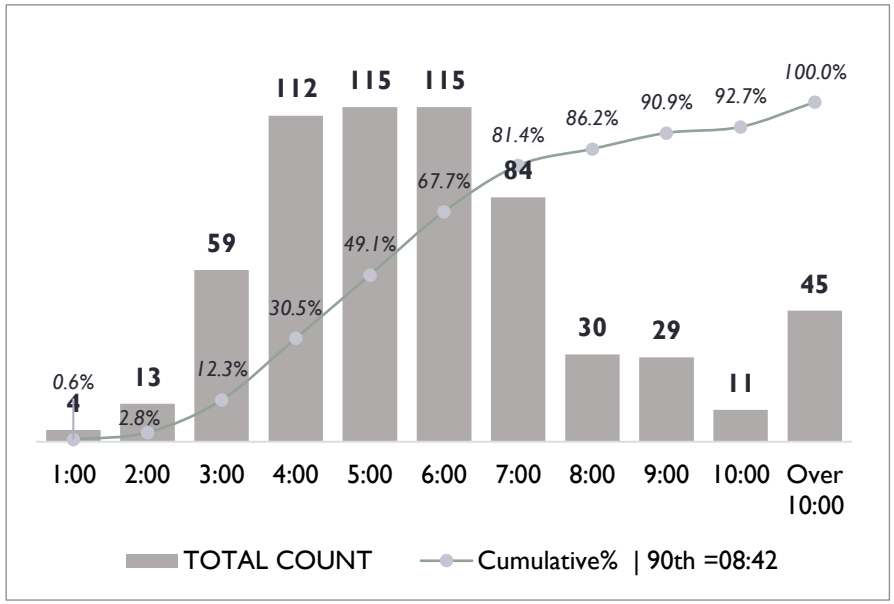


Figure 11.84 ERF Travel Performance, High Density Planning Zone, Drowning

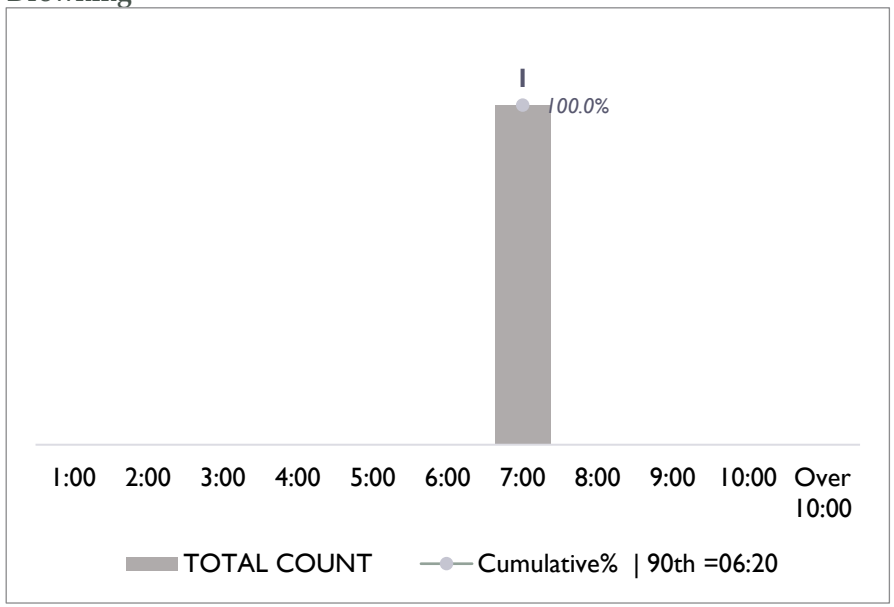


Figure 11.85 ERF Travel Performance, High Density Planning Zone, EMS

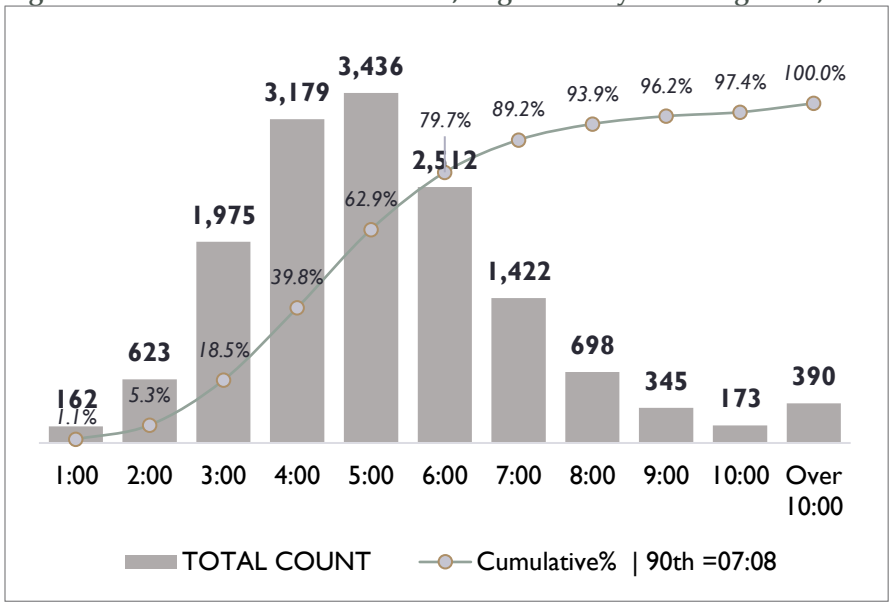


Figure 11.86 ERF Travel Performance, High Density Planning Zone, Structure Fire

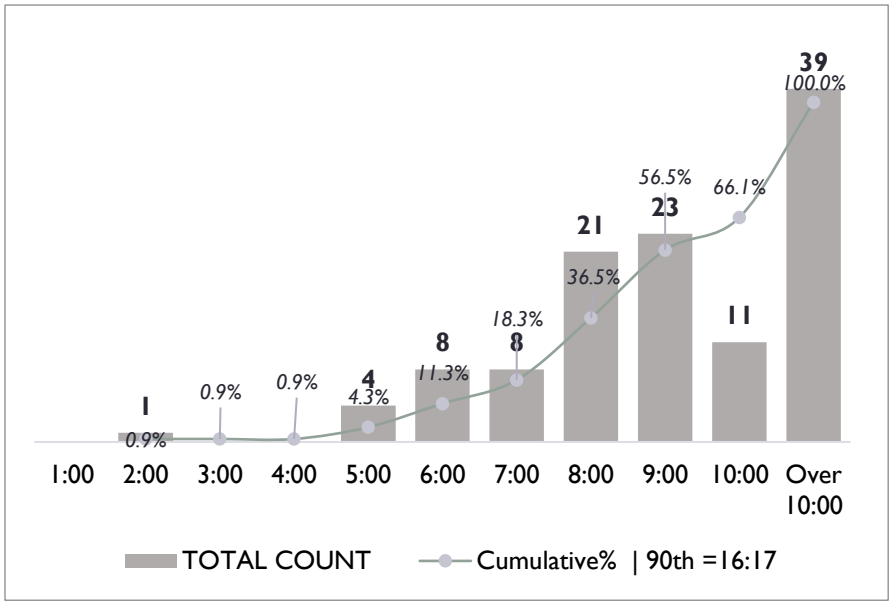


Figure 11.87 ERF Travel Performance, Low Density Planning Zone, Cardiac Arrest

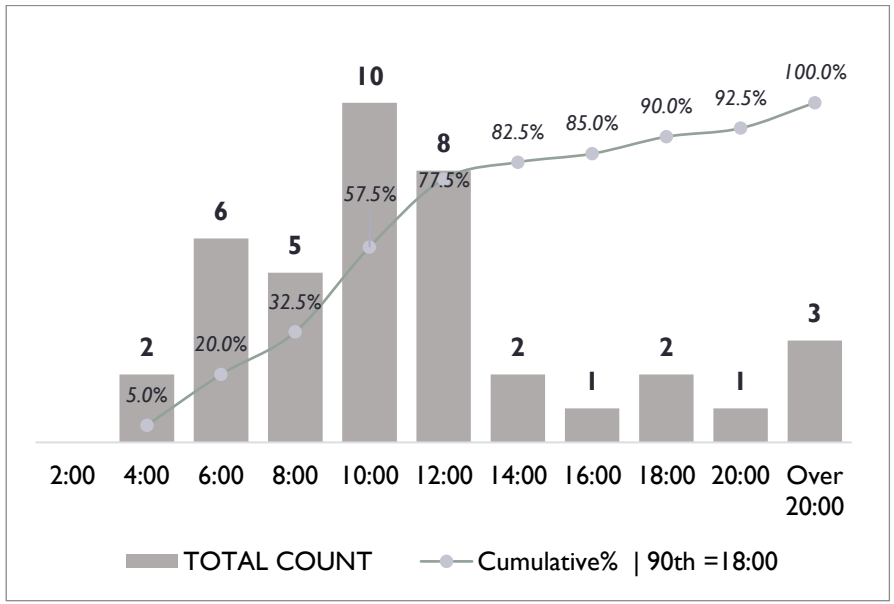


Figure 11.88 ERF Travel Performance, Low Density Planning Zone, Drowning

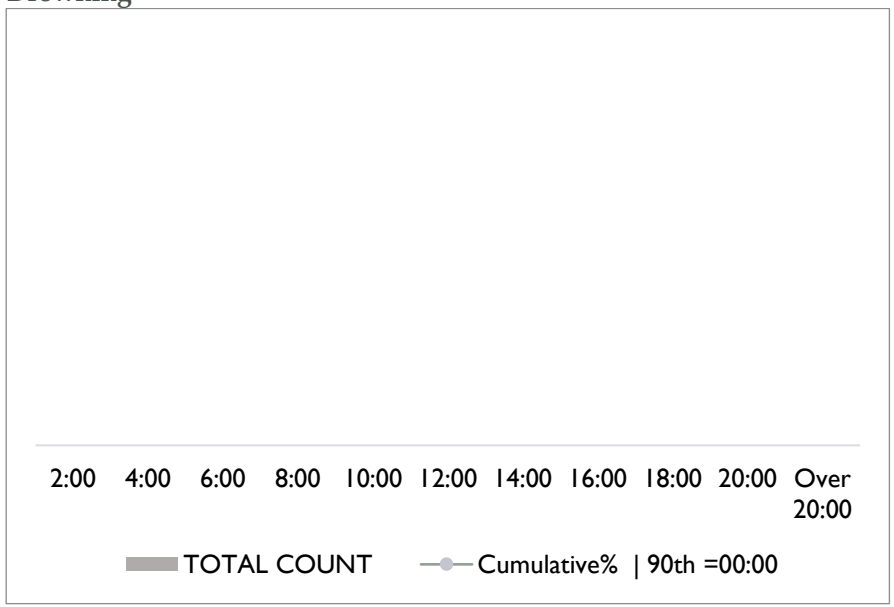


Figure 11.89 ERF Travel Performance, Low Density Planning Zone, EMS

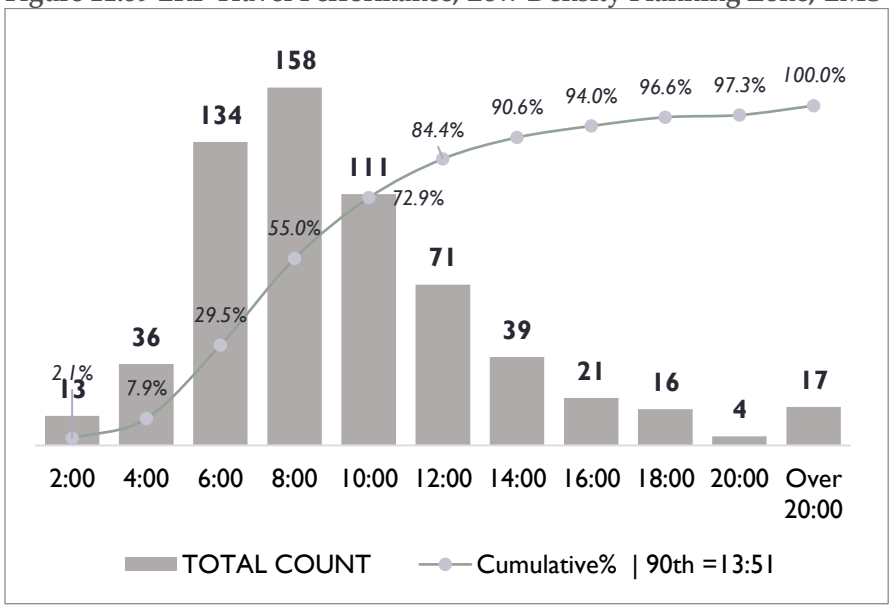
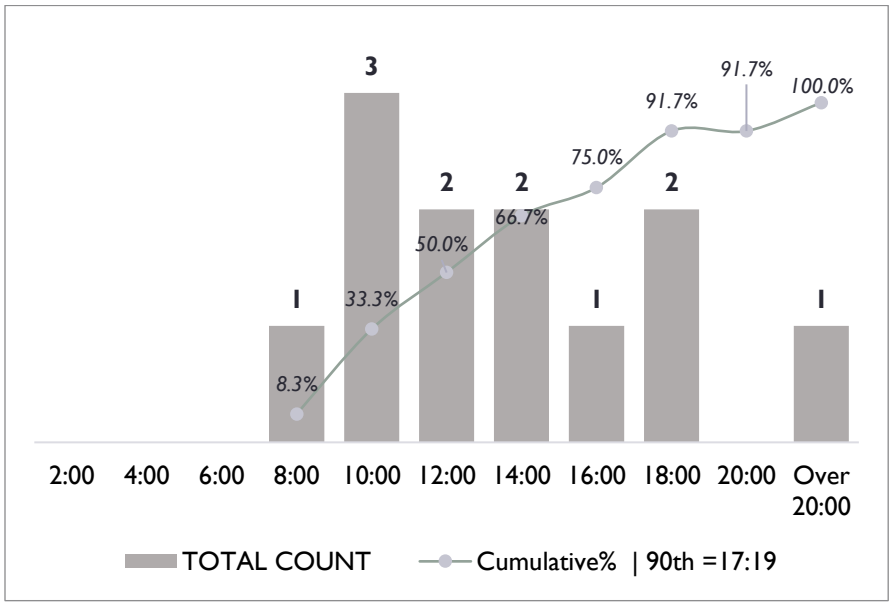


Figure 11.90 ERF Travel Performance, Low Density Planning Zone, Structure Fire



ERF Response Performance

Figure 11.91 ERF Response Performance, High Density Planning Zone, Cardiac Arrest

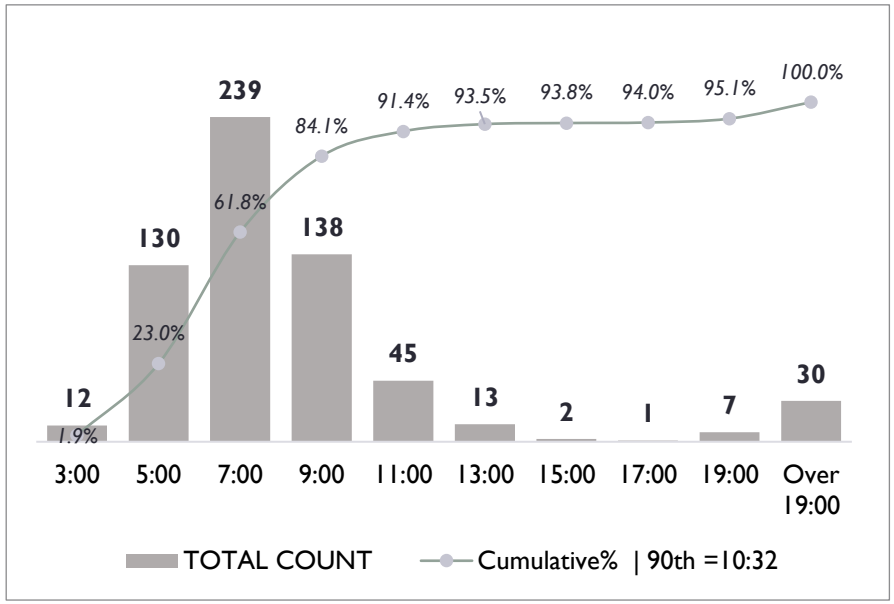


Figure 11.92 ERF Response Performance, High Density Planning Zone, Drowning

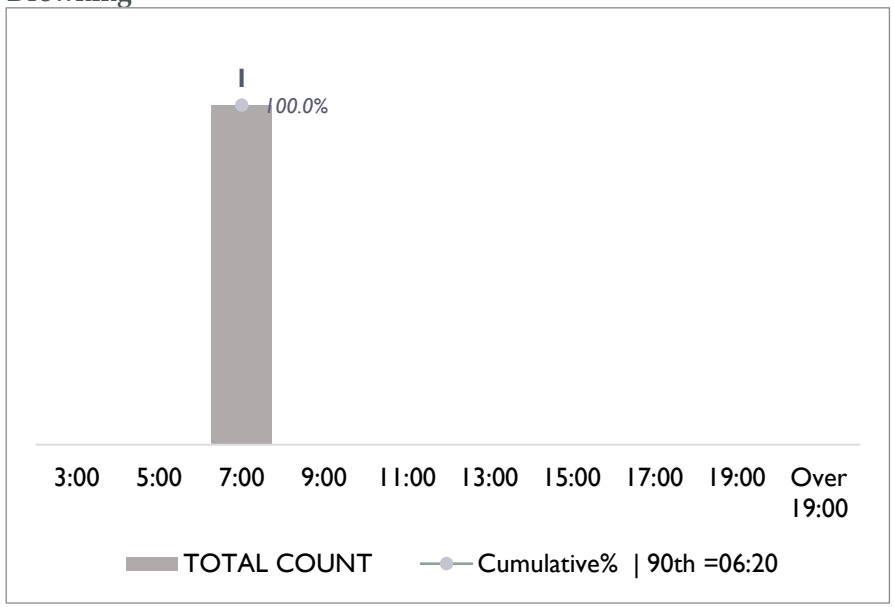


Figure 11.93 ERF Response Performance, High Density Planning Zone, EMS

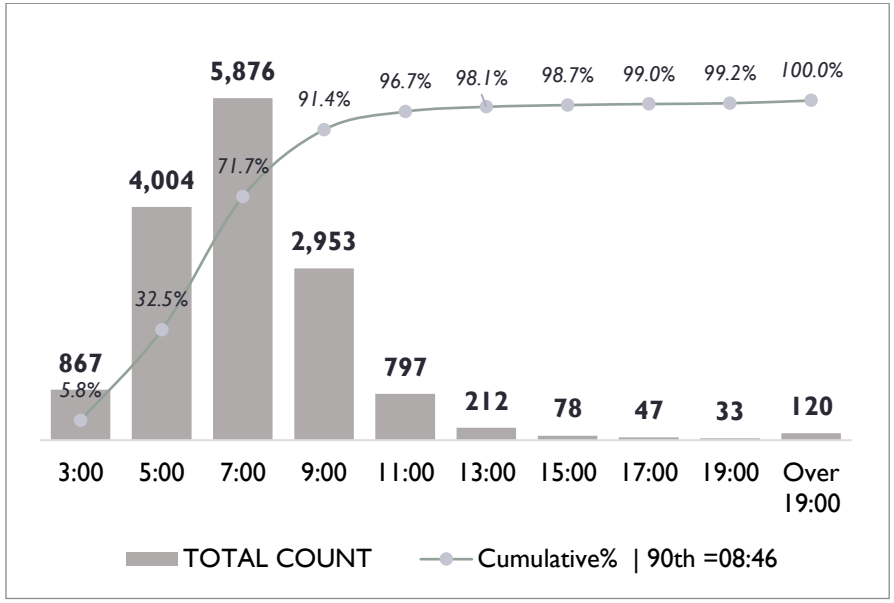


Figure 11.94 ERF Response Performance, High Density Planning Zone, Structure Fire

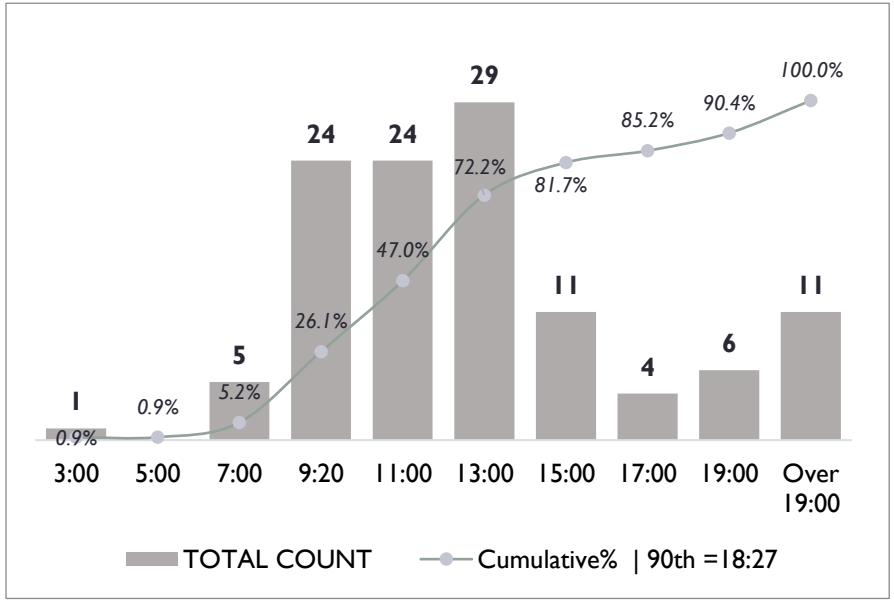


Figure 11.95 ERF Response Performance, Low Density Planning Zone, Cardiac Arrest

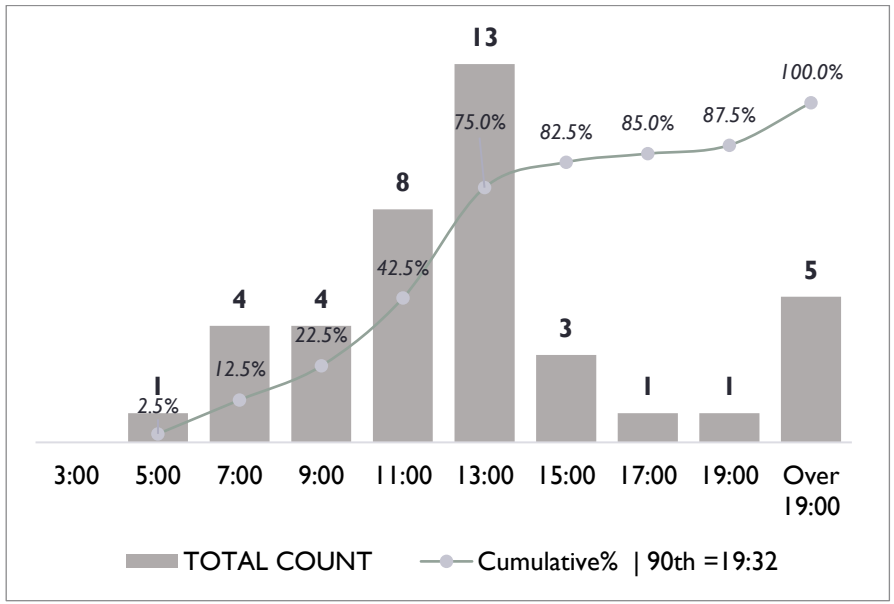


Figure 11.96 ERF Response Performance, Low Density Planning Zone, Drowning

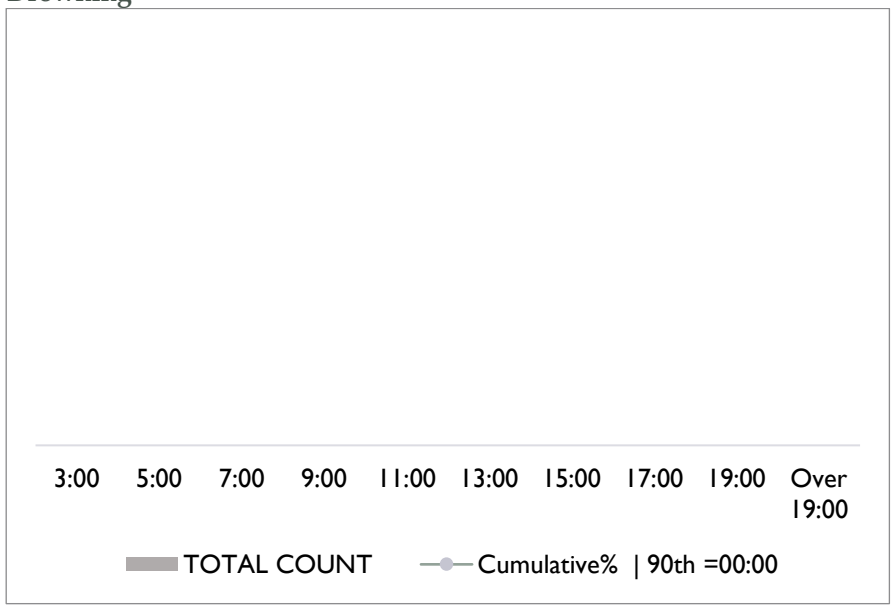


Figure 11.97 ERF Response Performance, Low Density Planning Zone, EMS

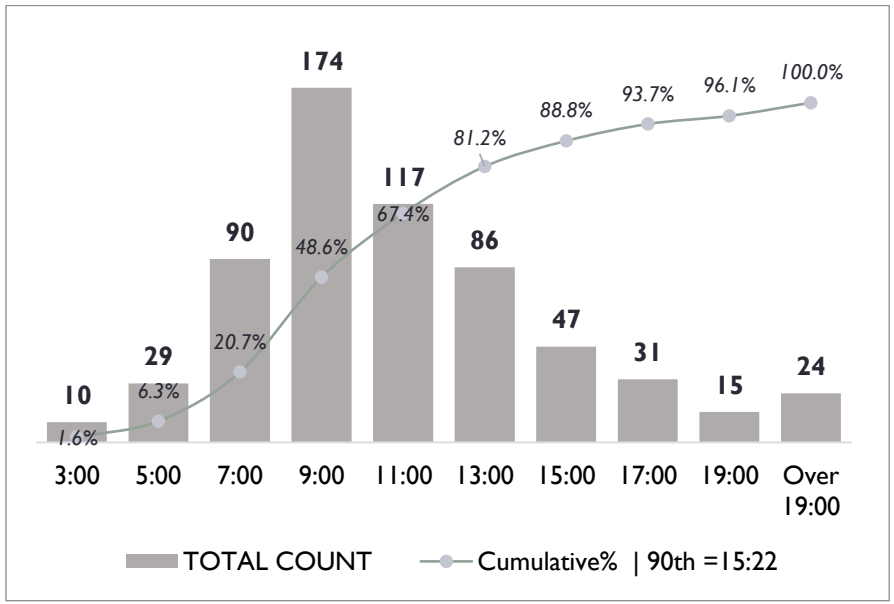
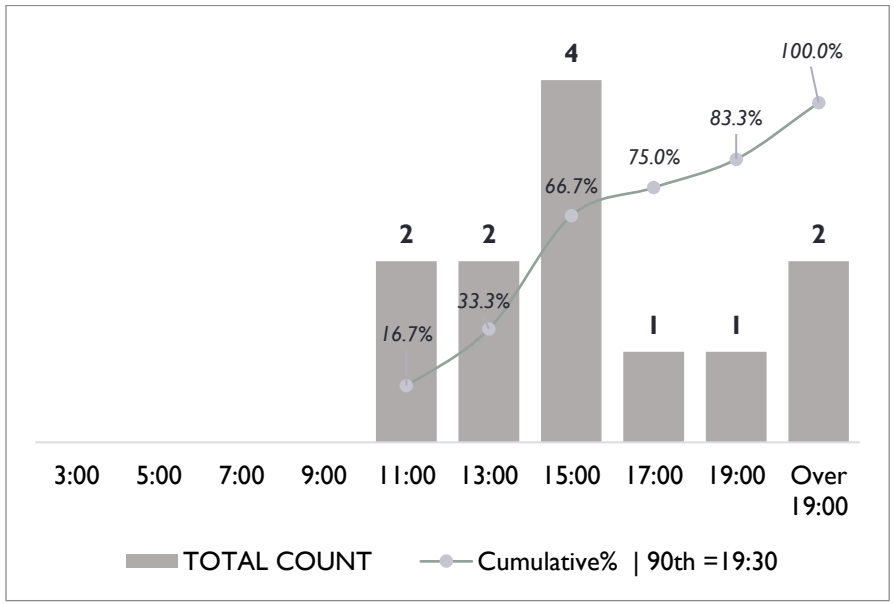


Figure 11.98 ERF Response Performance, Low Density Planning Zone, Structure Fire



ERF Total Response Performance

Figure 11.99 ERF Total Response Performance, High Density Planning Zone, Cardiac Arrest

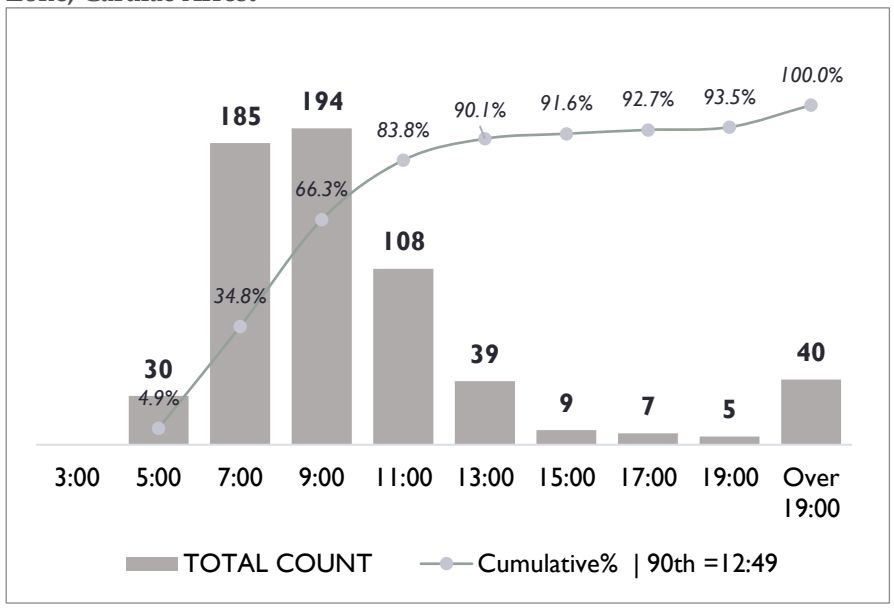


Figure 11.100 ERF Total Response Performance, High Density Planning Zone, Drowning

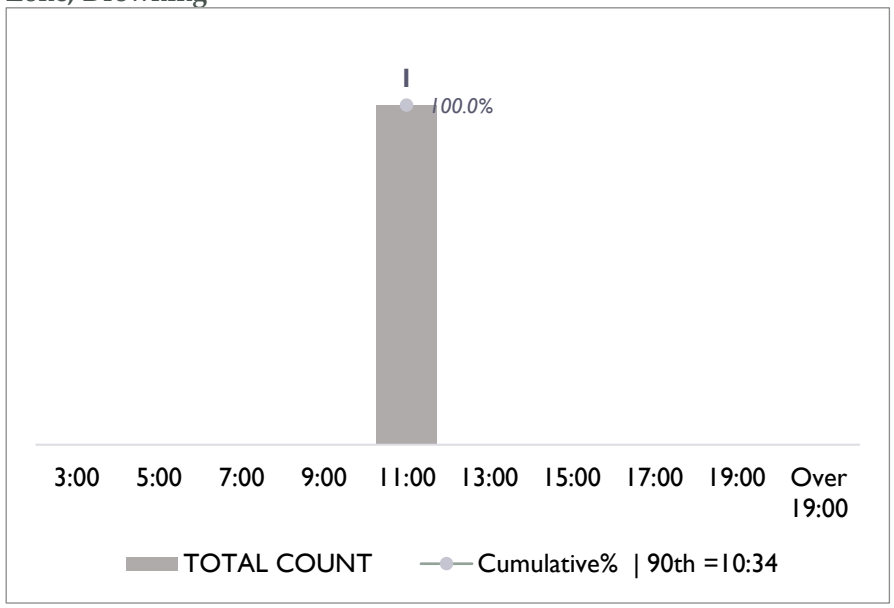


Figure 11.101 ERF Total Response Performance, High Density Planning Zone, EMS

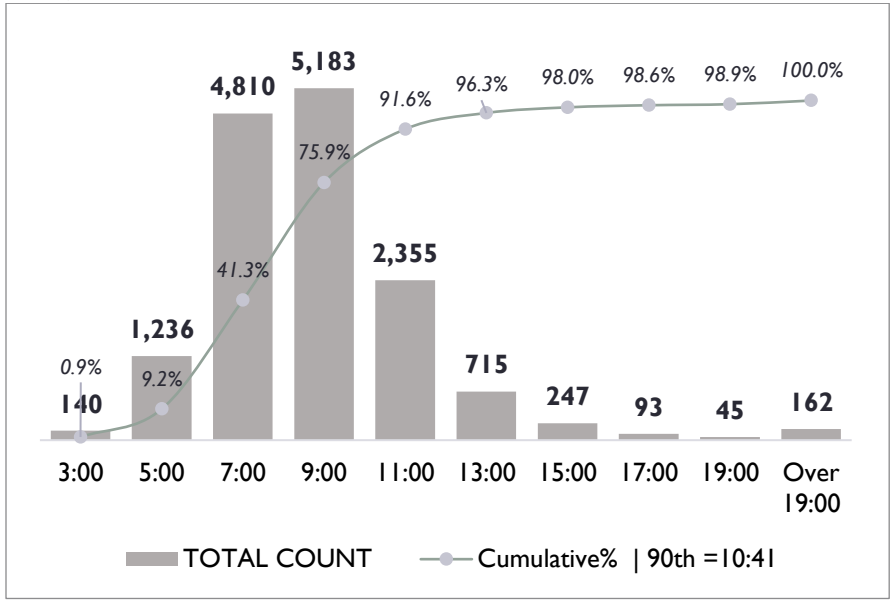


Figure 11.102 ERF Total Response Performance, High Density Planning Zone, Structure Fire

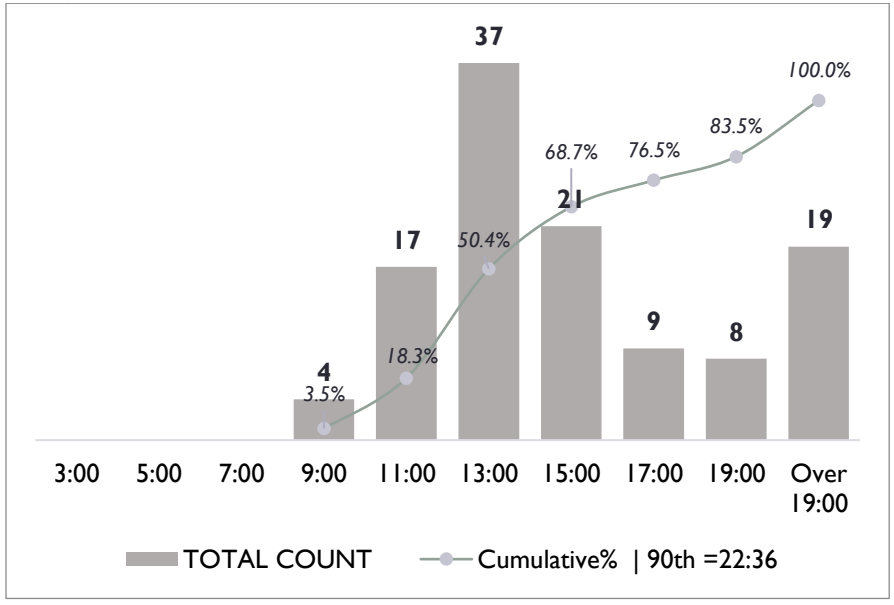


Figure 11.103 ERF Total Response Performance, Low Density Planning Zone, Cardiac Arrest

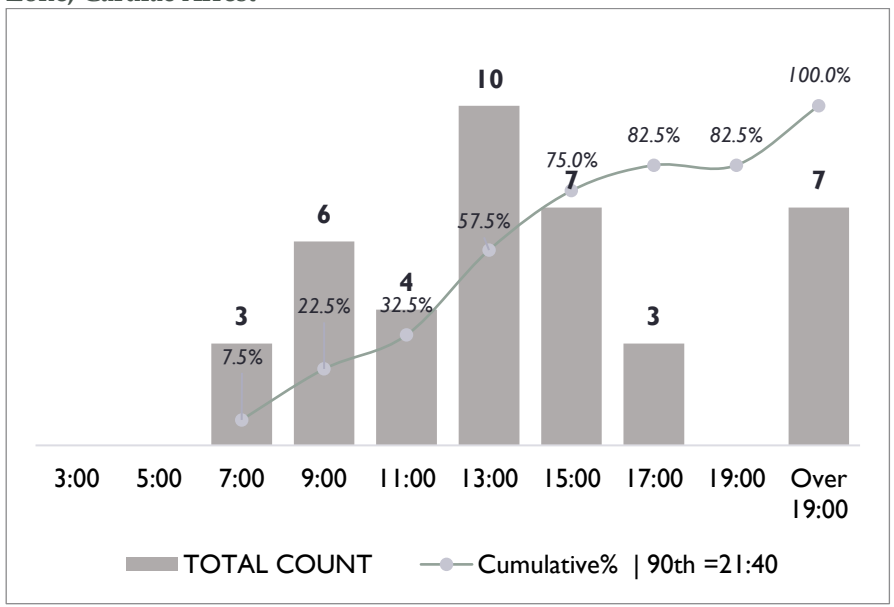


Figure 11.104 ERF Total Response Performance, Low Density Planning Zone, Drowning

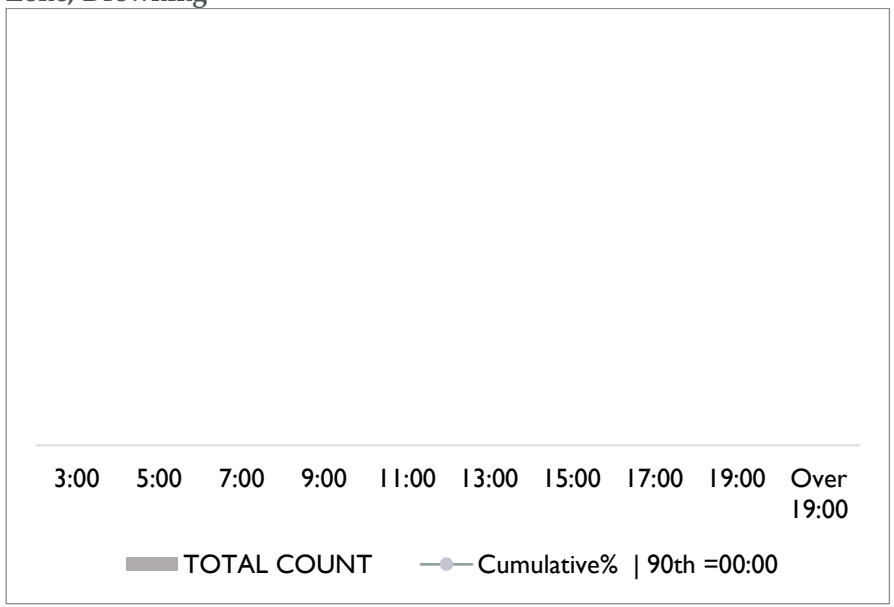


Figure 11.105 ERF Total Response Performance, Low Density Planning Zone, EMS

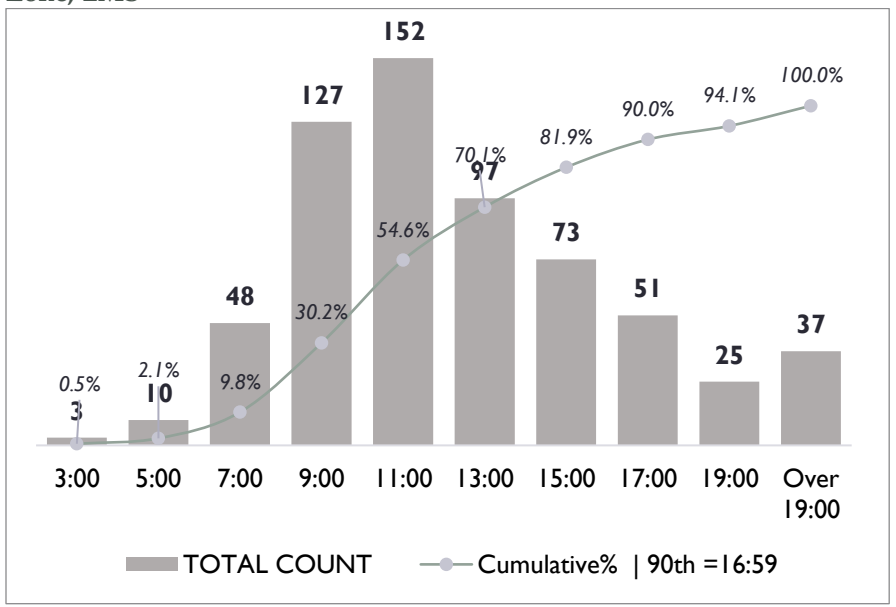


Figure 11.106 ERF Total Response Performance, Low Density Planning Zone, Structure Fire

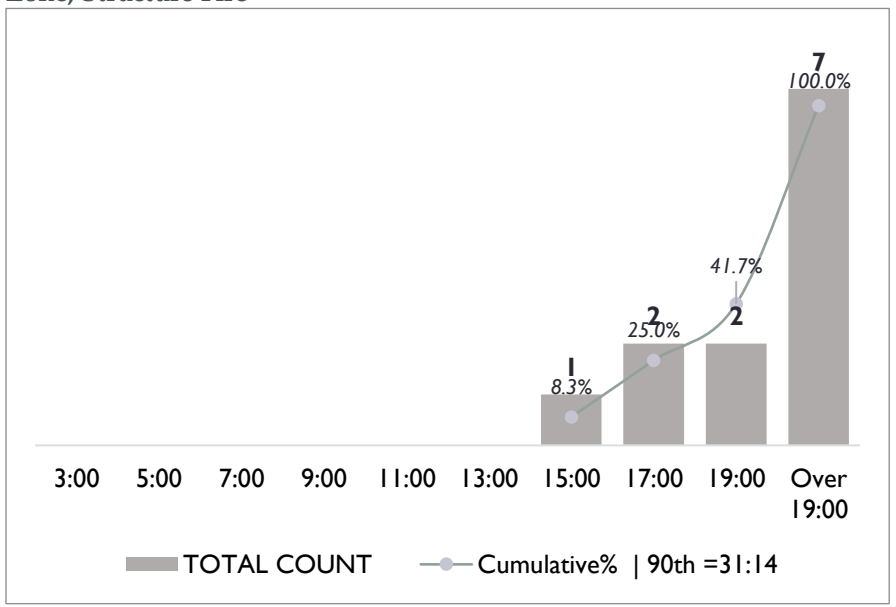


Figure 11.107 High Density Planning Zone, First-Arriving Unit, Traffic Accident

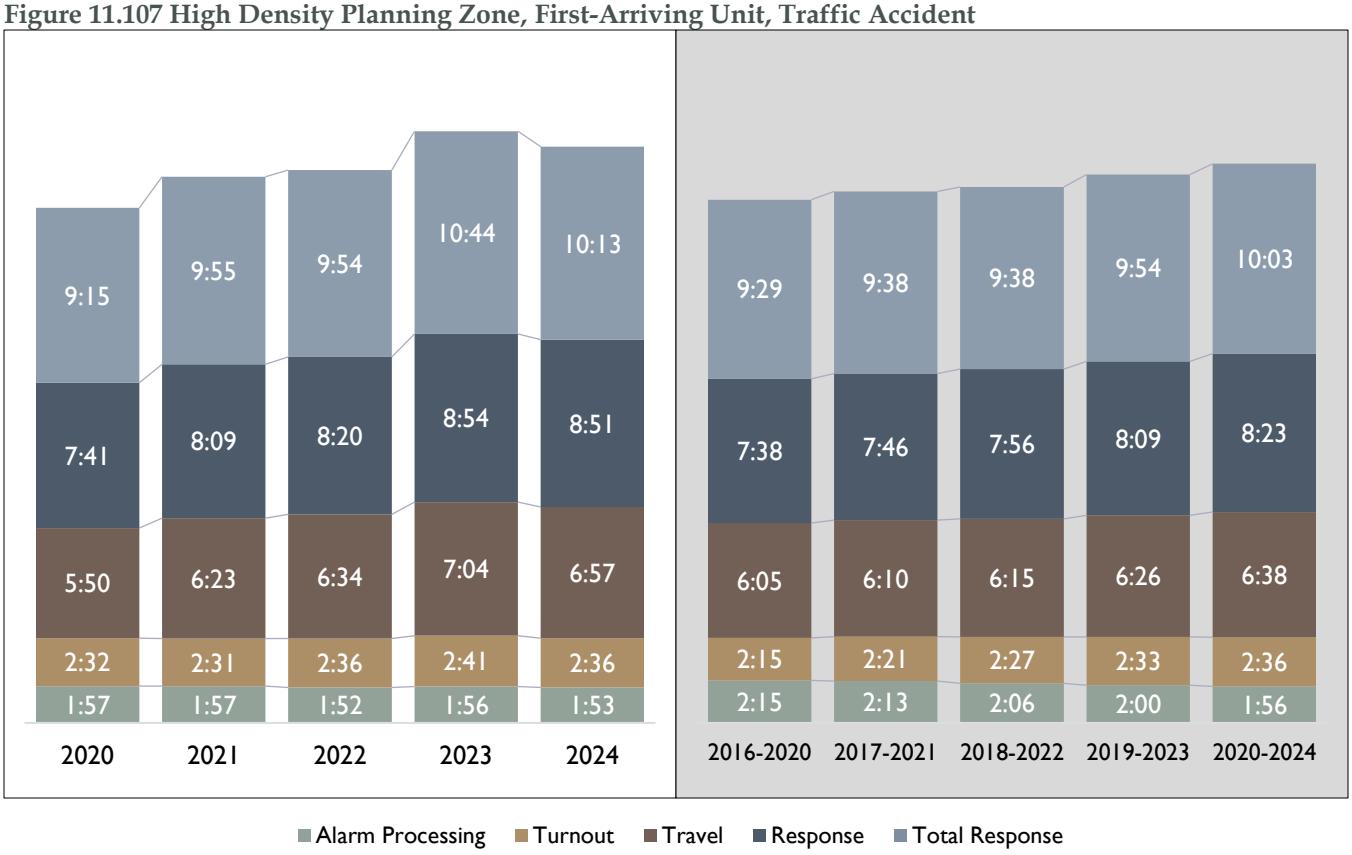


Figure 11.108 High Density Planning Zone, First-Arriving Unit, Cardiac Arrest

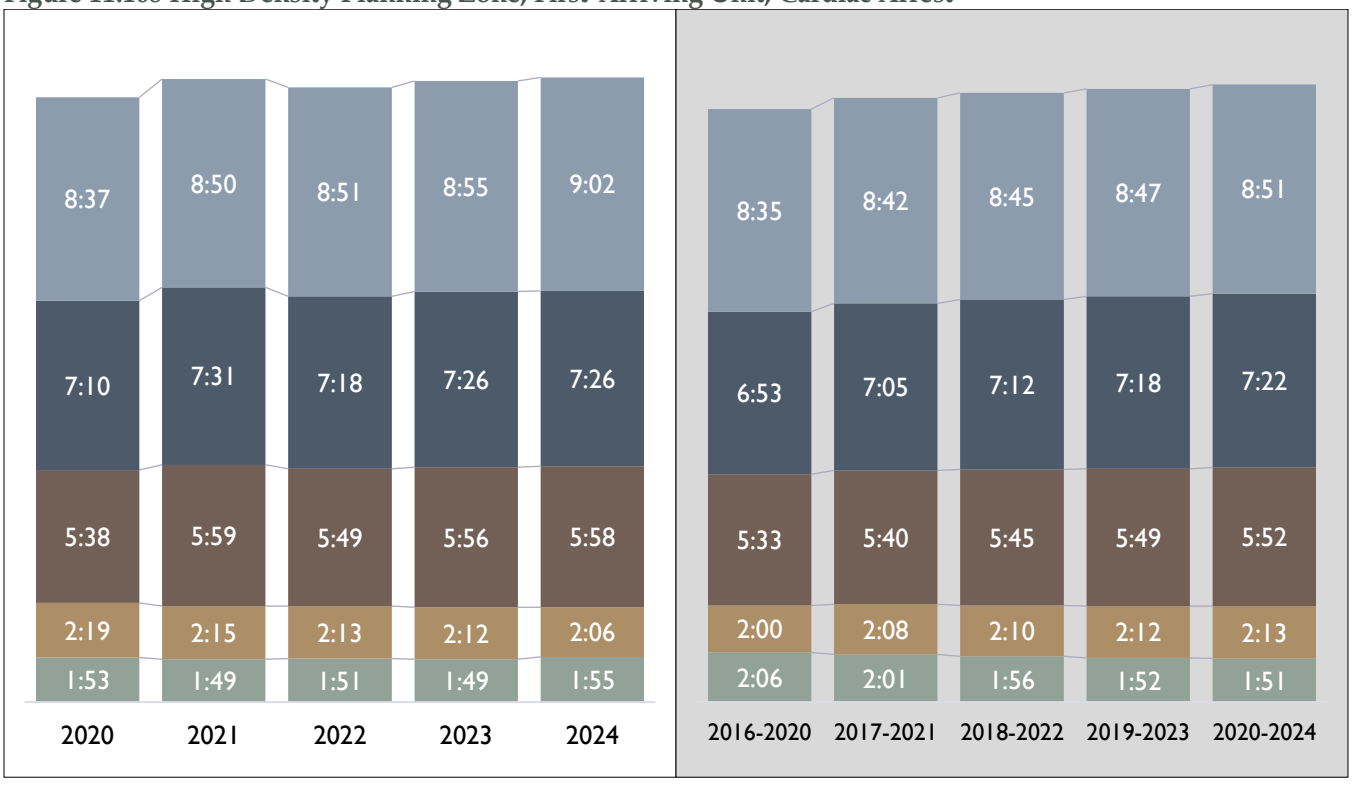
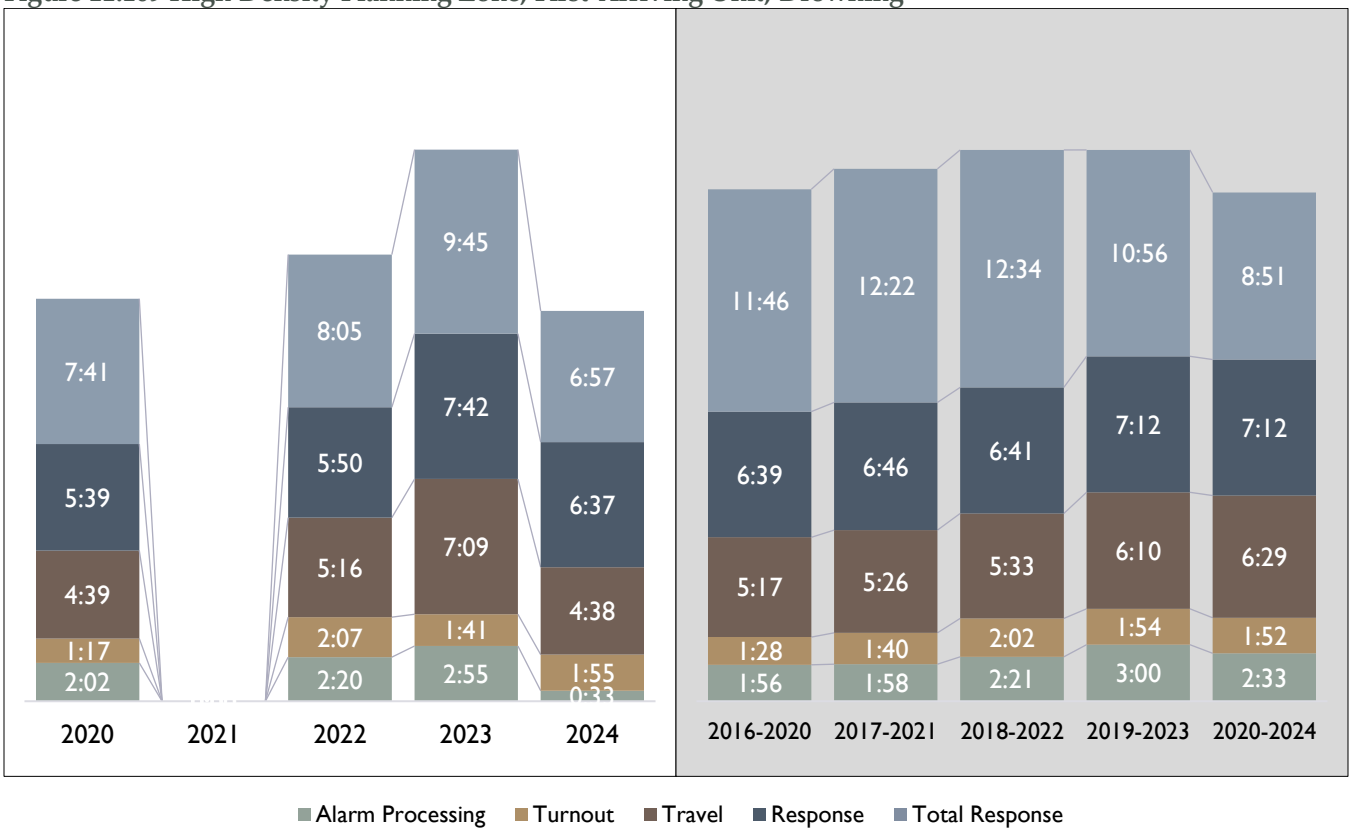


Figure 11.109 High Density Planning Zone, First-Arriving Unit, Drowning



*There were no drowning responses in the high density planning zone in 2021.

Figure 11.110 High Density Planning Zone, First-Arriving Unit, EMS

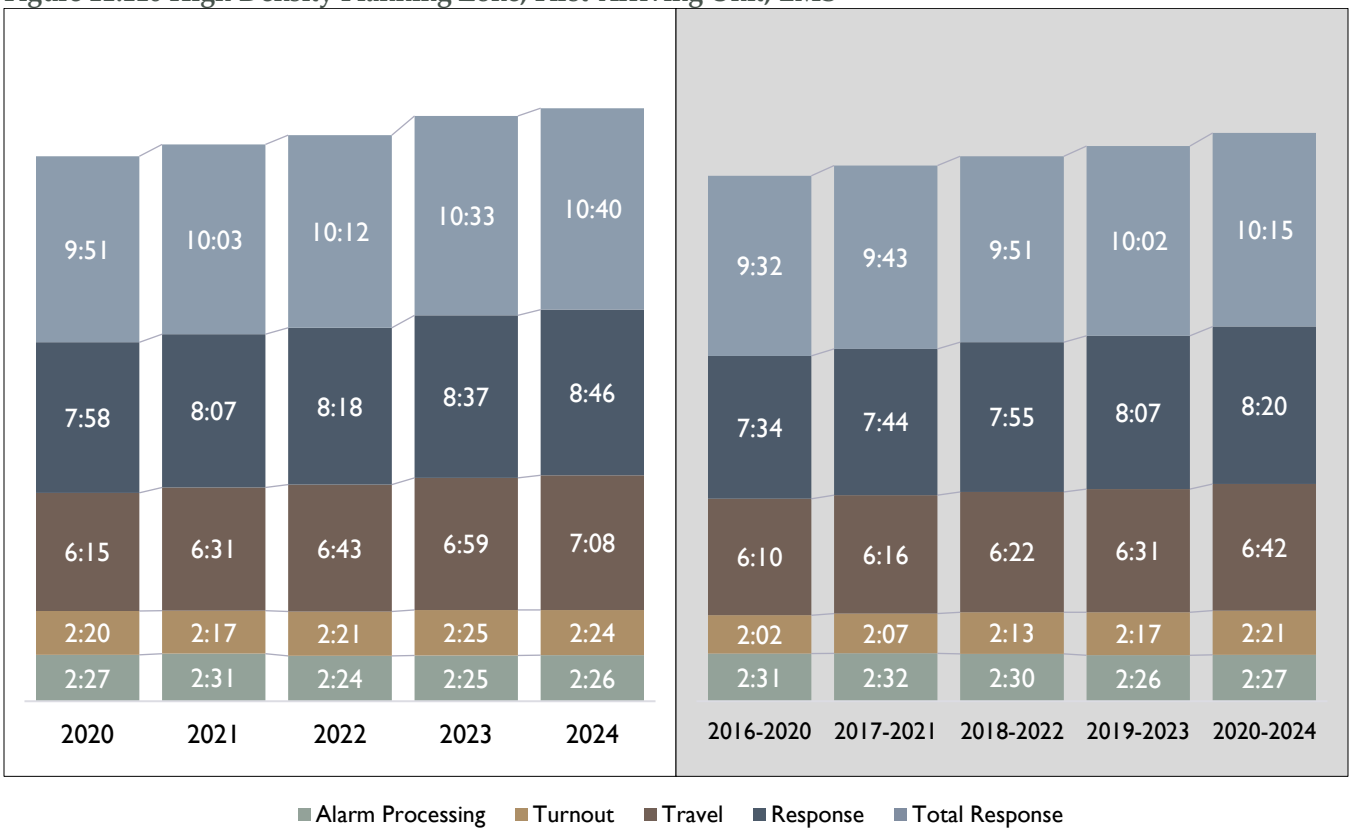


Figure 11.111 High Density Planning Zone, First-Arriving Unit, Structure Fire

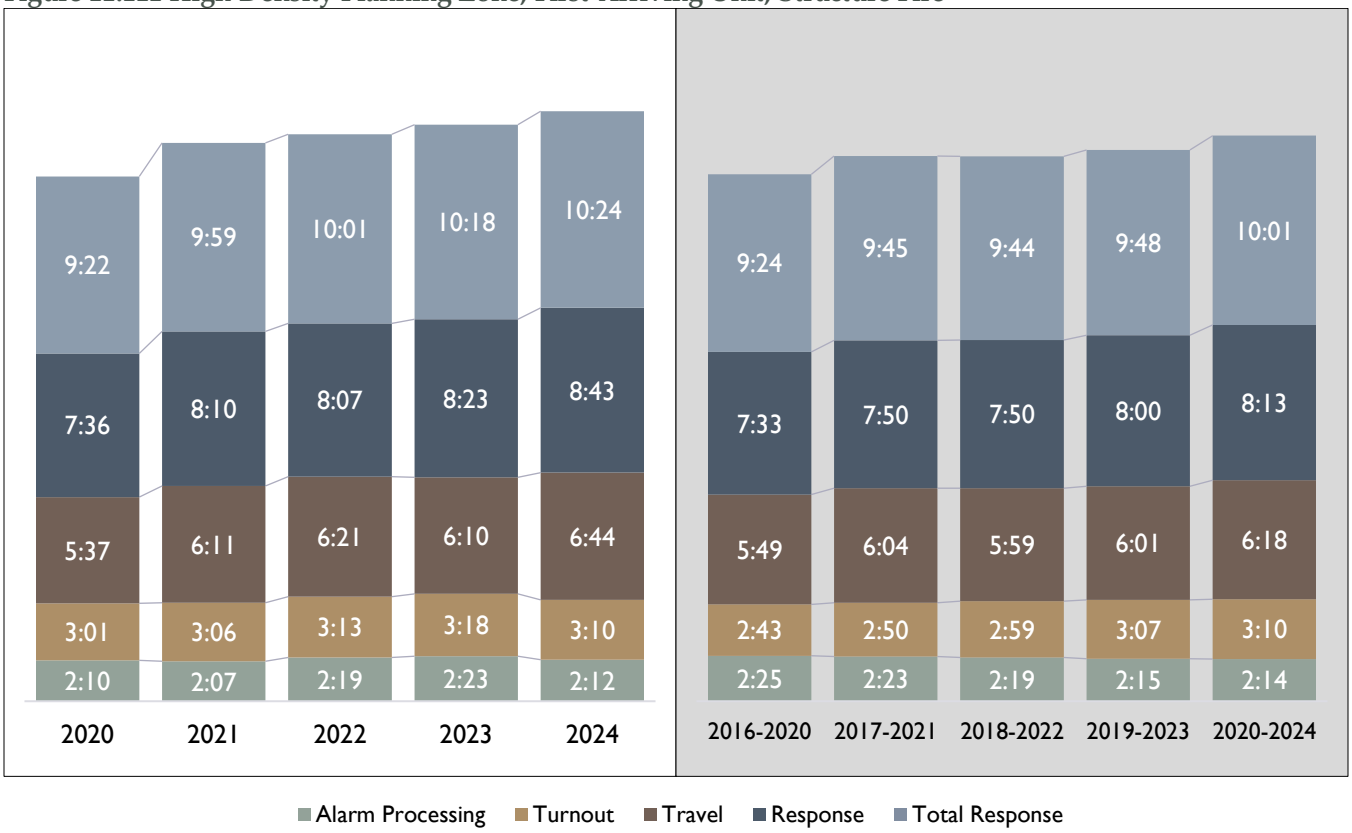


Figure 11.112 High Density Planning Zone, First-Arriving Unit, Non-Structure Fire

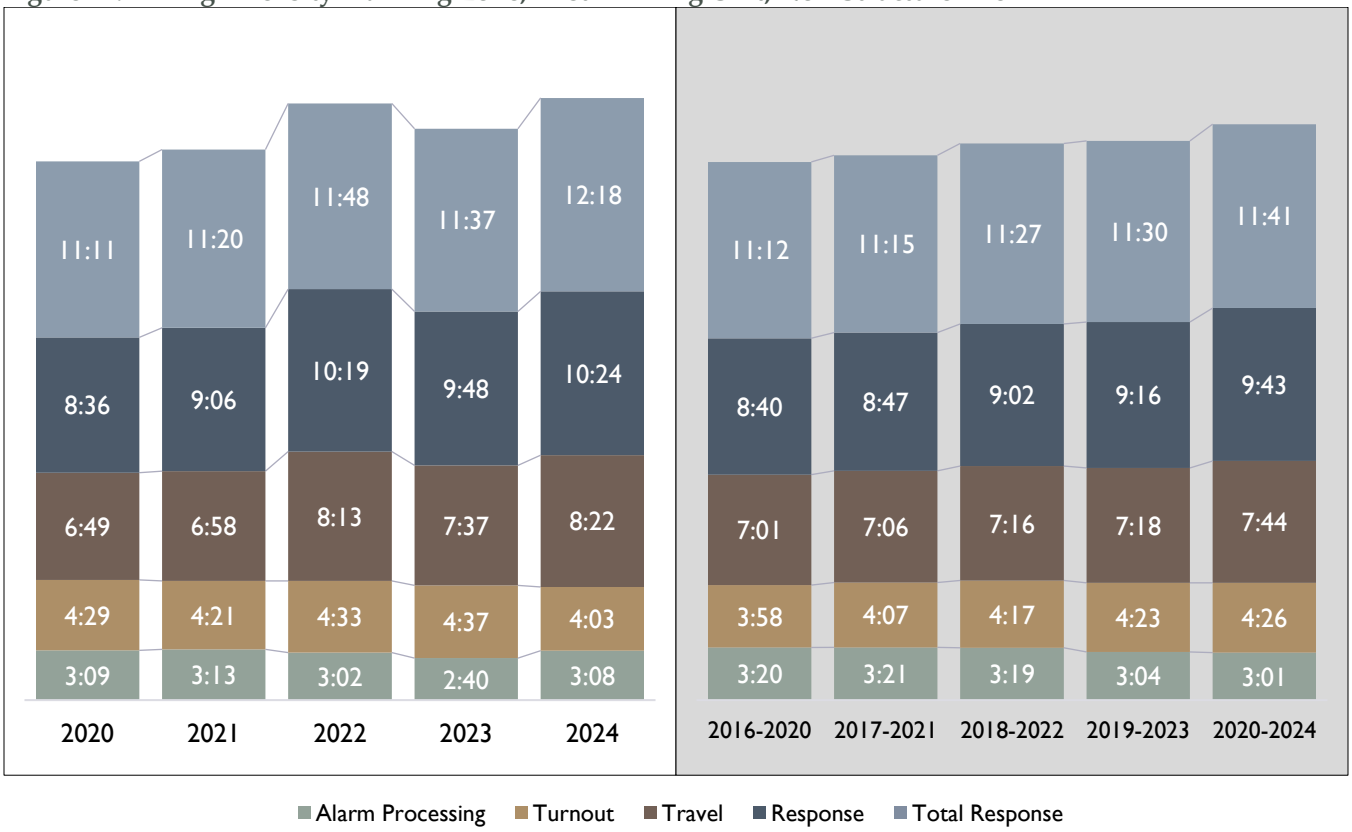


Figure 11.113 High Density Planning Zone, First-Arriving Unit, Hazardous Materials

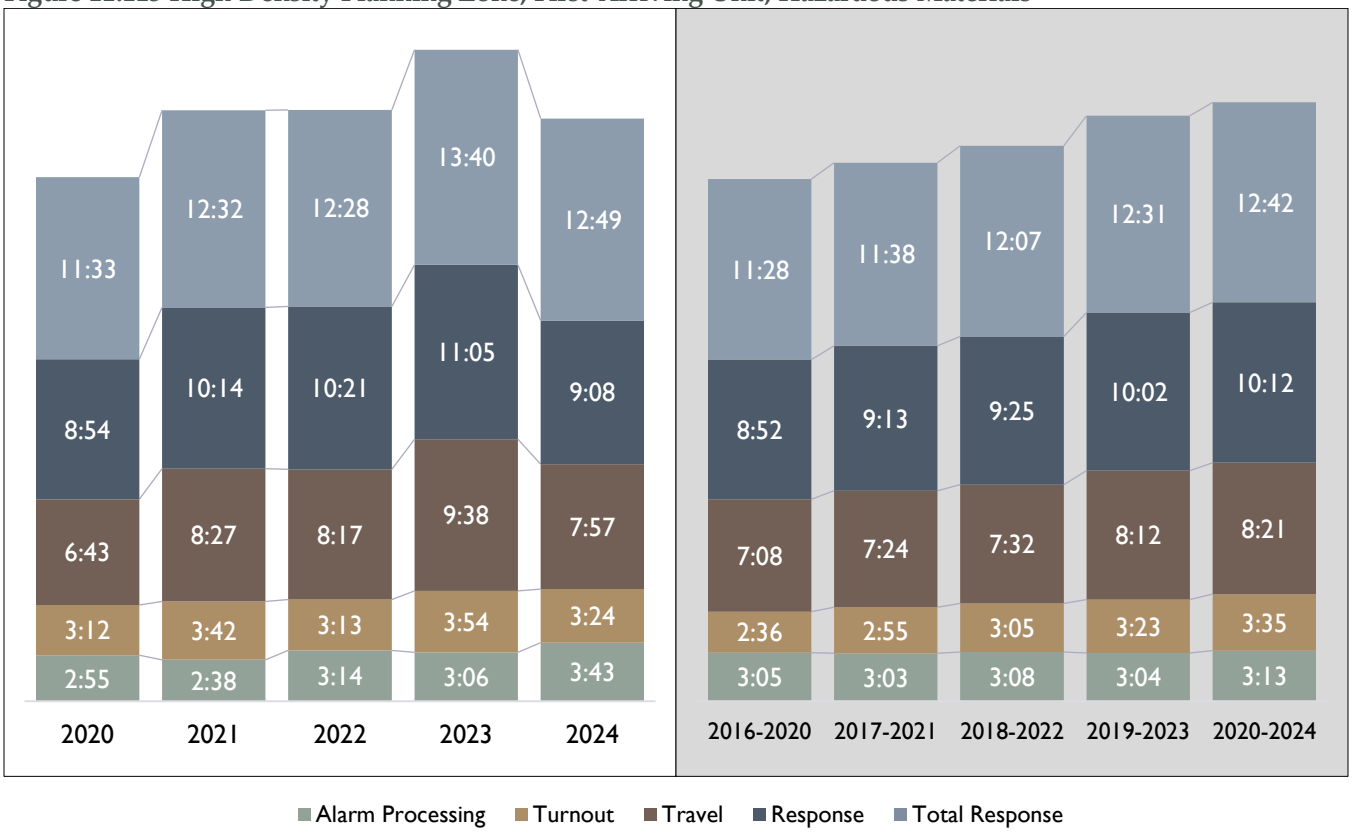


Figure 11.114 High Density Planning Zone, First-Arriving Unit, Technical Rescue

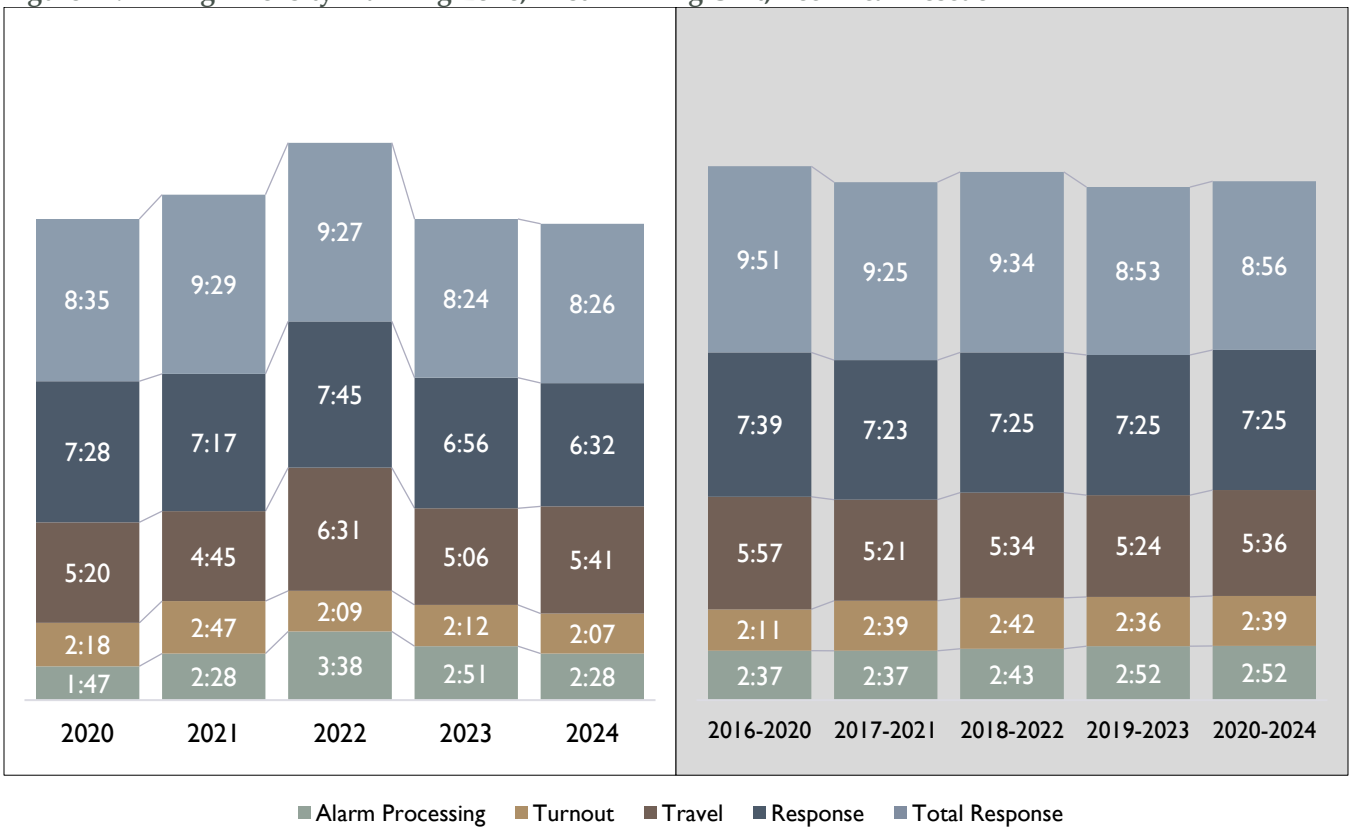


Figure 11.115 High Density Planning Zone, First-Arriving Unit, Water Rescue

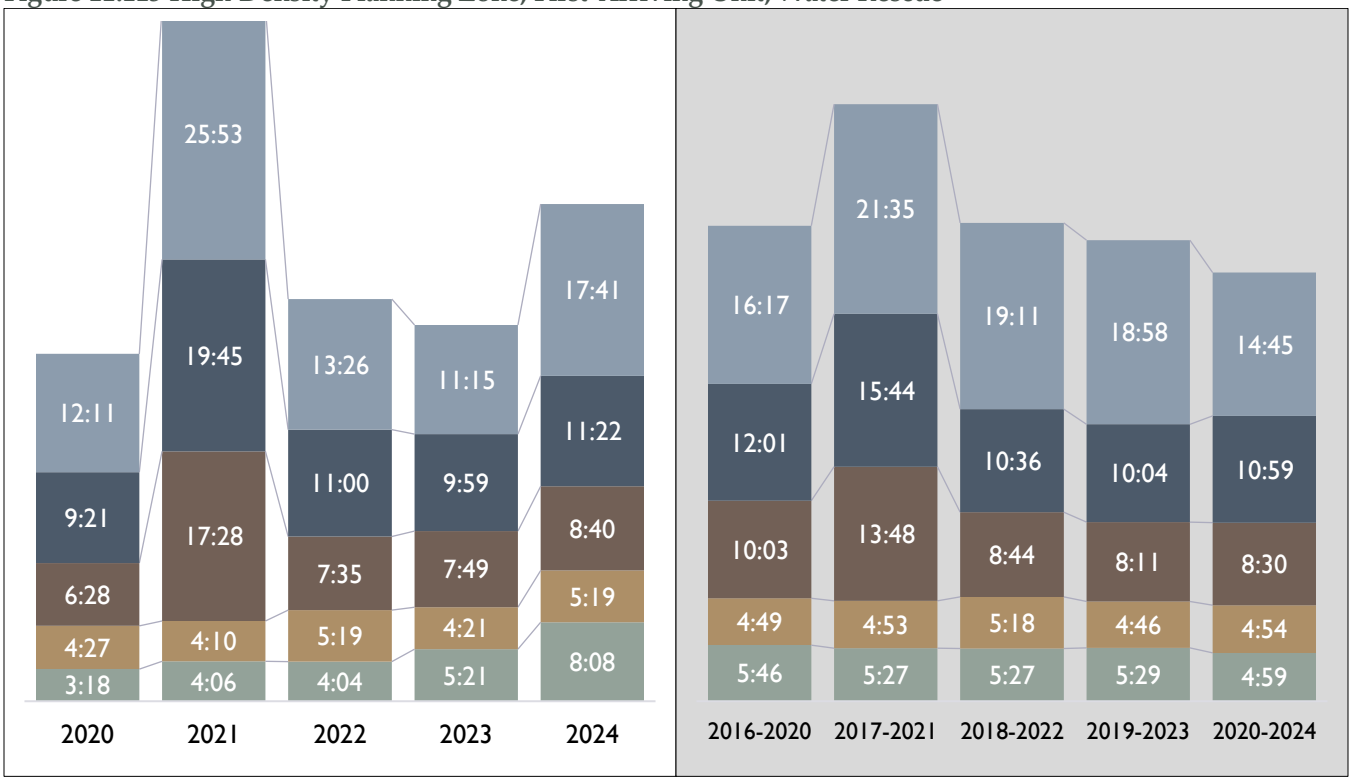


Figure 11.116 High Density Planning Zone, ERF, Cardiac Arrest

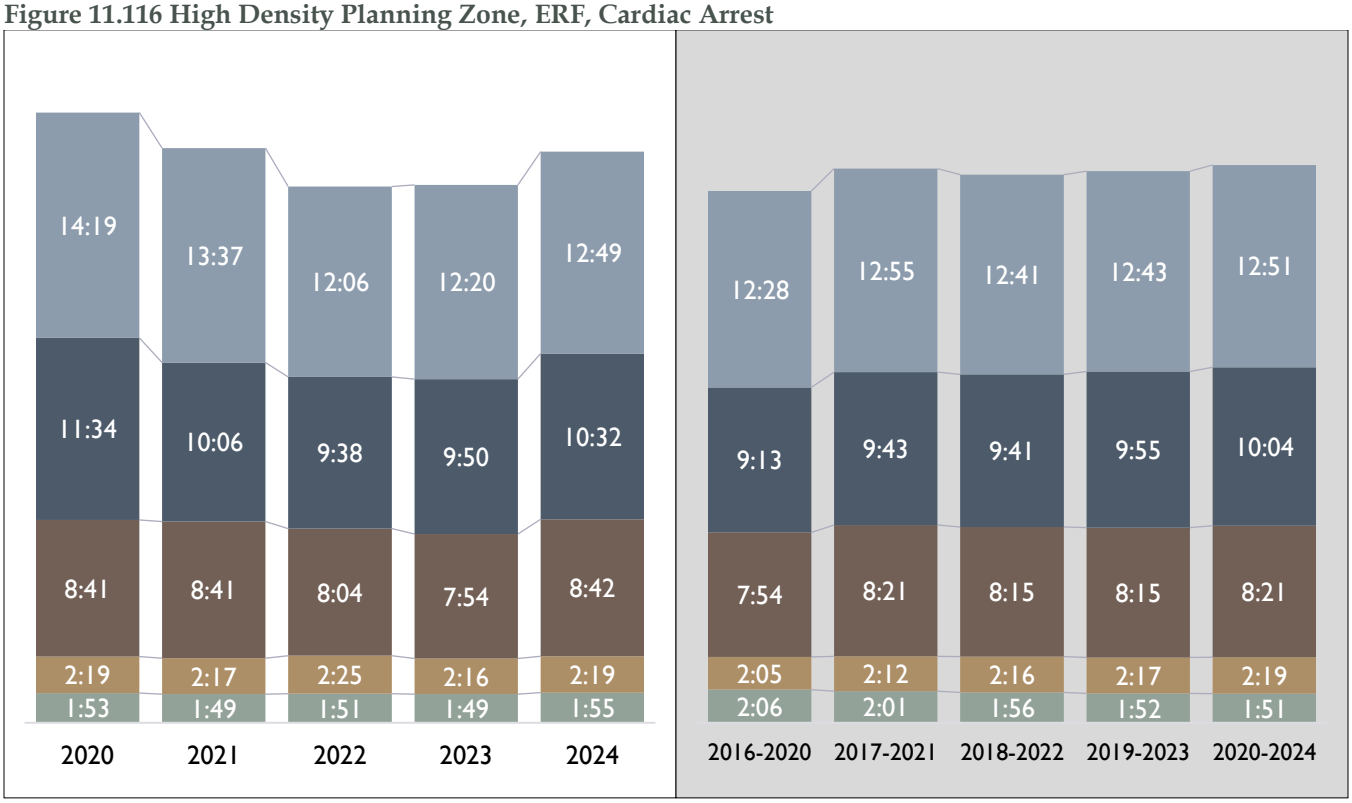
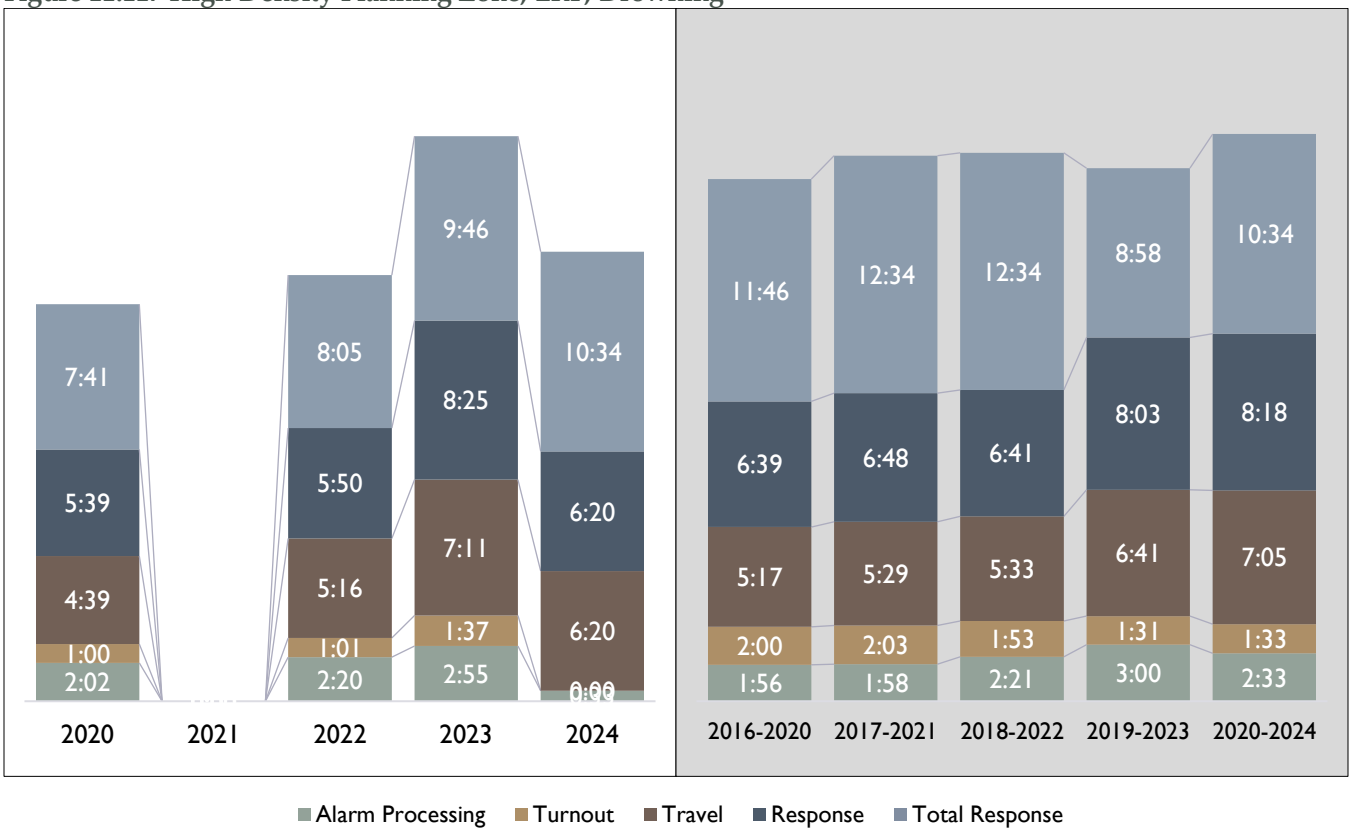


Figure 11.117 High Density Planning Zone, ERF, Drowning



*There were no drowning responses in the high density planning zone in 2021.

Figure 11.118 High Density Planning Zone, ERF, EMS

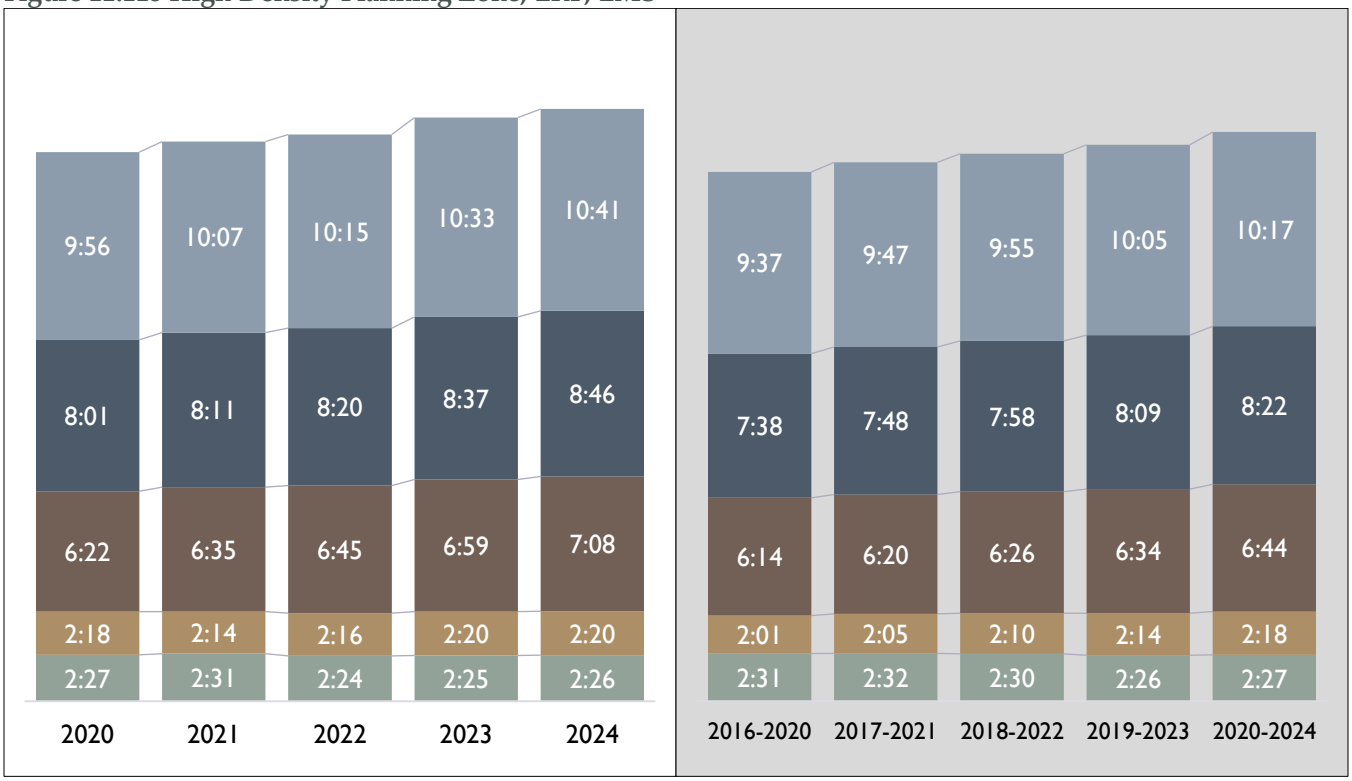


Figure 11.119 High Density Planning Zone, ERF, Structure Fire

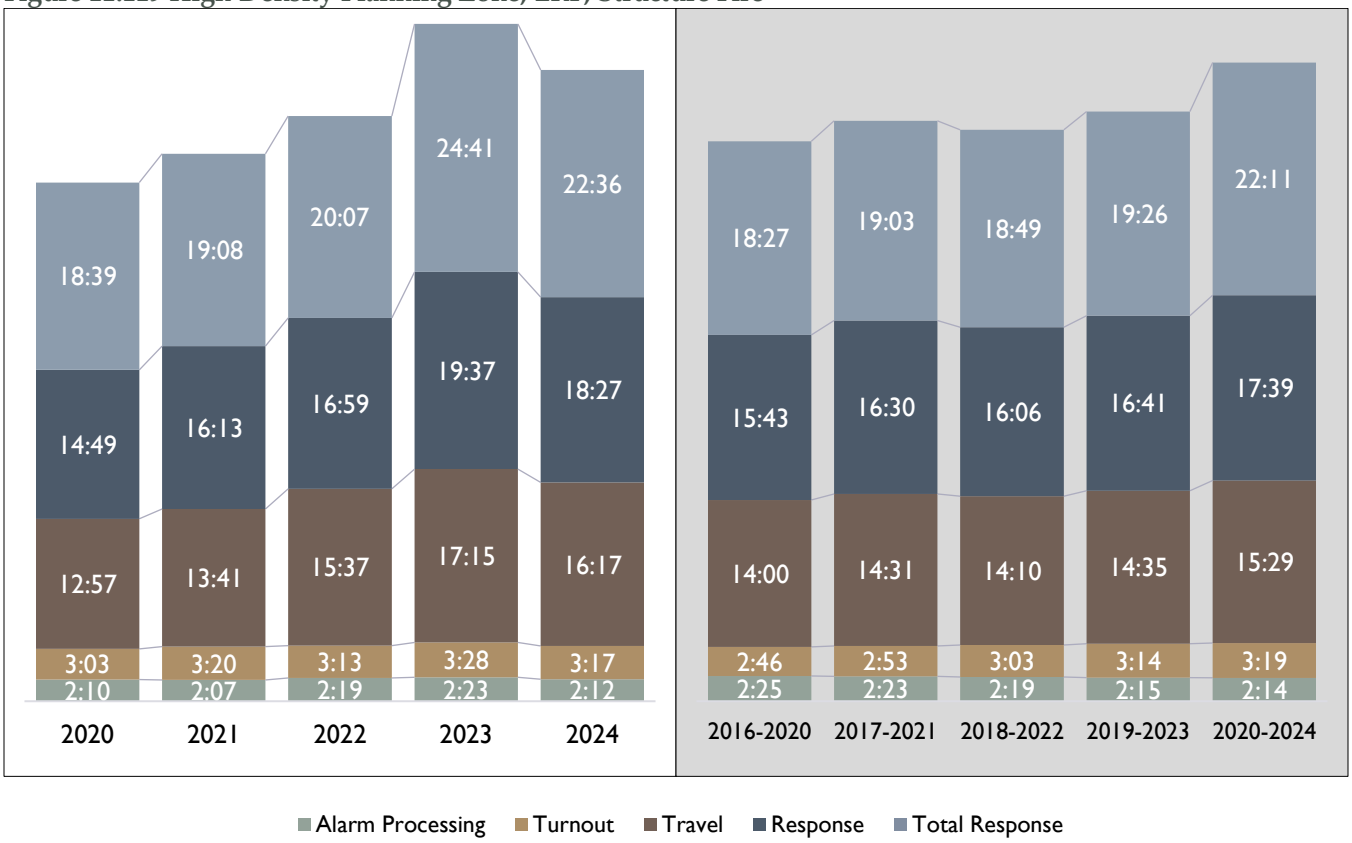


Figure 11.120 Low Density Planning Zone, First-Arriving Unit, Traffic Accident

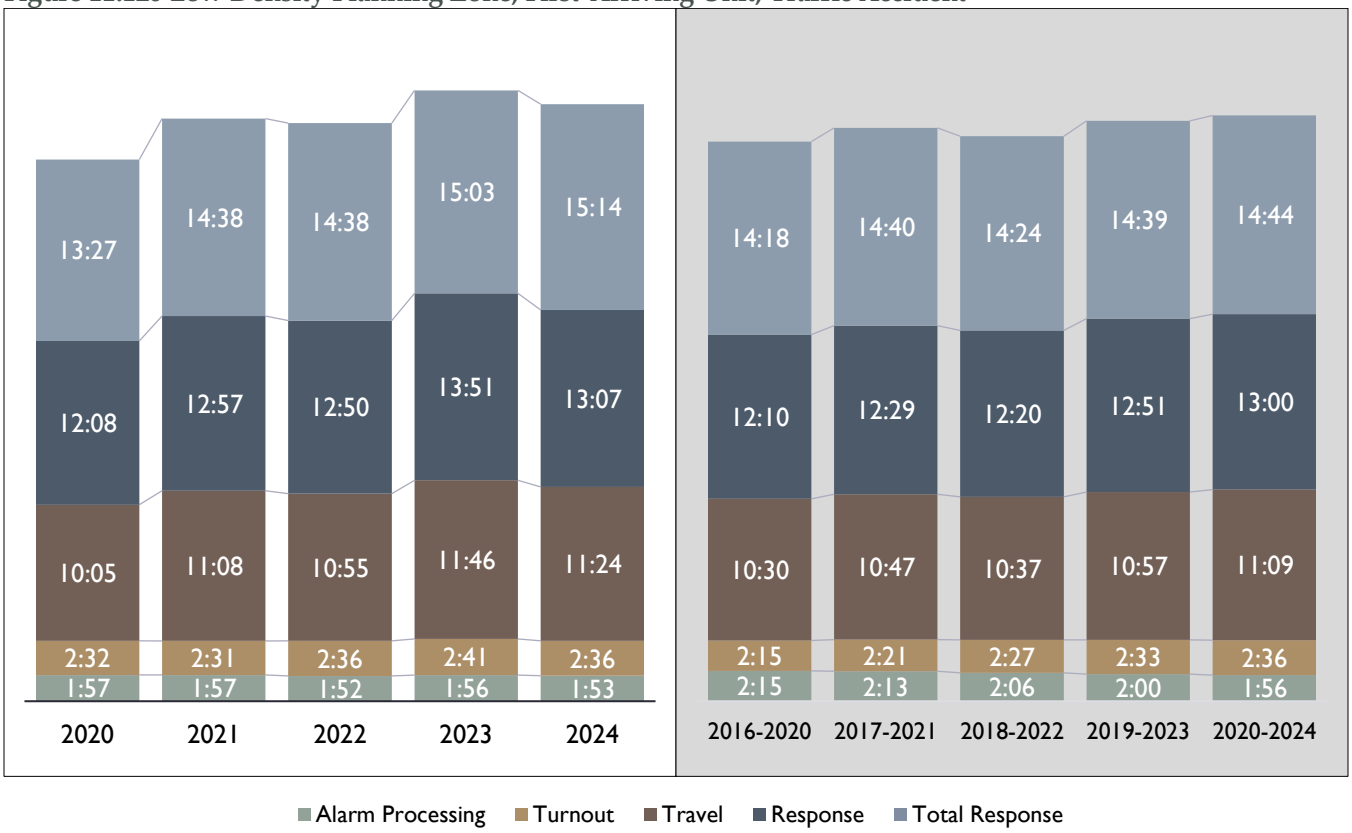


Figure 11.121 Low Density Planning Zone, First-Arriving Unit, Cardiac Arrest

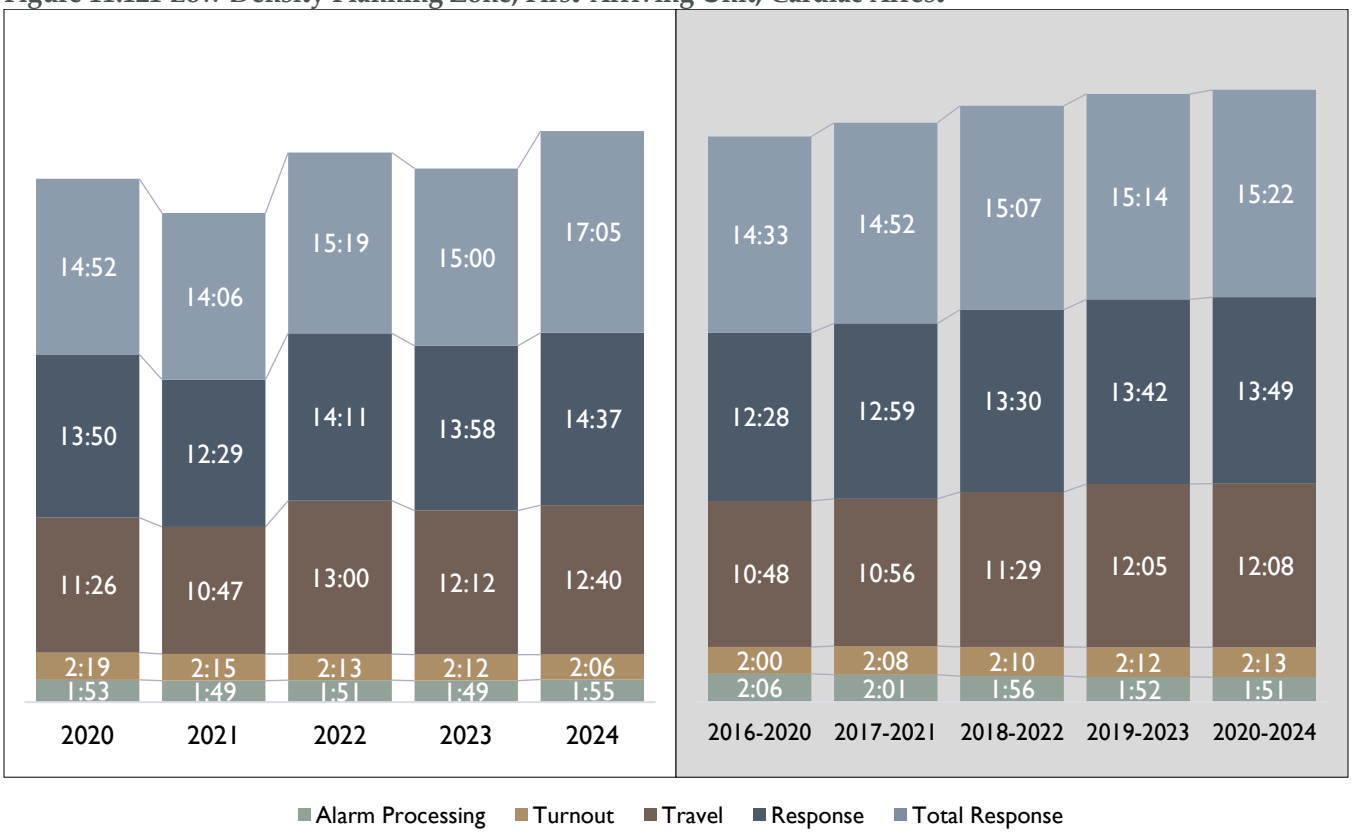
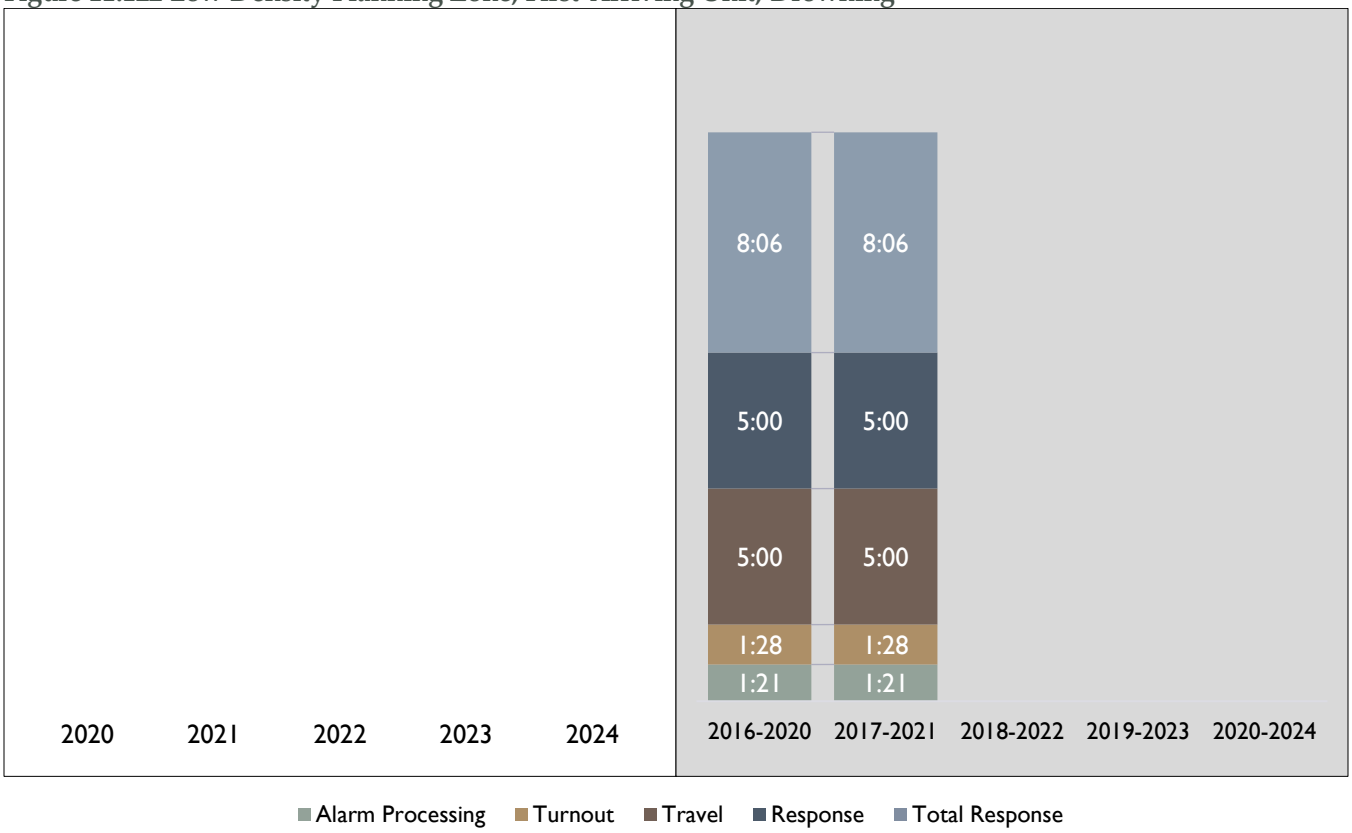


Figure 11.122 Low Density Planning Zone, First-Arriving Unit, Drowning



*There were no drowning responses in the low density planning zone in 2018–2024.

Figure 11.123 Low Density Planning Zone, First-Arriving Unit, EMS

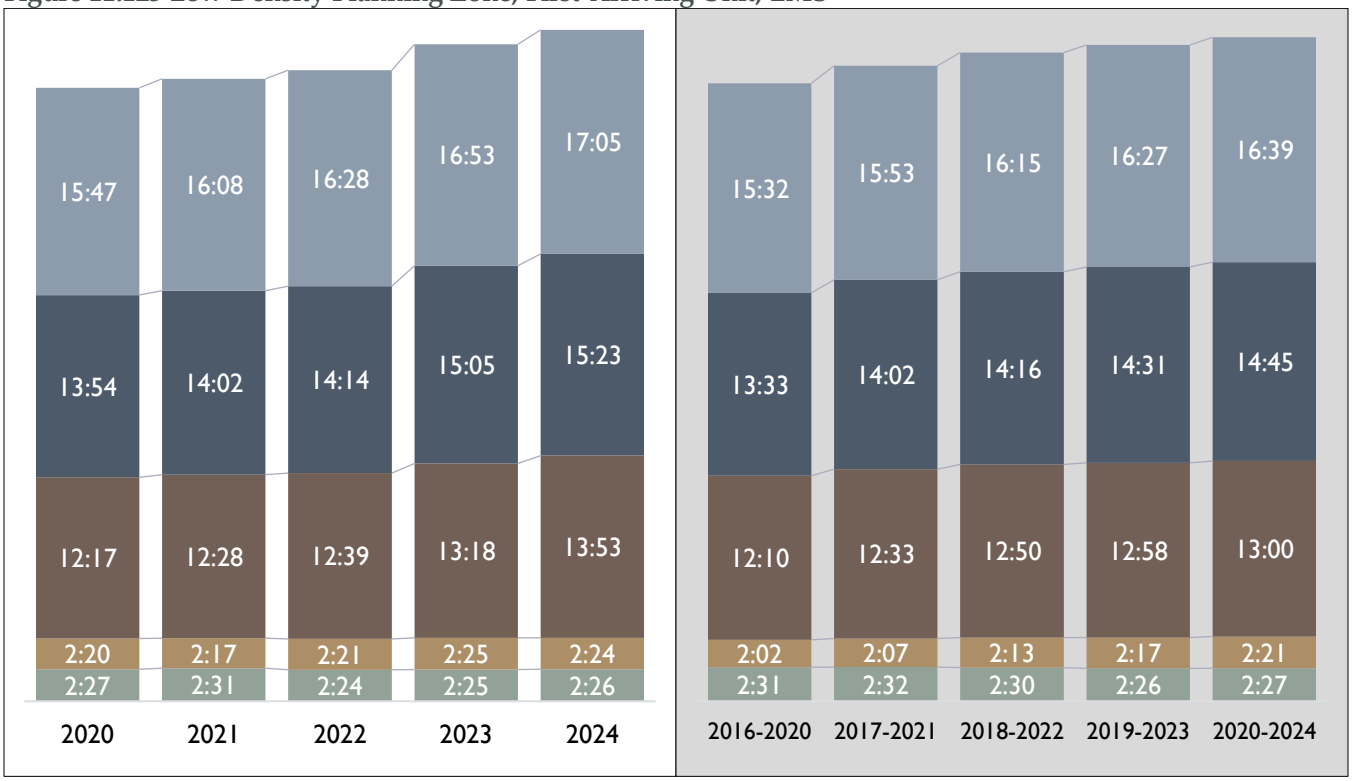


Figure 11.124 Low Density Planning Zone, First-Arriving Unit, Structure Fire

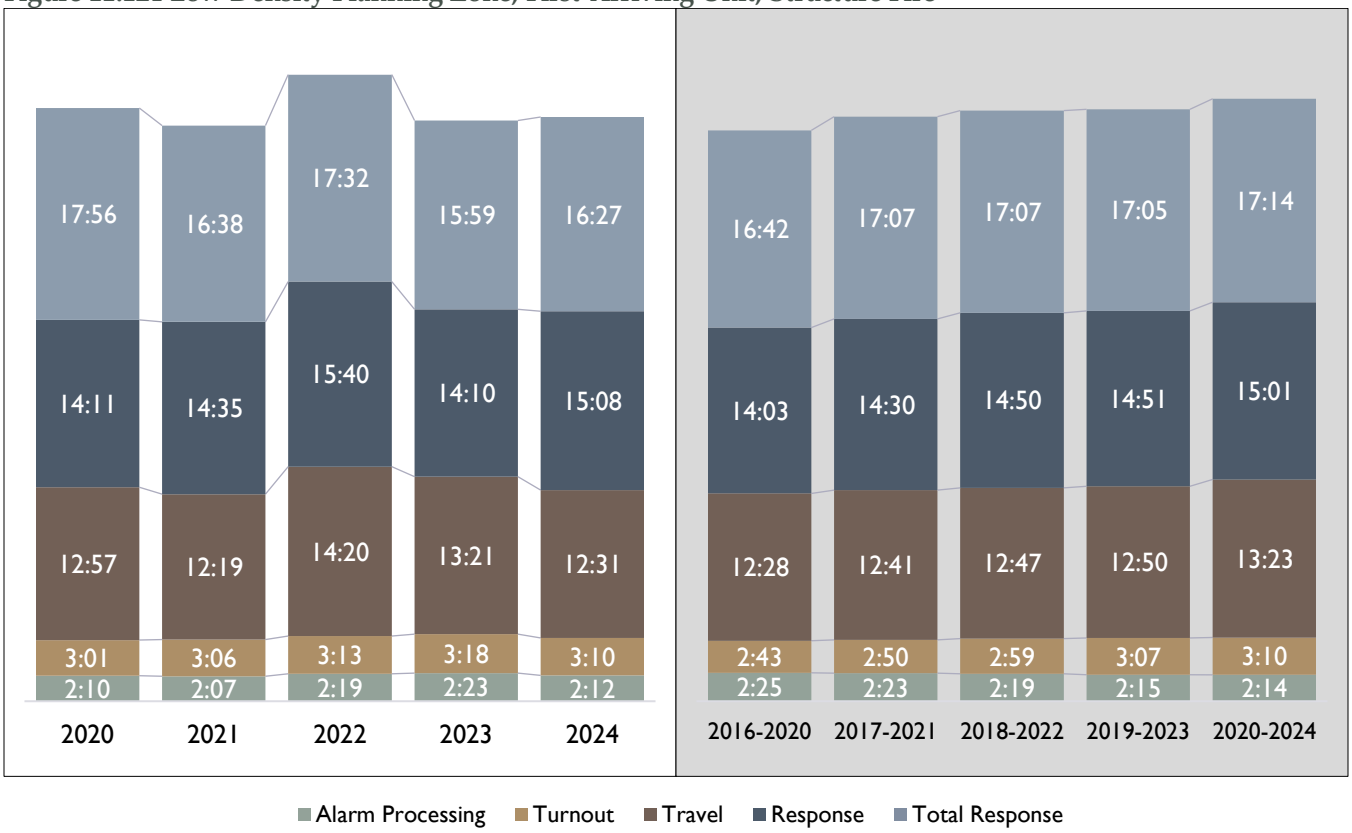


Figure 11.125 Low Density Planning Zone, First-Arriving Unit, Non-Structure Fire

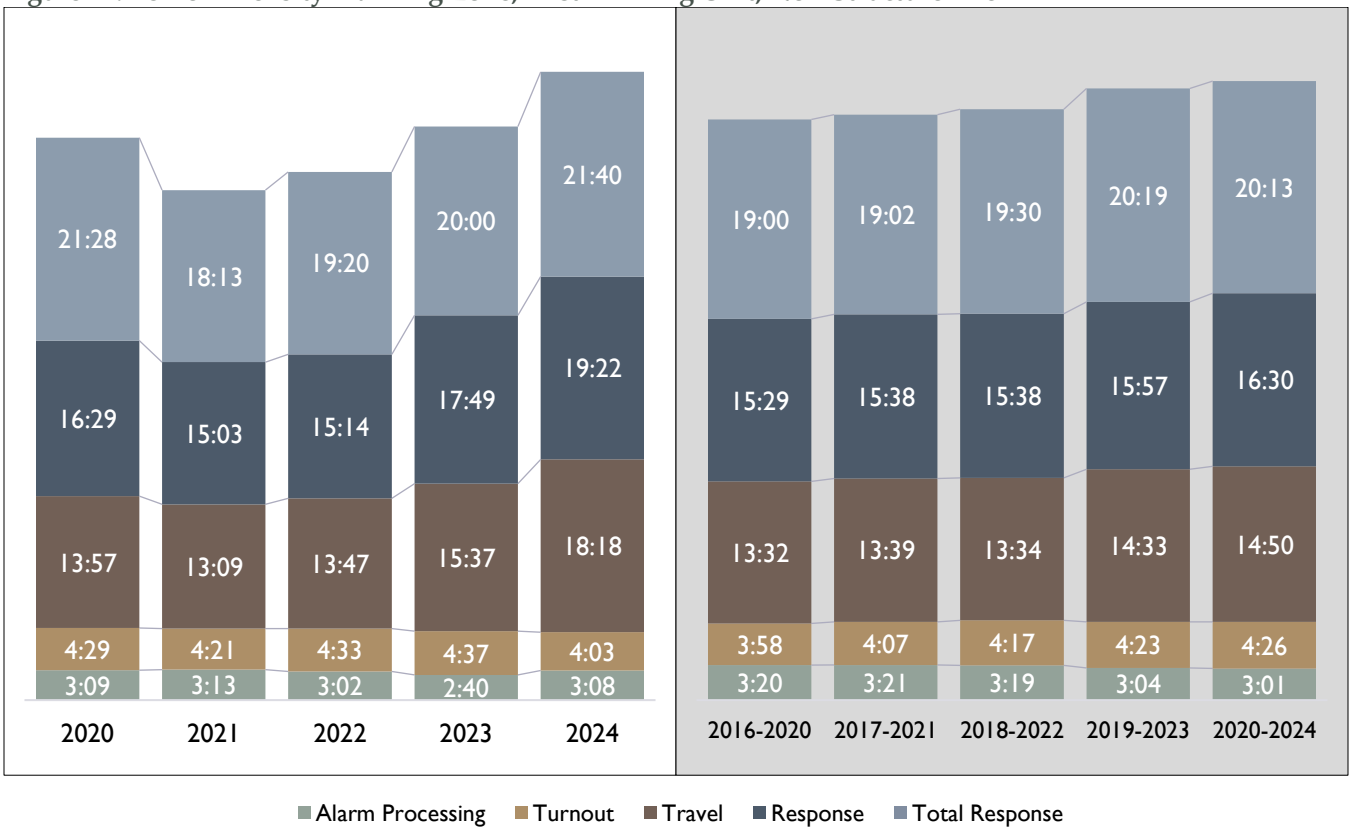


Figure 11.126 Low Density Planning Zone, First-Arriving Unit, Hazardous Materials

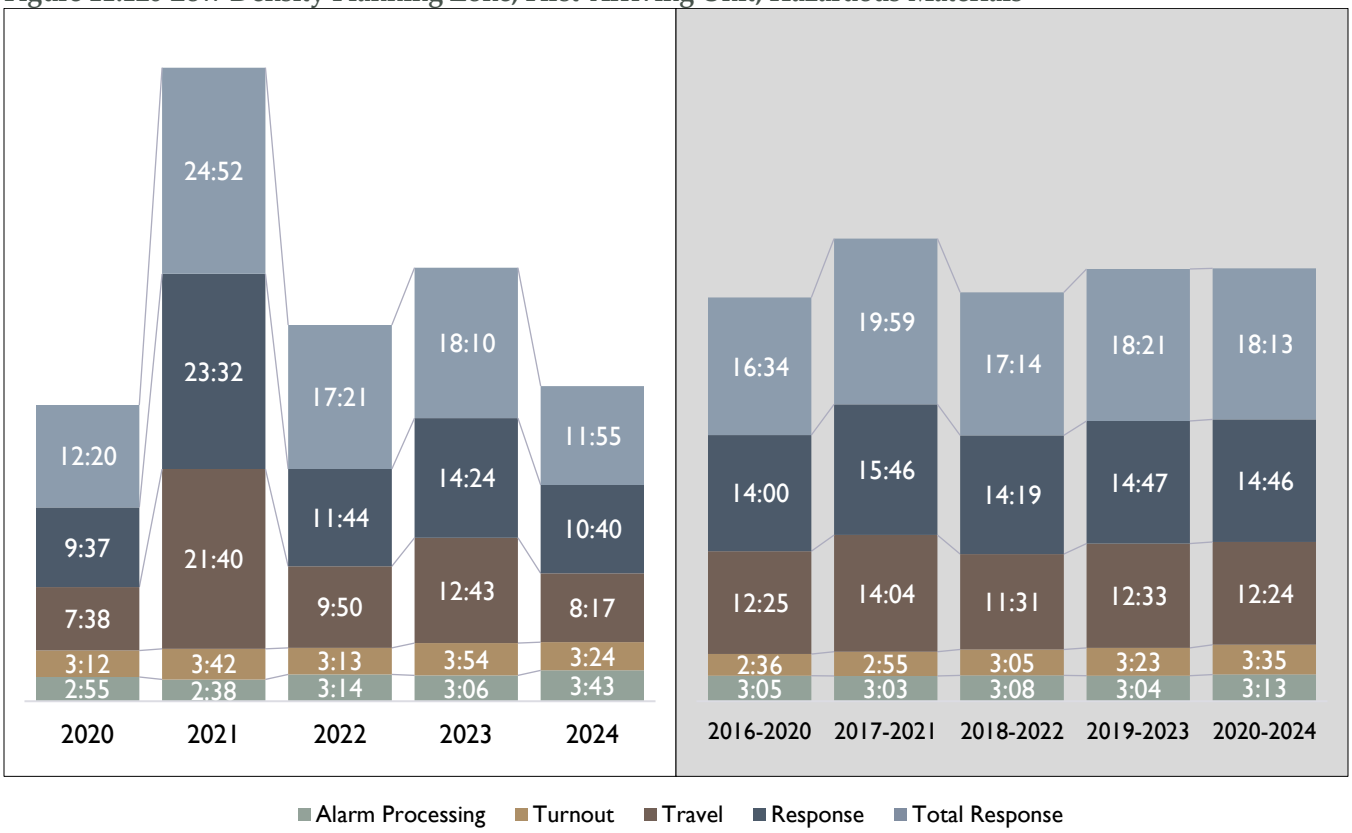


Figure 11.127 Low Density Planning Zone, First-Arriving Unit, Technical Rescue

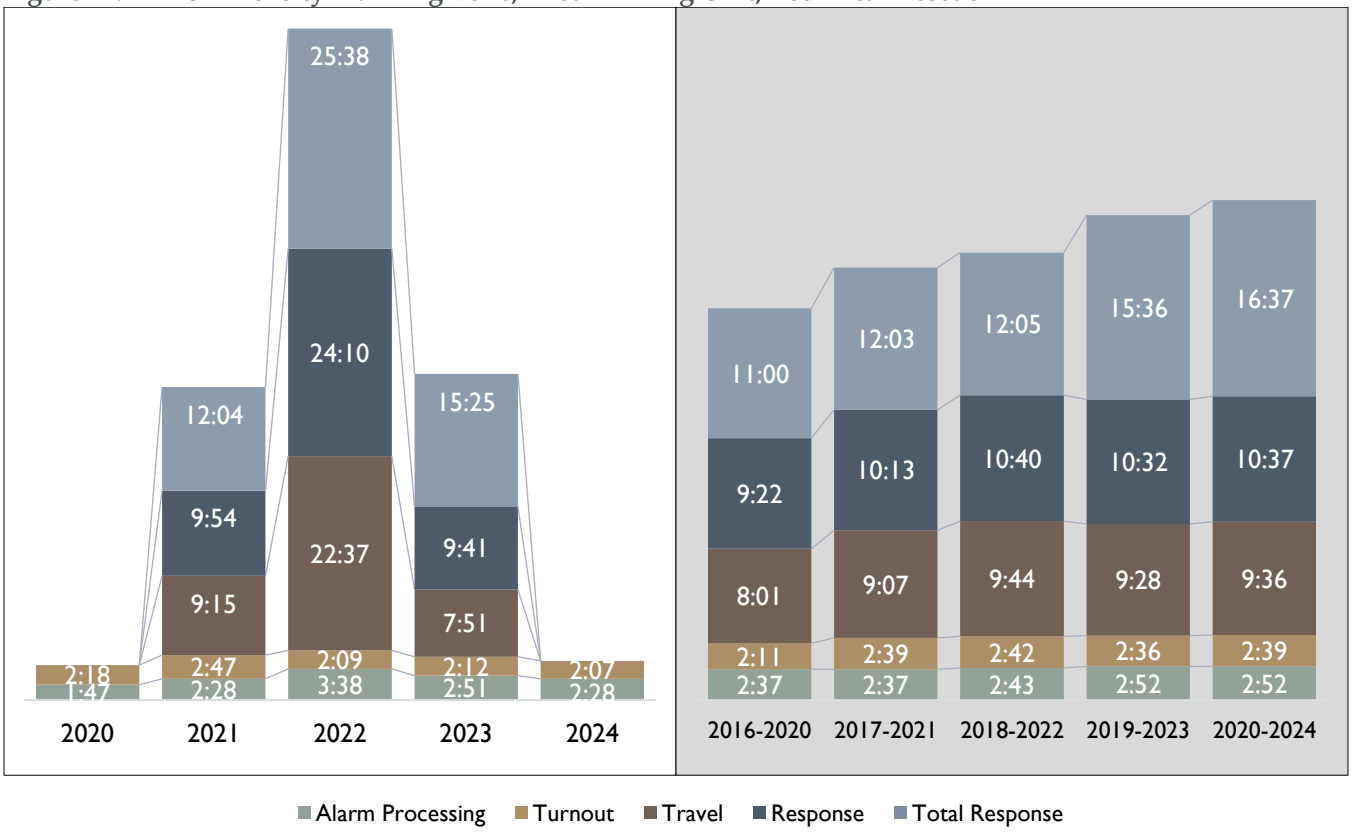


Figure 11.128 Low Density Planning Zone, First-Arriving Unit, Water Rescue

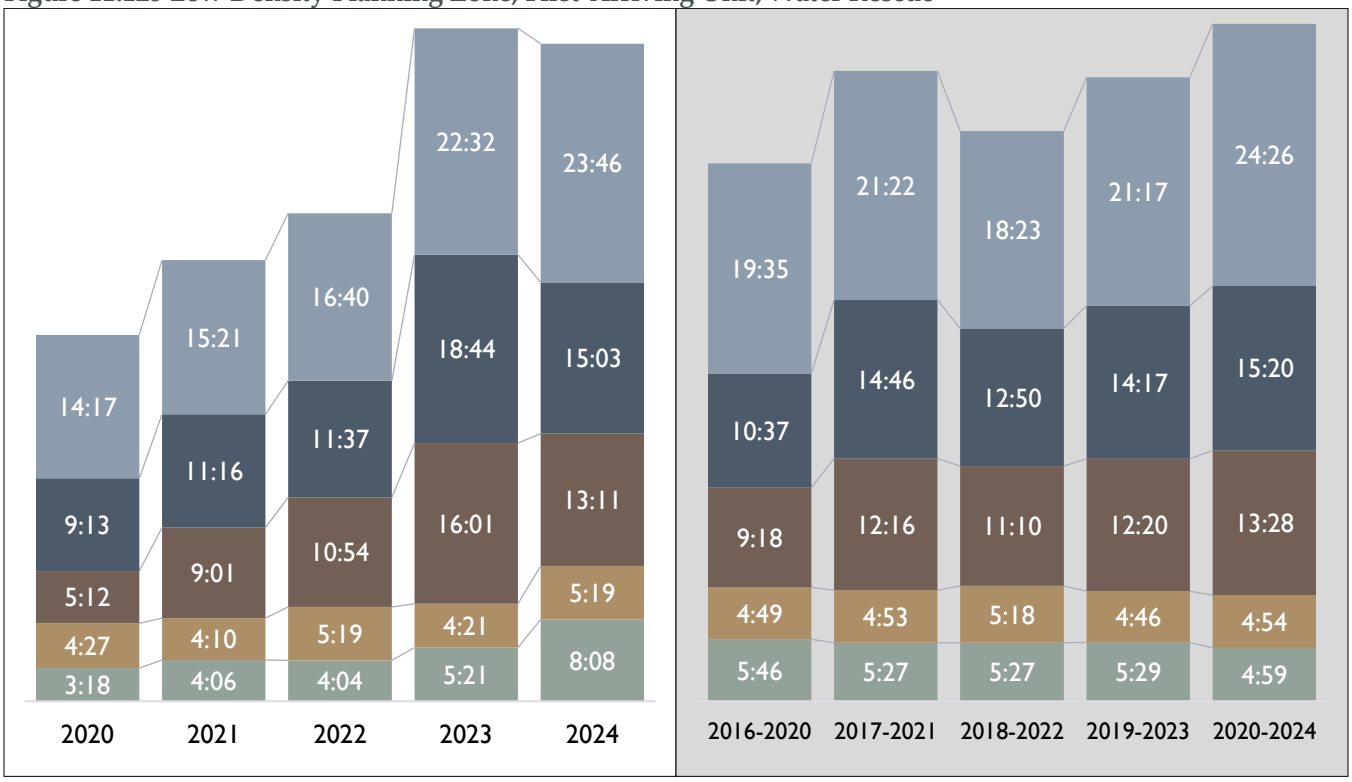


Figure 11.129 Low Density Planning Zone, ERF, Cardiac Arrest

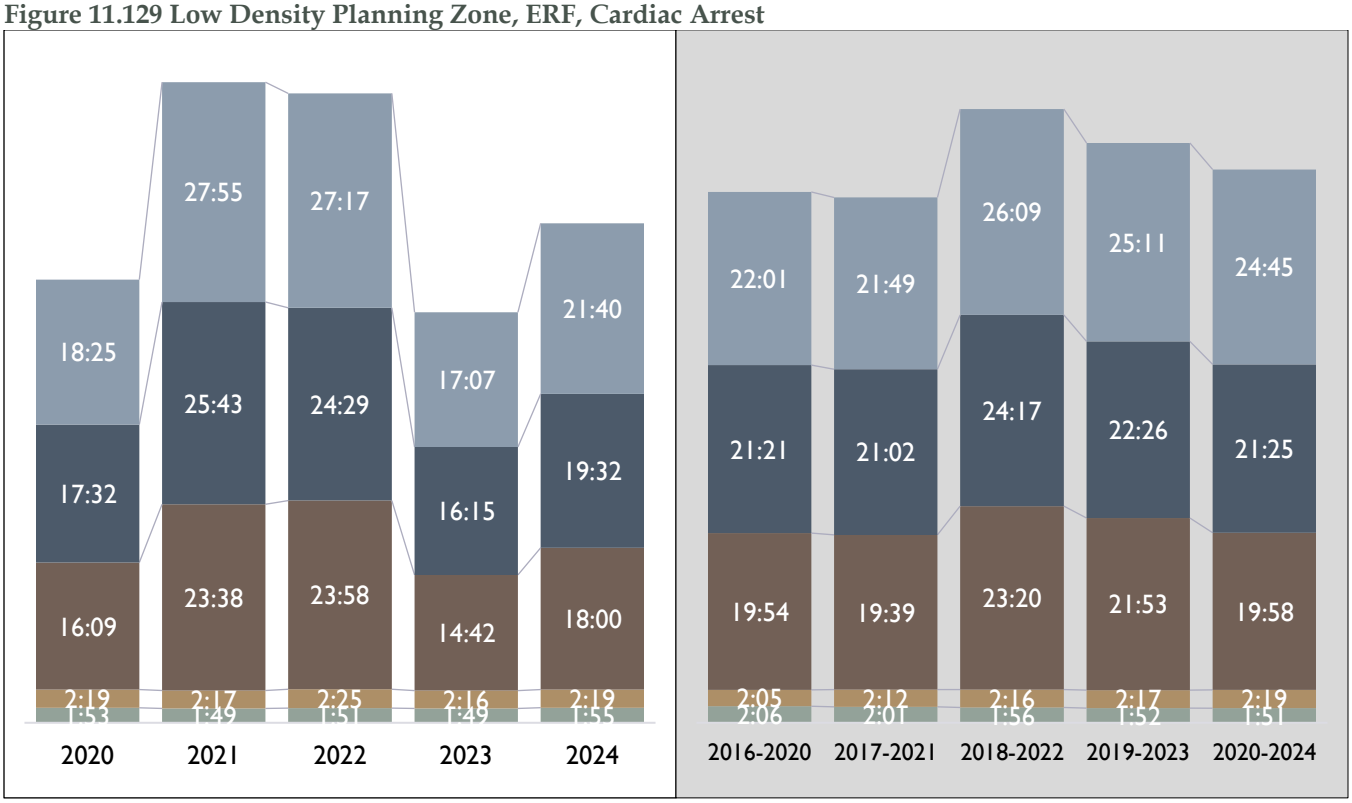
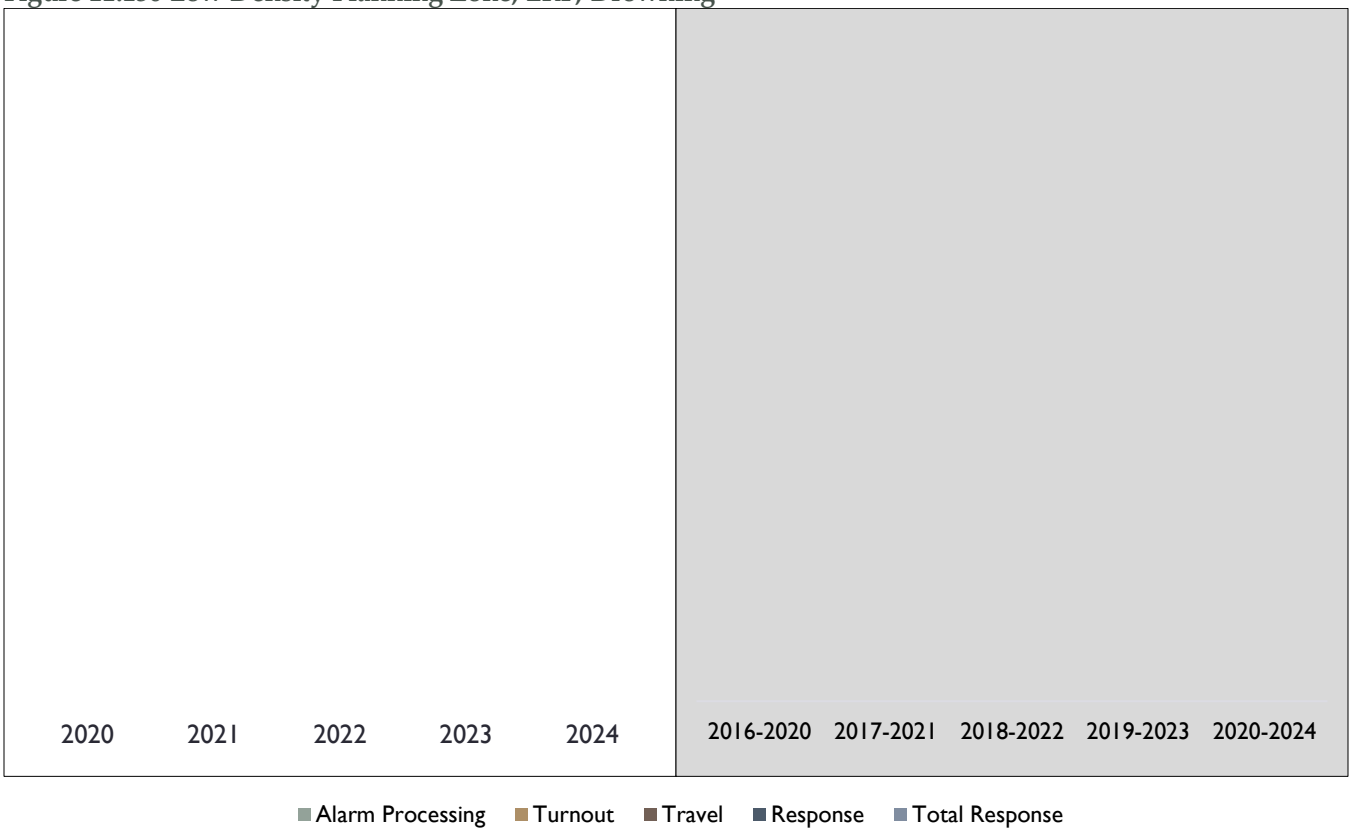


Figure 11.130 Low Density Planning Zone, ERF, Drowning



*There were no drowning responses in the low density planning zone in 2018–2024.

Figure 11.131 Low Density Planning Zone, ERF, EMS

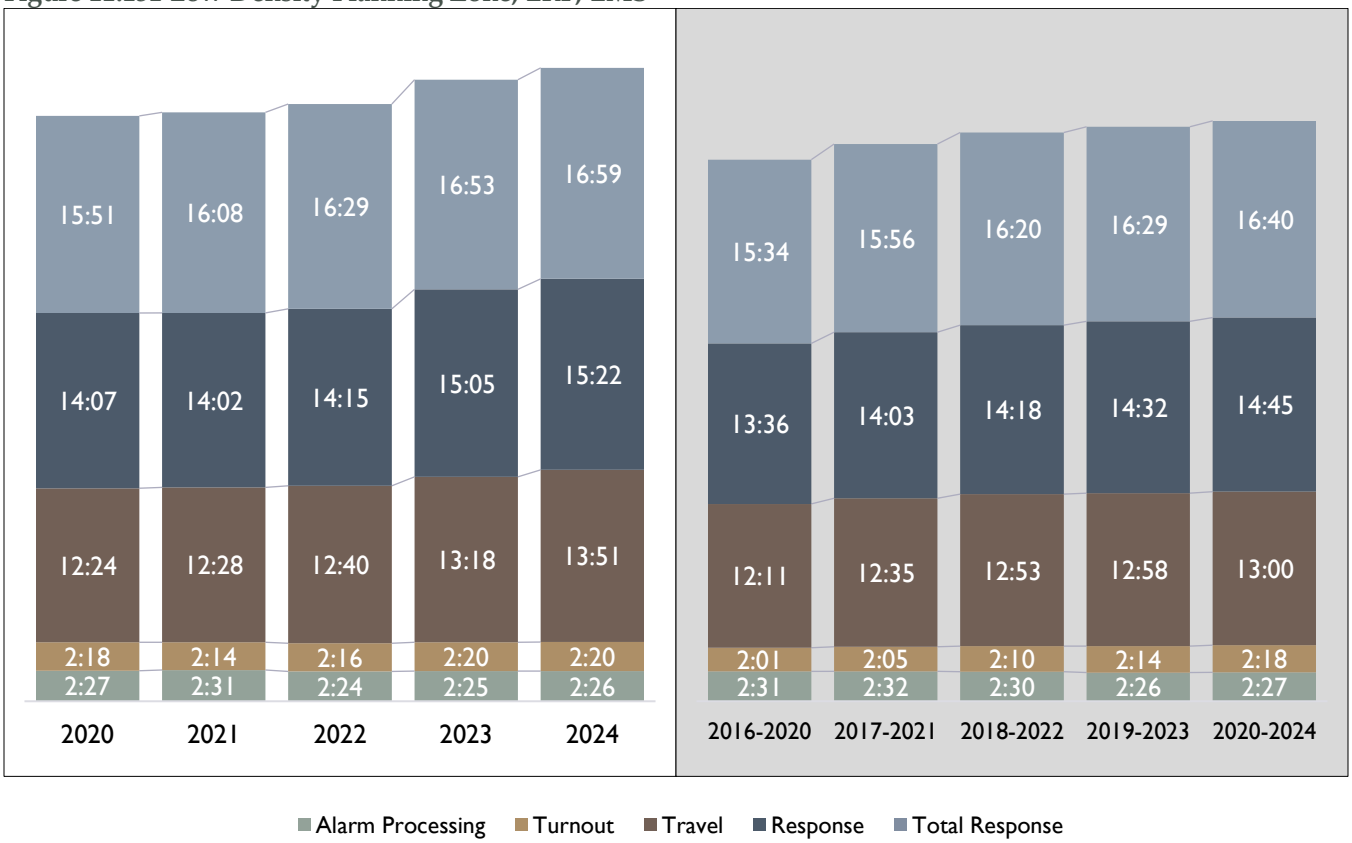
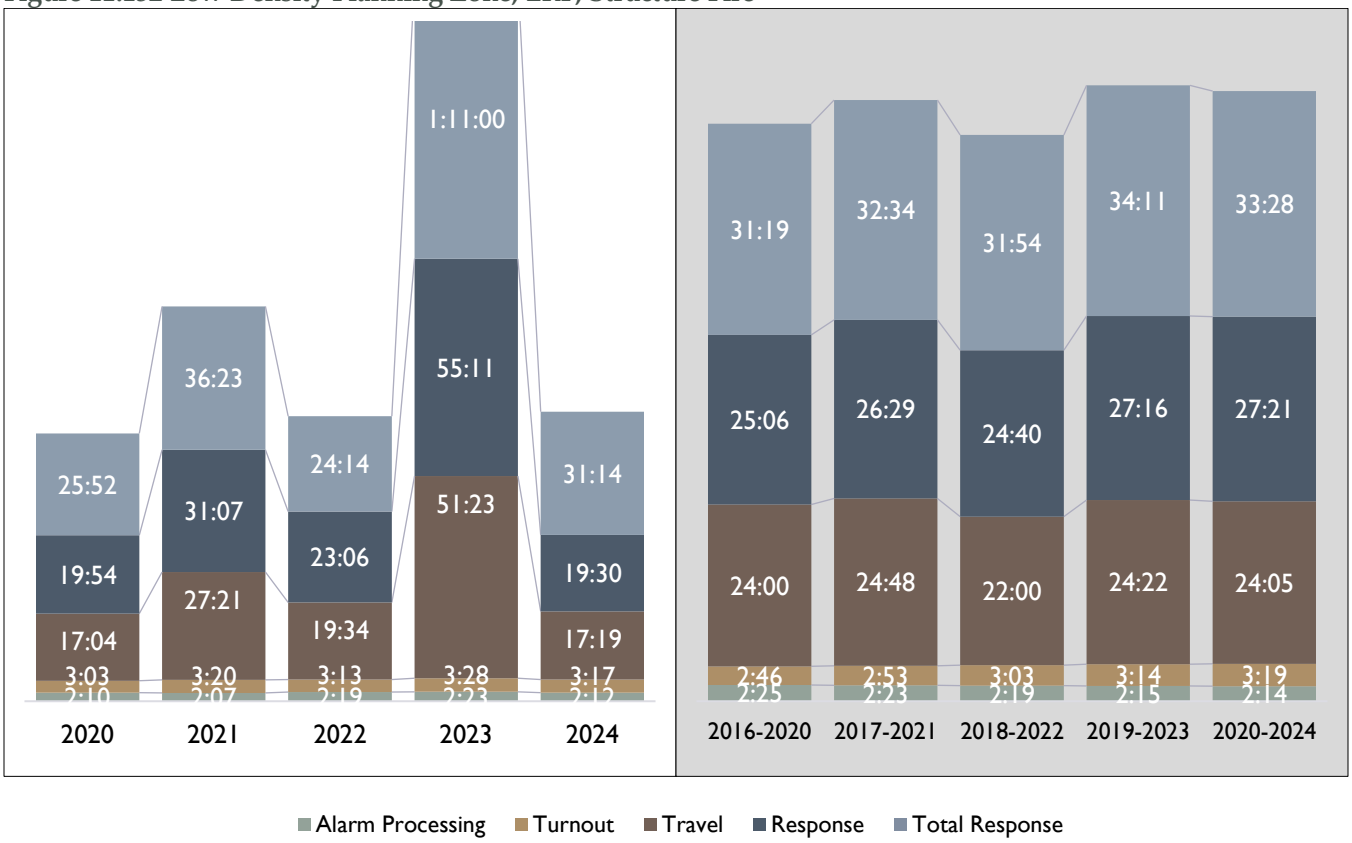


Figure 11.132 Low Density Planning Zone, ERF, Structure Fire



CLACKAMAS COUNTY ALS CONSORTIUM PERFORMANCE

TVF&R, in addition to Lake Oswego Fire Department and Clackamas Fire District 1, entered into separate Intergovernmental Agreements (IGA) with Clackamas County to form an ALS Consortium in Clackamas County. The ALS Consortium supports an overall system design that considers an integrated ALS system the best opportunity for improving patient outcomes, reducing unnecessary duplicated resources within the EMS system, absorbing growth in call volume and population, lowering cost, and meeting performance standards. TVF&R's commitment to meet response time standards as part of the ALS Consortium allows for a reduction in ambulance response time requirements, thereby generating anticipated cost savings, which are shared with the consortium agencies to compensate them for a portion of the costs they bear for providing first response services. The cost savings occurs when the ambulance service provider can avoid expenses through the reduction of staffed ambulance units made possible by the inclusion of the consortium fire agencies in the system. The cost savings incurred are shared with the consortium agencies as well as fund system enhancements, which may include reduction of rates for ambulance service, hardship relief for customers unable to pay ambulance service bills, emergency medical equipment, emergency medical service-related education, and emergency medical service-related research and development.

The time interval evaluated for Clackamas County ALS Consortium performance requirements is response time, the time the incident is dispatched to the arrival of the ALS first responder (turnout and travel time). Response time requirements are established by ambulance response time zone and call priority for medical incidents. Failure to meet the performance requirements outlined in the IGA results in reduction in payment from the county.

To meet the performance requirements, TVF&R must meet the following criteria 90 percent of the time, in each zone and each call priority, every month for incidents that occur within TVF&R's service area in Clackamas County:

Figure 11.133 Clackamas County ALS Consortium Response Performance Requirements

Priority	Urban	Suburban	Rural
Code 1	20:00	25:00	n/a
Code 3	8:00	12:00	20:00

EMS Division staff report performance to Clackamas County monthly and provide all data requested for calculating response time compliance, response time summary, incidents of unit breakdown, calls referred to other agencies, and calls requested to be excluded. All responses submitted to Clackamas County in 2024 met the requirements of the IGA.

CLACKAMAS COUNTY TRANSPORT PERFORMANCE

American Medical Response (AMR) is the ambulance service provider in Clackamas County. In May 2014, TVF&R entered into an agreement with AMR, which extended through May 1, 2019, to provide two 24-hour transport units to support its operation in high-demand periods. On September 1, 2019, TVF&R entered into a new agreement with AMR to provide one 24-hour transport unit. As a result, TVF&R is held to the same response performance requirements as AMR in connection with the ambulance contract awarded to AMR by Clackamas County. TVF&R provides ambulance transport services primarily to the city of Wilsonville but can provide support to other parts of Clackamas County as requested.

The Clackamas County ALS Consortium performance requirements are based heavily on the ambulance contract requirements; therefore, the performance requirements for transport are primarily alike minus a few variances. The contract evaluates response time, the time the incident is dispatched

to the arrival of the ALS first responder (turnout and travel time). Response time requirements are established by ambulance response time zone and call priority for medical incidents.

Figure 11.134 Clackamas County Ambulance Contract Response Performance Requirements

Priority	Urban	Suburban	Rural
Code 1	20:00	25:00	35:00
Code 3	10:00	14:00	25:00

TVF&R transport unit AVL is made available to AMR dispatch so it can determine the appropriate dispatch of the closest resource. AMR dispatches TVF&R transport units, and the unit announces their response times to AMR via radio. AMR collects these timestamps and reports TVF&R performance as part of the data analysis it submits to the county monthly. TVF&R met compliance with these requirements in 2024.

YAMHILL COUNTY AMBULANCE SERVICE AREA 1 PERFORMANCE

The District is responsible for transport services in Yamhill County Ambulance Service Area (ASA) 1. A minimum of three ALS ambulances (medic and rescue units) are staffed in ASA 1 24/7, 365 days a year. Performance is reviewed by the Yamhill County ASA Advisory Committee on an annual basis and measures provider response time (length of time between the initial dispatch and the arrival of the first dispatched medical personnel at the scene) and system response time (length of time between the initial dispatch and the arrival of the transport ambulance at the scene).[19] Performance zones in the ASA are defined as:

Urban: Geographical areas within an incorporated city with a population of at least 15,000.

Suburban: Areas outside of an urban area but within that urban area's urban growth boundary (UGB).

Rural: Lands are outside of the UGB and are within a fire protection district.

Frontier: Areas of Yamhill County inhabited by six persons or less per square mile and the commercial timber production areas in western Yamhill County. *(There are no frontier areas in ASA 1.)*

TVF&R ambulance performance must meet the following criteria 90 percent of the time in each zone. TVF&R met compliance with these requirements in 2024.

Figure 11.135 Yamhill County Response Performance Requirements

Response Time Category	Urban	Suburban	Rural	Frontier
ALS	10:00	12:00	35:00	Best Effort
BLS	15:00	17:00	40:00	Best Effort

[19] Yamhill County Ambulance Service Area Plan. December 2004.

SECTION 12: COMMUNITY BASELINE PERFORMANCE OBJECTIVES

The following baseline performance objectives are approved by TVF&R's Board of Directors and outline the service level provided to the communities served by TVF&R.

ALARM PROCESSING

Traffic Accident

For 90% of all Code 3 calls in **all** planning zones, the performance objective for the alarm processing time interval is 1 minute and 53 seconds.

Cardiac Arrest

For 90% of all Code 3 calls in **all** planning zones, the performance objective for the alarm processing time interval is 1 minute and 55 seconds.

Drowning

For 90% of all Code 3 calls in **all** planning zones, the performance objective for the alarm processing time interval is 0 minutes and 33 seconds.

EMS

For 90% of all Code 3 calls in **all** planning zones, the performance objective for the alarm processing time interval is 2 minutes and 26 seconds.

Structure Fire

For 90% of all Code 3 calls in **all** planning zones, the performance objective for the alarm processing time interval is 2 minutes and 12 seconds.

Non-Structure Fire

For 90% of all Code 3 calls in **all** planning zones, the performance objective for the alarm processing time interval is 3 minutes and 8 seconds.

Hazardous Materials

For 90% of all Code 3 calls in **all** planning zones, the performance objective for the alarm processing time interval is 3 minutes and 43 seconds.

Technical Rescue

For 90% of all Code 3 calls in **all** planning zones, the performance objective for the alarm processing time interval is 2 minutes and 28 seconds.

Water Rescue

For 90% of all Code 3 calls in **all** planning zones, the performance objective for the alarm processing time interval is 8 minutes and 8 seconds.

TURNOUT

Traffic Accident

For 90% of all Code 3 calls in **all** planning zones, the performance objective for turnout time is 2 minutes and 36 seconds.

Cardiac Arrest

For 90% of all Code 3 calls in **all** planning zones, the performance objective for turnout time is 2 minutes and 6 seconds.

Drowning

For 90% of all Code 3 calls in **all** planning zones, the performance objective for turnout time is 1 minute and 55 seconds.

EMS

For 90% of all Code 3 calls in **all** planning zones, the performance objective for turnout time is 2 minutes and 24 seconds.

Structure Fire

For 90% of all Code 3 calls in **all** planning zones, the performance objective for turnout time is 3 minutes and 10 seconds.

Non-Structure Fire

For 90% of all Code 3 calls in **all** planning zones, the performance objective for turnout time is 4 minutes and 3 seconds.

Hazardous Materials

For 90% of all Code 3 calls in **all** planning zones, the performance objective for turnout time is 3 minutes and 24 seconds.

Technical Rescue

For 90% of all Code 3 calls in **all** planning zones, the performance objective for turnout time is 2 minutes and 7 seconds.

Water Rescue

For 90% of all Code 3 calls in **all** planning zones, the performance objective for turnout time is 5 minutes and 19 seconds.

Distribution (First-Arriving)

Traffic Accident

For 90% of Traffic Accident Code 3 responses in the **high density** planning zone, the performance objective for the first unit is to arrive within 10 minutes and 13 seconds total response time. The first-arriving unit is staffed with one to four personnel, capable of providing basic or advanced life support and treatment for a single-patient medical incident while providing for the safety of the victim and responder in accordance with District policy and procedures.

For 90% of Traffic Accident Code 3 responses in the **low density** planning zone, the performance objective for the first unit is to arrive within 15 minutes and 14 seconds total response time. The first-arriving unit is staffed with one to four personnel, capable of providing basic or advanced life support and treatment for a single-patient medical incident while providing for the safety of the victim and responder in accordance with District policy and procedures.

Cardiac Arrest

For 90% of Cardiac Arrest Code 3 responses in the **high density** planning zone, the performance objective for the first unit is to arrive within 9 minutes and 2 seconds total response time. The first-arriving unit is staffed with one to four personnel, capable of providing basic or advanced life support

and treatment for a single-patient medical incident while providing for the safety of the victim and responder in accordance with District policy and procedures.

For 90% of Cardiac Arrest Code 3 responses in the **low density** planning zone, the performance objective for the first unit is to arrive within 17 minutes and 5 seconds total response time. The first-arriving unit is staffed with one to four personnel, capable of providing basic or advanced life support and treatment for a single-patient medical incident while providing for the safety of the victim and responder in accordance with District policy and procedures.

Drowning

For 90% of Drowning Code 3 responses in the **high density** planning zone, the performance objective for the first unit is to arrive within 6 minutes and 57 seconds total response time. The first-arriving unit is staffed with one to four personnel, capable of providing basic or advanced life support and treatment for a single-patient medical incident while providing for the safety of the victim and responder in accordance with District policy and procedures.

For 90% of Drowning Code 3 responses in the **low density** planning zone, the performance objective for the first unit was not established due to no incidents of this call type in 2024. The first-arriving unit is staffed with one to four personnel, capable of providing basic or advanced life support and treatment for a single-patient medical incident while providing for the safety of the victim and responder in accordance with District policy and procedures.

EMS

For 90% of EMS Code 3 responses in the **high density** planning zone, the performance objective for the first unit is to arrive within 10 minutes and 40 seconds total response time. The first-arriving unit is staffed with one to four personnel, capable of providing basic or advanced life support and treatment for a single-patient medical incident while providing for the safety of the victim and responder in accordance with District policy and procedures.

For 90% of EMS Code 3 responses in the **low density** planning zone, the performance objective for the first unit is to arrive within 17 minutes and 5 seconds total response time. The first-arriving unit is staffed with one to four personnel, capable of providing basic or advanced life support and treatment for a single-patient medical incident while providing for the safety of the victim and responder in accordance with District policy and procedures.

Structure Fire

For 90% of Structure Fire Code 3 responses in the **high density** planning zone, the performance objective for the first unit is to arrive within 10 minutes and 24 seconds total response time. The first-arriving unit is staffed with one or more personnel, capable of providing initial incident command and initial actions for fireground operations in accordance with District policy and procedures.

For 90% of Structure Fire Code 3 responses in the **low density** planning zone, the performance objective for the first unit is to arrive within 16 minutes and 27 seconds total response time. The first-arriving unit is staffed with one or more personnel, capable of providing initial incident command and initial actions for fireground operations in accordance with District policy and procedures.

Non-Structure Fire

For 90% of Non-Structure Fire Code 3 responses in the **high density** planning zone, the performance objective for the first unit is to arrive within 12 minutes and 18 seconds total response time. The first-arriving unit is staffed with one or more personnel, capable of providing initial incident command and initial actions for fireground operations in accordance with District policy and procedures.

For 90% of Non-Structure Fire Code 3 responses in the **low density** planning zone, the performance objective for the first unit is to arrive within 21 minutes and 40 seconds total response time. The first-arriving unit is staffed with one or more personnel, capable of providing initial incident command and initial actions for fireground operations in accordance with District policy and procedures.

Hazardous Materials

For 90% of Hazardous Materials Code 3 responses in the **high density** planning zone, the performance objective for the first unit is to arrive within 12 minutes and 49 seconds total response time. The first-arriving unit is staffed with one or more personnel, capable of providing initial incident command and initial actions in accordance with District policy and procedures.

For 90% of Hazardous Materials Code 3 responses in the **low density** planning zone, the performance objective for the first unit is to arrive within 11 minutes and 55 seconds total response time. The first-arriving unit is staffed with one or more personnel, capable of providing initial incident command and initial actions in accordance with District policy and procedures.

Technical Rescue

For 90% of Technical Rescue Code 3 responses in the **high density** planning zone, the performance objective for the first unit is to arrive within 8 minutes and 26 seconds total response time. The first-arriving unit is staffed with one or more personnel, capable of providing initial incident command and initial actions in accordance with District policy and procedures.

For 90% of Technical Rescue Code 3 responses in the **low density** planning zone, the performance objective for the first unit was not established due to no incidents of this call type in 2024. The first-arriving unit is staffed with one or more personnel, capable of providing initial incident command and initial actions in accordance with District policy and procedures.

Water Rescue

For 90% of Water Rescue Code 3 responses in the **high density** planning zone, the performance objective for the first unit is to arrive within 17 minutes and 41 seconds total response time. The first-arriving unit is staffed with one or more personnel, capable of providing initial incident command and initial actions in accordance with District policy and procedures.

For 90% of Water Rescue Code 3 responses in the **low density** planning zone, the performance objective for the first unit is to arrive within 23 minutes and 46 seconds total response time. The first-arriving unit is staffed with one or more personnel, capable of providing initial incident command and initial actions in accordance with District policy and procedures.

Concentration (Effective Response Force)

Cardiac Arrest

For 90% of Cardiac Arrest Code 3 responses in the **high density** planning zone, the performance objective for establishing an ERF consisting of at least six personnel is to arrive within 12 minutes and 49 seconds total response time. The response assignment can implement PIC, patient assessment, airway management, cardiac monitoring and interpretation, defibrillation, intravenous (IV) access, medication administration, and documentation while providing for the safety of responders in accordance with District policies and procedures.

For 90% of Cardiac Arrest Code 3 responses in the **low density** planning zone, the performance objective for establishing an ERF consisting of at least six personnel is to arrive within 21 minutes and 40 seconds total response time. The response assignment can implement PIC, patient assessment, airway management, cardiac monitoring and interpretation, defibrillation, IV access, medication

administration, and documentation while providing for the safety of responders in accordance with District policies and procedures.

Drowning

For 90% of Drowning Code 3 responses in the **high density** planning zone, the performance objective for establishing an ERF consisting of at least four personnel is to arrive within 10 minutes and 34 seconds total response time. The response assignment can implement PIC, patient assessment, airway management, cardiac monitoring and interpretation, defibrillation, IV access, medication administration, and documentation while providing for the safety of responders in accordance with District policies and procedures.

For 90% of Drowning Code 3 responses in the **low density** planning zone, the performance objective for establishing an ERF consisting of at least four personnel was not established due to no incidents of this call type in 2024. The response assignment can implement PIC, patient assessment, airway management, cardiac monitoring and interpretation, defibrillation, IV access, medication administration, and documentation while providing for the safety of responders in accordance with District policies and procedures.

EMS

For 90% of EMS Code 3 responses in the **high density** planning zone, the performance objective for establishing an ERF consisting of two personnel is to arrive within 10 minutes and 41 seconds total response time. The response assignment can implement PIC, patient assessment, cardiac monitoring and interpretation, IV access, medication administration, and documentation while providing for the safety of responders in accordance with District policies and procedures.

For 90% of EMS Code 3 responses in the **low density** planning zone, the performance objective for establishing an ERF consisting of two personnel is to arrive within 16 minutes and 59 seconds total response time. The response assignment can implement PIC, patient assessment, cardiac monitoring and interpretation, IV access, medication administration, and documentation while providing for the safety of responders in accordance with District policies and procedures.

Structure Fire

For 90% of Structure Fire Code 3 responses in the **high density** planning zone, the performance objective for establishing an ERF consisting of a minimum of 15 personnel (with at least one truck and two engines) is to arrive within 22 minutes and 36 seconds total response time. The response assignment can implement command and control firefighting operations to include establishing water supply, two-in/two-out, search and rescue, fire attack, ventilation, and an established Safety Officer while providing for the safety of responders in accordance with District policies and procedures.

For 90% of Structure Fire Code 3 responses in the **low density** planning zone, the performance objective for establishing an ERF consisting of a minimum of 15 personnel (with at least one truck and two engines) is to arrive within 31 minutes and 14 seconds total response time. The response assignment can implement command and control firefighting operations to include establishing water supply, two-in/two-out, search and rescue, fire attack, ventilation, and an established Safety Officer while providing for the safety of responders in accordance with District policies and procedures.