

CITY COUNCIL AGENDA ITEM
CITY OF SHORELINE, WASHINGTON

AGENDA TITLE:	Adoption of Ordinance No. 791 – Fire Impact Mitigation Fees
DEPARTMENT:	Shoreline Fire Department in Coordination with the City Manager’s Office and City Attorney’s Office
PRESENTED BY:	Matt Cowan, Fire Chief, Shoreline Fire Department
ACTION:	<input checked="" type="checkbox"/> Ordinance <input type="checkbox"/> Resolution <input type="checkbox"/> Motion <input type="checkbox"/> Discussion <input type="checkbox"/> Public Hearing

PROBLEM/ISSUE STATEMENT:

Chapter 82.02 RCW gives a city planning under the Growth Management Act, chapter 36.70A RCW, the authority to adopt impact fees so that new growth and development will pay a proportionate share of the costs of new public facilities needed to serve new growth and development within the City. Fire protection facilities are one type of public facility that an impact fee may be utilized to fund.

The Shoreline Fire Department is a fire protection district organized pursuant to Title 52 RCW. Chapter 82.02 RCW does not give the Fire Department the authority to directly impose fire impact fees. The Fire Department has completed a Capital Facilities and Equipment Plan and a Mitigation and Level of Service Policy to document the impacts of new development on fire protection facilities and the methodology for establishing impact fees. The Fire Department’s Board of Commissioners accepted these documents in July 2017. Since that time, modifications to the documents have been made and, therefore, draft documents are provided as Attachment A and Attachment B to this staff report.

Since the Fire Department does not have authority to directly impose fire impact fees, the Fire Department has requested that the City adopt a fire impact fee to mitigate the impacts new development has on their ability to provide services. The Fire Department requests that the fire impact fee become effective January 1, 2018.

Proposed Ordinance No. 791 (Attachment C) provides for this fire impact fee. Council discussed proposed Ordinance No. 791 on October 30, 2017, and tonight, Council is scheduled to adopt this ordinance.

CITY RESOURCE/FINANCIAL IMPACT:

The implementation of a fire impact fee will not require significant resources from the City of Shoreline. There would likely be a very slight increase in time needed to process a permit application and for staff to administer the necessary accounting functions to manage the transfer of funds. However, there would be some revenue generated by the program based on an administrative fee charged by the City against an applicant.

RECOMMENDATION

The Shoreline Fire Department requests that the City Council adopt Ordinance No. 791 to establish a Fire Impact Fee program, effective January 1, 2018, as set forth in Attachment C.

Approved By: City Manager ***DT*** City Attorney ***MK***

BACKGROUND

Chapter 82.02 RCW gives a city that plans under the Growth Management Act, chapter 36.70A RCW, the authority to adopt impact fees so that new growth and development will pay a proportionate share of the costs of new public facilities needed to serve new growth and development within the City. Fire protection facilities are one type of public facility that an impact fee may be utilized to fund.

The Shoreline Fire Department is a fire protection district organized pursuant to Title 52 RCW. Chapter 82.02 RCW does not give the Fire Department the authority to directly impose fire impact fees. Since the Fire Department does not have authority to directly impose fire impact fees, the Fire Department has requested that the City adopt a fire impact fee to mitigate the impacts new development has on their ability to provide services. The Fire Department requests that the fire impact fee become effective January 1, 2018.

DISCUSSION

The first step to implementing the fire impact fee is the preparation of a capital facilities plan by the Fire Department and incorporation of that plan into the City's Comprehensive Plan. The Fire Department prepared its Capital Facilities & Equipment Plan ("CEFP" - Attachment A) and a Mitigation and Level of Service Policy ("LOS Policy" - Attachment B) to document needed capital improvements and the impacts of new development on fire protection facilities along with the methodology for establishing impact fees. These documents were incorporated into the City's Comprehensive Plan Capital Facilities Element as part of the 2017 Docket for Comprehensive Plan Amendments. The Comprehensive Plan Amendments are scheduled for Council adoption on November 13, 2017 via Ordinance No. 802.

The second step in implementing the fire impact fee requested by the Fire Department is the adoption of regulations to administer the program. Proposed Ordinance No. 791 (Attachment C) will establish a new chapter, SMC 3.75, within SMC Title 3 Revenue and Finance (Attachment C, Exhibit 1) and will add a new section to SMC 3.01 Fee Schedules (Attachment C, Exhibit 2). These regulations reflect the fact that it is the Fire Department, not the City, which is ultimately responsible for complying with the impact fee statute, RCW 82.02.

The City Council discussed proposed Ordinance No. 791 at their October 30, 2017 regular meeting. The staff report for that meeting can be found at the following link: <http://cosweb.ci.shoreline.wa.us/uploads/attachments/cck/council/staffreports/2017/staffreport103017-8a.pdf>.

At the October 30th meeting, the Council made various inquiries about the proportionate cost allocation for capital facilities in relationship to new growth and development that served as the basis for the fire impact fees. The Shoreline Fire Department, City staff, and the City's consultant have provided response to the Council. Chief Cowan of the Shoreline Fire Department will be available at tonight's meeting to present proposed Ordinance No. 791 for adoption and provide additional response to Council questions if necessary.

In addition, the City Council also inquired as to the City's legal obligations in implementing the Fire Impact Fee program. The City Attorney's Office provided a confidential memo for the City Council in this regard.

The final step in implementing the fire impact fee is the execution of an Interlocal Agreement pursuant to RCW 39.34 that will establish the terms, conditions, and responsibilities between the City and the Fire Department in relationship to the administration of the fire impact fee program. The Interlocal Agreement must be in place prior to the City collecting any fees on behalf of the Fire Department. The Interlocal Agreement is currently scheduled to come before the Council for authorization on November 27, 2017.

CITY RESOURCE/FINANCIAL IMPACT

The implementation of a fire impact fee will not require significant resources from the City of Shoreline. There would likely be a very slight increase in time needed to process a permit application and for staff to administer the necessary accounting functions to manage the transfer of funds. However, there would be some revenue generated by the program based on an administrative fee charged by the City against an applicant.

RECOMMENDATION

The Shoreline Fire Department requests that the City Council adopt Ordinance No. 791 to establish a Fire Impact Fee program, effective January 1, 2018, as set forth in Attachment C.

ATTACHMENTS

- Attachment A – Shoreline Fire Dept. Capital Facilities & Equipment Plan 2018-3027
- Attachment B – Shoreline Fire Dept. Mitigation and Level of Service Policy 2018
- Attachment C – Proposed Ordinance No. 791
 - Exhibit 1 – SMC Chapter 3.75 Fire Impact Fee Program
 - Exhibit 2 – SMC 3.01.017 Fire Impact Fees

2018 - 2037

Capital Improvement Plan



Shoreline Fire Department

Capital Facilities & Equipment Plan

DRAFT - PROPOSED ADOPTION NOVEMBER 2017

DRAFT

Shoreline Fire Department Capital Facilities & Equipment Plan

Prepared By:

**Fire Chief Matthew Cowan
Shoreline Fire Department
And
Larry Rabel
Deployment Dynamics Group LLC**

November 2017

This document reflects the need to prepare long-term capital project plans to appropriately identify future needs and the financial means to support those projects. The recession virtually eliminated any reserved capital funds and brings into sharp contrast the benefits of looking at the life cycles of all our needs and developing revenue sources for them. The likely solution is that not any one source will provided the funds necessary to sustain these projects, but rather that it will be a combination of sources. The original goal of this document was to establish a plan toward replacing the aged and dysfunctional Station 63 and then to look long-term at our needs of building a functional Station 62. This plan has been approved by the Board of Commissioners and will be evaluated on an annual basis. The following pages of this plan reflect a strategic, responsible, and cost conscious compromise reflective of current and future needs.

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1. Capital Facilities & Equipment Plan

1.1. Introduction & Purpose:

The purpose of this document is to identify the capital resources necessary for the Shoreline Fire Department (SFD), to appropriately address current and future service delivery model needs for our urban community. SFD's intent is to sustain adequate levels of service consistent with their adopted service standards and the Land Use elements of the Shoreline Comprehensive Plan. The goal of this plan is to forecast the next 20 years of capital facilities needs and establish an achievable six year funding plan that incrementally provides the resources necessary to maintain adequate service delivery prior to or concurrently with the impacts of development.

The Capital Facilities Plan for Shoreline Fire Department contains all elements required by Washington Law to comply with the Washington State Growth Management Act (GMA) as set forth in RCW 36.70A.070(3):

“(3) A capital facilities plan element consisting of: (a) An inventory of existing capital facilities owned by public entities, showing the locations and capacities of the capital facilities; (b) a forecast of the future needs for such capital facilities; (c) the proposed locations and capacities of expanded or new capital facilities; (d) at least a six-year plan that will finance such capital facilities within projected funding capacities and clearly identifies sources of public money for such purposes; and (e) a requirement to reassess the land use element if probable funding falls short of meeting existing needs and to ensure that the land use element, capital facilities plan element, and financing plan within the capital facilities plan element are coordinated and consistent.”

The underlying premise of this document is that as the community continues to grow, additional resources will be required to adequately meet the growing demand for services. It is assumed that a direct relationship exists between population and demand for services which directly links to a need for resources. This plan focuses on achieving the “Benchmark” goals of Shoreline Fire Department's 20 year planning documents by utilizing a “concurrency” philosophy to service delivery; meaning fire and emergency service capacity must grow concurrently with development. To determine future resource needs, this document utilizes the 20 year growth predictions found in the City of Shoreline, King County Comprehensive Plans, and the SFD Station Location Analysis conducted in 2016. For purposes of this plan, capital improvements are defined as real estate, structures or collective equipment purchases with an anticipated cost of over \$20,000 and an expected useful life of at least five years.

1.2. Background & Organizational Overview:

1.2.1. Yesterday

Shoreline boasts a unique history and character derived from original settlements dating back to the late 1800s. The quality that drew early settlers to the area remains dominant to this day: location. The City of Shoreline offers classic Puget Sound beauty with the convenience of easy access to areas such as the City of Seattle.

As railroad fever gripped the Northwest in the 1880s, speculators planned towns in anticipation of the transcontinental railroad route. Among these was Richmond Beach, platted in 1890. The arrival of the Great Northern Railroad in Richmond Beach in 1891 spurred the growth of the small town and increased the pace of development in the wooded uplands.

Construction of the Seattle-Everett Interurban line through Shoreline in 1906, and the paving of the North Trunk Road with bricks in 1913, made travel to and from Shoreline easier, which increased suburban growth. People could live on a large lot, raise much of their own food and still be able to take the Interurban, train or, beginning in 1914, the bus, to work or high school in Seattle.

During the early twentieth century, Shoreline attracted large developments drawn by its rural yet accessible location. Car travel had broadened the settlement pattern considerably by the mid-1920s. Although large tracts of land had been divided into smaller lots in the 1910s in anticipation of future development, houses were still scattered.

The Great Depression and World War II slowed the pace of housing development. During the Depression, many Shoreline families eked out a living on land they had purchased in better times. By the late 1930s, commercial development concentrated along Aurora which saw steadily increasing use as part of the region's primary north-south travel route - U.S. Highway 99. Traffic on 99 swelled, particularly after the closing of the Interurban in 1939.

The late 1940s saw large housing developments spring up seemingly overnight. Schools ran on double shifts as families with young children moved into the new homes. In the late 1940s, business leaders and residents began to see Shoreline as a unified region rather than scattered settlements concentrated at Interurban stops and railroad accesses.

In 1944, the name "Shoreline" was used for the first time to describe the school district. Coined by a student at the Lake City Elementary School, it defined a community which went from city line to county line and from the shore of Puget Sound to the shore of Lake Washington.¹

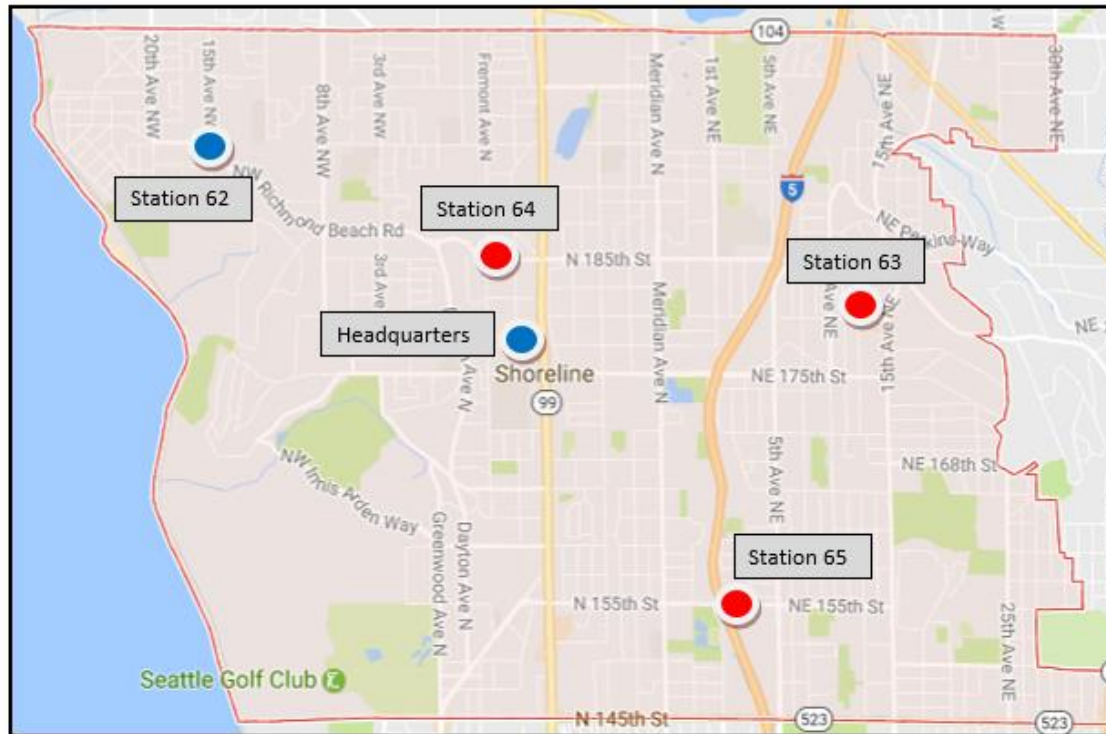
Originally formed as King County Fire District No. 4, Shoreline Fire Department has served the community since 1939. In 1995 Shoreline officially became a city being incorporated by King County and annexed into KCFD #4. The Department then changed its name officially to the Shoreline Fire Department in 1998.

1.2.2. Today

SFD is an independent special purpose district that provides fire and rescue services to the District's 13 square miles of predominantly urban areas. Services provided are delivered through a career type of fire service, meaning that only paid personnel are utilized to deliver services which include; fire protection, fire prevention and code enforcement, basic life support (BLS) emergency medical service (EMS), advanced life support (ALS) EMS in cooperation with King County EMS, public education in fire prevention and life safety, and technical rescue including high/low angle, confined space, and trench rescue. The urban boundary set in 1992 remains essentially the same in Shoreline. The current service area includes all of the City of Shoreline as well as the Town of Woodway and the Point Wells area, under service contracts. Furthermore, SFD provides ALS service to the Cities of Lake Forest Park, Kenmore, Bothell, and parts of Woodinville. Today with over 55,000 residents, Shoreline is Washington's 20th largest city.

¹ Information from City of Shoreline website <http://www.shorelinewa.gov/community/about-shoreline/shoreline-history>

Exhibit 1: Shoreline Fire Department Boundaries and Station Locations²



Red circles identify career station locations, blue circles represent other facilities.

1.2.3. Tomorrow's Growth

The City of Shoreline is already experiencing growth as the area emerges from the recession, which is expected to increase significantly in the near future. Generally, the entire King County region is seeing rapid development, but in Shoreline this will be augmented by the two light rail stations to be constructed over the next four years. As a result it is expected that there will be

² Internal SFD map

aggressive redevelopment of lower density properties to higher and better use. The result will be higher density commercial and multi-family residential development, which will include larger and taller structures that integrate mixed uses. These types of developments will require additional resources and specialized equipment for the delivery of adequate fire and rescue services. Due to the already built-out nature of Shoreline, the King County defined urban areas of today will likely remain much the same in the future, with growth occurring mainly within the city limits of Shoreline as described below.

1.2.3.1. City of Shoreline

The population of the City of Shoreline was fairly stable until about 2010 when growth started to increase at about one percent annually, with an estimated population in 2016 of 53,605.³ The growth rate is expected to increase to a range of 1.5 to 2.5 percent in focused growth areas with over 5,000 additional housing units over the next 20 years.⁴ This equates to an increase of 13,920 additional population at a rate of 2.4 people per household, bringing the total to an estimated 67,525 by 2035. Of course this could be dramatically influenced by regional demand and other factors.

Table 1: Future population of SFD

City of Shoreline	2010	2016	2035
Population	53,007 ³	53,605 ³	67,525
Population Growth Rate	flat (2000-2011)	1.14% (2011-2016)	1.5-2.5% (2016-2035)

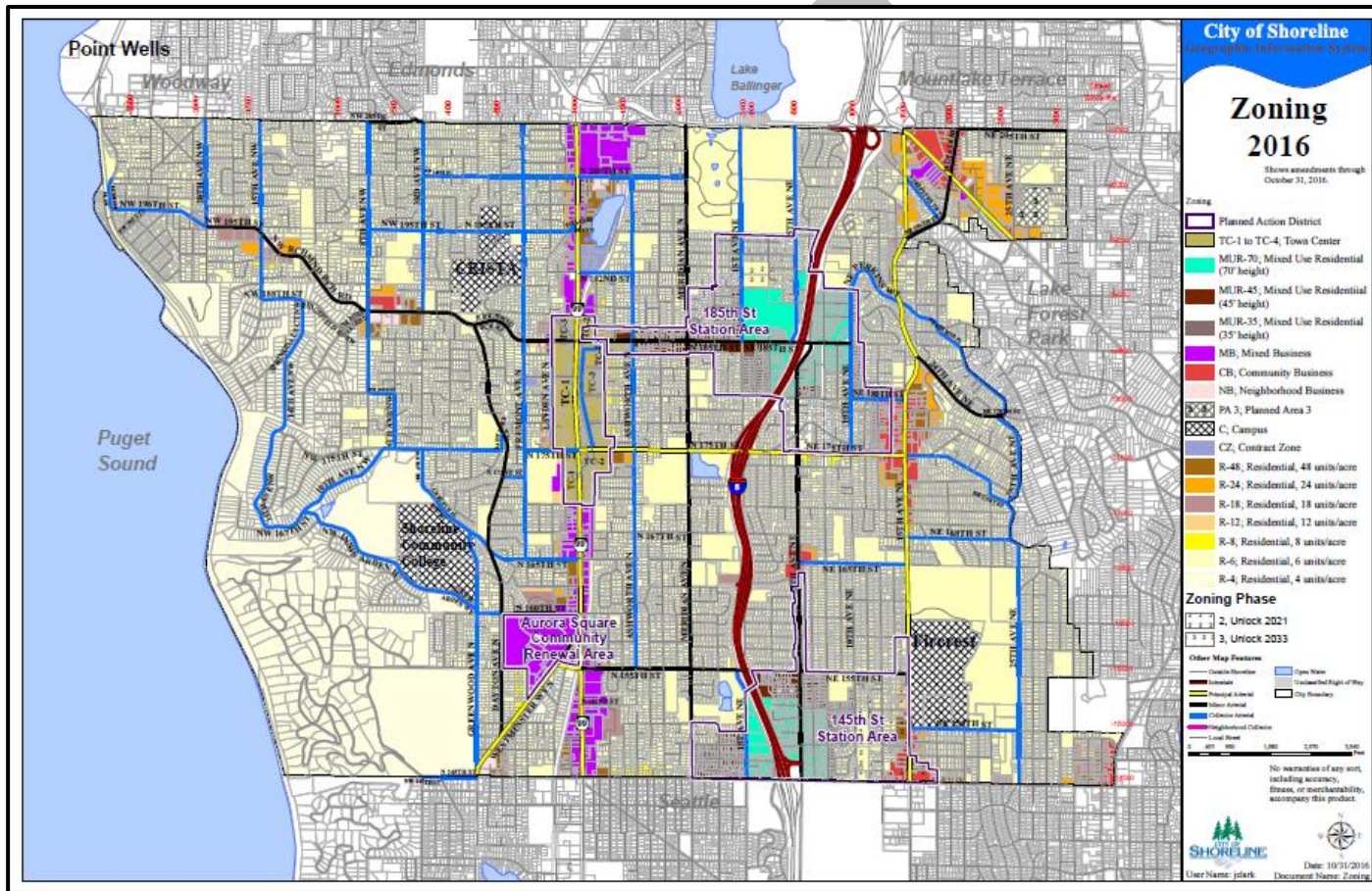
The following map shows the zoning classifications around the City including the light rail station subareas.

³ City of Shoreline Population Demographics <http://www.cityofshoreline.com/home/showdocument?id=9737>

⁴ City of Shoreline Sub-Area and FEIS <http://www.cityofshoreline.com/Home/ShowDocument?id=20061>

The following map shows the zoning classifications around the City, including the light rail station subareas:

Exhibit 2: City of Shoreline Zoning Map⁵



⁵ From City of Shoreline <https://s3.amazonaws.com/CityMaps/Zoning.pdf>

2. Inventory of Current Capital Assets

Capital resources for SFD consist of fire stations, fire apparatus (vehicles used for fire and rescue work), staff vehicles and the related equipment, tools, and associated personal protection equipment needed to safely and legally provide fire and rescue services. Current inventories of these resources are listed below.

2.1. Fire Stations

Emergency services are provided from three career fire stations located throughout the City of Shoreline, as identified in Table 2 and shown on the map in Exhibit 1. Two additional ALS units operate out of the neighboring Northshore and Bothell Fire Departments under regional service agreements. On average, the existing facilities in operation are nearly 34 years old, with Station 62 as the oldest at 69 years, and Headquarters as the newest at 16 years old.

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Table 2: Existing Fire Station Descriptions

Facility	Location	Size	Built	Capacity	Condition	Dorm Rooms
Career Stations						
Station 63	1410 NE 180 th St	7,310	1970	3 Bays <i>No Drive Thru</i>	Fair	7
Station 64	719 N 185 th St	12,082	1999	3 Deep Bays <i>2 Drive Thru</i>	Good	8
Station 65	145 NE 155 th St	11,441	1999	3 Deep Bays <i>1 Drive Thru</i>	Good	7
Sub-total		30,833		9 Bays		22
Other Facilities						
Headquarters	17525 Aurora Ave N (Includes Fleet Bays)	20,370	2001	2 Deep Bays <i>2 Drive Thru</i>	Good	0
Station 62	1851 NW 195 th St (Future Career Station)	1,560	1948	2 Bays <i>No Drive Thru</i>	Poor	0
Sub-Total		21,930		4 Bays		0
Total		52,763		13 Bays		22

One critical factor in proper station location is ensuring an efficient response to all geographical areas of the Department, especially to areas of emergency incident concentrations. In the following two exhibits the response performance and incident concentrations are mapped with the City of Shoreline boundaries shown by a black line.

Exhibit 3: Map of Station Locations with Response Performance Rings for Stations 63, 64, and 65

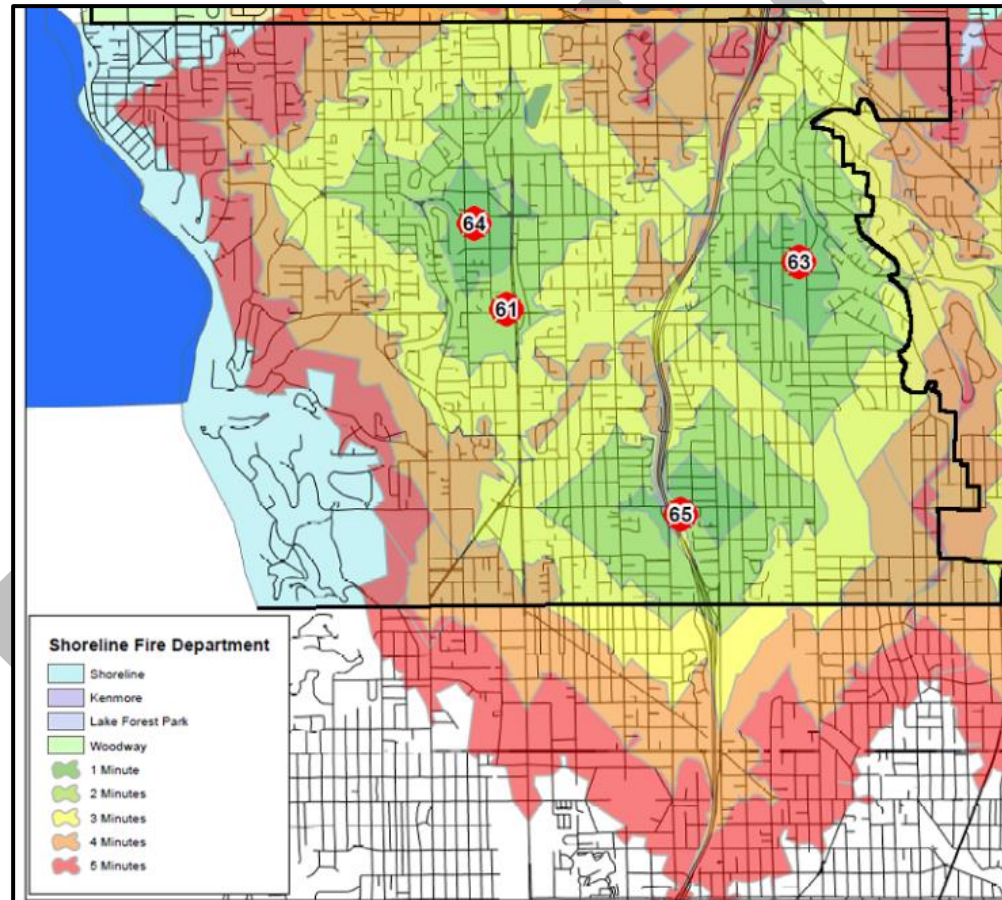
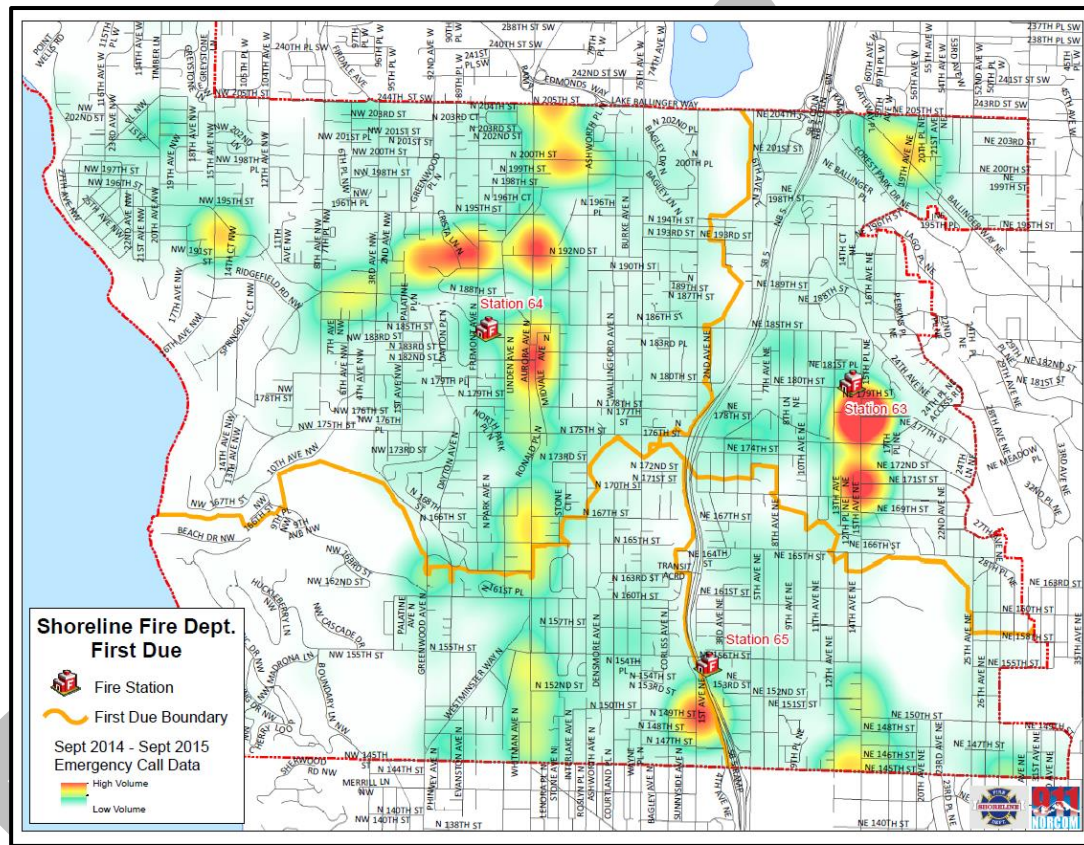


Exhibit 4: Map of Station Locations with Call Concentrations for Stations 63, 64, and 65



2.2. Apparatus

SFD’s current fleet of emergency response vehicles is well maintained, but our ability to replace front line suppression apparatus has been restricted financially. For example, the ladder truck is currently 23 years old and should have been replaced at 15 years. Fortunately,

the Department was successful in passing a capital bond in 2015 to address some of the capital needs, but it will not be enough for all critical needs and only addresses the current rotation of apparatus. For example, the bond includes replacement of two of the aid cars, which was just recently completed. Another aid car was recently replaced due to an accident. SFD has designed a life cycle replacement of all response apparatus for front line service; aid cars (seven years), fire engines (ten years), and the ladder truck (fifteen years). After front line service they are rotated to reserve status for the same length of years, except for the ladder truck that is declared surplus. In the future, if there is space available, keeping a reserve ladder truck will be considered. In all of these examples and discussions, the ALS units are not discussed because they are supported financially by the KCEMS levy and therefore have a different funding mechanism. Table 3 provides a detailed listing of existing front line and reserve response apparatus, not including ALS units, staff vehicles, etc., at different locations with current age in years.

Table 3: Apparatus Inventory

Station	Aid Car	Fire Engine	Truck	Rescue	Command	Other
Station 63	A63(2)	E63(9)				
Station 64	A64(2)	E64(9),E62(18)			B61(4)	
Station 65	A65(1)	E65(9)	L61(23)	R61(18)		
Headquarters	A61(10)	E61(18)			B62(13)	
Station 62						ATV62(1)
Total (Avg Age)	4 Aid(9)	5 Engines(13)	1 Truck(23)	1 Resc(18)	2 BC(9)	1 ATV(1)

2.3. Equipment

A significant portion of fire station costs lie in the fixtures and equipment in the structure, such as vehicle exhaust systems. Some of these fixtures are integral to the structural integrity and intrinsic to the facility, such as the roof covering. Contrary to a single family residence these facilities also require more fixtures than similar structures, such as four refrigerators instead of one. The fixtures and equipment listed in Table 4 are not all inclusive, but includes the higher priced items.

Table 4: Existing Special Equipment Inventory

Station Fixtures and Equipment Inventory	
Fixture or Equipment	Life Cycle
HVAC Systems	25 Years
Vehicle Exhaust Systems	25
Emergency Generators	25
Above Ground Fuel Tanks	30
Roof Coverings	25
Refrigerators	10
Cooking Ranges/Ovens	15
Clothes Washers/Dryers	7
Dishwashers	7
Water Heaters	10
Bunker Gear Extractor	15
Oil Separators	15
Vehicle Hoists	25
Apparatus Bay Doors	20
Floor Coverings	15
LCD Projectors	10
Televisions	10
Fitness Equipment	5

A full complement of equipment is necessary for the delivery of fire and rescue services. This equipment is carried on aid cars, fire engines, the ladder truck, other apparatus, or at the station, allowing firefighters to safely and effectively deliver services. Table 5 provides a listing of operational capital equipment maintained by SFD.

Table 5: Existing Operational Equipment

Operational Equipment	
Equipment	Life Cycle
Fire Hose	10 Years
Fire Hose Nozzles	15
Water Appliances	20
Rescue Tools	15
SCBA	15
SCBA Air Compressor	15
IT & Office Equipment	variable
Mobile Radios	15
Portable Radios	7
Personal Protective Gear	10
Patient Gurneys	15
Defibrillators	10
Thermal Imaging Cameras	10
Positive Pressure Fans	20
Special Operations Equipment	10

3. Needed Resources

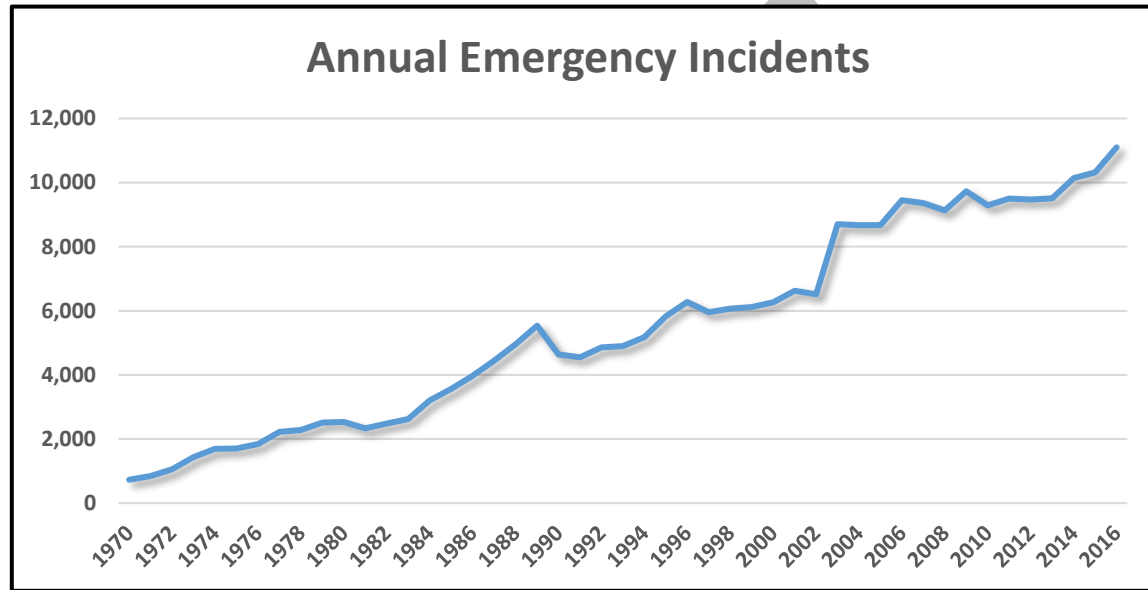
3.1. Impacts of the Growth Management Act

The Washington State Growth Management Act (GMA) was enacted to provide local oversight of community growth with the intent for local agencies such as counties, cities and towns, to monitor and mitigate the impacts of growth. Concurrency for transportation infrastructure is mandated by the Act and local agencies were given the authority to establish concurrency guidelines for other public needs such as water, sewer and fire services.

Fire districts such as SFD were originally created to provide rural fire protection. At the time the GMA was enacted in King County, more than 30 independent rural fire districts existed; all were independent municipal corporations without reporting requirements to the King County planners who were charged with developing Comprehensive Plans and implementing codes to comply with the GMA. As a result, fire officials for the most part were unaware of the looming impacts that the GMA (and its mandate to establish urban growth boundaries) would have on their ability to deliver services into the future.

The impacts of area growth spurred by the GMA over the past 27 years has significantly affected SFD's ability to deliver service. The service area population in 1990 was approximately 49,287 generating just over 4,637 emergency incidents. In 2016 the service area population has increased to 53,605 with 9,290 emergency incidents. This equates to a population increase of 7.5%, while incidents have increased by over 100%. An estimated 20% of this increase can be attributed to the expansion of the medic program service area, but that is still a significant increase in the need for emergency services. The following graph shows the increases in emergency incident call volumes since 1970:

Exhibit 5: Graph of Emergency Incident Call Volumes from 1970 to 2016



The rate of incidents, if averaged annually over the past 46 years is just over 6.5%. However, due to forecasted population growth the Shoreline area could also see even higher call volume increases in the near future.

Community growth and call volume increases generate the need for additional capital resources to support the greater demand for service. Current capital facilities are not capable of supporting adopted levels of service across the SFD service area.

3.2. Indicators of Future Capital Facility Needs

3.2.1. Level of Service Measures

3.2.1.1. Response Effectiveness

Response time is a critical component of any fire service system and is measured against two major benchmarks; time to brain death in a non-breathing patient and time to the occurrence of flashover⁶ in a structure fire.

Response effectiveness is defined as the ability for a fire department to assemble enough equipment and personnel to prevent brain death, and control the fire prior to flashover. Brain death begins to occur at 4 to 6 minutes⁷ in a non-breathing patient and flashover can occur anywhere from 3 to 20 minutes depending on the availability of oxygen and fuel in a fire. Most fire engineers and the National Fire Protection Association (NFPA) estimate flashover to occur most commonly between seven (7) to twelve (12) minutes.⁸

3.2.1.2. Level of Service Components and Measures

Washington State Law in Chapter 52.33 RCW requires career fire departments to adopt level of service standards and report performance of those standards annually. Time to the onset of brain death in a non-breathing patient and time to flashover in a structure fire are two required elements to be considered by the State when setting performance standards. The statute further recognizes the National Fire Protection Association (NFPA), the International Fire Chief's Association (IFCA) and International City/County Management Association (ICMA) for their work on establishing performance measures for fire and rescue services.

⁶ Flashover refers to the point in a structure fire when everything in a room has heated to its ignition point, which causes everything within the room to instantaneously burst into flames. Survival is no longer possible in a room that has flashed-over. Flashover is a significant killer of firefighters even with all of their protective gear.

⁷ The American Heart Association states; Brain death and permanent death start to occur in just four to six minutes after someone experiences cardiac arrest. Cardiac arrest is reversible in most victims if it's treated within a few minutes with an electric shock to the heart to restore a normal heartbeat. This process is called defibrillation. A victim's chances of survival are reduced by 7 to 10 percent with every minute that passes without CPR and defibrillation.

⁸ Source: Time Verses Products of Combustion, NFPA handbook, 19 Edition

Chapter 52.33 RCW requires reporting of “fractile” performance at the 90th percentile. In simple terms, this would be the response performance of the 90th emergency response out of 100 if the response data of these incidents were stacked in order of response time from fastest to slowest. Response time performance of the 90th incident in the stack would be the agency’s performance at the 90th fractile or percentile. To measure emergency response performance and identify system deficiencies, SFD has adopted response time standards based upon the concepts described in this section and performance is evaluated against the following four performance factors.

3.2.1.3. Turnout Time:

Turnout time refers to the elapsed time from when firefighters have received notification of an emergency until they are able to cease their current task, walk to the apparatus bay, don personal protective equipment, board the appropriate response vehicle, securely seatbelt themselves and begin driving away from their assigned fire station toward the dispatched emergency scene.

3.2.1.4. First Unit Travel Time:

First unit travel time refers to the drive time required for the first emergency response unit to travel from a fire station to the address of the emergency it was dispatched to. The fire industry often refers to first unit travel time as “Distribution Time,” which references the best practice of distributing fire stations and adequate resources across a fire department’s service area, so that all areas of the jurisdiction can be reached within the adopted time standard for the first unit to arrive on location of an emergency event. This time measure is sometimes referred to as the speed of attack or response.

The National Fire Protection Association establishes a four minute time standard for distribution or first unit travel time. This standard is to be performed 90% of the time in urban areas. The Center for Public Safety Excellence also establishes a first unit travel time of four minutes in urban areas to be performed 90% of the time.

3.2.1.5. Full First Alarm Travel Time:

Full first alarm travel time refers to the elapsed drive time required for the last of all emergency units dispatched to an emergency to arrive at the dispatched address. The fire industry often refers to full first alarm travel time as “Concentration Time,” which references the best practice of concentrating enough resources within distributed fire stations so that an adequate number of firefighting personnel and resources can arrive in time to stop the escalation of property and life loss. Concentration differs by response type, for instance a structure fire requires more resources than a response to a sudden cardiac arrest. Concentration of resources is often referred to as the force of attack or response.

The National Fire Protection Association establishes a standard for concentration or full first alarm travel time of eight minutes to be performed 90% of the time in urban areas. The Center for Public Safety Excellence also establishes a full first alarm travel time in urban areas at 8 minutes to be performed 90% of the time.

3.2.1.6. Resource Reliability:

Reliability refers to the probability that the required amount of resources will be available when a fire or other emergency call is received. If all response resources are available at their assigned station every time an emergency call is received, they would have a reliability of 100%. If a fire station's emergency response unit is assigned to an emergency response when a second request for emergency response is received in that fire station's service area, a substitute response unit from a fire station farther away will need to respond causing longer response times than if the original unit were able to respond. These simultaneous emergency calls are tracked to measure the effectiveness or reliability of fire station resources; as the number of emergencies in a given fire station's service area increases, the probability of that station's emergency response unit(s) being available decreases. A decrease in unit availability or "Reliability" leads to increased response times, therefore it is imperative that response units remain available or reliable at least as often as they are expected to perform their defined level of service. To achieve 90% performance, response units must be available to respond 90% of the time.

3.2.1.7. Levels of Service by Community Type:

Turnout time, first unit travel time, full first alarm travel time and reliability are then applied to categories of community densities. The fire service defines community types by urban, suburban and rural. SFD uses the following community type definitions of the Center for Public Safety Excellence:

3.2.1.7.1. Urban Service Area:

A geographically defined land area having a population density greater than 2,000 or more people per square mile.

3.2.1.7.2. Suburban Service Area:

A geographically defined land area having a population density of 1,000 to 2,000 people per square mile.

3.2.1.7.3. Rural Service Area:

A geographically defined land area defined as having a population density of less than 1,000 per square mile.

3.3. Shoreline Fire Department Levels of Service

By definition SFD is an urban community and has established benchmark performance measures following the guidelines established by the Center for Public Safety Excellence (CPSE) published in their Commission on Fire Accreditation International (CFAI) Self-Assessment Manual. Benchmark performance represents industry best practices capable of limiting the loss of life and property. Performance below these standards can make an agency ineligible for accreditation by the CFAI and may contribute to unnecessary property and life loss.

Table 5: Turnout Time Performance Objectives

Benchmark Turnout Time Objectives		
Performance Type	Urban	Performance Factor
Daytime to all alarm types	2 min, 00 sec	90% of the time
Nighttime to all alarm types	2 min, 30 sec	90% of the time

Table 6: Travel Time Performance Objectives

Benchmark Travel Time Objectives		
Performance Type	Urban	Performance Factor
First in - "Distribution"- Benchmark	4 min, 00 sec	90% of the time
Effective Response Force - "Concentration" - Benchmark	8 min, 00 sec	90% of the time

Table 7: Reliability Objective

Minimum Reliability Objectives	
Performance Type	Urban
Minimum Peak Hour Unit Reliability	90%

3.5. Current Response Time Performance

Analysis of SFD’s historical response data reveals sub-standard performance compared to benchmark expectations and are generally getting worse. Several factors contribute to this current sub-standard performance. First, performance cannot be met during peak hours where unit reliability is below the expected performance standard of 90%. Second, some areas of SFD simply cannot be reached within the adopted time standards because of the distance from a fire station and finally, some stations are within timely reach of substandard service areas but the lack of full time staffing on all apparatus at these stations impacts their unit reliability. Emergency response rates for the preceding three (3) years are identified in **Table 8, Drive Time Performance Comparison to Benchmark and Baseline Standards**. Historical performance is identified in a stop-light, (green, yellow, red) approach. Green indicates the standard was met, yellow indicates performance was within 10 seconds of the standard and red indicates performance was more than the standard. The information is separated into two tables. The first shows the drive time averages for the staffed apparatus and the second describes drive time averages by station. Data for this analysis was obtained from emergency response records of SFD.

Table 8: Drive Time Performance Comparison to Benchmark Standards 2014, 2015, and 2016⁹

Staff Dedicated Apparatus				
		2014	2015	2016
Unit	Urban	Drive Time	Drive Time	Drive Time
A64	4:00	3:50	4:06	4:01
E64	4:00	3:58	4:21	4:15
A65	4:00	4:11	4:16	4:11
E65/L61	4:00	4:21	4:22	4:35
E63/A63	4:00	3:59	4:03	4:24
<i>If Unit is over 4:00 minutes then considered Red, between 3:50 and 4:00 then Yellow, if less than 3:50 then Green.</i>				

⁹ Performance is displayed in a stop-light approach, red equals failure, yellow is above failure but within 10 seconds of failure, green signifies that the performance expectation is being met.

Station				
		2014	2015	2016
Station	Urban	Drive Time	Drive Time	Drive Time
63	4:00	3:59	4:03	4:24
64	4:00	3:53	4:11	4:05
65	4:00	4:16	4:19	4:21

If Station is over 4:00 minutes then considered Red, between 3:50 and 4:00 then Yellow, if less than 3:50 then Green.

The next three tables indicate the reliability of staffed apparatus for the preceding three years. These statistics identify the amount of time that a specific unit is available in their assigned station to respond on an emergency incident. If a unit is not available due to incident concurrency, then drive time and overall response performance is decreased. The “time on task” column in the tables refers to the minutes that the specific unit(s) are on an emergency incident annually. This time also includes incidents to which the unit is responding, but then cancelled prior to arriving on location. The total time is for responses only and not for other activities. The “reliability” column references the annual percentage of time that the apparatus is in the assigned station and available for a response.

Table 9: Current Response Reliability 2014, 2015, and 2016¹⁰

Staff Dedicated Apparatus (2014)				
Unit	Incidents	Time on Task	Reliability	Condition
A64	2877	111,076.67	78.87%	Red
E64	1561	32,500.68	93.82%	Yellow
A65	1598	58,482.83	88.87%	Red
E65/L61	1716	34,787.75	93.38%	Yellow
E63/A63	2218	59,875.85	88.61%	Red

If Unit is under 90% reliability then considered Red, between 90 and 95% then Yellow, if greater than 95% then Green.

¹⁰ Performance is displayed in a stop-light approach, red equals failure to the standard , yellow is above failure but within 5 percent of the standard and green signifies that the performance expectation is being met

Staff Dedicated Apparatus (2015)				
Unit	Incidents	Time on Task	Reliability	Condition
A64	2958	118,428.42	77.47%	Red
E64	1655	35,369.02	93.27%	Yellow
A65	1476	56,860.62	89.18%	Red
E65/L61	1856	35,871.70	93.18%	Yellow
E63/A63	2002	58,125.20	88.94%	Red
<i>If Unit is under 90% reliability then considered Red, between 90 and 95% then Yellow, if greater than 95% then Green.</i>				

Staff Dedicated Apparatus (2016)				
Unit	Incidents	Time on Task	Reliability	Condition
A64	3048	118,791.75	77.40%	Red
E64	1748	36,930.43	92.97%	Yellow
A65	1765	64,282.97	87.77%	Red
E65/L61	1057	33,482.12	93.63%	Yellow
E63/A63	1279	52,932.80	89.93%	Red
<i>If Unit is under 90% reliability then considered Red, between 90 and 95% then Yellow, if greater than 95% then Green.</i>				

3.5.1. Conclusion of Need for Capital Resources

SFD uses multiple indicators in determining the need for additional resources that will achieve and maintain their level of service standards. SFD conducted a fire station location analysis in 2016. This study and the Capital Facilities Plan have evaluated multiple variables of both SFD’s service delivery model and their service area demographics to develop a rationale for the need of future resources. The variables considered regarding the SFD service area include:

- The nature of fire and life safety risks
- Types of incidents occurring (fire, rescue, emergency medical services, etc.)
- The magnitude of incident types and their need for resources
- Types and sizes of properties and their specific risks (existing and future)
- The ability of existing resources to match demand of incident types and property risks
- Historic and predicted population and geographic growth
- Historic and predicted land development
- Emergency call growth (historic and predicted)
- Travel times from fire stations to emergency scenes (historic and predicted)
- Availability of fire resources to demand for service (work load related, capacity of fire resources is limited)
- Responding unit types (career or volunteer staffing)
- Transportation networks (existing and future), and their influence on emergency response
- Geographic Information System (GIS) modeling of fire station coverage areas (provides for best placement of resources)
- Historic and predicted response times (current and future deployment)

3.4.1.1. Level of Service Adopted

In consideration of the numerous variables listed above the Board of Fire Commissioners for SFD have adopted the level of service standards and future fire station deployment model of this Plan. This Plan works toward implementing the level of service standards identified herein and the long-range four fire station model which has been adopted by the SFD Board.

3.6. Capital Projects and Purchases

Implementation of the adopted fire station deployment model is expected over the next 20 plus years to meet the demands of population growth identified in Table 1 on page 5 of this document. In total, SFD needs two new fire stations and several capital improvement projects to preserve current station capacity and prepare for future needs. In addition to station construction, all of the associated resources, special equipment and tools needed to deliver fire and rescue services from these sites are also required.

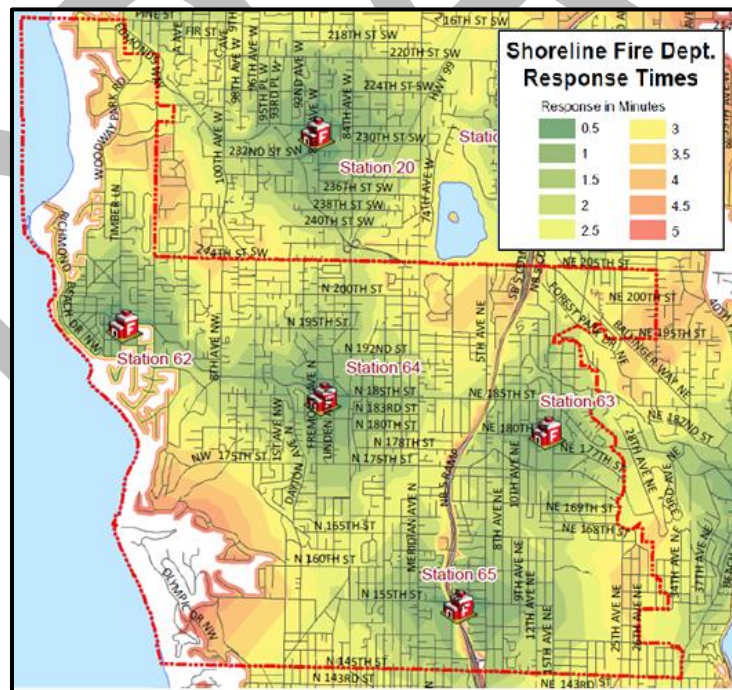
3.6.1. Revenue Limitations Effect Build Out of Fire Stations

Current funding limitations associated with the economic recession that began in 2008 will restrict SFD from implementing the full fire station model within the 20 year timeframe of this plan. The following description of capital projects and purchases reflects the current priorities for SFD over the next 20 years and includes implementing proposed stations “New Station 63” and “New Station 62,” as shown in Exhibit 6 below.

3.6.2. Cost of New Fire Stations

The following costs are based on the General Services Administration’s estimates for size requirements of fire stations capable of meeting the National Fire Protections Association and Washington State standards for safe and effective fire stations. Cost of construction is based upon recent costs of fire station construction. Land costs are based upon recent land acquisition experience in the Shoreline area. Current market trends for housing/land costs are increasing dramatically, so estimating future values and cost beyond the next two years is challenging. The map below illustrates the improved response time rings within the City, especially in the northwest corner.

Exhibit 6: Map of Response Rings from New Stations 62 and 63, and Stations 64 and 65



3.6.3. New Station 63

The current Station 63 shown in Exhibit 6 is located at 1410 NE 180th St, a location that can provide service to the North City area including the north east corner of the City. After reviewing over 20 different potential relocation sites and evaluating response time mapping, it was felt that the best option was to rebuild the station at the current location.

However, current and future operational needs coupled with new building and construction requirements have resulted in the new, two-story station growing significantly in size to an estimated 16,650 sq ft and requiring about 1½ acres of land. The larger station and the need to have drive through apparatus bays, forced SFD to buy adjacent properties to build the new station. SFD is currently working through a property acquisition process and it is anticipated that in late 2017 the needed properties will have been purchased. The Department is also in the process of designing the new station with a contracted architectural firm. Construction will likely begin in 2018 with final finishing and project acceptance scheduled for early 2019.

Table 10: Cost of New Station 63¹¹

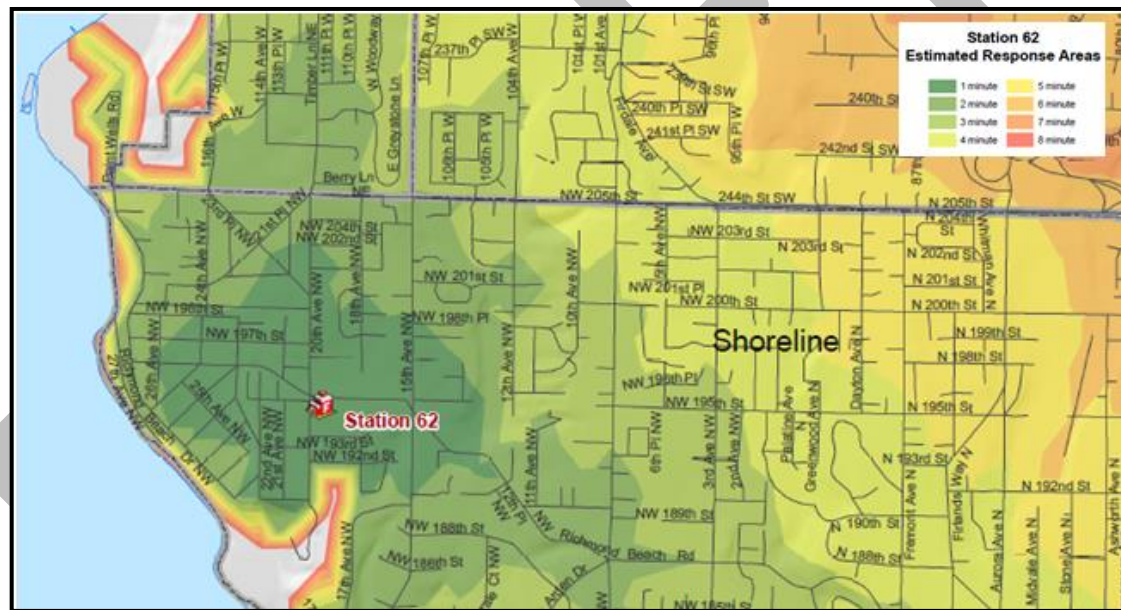
Land and Construction Costs	
Land (including legal fees)	\$1,850,000
New Construction (includes site work, Phase 1 building and temporary quarters)	\$9,000,323
Subtotal Land and Construction Costs	
\$10,850,323	
Project Soft Costs	
Furnishing and Equipment	\$215,941
Architect and Engineering Fees	\$946,603
Permits/Fees/Inspections	\$180,006
Printing/Reimbursables	\$144,650
Contingency Funds	\$315,011
Washington Sales Tax (some taxes built into phase 1)	\$922,533
Subtotal Soft Costs	
\$2,724,744	
Total New Station 63 Project Costs (2017 Dollars)	
\$13,575,067	

¹¹ Cost estimates provided by The Robinson Company.

3.6.4. New Station 62

The current station 62, located at 1851 NW 195th St, is utilized as a children education center where tours and public education are held. The station was one of the original fire stations for Shoreline and was built in 1948. It has never had career staffing and it would be cost prohibitive to remodel the station. Again, similar to the location of the current station 63, the current station 62 is in a very good location to address response time challenges to that area. Below is a map showing a projected response time map if station 62 was staffed at the current location.

Exhibit 7: Map of Response Ring for Station



However, before land is purchased for this rebuild a more thorough analysis of multiple sites would need to be performed similar to the analysis for the new station 63.

The new station 62 would be constructed as what is considered a “satellite station”. This station would likely be constructed in a three, deep-bay configuration with, one or two drive-through bays, and space for five dorms. It is estimated that with this concept the size of this station would be approximately 11,000 sq ft.

The first step would be to determine a range of area that would support efficient operations, analyze possible locations within that area, purchase the land, and then design and construct the fire station. Due to financial constraints it is estimated that the purchasing of the land would not be possible until approximately 2028. Therefore, the costs of construction in the table below will change dramatically by the time this project is initiated.

Table 11: Cost of New Station 62

Land and Construction Costs	
Land (including legal fees)	\$1,850,000
New Construction (includes site work)	\$5,080,476
Subtotal Land and Construction Costs	
\$6,930,476	
Project Soft Costs	
Furnishing and Equipment	\$132,414
Architect and Engineering Fees	\$409,599
Permits/Fees/Inspections	\$106,413
Printing/Reimbursables	\$75,743
Contingency funds	\$153,093
Washington Sales Tax	\$780,774
Subtotal Soft Costs	
\$1,658,036	
Total New Station 62 Project Costs (2017 Dollars)	
\$8,588,512	

3.6.5. Capital Improvement Necessary to Preserve Existing Assets, 2018 through 2037

While Shoreline Fire Department has adopted a four station future deployment plan, those existing stations that will be used as part of that model or those planned to be replaced in the future, must be preserved to maintain the existing assets until they can be

replaced. [Table 12: Schedule of Asset Preservation Projects](#), identifies the larger cost asset preservation projects necessary to maintain these assets in a state of emergency response readiness.

Table 12: Schedule of Capital Preservation and Fixture Replacement Projects, 2018-2037

Asset Preservation and Fixture Replacement Projects in 2017 Dollars			
Station(s)	Project Description	Project Year(s)	Total Cost
61,64,65	HVAC System Overhaul or Replacement	2024, 2026	\$1,150,000
61,64,65	Vehicle Exhaust System Replacement	2019, 2022	\$220,000
61,64,65	Emergency Generator Replacement	2025, 2026	\$130,000
61	Above Ground Fuel Tank and Controller Replacement	2018, 2031	\$20,000
61,64,65	Roof Replacement	2024, 2026	\$130,000
61,63,64,65	Appliances Replacement (refrigerators, ranges, dryers, washers, dishwashers, water heaters, bunker gear extractors)	2018-2037	\$212,745
61	Oil Separator Replacement	2021	\$36,000
61	Vehicle Hoists Replacement	2026	\$70,000
61,62,64,65	Apparatus Bay Doors Replacement	2018, 2026	\$235,000
61,62,63,64,65	Floor Covering Replacement	2016,2018,2031,2033	\$219,000
61,63,64,65	LCD Projector and TV Replacements for Training Purposes	2018,2022,2023,2028,2034	\$67,800
61,63,64,65	Physical Fitness Equipment	2018-2037	\$160,000
Total Cost of Asset Preservation and Fixture Replacement			\$2,680,545

3.6.6. Cost of Firefighting Equipment Required, 2018 through 2037

Table 13, Summary of Firefighting Equipment Costs, 2018 – 2037, identifies total revenue needed between 2018 and 2037 to fund SFD’s equipment purchase and replacement plan.

Table 13: Summary of Equipment Costs, 2018 – 2037

Firefighting Equipment Cost in 2017 Dollars		
Description	Cycles in Plan	Subtotal
Fire Hoses	6	\$206,000
Fire Nozzles and Appliances	2	\$120,000
Rescue Tools	2	\$80,000
Self-Contained Breathing Apparatus and Air Compressor	2	\$1,170,000
IT/Office Equipment	20	\$60,000
Mobile Radios	2	\$78,000
Portable Radios	2	\$456,000
Bunker Gear	2	\$406,800
Gurneys	1	\$120,000
Defibrillators and Batteries	8	\$105,000
Thermal Imaging Cameras	2	\$136,000
Positive Pressure Fans	2	\$16,000
Maintenance Tools	4	\$20,000
Special Operations Equipment	2	\$136,000
TOTAL		\$3,109,800

3.6.7. Apparatus Replacement

Table 14: Apparatus Replacement Summary, identifies the life cycle of apparatus and the total revenue needed between 2018 and 2037 to fund SFD’s apparatus purchase and replacement plan.

Table 14: Apparatus Replacement Summary

Apparatus Replacement Schedule in 2017 Dollars									
Year	Aid Car	Fire Engine	Ladder Truck	Rescue	BC	Fire Prev	Fleet/Maint	Staff	Estimated Cost
2018									\$0
2019		2			1				\$1,359,000
2020									\$0
2021						1			\$38,000
2022	1								\$225,000
2023									\$0
2024	2								\$450,000
2025					1	1	1	1	\$179,000
2026		2		1					\$1,500,000
2027									\$0
2028								1	\$40,000
2029	2					1			\$488,000
2030									\$0
2031		2			1			1	\$1,399,000
2032	2		1						\$1,650,000
2033						1	2		\$118,000
2034								1	\$40,000
2035									\$0
2036	2	2							\$1,750,000
2037					1	1		1	\$97,000
Total 20 Year Apparatus Costs									\$9,377,000

4. 20 Year Capital Cost Summary

The 20 year capital costs listed in [Table 15: 20 Year Cost of Capital Resource Needed to Preserve LOS, 2018 – 2037](#), provide the first steps toward achieving the adopted station deployment model. The full station deployment model will be capable of providing the resources necessary to maintain concurrency with future development. Completion of this model could potentially be completed in the next 20 years, but depending on funding options may extend beyond the scope of this plan.

The cost of resources itemized in [Table 15](#), are based upon an interim plan to achieve and maintain fire service concurrency over the next 20 years. Capital needs include the construction of two new fire stations, and all of the apparatus (fire engines, ladders etc.), and equipment required to deliver fire and life safety services.

Timing of fire station construction and other capital purchases is consistent with the capital projects detailed in section 3.5 found on pages 22 through 29 of this document. Fire station construction costs are typically spread out over four years for each new station project. Generally the three year plan follows a first year of land acquisition, and if needed, design and engineering. A second year of design approval, permitting, site infrastructure improvements and start of hard construction costs. The third year ends with the completion of construction, acceptance by SFD from the contractor and installation of final furnishings and firefighting equipment.

Phasing of construction and corresponding expenditures is equal to 30 percent of the projects estimated costs in the first year. Second year expenses are estimated at 60 percent of the overall project cost and 10 percent is budgeted in the third and final year of the construction process.

Table 15: 20 Year Cost of Capital Resource Needed to Preserve Level of Service, 2018 – 2037

20 Year Capital Needs																					
Costs in thousands based on 2017 dollars																					
Expense	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	Total
Station Constr	\$8,145	\$5,430	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$5,153	\$2,577	\$859	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$22,164
Preserv & Fixtures	\$315	\$170	\$10	\$60	\$76	\$27	\$230	\$80	\$1,315	\$12	\$59	\$8	\$12	\$36	\$18	\$190	\$13	\$10	\$8	\$10	\$2,659
Equip	\$746	\$47	\$108	\$5	\$48	\$80	\$40	\$45	\$431	\$5	\$68	\$128	\$113	\$10	\$48	\$861	\$74	\$45	\$208	\$0	\$3,110
Apparatus	\$0	\$1,359	\$0	\$38	\$225	\$0	\$450	\$179	\$1,500	\$0	\$40	\$488	\$0	\$1,399	\$1,650	\$118	\$40	\$0	\$1,750	\$97	\$9,377
Annual Total	\$9,167	\$7,132	\$133	\$117	\$420	\$135	\$930	\$409	\$4,466	\$23	\$3,129	\$6,751	\$1,165	\$2,495	\$3,086	\$2,147	\$249	\$108	\$4,141	\$324	\$37,310

5. Capital Resource Costs, 2018 – 2037

The following table breaks down the 20 year capital needs into the next six years.

Table 16: Six (6) Year Capital Needs

Six (6) Year Capital Needs							
All Costs in thousands based on 2017 dollars							
	2018	2019	2020	2021	2022	2023	6 Year Total
Station Construction	\$8,145	\$5,430	\$0	\$0	\$0	\$0	\$13,575
Asset Preservation & Fixtures	\$315	\$170	\$10	\$60	\$76	\$27	\$658
Equipment	\$746	\$47	\$108	\$5	\$48	\$80	\$1,034
Apparatus	\$0	\$1,359	\$0	\$38	\$225	\$0	\$1,622
Total	\$9,206	\$7,006	\$118	\$103	\$349	\$107	\$16,889

6. Financing Plan

Table 17 includes four revenue sources; annual general funds, capital bonds, sale of surplus property, and impact/level of service fees. Full funding of this capital plan depends on maintenance of the SFD annual levy, fire benefit charge, use of existing bond capacity, impact and level of service fees, and an additional capital bond measure of \$5 million in 2018 and a \$10.65 million in 2028. Through annual operating funds and bonds, the tax payers of SFD will fund approximately 65% of the 20 year capital needs, with impact and level of service fees estimated to provide about 35 percent of the funding required. Impact and level of service fees to be assessed on new development is identified in the Mitigation and Level of Service Policy. All impact and level of service fees are designed to raise the funds to complete necessary capital projects as mitigation of the impacts of new development. These fees will not be used on capital projects to maintain

status quo or capacity expansion required to fix existing deficiencies, but rather to address additional capabilities, capacity or expansion that is required to provide the expected level of service.

The following table is similar to Table 15 except that it is modified to reflect only those costs, per category, that can be attributed to the impact of new development.

Table 17: 20 Year Capital Needs from New Development

20 Year Capital Needs From New Development																					
Costs in thousands based on 2017 dollars																					
Expense	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	Total
Station Constr	\$4,614	\$3,093	\$52	\$52	\$52	\$52	\$52	\$52	\$52	\$52	\$5,153	\$2,577	\$859	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$16,715
Preserv & Fixtures	\$14	\$1	\$1	\$1	\$1	\$6	\$1	\$4	\$3	\$1	\$6	\$0	\$0	\$1	\$0	\$8	\$0	\$0	\$0	\$0	\$48
Equip	\$246	\$16	\$36	\$2	\$16	\$26	\$13	\$15	\$142	\$2	\$22	\$42	\$37	\$3	\$0	\$284	\$24	\$15	\$69	\$0	\$1,011
Apparatus	\$0	\$231	\$0	\$38	\$68	\$0	\$135	\$30	\$255	\$0	\$7	\$304	\$0	\$777	\$1,335	\$20	\$7	\$0	\$356	\$16	\$3,579
Annual Total	\$4,874	\$3,341	\$89	\$93	\$137	\$85	\$202	\$102	\$453	\$55	\$5,188	\$2,923	\$896	\$782	\$1,335	\$312	\$31	\$15	\$425	\$16	\$21,354
Notes on Adjustments to 20 Year Capital Needs																					
Station Construction	56% of new station 63 (increase in size over staffed station 63) including LTGO interest, and 100% of new station 62 (currently not staffed or functional station).																				
Preserv & Fixtures	36% of fixtures specific to expansion of facilities and staffing requirements such as Training AV, physical fitness equipment, and some appliances.																				
Equipment	33% of equipment needs due to resource expansion and staffing requirements.																				
Apparatus	A 30% decrease of life cycle for EMS vehicles, 17% decreased life cycle for suppression vehicles. Addition of staff car, aid car, fire engine, and ladder truck.																				

Which is then broken down into the Six Year Capital Needs from New Development.

Table 18: Six (6) Year Capital Needs from New Development

Six (6) Year Capital Needs From New Development							
All Costs in thousands based on 2017 dollars							
	2018	2019	2020	2021	2022	2023	6 Year Total
Station Construction	\$4,614	\$3,093	\$52	\$52	\$52	\$52	\$7,915
Asset Preservation & Fixtures	\$14	\$1	\$1	\$1	\$1	\$6	\$24
Equipment	\$246	\$16	\$36	\$2	\$16	\$26	\$342
Apparatus	\$0	\$231	\$0	\$38	\$68	\$0	\$337
Total	\$4,874	\$3,341	\$89	\$93	\$137	\$84	\$8,618

The expenses identified in Table 17 and Table 18 will be used to calculate the impact fee. This formula and calculation are defined in the Department's Mitigation and Level of Service Policy.

Table 19: 20 Year Cost/Funding Plan

20 Year Cost/Funding Sources for Capital Needs									
Costs in thousands based on 2017 dollars									
Cost/Funding Source	2018	2019	2020	2021	2022	2023	6 Year Total	2024 +	20 Year Total
Expense Sources									
Station Construction & Land Purchase	\$8,145	\$5,430	\$0	\$0	\$0	\$0	\$13,575	\$8,589	\$22,164
Asset Preservation & Fixtures	\$315	\$170	\$10	\$60	\$76	\$27	\$658	\$2,001	\$2,659
Equipment	\$746	\$47	\$108	\$5	\$48	\$80	\$1,034	\$2,096	\$3,130
Apparatus	\$0	\$1,359	\$0	\$38	\$225	\$0	\$1,622	\$7,755	\$9,377
Debt Interest	\$97	\$97	\$97	\$97	\$97	\$97	\$582	\$3,305	\$3,887
Revenue Sources									
SFD-Annual Operational Revenue to Capital	\$1,870	\$500	\$0	\$0	\$50	\$0	\$2,420	\$1,350	\$3,770
SFD-Taxpayer Bond Funds	\$7,233	\$6,303	\$0	\$0	\$0	\$0	\$13,536	\$10,411	\$23,947
SFD-Sale of Surplus Property	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,000	\$1,000
Developer-Impact/LOS Fees (residential)	\$100	\$150	\$115	\$100	\$200	\$104	\$769	\$6,400	\$7,169
Developer-Impact/LOS Fees (commercial)	\$100	\$150	\$100	\$100	\$196	\$100	\$746	\$6,400	\$7,146
Summary of Revenues less Expenses									
Expense	\$9,303	\$7,103	\$215	\$200	\$446	\$204	\$17,471	\$23,746	\$41,217
Revenue	\$9,303	\$7,103	\$215	\$200	\$446	\$204	\$17,471	\$25,561	\$43,032
Balance	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,815	\$1,815
Ending Taxpayer Bond Fund Balance									
Taxpayer Bond fund balance	\$6,303	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

6.1. Financial Feasibility of Capital Facilities Plan

The revenue resources identified in Table 17, “20 Year Cost/Funding Sources for Capital Needs, indicates that it is financially feasible to implement a portion of the four (4) station deployment model and long range plans adopted by SFD’s Board of Commissioners. Final implementation of the station deployment model should be accomplished in the 20 year Capital Plan with the full station model likely to

be deployed by 2037. Key to the financial feasibility of this plan is the implementation of impact and level of service fees on new development. Within the financial plan, impact fees account for approximately 35% in the 20 year funding plan.

6.2. GMA Policy

Washington's Growth Management Act in RCW 36.70A.070 (3) (e) contains a requirement to reassess the land use element of applicable Comprehensive Plans if probable funding falls short of meeting existing needs. This requirement applies to the City of Shoreline, not directly to SFD. The City of Shoreline has responsibility for Comprehensive Land Use Plans that apply to SFD's response area. Currently all of the urban growth area within SFD is contained within the corporate boundaries of the City of Shoreline. SFD's policy is to annually assess probable funding for consistency with this Plan. When funding is likely to fall short, SFD may make adjustments to; levels of service performance standards, timelines for implementation of the Plan, sources of revenue, mitigation measures, or a combination of the previous to achieve a balance between available revenue, needed capital facilities and adequate levels of service. In addition, SFD will provide annual updates to the City of Shoreline that address SFD's ability to fund this Plan. This policy constitutes SFD's response to RCW 36.70A.070 (3) (e).

Appendix A

Exhibit 8: Facility Replacement Schedules and Costs in 2017 Dollars

FACILITIES					
<i>Assumption that fire stations have a life cycle of 40 years and a 2017 construction cost of \$700 (includes all costs such as site work, construction, soft costs, taxes, and contingencies) and remodel cost of \$300 per square foot.</i>					
<u>Building</u>	<u>Description</u>	<u>Sq Feet</u>	<u>Replacement Year (Age)</u>	<u>2017 Cost</u>	<u>Replacement Cost</u>
Sta 61	Headquarters: Built in 2001, shop with 4 bays (currently 20,370 sq ft)	23,000	2041	\$7,952,000	\$16,164,779
Sta 61	Training Tower: Built in 1985???, (50 year life cycle, currently 4,000 sq ft)	6,000	2041	\$1,200,000	\$2,439,353
Sta 61	Carport: Built in 1999	800	2039	\$60,000	\$114,966
Sta 62	Built in 1948, 2 bays, no dorm rooms, (currently 1,560 sq ft)	11,000	2028	\$8,588,512	\$11,888,509
Sta 63	Built in 1970, remodelled in 2002, 3 bays, 7 dorms (currently 7,310 sq ft)	16,650	2018	\$13,575,067	\$13,575,067
Sta 64	Built in 1999, 3 bays double deep, 2 drive through, 8 dorms	12,286	2039	\$3,685,800	\$7,062,374
Sta 65	Built in 1999, 3 bays double deep, 1 drive through, 7 dorms	11,768	2039	\$3,530,400	\$6,764,611
Average cost annually for facilities replacement for the 40 year period is \$1,450,241			Total (modified)	\$22,163,579	
<i>* The facilities replacement plan is averaged over a 40 year period due to longer life cycles.</i>					

Facility Fixtures Purchases Plan												
<i>Assumption that items will have different life cycles.</i>												
Description	Life Cycle (years)	2017		1st Purchase		2nd Purchase		3rd Purchase		4th Purchase		
		Age	Cost	Year	Cost	Year	Cost	Year	Cost	Year	Cost	
HVAC System	25				\$1,489,254		\$0		\$0		\$0	
Vehicle Exhaust System	25				\$239,300		\$0		\$0		\$0	
Generators	25				\$182,466		\$0		\$0		\$0	
Above Ground Tank	2001	30	16	\$10,000	2031	\$15,126		\$0		\$0	\$0	
Fuel Pump Controller	1995	20	22	\$10,000	2018	\$10,300		\$0		\$0	\$0	
Roof	25				\$164,378		\$0		\$0		\$0	
Refrigerator (oldest)	10				\$30,418		\$0		\$0		\$0	
Range	15				\$48,271		\$28,082		\$0		\$0	
Clothes Washer	7				\$6,279		\$7,722		\$6,815		\$0	
Clothes Dryer (oldest)	7				\$7,060		\$8,682		\$8,762		\$0	
Dishwasher (oldest)	7				\$4,330		\$5,325		\$2,773		\$1,702	
Water Heater (oldest)	10				\$26,754		\$26,653		\$12,668		\$0	
Bunker Gear Extractor	15				\$21,988		\$34,257		\$0		\$0	
Oil Separator (61)	2001	20	16	\$36,000	2021	\$40,518		\$0		\$0	\$0	
Vehicle Hoists	2001	25	16	\$70,000	2026	\$91,334						
Apparatus Bay Doors	20				\$232,447		\$0		\$0		\$0	
Floor Covering	15				\$131,191		\$160,471		\$0		\$0	
LCD Proj 61 Classroom	2013	10	4	\$15,000	2023	\$17,911	2033	\$24,071		\$0	\$0	
TV	10				\$43,050		\$41,341		\$0		\$0	
Fitness Equipment	5 year total	5	annually	\$40,000	2022	\$46,371	2027	\$53,757	2032	\$62,319	2037	\$72,244
Average cost per year for 20 year fixtures replacement is \$170,320				Subtotal	\$2,848,746	Subtotal	\$390,361	Subtotal	\$93,336	Subtotal	\$73,947	
<i>Of note that the construction of station 63 & 62 will reset fixtures to a purchase date of 2018 or 2028, which is reflected in the long-range financial plan.</i>				Total \$3,406,390								
<i>If a cell is blank for the purchase year then it is beyond 2037, the limit of the plan starting in 2018.</i>												

Appendix B

Exhibit 9: Apparatus Replacement Schedule

APPARATUS: Aid Car Purchases Plan							
<i>Assumption that current aid cars have a projected life cycle of 7 years in front line position. The 2017 replacement cost is estimated at \$225,000</i>							
Location	Current Description	1st Purchase		2nd Purchase		3rd Purchase	
		Year	Cost	Year	Cost	Year	Cost
A63	1151: 2015 Ford	2022	\$273,747	2029	\$360,232	2036	\$474,041
A64	1152: 2015 International	2024	\$296,085	2029	\$360,232	2036	\$474,041
A65	1172: 2017 Ford	2024	\$296,085	2032	\$405,212		\$0
A62	future staffed aid car			2032	\$405,212		\$0
A61	1101: 2010 Ford (reserve)	trickle down replacement					
EMS61	1083: 2008 Ford (training)	trickle down replacement					
<p>Vehicles will be balanced to equalize mileage, wear and tear. Current style of aid car might be replaced with a heavier duty chassis, which may equate to a longer life cycle of 9 years. Grouping aid car purchases will allow greater economies of scale, but would limit flexibility in rotating aid cars to reserve status.</p>							
Average cost per year for aid car replacement over the 20 year period is \$167,244							

APPARATUS: Structural (Fire Engines, Ladder Truck, Rescue) Purchases Plan

Assumption that projected life cycles are 10, 15, and 20 years respectively in front line position.
 Engine estimate \$650,000 Ladder truck estimate \$1,200,000 Rescue vehicle refurbish estimate \$200,000

Location	Current Description	1st Purchase		2nd Purchase		3rd Purchase	
		Year (Age)	Cost	Year (Age)	Cost	Year (Age)	Cost
E63	2081:2008 Fire Engine		\$0	2031	\$1,125,590	2036	\$1,369,452
E64	2082:2008 Fire Engine	2019	\$703,040	2026	\$925,153		
E65	2083:2008 Fire Engine	2019	\$703,040	2026	\$925,153	2036	\$1,369,452
E62	2991:1999 Fire Engine (reserve/future)		\$0	2031	\$1,125,590		
L61	2941:1994 LTI Ladder Truck		\$0	2032	\$2,161,132		
R61	2992:1999 H&W Pumper		\$0	2026	\$284,662		
E61	2993:1999 Fire Engine (reserve)	trickle down replacement					
L62	future reserve Ladder Truck	trickle down replacement					

Vehicles will be balanced to equalize mileage, wear and tear. Grouping purchases will allow greater economies of scale and will keep uniformity, but would limit flexibility in rotating vehicles to reserve status.

Avg cost per year for Fire Engine replacement over the 20 year period is \$412,323
Avg cost per year for Truck replacement over the 20 year period is \$108,057
Avg cost per year for Rescue replacement over the 20 year period is \$14,233

APPARATUS: Battalion Chief Vehicle Purchase Plan

Staff vehicles have different life cycles and usage, but will be rotated out of front line use at around 6 years or 60,000 miles.

2017 Cost for a Suburban \$59,000

Use	Type	Transition Plan	1st Purchase		2nd Purchase		3rd Purchase		4th Purchase	
			Year (Age)	Cost	Year (Age)	Cost	Year (Age)	Cost	Year (Age)	Cost
BC	Suburban	6 yrs/60k miles	2019	\$63,814	2025	\$80,746	2031	\$102,169	2037	\$129,276

Vehicles will be "trickled" down from primary use to secondary use.

Average cost per year for BC replacement over the 20 year period is \$18,800

APPARATUS: Fire Prevention Vehicles Purchase Plan													
<i>Staff vehicles have different life cycles and usage, but will typically be sold around 150,000 miles.</i>													
2017 Cost for a 1/2 Ton Pickup \$38,000													
Use	Type	Transition Plan	1st Purchase		2nd Purchase		3rd Purchase		4th Purchase		5th Purchase		
			Year (Age)	Cost	Year (Age)	Cost	Year (Age)	Cost	Year (Age)	Cost	Year (Age)	Cost	
FP Staff	Pickup 1/2 ton	150k miles	2021	\$44,455	2025	\$52,006	2029	\$60,839	2033	\$71,173	2037	\$83,263	
Vehicles will be "trickled" down from primary use to secondary use.													
Average cost per year for FP replacement over the 20 year period is \$15,587													

APPARATUS: Fleet/Facilities Vehicles Purchase Plan													
<i>Staff vehicles have different life cycles and usage, but will typically be sold around 150,000 miles.</i>													
2017 Cost for a 3/4 Ton Pickup \$42,000													
Use	Type	Transition Plan	1st Purchase		2nd Purchase		3rd Purchase		4th Purchase		5th Purchase		
			Year (Age)	Cost	Year (Age)	Cost	Year (Age)	Cost	Year (Age)	Cost	Year (Age)	Cost	
Fleet/Fac.	Pickup 3/4 ton	150k miles	2025	\$57,480	2033	\$78,665	2033	\$78,665		\$0		\$0	
Vehicles will be "trickled" down from primary use to secondary use.													
Average cost per year for FF replacement over the 20 year period is \$10,741													

APPARATUS: General Staff Vehicles Purchase Plan													
<i>Staff vehicles have different life cycles and usage, but will typically be sold around 150,000 miles.</i>													
2017 Cost for a Medium SUV \$40,000													
Use	Type	Transition Plan	1st Purchase		2nd Purchase		3rd Purchase		4th Purchase		5th Purchase		
			Year (Age)	Cost	Year (Age)	Cost	Year (Age)	Cost	Year (Age)	Cost	Year (Age)	Cost	
Admin	Medium SUV	150k miles	2025	\$54,743	2028	\$64,657	2031	\$72,730	2034	\$81,812	2037	\$92,027	
Vehicles will be "trickled" down from primary use to secondary use.													
Average cost per year for Staff replacement over the 20 year period is \$18,298													

Appendix C

Exhibit 10: 20 Year Equipment Costs & Replacement Schedule

Equipment Purchases Plan																	
<i>Assumption that equipment will have different life cycles.</i>																	
Description	Life Cycle (years)	2017		1st Purchase		2nd Purchase		3rd Purchase		4th Purchase		5th Purchase		6th Purchase		7th Purchase	
		Age	Cost	Year	Cost	Year	Cost	Year	Cost	Year	Cost	Year	Cost	Year	Cost	Year	Cost
Hose: 2 1/2"	10	2	\$20,000		\$0	2025	\$27,371	2035	\$40,516		\$0		\$0		\$0		\$0
1 3/4"	10	7	\$35,000	2020	\$39,370	2030	\$58,278		\$0		\$0		\$0		\$0		\$0
5" LDH	10	5	\$48,000	2022	\$58,399	2032	\$86,445		\$0		\$0		\$0		\$0		\$0
Nozzle	15	16	\$37,500	2018	\$39,000	2033	\$70,237		\$0		\$0		\$0		\$0		\$0
Water Appliances	20	21	\$45,000	2018	\$46,800		\$0		\$0		\$0		\$0		\$0		\$0
Rescue Tool	15	17	\$40,000	2018	\$41,600	2033	\$74,919		\$0		\$0		\$0		\$0		\$0
SCBA	15	14	\$550,000	2018	\$572,000	2033	\$1,030,140		\$0		\$0		\$0		\$0		\$0
SCBA Air Compressor	15	9	\$70,000	2023	\$88,572		\$0		\$0		\$0		\$0		\$0		\$0
Information Technology	10		\$20,000	2025	\$27,371	2035	\$40,516		\$0		\$0		\$0		\$0		\$0
Copier	8	11	\$10,000	2023	\$12,653	2031	\$17,317		\$0		\$0		\$0		\$0		\$0
Mobile Radio	15	10	\$39,000	2019	\$42,182	2034	\$75,968		\$0		\$0		\$0		\$0		\$0
Portable Radio	7	11	\$228,000	2026	\$324,515	2033	\$427,040		\$0		\$0		\$0		\$0		\$0
Bunker Gear	10	varies	\$203,400	2026	\$289,502	2036	\$428,533		\$0		\$0		\$0		\$0		\$0
Gurney	15	new	\$120,000	2029	\$192,124		\$0		\$0		\$0		\$0		\$0		\$0
Defibrillator	10	new	\$35,000	2024	\$46,058	2034	\$68,177		\$0		\$0		\$0		\$0		\$0
Defibrillator Battery	3	new	\$5,000	2018	\$5,200	2021	\$5,849	2024	\$6,580	2027	\$7,401	2030	\$8,325	2033	\$9,365	2036	\$10,534
Thermal Imaging Cam	10	9	\$68,000	2018	\$70,720	2028	\$104,683		\$0		\$0		\$0		\$0		\$0
Positive Pressure Fan	10	18	\$8,000	2019	\$8,653	2029	\$12,808		\$0		\$0		\$0		\$0		\$0
Maintenance Tool	5		\$5,000	2020	\$5,624	2025	\$6,843	2030	\$8,325	2035	\$10,129		\$0		\$0		\$0
Spec Ops Equipment	10	8	\$68,000	2020	\$76,491	2030	\$113,225		\$0		\$0		\$0		\$0		\$0
Average cost per year for equipment replacement over the 20 year period is \$236,818																	

Mitigation & Level of Service Policy



**SHORELINE FIRE
DEPARTMENT**

Mitigation and Level of Service
Policy for Fire Service Concurrency

DRAFT - Proposed Adoption November, 2017

DRAFT

Shoreline Fire Department Mitigation and Level of Service Policy

Prepared By:
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November 2017

This policy has been designed with two distinct purposes in mind, first to inform the lay reader regarding issues critical to maintaining fire service concurrency and second, to provide guidance to Shoreline Fire Department's staff in implementing appropriate mitigations that are necessary for maintaining fire service concurrency within the Shoreline Fire Department service area. The basis for impact and level of service contribution fees is derived from the revenues needed to maintain Shoreline Fire Department's 2018–2037 Capital Improvement Plan.

DRAFT

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1. Acronyms

ALS:	Advanced Life Support
BLS:	Basic Life Support
C&E:	Capital and Equipment
CFAI:	Commission on Fire Accreditation International
CPSE:	Center for Public Safety Excellence
EMS:	Emergency Medical Services
ERF:	Effective Response Force
IAFC:	International Association of Fire Chiefs
ICMA:	International City/County Management Association
ISO:	Insurance Services Office
SFD:	Shoreline Fire Department
NFPA:	National Fire Protection Association
SOC:	Standard of Cover

2. Definitions

- 2.1. **Call Stacking:** Refers to the occurrence of simultaneous emergency calls. Call stacking occurs when more than one request for emergency assistance occurs within the same fire station **service** area. When this occurs, the primary response unit cannot answer the second emergency and a second fire unit from the same station must respond or a fire unit from a fire station much farther away responds.
- 2.2. **Concentration:** Refers to the deployment of multiple fire and rescue resources from within a fire service jurisdiction so that the proper number of resources needed for all types of emergency incidents can be assembled at the scene of an emergency within the defined level of service time.
- 2.3. **Concurrency:** Concurrency refers to the twelfth goal of the Washington State Growth Management Act¹ which requires public facilities and services necessary for public safety to be adequate to serve new development without decreasing current service levels below locally established minimum standards.
- 2.4. **Distribution:** The deployment or “distribution” of fire stations and resources across a fire service jurisdiction so that the adopted first-in drive time standard for fire and rescue resources can be achieved.

¹ Source: RCW 36.70A.020

- 2.5. **Drive Time:** The elapsed time needed for an emergency vehicle to travel to a dispatched address. Drive time begins when the wheels of a fire apparatus begin to roll in response to a dispatch and ends when the apparatus is parked at the scene of the dispatched address.
- 2.6. **Effective Response Force:** Refers to the number of resources and personnel needed to effectively provide fire or emergency medical services. The number of resources making up an effective response force varies by type of emergency.
- 2.7. **F-Box or Fire Box:** A geographic area usually a quarter section of land (1/4 mile square) that is used to define the types, numbers and locations of fire and rescue resources to be dispatched to an emergency.
- 2.8. **Fire Impact Fee:** A fee authorized under Chapter 82.02 RCW that is assessed on new development to pay a proportionate share of the costs associated with maintaining fire service concurrency inside of a jurisdiction that has adopted fire impact fees. Fire Impact fees must be adopted and authorized by the local land use authority (City of Shoreline).
- 2.9. **Fire Level of Service Fee:** A fee that is used to mitigate the direct impacts new development has upon fire services inside of a jurisdiction that has not adopted fire impact fees. Fire Level of Service Fees are consistent with the Growth Management Act and applied through the SEPA process or in cooperation with the authority having permitting jurisdiction under RCW 54.18.110.
- 2.10. **Fire Service Concurrency:** See Concurrency
- 2.11. **First-in:** Refers to the first fire and rescue resource to arrive at the scene of an emergency. Distribution performance is a measure of first-in drive time.
- 2.12. **Fractile Performance:** Refers to the percentage of time a specified performance expectation is achieved. If an emergency response drive time of five minutes is achieved on 82 of 100 responses, the fractile performance would be 82%.
- 2.13. **Full First Alarm:** Refers to the number of fire resources and personnel assigned to a specific alarm type that is capable of assembling an effective response force.
- 2.14. **Reliability:** Refers to the use of fire resource capacity. For a resource to be reliable, it must be available to answer emergency calls as least as often as the service expectation placed upon that resource. For instance, if a fire resource is expected to deliver service

at the adopted standard 90% of the time, then that resource should be available to respond to an emergency incident from its assigned fire station at least 90% of the time. Reliability levels below the adopted performance expectation indicate resource exhaustion.

- 2.15. **Resource Exhaustion:** Resource exhaustion occurs when the demand for service placed upon a fire service resource is so great, that its fractile reliability begins to fall below the adopted level of service for that resource resulting in the need for resources from fire stations farther away to respond in place of the resource experiencing exhaustion. A fire station service area experiencing regular resource exhaustion will result in longer and longer response times unless additional resources are added to the fire station serving that area to create more capacity.
- 2.16. **Response:** Response refers to the movement of firefighters and fire apparatus to the scene of an emergency request for fire or emergency medical services. The request for response is generally issued through North East King County Regional Public Safety Communication Agency (NORCOM), the 9-1-1 answering point for SFD.
- 2.17. **Standard of Cover:** Refers to the in-depth process developed by the Center for Public Safety Excellence in their accreditation process for the strategic planning of fire station and fire resource deployment. Standard of Cover is the “**Standard**” to which the fire department will deliver service based upon community descriptions and the risks within those community types.

3. Concurrency Policy Statement

- 3.1. It is the policy of the Shoreline Fire Department (SFD) to participate in the orderly growth of the community and to maintain concurrency of fire and life safety services as the community grows. Concurrency describes the ideal that service capacity of SFD shall grow with or stay concurrent with the impacts of development occurring within the service area. SFD recognizes that regional economic vitality depends upon orderly growth and supports community growth through development and is not opposed to new development.
- 3.2. However, new development and the population increase that comes with new development, has a direct impact on the ability of SFD to maintain adopted levels of service that assures adequate public safety and concurrency with development. Consequently, SFD opposes the negative impacts development imposes upon level of service performance and directs the Fire Chief to utilize the mitigation strategies found

within this document to mitigate any and all negative impacts of development that threaten concurrency by reducing service capacity below the benchmark level of service standards adopted herein.

- 3.3. The Fire Chief shall cause the evaluation of each development proposed to occur within the service area. The Chief's evaluation shall identify any adverse impacts that may affect SFD's ability to maintain adopted benchmark levels of service and the mitigation strategies necessary to maintain concurrency with development. It is the intent of SFD to recognize when adequate service capacity exists and to only impose mitigations that are rational and relational to the impacts of new development upon service capacity.

4. Purpose Statement

- 4.1. The purpose of this policy is to establish guidelines for the implementation of monetary and non-monetary mitigations appropriate to maintaining fire service concurrency within SFD's emergency response area. It is the intent to utilize the guidelines herein to mitigate the direct impacts of new development upon SFD's ability to deliver fire and life safety services in accordance with its adopted level of service standards. Further, this policy shall constitute Impact Fee, State Environmental Protection Act (SEPA) and land subdivision policy, as adopted by the Board of Commissioners of Shoreline Fire Department.

5. Consistency with other Plans and Policies:

- 5.1. To ensure that Shoreline Fire Department (SFD) will be able to meet the increasing demand for fire protection services resulting from future development and population growth, this policy utilizes the findings and conclusions of a number of plans and policies including but not limited to; Shoreline and King County Comprehensive Plans, SFD's Capital Facilities Plan, Station Location Analysis, and annual reports required by Chapter 52.33 RCW.

6. Introduction:

- 6.1. The primary responsibility of SFD is the delivery of fire and rescue services. The delivery of these services ideally originates from fire stations located throughout the service area. To provide effective service, firefighters must respond in a minimal amount of time after the incident has been reported and with sufficient resources to initiate meaningful fire, rescue, or emergency medical services.

7. The Importance of Time and Fire Service Measures

- 7.1. Time is the critical issue when an emergency is reported. Fire can expand at a rate of many times its volume per minute and as a result, quick response is critical for the rescue of occupants and the application of extinguishing agents to minimize loss. The time segment between fire ignition and the start of fire suppression activities has a direct relationship to fire loss.
- 7.2. The delivery of emergency medical services are also time critical. Survival rates for some types of medical emergencies are dependent upon rapid intervention by trained emergency medical personnel. In most cases, the sooner that trained fire or emergency medical rescue personnel arrive, the greater the chance for survival and conservation of property. The importance of time and the critical factors affected by time are discussed below in 7.3.

7.3. Fire Department Total Reflex Time Sequence

- 7.3.1. There are five components of the fire department total reflex time sequence. Each of these components is defined below:

7.3.1.1. **Dispatch time:** Amount of time that it takes to receive and process an emergency call. This includes (1) receiving the call, (2) determining what the nature of the emergency is, (3) verifying where the emergency is located, (4) determining what resources and fire department units are required to handle the call, and (5) notifying the fire department units that are to respond.

7.3.1.2. **Turnout time:** The time from when fire department units are first notified of an emergency to the beginning point of response time. This includes discontinuing and securing the activity they were involved in at time of

dispatch, traveling by foot to their apparatus, donning appropriate protective clothing and taking a seat-belted position on the apparatus.

- 7.3.1.3. **Response/Drive time:** The time that begins when the wheels of a response unit begin to roll en route to an emergency incident and ends when wheels of the response unit stop rolling upon arrival at the address of the emergency scene.
- 7.3.1.4. **Access time:** Amount of time required for the crew to move from where the apparatus stops at the address of an emergency incident to where the actual emergency exists. This can include moving to the interior or upper stories of a large building and dealing with any barriers such as locked gates, doors or other restrictions that may slow access to the area of the emergency.
- 7.3.1.5. **Setup time:** The amount of time required for fire department units to set up, connect hose lines, position ladders, and prepare to extinguish the fire. Setup time includes disembarking the fire apparatus, pulling and placing hose lines, charging hose lines, donning self-contained breathing apparatus, making access or entry into the building, and applying water. The opportunity for saving time during setup is minimal.
 - 7.3.1.5.1. Setup time also includes the time required for firefighters to deploy lifesaving equipment such as defibrillators, oxygen masks, and other rescue tools such as the jaws-of- life.

7.4. Fire Department Total Reflex Time Sequence

- 7.4.1. The term flashover refers to the most dangerous time in fire growth. As a fire grows within a room, its radiant heat is absorbed by the contents of the room heating up the combustible gases and furnishings to their ignition point until finally the entire room bursts into flame.

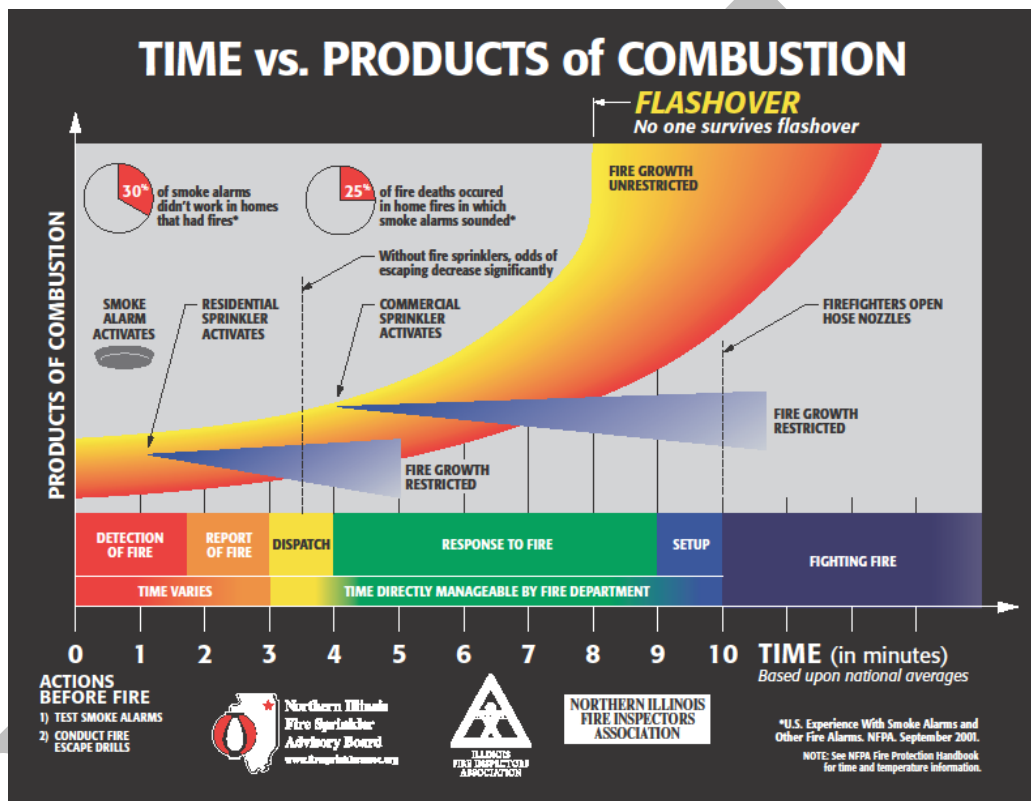
Figure 1: Photo of a Witnessed Flashover



- 7.4.2. Measuring the time to flashover is a function of time and temperature. Fire growth occurs exponentially; that is, fire doubles itself every minute of free burn that is allowed.
- 7.4.3. There are a number of factors that determine when flashover may occur. These include the type of fuel, the arrangement of the fuels in the room, room size, and so on. Because these factors vary, the exact time to flashover cannot be predicted, making quick response and rapid fire attack the best way to control fire, protect life and reduce fire loss.
- 7.4.4. Over the past 50 years, fire engineers agree that the replacement of wood and other natural products with plastics and synthetic materials for interior furnishings has resulted in increased fuel loads, higher fire temperatures and decreasing time to flashover, making quick response more important than ever. Flashover can typically occur from less than four (4) to beyond 10 minutes after free burning starts, depending upon the air or oxygen supply available to the fire.
- 7.4.5. Figure 2: Time vs. Products of Combustion, shows the progression of fire and how some time frames can be managed by the fire department and some cannot. The elapsed time from fire ignition to fire reporting varies but can be indirectly

managed through the use of remotely monitored fire alarm and suppression systems to help mitigate the growth of fire. These systems can automatically report the presence of a fire to a public safety answering point (PSAP) or 9-1-1 center. In a perfect world, all structures would be equipped with a monitored fire alarm and automatic fire sprinkler system to help reduce dispatch time and speed the arrival of fire department resources allowing firefighters to arrive at the scene when fires are smaller and more controllable.

Figure 2: Time vs. Products of Combustion



This diagram illustrates fire growth over time and the sequence of events that may occur from ignition to suppression. Depending on the size of room, contents of the room and available oxygen, flashover can occur in less than 2 or more than 10 minutes. Flashover occurs most frequently between 4 and 10 minutes.

- 7.4.6. It is important to note the significance of automatic fire sprinklers, as the above exhibit illustrates. Fire sprinklers in both residential and commercial occupancies will activate to help control a fire long before the arrival of firefighting resources. Automatic fire sprinklers control fire and buy firefighters significant time toward saving lives and minimizing loss from fire. In SFD's case, there are often too few resources available to supply a full first alarm and the effective response force resources required for a structure fire. As a result, it is typical for structure fire responses to be supplemented with mutual aid companies from other jurisdictions

that take much longer to arrive, limiting SFD's overall ability to control larger fires.

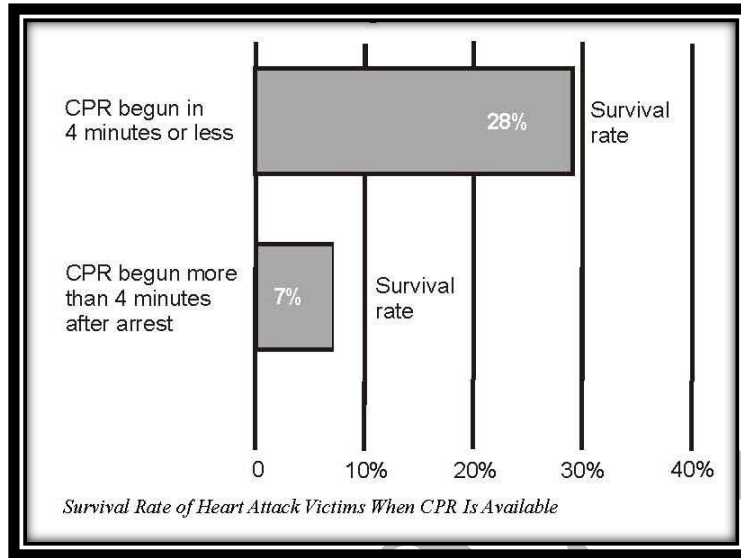
7.5. Consequences of Flashover

- 7.5.1. Once flashover occurs, it is no longer possible for survival in the room of flashover. Not even firefighters in complete protective gear can survive the intense heat of flashover. A post-flashover fire burns hotter and moves faster, compounding the search and rescue problems in the remainder of the structure at the same time that more firefighters are needed to deal with the much larger fire problem.
- 7.5.2. Because of the dramatic change in fire conditions post flashover, all fire based performance standards attempt to place fire resources on scene of a fire prior to flashover.

7.6. Brain Death in a Non-Breathing Patient

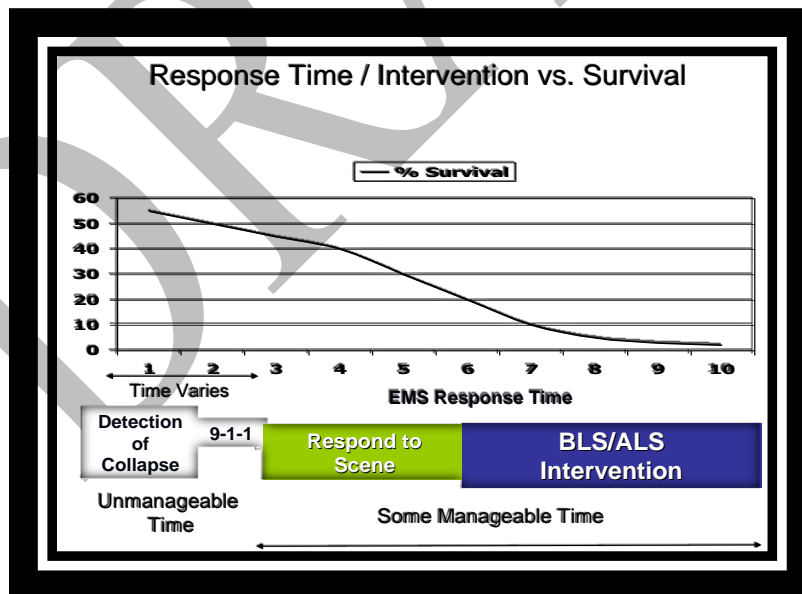
- 7.6.1. The delivery of emergency medical services (EMS) by first responders is also time critical for many types of injuries and events. If a person has a heart attack and cardiopulmonary resuscitation (CPR) is started within four minutes, that person's chances of leaving the hospital alive are almost four times greater than if they did not receive CPR until after four minutes. Exhibit 3 shows the survival rate for heart attack victims when CPR is available.

Figure 3: Cardiac Survival Rate²



7.6.2. Chances of survival are increased with the intervention of a cardiac defibrillator. All SFD units carry defibrillators. Exhibit 4 shows the survival rate of a heart attack victim with CPR and defibrillation.

Figure 4: Cardiac Survival with CPR and Defibrillation³



8. National Fire Service Standards for Performance:

² Source: National Fire Protection Association Handbook Volume 19

³ Data Source: King County Emergency Medical Services

8.1. National Fire Protection Association (NFPA) Standard 1710

8.1.1. NFPA 1710 establishes Standards for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments and contains the following time objectives:

8.1.1.1. Turnout time:

- Fire based response: 1 minute 20 seconds (80 seconds)
- Medical based response: 1 minute 00 seconds (60 seconds)

8.1.1.2. **Fire response/drive time:** Four minutes (240 seconds) or less for the arrival of the first arriving engine company and at least four (4) firefighters at a fire suppression incident and/or eight minutes (480 seconds) or less for the deployment of a full first alarm assignment of at least 14 firefighters at a fire suppression incident in a 2,000 square foot, single family residence.

8.1.1.3. First responder or higher emergency medical response/drive time:

Four minutes (240 seconds) or less for the arrival of a unit with first responder or higher-level capability and an automatic electronic defibrillator (AED) at an emergency medical incident

8.1.1.4. **Advanced life support response/drive time:** Eight minutes (480 seconds) or less for the arrival of an advanced life support unit at an emergency medical incident, where the service is provided by the fire department

8.1.1.5. The NFPA Standard 1710, states that the fire department shall establish a performance objective of not less than 90 percent for the achievement of each response time objective. NFPA 1710 also contains a time objective for dispatch time by requiring that "All communications facilities, equipment, staffing, and operating procedures shall comply with NFPA 1221." NFPA 1221 sets the performance standard for dispatch time at one (1) minute (60 seconds), 90 percent of the time.

8.1.1.6. Adding the three separate time segments together, the NFPA expects the following temporal benchmarks to be performed at least 9 out of every 10 times from receipt of a 9-1-1 call to the arrival of fire and EMS resources;

- Fire call

- First-in

Dispatch = 1:00 + Turnout = 1:20 + Drive = 4:00 = 6:20

- Full alarm Dispatch = 1:00 + Turnout = 1:20 + Drive = 8:00 = 10:20
- EMS – Basic Life Support (BLS)
 - First-in Dispatch = 1:00 + Turnout = 1:00 + Drive = 4:00 = 6:00
 - Full Alarm Dispatch = 1:00 + Turnout = 1:00 + Drive = 8:00 = 10:00
- EMS – Advanced Life Support (ALS)
 - First-in Dispatch = 1:00 + Turnout = 1:00 + Drive = 4:00 = 6:00
 - Full alarm Dispatch = 1:00 + Turnout = 1:00 + Drive = 8:00 = 10:00

8.2. Center for Public Safety Excellence Standards of Response Coverage

8.2.1. The Center of Public Safety Excellence is a consortium of the International Association of Fire Chiefs (IAFC), the International Association of Fire Fighters (IAFF), the International City/County Management Association (ICMA), the National Fire Protection Association (NFPA), the Department of Defense (DOD), and the Insurance Services Office (ISO). Together this group has established the Commission on Fire Accreditation International (CFAI) and criteria for fire departments to achieve Accredited Agency Status. Critical to achieving Accredited Agency Status is an assessment of the fire department's ability to effectively deliver service. To make this assessment, the CFAI has established a methodology for; determining the fire service risk of a community, assessing the fire department's capability compared to risk, measurement of resource capacity, and guidelines for performance standards to assess overall capabilities of a fire department. The CFAI publishes this methodology in its Standards of Cover manual.

8.2.2. The term standard of cover refers to the “standard(s)” to which a fire department runs daily operations in order to “cover” the service area of the fire department. The CFAI process for establishing a Standard of Cover has nine parts that are described below with relevant information to SFD:

- 8.2.2.1. **Existing deployment assessment:** Identifies current inventory of fire stations, apparatus and staffing. SFD's stations apparatus and staffing are found in the Capital Improvement Plan in Section 2, Inventory of Current Capital Assets.
- 8.2.2.2. **Review of Community outcome expectations:** Ultimately, level of service standards are driven by the community. SFD's standards have been adopted herein and by the City of Shoreline in their Comprehensive Plan which has undergone a public review and hearing process.
- 8.2.2.3. **Community risk assessment:** The CFAI identifies the service area definitions, and benchmarks for performance in Figure 5: Community

Definitions and Performance Expectations on the next page. SFD provides fire and life safety services to approximately 13 square miles and serves an urban community. Suburban and Rural benchmarks are also included in the following tables for comparison only.

Figure 5: Community Definitions and Performance Expectations

Urban -an incorporated or un-incorporated area with a population of over 30,000 people and/or a population density of 2,000 people per square mile				
	1st Unit	2nd Unit	Balance of 1st Alarm	Performance
Benchmark	4 minutes	8 minutes	8 minutes	90%
Suburban -an incorporated or un-incorporated area with a population of 10,000-29,999 and/or any area with a population density of 1,000 to 2,000 people per square mile.				
	1st Unit	2nd Unit	Balance of 1st Alarm	Performance
Benchmark	5 minutes	8 minutes	10 minutes	90%
Rural –an incorporated or un-incorporated area with a population less than 10,000 people, or with a population density of less than 1,000 people per square mile.				
	1st Unit	2nd Unit	Balance of 1st Alarm	Performance
Benchmark	10 minutes	14 minutes	14 minutes	90%

8.2.2.4. **Distribution of Resources:** Fire stations should be distributed so that resources deployed from them can provide coverage to the response area within the level of service (LOS) standard established for first-in fire and rescue units.

8.2.2.5. **Concentration of Resources:** Fire resources should be concentrated near high demand areas and in large enough numbers of equipment and personnel to provide an effective response force with the full first alarm assignment. Because of a lack of resources, SFD often relies on resources from neighboring fire departments to assemble an effective response force.

- 8.2.2.6. **Capacity Analysis/Reliability:** To achieve an adopted performance standard, resources must be available or “reliable” at least as often as their adopted performance expectation. Historic reliability below the adopted performance standard places the service area in “Resource Exhaustion” and creates call stacking and simultaneous calls within a specific service area. SFD is currently experiencing resource exhaustion at all three staffed stations.
- 8.2.2.7. **Historical response effectiveness studies:** The percentage of compliance the existing response system delivers based on current LOS. The 2014-2016 SFD “Benchmark” performance; Table 8 in the SFD Capital Improvement Plan, identifies historical sub-standard performance.
- 8.2.2.8. **Prevention and mitigation:** Prevention and mitigation directly impacts the level of safety for responding firefighters and the public. Using analysis of risk and looking at what strategic mitigations can be implemented may not only prevent the incident from occurring but may also minimize the severity when and if the incident ever occurs.
- 8.2.2.8.1. SFD works closely with the City of Shoreline to reduce risk by providing enforcement of the International Fire Code. This policy will provide the additional mitigations necessary to maintain fire service concurrency.
- 8.2.2.9. **Overall evaluation:** In 90 percent of all incidents, the first-due unit shall arrive within 4 minutes travel or 6 minutes 20 seconds of total reflex time which includes; dispatch, turnout and response times. The first-due unit shall be capable of advancing the first hose line for fire control, starting rescue procedures or providing basic life support for medical incidents. In a moderate risk area, an initial effective response force shall arrive within 8 minutes travel or 10 minutes 20 seconds of total reflex time, 90 percent of the time, and be able to provide a fire flow capable of matching community risk for firefighting, or be able to handle a five-patient emergency medical incident.

9. State and Local Standards

9.1. Washington State Law

9.1.1. Chapter 52.33 RCW requires fire departments with paid staff to establish Level of Service (LOS) policies and performance objectives based on the arrival of first responders with defibrillation equipment prior to brain death and the arrival of adequate fire suppression resources prior to flashover. This law recognizes the NFPA's Standard 1710 and the Commission on Fire Accreditation International's (CFAI) Standard of Cover as bases for this statute and requires a 90% performance expectation of the established LOS.

9.2. King County Standards

9.2.1. The King County Comprehensive Plan and Countywide Planning Policies are based on the concept of concurrency and require that adequate facilities and services be available or be made available to serve development as it occurs. The County Comprehensive Plan recognizes the validity of using a response time analysis in determining appropriate service levels and recognizes the central role of fire protection districts in providing those services. The King Countywide Planning Policies further state that capital facility investment decisions place a high priority on public health and safety.

9.3. City of Shoreline Response Standards

9.3.1. The Shoreline Comprehensive Plan has adopted the following fire service response standards:

9.3.1.1. Urban areas: Seven (7) minutes from time of 911 call until curbside arrival of emergency response personnel.

9.4. Level of Service (LOS) Standard

9.4.1. SFD has established benchmark performance measures following the guidelines established by the Center for Public Safety Excellence (CPSE) as published in their 9th edition of the Commission on Fire Accreditation (CFAI) Self-Assessment Manual. Benchmark performance represents industry best practices and performance below those standards can contribute to unnecessary property and life loss.

Figure 6: SFD Turnout Time Performance Objectives

Turnout Time Objectives				
Performance Type	Urban	Suburban	Rural	Performance Factor
Daytime: all alarms	2 min, 00 sec	2 min, 00 sec	2 min, 00 sec	90% of the time
Nighttime: all alarms	2 min, 30 sec	2 min, 30 sec	2 min, 30 sec	90% of the time

Figure 7: SFD Drive Time Performance Objectives

SFD Drive Time Objectives				
Performance Type	Urban	Suburban	Rural	Performance Expectation
Distribution - Benchmark	4 min, 00 sec	5 min, 00 sec	8 min, 00 sec	90% of the time
Concentration - Benchmark	8 min, 00 sec	10 min, 00 sec	14 min, 00 sec	90% of the time

Figure 8: SFD Reliability Objectives

Minimum Reliability Objectives			
Performance Type	Urban	Suburban	Rural
Minimum Peak Hour Unit Reliability	90%	90%	90%

10. Local Restriction on Level of Service

10.1. SFD has assessed its ability to deliver service in compliance with established national standards finding that current deployment will not allow the department to meet recognized standards. As a result of the level of service analysis, SFD has completed a fire station analysis with a focus on determining the optimum station location and resource deployment necessary to achieve effective response times. This study has considered the National Fire Protection Association's Standard 1710, the Center for Public Safety Excellence's (CPSE) Standard of Coverage recommendations and Chapter 52.33 RCW in establishing standards for emergency response.

11. Need for Mitigation of Development Impacts

- 11.1. SFD current fire system performance falls far short of national standards and would be considered in response failure compared to the CFAI standards. Any additional impacts posed by new development will further erode SFD's ability to deliver service at adopted standards.
- 11.2. As a result of the economic recession that began in 2009, tax revenues available to SFD were reduced because of the reduction in assessed property values. SFD is dependent upon property tax revenues generated from a levy of \$1.00 per thousand dollars of assessed real and personal property value and a recently approved Fire Benefit Charge. The declining property values, and resulting declining revenues, caused staffing reductions, delays in equipment replacements, and significant depletion of capital funds. Traditional funding of capital replacement programs has been shifted to meet operating expenses which is largely made up of salary and benefits for firefighters and other staff leaving the capital plan under-funded. A recent capital bond was passed, but it is inadequate to address current and future capital needs.
- 11.3. Unless new development can mitigate their impacts to the SFD system in accordance with this policy, SFD must oppose each and every development occurring within the SFD service area.

12. Determining Development Impacts

12.1. Concepts of Fire Service Capacity and Cascading Failure:

- 12.1.1. The deployment of fire and life safety resources such as fire engines and emergency medical vehicles is geographically based through planned selection of fire station locations. Fire station locations must be carefully chosen to allow the resource(s) deployed from these locations to reach all portions of the fire stations assigned service area within a time frame capable of providing successful outcomes for critically injured or non-breathing patients and to prevent flashover and minimize life and property loss during a structure fire.
- 12.1.2. This type of geographic deployment depends on the availability of the resources assigned to that fire station location. System failure begins to occur when the demand for these resources is increased to a point where simultaneous requests for a resource begins to commonly occur as a result of exceeding the capacity of that resource. When service demand exceeds a fire station's capacity, a resource from a fire station further away must respond in its place. The result of this situation is often referred to as cascading failure. The failure of one resource to be

available to answer emergency calls cascades to the next closest fire station resource, leaving two service areas unprotected when the covering resource vacates its assigned area to make up for lack of capacity of the failing resource. This effect continues to cascade out with a ripple effect to yet other fire stations and jurisdictions.

12.1.3. Cascading failure causes longer drive times to reach emergency scenes and as a result, it is less likely that those resources can positively affect the negative outcomes of flashover and brain death.

12.1.4. The solution to cascading failure is the addition of service capacity through the deployment of additional response resources to the fire station that is experiencing substandard reliability. The deployment of additional fire resources results in considerable expense to a community, therefore a delicate balance must be maintained to use but not exceed the service capacity of resources.

12.1.5. The Center for Public Safety Excellence refers to a fire resource's capacity in their Commission on Fire Accreditation International Standards of Cover guidelines, in terms of level of "reliability" of a fire resource. If a resource is available at least as often as the expected performance measurement, it is considered reliable.

12.1.6. SFD's ability to meet its response time standards is directly affected by resource reliability.

12.2. Components of Response:

12.2.1. SFD measures the direct impact of an individual development on system performance by determining the development's impact on service capacity and fire department response times. Fire department response times have two primary measures. First is the arrival time of the initial arriving "first-in" or distribution resource. Second is the arrival of all resources needed to effectively mitigate the incident which is referred to as the "Effective Response Force" (ERF) or concentration of resources. The ERF is also commonly referred to as the full first-alarm assignment. An initial arriving resource can begin to render aid or perform other necessary tasks as a component of the ERF but cannot resolve the incident alone. An ERF for a life threatening medical call requires two or more fire resources and a structure fire requires five or more fire resources. The additional resources of the ERF must respond from greater distances than the first-in resource therefore the first-in and ERF have two separate performance expectations.

12.3. Effect of Development on Fire System Performance:

- 12.3.1. Each additional development impacts service capacity affecting the reliability and the temporal performance of fire service resources. Where service capacity exists to accommodate the impacts of new development, mitigations should be reduced accordingly to allow new development credit for the existing capacity. However, service capacity or resource reliability must be carefully measured to assess the reliability and response performance of both first-in and full first alarm ERF resources.
- 12.3.2. It is important to understand whether a new development is placed nearer to or farther from a fire station, its use of service capacity will have a negative effect on the fire service systems performance.
- 12.3.3. Mitigations necessary to maintain fire service concurrency is not dependent on geographical location within a fire station's service area, but on the fact that each development consumes service capacity. This negatively affects reliability and response performance. Those developing property close to an existing fire station directly impact the system by reducing resource reliability for those developments that are more distant.

12.4. Mitigation Actions Required:

- 12.4.1. SFD's limited capital funding and resources has caused the need to adopt standards that establish levels of service below nationally recognized benchmark standards and as a result, all new development has a direct impact on the SFD's service capacity.
- 12.4.2. When system inadequacies exist, the impact of each new development will have an unacceptable direct impact on SFD's ability to provide service. Each new development shall be reviewed to determine whether it will further impact the following identified service deficiencies. Mitigation shall be required if any one or more of the following performance deficiencies listed below exist within the service area of the proposed development:
 - 12.4.2.1. Historical performance data shows arrival time for first-in unit response times exceed the adopted Level of Service standard.
 - 12.4.2.2. Historical performance data shows arrival time of full first alarm units exceed the adopted Level of Service standard.

- 12.4.2.3. Historical performance data shows fractile reliability of first in units is equal to or less than 5% more than the adopted Level of Service on a 24 hour basis, or equal to or less than the adopted standard during peak demand hours.
- 12.4.2.4. Historical performance data shows fractile reliability of Full First Alarm resources is equal to or less than 5% more than the adopted Level of Service during peak demand hours.
- 12.4.2.5. Historical data shows evidence that more than one mutual-aid company has been consistently relied upon to provide an Effective Response Force to the area of proposed development.
- 12.4.2.6. Less than 1,500 gallons of fire flow is available when any residential structure to structure spacing is less than 15 feet from any part of another structure.

12.5. Mitigation Options:

12.5.1. Selected mitigation measures should be relational to the risk imposed by the development. Time is the critical issue in the delivery of fire and emergency medical services. Mitigation measures should be appropriate and adequate to achieve a level of public safety that would be equivalent to SFD's achievement of response time standards.

12.5.1.1. SFD staff may utilize, but not be limited to the options listed below and/or any State or locally adopted building code set, and any NFPA or other recognized standard to mitigate the impacts of new development upon the ability of SFD to deliver service.

12.5.1.2. Installation of automatic fire sprinkler systems to provide onsite fire control until SFD response units can arrive on scene.

12.5.1.2.1. All automatic fire sprinkler systems shall comply with NFPA 13.

12.5.1.2.1.1. Flow through or "Multi-Purpose" systems may be allowed in one and two family structures upon approval of the Fire Marshal representing Shoreline or the authority having jurisdiction.

- 12.5.1.3. Installation of monitored alarm and alerting systems to provide early alerting to SFD.
- 12.5.1.4. Installation of fire walls or other building separations to reduce fire flow and/or firefighting resource requirements.
- 12.5.1.5. Use of alternate construction materials to reduce chance of fire spread between structures.
- 12.5.1.6. Installation of intercom systems in multi-family housing to assist evacuation and sheltering in place.
- 12.5.1.7. Addition of access enhancements such as secondary access points, fire lanes, ambulance parking spaces etc.
- 12.5.1.8. Installation of incident reduction features such as grab bars in senior and disabled housing units.
- 12.5.1.9. Installation of monitored medical alarms.
- 12.5.1.10. Installation of alarm monitored defibrillators in public areas of multi-family housing, places of assembly, and public buildings.
- 12.5.1.11. Impact Fees.
- 12.5.1.12. Level of Service Fees.

13. Developer Agreements Required

13.1. Developer agreements are required for all developments occurring within the SFD service area. SFD and the development applicant shall enter into a mitigation agreement that clearly identifies all mitigation required to maintain fire service concurrency.

13.1.1. Exceptions:

- 13.1.1.1. Where the development occurs within the City of Shoreline and impact fees are the only mitigation required an agreement may not be necessary when utilizing the City of Shoreline's policies will ensure collection of impact fees necessary to maintaining fire service concurrency.

13.1.1.2. When all mitigation requirements are included as plat notes into the approved and permitted land use plans, a mitigation agreement may not be required.

13.2. Basis for Calculating Impact and Level of Service Fees:

13.2.1. **Boundaries:** As a point of reference, SFD boundaries at time of adoption of this policy shall be used as a determinant or benchmark as to the extent of capacity of service according to SFD's adopted response time standards. This policy may be applied to all or administratively defined areas of SFD.

13.2.2. **Property Categories:** Properties are grouped by two basic categories, residential, and commercial. Residential properties shall include both single-family and multifamily units. Commercial property shall be those property uses that would otherwise be classified as industrial, business, retail sales and services, wholesale sales, storage, assisted care facilities and hospital and medical facilities.

13.2.3. **Capital Improvements (C&E):** SFDs Capital Improvement Plan identifies the resources and revenue needed to provide adequate service and maintain public health and safety over a 20 year planning cycle. Each year an updated Six Year Capital Improvement Plan shall be adopted to serve as the basis for updating construction and equipment costs and impact and level of service fees. The C&E costs identified in Appendix A for the impact fee computation reflects only projects that can be attributed to the impact of new development.

13.2.4. **Fire Department Service Demand:** Past demand for fire department services to property categories identified above, shall be used to predict future service level demand to those property types. The percentage of service use by new development and its impact on SFD Service Levels shall be used to determine appropriate and relational contributions for each property type (see Appendix A, Res/Com Split). Needed expenditures for improvements identified in the SFD Capital Improvement Plan will be the basis for determining the construction and equipment costs (C&E) which are used in calculating impact fees and level of service contributions.

13.2.5. **Usage Factor:** The specific use of fire services by land use category. Use factors are based on actual call rates. (see Appendix B)

13.2.6. **ERF (Effective Response Force) Factor:** The minimum amount of staffing and equipment that must reach a specific emergency location within the maximum

adopted level of service time capable of fire suppression, EMS and/or other incident mitigation.

- 13.2.7. **Projected Development:** The 20 year development capacity analysis found in SFD's Capital Improvement Plan will be the basis for SFD calculations of future dwelling units and future square-footage of commercially developed properties.

14. Mitigation Methodology and Fee Application:

14.1. New Development Assessment:

14.1.1. Impact Fees & Mitigations

- 14.1.1.1. In areas where fire service impact fees have been adopted in support of SFD by the authority having jurisdiction to permit building and land uses, each new proposed development will have a capacity analysis completed to determine the system wide impacts the proposed development will have on fire concurrency within the SFD service area.
- 14.1.1.2. System impacts will be assessed utilizing SFDs Mitigation Assessment Worksheet. (See Appendix B)
- 14.1.1.3. Impact fees will be calculated and determined by applying the appropriate formula found in Appendix A.
- 14.1.1.4. SFD staff will determine appropriate non-fee mitigations that will provide adequate protection necessary to provide fire service concurrency to the proposed development.
- 14.1.1.5. SFD staff shall consider developer submitted alternate mitigations and fee amounts presented in a study that provides acceptable alternatives to the mitigations found in this policy.
- 14.1.1.6. If a developer builds a residential structure in the Residential 1 classification and installs a sprinkler system, then the reduction in the impact fee will be commensurate with at least the equivalent amount paid for the fire suppression portion of the impact fee.

14.1.2. Impact & Level of Service Fees & Mitigations

- 14.1.2.1. In areas where fire service impact fees have not been adopted in support of SFD by the authority having jurisdiction to permit building and land uses, each new development when proposed, and upon notice of application, shall have their direct impacts assessed and their appropriate mitigation options determined.
 - 14.1.2.2. SFD shall pursue all appropriate mitigations necessary to maintain public safety and fire service concurrency through the provisions provided by the Growth Management Act (GMA), State Environmental Protection Act (SEPA), Washington State subdivision codes, and the adopted land use regulations in the authority having jurisdiction.
 - 14.1.2.3. Direct impacts will be assessed utilizing SFDs Mitigation Assessment Worksheet. (See Appendix B)
 - 14.1.2.4. Appropriate Level of Service Contribution fees will be calculated and determined by applying the formula found in Appendix A
 - 14.1.2.5. SFD staff will determine appropriate non-fee mitigations that will provide adequate protection necessary to provide fire service concurrency to the proposed development.
- 14.1.3. Impact and Level of Service Fee Reduction:
- 14.1.3.1. Where automatic fire sprinklers are voluntarily installed in single-family residential occupancies, a reduction equal to 30% of the impact or level of service fee shall serve to mitigate the costs of needed EMS and rescue resources. If the sprinklers are required as part of code requirements or law, the reduction does not apply. Additional reductions shall be applied as identified on the SFD Service Capacity Analysis worksheet in Appendix B.
- 14.1.4. Fee Payment Policy:
- 14.1.4.1. Payment of impact fees within the City of Shoreline will be collected by the City of Shoreline at time of permitting or as defined by a required development agreement. Impact or level of service fees shall be based on the most recently adopted formula and fees. Any fees paid later than required shall be subject to interest at a rate of one (1) percent per month.

- 14.1.4.2. All impact fees and level of service contributions collected shall be held by SFD in a reserve account used to fund SFD's Capital Improvement Plan. If impact fees are not utilized within ten years of receipt or five years of receipt for level of service fees, a refund will be issued to the developer with interest.
- 14.1.4.3. In all cases, it is SFD's intent to collect impact and level of service fees in a manner consistent with this section. However, in an interest to work with developers in as fair and equitable fashion as possible, SFD staff shall use the following guidelines for negotiating payment schedules.
- 14.1.4.3.1. Residential fee payment:
- 14.1.4.3.1.1. Collection of all residential impact and level of service fees shall be collected at the time of building permit issuance and level of service fee payments should occur at the time of final platting or prior to the start of construction. In extenuating circumstances the following payment option may be exercised. Any fees received late from any payment option will be subject to interest penalties of one (1) percent per month.
- 14.1.4.3.1.2. Fire impact and level of service fees can be deferred to be paid within three business days of the issuance of a certificate of occupancy for the structure that the fee was to be paid for. The consideration of this option will be at the discretion of the SFD Board of Commissioners.
- 14.1.4.3.1.3. In jurisdictions where fire impact fees have been implemented, fees shall be collected in compliance with the jurisdiction's municipal code.
- 14.1.4.3.2. Commercial fee payment:
- 14.1.4.3.2.1. Collection of all commercial impact and level of service fees shall be collected at the time of building permit issuance by the authority having jurisdiction and level of service fee amounts should occur at time of final platting or prior to the start of construction.
- 14.1.4.3.2.2. In jurisdictions where fire impact fees have been implemented, fees shall be collected in compliance with the jurisdiction's municipal code.

- 14.1.4.3.3. Fee Exempt Properties:
- 14.1.4.3.4. Existing structures retained and incorporated into a new subdivision of land.
- 14.1.4.3.5. Square footage of the same type of new construction equal to the percentage of square footage of existing structures to be redeveloped.
- 14.1.4.3.6. Agreements:
- 14.1.4.3.7. All mitigation agreements between SFD and developers shall be recorded as a lien against the property of the proposed development unless the developer agrees to include all mitigation requirements specified in the agreement in the approved plat notes. Upon receipt of payment, SFD shall promptly notify the appropriate authority having jurisdiction and remove any encumbrances recorded against the appropriate property.
- 14.1.4.3.8. SFD Funding Participation: There is currently an identified need for additional fire and life safety facilities and equipment in SFD. SFD will share in the expense of needed resources as outlined in Table 16, 20 Year Cost/Funding Plan, found in Section 6 of the SFD Capital Improvement Plan, and in the following manner:
- 14.1.4.3.8.1. SFD will be directly responsible for the percentage of construction and equipment costs beyond the growth share determined for new developments.
- 14.1.4.3.8.2. SFD will contribute shortages as a result of loss of, or default on collections of impact and level of service fees.
- 14.1.4.3.8.3. Estimated revenues are never fully realized from development and SFD will need to supplement shortages.
- 14.1.4.3.8.4. SFD will contribute the actual construction and other costs exceeding original estimates.
- 14.1.4.3.8.5. Payment of unanticipated costs associated with implementing the SFD Capital Improvement Plan.

14.1.4.3.8.6. Advancing funds for the project before total collection of impact fee or level of service contributions.

14.1.4.3.8.7. Management of this policy, and the Capital Improvement Plan.

15. Assurance of Adequate Provisions for Public Safety:

15.1. The safety and welfare of current and future residents of SFD is of paramount concern to SFD. It is recognized that this policy may have limitations and may not provide definitive guidance for effective mitigation of direct development impacts on SFD's service capacity in all cases.

15.2. It is not the intent of this policy to limit SFD's staff in making decisions outside of this policy where those decisions and mitigation options serve the intent of maintaining concurrency with development and protecting SFD's service capacity, making rational and relational mitigation requests appropriate to the level of risk, and protecting the safety of the public and firefighters in a fair and consistent manner.

16. Policy Review and Adjustment:

16.1. At least annually, this Policy will be reviewed and amended as necessary. Amendments shall be made consistent with the annual revision of the six (6) year Capital Improvement Plan and shall be approved through a resolution of SFD's Board of Fire Commissioners.

Appendix A

APPLICATIONS OF LEVEL OF SERVICE FORMULAS

LOS Formula Calculation

Land Use Type	System-Wide C&E	New Dev C&E	Res/Com Share	Res/Com Split	Projected Development 2018 - 2037	Cost Per Unit	Measure of Impact by Development	Adjustment	Impact & LOS Contribution Fee Amount
Residential									
Residential 1 (Low Risk)	\$41,217,424	\$21,354,000	64%	\$13,666,560	5,000 units	\$2,733.31	100%	20%	\$2,187 per dwelling unit
Residential 2 (High Risk)	\$41,217,424	\$21,354,000	64%	\$13,666,560	5,000 units	\$2,733.31	87%	20%	\$1,895 per dwelling unit
Commercial									
Commercial 1 (Low Risk)	\$41,217,424	\$21,354,000	36%	\$7,687,440	1,500,000 sq ft	\$5.12	66%	20%	\$2.69 per sq ft
Commercial 2 (Medium Risk)	\$41,217,424	\$21,354,000	36%	\$7,687,440	1,500,000 sq ft	\$5.12	42%	20%	\$1.73 per sq ft
Commercial 3 (High Risk)	\$41,217,424	\$21,354,000	36%	\$7,687,440	1,500,000 sq ft	\$5.12	132%	20%	\$5.42 per sq ft

LOS Formula Definitions

- Land Use Type:**
Defines the land use types and structure uses upon which Impact and Level of Service Fees are assessed. For a complete breakdown of what types of structures are in each group refer to Table A-1.
- System-Wide C&E:**
The construction and equipment costs for the 20 year time span of SFD's Capital Improvement Plan
- New Dev C&E:**
The construction and equipment costs for the 20 year time span of SFD's Capital Improvement Plan specific to the impacts of new development.
- Res/Com Share:**
Percentage of annual emergency responses by property type; Residential = 64%, Commercial = 36%
- Res/Com Split:**
The corresponding amount of the New Development Construction and Equipment to the Residential/Commercial share.
- Projected Development:**
Defines the number of new units or square feet projected to be constructed within the SFD service area between 2018 and 2037.

- **Cost Per Unit:**
Is the cost per dwelling unit or square footage associated with residential or commercial land use.
- **Measure of Impact By Development:**
Index to compare emergency response shares, usage factor, and effective response force requirements for each type of development, using Residential 1 as the reference point. This variable accounts for the proportionate impact each type of development has on the system.
- **Adjustment:**
Adjustment to account for the fact that you cannot rely solely on impact fees for the cost of development
- **Impact and LOS Contribution Fee Amount:**
This amount represents the maximum fee to be paid by new development for each specific property type. This fee might be reduced if existing fire service capacity is adequate to serve the new development.

Table A-1

Land Use Category/Description	ERF	Land Use Category/Description	ERF
Residential 1	1.0	Commerical 2	2.5
Single family house (includes townhouse and duplex)		Movie theater	
Mobile home park		Warehouse	
Residential 2	1.3	Health/fitness club	
Apartment (includes accessory dwelling unit)		School (public or private)	
Condominium		Junior/community college	
Hotel/Motel		Church	
Commerical 1	2.0	Day care center	
Light industrial		Library	
Manufacturing		Medical office	
Mini-warehouse		Commerical 3	3.0
General office		Senior housing	
State motor vehicles dept		Continuing care retirement	
United States post office		Hospital	
General retail & personal services (includes shopping center)		Industrial	
Car sales			
Supermarket			
Convenience market-24 hr			
Discount supermarket			
Pharmacy/drugstore			
Bank			
Restaurant			
Fast food restaurant			
Coffee/donut shop			
Quick lube shop			
Gas station			
Automated car wash			

Service Capacity Credit Criteria

Single Family Residential Fee Reduction Factors:*

Historical data shows first in station response area meets LOS	= 15%
Historical data shows F-Box of development meets first in LOS	= 10%
First in station reliability data meets peak hour standard	= 15%
If fire flow is $\geq 1,500$ GPM or spacing between structures is > 15 feet	= 15%
Historical data shows full first alarm reliability meets peak call volume standard	= 15%
Automatic sprinkler system installed (single-family only)	= 30%
Historical data shows full first alarm ERF meets LOS standard to F-Box	= 40%

*Accumulated discounts cannot exceed the LOS contribution amount and cumulative discounts cannot be used as credits to be transferred.

Multi-Family and Commercial/Industrial Reduction Factors:

Historical data shows first in station response area meets LOS	= 15%
Historical data shows F-Box of development meets first in LOS	= 10%
First in station reliability data meets peak hour standard	= 10%
Historical data shows full first alarm reliability meets peak call volume standard	= 15%
Historical data shows full first alarm ERF meets LOS standard to F-Box	= 50%



Appendix B

Service Capacity Analysis for New Single-Family Residential Development

Date of Analysis: _____ Project Permit # _____

Project Address: _____ Land Parcel # _____

Fire Box Location: _____ Fire Box Performance: 1st In _____% ERF _____%

1st in Station _____ Peak Hour Reliability _____% 1st in Area Performance _____%

Fire ERF Required _____ ERF Pick List _____, _____, _____, _____, _____

ERF Reliability _____% _____% _____% _____% _____% _____%

Capacity Allowance Calculator:

1 st in response area meets LOS	_____ = 15%	_____ %
F-Box development meets first in LOS	_____ = 10%	_____ %
1 st in reliability meets peak hour standard	_____ = 15%	_____ %
Fire flow ≥1,500 GPM or structure spacing > 15 feet	_____ = 15%	_____ %
1st alarm reliability meets peak hour standard	_____ = 15%	_____ %
Sprinklers installed	_____ = 30%	_____ %
1st alarm ERF meets LOS standard to F-Box	_____ = 40%	_____ %
Total Capacity Allowance		_____ %

Total Fee Calculation:

Full SFR Impact Fee Rate = _____
 SFR units in development _____ x _____
 Total impact fee amount _____

Impact fee to be assessed:

Total impact fee _____ x capacity allowance _____ = \$ _____

Service Capacity Analysis for New, Non Single-Family Residential Development



Date of Analysis: _____ Project Permit # _____

Project Address: _____ Land Parcel # _____

Fire Box Location: _____ Fire Box Performance: 1st In _____ % ERF _____ %

1st in Station _____ Peak Hour Reliability _____ % 1st in Area Performance _____ %

Fire ERF Required _____ ERF Pick List _____, _____, _____, _____, _____, _____, _____,

ERF Reliability _____ % _____ % _____ % _____ % _____ % _____ % _____ %

Capacity Allowance Calculator:

1 st in response area meets LOS	_____ = 15%	_____
F-Box development meets first in LOS	_____ = 10%	_____
1 st in reliability meets peak hour standard	_____ = 10%	_____
1st alarm reliability meets peak hour standard	_____ = 15%	_____
1st alarm ERF meets LOS standard to F-Box	_____ = 50%	_____
Total Capacity Allowance		_____

Impact fee category and rate:

Multi Family _____	Impact fee rate per square foot _____
Commercial/Industrial _____	Impact fee rate per square foot _____
Hospital/Medical/Civic _____	Impact fee rate per square foot _____
Assisted Care _____	Impact fee rate per square foot _____

Total fee calculation:

Full impact fee rate	=	_____
Square footage of development	x	_____
Total impact/LOS amount	\$	_____

Impact fee to be assessed:

Total impact/LOS amount _____ x capacity allowance _____ = \$ _____

ORDINANCE NO. 791

**AN ORDINANCE OF THE CITY OF SHORELINE, WASHINGTON
ADDING A NEW CHAPTER TO TITLE 3 REVENUE AND FINANCE,
CHAPTER 3.75 IMPACT FEES FOR FIRE, AND ADDING A NEW
SECTION 3.01.017 FIRE IMPACT FEES TO CHAPTER 3.01 FEE
SCHEDULES OF THE SHORELINE MUNICIPAL CODE.**

WHEREAS, the City of Shoreline is a non-charter optional municipal code city as provided in Title 35A RCW, incorporated under the laws of the state of Washington, and planning pursuant to the Growth Management Act, Chapter 36.70A RCW; and

WHEREAS, fire protection services within the City of Shoreline are provided by the Shoreline Fire Department, a fire protection district organized under RCW Title 52; and

WHEREAS, pursuant to RCW 82.02.050, a proportionate share of the cost of system improvements for fire protection facilities may be assessed on new growth and development through an impact fees for such system improvements; and

WHEREAS, with the adoption of Ordinance No. 802, the City has amended the Capital Facilities Element of the Comprehensive Plan to incorporate by reference the Shoreline Fire District's *Capital Facilities and Equipment Plan 2018-2037* so as to support the imposition of fire impact fees as authorized by RCW 82.02; and

WHEREAS, the Shoreline Fire Department has prepared the *Mitigation and Level of Service Policy for Fire Service Concurrency 2018* which utilizes methodologies for calculating the maximum allowable impact fees that are consistent with the requirements of RCW 82.02.060(1); and

WHEREAS, the Shoreline Fire Department has requested that the Shoreline City Councils adopt a fire impact fee program to address the additional demand and need created by new residential and commercial growth and development in the City of Shoreline on fire protection facilities; and

WHEREAS, the City Council finds that building permits issued by the City are the specific development approval of a development activity in the City that can create additional demand and need fire protection facilities; and

WHEREAS, the City Council finds that new residential and commercial growth and development should pay a proportionate share of the cost of the system improvements for fire protection facilities needed to serve such new growth and development and, therefore, desires to provide funding for fire protection facilities through the imposition of fire impact fees; and

WHEREAS, the City Council finds that it is in the public interest and consistent with the intent and purposes of the Growth Management Act, chapter 36.70A RCW,

and the relevant provisions of chapter 82.02 RCW, for the City to adopt fire impact fees which are uniform to the greatest extent practicable; and

WHEREAS, the purpose and intent of this new section is to authorize the collection of impact fees for fire protection facilities; and

WHEREAS, the City Council has considered the entire public record, public comments, written and oral, and considered the proposed amendments at its regularly scheduled meetings on October 30, 2017 and November 20, 2017;

THEREFORE, THE CITY COUNCIL OF THE CITY OF SHORELINE, WASHINGTON DO ORDAIN AS FOLLOWS:

Section 1. Amendment to Title 3 Revenue and Finance. A new chapter, Chapter 3.75 *Impact Fees for Fire*, is added to Title 3 as set forth in Exhibit 1 to this Ordinance.

Section 2. Amendment to Title 3 Fee Schedules. A new section, SMC 3.01.017 *Fire Impact Fees*, is added to chapter SMC 3.01 Fee Schedules as set forth in Exhibit 2 to this Ordinance.

Section 3. Corrections by City Clerk or Code Reviser. Upon approval of the City Attorney, the City Clerk and/or the Code Reviser are authorized to make necessary corrections to this ordinance, including the corrections of scrivener or clerical errors; references to other local, state, or federal laws, codes, rules, or regulations; or ordinance numbering and section/subsection numbering and references.

Section 4. Severability. Should any section, subsection, paragraph, sentence, clause, or phrase of this ordinance or its application to any person or situation be declared unconstitutional or invalid for any reason, such decision shall not affect the validity of the remaining portions of this ordinance or its application to any person or situation.

Section 5. Publication and Effective Date. A summary of this Ordinance consisting of the title shall be published in the official newspaper. This Ordinance shall take effect on January 1, 2018.

PASSED BY THE CITY COUNCIL ON NOVEMBER 20, 2017

Mayor Christopher Roberts

ATTEST:

APPROVED AS TO FORM:

Jessica Simulcik-Smith
City Clerk

Margaret King
City Attorney

Date of Publication: , 2017
Effective Date: , 2017

Chapter 3.75

IMPACT FEES FOR FIRE PROTECTION FACILITIES

Sections:

- 3.75.010 Purpose and Authority.
- 3.75.020 Interlocal Agreement.
- 3.75.030 Capital Improvement Plan and Annual Report.
- 3.75.040 Definitions.
- 3.75.050 Establishment of service area.
- 3.75.060 Collection of impact fees.
- 3.75.070 Independent fee calculations.
- 3.75.080 Exemptions.
- 3.75.090 Credits.
- 3.75.100 Impact fee accounts – Administration.
- 3.75.110 Use of impact fees.
- 3.75.120 Appeals.
- 3.75.130 Existing authority unimpaired.

3.75.010 Purpose and Authority.

The purpose of this chapter is to ensure that adequate fire protection facilities are available to serve new growth and development within the city; that such growth and development pay a proportionate share of the costs for those facilities; and that this chapter is administered consistently and fairly. This chapter is authorized pursuant to chapter 36.70A RCW and chapter 82.02 RCW, as those chapters now exist or are amended.

3.75.020 Interlocal Agreement.

As a condition of the city's authority to adopt fire impact fees pursuant to chapter 36.70A RCW and chapter 82.02 RCW, the city and the Shoreline Fire Department shall enter into an interlocal agreement governing the administration of the fire impact fee program. The interlocal agreement shall describe the relationship and liabilities of the parties and shall speak to the process for the collection, distribution, expenditure, and reporting of fire impact fees. No impact fee shall be collected by the city until an interlocal agreement has been approved and fully executed by the city and the Fire Department.

3.75.030 Capital Improvement Plan, Rate Schedule, and Annual Report.

A. Capital Improvement Plan. No later than March 31 of each year, the Fire Department shall submit to the city's Planning and Community Development Department an updated capital facilities and equipment plan satisfying the requirements of RCW 36.70A.070(3) and containing a six-year financing plan for needed fire protection facilities. The city shall review the plan for

possible adoption in conjunction with the city’s comprehensive plan docket for that year or amendment of the city’s budget.

B. Rate Schedule. No later than September 1 of each year, the Fire Department shall submit to the city’s Administrative Services Department any modification to the impact fee rate from the prior year. The city shall review the proposed rates for possible adoption in conjunction with the city’s budget.

C. Annual Report. No later than January 31 of each year, the Fire Department shall submit to the City Council a report on fire impact fees for the previous year. The report shall detail, at a minimum, the amount of impact fees collected, the source of those impacts fees, the capital improvements which were financed, in whole or in part, by the impact fees, credits awarded, and any refunds issued.

3.75.040 Definitions.

For purposes of this chapter, if not defined below, the definitions of words and phrases set forth in SMC 1.05.050, Chapter 20.20 SMC, and RCW 82.02.090 shall apply to this chapter or they shall be given their usual and customary meaning.

“Applicant” is any person, collection of persons, corporation, partnership, an incorporated association, or any other similar entity, or department or bureau of any governmental entity or municipal corporation obtaining a building permit. “Applicant” includes an applicant for an impact fee credit.

“Building permit” means written permission issued by the city empowering the holder thereof to construct, erect, alter, enlarge, convert, reconstruct, remodel, rehabilitate, repair, or change the use of all or portions of a structure having a roof supported by columns or walls and intended for the shelter, housing, or enclosure of any individual, animal, process, equipment, goods, or materials of any kind.

“Capital facilities and equipment plan” means the most current Shoreline Fire Department’s capital improvement plan adopted by the Board of Fire Commissioners that contains all of the elements required by RCW 36.70A.070(3) and incorporated by reference in the city’s comprehensive plan.

“Capital facilities plan” means the capital facilities element of the city’s comprehensive plan adopted pursuant to Chapter 36.70A RCW, and such plan as amended.

“Encumbered” means impact fees identified by the Shoreline Fire Department as being committed as part of the funding for a fire protection facility for which the publicly funded share has been assured or building permits sought or constructions contracts let.

“Fire Chief” means the Shoreline Fire Department’s duly authorized by Department’s Board of Fire Commissioners as the administrative head of the Fire Department.

ATTACHMENT C – Exhibit 1

Ordinance 791 – Exhibit 1
Shoreline Municipal Code Chapter 3.75 IMPACT FEES FOR FIRE PROTECTION FACILITIES

“Fire protection facilities” means fully equipped fire stations, administrative offices, training facilities, maintenance facilities, and other specialized facilities necessary for the timely arrival of fire and emergency medical services, fire suppression equipment, and the staff necessary to delivery emergency response services within the city.

“Impact fee” means a payment of money imposed upon development as a condition of development approval to pay for fire protection facilities needed to serve new growth and development, and that is reasonably related to the new development that creates additional demand and need for fire protection facilities, that is a proportionate share of the cost of such facilities, and that is used for such facilities that reasonably benefit the new development. An impact fee does not include a reasonable permit fee or application fee. An impact fee does not include the administrative fee for collecting and handling impact fees, for impact fee estimates, for reviewing independent fee calculations, or for impact fee deferrals.

“Impact fee account” means a separate accounting structure within the City’s or the Fire Department’s established accounts which identify separately earmarked funds and which shall be established solely for the fire impact fees that are collected. The accounts shall be established pursuant to SMC 3.75.100, and shall comply with the requirements of RCW 82.02.070, as it now exists or as amended.

“Independent fee calculation” means the impact fee calculation, studies and data submitted by an applicant to support the assessment of a fire impact fee other than by the use of the rates published in SMC 3.01.017(A), or the calculations prepared by the Fire Chief where none of the fee categories or fee amounts in SMC 3.01.017(A) accurately describe or capture the impacts on fire protection facilities of the development authorized by the building permit.

“Interlocal Agreement” means the agreement between the City and the Shoreline Fire Department governing the operation of the fire impact fee program and describing the relationship, duties, and liabilities of the parties.

“Level of Service” means the qualitative measure adopted by the Shoreline Fire Department’s Board of Fire Commissioners to analyze the delivery for fire protections services based on acceptable performance measures and standards as set forth in the Fire Department’s Mitigation and Level of Service Policy.

“Mitigation and Level of Service Policy” means the policy adopted by the Shoreline Fire Department Board of Fire Commissioner’s establishing guidelines for the implementation of mitigations appropriate to maintaining fire service concurrency within the Fire Department’s service area.

“Owner” means the owner of record of real property, although when real property is being purchased under a real estate contract, the purchaser shall be considered the owner of the real property if the contract is recorded.

“Project improvements” means site improvements and facilities that are planned and designed to provide service for a particular development project and that are necessary for the use and

convenience of the occupants or users of the project, and are not system improvements. No improvement or facility included in a capital facilities plan adopted by the Fire Department’s Board of Fire Commissioners shall be considered a project improvement.

“Shoreline Fire Department” means the Shoreline Fire Department, a fire protection district organized and operating pursuant to RCW Title 52 and providing fire protection to the City of Shoreline.

“System improvements” means fire protection facilities that are included in the Shoreline Fire Department’s *Capital Facilities and Equipment Plan* and are designed to provide service to the community at large, in contrast to project improvements.

3.75.050 Establishment of service area.

The city hereby establishes, as the service area for fire impact fees, the city of Shoreline, including all property located within the corporate city limits. The service area is hereby found to be reasonable and established on the basis of sound planning for fire protection facilities and consistent with RCW 82.02.060.

3.75.060 Collection of impact fees.

A. The city shall collect impact fees for fire protection facilities, based on the rates provided by the Fire Department and adopted in SMC 3.01.017, from any applicant seeking a building permit unless specifically exempted in SMC 3.75.070. The city shall also collect an administrative fee from the applicant as provided in SMC 3.01.017(B).

B. When an impact fee applies to a building permit for a change of use of an existing building, the impact fee shall be the applicable impact fee for the land use category of the new use, less any impact fee paid for the immediately preceding use. The preceding use shall be determined by the most recent legally established use based on a locally owned business license and development permit documents.

1. For purposes of this provision, a change of use should be reviewed based on the land use category that best captures the broader use or development activity of the property under development or being changed. Changes of use and minor changes in tenancies that are consistent with the general character of the building or building aggregations (i.e., “industrial park,” or “specialty retail”), or the previous use, shall not be considered a change of use that is subject to an impact fee.

2. If no impact fee was paid for the immediately preceding use, the impact fee for the new use shall be reduced by an amount equal to the current impact fee rate for the immediately preceding use.

3. If the calculated impact fee is a negative amount, the applicant will not be required to pay impact fees nor will the applicant be compensated by the city for a negative impact fee.

C. For mixed use developments, impact fees shall be imposed for the proportionate share of each land use, based on the applicable measurement in the impact fee rates in SMC 3.01.017(A).

ATTACHMENT C – Exhibit 1

Ordinance 791 – Exhibit 1
Shoreline Municipal Code Chapter 3.75 IMPACT FEES FOR FIRE PROTECTION FACILITIES

D. Impact fees shall be estimated at the time the complete application for a building permit is submitted using the impact fee rates then in effect. Except as provided in Section 3.75.050(F), impact fees shall be due and payable before the building permit is issued by the city.

E. Applicants allowed credits pursuant to SMC 3.75.080 shall submit documentation from the Fire Department setting forth the credits allowed prior to building permit issuance. Credits shall be applied at the time of impact fee collection unless otherwise authorized by the Fire Department.

F. Single-Family Residential Deferral Program. An applicant for a building permit for a single-family detached or attached residence may request a deferral of the full impact fee payment until final inspection or 18 months from the date of original building permit issuance, whichever occurs first. Deferral of impact fees are considered under the following conditions:

1. An applicant for deferral must request the deferral no later than the time of application for a building permit. Any request not so made shall be deemed waived.
2. For the purposes of this deferral program, the following definitions apply:
 - a. “Applicant” includes an entity that controls the applicant, is controlled by the applicant, or is under common control with the applicant.
 - b. “Single-family residence” means a permit for a single-family dwelling unit, attached or detached, as defined in SMC 20.20.016.
3. To receive a deferral, an applicant must:
 - a. Submit a deferred impact fee application and acknowledgment form for each single-family attached or detached residence for which the applicant wishes to defer payment of the impact fees;
 - b. Pay the applicable administrative fee;
 - c. Grant and record at the applicant’s expense a deferred impact fee lien in a form approved by the city against the property in favor of the city in the amount of the deferred impact fee that:
 - i. Includes the legal description, tax account number, and address of the property;
 - ii. Requires payment of the impact fees to the city prior to final inspection or 18 months from the date of original building permit issuance, whichever occurs first;
 - iii. Is signed by all owners of the property, with all signatures acknowledged as required for a deed and recorded in King County;
 - iv. Binds all successors in title after the recordation; and

- v. Is junior and subordinate to one mortgage for the purpose of construction upon the same real property granted by the person who applied for the deferral of impact fees.
4. The amount of impact fees deferred shall be determined by the fees in effect at the time the applicant applies for a deferral.
5. Prior to final inspection or 18 months from the date of original building permit issuance, the applicant may pay the deferred amount in installments, with no penalty for early payment.
6. The city shall withhold final inspection until the impact fees have been paid in full. Upon receipt of final payment of impact fees deferred under this subsection, the city shall execute a release of deferred impact fee lien for each single-family attached or detached residence for which the impact fees have been received. The applicant, or property owner at the time of release, shall be responsible for recording the lien release at his or her expense.
7. The extinguishment of a deferred impact fee lien by the foreclosure of a lien having priority does not affect the obligation to pay the impact fees as a condition of final inspection.
8. If impact fees are not paid in accordance with the deferral and in accordance with the term provisions established herein, the city may institute foreclosure proceedings in accordance with Chapter 61.12 RCW.
9. Each applicant for a single-family attached or detached residential building permit, in accordance with his or her contractor registration number or other unique identification number, is entitled to annually receive deferrals under this section for the first 21 single-family residential construction building permits.
10. The city shall collect an administrative fee from the applicant seeking to defer the payment of impact fees under this section as provided in SMC 3.01.017(B).

3.75.060 Independent fee calculations.

A. If, in the judgment of the Fire Chief, none of the fee categories set forth in SMC 3.01.017(A) accurately describes or captures the impacts of a new development on fire protection facilities, the Fire Chief may conduct an independent fee calculation and the Fire Chief may impose alternative fees on a specific development based on those calculations. The alternative fees and the calculations shall be set forth in writing and shall be provided to the applicant and to the City prior to building permit issuance.

B. An applicant may opt not to have the impact fees determined according to the fee structure in SMC 3.01.017, in which case the applicant shall prepare and submit to the Fire Chief an independent fee calculation for the development for which a building permit is being sought. The documentation submitted shall show the basis upon which the independent fee calculation was made. An independent fee calculation shall use the same methodology used to establish impact fees adopted pursuant to SMC 3.01.017.

The Fire Chief shall consider the documentation and any other additional documentation requested in order to analyze the independent fee calculation. The Fire Chief is authorized to adjust the impact fees on a case-by-case basis based on the independent fee calculation, the specific characteristics of the development, and/or principles of fairness. The fees or alternative fees and the calculations therefor shall be set forth in writing and shall be provided to the applicant and to the City prior to building permit issuance. The city shall collect an administrative fee from the applicant seeking to an independent fee calculation under this section as provided in SMC 3.01.017(B).

3.75.070 Exemptions.

The following shall be exempted from the payment of all fire impact fees:

1. Alteration or replacement of an existing residential structure that does not create an additional dwelling unit or change the type of dwelling unit.
2. Miscellaneous improvements which do not generate increased need for fire protection facilities, including, but not limited to, fences, walls, residential swimming pools, and signs.
3. Demolition or moving of a structure.
4. Properties that have undergone prior State Environmental Policy Act (SEPA), chapter 43.21C RCW, review and received a final decision that includes mitigation requirements on the condition that the SEPA mitigation obligation has or will be fulfilled by the time the impact fees, if applicable, would be due.
5. Any development that creates insignificant and/or temporary additional impacts on any fire protection facility.
6. Any city capital improvement projects.

3.75.080 Credits.

A. Upon determination of a complete building permit application, the city shall forward the application to the Fire Department which will assess any credits that are to be given as provided in this section, or any other section or applicable law. The Fire Chief shall forward his/her written determination to the City prior to building permit issuance.

1. An Applicant installing a residential fire sprinkler system in a single-family residence shall be entitled to a thirty percent (30%) credit for impact fees as provided in RCW 82.02.100(2).
2. An Applicant may be entitled to a credit or credits based on service capacity criteria developed by the Fire Department as set forth in the Mitigation and LOS Policy. If the calculated credit results in the impact fee being a negative amount, the Applicant will not be required to pay impact fee nor will the Applicant be compensated by the city of the Fire Department for a negative impact fee. Total credits are based on an individual building permit application and may not be transferred to another application.

B. An Applicant may request that a credit or credits for impact fees be awarded to that Applicant for the total value of system improvements, including dedications of land and improvements, past payments for system improvements, and/or construction provided by the applicant. The application for credits shall be presented by the Applicant on forms to be provided by the City and shall include the content designated in such forms. The Fire Chief shall review the request and notify the Applicant and the City in writing prior to building permit issued if any impact fee credit will be awarded.

C. Any claim for a credit under this provision must be received by the City prior to issuance of the building permit. The failure to timely file such a claim shall constitute an absolute bar to later request any such credit.

3.75.100 Impact fee accounts – Administration.

A. The city shall establish a separate impact fee account for the fire impact fees collected on behalf of the Fire Department pursuant to this chapter. Funds along with any interest earned shall be distributed to the Fire Department from this account in accordance with the Interlocal Agreement.

B. The Fire Department shall establish a separate impact fee account for the fire impact fees collected on its behalf and distributed to it by the City. The Fire Department shall be solely responsible for expending or encumbering distributed fire impact fees in accordance with the applicable provisions of chapter 82.02 RCW, as it now exists or is amended, and in refunding impact fees that have not been expended or encumbered and any interest earned. The Fire Department shall establish procedures for refunds consistent with RCW 82.02.080, as it now exists or is amended.

3.75.110 Use of impact fees.

A. Impact fees collected by the city on behalf of the Fire Department:

1. Shall be used for fire protection facilities system improvements that will reasonably benefit the new development authorized by the building permit;
2. Shall not be imposed to make up for deficiencies in fire protection facilities; and
3. Shall not be used for maintenance, asset preservation, or operation.

B. The Fire Department shall be solely responsible for ensuring that the fire impact fees collected by the City on its behalf are administered pursuant to the applicable provisions of chapter RCW 82.02 RCW, as it now exists or is amended.

3.75.120 Appeals.

Unless the Fire Department establishes an appeal process, determinations and decisions by the Fire Department and/or Fire Chief made in regards to this chapter may be appealed by an applicant pursuant to the procedures for a Type B administrative decision as set forth in Chapter 20.30 SMC, Subchapter 4. The Fire Department shall be solely responsible for defending an appeal and all costs related to such an appeal.

ATTACHMENT C – Exhibit 1

Ordinance 791 – Exhibit 1

Shoreline Municipal Code Chapter 3.75 IMPACT FEES FOR FIRE PROTECTION FACILITIES

3.75.130 Existing authority unimpaired.

Nothing in this chapter shall preclude the city, on behalf of the Fire Department, from requiring the applicant or the proponent of a development authorized by a building permit to mitigate adverse environmental impacts of a specific development pursuant to the SEPA, Chapter 43.21C RCW, based on the environmental documents accompanying the building permit process, and/or Chapter 58.17 RCW, governing plats and subdivisions. Such mitigation shall not duplicate the impact fees charged under this chapter.

ORDINANCE NO. 791

Attachment C - Exhibit 2

ADDING A NEW SECTION 3.01.017 FIRE IMPACT FEES TO SMC CHAPTER 3.01 FEE SCHEDULES

SMC 3.01.017 Fire Impact Fees

A. Rate Table	
Use Category	Impact Fee
Residential	
Single-Family Residential	\$2,187.00 per dwelling unit
Multi-Family Residential	\$1,895.00 per dwelling unit
Commercial	
Commercial 1	\$2.69 per square foot
Commercial 2	\$1.73 per square foot
Commercial 3	\$5.42 per square foot

B. Administrative Fees – See SMC 3.01.014