CITY OF MAPLE VALLEY, WASHINGTON

ORDINANCE NO. O-12-507

AN ORDINANCE OF THE CITY OF MAPLE VALLEY, WASHINGTON, ADOPTING THE MAPLE VALLEY FIRE AND LIFE SAFETY (MVFLS) 2011-2030 CAPITAL FACILITIES AND EQUIPMENT PLAN, PROVIDING FOR SEVERABILITY, ESTABLISHING AN EFFECTIVE DATE, AND PROVIDING FOR CORRECTIONS.

WHEREAS, the MVFLS District adopted the 2011 to 2030 MVFLS Capital Facilitates and Equipment Plan on August 4, 2011;

WHEREAS, the City Council desires to adopt the 2011 to 2030 Maple Valley Fire and Life Safety Capital Facilities and Equipment Plan concurrently with an amendment to the 2012 budget; and

WHEREAS, by separate ordinance, O-12-506, the City Council desires to amend the City's Comprehensive Plan, Capital Facilities Element; and

NOW, THEREFORE, **THE CITY COUNCIL OF THE CITY OF MAPLE VALLEY, WASHINGTON, DO ORDAIN AS FOLLOWS:**

Section 1. Maple Valley Fire and Life Safety Capital Facilities and Equipment Plan. The City of Maple Valley hereby adopts by reference into the City of Maple Valley's Capital Facilities and Public Services Plan element of the Comprehensive Plan, the Maple Valley Fire and Life Safety (MVFLS) 2011-2030 Capital Facilities and Equipment Plan (CFEP). A complete copy of the MVFLS 2011-2030 CFEP is incorporated herein as if set forth in full and is referenced under Clerk's Receiving No. ___.

Section 2. Severability. If any section, paragraph, sentence, clause or phrase of this ordinance, or its application to any person or circumstance, be declared unconstitutional or otherwise invalid for any reason, or should any portion of this ordinance be preempted by state or federal law or regulation, such decision or preemption shall not affect the validity of the remaining portions of this ordinance or its application to other persons or circumstances.

Section 3. Effective Date. A summary of this ordinance shall be published in the official newspaper of the City, and this ordinance shall take effect and be in full force five days after adoption and publication pursuant to RCW 35A.13.190.

Section 4. Corrections by City Clerk or Code Reviser. Upon approval of the City Attorney, the City Clerk and the code reviser are authorized to make necessary corrections to this ordinance, including the correction of clerical errors; references to other local, state or federal laws, codes, rules, or regulations; or ordinance numbering and section/subsection numbering.

ADOPTED BY THE CITY COUNCIL OF THE CITY OF MAPLE VALLEY ON THIS 23rd DAY OF JULY, 2012

CITY OF MAPLE VALLEY

_____
William T. Allison, Mayor

ATTEST/AUTHENTICATED:

_____
Shaunna Lee-Rice
City Clerk

Approved as to form:

_____
Christy Todd
City Attorney

Date of Publication: July 31, 2012
Effective Date: August 5, 2012

2011 – 2030

Capital Improvement Plan

Maple Valley

Fire & Life Safety

Capital Facilities & Equipment Plan

Attachment to Ordinance No. O-12-507

Maple Valley Fire & Life Safety Capital Facilities & Equipment Plan

Prepared For:

Maple Valley Fire & Life Safety

23775 SE 246th Street Maple Valley, WA 98038

Prepared By:

Deployment Dynamics Group LLC

1136 57th Place SE Auburn, WA 98092

With Assistance From:

Deputy Chief Mathew Cowan

Maple Valley Fire & Life Safety

August 2011

This plan as prepared is reflective of the economic downturn which occurred in 2008/2009 following the national real estate bubble created between 2002 and 2007. The resulting devaluation of local real estate has left public sector agencies such as Maple Valley Fire & Life Safety (MVFLS) who are dependent upon ad valorem taxes struggling to make ends meet. The original goal of this document was to establish a 20 year plan toward fully achieving the new five (5) station deployment model recommended by ESCI's 2008 fire station study adopted by the MVFLS Board of Commissioners. The following pages of this plan reflect a strategic, responsible, and cost conscious compromise reflective of the current economy. While timelines have been extended, this plan continues to work toward achieving the original five (5) station deployment plan.

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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 King County Fire Protection District #43 who does business as Maple Valley Fire & Life Safety (MVFLS), to transition from a rural, to urban and suburban service delivery model. MVFLS's intent is to sustain adequate levels of service consistent with their adopted service standards and the Land Use elements of the Maple Valley and King County Comprehensive Plans. The goal of this plan is to forecast the next twenty 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.

As the Capital Facilities Plan for Maple Valley Fire & Life Safety, this plan 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 Maple Valley Fire & Life Safety'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 Maple Valley and King County Comprehensive Plans and the Maple Valley Fire &Life Safety (MVFLS) Station Location Analysis conducted in 2008. For purposes of this plan, capital improvements are defined as real estate, structures or collective equipment purchases anticipated to have a cost over $15,000 and an expected useful life of at least 5 years.

1.2. Background & Organizational Overview:

1.2.1. Yesterday

In the early 1950's the Maple Valley area was under transition, moving away from its logging and coal mining roots of the late 1800's. Twice the local lumber mill had burned to the ground devastating the local economy. The second fire occurred in the depression years and the mill was never rebuilt. Coal mining played out in 1949 but locals determined to stay in the area, turned toward farming and tourism for their livelihood. Lake Wilderness, home to the two log mills that had once given vitality to the area, once again became the area's economic center through the Lake Wilderness Resort, which became the new destination for prosperous tourists from the Seattle area.

As Maple Valley became a popular destination, public safety became a concern to locals who had lived through the devastating fires that laid waste to their previous industry. In January of 1952, a trio of local organizers, Papa Joe Messavilla, Frank Sayers and Cass Russell circulated petitions and submitted a request to the King County Commission to authorize a ballot measure that if approved, would form a local fire department. The ballot measure was approved on March 18, 1952 by a 90% majority, 412 yes votes to 45 no votes and King County Fire Protection District #43 was formed.

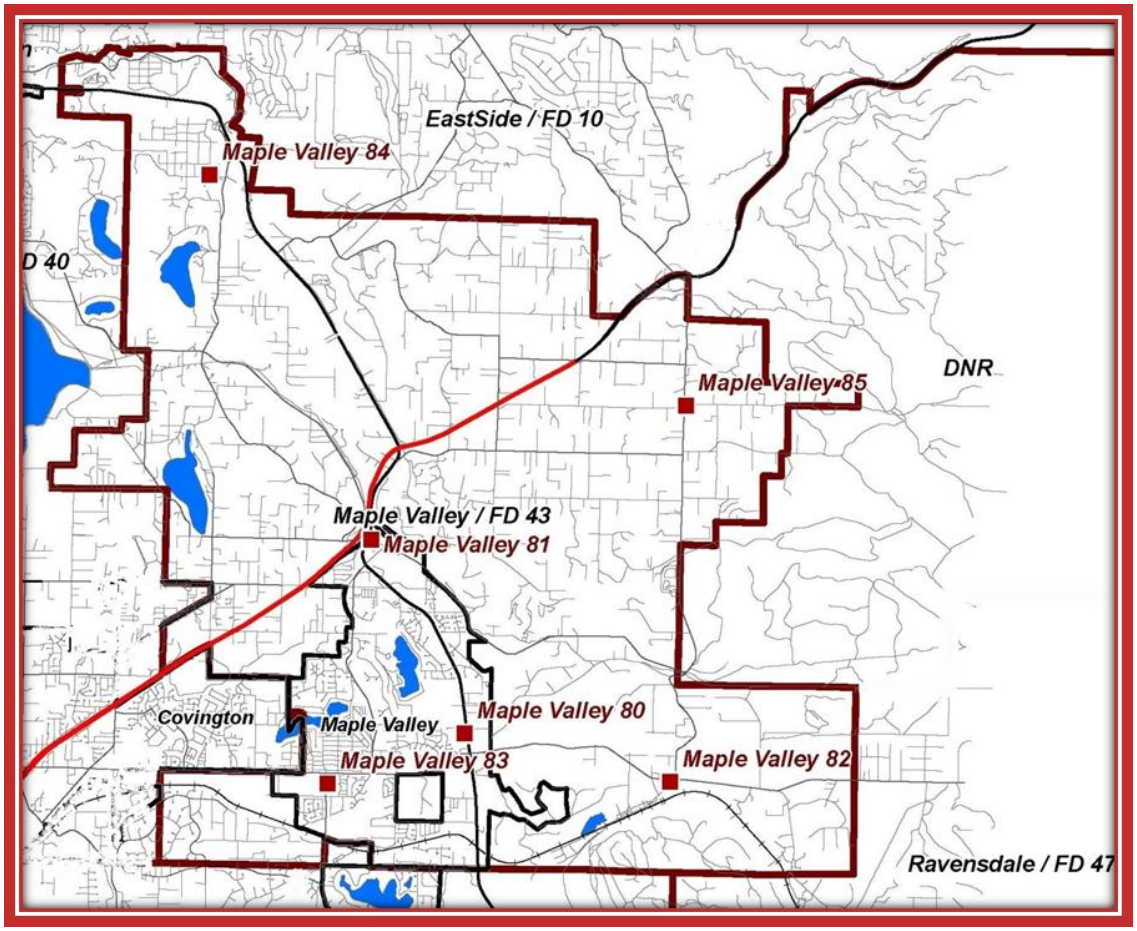
Post war growth of the automobile age brought rise to commuters living in Maple Valley and slowly the town began to grow beyond its local economy. Gradual but steady growth occurred until 1992 when King County, as a result of the recently enacted Growth Management Act (GMA), approved an urban growth boundary that included a significant portion of King County Fire District #43. Urban growth areas were established with the intent of concentrating growth in areas capable of providing urban levels of public services, preventing uncontrolled growth and preserving rural lands.

1.2.2. Today

MVFLS is an independent special purpose district that provides fire and rescue services to the District's 55 square miles of urban, suburban and rural area. Services provided are delivered through what is known as a "combination" type of fire service, meaning that both paid (48 firefighters and officers) and volunteer (30 firefighters and officers) are utilized to deliver services which include; fire protection, fire prevention and code enforcement, basic life support (BLS) in cooperation with King County Medic 1, and public education in fire prevention and life safety. The urban boundary set on July 6, 1992 remains largely the same in MVFLS. The current service area includes all of the City of

Maple Valley as well as surrounding unincorporated areas of King County. Generally MVFLS's service area borders Issaquah to the north, the Cascade foothills to the east, the City of Covington to the west and Black Diamond to the south. Current 2010 population of MVFLS is 39,398[1]

Exhibit 1 Service Area Map of Maple Valley Fire & Life Safety[2]



[1] MVFLS Long Range Plan, 2010 update
[2] Map provided by MVFLS

1.2.3. Tomorrow's Growth

The City of Maple Valley is expected to grow and redevelop with higher and better uses for existing property. Higher density commercial development will include larger and taller structures that integrate mixed uses requiring additional resources and specialized equipment for the delivery of adequate fire and rescue services. The King County defined urban, and rural areas of today will likely remain much the same in the future with growth occurring mainly within the City limits of Maple Valley as described below.

1.2.3.1. City of Maple Valley

The City of Maple Valley has rapidly developed over the past several years reaching 109% of the City's 2012 growth projections by the year 2000. As a result, amendments were made to Maple Valley's growth targets to predict a total of 8,439 housing units. Today, Maple Valley's housing inventory stands at 8,021[3] consisting of 7,177 single family homes, 496 two plus unit homes and 348 mobile homes. Additional growth will occur in Maple Valley through annexation of a portion of unincorporated King County which exists as an island within the corporate limits of Maple Valley. This area, known as Summit Place, is projected to have a maximum housing count of 1,690 units and an additional 380,000 square feet of commercial and office development. A total of 2,108 additional housing units and more than a million square feet of commercial development can be expected within the City of Maple Valley. Current land use regulations will allow some commercial structures to be as large as 200,000 square feet.

1.2.3.2. Unincorporated Areas

Currently the unincorporated areas of MVFLS fall outside of King County's urban growth area and future growth is limited by current rural zoning. Little future growth is expected unless King County undertakes a process to expand the urban growth boundary beyond today's limits.

[3] Washington State Office of Financial Management, "2010 Housing Unit Inventory by County"

Table 1 Future population of MVFLS

Portion of MVFLS Service Area	Population 2010	Population 2020	Population 2030
City of Maple Valley	20,480[4]	25,750[5]	28,540[6]
Unincorporated King County	18,980[7]	20,173[8]	21,223[9]
Total	39,460	45,923	49,763

2. Inventory of Current Capital Assets

Capital resources for MVFLS 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 six fire stations located throughout the service area as identified in Table 2 and shown on the map in Exhibit 1. On average the existing six fire stations in operation are 30 years old with an average square footage of 5,076.

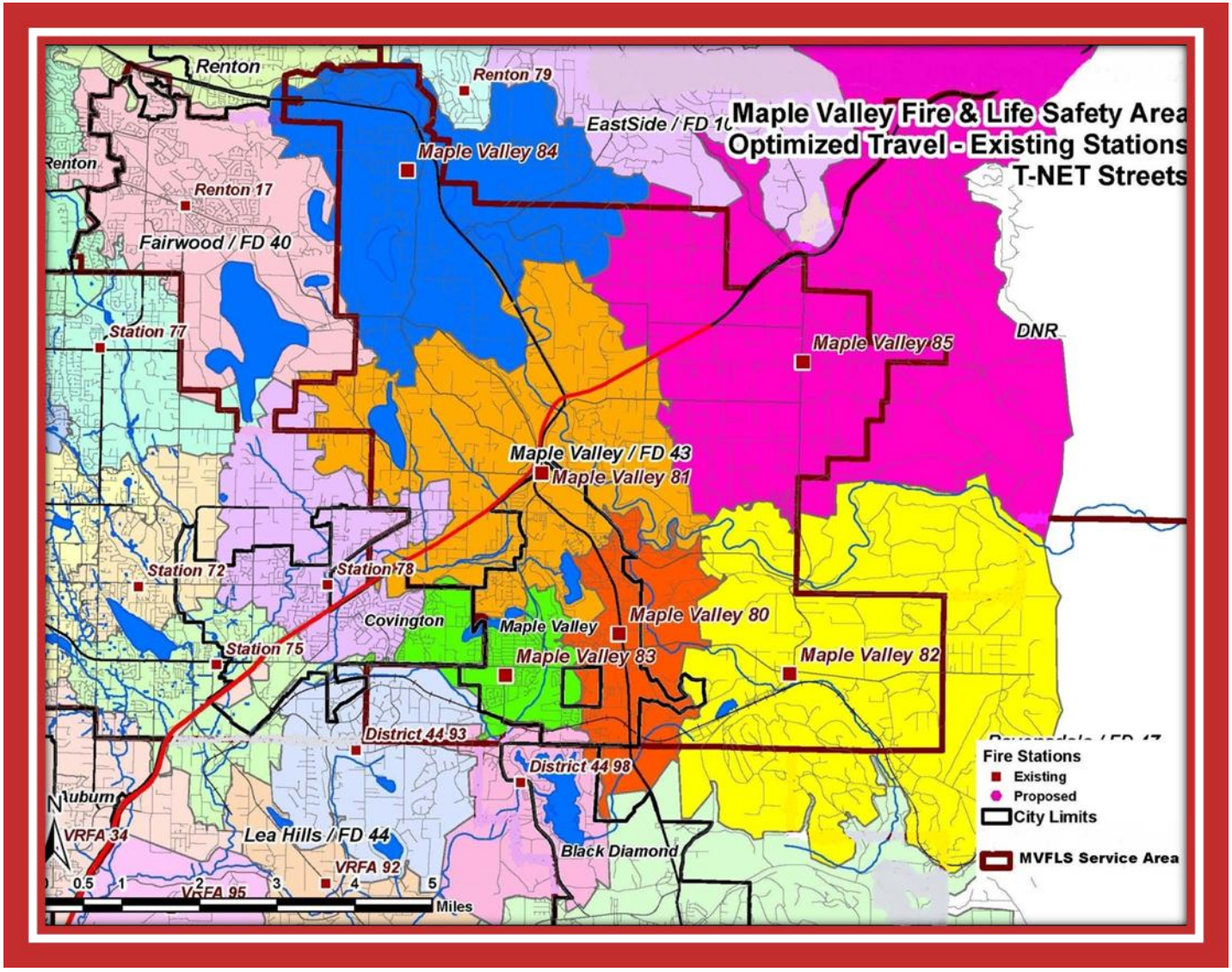
[4] From MVFLS Long Range Planning Document
[5] Future population determined by deducting the Office of Financial Managements 2010 housing inventory (8,021) from Maple Valley's 20 year (2000 – 2020) dwelling unit projection of 8,439 and adding the projection of 1,690 additional dwelling units from the Summit Place annexation and multiplying by a dwelling density of 2.5
[6] 2020 population multiplied by the Office of Financial Managements annual growth rates for years 2021 – 2030.
[7] From MVFLS Long Range Planning Document
[8] 2010 population multiplied by 50% of OFM predicted state wide growth rate factors
[9] 2020 population multiplied by 50% of OFM predicted state wide growth rate factors

Table 2 Existing Fire Station Descriptions

Fire Station	Location	Size	Acquired	Capacity	Condition	Acres	Dorm Rooms
Career Stations							
Station 80	23775 SE 264th Street	8,985	2002	3.5 bays	Good	0.87	6
Station 81	22225 (22300) SE 231st Street	10,821	1982	7 bays	Fair	1.78	8
Station 83	27250 (27260) 216th Ave SE	2,852	1965	1.5 bays	Good	0.91	4
Sub-total		22,658		12		3.56	18
Volunteer Stations							
Station 82	27519 (27509) Kent Kangley Rd	2,310	1983	2 bays	Fair	1.49	4
Station 84	16855 194th Ave SE	3,000	1965	2 bays	Fair	0.42	4
Station 85	27605 SE 208th	2,240	1983	1.5 bays	Fair	1.07	4
Future 86	19002 (18900) SE Petrovitsky	4,144[10]	1999	4 bays	Fair	9.85	0
Future 87	24416 SE 216th St.	Land only		0	N/A	3.51	0
Sub-Total		11,694		9.5		16.34	12
Total		**34,352**		**21.5**		**19.90**	**30**

[10] Square footage of an existing single family home and garage space to be used as a future fire station site.

Exhibit 2: Map of MVFLS service area and station locations



2.2. Apparatus and Equipment

MVFLS's current fleet of emergency response vehicles is well maintained but front line fire engines and tenders have an average age of 13.6 years. Engines 82, 84, and 85, have all surpassed their expected front line lifespan. Both tenders 81 and 82 are 25 years old and have also surpassed their expected lifespan as has Brush 81. Six aid units are maintained and have an average age of 10.33 years with four of the six, aid units 811, 84, 85, and 86 having all surpassed their expected life spans. Table 3 provides a detailed listing of existing apparatus and equipment.

Table 3 Apparatus Inventory

Station	Engine	Aid Car	Tender	Aerial	Brush	Command	Staff Vehicles	Air Unit	Utility Trailer
Station 80	1	1				3	6	1	
Station 81	2	2	1		1	1	1		
Station 82	1		1						
Station 83	1						1		
Station 84	1	1							
Station 85	1	1							
Station 86		1							1
Total	**7**	**6**	**2**	**0**	**1**	**4**	**8**	**1**	**1**

2.3. Special Equipment

A full complement of special equipment is necessary for the delivery of fire and rescue services. Special equipment includes all of the equipment within fire stations or carried on fire engines and other apparatus that allow firefighters to safely and effectively deliver services. Table 4 provides a listing of the equipment maintained by MVFLS.

Table 4 Existing Special Equipment Inventory

Existing Special Equipment Inventory	
Fire Equipment	Quantity
Fire Hose	424
Fire Hose Nozzles	63
Rescue Tools	3
Self-Contained Breathing Apparatus (SCBA)	50
IT & Office Equipment	variable
Mobile Radios	30
Portable Radios	51
Personal Protective Gear	100
Fitness Equipment	12
Defibrillators	15
Breathing Air Compressor	1
Thermal Imaging Cameras	3
Misc Tools & Equipment	variable

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 MVFLS 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 that past 20 years has significantly affected MVFLS's ability to deliver service. Service area population in 1990 was approximately 18,000 generating just over 1,500 emergency incidents. Today in 2010, service area population is greater than 39,000 with 2,795 emergency incidents generated in 2009. Maple Valley incorporated as a city in 1997 and since incorporation, Maple Valley's population has grown by more than 55%.

Community growth generates the need for additional capital facilities to support the demand for service. While population has more than doubled over the past 20 years, only one investment has been made in capital facilities within the MVFLS service area, the construction of Station 80 in 2002. Current capital facilities are not capable of supporting adopted levels of service across the MVFLS 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 flashover[11] 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 fire prior to flashover. Brain death begins to occur at 4 to 6[12] minutes in a non-breathing patient and flashover can occur anywhere from 3 to 20 minutes depending on 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.[13]

3.2.1.2. Level of Service Components and Measures

Washington State Law in Chapter 52.33 RCW requires substantially 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 the two elements required 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.

[11] Flashover refers to the point in a structure fire when everything in a room has heated to a point that 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.

[12] 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.

[13] Source: Time Verses Products of Combustion, NFPA handbook, 19th 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. To measure emergency response performance and identify system deficiencies, MVFLS 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, donn personal protective equipment, board their response vehicle, securely seatbelt themselves into the vehicle and begin driving away from their assigned fire station toward the dispatched emergency.

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 departments 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 4 minute time standard for distribution or first unit travel time. This standard is to be performed 90% of the time in urban and suburban areas. The Center for Public Safety Excellence established a first unit travel time of 4 minutes in urban areas and 5 minutes in suburban 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 8 minutes to be performed 90% of the time in urban and suburban areas. The Center for Public Safety Excellence establishes a full first alarm travel time in urban areas at 8 minutes and 10 minutes in suburban areas, both 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. MVFLS 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. Maple Valley Fire & Life Safety Levels of Service

MVFLS has established benchmark and baseline performance measures following the guidelines established by the Center for Public Safety Excellence (CPSE) published in their 8th edition of the Commission on Fire Accreditation (CFAI) Self-Assessment Manual. Benchmark performance represents Industry best practices and baseline indicates minimum standards capable of limiting the loss of life and property. Agencies performing below baseline standards are considered in response failure and are not eligible for Accredited Agency Status by the CFAI. Performance below benchmark standards can contribute to unnecessary property and life loss.

Table 5 Turnout Time Performance Objectives

TURNOUT Time Objectives				
Performance Type	Urban	Suburban	Rural	Performance Factor
Daytime to all alarm types (Benchmark & Baseline)	2 min, 00 sec	2 min, 00 sec	2 min, 00 sec [14]	90% of the time
Nighttime to all alarm types (Benchmark & Baseline)	2 min, 30 sec	2 min, 30 sec	2 min, 30 sec [15]	90% of the time

Table 6 Travel Time Performance Objectives

TRAVEL Time Objectives				
Performance Type	Urban	Suburban	Rural	Performance Factor
First in - "Distribution"- Benchmark	4 min, 00 sec	5 min, 00 sec	8 min, 00 sec	90% of the time
First in - "Distribution" - Baseline	5 min, 12 sec	6 min, 30 sec	10 min, 00 sec	90% of the time
Effective Response Force - "Concentration" - Benchmark	8 min, 00 sec	10 min, 00 sec	14 min, 00 sec	90% of the time
Effective Response Force – "Concentration" - Baseline	10 min, 40 sec	13 min, 00 sec	18 min, 20 sec	90% of the time

[14] Refers to time when personnel are located within their assigned fire station. Many rural responses are provided by volunteers who begin their turnout from home or work sites. As a result, turnout times at non-staffed volunteer stations can be several minutes in length depending on their distance from their assigned fire station.
[15] See footnote 14.

Table 7 Reliability Objective

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

3.4. Current Response Time Performance

Analysis of MVFLS's historical response data reveals sub-standard performance compared to both benchmark and baseline expectations. 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 MVFLS 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 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 10 seconds off of the standard. Data for this analysis was obtained from emergency response records of MVFLS.

Table 8 Drive Time Performance Comparison to Benchmark and Baseline Standards[16]

Performance Comparison – Benchmark Verses Baseline

Performance at BENCHMARK Drive Time Standard

Station/Year	Urban	Suburban	Rural	Actual Time
80/2007	4:00	5:00	8:00	5:20
80/2008	4:00	5:00	8:00	5:01
80/2009	4:00	5:00	8:00	5:27
81/2007	4:00	5:00	8:00	5:43
81/2008	4:00	5:00	8:00	5:41
81/2009	4:00	5:00	8:00	5:21
82/2007	N/A	N/A	8:00	9:42
82/2008	N/A	N/A	8:00	8:07
82/2009	N/A	N/A	8:00	7:37
83/2007	4:00	5:00	N/A	6:04
83/2008	4:00	5:00	N/A	6:35
83/2009	4:00	5:00	N/A	5:37
84/2007	N/A	5:00	8:00	10: 11
84/2008	N/A	5:00	8:00	9:34
84/2009	N/A	5:00	8:00	10:07
85/2007	N/A	5:00	8:00	9:06
85/2008	N/A	5:00	8:00	10:20
85/2009	N/A	5:00	8:00	9:36

Performance at BASELINE Drive Time Standard

Station/Year	Urban	Suburban	Rural	Actual Time
80/2007	5:12	6:30	10:00	5:20
80/2008	5:12	6:30	10:00	5:01
80/2009	5:12	6:30	10:00	5:27
81/2007	5:12	6:30	10:00	5:40
81/2008	5:12	6:30	10:00	5:41
81/2009	5:12	6:30	10:00	5:21
82/2007	N/A	N/A	10:00	10:10
82/2008	N/A	N/A	10:00	8:07
82/2009	N/A	N/A	10:00	7:37
83/2007	5:12	N/A	N/A	6:30
83/2008	5:12	N/A	N/A	6:35
83/2009	5:12	N/A	N/A	5:37
84/2007	N/A	6:30	10:00	10:27
84/2008	N/A	6:30	10:00	9:34
84/2009	N/A	6:30	10:00	10:07
85/2007	N/A	6:30	10:00	10:09
85/2008	N/A	6:30	10:00	10:20
85/2009	N/A	6:30	10:00	9:36

[16] 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.

Table 9 Current Response Reliability; 2007-2009[17]

Time committed to responses by unit 2007 – 2009 (based on 24 hour day)				
Unit	Out of Service Time per Year	Percentage of Time Unit is Unavailable	Unit Reliability	Response Condition
A80	35,943	6.84%	93.16%	Yellow
A81	55,315	10.52%	89.48%	Red
A84	3,059	0.58%	99.42%	Green
A85	932	0.18%	99.82%	Green
B81	9,381	1.78%	98.22%	Green
E80	12,122	2.31%	97.69%	Green
E81	17,622	3.35%	96.65%	Green
E82	461	0.09%	99.91%	Green
E83	19,386	3.69%	96.31%	Green
E84	2,210	0.42%	99.58%	Green
E85	2,146	0.41%	99.59%	Green

3.4.1. Conclusion of Need for Capital Resources

MVFLS uses multiple indicators in determining the need for additional resources that will achieve and maintain their level of service standards. MVFLS commissioned Emergency Services Consulting Inc (ESCI) to provide a Fire Station Location Analysis in 2008, the study evaluated current deployment of resources and various indicators of need to arrive at recommendations for future deployment. The 2008 Fire Station Location Analysis and this Capital Facilities Plan have evaluated multiple variables of both MVFLS's service delivery model and their service area demographics to develop a rationale for the need of future resources. The variables considered regarding the MVFLS service area include:

- The nature of fire and life safety risks

[17] 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

- 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
    - Urban growth
    - Suburban growth
    - Rural 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

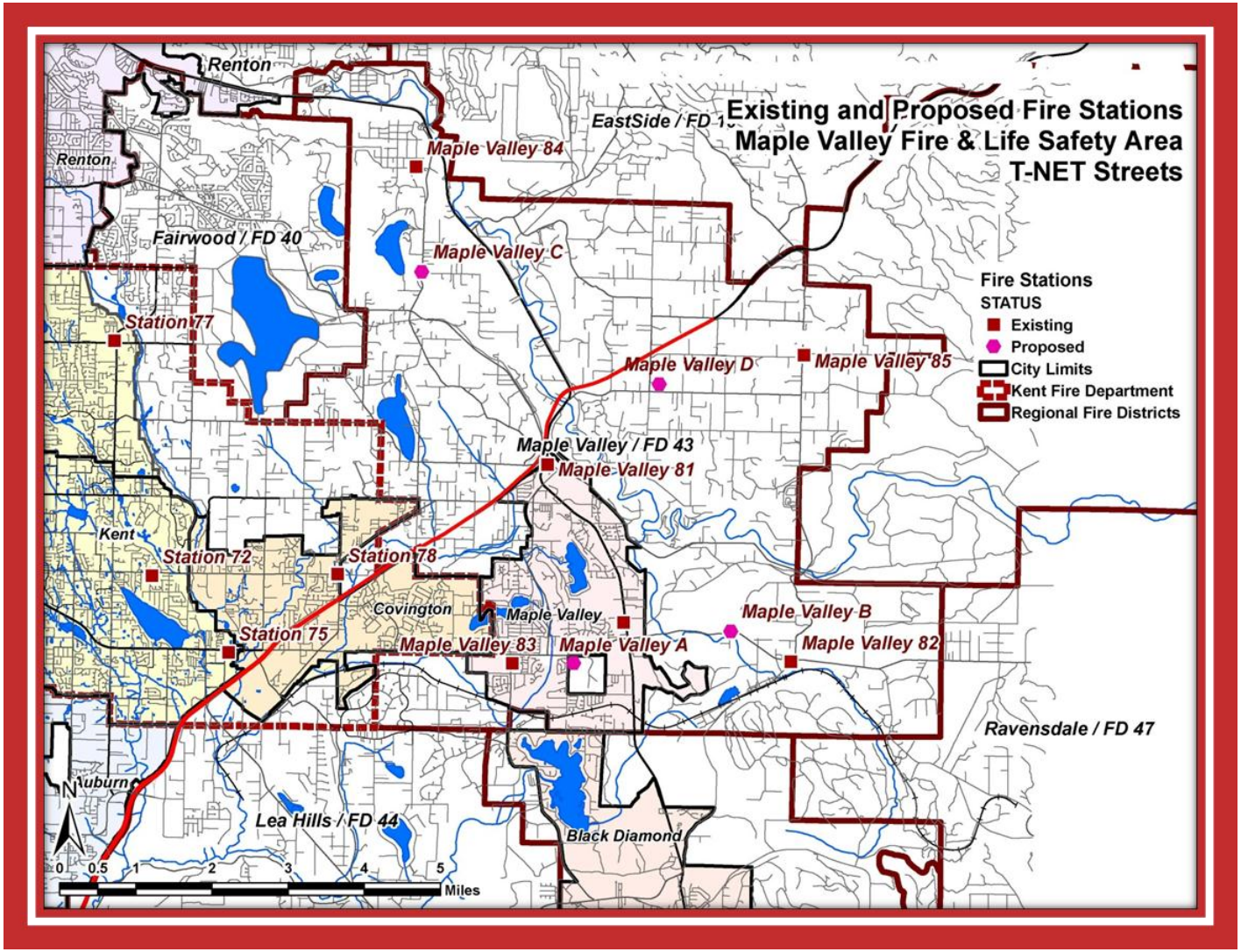
In consideration of the numerous variables listed above, and the recommendations of the ESCI study, the Board of Fire Commissioners for MVFLS have adopted the level of service standards of this Plan and the future five (5) station deployment model identified on page 60 of the 2008 ESCI Fire Station Location Study. This Plan works toward implementing the level of service standards identified herein and the five (5) fire station model of the ESCI study which has been adopted by the MVFLS Board.

3.5. Capital Projects and Purchases

Implementation of the adopted five (5) 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 6 of this document. In total, MVFLS needs four new fire stations, seismic upgrades and expansion of an additional station, and several capital improvement projects to preserve current station capacity during the transition to

the five (5) station model. 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.

Exhibit 3: Map of Existing and Proposed Fire Stations



3.5.1. Revenue Limitations Effect Build Out of 5 Station Model

Current funding limitations associated with the economic recession that began in 2008 will restrict MVFLS from implementing the full five (5) station model within the 20 year timeframe of this plan. The following description of capital projects and purchases reflects the current priorities for MVFLS over the next 20 years and includes implementing proposed stations "Maple Valley A", and "Maple Valley D" as shown in Exhibit 3 on page 19. Funding limitations will not allow implementation of proposed station "Maple Valley B" or "Maple Valley C" as shown in Exhibit 3 within the timelines of this 20 year plan.

3.5.2. 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 Associations standards for safe and effective fire stations. Cost of construction is based upon recent construction costs of fire station construction experienced by the Kent and Graham Fire Departments and land costs are based upon an asset evaluation process conducted in 2007 by Abaco Pacific LLC of North Bend Washington. The asset evaluation was conducted to determine fair market value as of the 4th quarter of 2007 in an effort to determine appropriate asset transfer amounts to King County Fire District 37 as a result of the Covington Incorporation. While housing values have lost more than 20% since 2007, land value has remained relatively constant.[18]

[18] Jeri Cranney, Abaco Pacific August, 2011 email confirmation.

3.5.3. Combined Station 80 and 83

Station 80 shown in Exhibit 3 as "Maple Valley A" will be relocated near the area of 22800 SE 272nd Street, a location that can provide service to the areas currently served by existing Stations 80 and 83. This new single station serving both areas will provide better concentration of resources and quicker response times to existing and future development. New Station 80 will serve as Headquarters, providing office and other space for all administrative and training functions, training grounds, and at least four emergency response apparatus including the on-duty Battalion Chief and an aerial ladder truck.

Property acquisition is planned to occur in 2014. Steps toward construction will begin in 2015 with the selection and hiring of an architectural team to begin the design and engineering for this project. Design, engineering and permitting will also occur in 2015. Site development of infrastructure such as sewer, water and storm water retention is scheduled for 2016 with hard construction beginning early in 2017. Final finishing and project acceptance is scheduled for fourth quarter of 2017 to early 2018.

Exhibit 4: Cost of New Station 8019

Land and Construction Costs	
Land (3 acres x 43,560 per acre = 130,680)	$1,981,980
New Construction @ $275 sq. ft.	$5,761,525
Site Development @ $10 sq. ft.	$1,306,800
Subtotal Land and Construction Costs	***$9,050,305***
Project Soft Costs	
Furnishing and Equipment @ 7%	$494,783
Washington Sales Tax @ 9.5%	$671,491
Architect and Engineering Fees @ 10%	$706,833
Project Management @ 8%	$565,466
Permits/Fees/Inspections @ 3%	$212,050
Printing/Reimbursables @1%	$70,683
Contingency funds @ 12%	$848,199
Subtotal Soft Costs	***$3,569,505***
Total Station 80 Project Costs (2011 Dollars)	**$12,619,810**

[19] Land value based on 2007 Valuation Analysis of King County Fire District 43 for asset transfers, Prepared by Abaco Pacific LLC

3.5.4. Station 82

Until funding is available to move Station 82 near the location shown on Exhibit 3 as "Maple Valley B" the current station will be upgraded to accommodate future 24 hour staffing and increase service capacity. Station 82 will be upgraded to meet national and state health, safety and seismic standards. Improvements to Station 82 will include; a full size apparatus bay, installation of apparatus exhaust extraction devices, female toilet facilities, an additional dorm room, storage space for personal protective equipment, a small equipment shop area, a de-contamination area, watch office and fitness room.

The addition of a third apparatus bay to Station 82 will provide new space capable of housing an additional water tender and/or aid car which will add capacity and support for Station 82's home area as well as backup and support capacity for fire units assigned within the City limits of Maple Valley.

Construction steps for Station 82's upgrades will begin in 2016 with the selection and hiring of an architectural team needed to begin design and engineering for this project. Design, engineering, approval, and permitting will occur in 2017 with hard construction beginning early in 2018. Final finishing and project acceptance is scheduled for the end of 2018 to early 2019.

Exhibit 5: Cost of Station 82 Upgrades

Construction and Remodel Costs	
New Construction @ $275 sq. ft.	$364,100
Remodel 2310 sq. ft. @ $65 sq ft	$150,150
Subtotal Land and Construction Costs	***$514,250***
Project Soft Costs	
Furnishing and Equipment @ 7%	$35,998
Washington Sales Tax @ 9.5%	$48,854
Architect and Engineering Fees @ 10%	$51,425
Project Management @ 8%	$41,140
Permits/Fees/Inspections @ 3%	$15,428
Printing/Reimbursables @1%	$5,143
Contingency funds @ 12%	$61,710
Subtotal Soft Costs	***$259,696***
Total Station 80 Project Costs (2011 Dollars)	**$773,946**

3.5.5. Station 85

New Station 85 will be the relocation of existing Station 85 south and west to the location shown on Exhibit 3, Page 19 as "Maple Valley D" to better serve future growth in the urban and suburban areas of the City of Maple Valley. The new station will have two emergency response bays.

Steps toward construction of this project are scheduled to begin in 2018 with the selection and hiring of an architectural team needed to begin design and engineering for this project. Design, engineering, approval, and permitting will occur in 2019 with hard construction scheduled to begin early in 2020. Final finishing and project acceptance is scheduled for the end of 2020 to early 2021.

Exhibit 6: Cost of New Station 85 (proposed 87)

Land and Construction Costs		
	Land (5 acres x 43,560 per acre = 217,800)	Purchased 2006
	New Construction @ $275 sq. ft.	$1,988,800
	Site Development @ $10 sq. ft.	$354,000
	Subtotal Land and Construction Costs	***$2,324,800***
Project Soft Costs		
	Furnishing and Equipment @ 7%	$163,996
	Washington Sales Tax @ 9.5%	$222,566
	Architect and Engineering Fees @ 10%	$234,280
	Project Management @ 8%	$187,424
	Permits/Fees/Inspections @ 3%	$70,284
	Printing/Reimbursables @1%	$23,428
	Contingency funds @ 12%	$281,136
	Subtotal Soft Costs	***$1,183,114***
Total Station 85 Project Costs (2011 Dollars)		**$3,525,914**

3.5.6. Capital Improvement Necessary to Preserve Existing Assets

While Maple Valley Fire and Life Safety has adopted a five station future deployment plan, those existing stations that will be used as part of that five station model or those planned to be replaced in the future, must be preserved to maintain the existing assets until they can be replaced. Table 10: Schedule of Asset Preservation Projects, 2011 - 2030, identifies those asset preservation projects necessary to maintain these assets in a state of emergency response readiness.

Table 10: Schedule of Asset Preservation Projects, 2011 - 2030

Asset Preservation Projects in 2011 Dollars						
Station	Station Size	Project	Project Year	Cost	Soft Cost[20]	Total Cost
81	11,500 Sq. ft.	Roof replacement	2016	$250,000	$50,000	$300,000
81	11,500 Sq. ft.	HVAC replacement	2016	$20,000	$4,000	$24,000
81	11,500 Sq. ft.	Seismic Retrofit & Remodel	2016	$345,000[21]	$69,000	$414,000
84	3,000 Sq. ft.	Exterior Skin & Remodel	2012	$90,000	$18,000	$108,000
Total Cost of Asset Preservation						$846,000

[20] Soft costs are estimated at 20% of hard construction costs.
[21] Estimated at $30 per square foot.

3.5.7. Cost of Special Equipment Required, 2011 through 2030

Table 11: Summary of Equipment Costs, 2011 – 2030, identifies total revenue needed between 2011 and 2030 to fund MVFLS's equipment purchase and replacement plan.

Table 11: Summary of Equipment Costs, 2011 – 2030

Special Equipment Cost in 2011 Dollars				
Description	Quantity	Cost	Cycles in 20 Year Plan	Subtotal
Fire Hose	424	$359	2	$304,113
Fire Hose Nozzles	63	$875	2	$110,298
Rescue Tools	3	$30,600	2	$183,600
SCBA	50	$3,058	2	$305,760
IT & Office Equipment	1	$67,409	20	$1,348,175
Mobile Radios	30	$388	1	$11,648
Portable Radios	51	$890	7	$317,615
Bunker Gear	100	$1,761	2	$352,227
Fitness Equipment	5	$12,480	2	$124,800
Defibrillators	15	$4,137	2	$124,118
Air Compressors	1	$62,400	4	$249,600
Thermal Imaging Cameras	3	$18,039	2	$108,235
Misc. Tools & Equipment	1	$7,985	20	$159,703
TOTAL				$3,699,893

3.5.8. Apparatus Replacement

Table 12: Apparatus Replacement Summary, identifies the life cycle of apparatus and the total revenue needed between 2011 and 2030 to fund MVFLS's apparatus purchase and replacement plan.

Table 12: Apparatus Replacement Summary

Apparatus Replacement Schedule in 2011 Dollars							
Year	Fire Engine	Aid Car	Command	Tender	Ladder Truck	Maintenance	Projected Cost for Year
2012	1	1	1	1	0		$1,227,000
2013			1			1	$110,000
2014		2					$440,000
2015							$0
2016							$0
2017	1		1	1			$1,007,000
2018			2				$120,000
2019					1		$1,292,000
2020	2						$1,330,000
2021		2					$440,000
2022							$0
2023			2				$134,000
2024							$0
2025							$0
2026							$0
2027	1						$665,000
2028		2	2				$560,000
2029							$67,000
2030	2				1		$2,622,000
Total 20 year apparatus costs							**$10,014,000**

4. 20 Year Capital Cost Summary

The 20 year capital costs listed in Table 13: 20 Year Cost of Capital Resource Needed to Preserve LOS, 2011 – 2030, provide the first steps toward achieving the adopted five station deployment model recommended in the 2008 Fire Station Study by ESCI. The full five station deployment model will be capable of providing the resources necessary to maintain concurrency with future development. Full build out will likely require 30 years to achieve and extends beyond the scope of this Plan.

The cost of resources itemized in Table 13, 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, the remodel and expansion of a third and all of the apparatus (fire engines, ladders etc), and equipment required to deliver fire and life safety services.

Timing of fire station and other capital expenditures is consistent with the capital projects detailed in section 3.5 3.5found on pages 19 through 26 of this document. Fire station construction costs are spread out over four years for each new station project. Generally the four year plan follows a first year of design and engineering, a second year of design approval and includes expenses for permitting and site infrastructure improvements. The third year expenses represent hard construction costs, and the fourth year ends with the completion of construction, acceptance by MVFLS from the contractor and installation of final furnishings and firefighting equipment.

Only new station 80 requires the purchase of land and that is scheduled to occur in 2014. Phasing of construction and corresponding expenditures is equal to 30 percent of the projects estimated costs in the first two years. Third year expenses are estimated at 60% of the overall project cost and 10 percent is budgeted in the fourth and final year of the construction process.

Table 13: 20 Year Cost of Capital Resource Needed to Preserve LOS, 2011 – 2030

20 Year Capital Needs																					
Costs in thousands based on 2011 dollars																					
Expense Type	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	**Total**
Station Construction	$0	$0	$0	$1,982	$321	$2,095	$7,942	$1,204	$557	$2,699	$118	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$16,920**
Apparatus	$1,227	$0	$110	$440	$1,292	$0	$1,007	$120	$0	$1,330	$440	$0	$134	$0	$0	$0	$665	$560	$67	$2,622	**$10,014**
Equipment	$505	$153	$217	$186	$291	$156	$111	$67	$86	$101	$279	$153	$218	$199	$223	$212	$154	$220	$78	$130	**$3,740**
Asset Preservation	$0	$108	$0	$0	$0	$738	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$846**
Total in Thousands	$1,732	$285	$327	$2,968	$3,756	$9.467	$1,501	$364	$809	$4,321	$1,565	$2,907	$480	$199	$223	$212	$819	$780	$145	$2,752	**$31,520**

5. Capital Resource Costs, 2011 – 2016

Table 14: Six (6) Year Capital Needs

Six (6) Year Capital Needs							
All Costs in thousands based on 2011 dollars							
Year	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**6 Year Total**
Station Construction	$0	$0	$0	$1,982	$321	$2,095	$4,399
Apparatus	$0	$1,227	$110	$440	$0	$0	$1,777
Equipment	$505	$153	$217	$186	$291	$156	$1,509
Asset Preservation	$0	$108	$0	$0	$0	$738	$846
Total in Thousands	$1,732	$285	$327	$2,968	$3,756	$9,467	$8,530

6. Financing Plan

Table 15 includes four revenue sources; annual levies, bonds, level of service fees and impact fees. Full funding of this capital plan depends on maintenance of the MVFLS annual levy, use of existing bond capacity, impact fees, level of service fees and an additional capital bond measure of $12 million in 2014. Through annual tax levies and bonds, the tax payers of MVFLS will fund 80% of the 20 year capital needs with impact and level of service fees estimated to provide 20 percent of the funding required. Impact and level of service fees to be assessed on new development have been estimated to produce $1,400 per residential structure and $1.75 per square foot of commercial space making up $6.4 million of the $31.5 million required to fund the plan.

Table 15: 20 Year Cost/Funding Plan

20 Year Cost/Funding Sources for Capital Needs									
Costs in thousands based on 2011 dollars									
Cost/Funding Source	2011	2012	2013	2014	2015	2016	6 Year Total	2017 +	20 Year Total
Expense Sources									
Station Construction & Land Purchase	$0	$0	$0	$1,982	$534	$2,096	$4,612	$12,308	$16,920
Apparatus	$0	$1,227	$110	$440	$0	$0	$1,177	$8,237	$10,014
Equipment	$505	$153	$217	$186	$291	$156	$1,509	$2,232	$3,740
Asset Preservation	$0	$108	$0	$0	$0	$738	$846	$0	$846
Debt Payment	$0	$0	$0	$0	$0	$0	$0	$0	$0
Revenue Sources									
MVFLS - Annual Tax Revenue to Capital	$0	$0	$25	$125	$175	$300	$625	$9,100	$9,725
MVFLS - Taxpayer Bond Funds	$483	$1,430	$167	$2,261	$365	$1,872	$6,578	$8,291	$14,869
MVFLS - Sale of Surplus Property	$0	$0	$0	$0	$0	$475	$475	$0	$475
Developer - Impact/LOS Fees (residential)	$21	$42	$105	$133	$154	$168	$623	$2,328	$2,951
Developer - Impact/LOS Fees (commercial	$2	$16	$30	$89	$131	$175	$443	$3,057	$3,500
Summary of Revenues less Expenses									
Expense	$505	$1,488	$327	$2,608	$825	$2,990	$8,744	$22,777	$31,520
Revenue	$505	$1,488	$327	$2,608	$825	$2,990	$8,744	$22,777	$31,520
Balance	$0	$0	$0	$0	$0	$0	$0	$0	$0
Ending Taxpayer Bond Fund Balance									
Taxpayer Bond fund balance	$4,706	$4,223	$2,793	$2,626	$12,365	$12,000	$10,128	$10,128	$1,837

6.1. Financial Feasibility of Capital Facilities Plan

The revenue resources identified in Table 15, "20 Year Cost/Funding Sources for Capital Needs" indicate that it is financially feasible to implement a portion of the five (5) station deployment model and long range plans adopted by MVFLS's Board of Commissioners. Final implementation of the five (5) station deployment model will be implemented in the next 20 year Capital Plan with the full 5 station model likely to be deployed by 2035. 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 $6.4 million 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 either Maple Valley or King County, not directly to MVFLS. Both the City of Maple Valley and King County have responsibility for Comprehensive Land Use Plans that apply to areas within MVFLS's response area. Currently all of the urban growth area within MVFLS is contained within the corporate boundaries of the City of Maple Valley. MVFLS's policy is to annually assess probable funding for consistency with this Plan. When funding is likely to fall short, MVFLS may make adjustments to; levels of service performance standards, timelines for implementation of the Plan, sources of revenue, or a combination of the previous to achieve a balance between available revenue, needed capital facilities and adequate levels of service. In addition, MVFLS will provide annual updates to Maple Valley and King County that address MVFLS's ability to fund this Plan. This policy constitutes MVFLS's response to RCW 36.70A.070 (3) (e).

Appendix-A

Exhibit 7: Appendix-A Vehicle Replacement Costs 2011 Dollars

Existing Apparatus and Equipment Inventory and Valuation Summary								
Year	Assignment	Make	QTY	Vehicle Type	Replacement Cost	Equipment Cost	Replace Year	Total
1992	Engine 82	Pierce	1	Type I Engine	$590,000.00	$75,000.00		$665,000.00
1996	Engines 84 and 85	KME	2	Type I Engine	$590,000.00	$75,000.00		$1,330,000.00
2000	Engine 811	KME	1	Type I Engine	$590,000.00	$75,000.00		$665,000.00
2002	Engine 83	KME	1	Type I Engine	$590,000.00	$75,000.00		$665,000.00
2006	Engines 80 and 81	Sutphen	2	Type I Engine	$590,000.00	$75,000.00	2012	$1,330,000.00
1996	Brush 81	International	1	Type III Engine	$250,000.00	$25,000.00		$275,000.00
1992	Aid 85	Collins	1	Aid Unit	$190,000.00	$30,000.00		$220,000.00
1996	Aid 811 and 86	Wheeled Coach	2	Aid Unit	$190,000.00	$30,000.00		$440,000.00
2000	Aid 84	Wheeled Coach	1	Aid Unit	$190,000.00	$30,000.00		$220,000.00
2007	Aid 80 and 81	Med Tech	2	Aid Unit	$190,000.00	$30,000.00	2012/2014	$440,000.00
1985	Tender 81 and 82	Pierce	2	Tender	$250,000.00	$25,000.00		$550,000.00
1996		Chevy Tahoe	1	Command	$50,000.00	$10,000.00		$60,000.00
2005		Chevy Tahoe	1	Command	$50,000.00	$10,000.00		$60,000.00
2005		Chevy Suburban	1	Command	$52,000.00	$15,000.00		$67,000.00
2008		Chevy Tahoe	1	Command	$50,000.00	$10,000.00		$60,000.00
1992		Ford Explorer	1	Staff vehicle	$35,000.00			$35,000.00
2003		Ford Crown Vic	1	Staff vehicle	$40,000.00			$40,000.00
2008		Ford Escape	2	Staff vehicle	$35,000.00			$70,000.00
1995		Chevy Astro	1	Public-Ed	$35,000.00			$35,000.00
1999		Chevy Suburban	1	Training	$52,000.00			$52,000.00
1988		Chevy 1 ton PU	1	Maintenance	$40,000.00	$10,000.00		$50,000.00
2008		Ford F350	1	Special Ops	$40,000.00	$10,000.00		$50,000.00
2006		Eagle	1	Air Compressor	$85,000.00			$85,000.00
1984		Fruceh	1	5th Wheel				$0.00
1992		Wells Cargo	1	Enclosed Trailer	$20,000.00			$20,000.00
1992		Smoke House	1	Trailer - Pub Ed	$15,000.00			$15,000.00
2005			1	Spcl Ops trailer	$5,000.00			$5,000.00
2005		Polaris	1					$0.00
						Total Apparatus and Equipment Costs		**$7,504,000.00**

Appendix B

Exhibit 8: Appendix-B Apparatus Replacement Schedule

Apparatus Replacement Schedule						
Year	Fire Engine	Aid Car	Command	Tender	Ladder Truck	Maintenance
2012	Engine 81	Aid 81	Battalion 81	Tender 81		
2013			Chief 81			1-Ton Pickup
2014		Aid 80 & 85				
2015						
2016						
2017	Engine 80		Battalion 81	Tender 82		
2018			Chief 82			
2019					Ladder 81	
2020	Engine 81 & 87					
2021		Aid 80 & 81				
2022						
2023			Batt 81 & Chief 83			
2024						
2025						
2026						
2027	Engine 80					
2028		Aid 80 & 81	Chief 81 & 82			
2029			Battalion 81			
2030	Engine 81 & 87				Ladder 82	

Appendix-C

Exhibit 9: Appendix-C 20 Year Equipment Costs & Replacement Schedule

Special Equipment Purchases Schedule in 2011 Dollars															
Description	**Years of Life**	***1st Replacement***		***2nd Replacement***		***3rd Replacement***		***4th Replacement***		***5th Replacement***		***6th Replacement***		***7th Replacement***	
		Year (Age)	**Cost**	**Year (Age)**	**Cost**	**Year (Age)**	**Cost**	**Year (Age)**	**Cost**	**Year (Age)**	**Cost**	**Year (Age)**	**Cost**	**Year (Age)**	**Cost**
Hose	10	2011 (10+)	$142,392	2017 (10)	$9,665	2021 (10)	$142,392	2027 (10)	$9,665						
Nozzles	15 years	2011 (15+)	$55,149	2026 (15)	$55,149										
Rescue Tool	15 years	2010 (15+)	$90,000	2025 (15)	$93,600										
SCBA	13 years	2015 (13)	$152,880	2028 (13)	$152,880										
Information Technology	Variable	*Annually*	$1,348,175	Purchases over 20 years, including inflation starting in 2010.											
Copiers	8 years	2011 (10+)	$8,113	2015 (10+)	$8,113	2019 (8)	$8,113	2023 (8)	$8,113	2027 (8)	$8,113				
Mobile Radios	5 years	2014 (15+)	$2,912	2019 (5)	$2,912	2024 (5)	$2,912	2029 (5)	$2,912						
Portable Radios	10/3 years	2011 (16)	$1,755	2013 (18)	$142,122	2016 (3)	$7,904	2019 (3)	$7,904	2023 (10)	$142,122	2026 (3)	$7,904	2029 (3)	$7,904
Bunker Gear	10 years	2011 (10+)	$60,467	2014 (10)	$115,647	2021 (10)	$60,467	2024 (10)	$115,647						
Fitness	5 years	2012 (5)	$31,200	2017 (5)	$31,200	2022 (5)	$31,200	2027 (5)	$31,200						
Defibrillators	10 years	2016 (10)	$62,059	2026 (10)	$62,059										
Air Compressors	15 years	2010 (15+)	$62,400	2015 (new)	$62,400	2025 (15)	$62,400	2030 (15)	$62,400						
Thermal Imaging Cam	10 years	2012 (10)	$54,117	2022 (10)	$54,117										
Positive Pressure Fan	10 years	2011 (10+)	$8,923	2016 (10+)	$11,898	2021 (10)	$8,923	2026 (10)	$11,898						
Maintenance Tools	Variable	2010 (varies)	$8,840	2017 (varies)	$3,120	2020 (varies)	$2,600								
Spec Ops Equipment	Variable	2013 (varies)	$7,952	2016 (varies)	$7,170	2020 (varies)	$30,913	2024 (varies)	$13,150	2026 (varies)	$7,170	2027 (varies)	$37,148		