



CITY OF MERCER ISLAND **AMENDED**

CITY COUNCIL SPECIAL VIDEO MEETING

Tuesday, July 14, 2020 at **6:00 PM**

COUNCIL MEMBERS:

Mayor Benson Wong, Deputy Mayor Wendy Weiker,
Councilmembers: Lisa Anderl, Jake Jacobson,
Salim Nice, Craig Reynolds, David Rosenbaum

LOCATION & CONTACT:

Mercer Island City Hall - Council Chambers
9611 SE 36th Street | Mercer Island, WA 98040
Phone: 206.275.7793 | www.mercergov.org

In compliance with the Americans with Disabilities Act, those requiring accommodation for Council meetings should notify the City Clerk's Office at least 24 hours prior to the meeting at 206.275.7793.

VIRTUAL MEETING NOTICE

The virtual meeting will be broadcast live on MITV Channel 21 and live streamed on the City's YouTube Channel at <https://www.youtube.com/c/mercerislandcouncil>

A Note About Registering to Speak: Individuals wishing to speak live during Appearances will need to register their request with the City Clerk at 206.275.7793 or email deb.estrada@mercergov.org and leave a message before 4 p.m. on the day of the Council meeting. Please reference "Appearances for July 14 Council Meeting" on your correspondence. The City Clerk will call on you by name or telephone number when it is your turn to speak.

Join by Telephone at 6:00PM: To listen to the meeting or speak live under Appearances via telephone, please call **253.215.8782** and enter Webinar ID **857 6179 5926** and **Password 851646** when prompted. The City Clerk will call on you by name or by your telephone number when it is your turn to speak. Please unmute your phone.

Join by Internet at 6:00PM: To watch the meeting over the internet or speak live under Appearances, via your computer microphone, follow these steps:

- 1) Click [this link](#)
- 2) If the Zoom app is not installed on your computer, you will be prompted to download it.
- 3) If prompted for Webinar ID, enter **857 6179 5926**
- 4) Enter Password **851646**
- 5) The City Clerk will call on you by name or refer to your email address when it is your turn to speak. Please confirm that your audio works prior to participating.

Submitting Written Comments: Written comments may be submitted at the Mercer Island [Lets Talk Council Connects](#) page. Written comments received by 4pm on July 14, 2020 will be forwarded to all Councilmembers and a brief summary of the comments will be included in the minutes of the meeting.

For the safety and wellbeing of the public and staff, the City strongly recommends that people attend the meeting by viewing the live feed of the video conference on the City's [YouTube Channel](#), or on [MI-TV Channel 21](#).

EXECUTIVE SESSION, 5:00 PM

To discuss planning or adopting the strategy or position to be taken by the City Council during the course of any collective bargaining, professional negotiations, or grievance or mediation proceedings, or reviewing the proposals made in the negotiations or proceedings while in progress pursuant to RCW 42.30.140(4)(b) for approximately 30 minutes. No action will be taken.

To discuss with legal counsel pending or potential litigation pursuant to RCW 42.30.110(1)(i) for approximately 15 minutes.

CALL TO ORDER & ROLL CALL, 6:00 PM

AGENDA APPROVAL

APPEARANCES

STUDY SESSION

1. AB 5724: Police Operations Report
Recommended Action: Receive Report
2. AB 5726: MIFD Fire Services Study
Recommended Action: No formal action required. Receive report and provide feedback to staff on recommendations.

REGULAR BUSINESS

3. Communication on Commuter Parking & Mixed-Use Development Project

OTHER BUSINESS

EXECUTIVE SESSION

To discuss planning or adopting the strategy or position to be taken by the City Council during the course of any collective bargaining, professional negotiations, or grievance or mediation proceedings, or reviewing the proposals made in the negotiations or proceedings while in progress pursuant to RCW 42.30.140(4)(b) for approximately 60 minutes. No action will be taken.

ADJOURNMENT



BUSINESS OF THE CITY COUNCIL CITY OF MERCER ISLAND

AB 5724
July 14, 2020
Study Session

AGENDA BILL INFORMATION

TITLE:	AB 5724: Police Operations Report	<input checked="" type="checkbox"/> Discussion Only
RECOMMENDED ACTION:	Receive Report	<input type="checkbox"/> Action Needed: <input type="checkbox"/> Motion <input type="checkbox"/> Ordinance <input type="checkbox"/> Resolution

DEPARTMENT:	Police
STAFF:	Ed Holmes, Police Chief and Mike Seifert, Personnel and Training Sergeant
COUNCIL LIAISON:	n/a
EXHIBITS:	1. Use of Force Memo, February 26, 2020 2. Use of Force Policy
CITY COUNCIL PRIORITY:	n/a

AMOUNT OF EXPENDITURE	\$ n/a
AMOUNT BUDGETED	\$ n/a
APPROPRIATION REQUIRED	\$ n/a

SUMMARY

Given the recent death of George Floyd at the hands of former Minneapolis police officers, there have been protests across the country along with calls for reforms in policing. Locally, Mercer Island community members have asked questions regarding the Mercer Island Police Department's policies and training in the areas of use of force, de-escalation, and accountability. The purpose of this agenda bill is to provide the Council with an overview of the Mercer Island Police Department's ("MIPD") commitment to building and maintaining public trust. This Agenda Bill will highlight the Department's hiring process, the initial training officers receive, policies related to use of force and anti-biased policing, ongoing training, and accountability.

HIRING PROCESS

Public Safety Testing

MIPD Candidates are initially selected through an outside company, Public Safety Testing ("PST"). At PST, the candidates begin their process by taking the written Law Enforcement Officer Selection Tool test and the Washington State Physical Ability Test. The standards for this test are matched to the entrance test that candidates must take to be accepted into the Basic Law Enforcement Academy.

Candidates are invited to the MIPD Oral Boards based on their written test scores provided by PST (scores on the Physical Abilities Test are only categorized as pass/fail). The MIPD Oral Boards consist of a series of interview questions designed to help determine if the candidate is a good fit for a career in law enforcement. Those candidates that pass the Oral Boards are given a combined total score of their written test score and interview score to create the Civil Service candidate eligibility list.

Civil Service Eligibility List

Candidates on the Civil Service Eligibility list are put through an extensive background investigation performed by MIPD employees who have received specific law enforcement pre-employment background investigation training. Background investigations assist the department in determining how the candidate will perform the job of a police officer in a way that is consistent with MIPD values. Part of this vetting process seeks to determine if the candidate has a history of discrimination. All law enforcement background investigations include a polygraph examination to determine if the candidate was truthful throughout the investigation process. One of the newer tools available to the background investigator is the Intercultural Sensitivity Measure provided by PST. This measure seeks to provide a calculated value assessment of the candidate's attitudes, beliefs, and opinions towards cultures different than their own.

Candidates who successfully complete the background investigations remain on the Civil Service Eligibility List. From this list, the Chief is allowed to interview the top five candidates for each open position. Candidates who are invited for a Chief's Interview sit down with the Police Chief and Command Staff for a conversational style interview. The Chief and Command Staff then decide from the pool of candidates who will be given a conditional offer of employment. Candidates that receive a conditional offer must then successfully complete a Psychological and Medical exam to receive an Unconditional Offer of Employment.

INITIAL TRAINING

New MIPD officers are hired on with an 18-month probationary period. During this period, the officers are consistently challenged and tested to help ensure that they will be effective police officers that live up to MIPD standards and values. This training period is usually broken into the following phases:

- Pre-Academy Training,
- Basic Law Enforcement Academy,
- Post-Academy Training,
- Phase 2 Field Training, and
- Phase 3 Field Training.

Pre-Academy training occurs between the officer's initial hire date and the start of Police Academy (this period varies due to significant delay in academy registration). During this time, the new officers receive various assignments in both the Services and Operations sections of the department. They are exposed to all aspects of the MIPD and trained in the areas that will prepare them for the foundation of police work taught in the Academy.

At the Basic Law Enforcement Academy (BLEA), officers receive the Washington State mandated training which requires 720 hours of instruction in the following blocks:

Criminal Investigations, Law, and Procedures	Cognitive Command
Crisis	De-escalation techniques
Patrol Tactics & Traffic	Firearms
Control and Defensive Tactics	Plato's Guardians-Philosophical Warriors

These blocks are designed to equip student officers with a base-level understanding of their responsibility to the communities they serve, standards to uphold, and education for effective community-oriented policing. The overall objective of BLEA is to provide student officers with exceptional training to ensure they have the knowledge and skills to safely and effectively protect the life, liberty, and property of the people they serve.

Post-Academy Training (Two Weeks)

MIPD instructors, in different areas, use this period to confirm that appropriate learning occurred and was maintained by the student officers at BLEA and refines the student officers' learning in accordance with MIPD policies, practices and procedures, and addresses any subjects that were not covered by BLEA.

Phase 2 Field Training Officer (14 Weeks)

During Phase 2, the student officer is paired for approximately one month with three different experienced Field Training Officers ("FTO"). Each FTO receives specialized training in how to educate, train, and evaluate student officers in order to prepare the student to operate as a solo police officer. During Phase 2, FTOs and shift supervisors have the authority to recommend that the student officer continue to the next training step, receive remedial training, or have their employment terminated.

Phase 3 (18 Months)

Phase 3 consists of operating as a solo officer until the completion of the student's 18-month probationary period. During this phase, the student officer is given the opportunity to work as a solo officer, but is encouraged to seek assistance with difficult or novel calls from senior officers and supervisors on shift. The student officer will continue to receive monthly evaluations from the shift supervisor. These monthly evaluations highlight strong and weak areas of performance as well as any remedial action taken with the student officer. The monthly evaluations are then shared with the Operations Commander and the Personnel and Training Sergeant. Prior to the end of the officer's probationary period, the monthly evaluations are presented to the Chief for review.

The probationary period allows for a thorough evaluation of the new officer's performance, and also allows for termination of an officer's employment if it is determined that the officer is unfit or unable to perform the job. Key indicators that lead to termination include violent, unsafe, abusive, and/or discriminatory behaviors.

POLICIES

Department policies are primarily written, maintained, and kept up to date by Lexipol, a firm that specializes in writing contemporary policies for police departments. Lexipol employs a team of attorneys and industry experts that constantly review legislation and best practices and provide its client agencies with accompanying policies, procedures, and guiding framework.

Daily Training Bulletins

Lexipol also provides an education system, Daily Training Bulletins ("DTB"), to assist with making sure that officers are learning, understanding, and complying with the most current policies. DTBs present scenarios, highlight applicable policies and then provide a test question to confirm understanding. The Training Sergeant can use the Lexipol online interface to track and verify that officers are completing assigned DTBs.

Use of Force Policy

The MIPD Use of Force Policy says that officers shall only use the amount of force that reasonably appears necessary given the facts and circumstances perceived by the officer at the time of the event to accomplish a legitimate law enforcement purpose. MIPD's policy does not allow for the use of neck restraints except for

deadly force encounters. MIPD policy requires, when feasible, a verbal warning be given prior to the use of deadly force. It is MIPD's policy to require any officer who observes another officer using excessive force to intercede and prevent the use of that unreasonable force. Officers must also promptly report the observations of excessive force to a supervisor. MIPD policy recognizes that shooting at a moving vehicle is rarely effective. Officers are only authorized to shoot at a moving vehicle when that vehicle presents a deadly threat to the officer or others and the officer believes there are no other reasonable means available to avert the deadly threat of the vehicle.

MIPD policy requires that officers only use the amount of force that reasonably appears necessary and follow the US Supreme Court's standard of "objective reasonableness" (*Graham v. Connor*, 490 U.S. 386 (1989)). It is not reasonable to require an officer to exhaust "all other means" because in some cases it might be argued that the officer could have run away from the situation, or simply not responded to a call if it sounds likely that deadly force could be required. This is clearly not good for public safety. Additionally, by setting the bar so high (exhaust all other means), it will most certainly result in unmanageable second-guessing of the officer's actions. Any force that officers use must meet the standard of reasonableness, which has been upheld by our country's highest court. Officers have a variety of force options depending on what the situations dictates. While not specifically identified as a "continuum," the range of options includes mere officer presence through deadly force. Again, any option of force used must be reasonable.

MIPD policy strictly prohibits biased-based policing. The MIPD is committed to providing law enforcement services to the community with due regard for the racial, cultural, and other differences of those served. MIPD policy states that officers will provide law enforcement services and enforce the law equally, fairly, objectively and without discrimination toward any individual or group. Officers are also responsible for promptly reporting any known instances of racial or bias-based profiling to a supervisor. Officers receive annual training aimed at preventing biased policing.

ONGOING TRAINING

RCW 43.101.095 requires all certified peace officers in the state of Washington to annually complete a minimum of 24 hours of continuing training. MIPD Officers are well trained and typically receive more training than the State-mandated minimum. Training topics include Anti-Biased Policing, De-Escalation, Use of Force, and Crisis Intervention.

The MIPD partners with other agencies, specifically those within the Coalition of Small Police Agencies (CSPA), to recruit quality instructors to teach different aspects of Anti-Bias Based Policing. These classes include in-depth instruction on implicit bias, cultural awareness, and the history of policing in different communities.

MIPD officers also receive extensive introductory and annual training in Crisis Intervention. Eligible MIPD officers have received an average of 42.5 hours per officer of Crisis Intervention training. This training helps to prepare law enforcement personnel to respond to people experiencing a mental health crisis. This training includes legal aspects, mental health disorders, interpersonal relations necessary to effectively work with the mentally ill, and intervention strategies for dealing with both low and high-risk situations. The MIPD strives to enroll all officers into the comprehensive 40-hour Crisis Intervention Training course as soon as it is appropriate for their level of development.

The MIPD works to include de-Escalation concepts into all use of force training. Best practices teach that de-escalation is an integrated response to all potential situations that may result in the threat of or use of force. MIPD officers are taught to de-escalate all interactions and situations when possible, by using effective

communication, and utilizing tactics that create appropriate distance, time and shielding. Through integrated use of force and de-escalation training, MIPD officers are given skills to accurately assess situations with the goal of resolving problems with minimal use of force.

ACCOUNTABILITY

Despite MIPD's best efforts to leave all citizens feeling treated with respect and in a fair manner, MIPD does receive some complaints. While the number of complaints is small, all complaints are taken seriously and investigated. Most complaints center on the way an officer was perceived by a citizen during a contact. Minor complaints serve as an important reminder regarding good customer service skills. More serious sustained complaints result in the involved officer receiving appropriate discipline. This discipline can range from coaching/counseling, retraining, verbal warning, written reprimand, suspension, and/or termination. The complainant is provided with the results of the completed investigation.

MIPD very rarely must use force, averaging one physical, hands-on use of force application every other year over the past six years. A Use of Force report is required anytime physical force is used as well as anytime an officer points a firearm at someone to gain the individual's compliance. All applications of force are reviewed and investigated. If deadly force is used, a criminal investigation will be completed by an outside team, as well as a separate administrative investigation to determine if policies and procedures were followed. Depending on the results of these investigations, officers could face additional training, discipline, and the filing of criminal charges against the officer if warranted.

The Mercer Island Police Department greatly values the trust this community has given its police department. Throughout the hiring process, the ongoing training, and the accountability measures, the police department recognizes the importance of maintaining this trust. The police department is steadfast in its commitment to providing a high level of service that has helped to keep this one of the safest communities in the region.

RECOMMENDATION

Receive Report



Mercer Island Police Department

Memorandum

DATE: February 26, 2020
TO: Chief Holmes
FROM: Cmdr. Jokinen
RE: Use of Force Review
CC: Cmdr. Magnan

I conducted a review of all use of force incidents by the Mercer Island Police Department for the calendar year 2019. In total there were two (2) reported incidents where some form of force was used. Also documented were any situations where a person in police custody was injured, even if by accident.

As a result of this review, no patterns of excessive force were noted, and no situations stood out as warranting further review. Documentation of the incidents was sufficient to judge that the amount of force used was both reasonable and necessary, as mandated by both state and federal law, and within Mercer Island Policy guidelines.

In 2019 Mercer Island PD Officers:

1. A pain compliance wrist hold was utilized to take a DUI suspect, who was resisting arrest, into custody.
2. Officers responded to a residential burglary – suspect observed on video camera inside of the residence by an offsite homeowner. The suspect was described as being known to carry firearms. The suspect was detained at gun point. After officers obtained the suspect's ID the homeowner advised that the subject was a family friend he mistook as a burglar.

Below are the details of the incidents.

2019-10329 – Officers attempted to take a DUI suspect into custody. When an officer took hold of the subject's left arm the subject began to tense up and passively resist being placed into handcuffs. With one officer holding the subject's left arm and the other officer took his right. Officers then attempted to place the subject in handcuffs. The subject continued to resist, and he was placed in a position of disadvantage by being bent over the hood of the patrol vehicle. The subject was told to put his left hand behind his back, but he refused. An officer then applied pressure to the subjects left

wrist using a “gooseneck” in a manner that the officer had been trained in to gain compliance with a resisting suspect. The officer monitored the subject’s actions to the pain compliance and noted that the “gooseneck” was not being effective. The officer then switched to handcuffing the subject’s left wrist. The officer maintained control with the handcuff and pried the subjects left hand out from underneath him. The officers were then able to cuff the subject’s hands behind his back. The subject complained of pain in his arms and told officers they broke his wrist. Officers requested an Aid Unit to the scene to evaluate the subject. Mercer Island Aid evaluated and cleared the subject stating that nothing appeared to be broken. The wrist/arm the subject told Mercer Island Aid was hurting/broken (left) was the opposite arm/wrist that had been applied the “gooseneck”.

2019-11224 - Officers responded to a report of residential burglary. A suspect was observed on a video camera inside of the residence by an offsite homeowner. The suspect was described as being known to the homeowner (daughter’s ex-boyfriend) and known to carry firearms. As officers were setting up containment around the residence the suspect exited the front door. Officers detained the suspect at gun point and handcuffed him. Officers obtained ID from the subject and spoke with the homeowner. The homeowner advised that the subject was a family friend and that he mistook him as a burglar/daughter’s ex-boyfriend. The subject was released.

Use of Force

300.1 PURPOSE AND SCOPE

This policy provides guidelines on the reasonable use of force. While there is no way to specify the exact amount or type of reasonable force to be applied in any situation, every member of this department is expected to use these guidelines to make such decisions in a professional, impartial and reasonable manner.

300.1.1 DEFINITIONS

Definitions related to this policy include:

Deadly force - Force reasonably anticipated and intended to create a substantial likelihood of causing death or very serious injury.

Force - The application of physical techniques or tactics, chemical agents or weapons to another person. The pointing of a firearm or Taser at a person. It is not a use of force when a person allows him/herself to be searched, escorted, handcuffed or restrained.

300.2 POLICY

The use of force by law enforcement personnel is a matter of critical concern, both to the public and to the law enforcement community. Officers are involved on a daily basis in numerous and varied interactions and, when warranted, may use reasonable force in carrying out their duties.

Officers must have an understanding of, and true appreciation for, their authority and limitations. This is especially true with respect to overcoming resistance while engaged in the performance of law enforcement duties.

The Department recognizes and respects the value of all human life and dignity without prejudice to anyone. Vesting officers with the authority to use reasonable force and to protect the public welfare requires monitoring, evaluation and a careful balancing of all interests.

300.2.1 DUTY TO INTERCEDE

Any officer present and observing another officer using force that is clearly beyond that which is objectively reasonable under the circumstances shall, when in a position to do so, intercede to prevent the use of unreasonable force. An officer who observes another employee use force that exceeds the degree of force permitted by law shall promptly report these observations to a supervisor.

300.3 USE OF FORCE

Officers shall use only that amount of force that reasonably appears necessary given the facts and circumstances perceived by the officer at the time of the event to accomplish a legitimate law enforcement purpose.

The "reasonableness" of force will be judged from the perspective of a reasonable officer on the scene at the time of the incident. Any evaluation of reasonableness must allow for the fact that officers are often forced to make split-second decisions about the amount of force that reasonably

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appears necessary in a particular situation, with limited information and in circumstances that are tense, uncertain and rapidly evolving.

Given that no policy can realistically predict every possible situation an officer might encounter, officers are entrusted to use well-reasoned discretion in determining the appropriate use of force in each incident.

It is also recognized that circumstances may arise in which officers reasonably believe that it would be impractical or ineffective to use any of the tools, weapons or methods provided by the Department. Officers may find it more effective or reasonable to improvise their response to rapidly unfolding conditions that they are confronting. In such circumstances, the use of any improvised device or method must nonetheless be reasonable and utilized only to the degree that reasonably appears necessary to accomplish a legitimate law enforcement purpose.

While the ultimate objective of every law enforcement encounter is to avoid or minimize injury, nothing in this policy requires an officer to retreat or be exposed to possible physical injury before applying reasonable force.

300.3.1 USE OF FORCE TO EFFECT AN ARREST

An officer may use all means reasonably necessary to effect an arrest if, after notice of the intention to arrest the person, he/she either flees or forcibly resists (RCW 10.31.050).

300.3.2 FACTORS USED TO DETERMINE THE REASONABLENESS OF FORCE

When determining whether to apply force and evaluating whether an officer has used reasonable force, a number of factors should be taken into consideration, as time and circumstances permit. These factors include but are not limited to:

- (a) Immediacy and severity of the threat to officers or others.
- (b) The conduct of the individual being confronted, as reasonably perceived by the officer at the time.
- (c) Officer/subject factors (age, size, relative strength, skill level, injuries sustained, level of exhaustion or fatigue, the number of officers available vs. subjects).
- (d) The effects of drugs or alcohol.
- (e) Subject's mental state or capacity.
- (f) Proximity of weapons or dangerous improvised devices.
- (g) The degree to which the subject has been effectively restrained and his/her ability to resist despite being restrained.
- (h) The availability of other options and their possible effectiveness.
- (i) Seriousness of the suspected offense or reason for contact with the individual.
- (j) Training and experience of the officer.
- (k) Potential for injury to officers, suspects, and others.

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- (l) Whether the person appears to be resisting, attempting to evade arrest by flight or is attacking the officer.
- (m) The risk and reasonably foreseeable consequences of escape.
- (n) The apparent need for immediate control of the subject or a prompt resolution of the situation.
- (o) Whether the conduct of the individual being confronted no longer reasonably appears to pose an imminent threat to the officer or others.
- (p) Prior contacts with the subject or awareness of any propensity for violence.
- (q) Any other exigent circumstances.

300.3.3 PAIN COMPLIANCE TECHNIQUES

Pain compliance techniques may be effective in controlling a physically or actively resisting individual. Officers may only apply those pain compliance techniques for which they have successfully completed department-approved training. Officers utilizing any pain compliance technique should consider:

- (a) The degree to which the application of the technique may be controlled given the level of resistance.
- (b) Whether the person can comply with the direction or orders of the officer.
- (c) Whether the person has been given sufficient opportunity to comply.

The application of any pain compliance technique shall be discontinued once the officer determines that compliance has been achieved.

300.3.4 USE OF FORCE TO SEIZE EVIDENCE

In general, officers may use reasonable force to lawfully seize evidence and to prevent the destruction of evidence. However, officers are discouraged from using force solely to prevent a person from swallowing evidence or contraband. In the instance when force is used, officers should not intentionally use any technique that restricts blood flow to the head, restricts respiration or which creates a reasonable likelihood that blood flow to the head or respiration would be restricted.

300.4 DEADLY FORCE APPLICATIONS

Use of deadly force is justified in the following circumstances:

- (a) An officer may use deadly force to protect him/herself or others from what he/she reasonably believes would be an imminent threat of death or serious bodily injury. An officer shall, when feasible, give a verbal warning prior to using deadly force.
- (b) An officer may use deadly force to stop a fleeing subject when the officer has probable cause to believe that the person has committed, or intends to commit, a felony involving the infliction or threatened infliction of serious bodily injury or death, and the officer reasonably believes that there is an imminent risk of serious bodily injury or death to any other person if the subject is not immediately apprehended. Under

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such circumstances, a verbal warning should precede the use of deadly force, where feasible. Imminent does not mean immediate or instantaneous. An imminent danger may exist even if the suspect is not at that very moment pointing a weapon at someone. For example, an imminent danger may exist if an officer reasonably believes any of the following:

1. The person has a weapon or is attempting to access one and it is reasonable to believe the person intends to use it against the officer or another.
2. The person is capable of causing serious bodily injury or death without a weapon and it is reasonable to believe the person intends to do so.

300.4.1 SHOOTING AT OR FROM MOVING VEHICLES

Shots fired at or from a moving vehicle are rarely effective. Officers should move out of the path of an approaching vehicle instead of discharging their firearm at the vehicle or any of its occupants. An officer should only discharge a firearm at a moving vehicle or its occupants when the officer reasonably believes there are no other reasonable means available to avert the threat of the vehicle, or if deadly force other than the vehicle is directed at the officer or others.

Officers should not shoot at any part of a vehicle in an attempt to disable the vehicle.

300.5 REPORTING THE USE OF FORCE

Any use of force by a member of this department shall be documented promptly, completely and accurately in an appropriate report, depending on the nature of the incident. The officer should articulate the factors perceived and why he/she believed the use of force was reasonable under the circumstances. To collect data for purposes of training, resource allocation, analysis and related purposes, the Department may require the completion of additional report forms, as specified in department policy, procedure or law.

300.5.1 NOTIFICATION TO SUPERVISORS

Supervisory notification shall be made as soon as practicable following the application of force in any of the following circumstances:

- (a) The application caused a visible injury.
- (b) The application would lead a reasonable officer to conclude that the individual may have experienced more than momentary discomfort.
- (c) The individual subjected to the force complained of injury or continuing pain.
- (d) The individual indicates intent to pursue litigation.
- (e) Any application of the TASER® device or control device.
- (f) Any application of a restraint device other than handcuffs, shackles or belly chains.
- (g) The individual subjected to the force was rendered unconscious.
- (h) An individual was struck or kicked.
- (i) An individual alleges any of the above has occurred.

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300.5.2 NOTIFICATION TO INDIAN AFFAIRS

When the use of force by an officer results in the death of a person who is an enrolled member of a federally recognized Indian tribe, notification shall be made to the Governor's Office of Indian Affairs within a reasonable period of time, but not more than 24 hours after the department has good reason to believe the person was an enrolled member. Notice shall include sufficient information for the Governor's Office of Indian Affairs to attempt to identify the deceased person and tribal affiliation (RCW 10.114.021).

300.6 MEDICAL CONSIDERATION

Prior to booking or release, medical assistance shall be obtained for any person who exhibits signs of physical distress, who has sustained visible injury, expresses a complaint of injury or continuing pain, or who was rendered unconscious. Any individual exhibiting signs of physical distress after an encounter should be continuously monitored until he/she can be medically assessed.

Based upon the officer's initial assessment of the nature and extent of the subject's injuries, medical assistance may consist of examination by fire personnel, paramedics, hospital staff or medical staff at the jail. If any such individual refuses medical attention, such a refusal shall be fully documented in related reports and, whenever practicable, should be witnessed by another officer and/or medical personnel. If a recording is made of the contact or an interview with the individual, any refusal should be included in the recording, if possible.

The on-scene supervisor or, if the on-scene supervisor is not available, the primary handling officer shall ensure that any person providing medical care or receiving custody of a person following any use of force is informed that the person was subjected to force. This notification shall include a description of the force used and any other circumstances the officer reasonably believes would be potential safety or medical risks to the subject (e.g., prolonged struggle, extreme agitation, impaired respiration).

Persons who exhibit extreme agitation, violent irrational behavior accompanied by profuse sweating, extraordinary strength beyond their physical characteristics and imperviousness to pain (sometimes called "excited delirium"), or who require a protracted physical encounter with multiple officers to be brought under control, may be at an increased risk of sudden death. Calls involving these persons should be considered medical emergencies. Officers who reasonably suspect a medical emergency should request medical assistance as soon as practicable and have medical personnel stage away if appropriate.

300.7 SUPERVISOR RESPONSIBILITIES

When a supervisor is able to respond to an incident in which there has been a reported application of force, the supervisor is expected to:

- (a) Obtain the basic facts from the involved officers. Absent an allegation of misconduct or excessive force, this will be considered a routine contact in the normal course of duties.
- (b) Ensure that any injured parties are examined and treated.

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- (c) When possible, separately obtain a recorded interview with the subject upon whom force was applied. If this interview is conducted without the person having voluntarily waived his/her *Miranda* rights, the following shall apply:
 - 1. The content of the interview should not be summarized or included in any related criminal charges.
 - 2. The fact that a recorded interview was conducted should be documented in a property or other report.
 - 3. The recording of the interview should be distinctly marked for retention until all potential for civil litigation has expired.
- (d) Once any initial medical assessment has been completed or first aid has been rendered, ensure that photographs have been taken of any areas involving visible injury or complaint of pain, as well as overall photographs of uninjured areas. These photographs should be retained until all potential for civil litigation has expired.
- (e) Identify any witnesses not already included in related reports.
- (f) Review and approve all related reports.
- (g) Determine if there is any indication that the subject may pursue civil litigation.
 - 1. If there is an indication of potential civil litigation, the supervisor should complete and route a notification of a potential claim through the appropriate channels.
- (h) Evaluate the circumstances surrounding the incident and initiate an administrative investigation if there is a question of policy non-compliance or if for any reason further investigation may be appropriate.

In the event that a supervisor is unable to respond to the scene of an incident involving the reported application of force, the supervisor is still expected to complete as many of the above items as circumstances permit.

300.7.1 WATCH COMMANDER RESPONSIBILITY

The Watch Commander shall review each use of force by any personnel within his/her command to ensure compliance with this policy and to address any training issues.

300.8 TRAINING

Officers will receive annual training on this policy and demonstrate their knowledge and understanding.

300.9 USE OF FORCE REPORTS-ANNUAL ANALYSIS

In January of each year, the Chief of Police will direct that an annual analysis of Use-Of-Force incidents occurring the prior calendar year be conducted. The analysis will include the number and types of Use-Of-Force reports as required by this policy.

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The Chief will review the annual analysis to determine if there are patterns or trends that could indicate training needs and/or policy modifications.

The Mercer Island Police Department Operations Report / Public Trust



Policing in America



- Challenging Time for our communities and Law Enforcement.
- Public Trust in Law Enforcement is suffering in many communities.
- What has the MIPD done to build and maintain public trust?

Mercer Island Police Department

What are we doing to build and maintain trust with our community?

1. Hiring Process
2. Initial Training
3. Clear Policies
4. Ongoing Training
5. Accountability



Hiring Process

Hiring – (It starts with hiring)

- Testing process
- Oral Boards
- Background Investigation
- Chief's Interview
- Conditional Job Offer



Initial Training

- Pre-Academy
- Basic Law Enforcement Academy
- Post-Academy Training
- Field Training
- 18-Month Probationary Period



Policies

Contemporary Policies

- Lexipol / Daily Training Bulletins
- Use of Force policy
 - Officers can only use the amount of force that reasonably appears necessary.
 - Neck restraints **are not allowed** as a restraining technique.
 - Officers have a duty to intervene if the witness excessive force.
 - Verbal warnings are required when feasible.
 - All applications of force are reviewed by supervisors.
- Biased- Based Policing
 - Our policy strictly prohibits racial profiling / biased based policing.
 - Annual training is required.
 - Officers are responsible for promptly reporting any known instances of racial or bias-based profiling to a supervisor.



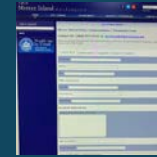
Ongoing Training

- As per State law, officers are required to attend a minimum of 24 hours of training annually.
- MIPD Officers typically receive more than the minimum training requirements, resulting in a well-trained department.
- Coalition of Small Police Agencies (CSPA)
 - MIPD pools training classes and shares trainers.
 - CSPA sponsors annual Anti-biased policing training, bringing in different trainers each year to cover different topics, all aimed at preventing biased policing.
 - Implicit Bias
 - Cultural Awareness/Appreciation
- Crisis Intervention Training
- Use of Force and De-Escalation Training.



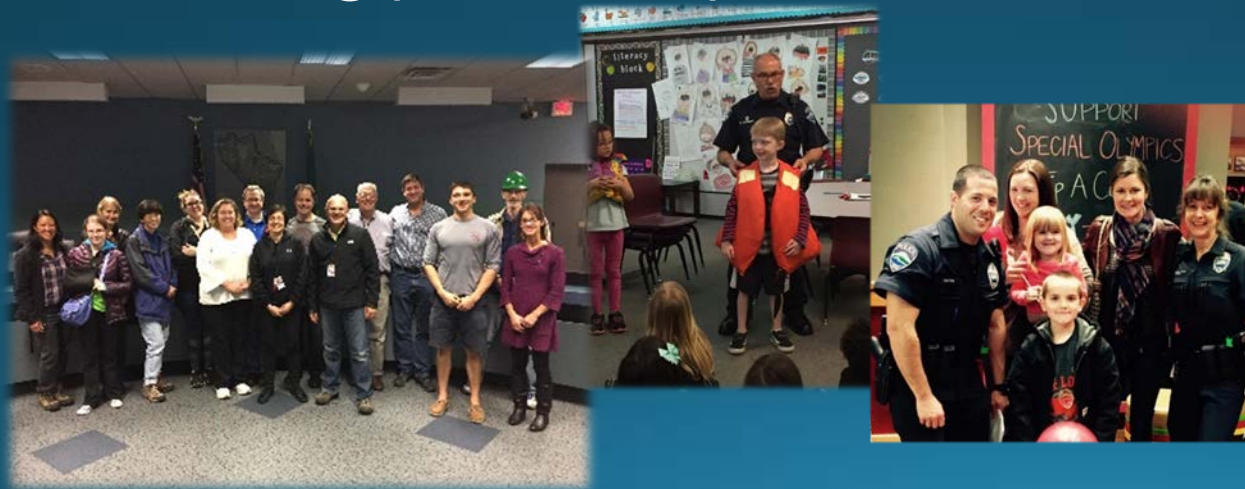
Accountability

- We receive very few complaints.
 - All complaints are taken seriously and investigated.
 - Outcomes can include: Coaching & counseling / verbal warning / written reprimand / suspension / termination.
 - If gaps are identified, additional training is completed to prevent future issues.
 - Citizens are given the outcome of their complaint.
- We very rarely must use force.
 - Hands-on force is applied on average once every other year.
 - All applications of force require a separate Use of Force report.
 - All application of force are reviewed by supervisors, and necessary notifications are made.
 - Corrective actions are taken when necessary.
 - Criminal and / or Administrative investigations are initiated when appropriate.



Conclusion

1. We recognize that Public Trust is earned and must be maintained.
2. From “hire to retire” we continually look for ways to improve the service we provide this community.
3. We need and appreciate the support we have from our community, and value the strong partnerships we have.



Questions?

Mayors Commit to Action Pledge

The Pledge calls on mayors across the United States to commit to the following four actions:

1. REVIEW police use of force policies.
2. ENGAGE communities by including a diverse range of input, experiences, and stories in the review.
3. REPORT the findings of the review to the community and seek feedback.
4. REFORM the community's police use of force policies.

Mercer Island Response to Pledge

- The Police Chief recently reviewed the Department's Use of Force policy and made simple revisions.
- The fourth action point to REFORM policies assumes that the current use of force policy is inadequate or misguided.
- MIPD contracts with Lexipol, a company that writes policies for police departments and currently uses and supports Lexipol's Use of Force policy, as it comports with federal and state law.
- The Pledge is designed for cities whose Use of Force policies do not include best practices (banning neck holds as a restraining technique, requiring officers to intervene when they observe another officer applying excessive force, requiring a verbal warning before application of deadly force, and requiring thorough reporting when force is used). MIPD's policy include all of these provisions.

Mercer Island Response to Pledge

- Since the Pledge is a commitment to action, the City Council must authorize Mayor Wong to sign the Pledge.
- Considerations:
 - The MIPD's Use of Force Policy already includes best practices and comports with current law.
 - At the June 16 meeting, the City Council directed staff to engage a consultant to conduct listening sessions to allow the Council and community to hear first-hand the stories of minority experiences on the Island, and gather ideas for what we can do to make the island a safe and welcoming place for people of all races and ethnicities.



BUSINESS OF THE CITY COUNCIL CITY OF MERCER ISLAND

AB 5726
July 14, 2020
Study Session

Item 2.

AGENDA BILL INFORMATION

TITLE:	AB 5726: MIFD Fire Services Study	<input checked="" type="checkbox"/> Discussion Only
RECOMMENDED ACTION:	Receive the presentation by MATRIX Consulting Group and provide comments and feedback on the draft report.	<input type="checkbox"/> Action Needed: <input type="checkbox"/> Motion <input type="checkbox"/> Ordinance <input type="checkbox"/> Resolution

DEPARTMENT:	Fire
STAFF:	Steve Heitman, Fire Chief
COUNCIL LIAISON:	n/a n/a n/a
EXHIBITS:	1. MATRIX Consulting Group Draft Report
CITY COUNCIL PRIORITY:	Choose an item.

AMOUNT OF EXPENDITURE	\$ \$43,000
AMOUNT BUDGETED	\$ \$43,000
APPROPRIATION REQUIRED	\$ n/a

SUMMARY

The purpose of this Study Session is to review the Fire Services Study completed by the MATRIX Consulting Group. The intent of this analysis was to determine if the City can realize greater efficiencies in the delivery of fire protection services. The draft report is included as Exhibit 1 and a representative from MATRIX will present the report and recommendations at the Study Session.

BACKGROUND

In October 2019, a Request for Proposals ("RFP") was issued to perform a Fire Services Study for the Mercer Island Fire Department ("MIFD"). The City received six proposals and the MATRIX Consulting Group ("MATRIX") was selected in December 2019 to perform this work.

Key tasks for the Fire Services Study included:

1. Project kick-off, data collection and initial interviews. Prior to the onset of the COVID-19 Pandemic, MATRIX met with members of the City Council, the City Manager, and Fire Department staff and leadership to discuss current fire services and the goals for the study. Additional data and resources were also collected and reviewed by the consultant (GIS Data, standard operating procedures, mutual aid agreements, etc.)

2. Evaluation of existing conditions. This component of the analysis included a detailed understanding of workloads and service levels:
 - Review of firefighter/EMS staff distribution and assignment
 - Review and evaluation of administration and support staffing levels
 - Review and evaluation of operational staffing levels
 - Review staff allocation to various functions and divisions in MIFD
 - Review of current performance goals, objectives, and measurements
3. Analysis of future service delivery models. This focused on compiling recommendations to ensure effective and efficient delivery of fire services. Areas considered included:
 - Changes to current policies and practices that can improve departmental operations.
 - Evaluating how potential changes to current automatic or mutual aid agreements can improve service levels and reliability, as well as opportunities for increased regionalization of services through partnerships. This included a review of the King County Automatic Aid Interlocal Agreement to identify areas for improvement.
 - Opportunities for new partnerships or regionalization to improve services.
 - Analysis of the current financial issues facing the City and identification of any cost avoidance, cost savings, or cost increases that may arise from changes.
 - Ability to respond accordingly on both an initial response and to develop an effective response force.
 - Opportunities to use new technology to improve efficiency.
 - How prevention services are performed/delivered and opportunities for improvement.
4. Preparation of a draft report and recommendations, to include a presentation and discussion with the City Council prior to finalization of the report.

NEXT STEPS

Following the presentation from MATRIX, the City Council will have an opportunity to ask questions and provide comments on the draft report. City Council feedback will be used to inform completion of the final report.

Follow-up discussions with the City Council will be scheduled, likely as part of the 2021-2022 biennial budget process, to consider the recommendations presented in the Fire Services Study and determine next steps.

RECOMMENDATION

No formal action required. Receive report and provide feedback to staff on recommendations.

Fire Services Study

MERCER ISLAND, WASHINGTON

DRAFT REPORT



July 8, 2020

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1 Introduction and Executive Summary

The Matrix Consulting Group was retained by the City of Mercer Island to conduct a staffing and services study of the Mercer Island Fire Department (MIFD). This report represents the project team's work in the development of this draft report.

1 Approaches Utilized in This Project

The principal approaches utilized by the project team in this study included, but were not limited to, the following:

- **Internal Interviews** – Members of the project team individually and collectively interviewed several executives, management, and supervisory staff of Mercer Island, Fire Department leadership, and command staff.
- **Data Collection** – The project team collected a wide variety of external and internal data documenting the structure, operations, and organization including:
 - Department staffing and scheduling
 - Documentation reflecting operations management
 - Numerous output data reflecting services provided
 - Various other performance information

This data was summarized in a 'descriptive profile' of the Fire Department which was reviewed by the staff of the Fire Department.

- **Analysis** – The project team analyzed the collected data and reviewed interview notes to provide the basis for the final recommendations.

Throughout the study, the project team reviewed facts, issues, and initial findings with Fire Department staff.

2 | Executive Summary

The Fire Department in Mercer Island provides emergency services to a City of approximately 24,500 residents over a 6.2 square mile area. The services include, but are not limited to fire suppression, fire prevention, public education, fire investigation, and emergency medical services.

The City is an island located in between Seattle and Bellevue and connected by I-90 in the northern sections of the City. Being an island limits the growth of the City which is reasonably well built out. There are no areas available for annexation or future growth outside the current boundaries. This also limits the available sources of tax revenues – property taxes are the largest revenue source for the City. However, property taxes are limited to a 1% increase or the rate of inflation as measured by the Implicit Price Deflator (IPD), whichever is less. This is not the same as the Consumer price Index for Urban Wage and Clerical Workers (CPI-W) which is used as a basis for cost of living adjustments.

Based on the 2012 Buildable Lands Report, there is potential for additional residential growth. The Town Center is an area that is available for redevelopment that could include multi-story buildings. The rate of growth will be influenced by the housing market, job growth, and interest rates. The regional light rail system is currently being expanded through Mercer Island

The MIFD has Response Standards and a Standard of Cover in place that identifies the manner in which the Department will respond to calls for service. This document further identifies response time performance objectives for the responses to calls for service. A review of response to the calls for service largely found that the MIFD is meeting the established community standards. Fire Prevention activities are also meeting the needs of the community.

Based on the analysis, future service demands are expected to remain relatively flat. Calls for service have remained about the same from in recent years with an average annual call volume of 2,431 calls. Fire Prevention activity has also remained the same in terms of plan reviews, project reviews, and inspections. There is no expectation of increasing demands in the five-year planning period beyond those recommended in this report.

Future service delivery options can take two forms: maintaining the current Fire Department structure or contracting for services from another service provider. Maintaining the current structure allows the City to:

- Retain operational and financial control of the fire department.
- Maintain control of the delivery system and the ancillary duties such as fire prevention and public education.

Contracting for services provides the following:

- Allows cost sharing and sharing of equipment.
- Provides a deeper pool of personnel for operations and ancillary duties such as training and prevention.

Three service providers, City of Seattle, City of Bellevue, and Eastside Fire and Rescue, provided cost estimates and potential service delivery options as part of this study. Service levels remain the same as the current operation.

3 | Summary of Recommendations

The following table provides a summary of recommendations included in this report.

RECOMMENDATIONS

OPTION 1 – RETAIN THE FIRE DEPARTMENT IN THE CITY

Continue to monitor the response metrics against the established community response standards for any trends that indicate the need for additional resources or changes to the operations of the Fire Department.

Continue to use shift personnel on an overtime basis to manage and deliver training programs to the Fire Department.

Invest in an online training program to deliver some of the training classes at a cost of approximately \$20,000, which is less than the cost of in-person training.

Utilize in video conferencing technology to allow for the delivery of training sessions while the crews remain in their respective stations at a cost of approximately \$5,000 to purchase new equipment.

Utilize other venues such as the National Fire Academy online programming to boost the availability of training and reduce the dependence on an instructor.

Replace an existing engine with a quint style apparatus during the normal apparatus replacement schedule.

Move the Monday through Friday D-Shift firefighter to a permanent 24-hour shift.

Hire two additional personnel at a first-year cost of \$223,258 to increase the shift staffing from 9 per shift to 10 per shift to reduce the overtime budget by approximately \$390,000 annually.

Continue to schedule one firefighter per shift for the Kelly day and one firefighter per shift for vacation leave. This will provide one firefighter to absorb any unplanned leave taken.

OPTION 2 – CONTRACT FOR SERVICES

If the option of contracting for services is desired, the recommendation is to pursue a contract with the City of Bellevue due to the potential cost savings and improved regional approach to services this option provides.

2 Organization and Area Overview

This chapter provides an overview of the Fire Department's organization and governance, and general characteristics of the City of Mercer Island.

1 Background and Overview

1. Area Characteristics

Mercer Island is located in the southern portion of Lake Washington in King County. The island sits between the City of Seattle and City of Bellevue with bridges on Interstate 90 connecting it to the two cities. The City was incorporated in 1960 and is approximately five miles long and two miles wide. The current population is approximately 24,470, according to 2019 Washington State Office of Financial Management estimates. This is a population density of 3,947 residents per square mile which classifies Mercer Island as "urban," according to the National Fire Protection Association (NFPA) Standard 1710. This standard defines a suburban area as one with a population between 500 and 1,000 residents per square mile, while an urban area has a population of over 30,000 and/or a population of over 1,000 residents per square mile.

2. Demographic Profile

The following table illustrates the demographic profile of Mercer Island and changes that have occurred since the 2000 Census.

United States Census Bureau	2000	2010
Estimated Mercer Island Population	22,036	22,699
Median Age	37	46
Children Under Age 5	4.5%	4.4%
Children Ages 5 to 19 years	21.5%	22.0%
Persons Age 20 to 59 years	55.4%	47.5%
Persons Age 60 and Over	18.7%	25.4%
Families in Poverty	4.0%	3.2%
Median Household Income	\$91,904	\$121,948
Population Density	3,452	3,592

The following map provides a view of population density by census tract based on 2010 census data.



The areas on the northern portion of the Island along I-90 have the highest density. The remaining areas of the island have a relatively even density.

2 | Financial Resources

The financial resources of the City include, but are not limited to, property taxes, licenses and permits, and charges for services. Property taxes represent approximately 38% of the total revenue sources.

1. Revenue

There are some revenues directly attributable to the Mercer Island Fire Department (MIFD) as illustrated in the table that follows.

Mercer Island Fire Revenue 2015 - 2019

Line Item	2015 Actual	2016 Actual	2017 Actual	2018 Actual	2019 Budget	4 Yr. Change
Single Family Alteration	\$142,084	\$200,503	\$149,450	\$140,752	\$100,528	-29.2%
Permit Review/Inspection	\$1,241	\$0	\$210	\$0	\$0	-100.0%
State Trauma Care Fund	\$0	\$1,290	\$0	\$0	\$0	
Grants	\$1,341	\$0	\$1,270	\$1,222	\$1,266	-5.6%
King County EMS Levy	\$425,735	\$474,321	\$468,466	\$484,979	\$510,283	19.9%
Seafair	\$0	\$4,000	\$0	\$0	\$0	0.0%
Emergency Aid Services	\$529,848	\$536,366	\$565,702	\$582,853	\$596,794	12.6%
Ambulance Transport Fee	\$296,957	\$278,563	\$246,818	\$248,733	\$306,398	3.2%
CPR Class Fee	\$1,076	\$1,377	\$1,178	\$280	\$0	-100.0%
First Aid Class Fee	\$2,131	\$2,522	\$2,662	\$3,110	\$1,039	-51.2%
Private Contributions	\$6,971	\$2,061	\$1,431	\$1,311	\$22,666	225.1%
Other	\$5,100	\$3,326	\$1,081	\$226	\$1,850	-63.7%
Total Revenue	\$1,412,484	\$1,504,330	\$1,438,267	\$1,463,465	\$1,540,824	9.1%

As illustrated, emergency aid services, King County EMS Levy, and ambulance transport fees represent approximately 92% of the direct revenues attributable to the Fire Department. Revenue increased 9.1% from 2015 to 2019.

2. Expenditures

The table that follows includes the expenditures for the MIFD from 2015 - 2019.

Mercer Island Fire Department Expenditures

Line Item	2015 Actual	2016 Actual	2017 Actual	2018 Actual	2019 Actual	4 Yr. Change
Administration Total	\$558,645	\$519,567	\$677,313	\$584,071	\$514,745	-7.9%
Operations Total	\$5,145,675	\$5,184,124	\$5,291,740	\$5,392,226	\$5,947,807	15.6%
Suppression Total	\$13,282	\$17,760	\$21,757	\$21,458	\$24,022	80.9%
EMS Total	\$15,094	\$14,033	\$12,183	\$15,407	\$14,733	-2.4%
Training Total	\$163,397	\$146,484	\$143,004	\$188,612	\$128,937	-21.1%
Community Risk Reduction Total	\$198,819	\$249,850	\$245,019	\$266,982	\$11,773	-94.1%
Fire Marshal Total	\$0	\$0	\$0	\$0	\$250,069	0.0%
Total Expenditures	\$6,094,912	\$6,131,818	\$6,391,016	\$6,468,756	\$6,892,086	13.1%

As illustrated above, the Fire Department budget has steadily increased over the past five years, increasing 13.1% since 2015 or an average of 3.28% annually. The Fire Marshal's Office was a newly separated divisional budget starting in 2019, which had previously been a part of the Community Risk Reduction budget. The largest increase occurred between 2018 and 2019 when the budget increased 6.5%.

The tables that follow illustrate the detailed expenditures for each category shown in the previous table.

Mercer Island Fire Department Expenditures – Administration Detail

Line Item	2015 Actual	2016 Actual	2017 Actual	2018 Actual	2019 Actual	4 Yr. Change
Salaries	\$331,836	\$296,311	\$448,119	\$352,458	\$296,806	-10.6%
Overtime	\$21,298	\$22,767	\$20,923	\$26,781	\$19,862	-6.7%
Salary Cost Reimbursement	-\$303	\$0	\$0	\$0	\$0	-100.0%
Uniforms	\$1,295	\$1,788	\$3,426	\$2,212	\$5,337	312.1%
Benefits	\$111,857	\$115,938	\$127,822	\$117,848	\$113,017	1.0%
Office Supplies	\$1,198	\$652	\$866	\$562	\$433	-63.9%
Computer Supplies	\$5,989	\$1,798	\$1,998	\$1,369	\$968	-83.8%
Printer Supplies	\$664	\$633	\$625	\$522	\$0	-100.0%
Computer Network Supplies	\$0	\$0	\$187	\$0	\$0	
Operating Supplies	\$2,628	\$2,999	\$1,649	\$1,145	\$975	-62.9%
Employee Recognition	\$1,310	\$644	\$1,147	\$442	\$0	-100.0%
Fire Daily Uniforms	\$297	\$0	\$452	\$0	\$998	236.0%
Household Supplies	\$18,418	\$16,515	\$15,687	\$20,272	\$19,690	6.9%
Supplies AV	\$0	\$0	\$0	\$225	\$1,604	
Supplies Apparatus	\$60	\$0	\$0	\$1,178	\$91	51.7%
Small Tools & Equipment	\$811	\$733	\$2,554	\$3,100	\$3,515	333.4%
Professional Services	\$38,577	\$32,341	\$29,266	\$31,108	\$26,753	-30.7%
Telephone/Pagers	\$6,889	\$5,409	\$5,663	\$6,531	\$10,067	46.1%
Travel	\$1,460	\$4,500	\$3,835	\$3,027	\$1,257	-13.9%
Copier Rental	\$5,775	\$5,406	\$5,334	\$5,145	\$4,823	-16.5%
Repair and Maintenance Services	\$0	\$504	\$0	\$0	\$0	
Computer Repair	\$0	\$0	\$0	\$0	\$0	
Equipment Maintenance	\$1,657	\$996	\$1,541	\$1,925	\$286	-82.7%
Household Maintenance	\$665	\$2,627	\$285	\$2,458	\$2,376	257.3%
Internet	\$48	\$62	\$0	\$0	\$0	-100.0%
Dues & Subscriptions	\$3,851	\$5,146	\$3,014	\$3,346	\$3,151	-18.2%
Printing	\$1,010	\$303	\$0	\$658	\$0	-100.0%
Tuition & Registration	\$1,355	\$1,495	\$2,920	\$1,759	\$2,736	101.9%
Administration Total	\$558,645	\$519,567	\$677,313	\$584,071	\$514,745	-7.9%

Mercer Island Fire Department Expenditures – Operations Detail

Line Item	2015 Actual	2016 Actual	2017 Actual	2018 Actual	2019 Actual	4 Yr. Change
Salaries	\$3,141,320	\$3,192,711	\$3,093,999	\$3,247,701	\$3,555,696	13.2%
Overtime	\$455,950	\$317,518	\$531,407	\$491,160	\$663,979	45.6%
Training Overtime	\$982	\$229	\$4,308	\$880	\$0	-100.0%
Salary Cost Reimbursement	-\$62,700	-\$13,578	-\$18,150	-\$23,128	-\$13,943	-77.8%
Benefits	\$1,037,266	\$1,109,119	\$1,097,527	\$1,086,168	\$1,125,946	8.5%
Personnel Benefits Fire	\$44,351	\$0	\$59,800	\$45,700	\$43,024	-3.0%
Operating Supplies	\$1,753	\$1,987	\$877	\$1,606	\$22,114	1161.5%
Office Supplies	\$0	\$0	\$0	\$0	\$705	
Awards & Recognition	\$598	\$362	\$161	\$0	\$2,213	270.1%
Daily Uniforms	\$17,599	\$12,668	\$3,327	\$15,838	\$16,289	-7.4%
Protective Clothing	\$30,473	\$28,128	\$19,486	\$29,115	\$25,988	-14.7%
Household Supplies	\$0	\$287	\$85	\$160	\$99	
Apparatus Supplies	\$12,995	\$14,056	\$11,701	\$18,268	\$18,898	45.4%
SCBA Supplies	\$5,652	\$8,204	\$4,358	\$4,568	\$5,681	0.5%
Pre-Fire Supplies	\$0	\$548	\$965	\$2,325	\$0	
Radios	\$0	\$0	\$0	\$2,857	\$1,280	
Service Plan Permits	\$178	\$0	\$0	\$0	\$0	-100.0%
Small Tools & Equipment	\$0	\$39,500	\$9,424	\$0	\$0	
Cell Phones	\$10,939	\$12,058	\$11,377	\$11,856	\$13,835	26.5%
Special Lines/Pagers	\$0	\$289	\$0	\$0	\$0	
Travel	\$0	\$202	\$0	\$226	\$1,489	
Equipment Maintenance	\$2,728	\$3,372	\$2,550	\$5,818	\$4,147	52.0%
Radio Maintenance	\$1,028	\$3,219	\$4,120	\$3,331	\$5,422	427.4%
Vehicle Maintenance	\$25,128	\$20,621	\$16,491	\$17,314	\$13,130	-47.7%
Dues and Subscriptions	\$0	\$0	\$0	\$176	\$0	
Printing	\$0	\$171	\$28	\$344	\$0	
Professional Services	\$53,705	\$33,657	\$58,894	\$40,103	\$41,321	-23.1%
EPSCA Access Fees	\$16,120	\$13,332	\$11,586	\$11,004	\$11,114	-31.1%
Fire Dispatch	\$155,750	\$176,256	\$156,072	\$165,277	\$169,409	8.8%
Fleet Replacement	\$50,989	\$65,145	\$51,494	\$51,494	\$48,803	-4.3%
Computer Replacement	\$27,307	\$27,307	\$26,790	\$26,790	\$27,417	0.4%
Radio Replacement	\$9,084	\$9,084	\$9,084	\$9,084	\$9,085	0.0%
Fleet O&M Charge	\$31,852	\$31,852	\$35,470	\$35,470	\$34,535	8.4%
IT O&M Charge	\$74,628	\$75,820	\$88,509	\$90,721	\$100,131	34.2%
Operations Total	\$5,145,675	\$5,184,124	\$5,291,740	\$5,392,226	\$5,947,807	15.6%

Mercer Island Fire Department Expenditures – Suppression Detail

Line Item	2015 Actual	2016 Actual	2017 Actual	2018 Actual	2019 Actual	4 Yr. Change
Operating Supplies	\$7,881	\$10,738	\$12,230	\$12,646	\$12,560	59.4%
Extinguisher Supplies	\$370	\$0	\$412	\$0	\$1,124	203.8%
Fire Inspection Supplies	\$373	\$832	\$0	\$0	\$0	-100.0%
Emergency Response Supplies	\$0	\$0	\$0	\$0	\$741	
Tech Rescue Supplies	\$799	\$1,669	\$3,712	\$4,046	\$2,995	274.8%
Hazmat Supplies	\$3,292	\$3,963	\$4,090	\$3,487	\$5,607	70.3%
Small Tools & Equipment	\$567	\$558	\$1,313	\$262	\$995	75.5%
Repair & Maintenance	\$0	\$0	\$0	\$1,017	\$0	0.0%
Suppression Total	\$13,282	\$17,760	\$21,757	\$21,458	\$24,022	80.9%

Mercer Island Fire Department Expenditures – Emergency Medical Services Detail

Line Item	2015 Actual	2016 Actual	2017 Actual	2018 Actual	2019 Actual	4 Yr. Change
Operating Supplies	\$14,130	\$11,931	\$11,057	\$15,407	\$14,016	-0.8%
Small Tools & Equipment	\$0	\$1,510	\$0	\$0	\$0	0.0%
Repair & Maintenance	\$964	\$592	\$1,126	\$0	\$717	-25.7%
EMS Total	\$15,094	\$14,033	\$12,183	\$15,407	\$14,733	-2.4%

Mercer Island Fire Department Expenditures – Training Detail

Line Item	2015 Actual	2016 Actual	2017 Actual	2018 Actual	2019 Actual	4 Yr. Change
Salaries	\$2,524	\$0	\$0	\$0	\$0	-100.0%
Overtime (Training Officers)	\$31,956	\$39,334	\$31,137	\$43,497	\$39,947	25.0%
Training Overtime (Operations Training)	\$74,185	\$56,343	\$65,914	\$109,606	\$70,809	-4.6%
Salary Cost Reimbursement	-\$1,999	\$0	-\$208	-\$17,682	-\$26,119	1206.6%
Benefits	\$7,001	\$11,287	\$8,840	\$10,898	\$8,684	24.0%
Operating Supplies	\$742	\$1,686	\$6,324	\$3,159	\$352	-52.6%
Professional Services	\$11,856	\$10,269	\$12,116	\$17,528	\$10,460	-11.8%
Travel	\$1,177	\$826	\$117	\$0	\$0	-100.0%
Dues & Subscriptions	\$691	\$342	\$100	\$500	\$0	-100.0%
Printing	\$150	\$0	\$0	\$7,200	\$139	-7.3%
Tuition & Registration	\$5,975	\$8,635	\$18,664	\$4,180	\$6,625	10.9%
Tuition - Recruit School	\$29,139	\$17,762	\$0	\$9,726	\$18,040	-38.1%
Training Total	\$163,397	\$146,484	\$143,004	\$188,612	\$128,937	-21.1%

Mercer Island Fire Department Expenditures – Community Risk Reduction Detail

Line Item	2015 Actual	2016 Actual	2017 Actual	2018 Actual	2019 Actual	4 Yr. Change
Salaries	\$124,521	\$121,715	\$130,207	\$132,833	\$0	-100.0%
Overtime	\$31,055	\$72,172	\$66,593	\$80,641	\$7,169	-76.9%
Salary Cost Reimbursement	-\$111	-\$300	-\$5,450	-\$3,175	-\$1,678	1411.7%
Uniforms	\$0	\$152	\$0	\$85	\$0	
Benefits	\$38,433	\$47,686	\$45,292	\$44,480	\$562	-98.5%
Office Supplies	\$659	\$0	\$25	\$911	\$0	-100.0%
Operating Supplies	\$2,772	\$2,201	\$2,220	\$2,896	\$1,730	-37.6%
Public Education Supplies	\$274	\$608	\$780	\$1,128	\$0	-100.0%
Fire Investigation Supplies	\$0	\$0	\$45	\$2,465	\$0	
Travel	\$0	\$300	\$871	\$724	\$1,193	
Dues & Subscriptions	\$325	\$485	\$1,941	\$1,168	\$1,626	400.3%
Printing	\$686	\$2,596	\$69	\$508	-\$5	-100.7%
Tuition & Registration	\$205	\$2,235	\$2,426	\$2,318	\$1,176	473.7%
Community Risk Reduction Total	\$198,819	\$249,850	\$245,019	\$266,982	\$11,773	-94.1%

Mercer Island Fire Department Expenditures – Fire Marshal Detail

Line Item	2015 Actual	2016 Actual	2017 Actual	2018 Actual	2019 Actual	4 Yr. Change
Salaries & Wages					\$147,345	0.0%
Overtime					\$51,743	0.0%
Benefits Reg FTE					\$44,006	0.0%
Office Supplies					\$32	0.0%
Operating Supplies					\$771	0.0%
Professional Services					\$3,015	0.0%
Travel Expense					\$208	0.0%
Dues & Subscriptions					\$710	0.0%
Printing					\$167	0.0%
Tuition & Registrations					\$2,072	0.0%
Fire Marshal Total					\$250,069	0.0%

3. Overtime

Overtime expenditures is a key focus of this study. The following table illustrates the budgeted vs actual overtime for the Fire Department from 2015 – 2019.

Budgeted Vs. Actual Overtime 2015 - 2019

Year	Budgeted OT	Actual OT	Reimb	Diff	Budgeted Training OT	Actual Training OT	Reimb	Diff	Total
2015	\$481,530	\$509,286	\$63,113	(\$35,357)	\$92,182	\$106,141	\$1,999	\$11,960	(\$23,397)
2016	\$572,155	\$412,686	\$13,878	(\$173,347)	\$94,134	\$95,768	\$0	\$1,634	(\$171,713)
2017	\$573,155	\$623,232	\$23,600	\$26,477	\$101,793	\$86,051	\$208	(\$15,949)	\$10,527
2018	\$568,155	\$599,462	\$26,303	\$5,005	\$102,550	\$153,103	\$17,862	\$32,690	\$37,695
2019	\$603,258	\$735,584	\$13,943	\$118,383	\$108,020	\$110,756	\$26,119	(\$23,383)	\$95,000
Total	\$2,798,253	\$2,880,250	\$140,837	(\$58,840)	\$498,678	\$551,819	\$46,188	\$6,952	(\$51,888)

As illustrated above, in 2015 and 2016 the overtime line item was under budget and in the years since it has been consistently over budget. During the past three years the over budget condition has increased each year. For the five-year period overall overtime exceeded budgeted overtime by \$88,949 or 2.7% and in 2019 actual overtime exceeded the budget by 13.4%.

3 | Community Growth

The Mercer Island Comprehensive Plan was written in 2015 and designed to provide a long-term vision through 2035. Among the topics addressed in the plan, a growth forecast was included and developed through the Growth Management Planning Council using King County Countywide Planning Policies. The growth forecast included employment and commercial capacity, residential growth, housing capacity and targets, and a housing and population forecast.

According to the 2012 Buildable Land Report there is capacity for 614 new housing units in single family zones, 143 new housing units in multi-family zones, and 1,247 in the Town Center. The actual number of units developed will be influenced by the housing market, job growth, and interest rates, etc. Residential growth is a factor in evaluating future fire service needs.

The regional light rail system is expanding into the City and that could also impact future fire service needs.

3 Fire Rescue Services

This chapter provides an overview of the fire protection system including the resources available to the City and a historical review of the workload of the Fire Department.

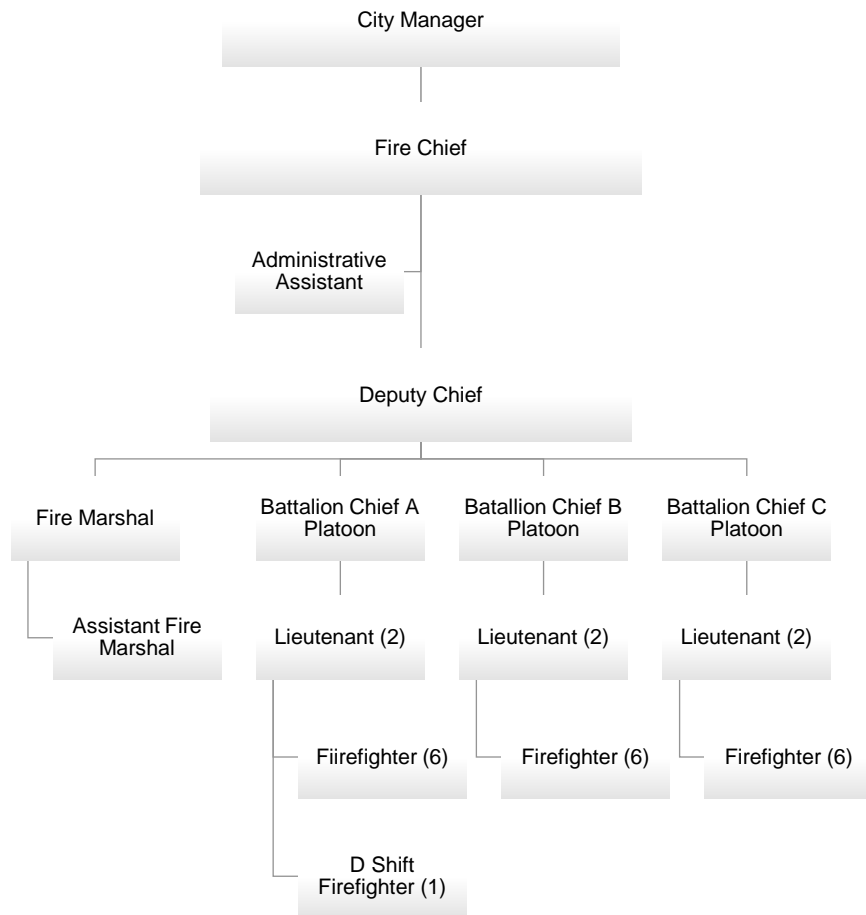
1 Organization

The Mercer Island Fire Department (MIFD) is an all hazard department and provides fire suppression, emergency medical services, fire prevention, hazardous materials response, and specialty technical rescue services to the City.

The MIFD was established in 1962 to provide fire suppression services. The Department is part of King County Medic 1 for the provision of Advanced Life Support (ALS) emergency medical transport services. The Mercer Island Fire Department is a Basic Life Support (BLS) transport provider.

Today the MIFD operates from two fire stations with 31 career staff. There are nine personnel assigned to each shift with seven personnel being the minimum staffing at the stations each day. There is also a floating position, known as D-Shift used to cover vacancies when personnel are on a “Kelly Day”. The Kelly Day is what allows firefighters to adhere to a 48-hour work week as per the collective bargaining agreement (CBA). This position rotates and works two days per week (Mon/Wed, Mon/Thu, Mon/Fri). The current Fire Department organization chart is provided below.

Mercer Island Fire Department Organization Chart



2 | Workload and Activities

The Fire Department responds to emergency and non-emergency calls for service. The following table illustrates the activities of the Department grouped by the type of response to calls for service over the past five years.

Calls for Service by Type

	2015	2016	2017	2018	2019	5 Yr. Total	Pct.
Auto Accidents	92	115	109	96	95	507	4.2%
Medical Calls	1,593	1,612	1,599	1,525	1,598	7,927	65.2%
Total Medical and Auto Accidents	1,685	1,727	1,708	1,621	1,693	8,434	69.4%
Alarm – Activation	370	376	356	403	385	1,890	15.6%
Alarm - False	5	4	1	9	4	23	0.2%
Alarm – Malfunction	2	3	0	5	5	15	0.1%
Other Type Fire	24	9	14	4	5	56	0.5%
Smoke Scare	46	34	47	36	40	203	1.7%
Structure Fire	9	8	20	9	14	60	0.5%
Vegetation/Brush/Debris Fires	26	8	16	22	10	82	0.7%
Vehicle Fire	17	15	18	12	13	75	0.6%
All Fire Calls	499	457	472	500	476	2,404	19.8%
Rescue Calls - Extrication	0	0	0	0	0	0	0.0%
Rescue Calls - Other	0	0	1	2	0	3	0.0%
Rescue Calls - Search	0	0	0	0	0	0	0.0%
Rescue Calls - Water	4	5	6	2	3	20	0.2%
All Rescue Calls	4	5	7	4	3	23	0.2%
Dispatched/Canceled	3	5	17	8	6	39	0.3%
Good Intent Calls	15	9	9	9	3	45	0.4%
Hazardous Condition	42	7	40	21	43	153	1.3%
Hazardous Materials	27	38	37	28	54	184	1.5%
Overpressure Rupture	9	1	4	3	2	19	0.2%
Severe Weather Alerts	40	43	54	35	34	206	1.7%
Service Calls	124	152	148	114	98	646	5.3%
Other Type of Calls	260	255	309	218	240	1,292	10.6%
Total Calls for Service	2,448	2,354	2,496	2,343	2,412	12,143	100%

As illustrated, medical calls and auto accidents account for 69.45% of the total call volume, while fire calls account for approximately 20% of calls, which is typical for the majority of urban fire departments nationwide.

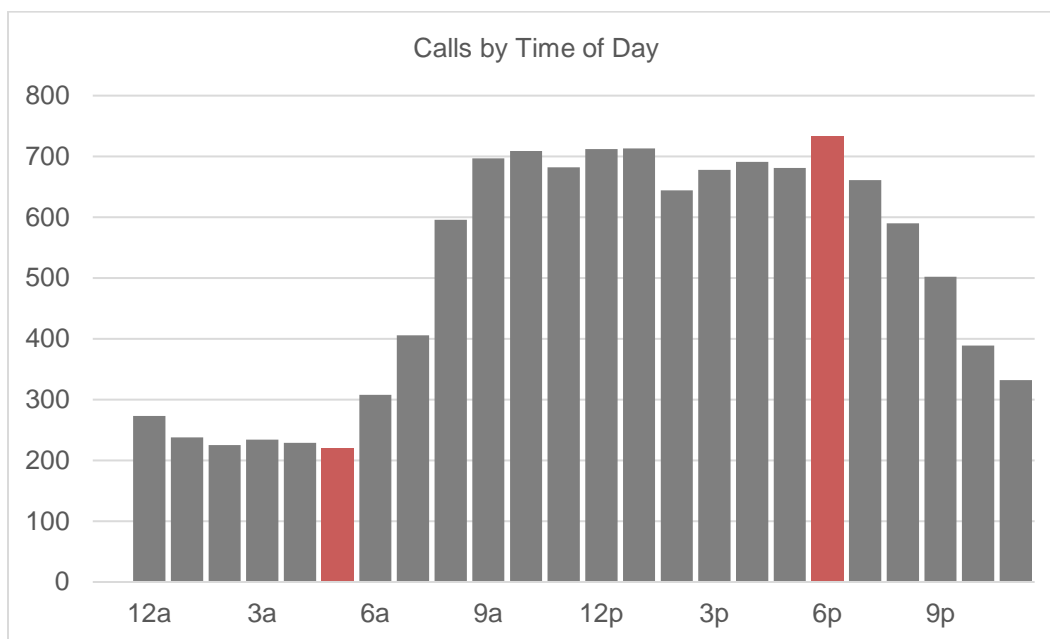
The following table displays the total number of calls for service handled by the Fire Department by each hour and day of the week over the past five years. Both emergency and non-emergency calls were included to provide an overall view of the service demands on the Department.

Calls for Service by Hour and Weekday

Hour	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Total
12am	54	40	27	30	31	44	47	273
1am	44	36	36	23	26	35	38	238
2am	37	32	30	25	32	29	40	225
3am	34	30	40	30	27	34	39	234
4am	47	27	33	30	28	28	36	229
5am	34	32	44	32	21	37	20	220
6am	37	51	49	45	35	50	41	308
7am	53	70	67	56	57	60	43	406
8am	78	87	99	74	90	103	65	596
9am	106	88	112	98	92	106	95	697
10am	88	107	97	105	100	107	105	709
11am	89	82	106	105	106	105	89	682
12pm	80	108	98	97	114	108	107	712
1pm	102	90	110	102	99	107	103	713
2pm	96	74	97	83	87	119	88	644
3pm	100	88	100	106	97	84	103	678
4pm	101	100	81	90	113	116	90	691
5pm	106	89	117	98	105	89	77	681
6pm	113	103	115	104	102	95	101	733
7pm	93	82	95	100	85	98	108	661
8pm	101	68	81	82	92	84	82	590
9pm	60	72	73	63	57	95	82	502
10pm	62	48	68	35	49	55	72	389
11pm	53	43	45	36	38	58	59	332
Total	1,768	1,647	1,820	1,649	1,683	1,846	1,730	12,143

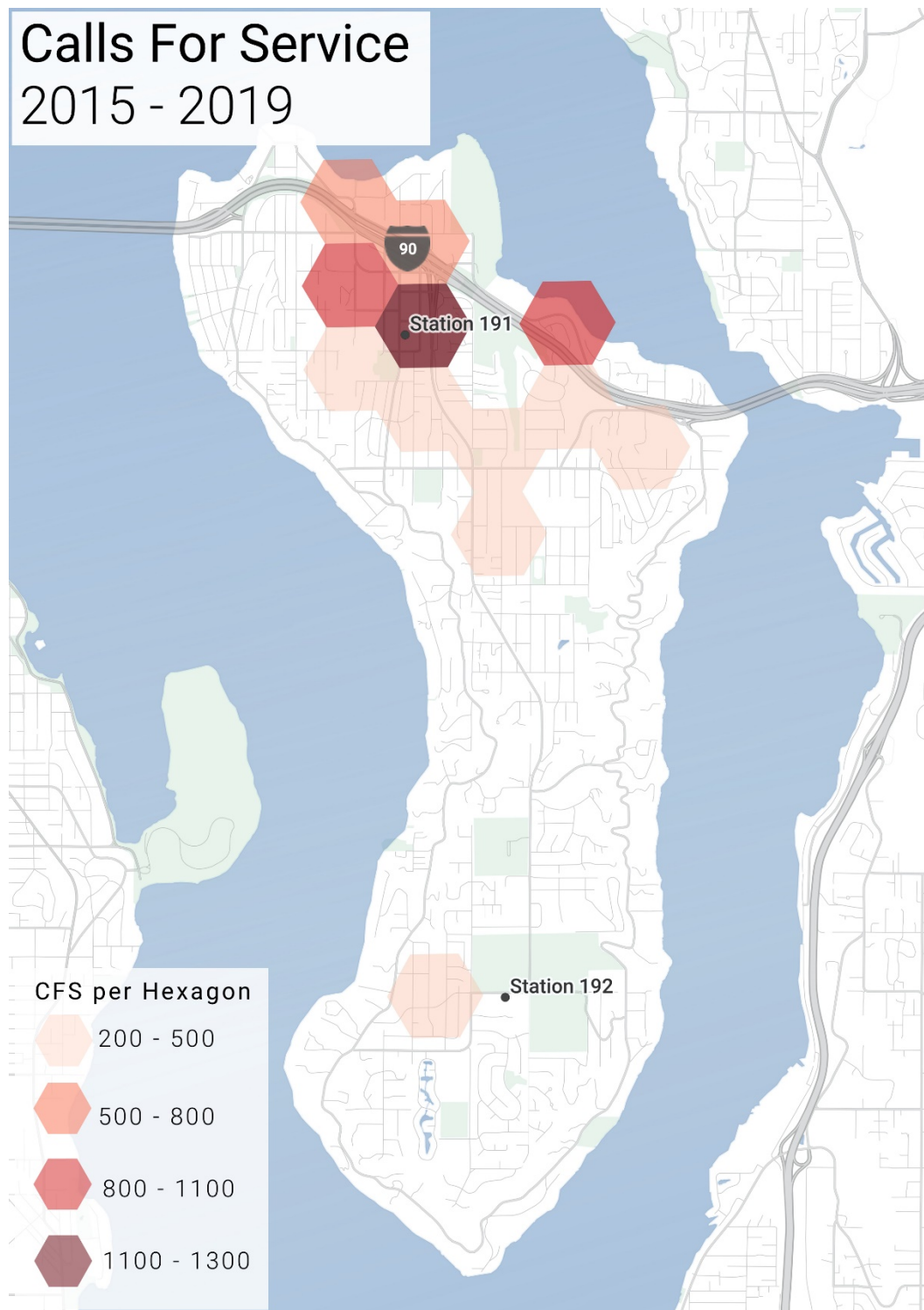
As illustrated above, calls for service varied by time of day and day of the week. The heavier call volume begins at the 8 am hour and continues through the 8:00 pm hour. The call volume is also heavier at the end of the week and weekends with Friday being the busiest day of the week. The busiest time of the day is the 6:00 pm hour with the slowest hour being 5:00 am.

The following graph illustrates total calls for service by hour of the day.



Service calls begin increasing at the 8:00 am hour, peak at the 6:00 pm hour, and then begin to decline in the evening and overnight hours with 5:00 am being the slowest hour.

The following map illustrates the call for service demand using GIS technology to outline where many of the calls are occurring.



The higher call volumes follow the population density clusters of the City and run along the I-90 corridor.

3 | Physical Resources

Service to Mercer Island is provided from two fire stations (191 and 192), shown on the map below.



The department operates on a three-platoon system, working 48 hours on-duty and 96 hours off-duty. Operating from two stations, the minimum staffing is seven personnel.

The following tables describes the service area, type of building, and current equipment at each station.

Mercer Island Fire Department

Station 191

3030 78th Avenue SE

Description of Use	Provides service to the northern and central core of the City. Serves as the headquarters for the Department				
Apparatus Space	Three Bays				
Assigned Apparatus	Unit ID	Year	Description	Type	Minimum Staffing
	Battalion 191	2016	Chevy	Suburban	1
	Engine 191	2018	Pierce	Enforcer (Type 1)	3
	Midi 191	2008	GMC	Mid-Size Engine	Cross Staffed
	Aid 191	2017	Ford	E350	Cross Staffed
	Rescue 191	2014	Dive/Rescue		Cross Staffed
	Battalion 192	2009	Chevy	Suburban	Reserve
	Engine 193	2008	Pierce	Velocity	Reserve
	Engine 194	2008	Pierce	Velocity	Reserve
	Aid 193	2007	Ford	E350	Reserve
	Utility 191	2017	Chevy	Silverado 2500	Reserve

Mercer Island Fire Department

Station 192

8473 SE 68th Street

Description of Use	Provides service to the southern and south-central sections of the City.				
Apparatus Space	Two Bay				
Assigned Apparatus	Unit ID	Year	Description	Type	Minimum Staffing
	Engine 192	2013	Pierce	Velocity (Type 1)	3
	Aid 192	2012	GMC	3500	Cross Staffed
	Midi 192	2016	International	Mid-Size Engine	Cross Staffed

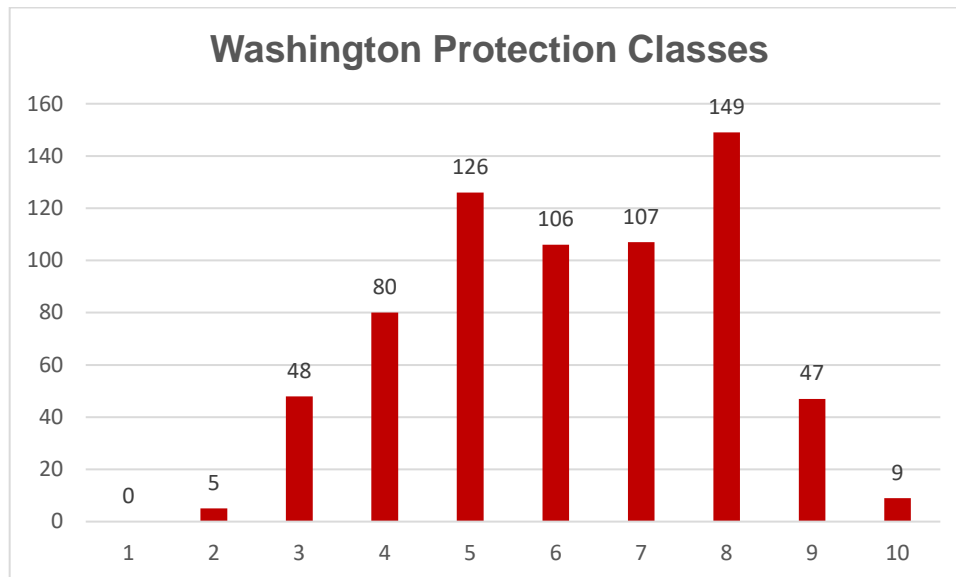
4 Emergency Service System Dynamics

In making decisions about the emergency services system, it is important to consider science and best practices regarding location of resources, deployment strategies, and other critical factors that contribute to an effective emergency services system.

Nationally, for many years, the Insurance Services Office (ISO) established the standard for deployment through their Public Protection Classification system. This system was designed to provide insurers a basis for setting insurance rates and to limit their exposure to large losses and catastrophic events.

In Washington, a similar organization, Washington Surveying and Rating Bureau (WSRB), uses a comparable system to evaluate emergency services systems in the State. In August 2018, the WSRB issued Mercer Island a Community Public Protection Class Grade of 4.

Currently in Washington State, there are 53 communities that have achieved a higher score than Mercer Island. The following chart illustrates the number of communities scoring at each class with 1 being the highest possible class and 10 the lowest.



Nationally, a great deal of effort and research has gone into developing performance objectives for the delivery of fire and emergency medical services.

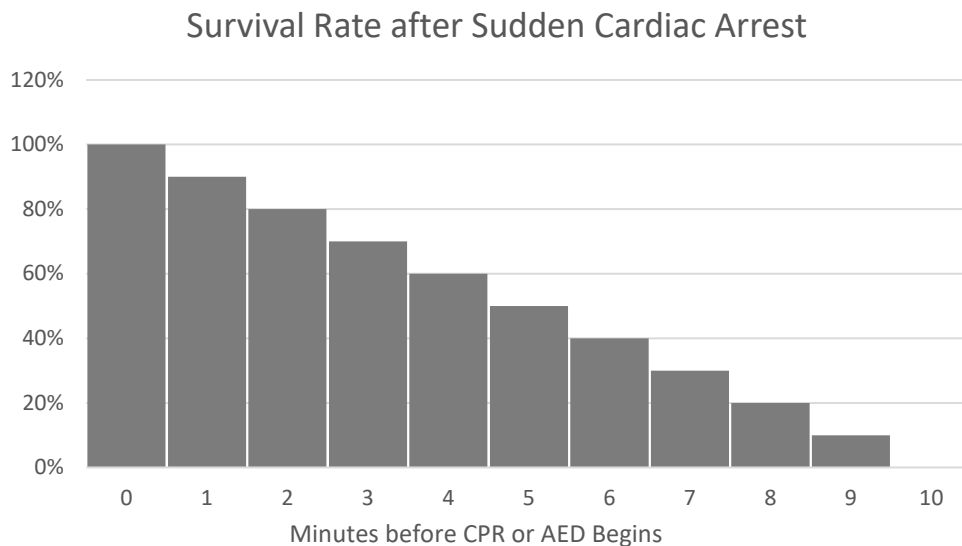
The following sections describe best practices and current research, with comparisons to Mercer Island Fire Department performance where applicable.

1 | Emergency Medical Services

Emergency medical services (EMS) are a significant part of the emergency services system. Not only are these types of calls rising but they are also wide ranging in terms of the types of service calls. Emergency medical response systems must account for this variability and ensure appropriate care is provided in a timely manner.

The American Heart Association states that brain and permanent death starts to occur 4 to 6 minutes following cardiac arrest. Trauma events are also at the forefront of time sensitive response. In 2015, a national awareness program was launched called “Stop the Bleed”. This program is based on the premise that a person that is bleeding profusely could die within five minutes without intervention.

For perspective, the following graph illustrates the survivability of cardiac patients related to the time onset:



The graph illustrates that the chances of survival of sudden cardiac arrest diminish approximately 10% for each minute that passes before the initiation of CPR and/or

defibrillation. These dynamics are the result of extensive studies of the survivability of patients suffering from cardiac arrest.

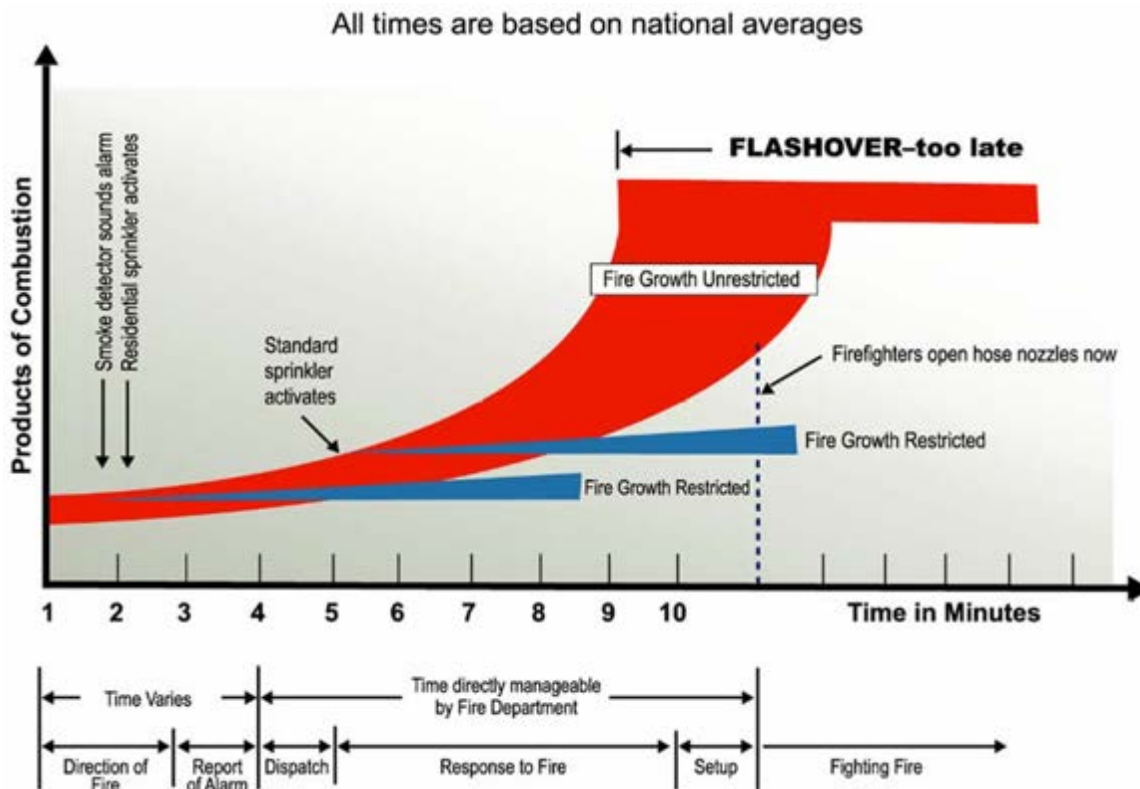
While the demand for services in EMS is wide ranging, the survival rates for full arrests are often utilized as benchmarks for response time standards as they are more readily evaluated because of the ease in defining patient outcomes (a patient either survives or does not). This research results in the recommended objective of provision of basic life support within four minutes of notification and the provision of advanced life support within eight minutes of notification.

Considering the response time continuum, the goal for emergency medical services is to provide Basic Life Support (BLS) within six minutes of the onset of the incident (including detection, dispatch, and travel time) and Advanced Life Support (ALS) within ten minutes. This is often used as the foundation for a two-tier system where fire or other resources function as first responders with additional ALS assistance provided by responding ambulance units and personnel.

2 | Fire Suppression Services

Much like emergency medical services, the goal of fire suppression systems is to save lives and minimize property damage. Every structure fire goes through the same process of development. The growth of the fire is dependent on many factors including fuel loads, the types of materials, the area involved, and other factors. The “flashover” is a measure used to benchmark response times. The “flashover” is defined as the point at which all of the contents in the room become involved in the fire.

The chart that follows, illustrates the traditional “flashover” curve for interior structure fires. Once “flashover” occurs, the space becomes untenable for firefighters and un-survivable for any occupants. With the rapid expansion of the fire, there is additional risk to other areas of the structure and potentially to any structures or wildland areas surrounding the original location of the fire.



Note that this graph depicts a fire from the moment of inception – not from the moment that a fire is detected or reported. This illustrates the importance of early detection and fast reporting as well as rapid dispatch of responding units. This also shows the critical need for a rapid (and sufficiently staffed) initial response to attack the fire so that “flashover” can be averted.

It should be noted that not every fire will reach flashover and that not every fire will take 8 minutes to reach flashover. In fact, research conducted in 2010 by the Underwriter Laboratories determined that the increased use of synthetic materials in the home has created faster flashover times, resulting in flashover in less than four minutes in some of their tests. Modern home furnishings made of foam, plastics, or other petroleum-based products have increased the available fuel load for a fire. Additionally, construction techniques and new components have improved emergency efficiency, but has also added a new dimension to fire growth.

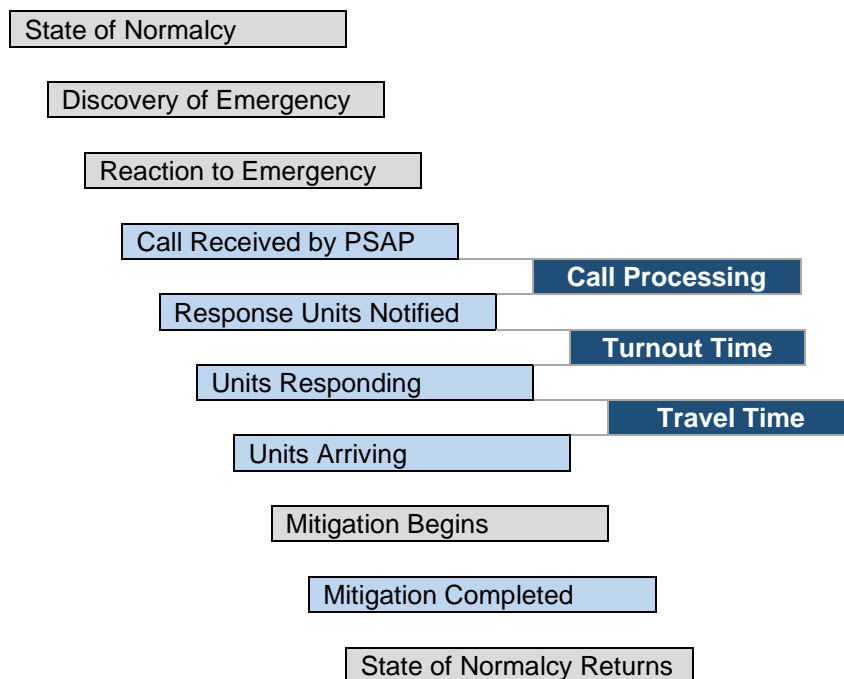
3 | National Response Time Criteria

In years past the response time measurement was expressed as an average of time. This essentially represents how the system or department is performing 50% of the time and is not a true reflection of how a department is performing. More recently, fractal time has become the best practice in the measurement and presentation of response time components.

Fractal response time measures how often (as a percent of calls) a department meets each response time component. The National Fire Protection Association (NFPA) and the Center for Public Safety Excellence (CPSE) use the 90th percentile as the standard to meet for benchmark and baseline criteria.

The following chart outlines the cascade of events that occurs once an emergency starts or is recognized. Those highlighted points represent response data that can be quantified.

Response Time Continuum



There are three segments of a response, as described in the previous chart, that can be used for evaluation: call processing, turnout time, and travel time. Each of these components represents a different point in the response time continuum that can be measured and evaluated. Definitions for the three components are provided below:

- “Call Processing” begins when the call taker answers the call and ends with dispatch of appropriate emergency services.
- “Turnout Time” is defined as when the emergency service receives the call and is on the apparatus responding (wheels rolling) to the call.
- “Travel Time” is defined as when the apparatus and personnel begin the response (wheels rolling) and ends once on location of the emergency (wheels stopped).

There are three models used to measure performance of the emergency services system and each have their own set of performance measurements based on different aspects of the community served.

- NFPA 1710 Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations and Special Operations to the Public by Career Fire Departments last published in 2020.
- Center for Public Safety Excellence (CPSE) Fire and Emergency Service Self-

Assessment Manual last published in 2015 and Community Risk Assessment and Standard of Cover last published in 2016.

- Insurance Services Office (ISO) updated their Fire Suppression Rating Schedule in 2012 to allow the systematic performance evaluation of responses for their distribution and concentration ratings.

Benchmark measurements are described as the industry best practice. Baseline measurements are described as the actual performance of the organization. Baseline performance is generally based on three to five years of data.

NFPA 1710 Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments was last published in 2020. NFPA 1710 defines a career fire department as one that utilizes full-time or full-time equivalent (FTE) station-based personnel immediately available to comprise at least 50 percent of an initial full alarm assignment

ISO continues to use their standard 1.5-mile and 2.5-mile criteria for engine company and ladder company placement and station locations. The criteria indicate that engine companies should be located in 1.5-mile increments and ladder companies in 2.5-mile increments. Although they now accept a systematic performance evaluation that demonstrates the department can meet the time constraints outlined in NFPA 1710.

CPSE had previously defined benchmark and baseline response times for each of the three response time components (call processing, turnout time and travel time). They have since determined they are not a standard making organization and decided to leave the establishment of benchmark performance standards to others. However, their body of work is significant and has been and continues to be used by numerous communities across the country. Their performance objectives were based on population density demographics.

Appendix A contained in the NFPA 1710 document provides additional information and background as it pertains to service delivery objectives for the jurisdiction as follows:

“There can be incidents or areas where the response criteria are affected by circumstances such as response personnel who are not on duty, unstaffed fire station facilities, natural barriers, traffic congestion, insufficient water supply, and density of population or property. The reduced level of service should be documented in the written organizational statement by the percentage of incidents and geographical areas for which the total response time criteria are achieved.

Additional service delivery performance objectives should be established by the AHJ for occupancies other than those identified within the standard for benchmark single-family dwellings. Factors to be considered include specific response areas (i.e., suburban, rural, and wilderness) and occupancy hazards.”

This excerpt acknowledges the authority having jurisdiction (AHJ), in this case the City of Mercer Island, is responsible for determining the level of service to be provided by its fire department. Considerations for the level of service include, but are not limited to, the manner in which the fire department responds, travel time, staffing, emergency calls versus non-emergency calls, roadways, financial resources, and those calls involving different occupancies.

4 | Community Standards

Details on each of the performance models are further explained in this section.

The Mercer Island Fire Department has established community standards that have been adopted by the City. The response time standards are as follows for turnout time

- 90 seconds for daytime EMS incidents 90 percent of the time
- 120 seconds for nighttime EMS incidents 90 percent of the time
- 120 seconds for daytime FIRE incidents 90 percent of the time
- 150 seconds for nighttime FIRE incidents 90 percent of the time

For the first arriving engine company at a fire suppression incident the travel time is 8 minutes 90 percent of the time. For the first arriving unit with a first responder or higher level of medical capability at an emergency medical incident the travel time is 8 minutes 90 percent of the time.

For a fire suppression incident, the initial alarm assignment is two engine companies, a command officer and seven personnel in 12 minutes or less 90 percent of the time. The full first alarm assignment is four engine companies, two ladder companies, a medic unit, a medical services officer, an aid unit and two command officers. There is no travel time standard for this part of the response.

Advanced life support (ALS) is provided through the King County Medic One system. The most typical response for ALS is from the Bellevue Fire Department located at 2802 148th Avenue SE. If this unit is unavailable, the next unit typically responds from Bellevue Station One, located at 766 Bellevue Way SE. Both of these units are 7 to 12 minutes to the east of Mercer Island.

5 Evaluation of the Emergency Services System

As noted in the previous chapter, there are three models used to measure performance of the emergency services system. This chapter compares and evaluates the deployment and performance of the Fire Department related to these models.

1 Response Time Data

Computer Aided Dispatch (CAD) data for 2015, 2016, 2017, 2018, and 2019 was examined and evaluated. The data is not without issues such as coding problems, transcription errors, and equipment failures. The project team uses the following mechanism to address these issues.

Only qualified data is used to calculate response time and any related components. To be considered the data must meet the following criteria:

- The incident must have been unique
- The incident must have involved at least one fire department unit being dispatched to the call.
- Calls that are missing data are not used in the computations for call processing, turnout time, travel time, or call duration.
- Any call with unusually long times or times sorted incorrectly (arrived before dispatch time) were removed.
- Non-emergency responses are removed; only emergency responses are included.

After filtering the data using the methodology outlined above, the remaining incidents represent the response time for calls for service handled by the Fire Department.

2 Call Processing

1. Performance Standards

NFPA 1221 Standard for the Installation, Maintenance and Use of Emergency Services Communications Systems (2019 edition) establishes the call processing benchmark performance objectives as outlined in the following chart.

NFPA 1221 Time Requirements

Component	Target	Performance
Calls Answered	Within 15 seconds	90%
	Within 20 seconds	95%
Call Processing	Within 60 seconds	90%
Call Processing for:		
* EMD		
* Language Translation		
* TTY/TDD Device Services	Exempt from the call processing time requirements.	
* Hazardous Materials		
* Technical Rescue		
* Text Message		
* Unable to Determine Location		

NFPA 1710 provides the following for call processing benchmark performance objectives which are slightly different than NFPA 1221.

NFPA 1710 Alarm Handling Time Requirements

Component	Target	Performance
Calls Answered	Within 15 seconds	95%
	Within 40 seconds	99%
Call Processing	Within 64 seconds	90%
	Within 106 seconds	95%
Call Processing for:		
* EMD		
* Language Translation		
* TTY/TDD Device Services	Within 90 seconds (0% of the time and within 120 seconds 99% of the time.	
* Hazardous Materials		
* Technical Rescue		
* Text Message		
* Unable to Determine Location		

CPSE and ISO use the 60 second call processing time benchmark performance objective as outlined in NFPA 1221 for their requirements.

2. System Performance

Northeast King County Regional Communications Center (NORCOM) provides the dispatch services for the Fire Department and is the primary public safety answering point (PSAP). The following table illustrates the baseline performance for the past three years as compared to the benchmark performance objective of 60 seconds.

Mercer Island Fire Department

All Emergency Calls – 90th Percentile Times		2015 - 2019	2015	2016	2017	2018	2019	Benchmark
Call Processing	Pick-up to Dispatch	0:50	0:46	0:50	0:52	0:52	0:52	1:00

The baseline time over the past three years is 50 seconds which is 10 seconds under the benchmark performance objective. This illustrates that the dispatch center is performing in an efficient manner in terms of processing emergency calls for service.

3 | Turnout Time

1. Performance Standards

Turnout time is a measurable time segment that begins when the emergency service receives the call and the apparatus is responding (wheels rolling) to the call. The following table provides a comparison between the three models for benchmark performance objectives.

Turnout Time – Benchmark Performance Objectives

Call Type	NFPA 1710	ISO	CPSE
Emergency Medical Calls	60 seconds or less 90% of the time	No Requirement	60 seconds or less 90% of the time
Fire or Special Operations Calls	80 seconds or less 90% of the time	No Requirement	80 seconds or less 90% of the time

The following table illustrates the Mercer Island Fire Department Community Standards for turnout time performance.

Turnout Time – Mercer Island Performance Objectives

Call Type	Time of Day	Objective
Emergency Medical Calls	Daytime (7 am to 8 pm)	90 seconds or less 90% of the time
	Nighttime (8 pm to 7 am)	120 seconds or less 90% of the time
Fire or Special Operations Calls	Daytime (7 am to 8 pm)	120 seconds or less 90% of the time
	Nighttime (8 pm to 7 am)	150 seconds or less 90% of the time

2. System Performance

The following table illustrates the baseline performance for the past three years as compared to the benchmark performance objective of 60 seconds for medical calls and 80 seconds for fire or special operations calls as outlined in nationally recognized best practices.

Mercer Island Fire Department

All Emergency Calls – 90th Percentile Times			2015 - 2019	2015	2016	2017	2018	2019	Benchmark
Turnout Time	1st Unit	Medical Calls	1:50	1:56	1:51	1:49	1:45	1:46	1:00
		Fire Calls	1:58	1:53	1:51	1:57	2:02	2:02	1:20

The baseline time shown is the 90th fractal time for all emergency calls. For medical calls, the baseline time over the past three years is 50 seconds over the benchmark performance objective of one minute and fire calls are 38 seconds over the benchmark performance objective of one minute and 20 seconds.

The table that follows illustrates the baseline performance for each station using the same benchmark performance objectives. The stations were consolidated as the apparatus in the stations are cross staffed.

Mercer Island Fire Department

All Emergency Calls – 90th Percentile Times			2015 - 2019	2015	2016	2017	2018	2019	Benchmark
Turnout Time	Station 191	Medical Calls	1:52	1:57	1:53	1:51	1:49	1:47	1:00
		Fire Calls	2:06	2:02	2:12	2:05	2:07	2:05	1:20
	Station 192	Medical Calls	1:57	2:07	2:00	1:51	1:57	1:57	1:00
		Fire Calls	2:18	2:22	2:21	2:15	2:17	2:12	1:20

3. Mercer Island Fire Department Community Standards

Mercer Island Fire Department has adopted an organizational statement that outlines the response to emergency calls for service in the City. Within this statement are performance objectives for the various components of the response time continuum. The following is the performance objectives for turnout time.

- 90 seconds for daytime Emergency Medical incidents for 90% of the calls.
- 120 seconds for nighttime Emergency Medical incidents for 90% of the calls.
- 120 seconds for daytime Fire incidents for 90% of the calls.
- 150 seconds for nighttime Fire incidents for 90% of the calls.

The following table illustrates the performance of the Fire Department related to the previous performance objectives.

Mercer Island Fire Department

All Emergency Calls – 90th Percentile Times			2015 - 2019	2015	2016	2017	2018	2019	Performance Objective
Turnout Time	1st Unit	Daytime Medical Calls	1:27	1:35	1:29	1:27	1:25	1:24	1:30
		Nighttime Medical Calls	2:11	2:19	2:10	2:06	2:07	2:07	2:00
		Daytime Fire Calls	2:01	2:07	1:55	1:59	2:03	2:02	2:00
		Nighttime Fire Calls	2:26	2:24	2:28	2:26	2:22	2:28	2:30

Turnout time for the past five years varies from being just under the performance objective to being just over the performance objective. The nighttime medical calls are eleven seconds over the performance objective representing the largest deviance from the performance objective.

The table that follows illustrates the performance for each of the two stations measured against the same performance objectives.

Mercer Island Fire Department

All Emergency Calls – 90th Percentile Times			2015 - 2019	2015	2016	2017	2018	2019	Performance Objective
Turnout Time	Station 191	Daytime Medical Calls	1:25	1:29	1:24	1:29	1:23	1:24	1:30
		Nighttime Medical Calls	2:09	2:13	2:08	2:06	2:07	2:09	2:00
		Daytime Fire Calls	2:03	1:53	1:58	2:07	2:07	2:04	2:00
		Nighttime Fire Calls	2:30	2:22	2:33	2:34	2:26	2:30	2:30
	Station 192	Daytime Medical Calls	1:32	1:44	1:38	1:26	1:33	1:29	1:30
		Nighttime Medical Calls	2:15	2:33	2:14	2:08	2:14	2:06	2:00
		Daytime Fire Calls	2:10	2:14	2:14	2:08	2:07	2:07	2:00
		Nighttime Fire Calls	2:35	2:35	2:38	2:33	2:38	2:29	2:30

4 | Distribution of Resources

Distribution of resources measures the time it takes to get initial resources to an emergency to begin mitigation efforts. It has also been described as the speed at which the first resources arrive at the emergency.

The models measure this in a variety of ways including percentage of square miles, percentage of road miles, and travel time. The Insurance Services Office (ISO) has used road miles for many years advocating for a standard of one and a half miles of travel for an engine company and two and a half miles of travel for a ladder company. With the advent of GIS technology and improved computer aided dispatch (CAD) systems, the use of actual travel time is a more accurate measure for the distribution of resources.

1. Performance Standards

Travel time is a measurable time segment that begins when the apparatus and personnel begin the response (wheels rolling) and ends once on location of the emergency (wheels stopped). It is the most appropriate measurement available for the distribution of resources. The table that follows illustrates the differing viewpoints based on the three performance models for the travel time of the initial arriving unit.

First Arriving Unit - Benchmark Performance Objectives

Demand Zone	Demographics	NFPA 1710	ISO	CPSE
Urban	Greater than 1,000 per sq. mile	4 minutes or less 90% of the time	1.5 road miles in the built-upon area	4 minutes or less 90% of the time
Suburban	500 - 1,000 per sq. mile	4 minutes or less 90% of the time	1.5 road miles in the built-upon area	5 minutes or less 90% of the time
Rural Area	Less than 500 per sq. mile	4 minutes or less 90% of the time	1.5 road miles in the built-upon area	10 minutes or less 90% of the time
Remote Area	Travel Distance greater than / equal to 8 miles	4 minutes or less 90% of the time	1.5 road miles in the built-upon area	No Requirement

2. Department Performance

The City of Mercer Island has a population density of 3,947 people per square mile. Based on the 2010 Census Tract data the population densities are spread relatively evenly across the City, indicating that urban performance objectives are the most appropriate to be used. The following table illustrates the travel time component for the past three years.

Mercer Island Fire Department

All Emergency Calls - 90th Percentile Times		2015 - 2019	2015	2016	2017	2018	2019	Benchmark
Travel Time	1st Unit Distribution	6:15	5:57	5:58	6:15	6:18	6:34	4:00

The baseline is the 90th fractal time for emergency calls. The Fire Department is exceeding the benchmark performance objective by two minutes and 15 seconds over the past three years.

The following table includes the travel time for each station as the apparatus is cross staffed.

Mercer Island Fire Department

All Emergency Calls – 90th Percentile Times		2017 - 2019	2015	2016	2017	2018	2019	Benchmark
Travel Time	Station 191	6:05	5:24	6:00	6:09	6:17	6:19	4:00
	Station 192	7:31	7:15	7:04	7:43	7:38	7:53	4:00

The baseline illustrated for each unit is the 90th fractal time for emergency calls.

3. Mercer Island Fire Department Community Standards

Mercer Island Fire Department has adopted an organizational statement that outlines the response to emergency calls for service in the City. Within this statement are performance objectives for the various components of the response time continuum. The following is the performance objectives for distribution (first arriving) travel time.

- Eight minutes for the arrival of the first emergency medical unit to an emergency medical incident.
- Eight minutes for the arrival of the first engine company to a fire suppression incident.

The following table illustrates the performance of the Fire Department related to the previous performance objectives.

Mercer Island Fire Department

All Emergency Calls – 90th Percentile Times			2015 - 2019	2015	2016	2017	2018	2019	Performance Objectives
Travel Time	1st Unit	Medical Calls	5:47	5:36	5:47	5:45	5:54	5:49	8:00
	Distribution	Fire Calls	6:34	5:57	6:18	6:47	7:04	6:31	8:00

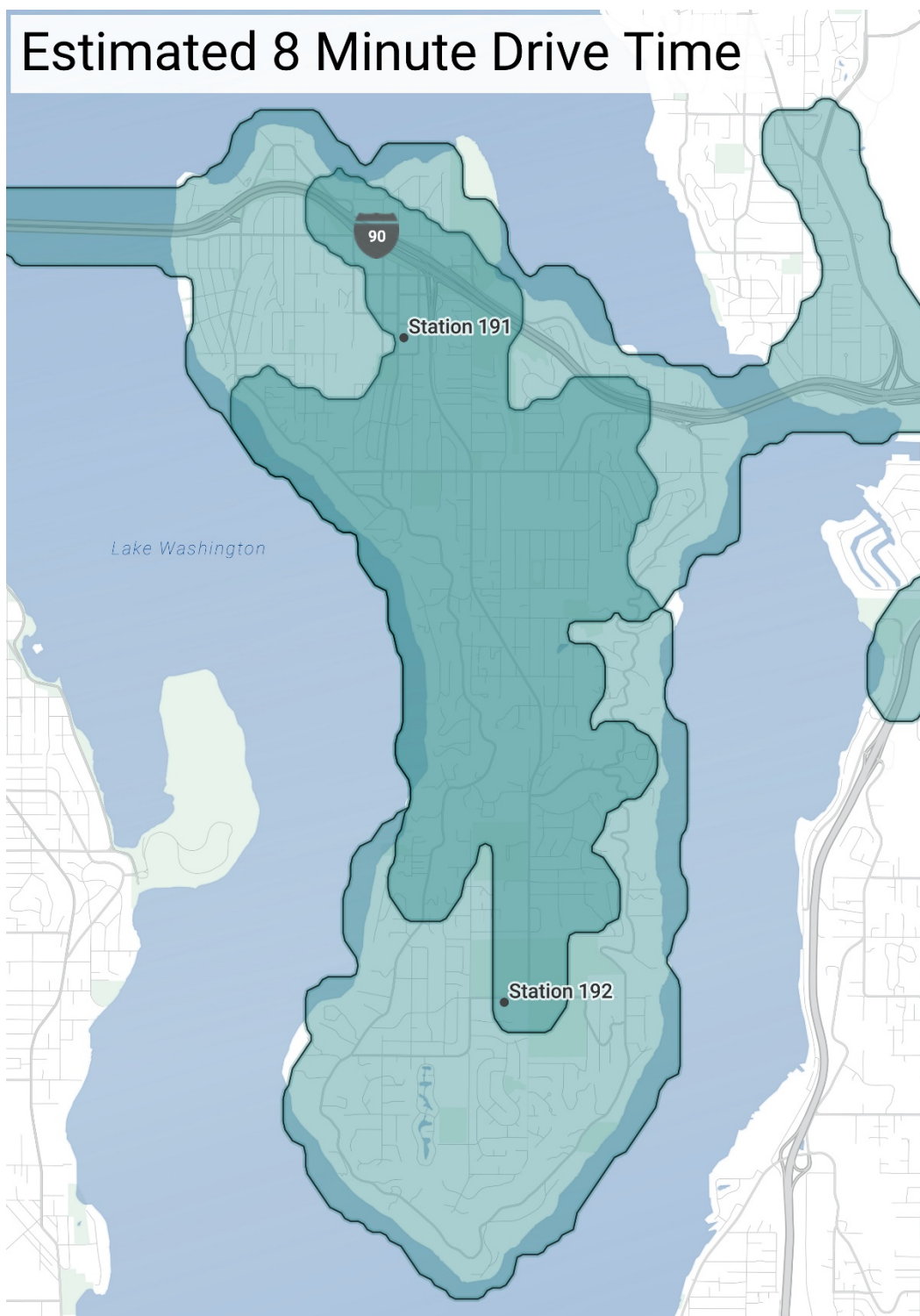
For the past five years, Fire Department travel times have been shorter than the performance objective for both emergency medical incidents and fire related incidents.

The table that follows illustrates the performance for each of the two stations measured against the same performance objectives.

Mercer Island Fire Department

All Emergency Calls – 90th Percentile Times			2015 - 2019	2015	2016	2017	2018	2019	Benchmark
Travel Time	Station	Medical Calls	5:17	5:18	5:15	5:09	5:22	5:17	8:00
	191	Fire Calls	6:11	4:29	5:52	6:41	6:35	6:42	8:00
	Station	Medical Calls	6:47	6:45	6:47	6:50	6:40	6:58	8:00
	192	Fire Calls	7:17	6:47	6:40	7:33	7:48	7:29	8:00

For a visual perspective, the following map illustrates an 8-minute travel time from both stations in the City.



While there are no gaps in achieving an 8-minute travel time, as illustrated in the previous map, there is a significant area in the center section of the island that has an overlap, as illustrated by the darker shade of green, in the travel time between the two stations.

5 | Concentration of Resources

Concentration is generally described as the ability of the fire protection system to get the appropriate number of personnel and resources to the scene of an emergency within a prescribed time to effectively mitigate the incident. There are two parts to this component which is an effective response force (ERF) and the amount of time to get the ERF resources in place.

1. Performance Standards

There are two travel time components included in the concentration segment. The first is the travel time for the second arriving apparatus and the second is the balance of the first alarm assignment. The table below includes the travel time performance measures for the second arriving unit for the three different models.

Second Arriving Unit - Benchmark Performance Objectives

Demand Zone	Demographics	NFPA 1710	ISO	CPSE
Urban	Greater than 1,000 per sq. mile	6 minutes or less 90% of the time	No time or mileage requirement	8 minutes or less 90% of the time
Suburban	500 - 1,000 per sq. mile	6 minutes or less 90% of the time	No time or mileage requirement	8 minutes or less 90% of the time
Rural Area	Less than 500 per sq. mile	6 minutes or less 90% of the time	No time or mileage requirement	14 minutes or less 90% of the time
Remote Area	Travel Distance greater than / equal to 8 miles	6 minutes or less 90% of the time	No time or mileage requirement	No Requirement

NFPA 1710 and CPSE have requirements for the second arriving apparatus, the other organizations are silent. Additionally, NFPA 1710 uses 6 minutes and the CPSE model uses 8 minutes for this performance objective.

The table below includes the travel time standards for the first alarm assignment for the three different models.

First Alarm Assignment - Benchmark Performance Objectives

Demand Zone	Demographics	NFPA 1710	ISO	CPSE
Urban	Greater than 1,000 per sq. mile	8 minutes or less 90% of the time	No time or mileage requirement	8 minutes or less 90% of the time
Suburban	500 - 1,000 per sq. mile	8 minutes or less 90% of the time	No time or mileage requirement	10 minutes or less 90% of the time
Rural Area	Less than 500 per sq. mile	8 minutes or less 90% of the time	No time or mileage requirement	14 minutes or less 90% of the time
Remote Area	Travel Distance greater than / equal to 8 miles	8 minutes or less 90% of the time	No time or mileage requirement	No Requirement

The second component of the concentration performance measure concerns the number of personnel arriving with the first alarm assignment. The following table provides the performance measures for the number of personnel for a first alarm assignment for a single-family dwelling according to the three models.

First Alarm Assignment - Recommended Personnel

Demand Zone	Demographics	NFPA 1710	ISO	CPSE
Urban	Greater than 1,000 per sq. mile	16 personnel	No specific requirement	16 personnel
Suburban	500 - 1,000 per sq. mile	16 personnel	No specific requirement	16 personnel
Rural	Less than 500 per sq. mile	16 personnel	No specific requirement	16 personnel
Remote	Travel Distance greater than / equal to 8 miles	16 personnel	No specific requirement	16 personnel

ISO does not provide a benchmark based on number of personnel anticipated to arrive, and instead provides a score based on the number of on-duty personnel. The more personnel on duty, the higher the score. NFPA 1710 and CPSE base their personnel requirements on creating an effective response force using critical tasking.

2. Effective Response Force

There are several tasks, which must occur simultaneously to adequately combat different types of fires. The absence of adequate personnel to perform these tasks requires each task to be prioritized and completed in chronological order. These fire ground tasks include command, scene safety, search and rescue, water supply, fire attack, pump operations, ventilation, back up, and rapid intervention.

An initial full alarm assignment should be able to provide personnel to accomplish the following tasks:

- Establish incident command outside of the hazard area. This will allow coordination and direction of the incoming emergency response personnel and apparatus. A minimum of one person should be dedicated to this task.
- Establish an uninterrupted water supply of at least 400 gallons per minute for 30 minutes. Once established the supply line can be maintained by the pump operator to ensure uninterrupted water supply. A minimum of one person is assigned to this task that can then assume a support role.
- Establish an effective water flow rate of 300 gallons per minute. This will be supplied to a minimum of two hand lines each operating at a minimum flow of 100 gallons per minute. Each hand line must have two individuals assigned with one serving as the attack line and the other as a back-up line.
- Provision of one support person to handle the hydrant hookup, utility control, forcible entry and assist in deploying fire hose lines.
- Establish a search and rescue team. Each team will consist of a minimum of two.
- Establish a ventilation team. Each team will consist of a minimum of two personnel.
- Establish an initial rapid intervention team (RIT). Each RIT team shall consist of a minimum of two properly trained and equipped personnel.

Critical tasking will vary depending on the size and nature of the incident. CPSE provides a suggestive list of tasks that need to be completed at a fire situation based on the risk. A similar list is provided within the NFPA 1710 document. The CPSE analysis, from the 8th edition, is summarized in the table below showing the minimum required personnel to mitigate the initial emergency response requirements by occupancy risk:

Critical Tasks for the Effective and Efficient Control of Structural Fires

Critical Task	Maximum Risk	High Risk	Moderate Risk	Low Risk
Attack Line	4	4	4	2
Search and Rescue	4	2	2	0
Ventilation	4	2	2	0
Backup Line	2	2	2	2
Rapid Intervention	2	2	2	0
Pump Operator	1	1	1	1
Water Supply	*1	*1	*1	*1
Support (Utilities)	*1	*1	*1	*1
Command	1	1	1	1
Safety Officer	1	1	1	1
Salvage/Overhaul	2	0	**0	0
Command Aid	1	1	0	0
Operations Chief	1	1	0	0
Logistics	1	0	0	0
Planning	1	0	0	0
Staging Officer	1	1	0	0
Rehabilitation	1	1	0	0
Division Supervisors	2	1	0	0
High-rise Evacuation	10	0	0	0
Stairwell Support	10	0	0	0
Total Personnel	50-51	21-22	16 – 17	8-9

*Tasks can be performed by the same individual

**Task can be performed by the attack crew

It is interesting to note that the four-person companies discussed in some areas of NFPA 1710 are not maintained in the description of primary tasks to be accomplished on the fire ground – recognition that the requirements of the response in the field are dynamic and do not fit neatly into size and shape of any particular response configuration. These objectives apply to the initial and follow-up response for reported structure fires. The document does not suggest that this response be mounted for all incidents.

A task analysis for emergency medical calls analyzes three different types of calls or patient conditions. These three types of calls usually require the most effort on the part of the response team. Other calls or patient types can generally be handled with two or three personnel. Many times, especially in trauma calls, there are multiple patients. The table below outlines the tasks for handling these critical patients and the number of responders it may require for a successful outcome. It is important to note that some tasks are accomplished by the same personnel.

Critical Tasks for Effective Patient Care

Critical Task	Cardiac Arrest	Stroke	Multi-System Trauma
Patient Assessment	2 per patient	2 per patient	2 per patient
Airway Management/Intubation	2 per patient	2 per patient	2 per patient
Cardiac Defibrillation	1	N/A	N/A
CPR	1	N/A	N/A
EKG Monitoring	1	1	1
IV/Pharmacology	1	1	1
Splint/Bandage/Immobilization	N/A	N/A	1
Patient Lifting/Packaging	2 – 4	2 – 4	2 – 4
Medical Information Collection	1	1	1
Total per Patient	6 - 8	5 - 7	6 - 8

It is incumbent upon the Fire Department to have a response plan in place to ensure enough personnel are on scene to accomplish the stated critical tasks in a timely fashion. Structure fires are very labor-intensive incidents with any number of factors such as weather, making the task that much more difficult.

Adding to the critical tasks and staffing issues is the OSHA requirement of “two in – two out” in 1910.134(g)(4). This regulation states that if entry into an Immediately Dangerous to Life and Health (IDLH) atmosphere is necessary, two firefighters must enter together and remain in contact with each other. In addition, there must be two firefighters located outside the IDLH atmosphere for potential rescue, if needed. This is a mandatory requirement.

The concept of an effective response force carries through for other responses by the Fire Department. The tables below outline the critical tasks for an effective response force for those responses.

Critical Tasks for Hazardous Materials

Critical Task	High Risk	Low Risk
Command/Safety	2	1
Liaison	1	1
Decontamination	4	4
Research Support	2	1
Team Leader, Entry Team, Backup Team	6	6
Total Personnel	15	13

Critical Tasks for Initial Wildland Urban Interface Fires

Critical Task	No Hydrants	With Hydrants
Command/Safety	1	1
Pump Operations	1	1
Attack Line	2	2
Structure Protection	3	2
Water Supply	1	0
Tender Operator	2	0
Exposure Lines	2	0
Total Personnel	12	6

Critical Tasks for Technical Rescue Incidents

Critical Task	Swift Water	High/Low Angle	Confined Space	Trench
Command/Safety	1	1	2	2
Rescue Team	3	2	2	2
Backup Team	2	2	2	2
Patient Care	2	2	2	3
Rope Tender	2	0	0	0
Upstream Spotter	2	0	0	0
Downstream Safety	2	0	0	0
Rigger	0	1	1	0
Attendant	0	1	1	0
Ground Support	0	4	4	0
Edge Person	0	1	0	0
Shoring	0	0	0	5
Total Personnel	14	14	14	14

3. System Performance

Computer Aided Dispatch (CAD) data was used for the evaluation of resource concentration. To be considered for inclusion in the analysis, the following conditions were required to be met:

- Incidents in the CAD data that were denoted as a structure fire and had a minimum of 16 suppression personnel arriving on the scene.
- All the units dispatched must have an arrival time recorded. It was assumed if the unit did not arrive on scene that it was cancelled while enroute.

To be considered as meeting the concentration performance measure, the apparatus had to have an arrival time recorded and the minimum number of personnel had to arrive on the scene. For purposes of this evaluation, all fire apparatus was assigned three

personnel except the Ladder Company from Bellevue that was assigned 5 personnel. Aid units from Mercer Island were assigned three personnel and any command officers were assigned one personnel.

NFPA 1710 and CPSE have benchmark travel time performance objectives established for the second arriving unit. NFPA 1710 uses six minutes and CPSE uses eight minutes for the urban setting.

The table below provides the second unit response times.

Mercer Island Fire Department

Second Apparatus	Travel Time Objective	Percent Met					
		2015 - 2019	2015	2016	2017	2018	2019
NFPA 1710	6:00	66.7%	100.0%	57.1%	50.0%	100.0%	66.7%
CPSE	8:00	81.0%	100.0%	85.7%	66.7%	100.0%	66.7%

*Statistically the ERF Concentration response times use a small data set and therefore should be viewed with a certain amount of skepticism.

The second unit travel time standard was met 66.7% of the time in six minutes or less, meaning there were at least two fire apparatus at the scene in this time. In the same urban setting, there were two fire apparatus on the scene 81% of the time in eight minutes or less.

The following table provides the travel time data for the full first alarm assignment to meet the 16 personnel on scene standard.

Mercer Island Fire Department

Structure Fires – 90th Percentile Times		2017 - 2019	2015	2016	2017	2018	2019	Benchmark
Travel Time	1st Unit Distribution	5:29	2:57	6:51	4:43	3:31	4:59	4:00
	ERF Concentration	15:17	8:09	15:07	16:56	10:35	14:57	8:00
	Number of Calls	21	3	7	6	2	3	

*Statistically the ERF Concentration response times use a small data set and therefore should be viewed with a certain amount of skepticism.

For building fires for the past five years, the first arriving unit was at the scene in five minutes 29 seconds for 90% of the calls examined. This is one minute and 29 seconds over the benchmark travel time of four minutes.

The arrival of effective response force was 15 minutes and 17 seconds over the benchmark travel time of eight minutes. The fact that automatic aid partners are required to meet the ERF of 16 personnel is reflected in the travel for the first alarm assignment.

4. Mercer Island Fire Department Community Standards

Due to the unique features of Mercer Island, the concentration (full alarm response) of resources for a structure fire response is also unique. The Fire Department has tiered performance objectives. The first tier is twelve minutes for the arrival of the full complement of an initial fire suppression incident to include two (2) engine companies, one command officer, and seven (7) personnel for 90% of the time.

The second tier or full alarm response to a structure fire is four (4) engine companies, two (2) ladder companies, one (1) medic unit, one (1) medical services officer, one (1) aid unit, and two (2) command officers. There is no travel time component as the additional resources must respond from an area outside the island. Access to the island by these resources is limited to the I-90 corridor from either side of the island.

The following table illustrates the performance of the Fire Department related to the previous performance objectives.

Mercer Island Fire Department

	Travel Time Objective	2015 - 2019	2015	2016	2017	2018	2019
Initial Alarm	12:00	10:50 n = 43	11:13 n = 8	8:58 n = 11	10:59 n = 10	10:04 n = 4	12:41 n = 10

*Statistically the ERF Concentration response times use a small data set and therefore should be viewed with a certain amount of skepticism.

The Fire Department met the performance standards in all years except 2019.

6 | System Reliability

The concept of distribution and concentration of resources can be influenced by other contributing factors including unit hour utilization and concurrent calls for service.

1. Unit Hour Utilization

There are different ways to calculate unit hour utilization. In the private sector the number of transports is used to provide this utilization rate as their focus is profit. For purposes of this report, unit hour utilization is calculated by taking the total hours the unit is committed to an incident divided by the total available hours as the focus is more on the delivery of service and availability for the call volume. Expressed as a percentage, this measure identifies the amount of time the unit is committed, but more importantly the amount of time the unit is available. Within the framework of the 80th and 90th percentile performance standards the amount of available time can have an impact on meeting this standard. If utilization rates are too high the units are often unavailable for immediate response. The following table illustrates the unit hour utilization for the past two years.

Unit Hour Utilization

Unit	2017			2018			2019		
	Duration	% of Time	Avg.	Duration	% of Time	Avg.	Duration	% of Time	Avg.
Aid 191	1318:59:18	15.1%	1:12:48	1413:58:02	16.1%	1:19:22	1444:37:28	16.5%	1:15:07
Aid 192	631:50:34	7.2%	1:10:52	607:30:28	6.9%	1:15:00	597:50:16	6.8%	1:13:12
Engine 191	530:27:48	6.1%	46:08	432:07:00	4.9%	42:34	462:45:54	5.3%	45:40
Engine 192	491:51:02	5.6%	43:51	421:39:20	4.8%	40:09	407:30:58	4.7%	42:09
Station 191	1849:27:06	21.1%	1:04:44	1846:05:02	21.1%	1:07:32	1907:23:22	21.8%	1:06:37
Station 192	1123:41:36	12.8%	59:27	1029:09:48	11.7%	58:12	1005:21:14	11.5%	58:51

As expected, Station 191 is slightly more utilized than Station 192 as most of the calls for service are in the northern section of the island. The utilization rates for Aid 191 are the highest in the Department, but still do not exceed generally acceptable industry standards of 25% to 30% utilization. With the staffing model using a first emergency first process, the table also illustrates the station utilization.

2. Concurrent Calls

It is common for a fire protection system to have multiple requests for service occurring simultaneously. The larger the system the more frequently this will occur. With the appropriate resources this can be handled efficiently. The table that follows illustrates the concurrent calls for the fire protection system for the past five years.

Concurrent Calls for Service

Calls	2015	2016	2017	2018	2019	Total	%
1	1,706	1,663	1,627	1,656	1,724	8,376	69.3%
2	557	619	643	544	570	2,933	24.3%
3	130	132	154	113	90	619	5.1%
4	27	24	44	16	16	127	1.1%
5	3	4	4	4	1	16	0.1%
6+	0	1	6	0	2	9	0.1%
Total	2,423	2,443	2,478	2,333	2,403	12,080	100%

The emergency services system averages 2,416 calls for service during the year that translates to an average of 6.6 calls per day. As illustrated above, approximately 94% of calls occur as either a single call at a time or two calls simultaneously.

It should be noted that what is not shown or illustrated are the calls that occur back to back. For example, Engine 191 could respond to a call in their district and clear that call only to receive a second call in another section of their district. This would not show up as a concurrent call, but it could extend the travel time for the second call. As well, a single call for service may require a significant amount of resources that could impact the delivery of services.

6 Strategic Recommendations

The delivery of effective and efficient emergency services to the City is a primary focus of this study. This chapter provides recommendations for consideration to improve performance and reduce costs.

1 Community Standards

The Fire Department has established standards for the response to calls for service in the community. These standards provide performance objectives that adhere to best practices and are currently meeting community needs.

There is a potential for additional calls and service needs in the future. The East Link of the light rail system is scheduled to begin operations in 2023 with a station in Mercer Island with an expected daily ridership between 43,000 – 52,000 by 2026. The impact to Mercer Island will likely be more visitors and potentially more calls for service.

Continuing to monitor these metrics will provide the City a mechanism to identify trends and allow the Fire Department to identify trends and adapt resources and the response as needed.

Recommendation: Continue to monitor the response metrics against the established community response standards to identify trends that indicate the need for additional resources or changes to the operations of the Fire Department.

2 Operations

The primary mission of the Fire Department is to respond to and mitigate emergency calls for service. These services are delivered from two fire stations along with automatic aid partners in Bellevue, Kirkland, Eastside Fire and Rescue, Redmond, and Seattle. As noted in the previous section, the City has established a community standard for the response to emergency calls for service and the Fire Department is meeting those established standards.

1. Aerial Ladder

Based on the community standards, the first alarm response to a structure fire includes four (4) engine companies, two (2) ladder companies, one (1) medic unit, one (1) medical services officer, one (1) aid unit, and two (2) command officers. The current Fire

Department organization relies on automatic aid to provide some of the resources needed for this response. Through an interlocal agreement with the City of Bellevue, Mercer Island provides marine patrol services for Lake Washington in the City of Bellevue. In return, the City of Bellevue provides a ladder company to respond to structure fires in Mercer Island.

Community growth is predominately residential in nature with a mix of single family and multi-family housing units. The Town Center is an area that has the potential for additional redevelopment that could include multi-story buildings. The use of ladder company is appropriate for the multi-story buildings and for those structures that are set back off the roadway or are larger in size. The ladder company coming from Bellevue has a longer travel time that delays the response and effective use of the apparatus.

Advancements in fire apparatus design and construction has allowed the development of an aerial ladder device to be placed on a single axle chassis and with the same wheelbase as an engine company. In fact, most of these apparatuses can function as an engine company or a ladder company otherwise referred to as a quint. Considering the redevelopment of the Town Center, future residential areas, and the current stock of retail, office, and residential properties the City should consider replacing one of its engine companies with a quint style apparatus during the normal replacement cycle of the engine.

Recommendation: During the normal fire apparatus replacement cycle the City should consider replacing an engine with a quint style apparatus as this will further improve the Washington Survey and Rating Bureau classification for the City.

2. Overtime and Staffing

For career firefighters there is scheduled and unscheduled overtime. Scheduled overtime is derived from the 24-hour schedules that are typically worked. A firefighter that works a typical “24 hours on-duty and 48 hours off-duty” schedule will work an average of 56 hours a week which equates to 2,912 hours worked over a year.

Fair Labor Standards Act (FLSA) regulations allow a firefighter to work 53 hours each week before overtime is earned, which results in 172 hours of scheduled overtime each year. Other schedules such as a “24 on-duty and 96 off-duty” will reduce the scheduled overtime, but will require additional personnel to staff the shifts.

Fire departments have a set minimum staffing for each shift to provide a certain level of service. When the shift falls below that minimum, other personnel must be utilized to fill the vacancy which creates an unscheduled overtime situation.

The City of Mercer Island has established a 24-day work cycle and a 48-hour work week. With the “48 hours on-duty and 96 hours off-duty” schedule, providing a day off in that work cycle (Kelly Day) keeps the total work hours below the FLSA overtime threshold. There are approximately fifteen 24-day work cycles during the year; however, there may be one or two more depending on how the 24-day cycle falls within the calendar from one year to the next. This means each employee receives at least fifteen Kelly Days per year.

The staffing model used by the Fire Department assigns nine (9) personnel to each of the three shifts. This allows for two personnel to be off-duty and still maintain the seven (7) personnel minimum staffing. Off-duty time includes paid time off for vacation, sick leave, bereavement leave, and Kelly Days. The typical shift schedule allows for one person off for vacation and another off for the Kelly Day. There is a fourth shift staffed with one person to assist in filling in for the Kelly Days who works M/W, M/Th and M/F on a rotating basis. Overtime is then used for any other vacancies that occur as a result of sick leave, training, or bereavement leave to maintain the minimum staffing of seven (7) personnel.

The following table illustrates the overtime budget and actual expenditures for the past five years.

Fire Operations Overtime 2015 - 2019

Year	Budgeted OT	Actual OT	Reimbursement	Difference
2015	\$450,120	\$456,932	\$62,700	(\$55,888)
2016	\$461,335	\$317,747	\$13,578	(\$157,166)
2017	\$461,335	\$535,715	\$18,150	\$56,230
2018	\$461,335	\$492,041	\$23,128	\$7,578
2019	\$505,555	\$663,979	\$13,943	\$144,481
Total	\$2,339,680	\$2,466,413	\$131,499	(\$4,766)

With the exception of 2015 and 2016, overtime has been over budget each year over the past three years with an average expenditure of \$493,000 per year.

The use of sick leave and vacation has been increasing in the past five years as noted in the table below.

Fire Operations Sick and Vacation Leave Usage

	2015	2016	2017	2018	2019
Sick Leave	2,051.75	3,745.25	4,665.25	5,343.00	4,731.65
Average Sick Leave (27 personnel)	75.99	138.71	172.79	197.89	175.25
Vacation Leave	5,931.50	5,807.25	7,484.00	7,437.53	8,617.20
Average Vacation Leave (27 personnel)	219.69	215.08	277.19	275.46	319.16

In 2015 the average sick leave usage was 75.9 hours per employee. In 2018 the average sick leave usage was 197.9 hours per employee; this represents an increase of 160%. As the workforce ages in terms of seniority, the vacation hours will also increase. In 2015 the average vacation leave was 219.6 hours per employee and in 2019 the average vacation leave was 319.2 hours per employee. This is an increase of approximately 45% over the past five years.

The increased overtime cost is attributable to the increased use of sick leave and vacation leave. Shift staffing allows for two personnel to be off duty without using overtime typically accounting for vacation and Kelly Days. The extra person on the weekly schedule can provide limited relief for two days a week and is not enough to handle the extra paid time off for all Fire Department personnel.

The table that follows illustrates the typical hours to be scheduled for a fire department to provide twenty-four coverage seven days a week.

Scheduled Hours of Work

Working Days in the Year	365
Hours of Work	24
Total Annual Hours of Work	8,760
Annual Hours of Work	8,760
Number of Shifts	3
Annual Hours of Work per Shift	2,920
Average Workweek (hours)	56

In the previous table the average work week for fire personnel is 56 hours. In many cities, including Mercer Island, the work week is reduced by using a Kelly Day.

The following table illustrates the effects of the Kelly Day and the staffing of the Fire Department.

Shift Staffing

Annual Hours of Work (Scheduled)	2,920
Kelly Days	408
Annual Hours of Work (with Kelly Days)	2,512
MIFD Average Workweek (hours)	48.3
Average Annual Sick Leave	152
Average Vacation Leave	257
Average Hours Available to Work	2,103
Annual Hours of Work	8,760
Hours Actually Worked	2,103
Staff to Cover One Position Department Wide	4.2
Staff to Cover One Position per Shift	1.4
Number of Shifts to Staff	3
Minimum Staffing per Shift	7
Total Required Positions	21
Total Needed to Staff Operations	29
Total Needed to Staff One Shift	9.7

Starting with the same 2,920 annual hours per shift from the previous table, the annual hours of work is reduced by 408 hours, the equivalent of 17 shifts at 24 hours each. Using the five-year average sick and vacation leave data from the Fire Department, the average available hours to work is established.

Based on this analysis, the recommendation is adding personnel to the shifts to alleviate the use of overtime. Moving the floating employee (D-Shift) to a regular 24-hour shift and adding two additional personnel would result in staffing levels of 10 personnel for each shift. The cost estimate for the additional personnel is summarized in the table below.

Cost to Increase Staffing

Firefighter	Salary	Benefits	Turnout Gear	Total Cost	Number of Personnel	Total First Year Cost
Personnel Cost	\$78,074	\$21,555	\$0	\$99,629	2	\$199,258
One-Time Equipment	\$0	\$0	\$12,000	\$12,000	2	\$24,000
Total Cost						\$223,258

The cost of benefits is expressed as a percentage of salaries. In 2019, the benefits were 27.6% of the salaries in the operations section. Moving the D-shift employee from the Monday through Friday shift and adding two personnel to increase the shift staffing will result in a first-year estimated cost of \$223,258 of which \$24,000 is a one-time cost. The table that follows compares the FY2019 salary cost in the fire operations section of the budget and the addition of two new firefighters.

Salary and Overtime Comparison

FY 2019 Operational Salaries	\$3,555,696
FY 2019 Operational Overtime	\$663,979
Total Salaries and Overtime	\$4,219,675
FY 2019 Operational Salaries	\$3,555,696
Two Additional Personnel	\$156,148
FY 2019 Operational Salaries – Adjusted (Subtotal)	\$3,711,844
Operational Overtime at 7.5% of Salaries	\$278,388
Total Adjusted Salaries and Overtime	\$3,834,084
Potential Savings	\$385,591

Not all overtime would be eliminated as there are situations that occur that where additional staff resources may still be needed. To account for those instances, a 7.5% overtime estimate was included in the analysis.

The estimated cost savings of adding two additional personnel and reducing overtime to 7.5% is \$385,591.

Recommendations:

Move the Monday through Friday D-Shift personnel to a permanent 24-hour shift.

Hire two additional personnel at a first-year cost of \$223,258 to increase the shift staffing from 9 per shift to 10 per shift to reduce the overtime budget by approximately \$385,591 annually.

Continue to schedule one firefighter per shift for the Kelly Day and one firefighter per shift for vacation leave. This will provide one firefighter to absorb any unplanned leave taken.

3 | Fire Prevention and Community Risk Reduction

Fire prevention and community risk reduction is the first defense against unwanted fires. The goal of any fire prevention program is to prevent the fire from occurring, prevent the loss of life, reduce the severity of a fire if one does occur and if a fire does occur, to enable the fire suppression forces to perform their tasks more effectively. These goals are accomplished through building inspections, public education activities and the planning before a building is built.

1. Workloads

For Mercer Island the fire prevention activity is managed by a Fire Marshal to include plan reviews, fire safety inspections, fire investigations and public education. In addition to the Fire Marshal, a part-time Assistant Fire Marshal is assigned to the fire prevention function. The workload for the past five years for the fire prevention function is illustrated in the following table.

Fire Prevention Activity

	2015	2016	2017	2018	2019
Permit Reviews	605	866	649	499	494
Project Reviews	79	31	50	96	113
Construction Inspections	323	604	608	662	448
Plan Reviews	684	897	699	595	607
Public Education	28	27	31	34	27
Total	1,719	2,425	2,037	1,886	1,689

The Fire Marshal's Office is responsible for plan reviews, inspections, fire investigations and public education. There is a total of two (2) personnel assigned to the office including a Fire Marshal (full-time) and Assistant Fire Marshal (part-time). One of the shift Battalion Chiefs oversees Community Risk Reduction efforts for the Department. Shift personnel are also responsible for conducting company inspections and pre-fire planning of commercial occupancies. Fire Investigations are conducted by the Fire Marshal, Assistant Fire Marshal, and a Firefighter who is certified as an investigator.

Company inspections are assigned to each shift and company. Records related to company inspections were provided for 2018. The following table illustrates the breakdown of commercial occupancy and multi-family inspections in 2018.

Ongoing Inspections by Group

	A Shift	B Shift	C shift	Prevention	Training
2018	131	139	153	37	33

As shown above, the shift company inspections are evenly distributed between the shifts. Fire Prevention personnel conducted 37 ongoing inspections, while training personnel conducted 33.

The current system appears to be working well for the Fire Department. Plan reviews are primarily renovations and remodels with an average of 575 reviews during the year. A company inspection program is in place that allows for Engine Companies to perform the inspection and then become familiar with the various structures in the area. Public

education is provided to the community using overtime crews to deliver the programming. Education events include CPR, first aid classes, and fire extinguisher classes.

2. Overtime

The overtime budget for Community Risk Reduction services was integrated into the Fire Marshal budget in 2019. The tables that follow illustrate the budget and actual expenditures for these two sections.

Community Risk Reduction Overtime 2015 - 2019

Year	Budgeted OT	Actual OT	Reimbursement	Difference
2015	\$15,000	\$31,055	\$111	\$15,944
2016	\$94,000	\$72,172	\$300	(\$22,128)
2017	\$95,000	\$66,593	\$5,450	(\$33,857)
2018	\$90,000	\$80,641	\$3,175	(\$12,534)
2019	\$0	\$0	\$0	\$0
Total	\$294,000	\$250,462	\$9,036	(\$52,574)

Fire Marshal Overtime 2015 - 2019

Year	Budgeted OT	Actual OT	Reimbursement	Difference
2015	\$0	\$0	\$0	\$0
2016	\$0	\$0	\$0	\$0
2017	\$0	\$0	\$0	\$0
2018	\$0	\$0	\$0	\$0
2019	\$80,000	\$51,743	\$0	(\$28,257)
Total	\$80,000	\$51,743	\$0	(\$28,257)

The various public education events are staffed utilizing overtime, so the on-duty crews are available to respond to calls for service and the public education event continues uninterrupted. The Community Risk Reduction efforts are accomplished using a shift Battalion Chief utilizing overtime funding, as is the part-time Assistant Fire Marshal.

Revenue generated from the permit and inspection fees is used to provide the funding for this overtime position. In fact, in FY 2018 \$140,752 was generated and only \$51,743 was used. There is a possibility of additional use of the overtime funds based on the timing of new renovations and development that may occur in the Town Center area. This area has been targeted as an area for renovation and redevelopment in the future.

In terms of workload, it appears that any redevelopment and new construction in the Town Center would be short-lived based on the available space. Overall, the workload appears to be manageable with the current staffing and an average overtime usage of approximately \$51,000 per year.

4 | Training

The training function is considered a major function in a fire department as it is critical for personnel to maintain skills and improve proficiency in handling low frequency – high consequence events. In larger organizations this function is managed by a full-time training officer or division. In small to medium sized organizations this function is typically assigned to an officer to manage as an ancillary duty.

Training is overseen by a Shift Battalion Chief, who oversees and coordinates the training and education for all personnel in the Fire Department. Two shift personnel are assigned through a selection process as Training Officers (TO) for a 4-year period. The TO selection process is held every two years to fill one of the positions so that vacancy for each is offset and an experienced TO is always assigned. These personnel conduct training for the Department while off-duty and are paid overtime for these services.

Multi Company evolutions are conducted with the East Metro Training Group. This cost-effective approach is focused on improving the integration and scene operations between the departments on an initial response. Currently Mercer Island, Bellevue, and Redmond participate as part of this group.

The following table illustrates the training hours for 2015 – 2019:

Training Hours by Category 2015 – 2019

Categories	2015	2016	2017	2018	2019	2015-2019 Total
Administrative	230	228	207	78	73	815
Disaster Preparedness	218	26	12	44	50	349
Emergency Vehicle Operator	220	307	202	168	197	1,094
EMS	745	744	564	601	806	3,459
Fire Prevention	527	549	174	431	151	1,832
Hazardous Materials	167	122	227	233	117	865
Health & Safety	238	194	367	298	100	1,196
Officer Development	194	310	283	250	178	1,215
Structural Suppression	1,367	1,211	875	723	572	4,749
Technical Rescue	858	868	644	904	809	4,083
Vehicle Extrication	97	96	110	40	122	464
Wildland	0	0	0	0	89	89
Total Hours	4,859	4,654	3,662	3,770	3,263	20,209

As illustrated above, structural suppression, technical rescue, and emergency medical services were the areas with the most training hours over the previous five (5) years.

In Mercer Island the training function is handled through the use of two Training Officers that are also shift personnel. These two individuals are each allotted 250 overtime hours per year to manage and instruct the various classes. These positions also conduct quality assurance reviews for the emergency medical services. The table that follows displays the budget for the overtime for the Training Officers compared to the actual expenditure.

Training Officer Overtime 2015 - 2019

Year	Budgeted OT	Actual OT	Reimbursement	Difference
2015	\$22,082	\$31,956	\$1,999	\$7,875
2016	\$22,634	\$39,334	\$0	\$16,700
2017	\$30,293	\$31,137	\$208	\$637
2018	\$31,050	\$43,497	\$17,862	(\$5,416)
2019	\$32,786	\$39,947	\$26,119	(\$18,958)
Total	\$138,845	\$185,871	\$46,188	\$838

The Training Officers change every two years and therefore the overtime rate paid changes. However, it remains advantageous to the City to utilize the overtime for this function in lieu of a full-time Training Officer as the salary and benefits would well exceed the current budget.

For the past five years this line item has been over budget. The overage is generally reimbursed by the King County Emergency Medical Services to cover the cost of the quality assurance program for emergency medical calls.

Recommendation:

Continue to use shift personnel on an overtime basis to manage and deliver training programs to the Fire Department.

Another part of the training budget includes overtime paid to shift personnel that are off-duty and attending a training or other educational event. There are training sessions with the response partners in which an overtime crew is used to cover the station while the on-duty crew participates in the combined training. The following table illustrates the budget and actual expenditures for the past five years.

Training Overtime 2015 - 2019

Year	Budgeted OT	Actual OT	Reimbursement	Difference
2015	\$70,100	\$75,167	\$0	\$5,067

2016	\$71,500	\$56,663	\$0	(\$14,837)
2017	\$71,500	\$70,222	\$0	(\$1,278)
2018	\$71,500	\$110,486	\$0	\$38,986
2019	\$75,234	\$70,809	\$0	(\$4,425)
Total	\$359,834	\$383,347	\$0	\$23,513

Other trainings included in this item are special teams training such as hazardous materials, rope rescue, confined space, and trench rescue.

For the past five years this line item has consistently been under budget. Educational and training opportunities occur that may not be consistent with budgets that are drafted months ahead of the event. Overall, the Fire Department has performed well in the utilization of the funding in this line item.

To further assist the Fire Department to reduce or maintain the favorable budget condition, the Fire Department should look to other technologies to deliver the training programs. There are several online training programs that can be custom tailored to the Fire Department to meet the needs and reduce the number of hours needed for an instructor working overtime. Records management is typically a part of these programs to assist in management of training hours. The cost for these types of systems will vary depending on the features and systems that are desired. Video conferencing between stations will allow the delivery of training classes while all crews remain in their stations. This could be accomplished through various venues such as Zoom, Microsoft Teams, or other similar video platforms that are available and, in some instances, free to the user. This would also help to improve the response time should a call for service occur during the training session. Other avenues are available such as the National Fire Academy that offers both self-study and online mediated programs.

Recommendations:

The Fire Department should invest in an online training program to deliver some of the training classes at a cost of \$20,000 depending on the features of the system.

The Fire Department should utilize video conferencing between the stations to allow for the delivery of training sessions while the crews remain in their respective stations at a cost of approximately \$5,000 to purchase new equipment.

Utilize other avenues such as the National Fire Academy online programming to boost the availability of training and reduce the dependence on an instructor.

7 Contracting for Service

Another mechanism some municipalities use to provide fire suppression and emergency medical services is to contract with another municipality or provider for services.

The King County area has a somewhat unique system for the delivery of fire suppression and emergency medical services. The county is separated into three zones to manage fire services. Seattle is its own zone with the other two zones include multiple cities. Using the zones, the response to calls for service ensures the entire county maintains adequate resources and allows for those cities in each of the zones to establish various regionalized services such as hiring, apparatus replacement, and training.

The location of Mercer Island allows for the City to review potential contracts for service from three other service providers. To the west is the City of Seattle, to the east is the City of Bellevue, and further east is Eastside Fire and Rescue. Each of these service providers submitted a preliminary estimates provide fire emergency services to the City of Mercer Island.

1 | Seattle Fire Department

The potential contract with Seattle Fire Department (SFD) has an operations and maintenance annual cost of \$7,153,005 and an additional one-time cost of \$2,911,997. The one-time costs include training and transfer of existing employees, information systems, and other equipment and supplies.

The proposed contract includes 45 full-time equivalents (FTE) and assumes the Mercer Island fire stations meet the Seattle requirements and are ready to occupy. The current Fire Department staffing is 31 FTE's and the potential contract with Seattle increases the FTE's to 45, a 45% increase in the number of staff. The increase in staffing is related to the Seattle minimum staffing for an engine company of four (4) personnel.

Based on the 2019 budget, this represents an increase of \$527,609 in annual costs for Mercer Island for to contract with Seattle to provide fire and EMS services. In addition to the assumption that the existing Mercer Island fire stations meet the Seattle requirements, there are other assumptions made as follows:

- The SFD will utilize the existing apparatus and will replace that apparatus in accordance with their replacement program.
- The training costs are for transfers from Mercer Island who will staff the engine companies and fill other assignments.

- One-time costs of transferring benefits of the 31 existing employees to the Seattle system. Some of these costs are unlikely to be immediate costs and will be payable in the future when the employee retires from duty.
- Equipment and supplies are for the new fire personnel and apparatus.
- Information systems cost will connect the new stations and new staff to the Seattle systems.

The SFD proposal includes the need to complete an assessment of the Mercer Island fire stations to determine if the stations meet the Seattle requirements. There is a potential for additional costs once this assessment has been completed.

Operationally, the only improvement is the increase in staffing for the engine companies from a minimum of three (3) personnel to a minimum of four (4) personnel. Additional resources for a structure fire will continue to come from off-island stations.

The benefits of contracting with the City of Seattle for fire and EMS Services are as follows:

- Existing staff will be absorbed and become employees of the City of Seattle Fire Department.
- Engine company staffing levels will increase, which improves the number of personnel arriving to a structure fire on the initial response.

The potential downside to contracting with the City of Seattle is as follows:

- Estimated costs for providing fire and EMS services are over \$500,000 higher annually than the current cost of providing services locally.
- The culture of a metropolitan fire department is different than a small department in terms of customer service.
- The City will have limited control over future cost increases related to employee salary and benefit packages.
- There is a time and distance issue related to receiving additional response components on major incidents.
- Seattle is a party to King County EMS, but is in a separate coverage area than Medic One, which serves the City of Mercer Island.

2 | Eastside Fire and Rescue

Eastside Fire and Rescue provided an estimate to provide fire and EMS services to Mercer Island. This estimate included three service delivery options – one contract scenario and two partnership scenarios.

Eastside Fire and Rescue currently serves an area to the east of Bellevue that includes Issaquah, Sammamish, Preston, North Bend and May Valley (unincorporated King County). Mercer Island could choose to contract for services, similar to the approach with Bellevue or Seattle. Or, Mercer Island could become a partner, where the City would have representatives serving on the Board of Directors.

The table that follows highlights the preliminary cost estimates provided by Eastside Fire and Rescue for the three different scenarios.

Eastside Fire and Rescue Estimated Contracts

Partnership	\$5,539,490	2 Engine Companies and BC in existing EFR response area
Equipment	\$250,000	
Facility	\$75,000	
Revenue Transfer	\$720,000	KCEMS BLS Allocation and Transport Revenue
Total	\$6,614,490	
Contract Scenario #1	\$6,693,394	2 Engine Companies and 1 Battalion Chief
Equipment	Maintenance included	replacements not included
Facility	Maintenance included	improvements not included
Total	\$6,693,394	
Contract Scenario #2	\$6,279,011	2 Engine Companies and BC in existing EFR response area
Equipment	Maintenance included	replacements not included
Facility	Maintenance included	replacements not included
Total	\$6,279,011	
One Time Liability Fund	\$202,564	This in addition to all options above

Under the partnership model, the ownership of all equipment and facilities would be maintained by the City. This means the City would be responsible for the replacement of these items.

Depending on the scenario, the City could save as much \$346,385 on an annual basis compared to the current costs of providing services.

Operationally, there would not be any changes to the existing staffing and operations of the Mercer Island Fire Department under this scenario. Additional resources for a structure fire will continue to come from stations off the island and most likely from other Eastside Fire and Rescue stations unless other arrangements are made with Bellevue and Seattle.

The benefits of contracting or partnering with Eastside Fire and Rescue for Fire and EMS services is as follows:

- There are opportunities to reduce costs for providing fire and EMS services by as much as \$346,000 annually if contract scenario # 2 is chosen, although this does not factor in equipment or facility maintenance and replacement.
- Eastside Fire and Rescue has experience providing fire and EMS services for a number of communities on the East Side of Seattle.
- Eastside Fire and Rescue is part of the Medic One service area in the King County EMS system.
- Eastside Fire and Rescue has similar performance standards and strives for high levels of customer service.
- All scenarios provide employment for existing Mercer Island line personnel.

The potential downside to partnering with Eastside Fire and Rescue is as follows :

- The option that provides the most cost savings does not include a full Battalion Chief for Mercer Island and the distance between Eastside Fire Rescue and Mercer Island makes a timely response of a Battalion Chief impossible.
- There is no opportunity for other Eastside Fire and Rescue assets to respond in a timely manner to assist on critical incidents. Mutual and/or automatic aid agreements with Seattle and Bellevue would still be needed to provide a timely effective response force.
- Each scenario eliminates the current Deputy Chief position.
- The City of Mercer Island will lose local control of future cost increases related to employee salary and benefit packages negotiated unless they join as a partner agency and have a seat on the Board of Directors.

3 | City of Bellevue

The Bellevue Fire Department provided an estimate for the cost of providing fire and EMS services to the City of Mercer Island. The City of Bellevue is an automatic aid partner with Mercer Island and currently provides additional resources for structure fires. The preliminary cost estimate is \$6,261,010 for ongoing operations and maintenance with a one-time cost of \$1,617,132. Similar to the Seattle contract the one-time costs are associated with the vacation and sick leave liabilities, training of the transferred employees and information systems. The Bellevue contract proposal includes the following assumptions:

- There would need to be additional verification and validation of line item details in the budget.
- Completion of an assessment of facilities, apparatus, and equipment.
- The one-time costs are payouts upon the retirement of the personnel.

Based on the 2019 budget, this contract would potentially save the City of Mercer Island approximately \$364,385 annually. It should also be noted Bellevue currently provides services to six other cities through contracts.

The City of Bellevue currently supports Mercer Island with the response of a ladder company. This response is a part of the King County Fire Resource Plan. It is also recognized that Bellevue sends their fire resources to Mercer Island more often than Mercer Island sends resources to Bellevue. Through an Interlocal Agreement, Mercer Island provides marine patrol and other services to Bellevue, which offsets the imbalance in fire service calls.

Operationally, there would not be any changes to the Mercer Island response. The proposal uses the same number of FTE's as the current staffing for the Mercer Island Fire Department. Additional resources for a structure fire would continue to come from Bellevue under this scenario proposal.

The benefits associated of contracting with Bellevue to provide fire and EMS services to the City of Mercer Island are as follows:

- The proposed contract provides savings of approximately \$364,000 annually.
- The proposed contract provides employment for existing Mercer Island line personnel.
- Bellevue is a current aid partner with Mercer Island and provides a ladder truck on all working fires.

- Bellevue is part of the Medic One EMS service area within the King County EMS.
- There are opportunities to regionalize the Battalion Chiefs as Bellevue has a gap in Battalion Chief coverage adjacent to Mercer Island.
- The Bellevue Fire Department has similar performance and customer service expectations to those of Mercer Island.
- There are opportunities to improve the regionalization of services as Bellevue is immediately adjacent to Mercer Island.

The potential downside to contracting with the City of Bellevue for fire and EMS services is as follows:

- The City of Mercer Island will lose local control of future cost increases related to employee salary and benefit packages negotiated.

4 | Summary

There are advantages to contracting for services that includes sharing costs and equipment. For example, two communities need a ladder truck, so it makes sense for the two communities to share the resource. The same holds true for some of the essential functions of a fire department. Training is a necessary function to maintain skills and knowledge, sharing this resource between two or more communities allows for each community to receive appropriate training with a shared cost. Operationally, there may be a deeper pool of personnel to handle the paid time off issues depending on the size of the department. For the administration, there could be a reduction in the need for information technology support, human resources, and financial services support as these functions would likely be handled through the contract.

Primary disadvantages to contracting for service is the loss of direct control over Fire Department operations. Depending on the contract and how that contract is established, there may be little control over the operation of the department. The contract could stipulate the services to be provided, but not allow for the control of how those services are provided. For example, the fire prevention function could be centralized, meaning the Office of the Fire Marshal could be located in another community with no presence in the other contracted area.

The cost of the contract is another area that is a concern in these types of systems. With the cost of the fire service largely being personnel costs, this can become an issue. For example, in California numerous cities and counties contract with CAL FIRE for services. In this scenario the State negotiates with the union to establish the pay rates and benefits. The local governments are then subject to this agreement and must pay the rates as

negotiated by the State. With this new labor agreement, the local government must then decide to pay the new rates, unwind the contract, or reduce the services based on the revised cost.

Summary

As an option to provide fire and emergency medical services, Mercer Island could contract for fire services. Based on the analysis, the recommendation would be to contract with the City of Bellevue for several reasons.

- There is a strong automatic aid relationship between Mercer Island and Bellevue Fire Departments.
- Current Bellevue resources are closer to Mercer Island than Seattle and Eastside Fire and Rescue.
- Bellevue has experience with providing services through contracts with six other cities in the area.

Should the City of Mercer Island decide to provide services through a contract, there are some issues that should be considered:

- Identify the ownership of apparatus and facilities and account for maintenance and replacement costs.
- Consider the future of the contracts and how they would be managed and the mechanism for addressing issues that arise.
- Understand how the negotiations with labor will be handled and what, if any, opportunities there may be to participate.

Recommendation:

If the option of contracting for services is desired, the City of Mercer Island, should negotiate a contract with the City of Bellevue due to the cost savings and potential improvements in regionalizing services it provides.



Fire Services Study Findings and Recommendations Mercer Island, Washington

July 14, 2020 - Agenda Bill 5726

matrix 
consulting group

Study Objectives

- ◆ The City commissioned a staffing study to conduct an organizational and operational assessment of the Fire Department, including:
 - Gathering Input from internal and external stakeholders
 - Reviewing existing conditions of the Mercer Island Fire Department
 - Development of analysis of future service demand
 - Development of future service delivery models
 - Presentation of the findings to the City Council



Methodological Overview

- ◆ Extensive input from elected and appointed officials in the City through face to face interviews.
- ◆ Extensive input from Fire Department personnel through face to face interviews.
- ◆ Comprehensive data collection regarding organizational structure, resource allocation, workload demands, staffing levels, utilization and deployment.
- ◆ Evaluation of the current service delivery model by the Fire Department and impacts of any planned growth on future needs.
- ◆ Assessment of fire service delivery and resource options as well as support functions.
- ◆ Collaboration with staff to review findings, assumptions and analysis.



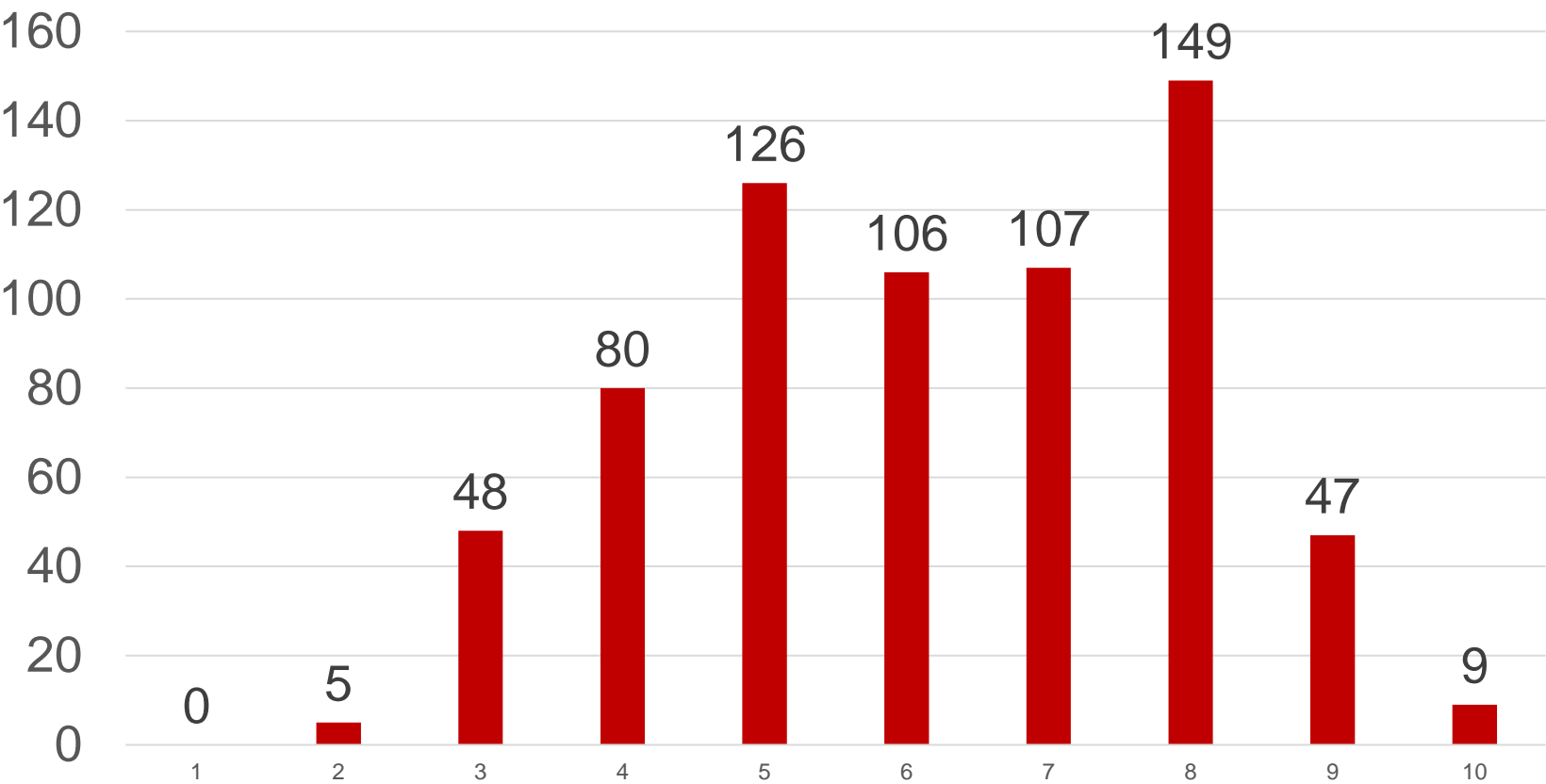
Strengths of the Fire Department

- ◆ The Fire Department has a Class 4 rating from the WSRB.
- ◆ The Fire Department has set and is meeting industry acceptable performance standards for turnout and travel times.
- ◆ There is an effective overlap of an 8-minute travel time coverage area.
- ◆ NORCOM is processing calls and dispatching the Fire Department under 1:00 90% of the time.
- ◆ Fire stations are located in the areas of peak call demand.
- ◆ Unit hour utilization rates are generally below 10% which helps response times and provides capacity for future growth.
- ◆ The Department has well-developed training and fire prevention programs.



WSRB Ratings for WA State FD's

Washington Protection Classes



Response Time Performance

Mercer Island Fire Department								
All Emergency Calls – 90th Percentile Times		2015 - 2019	2015	2016	2017	2018	2019	Benchmark
Call Processing	Pick-up to Dispatch	0:50	0:46	0:50	0:52	0:52	0:52	1:00



Response Time Performance

Mercer Island Fire Department									
All Emergency Calls – 90th Percentile Times			2015 - 2019	2015	2016	2017	2018	2019	Performance Objective
Turnout Time	1st Unit	Medical Calls (Day)	1:27	1:35	1:29	1:27	1:25	1:24	1:30
		Medical Calls (Night)	2:11	2:19	2:10	2:06	2:07	2:07	2:00
		Fire Calls (Day)	2:01	2:07	1:55	1:59	2:03	2:02	2:00
		Fire Calls (Night)	2:26	2:24	2:28	2:26	2:22	2:28	2:30



Response Time Performance

Mercer Island Fire Department									
All Emergency Calls – 90th Percentile Times			2015 - 2019	2015	2016	2017	2018	2019	Performance Objectives
Travel Time	1st Unit Distribution	Medical Calls	5:47	5:36	5:47	5:45	5:54	5:49	8:00
		Fire Calls	6:34	5:57	6:18	6:47	7:04	6:31	8:00



Improvement Opportunities

- ◆ Training can be improved through the use of an online program and video conferencing.
- ◆ Analysis indicates the need for additional personnel in areas with high-rise and mid-rise developments.
- ◆ Moving the D-Shift firefighter to a 24-hour shift and hiring two additional firefighters will reduce annual overtime costs.
- ◆ Replacing one engine with a quint will improve response times and availability of an aerial apparatus and further improve the City's WSRB rating.



Study Recommendations

- ◆ Continue monitoring response time metrics against established community standards.
- ◆ Continue the use of shift personnel to manage and deliver training programs.
- ◆ Invest in an online training program for the delivery of training programs.
- ◆ Utilize video conferencing between the stations to allow units to remain in their district during meetings and training sessions.
- ◆ Replace an existing engine with a quint style apparatus during the normal apparatus replacement schedule.
- ◆ Assign the D-shift firefighter and hire two additional firefighters to staff 24-hour shifts saving approximately \$162,000 in OT.



Study Recommendations (cont.)

- ◆ Continue to maintain the 7-person minimum daily shift staffing and scheduling one firefighter for a Kelly Day and one firefighter for vacation leave each shift.
- ◆ If the option of contracting for services is desired, negotiate a contract with the City of Bellevue due to potential cost savings and improved regional approaches to providing services.



Questions / Comments

Item 2.



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Town Center Commuter Parking and Mixed-Use Project Ended

July 14, 2020 - A Letter to the Community from Your City Council

Dear Mercer Island Community,

In January 2020, the City announced the completion of its multi-year effort to purchase the former Tully's Property in Town Center, with the intention of providing commuter parking near the future East Link light rail station for use by Mercer Island residents.

Last summer, MainStreet Property Group was selected as the City's partner and lead developer for design and construction of a project, which included underground commuter parking and a mixed-use development with performing arts space. In the packet of documents for the July 21 City Council meeting (to be released to the public tomorrow), a resolution will be included confirming the City's decision to part ways with MainStreet over differences in our project vision that resulted in the parties reaching an impasse.

In addition to our differences, a large-scale project is not currently a viable investment for the City given our current fiscal realities of an unpredictable post-COVID-19 landscape and significant reductions in City staff. The City will consider independently pursuing a simpler solution, as an interim measure, including the possible construction of a surface commuter parking lot on the project site using Sound Transit Settlement Funds.

We know that pre-COVID-19 commuter parking for Mercer Island residents was in very short supply during the morning rush-hour. Following the completion of light rail in 2023 and after we are able to re-open our economy, we anticipate that commuter parking will eventually become scarce again, even with a greater number of people working from home.

We look forward to updating Mercer Islanders as the City addresses this evolving parking project.

-Mercer Island City Council

Mayor Benson Wong
Deputy Mayor Wendy Weiker
Councilmember Lisa Anderl
Councilmember Jake Jacobson
Councilmember Salim Nice
Councilmember Craig Reynolds
Councilmember David Rosenbaum