

**HURRICANE VALLEY FIRE
SPECIAL SERVICE DISTRICT,
UTAH**

NOTICING DRAFT
**FIRE PROTECTION IMPACT FEE
FACILITIES PLAN**

**PREPARED BY
ZIONS PUBLIC FINANCE, INC.**

SEPTEMBER 19, 2016

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NOTICING DRAFT

EXECUTIVE SUMMARY

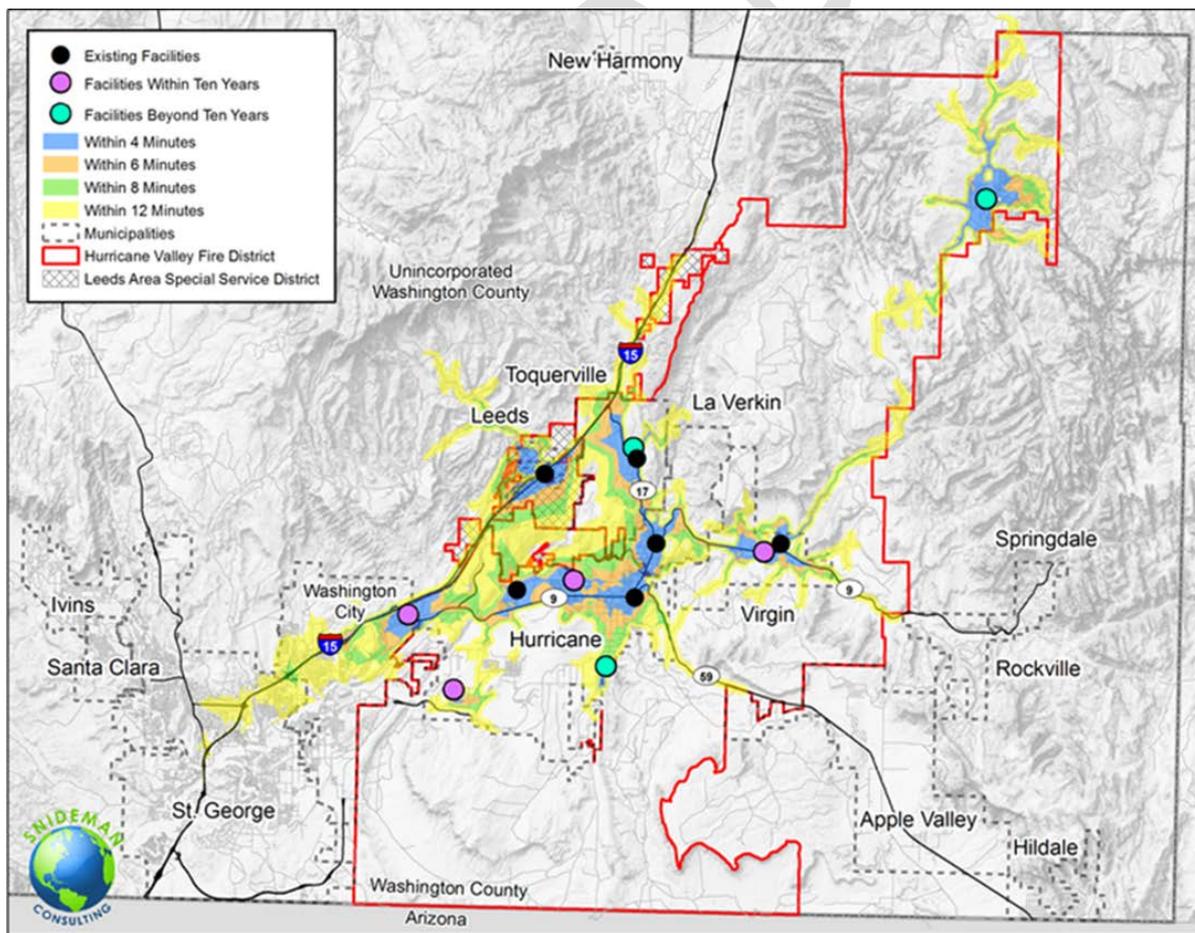
WHY IS AN IFFP NEEDED?

The purpose of the Fire / EMS Impact Fee Facilities Plan (IFFP) is to provide Hurricane Valley Fire Special Service District (the District) with substantive planning for future fire / EMS capital infrastructure. The IFFP also provides a technical basis for assessing updated impact fees for fire / EMS services throughout the District.

This document will address the future fire / EMS infrastructure needed to serve the District through a projected buildout scenario with regard to current land use planning and District service area. The projected infrastructure needs will include future fire / EMS facility costs, project timings, inventory of existing facilities and a financing plan.

The need for future capital projects will be based upon the target level of service standards and service response times for fire/ EMS. The existing and future capital projects documented in this IFFP will ensure that the current level of service standard is maintained for all existing and future residents within the service area. The IFFP will also fulfill all financial requirements as promulgated under Title 11, Chapter 36a of the Utah code (the Impact Fees Act). It should also be noted that this analysis does not directly consider fire / EMS services which are provided for areas outside of the District. These services are provided based on mutual aid agreements or are funded through service agreements where the entity receiving the benefit pays a service charge.

FIGURE ES.1: HURRICANE VALLEY FIRE DISTRICT BOUNDARY AND FIRE STATION RESPONSE TIMES



PURPOSE OF AN IMPACT FEE FACILITIES PLAN

The purpose of the IFFP is to identify the increased demands placed upon the District’s existing fire / EMS facilities by future development and evaluate how these demands will be met by the District. The IFFP is also intended to outline the improvements which may be funded through impact fees.

FIRE / EMS CAPITAL FACILITIES

The Impact Fees Act defines public safety facilities as “a building constructed or leased to house police, fire, or other public safety entities; or a fire suppression vehicle costing in excess of \$500,000.” The facilities must have a life expectancy of ten or more years and must be “owned or operated by or on behalf of a local political subdivision or private entity.”

FIGURE ES.2: EXISTING FIRE STATIONS

Existing Fire / EMS Facilities			
	Acres	SF of Space	Qualifying Cost
Land Associated with the Fire / EMS Station 41	0.62		\$ -
Existing Fire / EMS Station: 41 Mayflower Hurricane		8,806	450,000
Land Associated with the Fire / EMS Station 42	1.50		-
Existing Fire / EMS Station: 42 Hurricane		7,940	648,027
Land Associated with the Fire / EMS Station 43	0.50		-
Existing Fire / EMS Station: 43 LaVerkin		4,050	67,000
Land Associated with the Fire / EMS Station 44	0.59		-
Existing Fire / EMS Station 44: Virgin		1,823	-
Land Associated with the Fire Storage Toquerville 45	0.43		-
Existing Fire Storage Shed: Toquerville 45		500	-
Land Associated with Leeds Station 47	0.59		15,950
Existing Fire / EMS Station 47: Leeds		4,800	131,136
Total	4.23	27,919	\$ 1,312,113

FIGURE ES.3: FIRE STATIONS TO BE CONSTRUCTED WITHIN TEN YEARS

Project	Year	Floorspace (SF)	Cost per SF	Land (Acres)	PV Project Expense \$	Construction Year Expense*	% to Growth	Expansionary Cost
Future Fire / EMS Facilities Within 10 Years		Construction Type						
Station 46 Coral Canyon Land (District Purchase)	New 2016	-		1.47	\$294,000	\$294,000	100%	\$294,000
Station 46 Coral Canyon Fire Station	New 2016	8,995	\$ 223.00	-	\$2,005,885	\$2,005,885	100%	\$2,005,885
Station 48 Dixie Springs Land (Owned by City)	New 2018			1.50	\$0	\$0	100%	\$0
Station 48 Dixie Springs Fire Station	New 2018	15,000	\$ 223.00		\$3,345,000	\$3,583,248	100%	\$3,583,247.63
Station 44 Virgin Rebuild Land (Owned by City)	Relocation 2021	-		0.90	\$0	\$0	72%	\$0
Station 44 Virgin Rebuild Fire Station	Relocation 2021	6,500	\$ 223.00		\$1,449,500	\$1,721,551	72%	\$1,238,722
Station 49 Industrial (Owned by City)	New 2024			1.50	\$0	\$0	100%	\$0
Station 49 Industrial Fire Station	New 2024	9,100	\$ 223.00		\$2,029,300	\$2,672,201	100%	\$2,672,201
Station 11 Copper Hills/ Hurricane Airport	New 2021			1.50	\$300,000	\$356,306	100%	\$356,306
Station 11 Copper Hills/ Hurricane Airport	New 2021	9,100	\$ 223.00		\$2,029,300	\$2,410,172	100%	\$2,410,172
Station 43 LaVerkin Expansion Land (Owned by City)	Existing Land 2016	-		0.50	\$0	\$0	100%	\$0
Station 43 LaVerkin Expansion Fire Station on Current Site	Expansion 2016	1,400	\$ 47.86		\$67,004	\$67,004	100%	\$67,004
Within 10 Years		50,095		7.37	\$11,519,989	\$13,110,366		\$12,627,537

REQUIRED ELEMENTS FOR AN IMPACT FEE FACILITIES PLAN

According to the Impact Fees Act, local political subdivisions with populations (or serving populations) of more than 5,000 as of the last federal census must prepare an Impact Fee Facilities Plan. With 21,293 residents at the time of the 2010 Census, Hurricane Valley Fire meets this guideline and must prepare this comprehensive Impact Fee Facilities Plan for Fire/EMS infrastructure to ensure adequate planning for the future growth.

Local governments must pay strict attention to the required elements of the Impact Fee Facilities Plan which are enumerated in the Impact Fees Act. The following elements must be discussed in the IFFP before a local political subdivision can legally commence public notice and adopt the IFFP.

DEMAND ANALYSIS

The IFFP must consider the level of service which is provided to the District’s existing residents and ensure that future facilities meet these standards. The unit of measurement varies depending on which public facility is discussed. The demand on fire / EMS improvements may be measured in terms of calls received. The IFFP is also required to include a clear nexus between estimated future demand and the proposed capital facilities required to be constructed or acquired to meet the future demand.

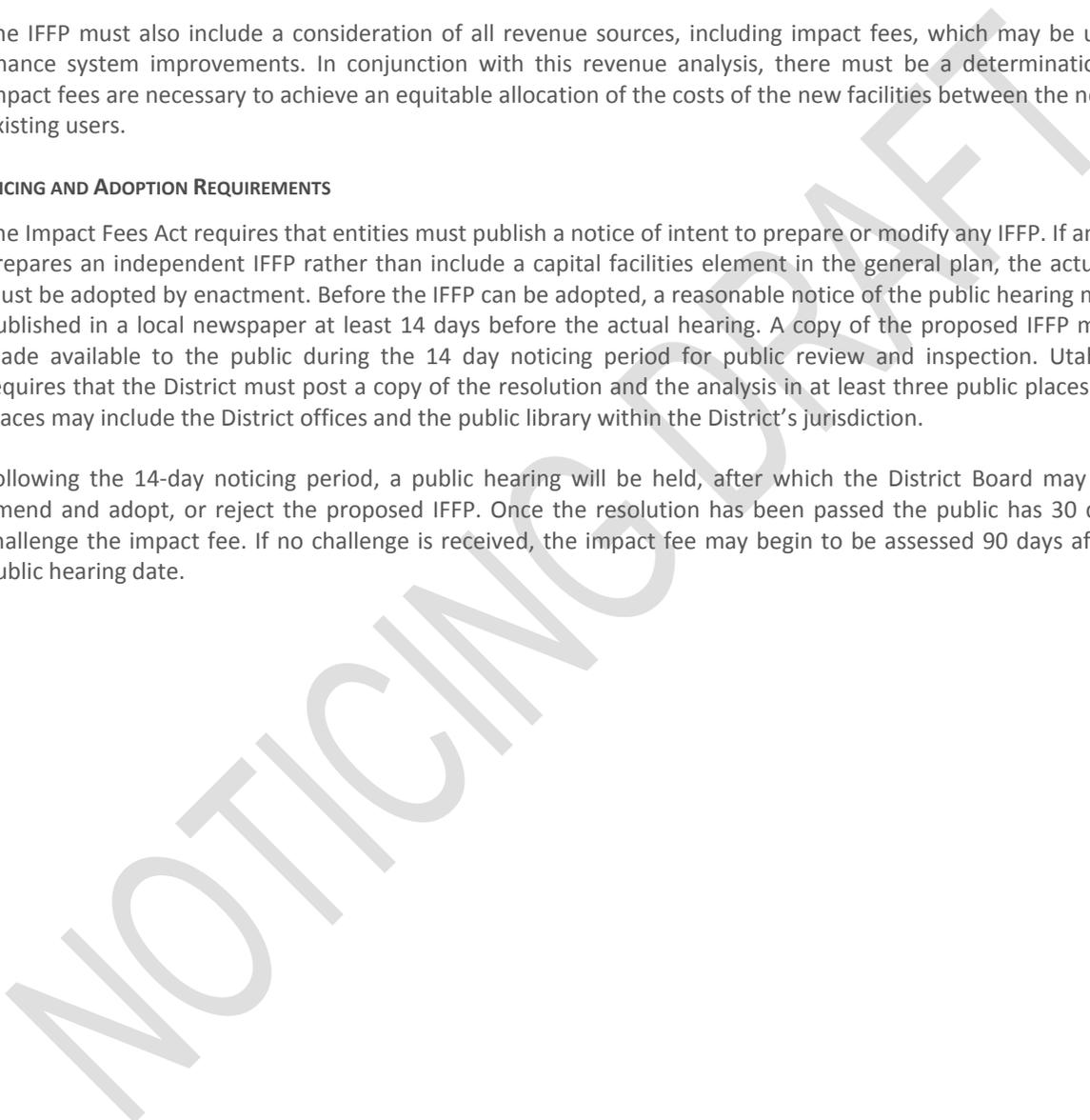
FINANCING OPTIONS

The IFFP must also include a consideration of all revenue sources, including impact fees, which may be used to finance system improvements. In conjunction with this revenue analysis, there must be a determination that impact fees are necessary to achieve an equitable allocation of the costs of the new facilities between the new and existing users.

NOTICING AND ADOPTION REQUIREMENTS

The Impact Fees Act requires that entities must publish a notice of intent to prepare or modify any IFFP. If an entity prepares an independent IFFP rather than include a capital facilities element in the general plan, the actual IFFP must be adopted by enactment. Before the IFFP can be adopted, a reasonable notice of the public hearing must be published in a local newspaper at least 14 days before the actual hearing. A copy of the proposed IFFP must be made available to the public during the 14 day noticing period for public review and inspection. Utah Code requires that the District must post a copy of the resolution and the analysis in at least three public places. These places may include the District offices and the public library within the District’s jurisdiction.

Following the 14-day noticing period, a public hearing will be held, after which the District Board may adopt, amend and adopt, or reject the proposed IFFP. Once the resolution has been passed the public has 30 days to challenge the impact fee. If no challenge is received, the impact fee may begin to be assessed 90 days after the public hearing date.



CHAPTER 1: STANDARDS FOR FIRE AND EMS COVERAGE

FIRE AND EMS COVERAGE STANDARDS

While a state, county, or local government can adopt fire coverage standards for its jurisdiction, no universal standards exist or are legally binding for Hurricane Valley Fire District. The State of Utah has not adopted standards which are binding for local fire districts. This allows flexibility for the various communities in Utah—which differ considerably in their size, terrain and available resources—to determine which standards best apply.

Although specific statutory mandates may be lacking, general guidelines do exist which help fire / EMS officials and communities set goals for coverage. The guidelines for service set forth by the National Fire Protection Association (NFPA) and the assessments completed by the Insurance Services Office (ISO) are two recognized sources for such standards.

It is the goal of the District to respond to at least 90% of fire and EMS calls within four to nine minutes. This four to nine minute response time standard has been adapted from NFPA 1720 and 1710. The following information explains this standard and other guidelines from the NFPA and ISO which help shape the decisions of the Hurricane Valley Fire District.

NATIONAL FIRE PROTECTION ASSOCIATION



The National Fire Protection Association (NFPA) is an international organization which creates and maintains standards and codes for usage and adoption by local governments. This includes publications on building codes, specifications for firefighting equipment, rescue response, and proper firefighting procedures. Hurricane Valley Fire has determined that NFPA 1720 is the standard which should apply at the moment but the District is transitioning to compliance with 1710 as full-time staff increases.

NFPA 1720/1710

There are three major components to NFPA 1720/1710 which affect response times:

- Fire Fighters should respond with a minimum of 4 personnel on each apparatus
- Response times should be no longer than four minutes after leaving the firehouse for the first arriving company and eight minutes for a full first alarm response
- Response times should be no more than four minutes for first responder capability to arrive at an emergency medical incident, with advanced life support capability arriving within eight minutes

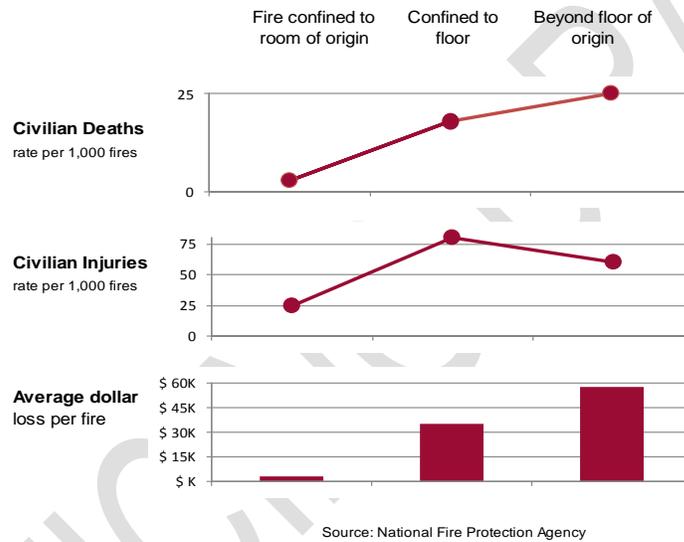
BENEFITS OF COMPLIANCE

The benefits of adopting the guidelines of NFPA 1720/1710 are as follows:

- NFPA 1720/1710 is a nationally recognized standard to protect the community and its businesses
 - NFPA 1720/1710 offers protection for the local economy by guaranteeing the community and its businesses that Fire and Emergency Medical Services will respond promptly and appropriately in an emergency
 - Even a moderate-sized fire can hurt the community's tax base. When businesses close, employees don't get paid. They can't put money back into the community, and may go from being taxpayers to public support recipients. The business can't pay taxes because it is not selling its goods and services
 - A fire that devastates a building will cause the company to consider whether it should reopen. The company may relocate to another area, meaning a permanent loss to the workforce and tax base

- NFPA 1720/1710 Protects the Community Against Liability
 - Courts often rely upon NFPA Standards to determine the “industry standard” for fire protection and safety measures. NFPA doctrines are most frequently found in common law negligence claims
 - NFPA 1720/1710 could be highly relevant to the question of whether a jurisdiction has negligently failed to provide adequate fire or emergency medical protection to an individual harmed in a fire or medical emergency
- NFPA 1720/1710 Enhances Fire / EMS
 - By responding quickly to a fire, firefighters can keep the incident contained
 - When responses take more than a few minutes and spread from the room of origin, losses escalate substantially resulting in a greater loss of life and property (see figure below)
 - Communities with positive records of emergency response times not only benefit current residents with protection but may also attract new residents and businesses

FIGURE 1.1: EFFECT OF RESPONSE TIME IN FIRES



INSURANCE SERVICES OFFICE



The Insurance Services Office (ISO) is an organization that analyzes municipal fire protection efforts in communities throughout the United States through its “Public Protection Classification” (PPC) program. In each of those communities, ISO analyzes a variety of data using its Fire Suppression Rating Schedule (FSRS). ISO then assigns a Public Protection Classification or “ISO Rating” from 1 to 10. Class 1 represents exemplary public protection, and Class 10 indicates that an area's fire suppression program doesn't meet ISO's minimum criteria. By classifying communities' ability to suppress fires, ISO helps insurance companies—as well as communities themselves—evaluate the quality of public fire-protection services. The station and apparatus planning is based upon recommendations from the last ISO evaluation.

Enhanced safety is the chief benefit of an improved ISO rating. Statistical data shows a direct relationship between better fire protection and a reduction in injuries and property loss. In fact, ISO statistics show that per \$1,000 of insured property communities with the worst PPC ratings have fire losses two or more times as high as communities with the best PPC ratings. In addition to enhanced safety, an improved ISO rating generally results in lowered property insurance as well. Due to the decreased risk, a community with higher ratings can secure lower premiums and fees for its residential property owners.

DETERMINATION OF AN ISO RATING

The ISO Public Protection Classification is a weighted assessment based on three elements:

- The capabilities of the fire department- 50%
 - Equipment, staffing, training, and geographic distribution of fire companies
- Dispatch and communication: receiving and handling fire calls - 10%
 - Fire alarm and communication systems, including telephone systems, telephone lines, staffing, and dispatching systems
- Municipal water supply - 40%
 - Condition and maintenance of hydrants and a careful evaluation of the amount of available water compared with the amount needed to adequately extinguish fires

A community can score anywhere between 1 and 100. Every ten points is a Class. The grade is presented in a Class 1 to 10 format, with Class 1 being the best, Class 9 being the worst, and a Class 10 indicating that no creditable fire protection is available within 5 miles. *Thus, when deciding where to locate a future station, the “five mile rule” is the minimum distance measurement which should be considered if a community desires to receive at least a minimum ISO score.*

Points Needed for Each Class	
% Credit	Class
90.0 – 100	1
80.0 – 89.9	2
70.0 – 79.9	3
60.0 – 69.9	4
50.0 – 59.9	5
40.0 – 49.9	6
30.0 – 39.9	7
20.0 – 29.9	8
10.0 – 19.9	9
0.1 - 9.9	10

To obtain a higher rating, fire stations must be located in closer proximity. *According to the ISO, an area defined by 1.5 road miles from a fire station represents the highest standard for first response.* For a ladder-service company, the highest standard is defined by streets out to a distance of 2.5 road miles from the fire station. Structures above 35 feet in height or requiring larger fire flows require an aerial apparatus in addition to a fire engine under the ISO rating system.

IMPACT FEE FACILITIES PLAN METHODOLOGY

USE OF GIS TECHNOLOGY IN STATION PLANNING

Geographic Information Systems (GIS) technology in urban planning allows analysis of response times as a function of street networks and other factors (among many other uses). GIS can be used for collecting, analyzing, and presenting spatial data (such as projected growth and projected demand). Once collected, a wide range of spatial analysis functions can be performed on the data to create suitable data layers. These spatial data layers can then be presented in the forms of maps, reports, and charts.

Many state and national bodies, including the National Fire Protection Association (NFPA), have established response time guidelines for fire departments. While these guidelines can be used as benchmarks, communities are not required to adopt universal response times due to the wide variety of geographic characteristics that differ from community to community. However, Hurricane Valley Fire District has adopted specific standards for fire / EMS response time. The current policy of the District will is to maintain a four minute response time for basic fire service for 90% of existing and future development, as recommended by the NFPA.

Hurricane Valley Fire has excellent fire and EMS response data, information systems, and analysis capability, the information comes from the St George Regional Dispatch Center. Based on this, the project team has assumed that the data is accurate. For the fire / EMS response time analysis, the goal was to recommend the best placement of stations and unit resources. This recommendation takes into account the existing system, available land, costs, etc.

CHAPTER 2: EXISTING & FUTURE FIRE / EMS FACILITIES

EXISTING FIRE / EMS BUILDING

HVFSSD serves approximately 23,000 residents in Washington County including the cities of Hurricane, Leeds, LaVerkin, Toquerville, Virgin and areas of unincorporated Washington County. The District operates six current facilities and will need to construct an additional four stations in the next ten years. Stations must be placed to meet the geographic needs of new development as well as structured to house the appropriate apparatus required to serve the types of new development that are building in the area. The District is experiencing the construction of hotels and residential units that are being built rapidly and in a more dispersed manner which accelerates station construction although the District contemplates a total of eleven stations.

TABLE 2.1: SUMMARY OF EXISTING FIRE / EMS FACILITIES

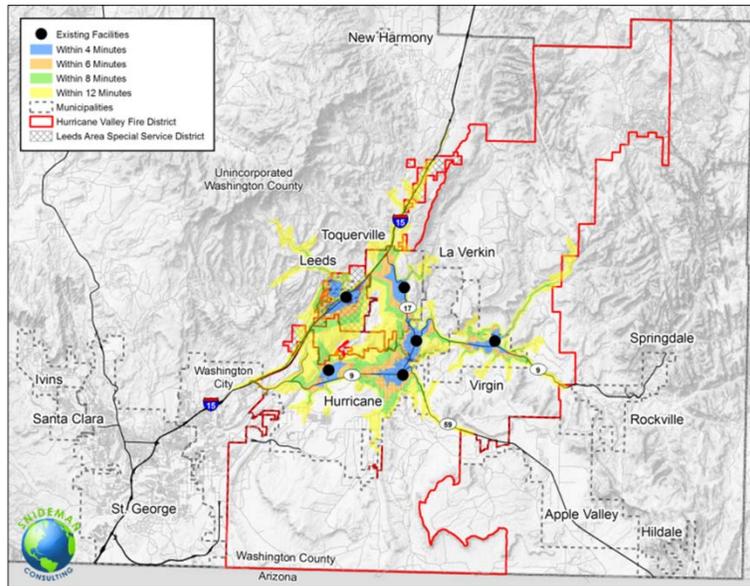
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Existing Fire / EMS Station 44: Virgin		1,823	-
Land Associated with the Fire Storage Toquerville 45	0.43		-
Existing Fire Storage Shed: Toquerville 45		500	-
Land Associated with Leeds Station 47	0.59		15,950
Existing Fire / EMS Station 47: Leeds		4,800	131,136
Total	4.23	27,919	\$ 1,312,113

EXISTING FIRE & EMS COVERAGE

The fire / EMS department in Hurricane Valley Fire currently maintains 27,919 SF of infrastructure. Generally as more homes, businesses, and other types of development are built, the number of emergency calls increase. This increase in call volume affects the fire / EMS services in two major ways. First, often newer developments are built on undeveloped land that is located further away from where the fire / EMS buildings are located. This increases response times—taking it longer for fire fighters or EMS personnel to reach emergency situations.

Also, as the call volume increases, so does the likelihood that multiple calls will occur at the same moment and compete for emergency services. This also increases the average response time. As explained in the Impact Fee Facilities Plan (IFFP), when response times increase the risk of property damage and loss of life also increases. New infrastructure must be built to maintain both adequate response times and also to provide adequate space for the additional equipment and emergency vehicles needed to serve a greater volume of emergency calls.

FIGURE 2.2: EXISTING STATION RESPONSE TIMES

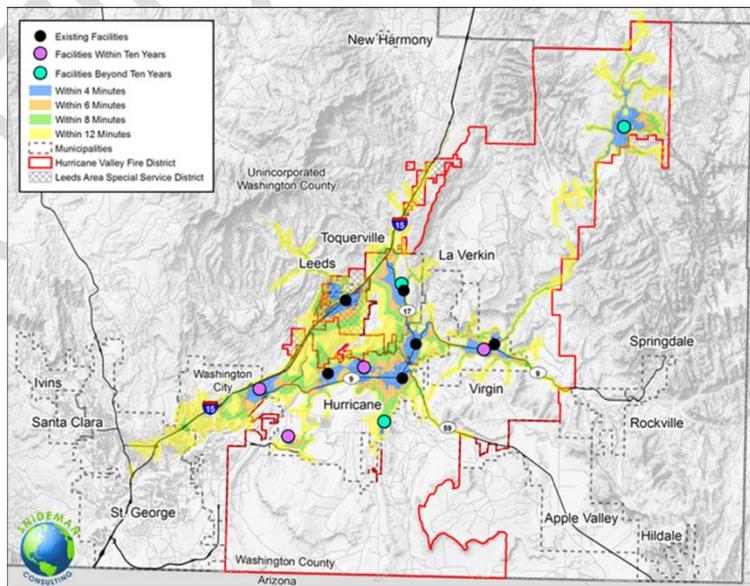


CURRENT FOUR MINUTE RESPONSE TIME

The previous map illustrates the present land area covered within a four minute response time by the existing station. A four minute response time is the generally accepted goal for fire and EMS response times—as discussed in the Impact Fee Facilities Plan.

It should be noted that this analysis was completed using the legal speed limits assigned for each street. While emergency service vehicles are allowed to travel faster than the posted speed limit, in practice these vehicles often average the posted speed. This is due to the reality that emergency service vehicles are larger, heavier and more difficult to maneuver than personal vehicles—with slower acceleration speeds. As well, these vehicles often must negotiate traffic and other potential hazards (such as pedestrians) which require a relatively slower, safer speed.

FIGURE 2.3: IMPACT OF ADDITIONAL STATIONS ON DISTRICT RESPONSE TIMES



FUTURE FIRE / EMS INFRASTRUCTURE

When the land area currently included within the District is entirely built out, it is anticipated that five additional stations will be needed to provide adequate response times according to NFPA 1720/1710, the ISO standards (as explained in the IFFP) and the District's goal for coverage. The following table summarizes the needed infrastructure. In addition this chapter contains a series of maps which illustrate the estimated locations of future stations and their impact on the existing four minute service response time goal.

It should be noted that the location and timing of these stations may change as Hurricane Valley Fire District officials judge when and where new development actually occurs—and how the District as a whole would be best served with additional fire / EMS infrastructure. The purpose of this impact fee analysis is not to make official plans for when and where infrastructure will occur, but to provide a reasonable financial plan in order to charge fair and equitable impact fees.

STATIONS TO BE CONSTRUCTED WITHIN TEN YEARS

ESTIMATED FUTURE STATION AND LAND COSTS

The estimated cost of construction for projects to be completed within ten years is based on size estimates from the District's architects based on the design of St George Station #8. In the previous impact fee analysis Station 42 was used as the model for future station construction; however, as plans for new major developments have been finalized the fire suppression needs of these developments have shifted significantly from the assumptions at the time the previous analysis was prepared. The price per square foot of new construction was understated in the previous analysis due to a lack in current bid prices. Based on information available at the time a price of \$135/per sf was used. Now that construction bids have been received the actual cost is \$223/per sf¹ with the exception of an expansion to be constructed at about \$48 per square foot. Therefore, in 2016 dollars, a comparable 9,000 square foot station is estimated to cost approximately \$2M. Currently, the average estimated cost of an acre of land in the Hurricane Valley Fire service area is \$200,000. For future projects where a land purchase is part of the plan, this price per acre was used and inflated annually at 3.5% to the year of estimated purchase. Included below is an overview of the future station construction projects.

STATIONS CONSTRUCTED WITHIN NEXT 10 YEARS

STATION 46 CORAL CANYON

The proposed Coral Canyon station, designated Station 46, is proposed to be constructed in Washington City. The station will be modeled after the design of St George Station 8. The District will acquire the land from Washington City and will bond to construct the fire station. Station costs are estimated to be \$2M in 2016.

STATION 48 DIXIE SPRINGS

The proposed Dixie Springs station, designated Station 48, is proposed to be constructed in the Dixie Springs development located by Sand Hollow reservoir in Hurricane City. The station will also be modeled after the design of St George Station 8. The District will acquire the land from Hurricane City which had acquired the land from the local developer at no cost. The District will bond to construct the fire station. Station costs are estimated to be \$3.3M in 2016 costs.

STATION 44 VIRGIN REBUILD

The District plans to relocate Station 44 that is currently in use in Virgin. The City owns the land that the station would sit on and would be provided to the District at no cost. The station is estimated to cost approximately

¹ See the Appendix for more information on station construction plans and costs.

\$1.45M in today's dollars. Only 72% of this facility is considered impact fee qualifying as 1,823 Sf of the new 6,500 Sf station is replacing the original Virgin Station 44.

STATION 49 HURRICANE INDUSTRIAL AREA

The District proposes to construct a new station, designated Station 49, in Hurricane City near the industrial complex located at 2260 West 600 North in Hurricane. The station will also be modeled after the design of St George Station 8. The District will acquire the land from Hurricane City which will be provided to the District at no cost. The District will bond to construct the fire station. Station costs are estimated to be approximately \$2M in today's costs.

STATION 11 COPPER HILLS/HURRICANE AIRPORT

New development south of Hurricane City has been approved and is underway. HVFSSD must plan an additional station for the southern area of Hurricane around the Sky Ranch airport to serve this new demand which was not anticipated at the time of the previous impact fee analysis. The new station will be referred to as Station 11 Copper Hills/Hurricane Airport and will be constructed in 2021. Today's construction estimate for this station is approximately \$2M.

STATION 43 LAVERKIN EXPANSION

The District will invest in the reconstruction of the LaVerkin station to make it a usable station for the storage of apparatus. The land is owned by the City and is provided to the District at no cost. The LaVerkin station will be expanded on its current property, not relocated. The expansion is anticipated to cost around \$67,000 and 100% of the expansion will benefit future users and be included in the impact fee qualifying costs.

STATIONS CONSTRUCTED BEYOND 10 YEARS

Station constructed beyond 10 years will not be included in the current impact fee study but can be incorporated into following studies as construction date approaches for each proposed station.

STATION 45 TOQUERVILLE RELOCATION

Station 45 will be rebuilt and relocated to better serve the service area. The land will need to be purchased by the District. The current Station 45 has capacity to serve new growth and \$48,000 of the station cost could be included as impact fee qualifying; however, all of the cost associated with the existing Station 45 has been excluded. The impact fee will include the impact fee qualifying cost of the new Station 45. The 2016 cost estimate for Station 45 is \$2M.

KOLOB

The District plans to build a station near Kolob Reservoir to serve development occurring in the area. The District will construct and bond for the building and land is anticipated to be donated by the Washington County Water Conservancy District. The 2016 cost estimate for this project is \$200,000.

TABLE 2.4: SUMMARY OF FUTURE FIRE / EMS INFRASTRUCTURE

Project		Year	Floorspace (SF)	Cost per SF	Land (Acres)	PV Project Expense \$	Construction Year Expense*	% to Growth	Expansionary Cost
Future Fire / EMS Facilities Within 10 Years									
	Construction Type								
Station 46 Coral Canyon Land (District Purchase)	New	2016	-		1.47	\$294,000	\$294,000	100%	\$294,000
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Station 11 Copper Hills/ Hurricane Airport	New	2021	-		1.50	\$300,000	\$356,306	100%	\$356,306
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Station 43 LaVerkin Expansion Land (Owned by City)	Existing Land	2016	-		0.50	\$0	\$0	100%	\$0
Station 43 LaVerkin Expansion Fire Station on Current Site	Expansion	2016	1,400	\$ 47.86		\$67,004	\$67,004	100%	\$67,004
Within 10 Years			50,095		7.37	\$11,519,989	\$13,110,366		\$12,627,537
Future Fire / EMS Facilities Beyond 10									
Station 45 Toquerville Rebuild Land (District Purchase)	Relocation	2030	-		1.50	\$300,000	\$485,608	95%	\$458,927
Station 45 Toquerville Rebuild Fire Station	Relocation	2030	9,100	\$ 223.00	-	\$2,029,300	\$3,284,817	95%	\$3,104,332
Kolob Station Land (Owned by WCWCD)	New	2030	-		1.50	\$0	\$0	100%	\$0
Kolob Fire Station (50% grant Funding)	New	2030	4,500		-	\$200,000	\$323,739	100%	\$323,739
Beyond 10 Years			13,600		3.00	\$2,529,300	\$4,094,164		\$3,886,998
Total Future Fire / EMS Facilities			63,695		10.37	\$14,049,289	\$17,204,530		\$16,514,535

Again, it is important to note that while future facility plans have been estimated based on location and/or currently projected needs, flexibility must be allowed in the actual implementation of plans. As was stated previously, the priority of this study is to outline an equitable method for future development to pay its fair share. Creating final plans on where or how the additional facilities are to be constructed is not the function of this analysis. Where other future plans may differ, this analysis will be updated periodically to ensure that the most accurate and up to date information is used to calculate fair and equitable impact fees.

OUTSTANDING AND FUTURE DEBT

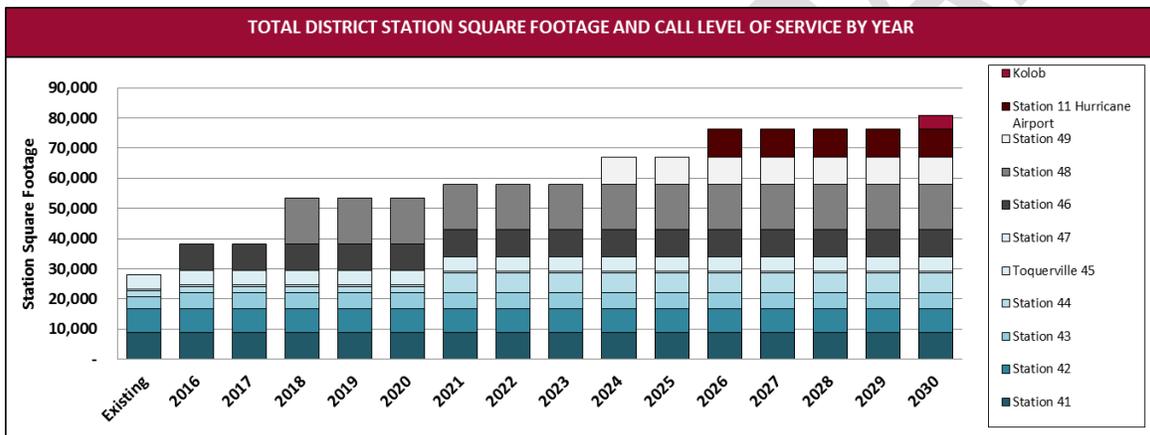
The District itself has no outstanding bonds that relate to fire / EMS in Hurricane Valley Fire. However, Hurricane City issued a bond to cover the construction of Station 42 and the District is going to assume the payments for that debt.

It is the intention of the District to pursue debt financing in order to fund the projects to be constructed within the next ten years. To accurately estimate the amount of future costs, Zions worked closely with Hurricane Valley Fire District staff and industry contacts in order to make accurate estimates on land and construction costs. Based on the anticipated construction year, these costs were then inflated at 3.5% annually to account for the increasing cost of construction with time. This amount was then used to calculate the total amount of debt to be issued. In addition, the debt financing costs include the cost of issuance and a loan interest amount of 3.75%.

TABLE 2.5: PAID PORTION OF ORIGINAL DEBT SERVICE SCHEDULE ASSOCIATED WITH THE FIRE STATION

	Par	Outstanding Principal	Outstanding Interest COI	Total Expense
Outstanding				
Station 42	800,000	250,000	110,000	360,000
CIB Loan	40,000	30,000	25,500	55,500
Subtotal	\$ 840,000	\$ 280,000	\$ 135,500	\$ 415,500
Future				
Station 46 Coral Canyon Fire Station	2,391,880	2,391,880	1,142,610	3,534,490
Station 48 Dixie Springs Fire Station	3,726,578	3,726,578	1,780,199	5,506,777
Station 44 Virgin Rebuild Fire Station	1,790,413	1,790,413	855,287	2,645,700
Station 49 Industrial Fire Station	2,779,089	2,779,089	1,327,580	4,106,669
Station 11 Copper Hills/ Hurricane Airport	2,877,137	2,877,137	1,374,418	4,251,555
Subtotal	\$ 13,565,097	\$ 13,565,097	\$ 6,480,094	\$ 20,045,191
Totals	\$ 14,405,097	\$ 13,845,097	\$ 6,615,594	\$ 20,460,691

TABLE 2.6: FLOOR SPACE BY STATION ADDED ANNUALLY



CHAPTER 3: FINANCING ELEMENT

MANNER OF FINANCING

The District has funded the capital infrastructure for fire / EMS through a combination of different revenue sources, grants, or exactions. Impact fees cannot reimburse costs funded through federal grants and other funds that the District has received for capital improvements without an obligation to repay. The amounts included in this calculation are those that have been funded by the existing residents and businesses through fees and taxes.

Additionally, the Impact Fees Act requires the Proportionate Share Analysis to demonstrate that impact fees paid by new development are an equitable method for funding growth-related infrastructure. Existing users have funded and will continue to fund the share of costs proportionate to the number of existing calls relative to the buildout number of calls. In other words, existing users will always be responsible for their share of the system. The remaining portion of existing excess capacity costs and future facility costs will be fairly passed on to new growth.

TAX REVENUES

Tax revenues—property and sales—are the primary source of revenue for the District. The District has authority to collect a portion of the property and sales taxes within its boundaries. The revenues collected can cover the operational expenses, non-impact fee qualifying capital expenses and other general needs of the Hurricane Valley Fire District.

FEDERAL AND STATE GRANTS AND DONATIONS

Grants and donations are not currently contemplated in this analysis. If grants are available for constructing stations, they will be used. Grants or other funds that do not require repayment (not including developer exactions toward impact fee payment) must be considered in the analysis as an impact fee should not be collected for a project or expense otherwise covered through a grant or other revenue source without an appropriate credit.

IMPACT FEES

It is recommended that impact fees be used to fund growth-related capital projects as they help to maintain an adequate level of service and prevent existing users from subsidizing the capital needs for new growth. This Impact Fee Analysis calculates a fair and reasonable fee that new growth should pay to fund the portion of the existing and new facilities that will benefit new development.

Impact fees have become an ideal mechanism for funding growth-related infrastructure. Impact fees are charged to ensure new growth pays its proportionate share of the costs for the development of public infrastructure. Impact fee revenues can also be attributed to the future expansion of public infrastructure if the revenues are used to maintain an existing level of service. Increases to an existing level of service cannot be funded with impact fee revenues. Analysis is required to accurately assess the true impact of a particular user upon the District infrastructure and to prevent existing users from subsidizing new growth.

DEVELOPER DEDICATIONS AND EXACTIONS

Developer exactions are not the same as grants (which should be credited from the impact fee). Developer exactions may be considered in the inventory of current and future fire / EMS infrastructure. If a developer constructs a fire station or dedicates land within the development, the value of the dedication is credited against that particular developer's impact fee liability.

All fire stations are considered to be system improvements, not project improvements. Thus, an impact fee credit will be due to the developer and the dedication / exaction will be classified in the inventory as if it had been funded directly by the District through impact fees collected.

If the value of the dedication / exaction is less than the development's impact fee liability, the developer will owe the balance of the liability to the District. If the value of the improvements dedicated is worth more than the development's impact fee liability, the District must reimburse the difference to the developer from impact fee revenues collected from other developments.

PROPOSED CREDITS OWED TO DEVELOPMENT

The Impact Fee Act requires that credits be granted to development for future fees that will pay for growth-driven projects included in the Impact Fee Facilities Plan that would otherwise be paid for through user fees. Credits may also be granted to developers who have constructed and donated facilities to the District in-lieu of impact fees. This situation does not apply to developer exactions or improvements required to offset density or as a condition of development. Any project that a developer funds must be included in the Impact Fee Facilities Plan if a credit is to be issued.

If the situation arises that a developer chooses to construct facilities found in the Impact Fee Facilities Plan in-lieu of impact fees, appropriate arrangements must be made through negotiation between the developer and the District on a case by case basis.

SUMMARY OF TIME PRICE DIFFERENTIAL

The Impact Fee Act allows for the inclusion of a time price differential to ensure that the costs incurred at a later date are accurately calculated. As discussed previously in the section which discusses debt financing, future projects were inflated 3.5% annually (the ten year average inflation rate calculated with data from the BLS) from their present value cost to a future value cost based on the year of anticipated construction.

EQUITY OF IMPACT FEES

Impact fees are intended to recover the costs of capital infrastructure that relate to future growth. This method results in an equitable fee as future users will not be expected to fund any portion of the projects that will benefit existing residents. This method also addresses current deficiencies by assuming that facilities are sized optimally to cover the District without deficiencies or excesses at buildout.

The impact fee calculations are structured for impact fees to fund 100% of the growth-related portion of facilities identified in the proportionate share analysis as presented in the impact fee analysis. Even so, there may be years that impact fee revenues cannot cover the annual growth-related expenses. Other revenues will be used to make up any annual deficits. Any borrowed funds are to be repaid in their entirety through impact fees.

CHAPTER 4: LEVEL OF SERVICE AND DEMAND ANALYSIS

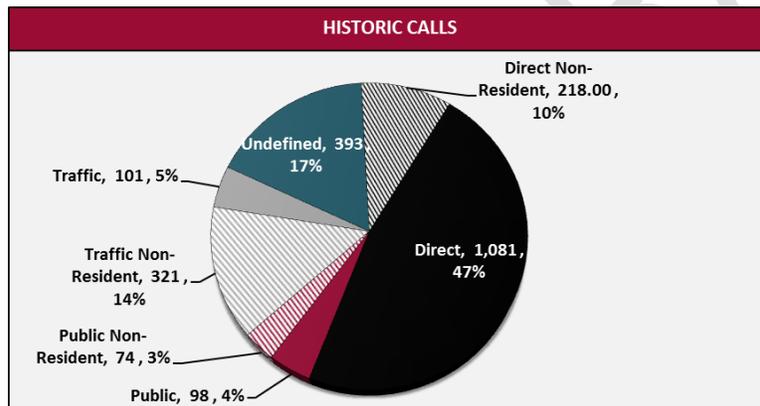
HISTORIC EMERGENCY CALL DATA

The District’s historic call data was obtained from St George Consolidated Dispatch Center for three historic years (2012-2014). Using GIS analysis each call was sorted according to the land use that generated the call: Direct calls (private calls including residential calls and calls to businesses), public calls (calls to city owned land uses such as parks, schools, city owned buildings, etc.), traffic calls (calls to roadways) and undefined calls.

NON-RESIDENT CALLS

Not every call the District receives is generated by a resident within the District’s service area. Tourism, daytime population from other communities, passthrough traffic, etc. all impact the District’s call volume. Non-resident calls are not impact fee qualifying. Zions worked closely with Chief Kuhlmann to develop a reasonable estimate of what proportion of all calls received come from non-residents. Figure 4.1 shows the 2014 calls sorted according to the categories described above.

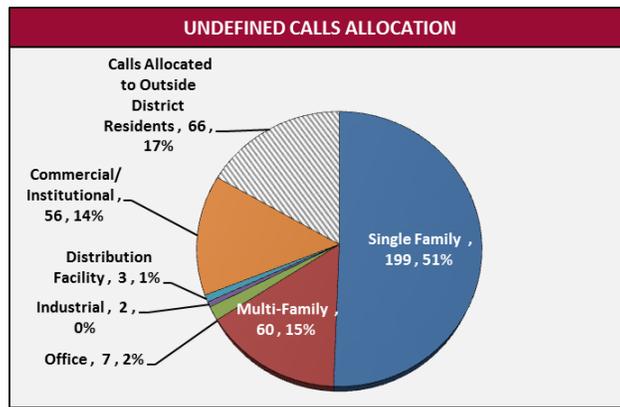
FIGURE 4.1: HISTORIC CALLS BY CATEGORY



UNDEFINED CALLS

Undefined calls were calls which were unable to be sorted into land use categories due to unavailability of sufficient data to associate the call with a specific address in order to geocode the call. In order to sort the calls, we assumed that the undefined calls could be assigned to land uses (non-resident, single family, multi-family, office, industrial, distribution facility, commercial/institutional, traffic and public) following the same proportions as the rest of the call data. Figure 4.2 shows the allocation of the 393 undefined called from Figure 4.1 into land use categories.

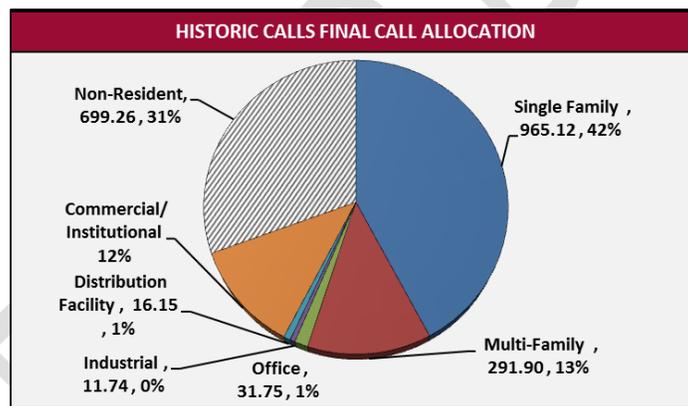
FIGURE 4.2: ALLOCATION OF UNDEFINED CALLS TO LAND USE CATEGORIES



FINAL CALL ALLOCATION

Figure 4.3 shows the final call allocation after non-resident calls and undefined calls were allocated and all direct calls were sorted according to land use. Following the consideration of resident and non-resident beneficiaries of fire service, it has been determined that approximately 31% of the calls that the District responds to are not local residents. Residents should not be charged an impact fee for capacity that benefits non-residents. The non-resident cost of capacity has been removed from the impact fee.

FIGURE 4.3: FINAL CALL ALLOCATION



LEVEL OF SERVICE DEFINITION

According to State statute, impact fees cannot be used to correct deficiencies in the system or increase the level of service (LOS) over what currently exists. One way to determine if the level of service has been exceeded is to measure the current square footage of fire / EMS infrastructure per emergency call and compare it to what is planned for the future. This analysis has been completed and is contained in this chapter.

THE CHALLENGE WITH PLANNING FIRE / EMS INFRASTRUCTURE

The challenge with fire / EMS infrastructure is that it cannot be added piece by piece but must be added station by station. In other words, if call volume increases by five percent, the infrastructure cannot simply be increased by 5%. When new infrastructure is needed to serve a new area of the District—even if the overall call volume of that area is low—the District is justified in building infrastructure to serve areas of need. When that infrastructure is constructed the level of service must therefore be viewed not in terms of the call volume it currently serves, but the total call volume it was built to serve.

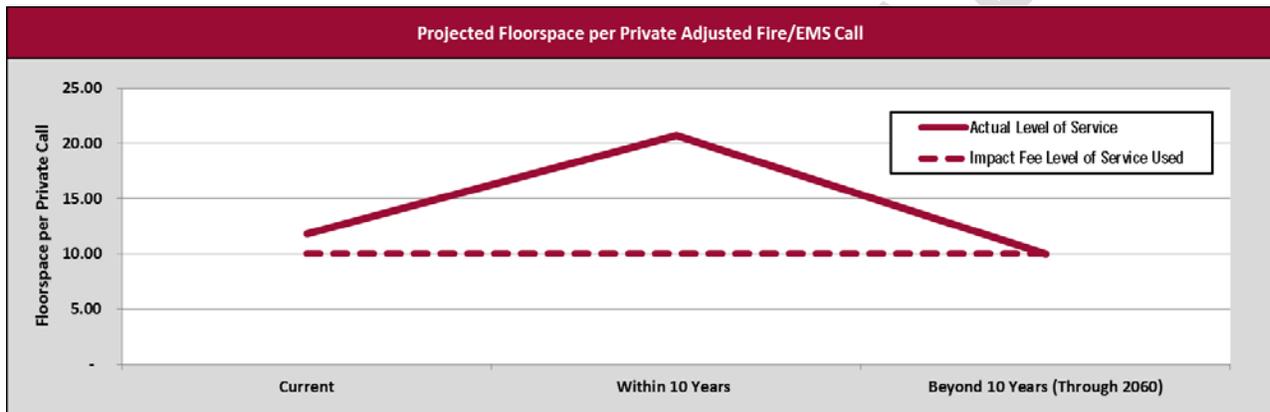
The current and future LOS goal to be maintained by the fire / EMS is displayed in the following tables. The current and future floor space of the fire / EMS is based on the existing and future infrastructure described in chapter 3 and the emergency call volumes presented in chapter 2.

TABLE 4.4: CURRENT AND PROJECTED FACILITY FLOOR SPACE LEVEL OF SERVICE FOR FIRE / EMS

Time Frame	Floorspace	Calls*	SF per Call
Current	27,919	2,355	11.86
Within 10 Years	72,141	3,482	20.72
Beyond 10 Years (Through 2060)	85,241	8,515	10.01
10 Year Impact Fee Level of Service	72,141	7,206	10.01

**Current is based on current average served, all others are based on total capacity that will be served*

FIGURE 4.5: PROJECTED FLOOR SPACE PER CALL



NOTICING

CHAPTER 5: FUTURE APPARATUSES

An apparatus costing over \$500,000 when purchased and equipped can be assessed to non-residential development on a square foot basis. The District currently has two apparatuses in its inventory which qualify under this definition, with three additional apparatus expected to be added within ten years. Details of these apparatuses are contained in the following table. For more information regarding the financing costs of the apparatuses, see the appendix.

TABLE 5.1: INVENTORY OF EXISTING AND FUTURE IMPACT FEE QUALIFYING FIRE SUPPRESSION APPARATUSES

Inventory of Qualifying Apparatus							Total 2060 Calls		
Asset Description	Equipment	Purchase Year	Historic Apparatus Cost	Historic Apparatus Cost	10 Year Financing Costs	Annual Apparatus Cost	Projected Annual Calls	Apparatus Cost per Call	
Ladder 42	Fully Equipped	2002	\$ 825,000	\$ 825,000	\$ -	\$ 825,000	8,515	\$ 96.89	
Asset Description	Equipment	Purchase Year	2015 Apparatus Cost*	Inflated Apparatus Cost**	10 Year Financing Costs				
Ladder 43	Fully Equipped	2016	976,539	1,075,101	268,775	1,343,876	8,515	157.83	
Ladder 46	Fully Equipped	2016	976,539	1,075,101	268,775	1,343,876	8,515	157.83	
Ladder 48	Fully Equipped	2018	976,539	1,128,052	282,013	1,410,064	8,515	165.61	
Engine 49	Fully Equipped	2019	700,000	828,280	207,070	1,035,350	8,515	121.60	
Engine 11	Fully Equipped	2020	700,000	848,432	212,108	1,060,540	8,515	124.56	
Totals:			\$5,154,617	\$5,779,966	\$1,238,741	\$7,018,707		\$824.32	

Using this information, an apparatus fee has been calculated which is only applicable to private non-residential development in Hurricane Valley Fire. This is consistent with the protocol determined by the Utah Impact Fee Act, where it states that only residential land uses may be exempt from an impact fee for fire suppression vehicles (Utah Code 11-36a-202(2)(a)(i)) and that these vehicles must be over \$500,000 to be considered in the calculation (11-36a-102(16)(a)(ii)).

The costs of the apparatuses are divided by the current total, private calls within the service area (including residential) to calculate a fair average cost per call. This average cost per call is then applied only to non-residential land uses and multiplied by the calls per unit to arrive at the cost per unit. The following table displays the calculation.

TABLE 5.2: APPARATUS FEE CALCULATION

Apparatus Type	Station 41	Station 42	Station 43	Station 44	Station 45	Station 47	Station 46	Station 48	Station 49	Station 11	Station 51
Engine Type 1	Mayflower	Hurricane	La Verkin	Virgin	Toquerville	Leeds	Coral Canyon	Dixie Springs	Industrial	Copper Hills	Kolob
Engine Type 1	Engine 41					Engine 47		Engine 50	Engine 48	Engine 11	
Engine Type 3				Engine 44		Engine 47-1					
Engine Type 4	Brush 41-1										
Engine Type 6	Brush 41	Brush 42	Brush 43	Brush 44	Brush 45	Brush 47	Brush 46	Brush 50	Brush 48	Brush 49	Brush 51
Engine Type 6				Brush 44-1		Brush 47-1					
Quint		Ladder 42	Ladder 43				Ladder 46		Ladder 48		
Ambulance	Medic 41	Medic 42	Medic 43	Medic 44	Medic 45	Medic 47	Medic 46	Medic 50	Medic 48	Medic 49	Medic 51
Ambulance	Medic 41-1	Medic 42-1	Medic 43-1			Medic 47-1					
Rescue	Rescue 41						Rescue 46	Rescue 50	Rescue 48	Rescue 49	Rescue 51
Squad	Squad 41	Squad 42									
Tender	Tender 41	Tender 42	Tender 43	Tender 44	Tender 45	Tender 47	Tender 46				
Command	Chief 41										
Command	Chief 42										
Mobile Command									MCU		
Black: In Fleet											
Green: Growth-Related/Non-Impact Fee											
Red: Impact Need											

IMPACT FEE CERTIFICATION

Zions has prepared this report in accordance with Utah Code Title 11 Chapter 36a (the “Impact Fees Act”), which prescribes the laws pertaining to Utah municipal capital facilities plans and impact fee analyses. The accuracy of this report relies upon the planning, engineering, and other source data which was provided by the District and their designees.

In accordance with Utah Code Annotated, 11-36a-306(2), Zions Public Finance, Inc. makes the following certification:

Zions certifies that the attached impact fee analysis:

1. Includes only the cost of public facilities that are:
 - a. allowed under the Impact Fees Act; and
 - b. actually incurred; or
 - c. projected to be incurred or encumbered within six years after the day on which each
 - d. impact fee is paid;
2. Does not include:
 - a. costs of operation and maintenance of public facilities;
 - b. cost of qualifying public facilities that will raise the level of service for the facilities, through impact fees, above the level of service that is supported by existing residents;
 - c. an expense for overhead, unless the expense is calculated pursuant to a methodology
 - i. that is consistent with generally accepted cost accounting practices and the methodological
 - ii. standards set forth by the federal Office of Management and Budget for federal grant
 - iii. reimbursement;
3. Offset costs with grants or other alternate sources of payment; and
4. Complies in each and every relevant respect with the Impact Fees Act.

Zions Public Finance, Inc. makes this certification with the following caveats:

1. All of the recommendations for implementations of the Impact Fee Facilities Plan (IFFP) made in the IFFP or in the impact fee analysis are followed in their entirety by Hurricane Valley Fire District.
2. If all or a portion of the IFFP or impact fee analysis are modified or amended, this certification is no longer valid.
3. All information provided to Zions Public Finance, Inc. its contractors or suppliers is assumed to be correct, complete and accurate. This includes information provided by Hurricane Valley Fire District and outside sources.

Dated: September 19, 2016

ZIONS PUBLIC FINANCE, INC.

APPENDIX B: DEMOGRAPHICS

	A	B	C	D	E	F	G	H	I
1	Historic, Estimated, and Projected Population in the Hurricane Valley Fire District and Washington County								
2		Census		ACS	Estimate *		Projections		
3	Location	2010	2013	2015	2020	2030	2040	2050	2060
4	Hurricane	13,748	14,576	15,156	19,586	27,927	37,003	47,039	57,906
5	La Verkin	4,060	4,161	4,230	5,784	8,247	10,928	13,891	17,100
6	Leeds	820	830	837	1,168	1,666	2,207	2,806	3,454
7	Toquerville	1,370	1,411	1,439	1,952	2,783	3,687	4,688	5,770
8	Virgin	596	606	613	849	1,211	1,604	2,039	2,510
9	Unincorporated County Population in HVFD **	677	733	774	996	1,420	1,881	2,391	2,943
10	Hurricane Valley Fire District Total	21,271	22,317	23,048	30,335	43,254	57,310	72,854	89,683
11	Unincorporated Washington County	6,766	7,335	7,740	9,955	14,195	18,809	23,910	29,433
12	Washington County Total	136,262	147,719	155,887	196,762	280,558	371,743	472,567	581,731

* 2015 estimates are based on the annual average growth rates experienced from 2010 to 2013 ((End Value/Start Value)^(1/(Periods - 1)) - 1)

** Based on county assessor's data and aerial review, it is assumed that 10% of the population of the Unincorporated County Population is located in the HVFD

Source: US Census, American Community Survey 2013 5 year data, Utah GOPB subcounty projections 2013

Single Family Housing Units

	Units		Residential Building Permits					Units
Location	2010	2010	2011	2012	2013	2014	2015	2016
	2010 Cen	BEBR	BEBR	BEBR	BEBR	BEBR	BEBR	
Hurricane	4,041	59	79	120	205	202	268	4,974
La Verkin	1,114	7	5	2	13	13	13	1,167
Leeds	320	1	1	1	12	9	3	347
Toquerville	486	1	3	4	14	17	10	535
Virgin	209	0	0	1	1	5	0	216
Unincorporated County Population in HVFD **	347	2	2	2	3	3	6	364
Hurricane Valley Fire District Total	6,517	70	90	130	248	249	300	7,604
Unincorporated Washington County	3,465	23	19	18	28	32	58	3,643
Washington County Total	42,146	753	736	994	1,475	1,159	1,478	48,741

Source: US Census, American Community Survey 2013 5 year data

Multi Family Housing Units

	Units		Residential Building Permits					Units
Location	2010	2010	2011	2012	2013	2014	2015	2016
	2010 Cen	BEBR	BEBR	BEBR	BEBR	BEBR	BEBR	
Hurricane	1,420	13	30	8	4	27	39	1,541
La Verkin	314	0	0	0	0	0	0	314
Leeds	32	0	0	0	0	0	0	32
Toquerville	15	0	0	0	0	0	0	15
Virgin	34	0	0	0	0	0	0	34
Unincorporated County Population in HVFD **	26	0	0	0	0	1	0	28
Hurricane Valley Fire District Total	1,841	13	30	8	4	28	39	1,964
Unincorporated Washington County	262	4	0	4	1	12	0	283
Washington County Total	15,588	118	110	71	185	316	161	16,388

Source: US Census, American Community Survey 2014 5 year data, BEBR building permit data,

A B C D E F G H I

APPENDIX C: FORECAST OF DEVELOPMENT UNITS

A B C D E F G H I

Existing and Future Population, Residential Units, and Private Non Residential Floor Space

	2015 Existing Development			Future Development to be Added		Existing + 2060 Future		
Residential Units	Population	Current PPH	Total Units	Population	Units	Population	2060 PPH	Total Units
Single Family	21,047	2.77	7,604	52,562	18,989	73,609	2.77	26,593
Multifamily	4,604	2.34	1,964	11,470	4,893	16,074	2.34	6,857
Total	25,651	2.69	9,568	64,033	23,882	89,683	2.69	33,450
Private Non-Residential Units	SF per Capita	Estimated kSF		SF per Capita	Estimated kSF	SF per capita	SF Increase	Estimated kSF
Office	11.82	276		12.2	784	11.8	384%	1,060
Industrial	27.51	643		28.5	1,825	27.5	384%	2,468
Distribution Facility	65.15	1,522		7.8	502	22.6	133%	2,024
Commercial	55.20	1,289		57.2	3,662	55.2	384%	4,951
Total	159.68	3,730		295.17	6,773	457.73		10,504

Source: Washington County Assessor's Office, US Census, American Community Survey, and Zions Public Finance GIS Analysis

*Future units are based on a 2060 persons per housing unit figure, which is based on the projected decrease in the county household size from 2010 to 2060 by the GOMB

**It is estimated that non residential development will increase at a rate proportionate to the rate of increase seen in population growth

Note: Minor discrepancies in this and other tables are due to rounding

Ratio of Single Family Units to Multifamily Units

	2010 Census	2010-14	2015 Estimate	2060
Total Housing Units	8,358	1,210	9,568	33,450
% Single Family*	78.0%	89.8%	79.5%	79.5%
% Multifamily	22.0%	10.2%	20.5%	20.5%

Source: US Census, American Community Survey, Zions Public Finance, Inc.

*Single Family = single family detached; all others are considered "Multifamily" for impact fee assessment purposes

A B C D E F G H I

APPENDIX E: ALLOCATION OF CALLS TO PUBLIC/PRIVATE LAND USES

	A	B	C	D	E	F	G	H	I	J	K
		Total Calls	% of Total Calls	Direct Calls Allocated to Land Use	Indirect Public Areas	Roads	Non-Resident	Summary of Total Calls			
1											
2	Direct Calls Allocated to Land Use	1,081	47%	1,081			-	1,081			1
3	Undefined Calls	531	23%	327	18.08	23.42	162.43	531			2
4	Indirect Local Roads	136	6%			68	68	136			3
5	Indirect Highways	188	8%			9	179	188			4
6	Indirect Public Areas	132	6%		60		72	132			5
7	Mutual Aid	218	10%		-	-	218	218			6
8	Total	2,286	100%	1,408	78	101	699	2,286			7

Undefined Calls Allocated to Land Use by Direct Calls

	Land Use Type	Calls To Direct Land Use	% to Direct Land Use	Undefined Calls to Land Uses	Adjusted
9					
10	Residential				
11	Single Family	658	37%	199	856
12	Multi-Family	199	11%	60	259
13	Non-Residential				
14	Office	22	1%	7	28
15	Industrial	8	0%	2	10
16	Distribution Facility	11	1%	3	14
17	Commercial/Institutional	184	10%	56	240
18	Public Land Uses				
19	Undefined Calls	-	0%	-	
20	Indirect Local Roads	136	8%	41	177
21	Indirect Highways	188	11%	57	245
22	Indirect Public Areas	132	8%	40	172
23	Mutual Aid	218	12%	66	284
24	Total	1,755	100%	531	2,286

26

APPENDIX E: ALLOCATION OF CALLS TO PUBLIC/PRIVATE LAND USES

27 Traffic Calls Allocated to Land Use

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Land Use Type	Units of Land Use Type	ITE Code	ITE Trip Generation Rate per Unit ADT (Divided by 2)	Total ADT Peak Day Trips	% of Trips Generated	Annual Traffic Related Fire Incidents per Unit of Development (Percentage X Total Calls)				
Residential										
Single Family (per unit)	7,604	210	4.760	36,193	47%	199.08				
Multi-Family (per unit)	1,964	220	3.325	6,530	9%	35.92				
Non-Residential										
Office (per 1,000 Sf)	276	710	5.515	1,523	2%	8.38				
Industrial (per 1,000 Sf)	643	110	3.485	2,239	3%	12.32				
Distribution Facility (per 1,000 Sf)	1,522	150	1.78	2,709	4%	14.90				
Commercial/Institutional (per 1,000 Sf)	1,289	820	21.35	27,529	36%	151.43				
Total				76,724	100%	422				
A	B	C	D	E	F	G	H	I	J	K

APPENDIX E: ALLOCATION OF UNDEFINED CALLS TO PUBLIC/PRIVATE LAND USES

	A	B	C	D	E	F	G	H	I	J	K
	% to Land Use	Calls to Land Use	% to Resident	% to Outside District	Calls Allocated to District Resident	Calls Allocated to Outside District	SFR/MFR Only	City-Wide	SFR/MF R Only	City-Wide	
Schools											
Hurricane Elementary	5%	9	85%	15%	7.31	1	100%	0%	7.31	-	
Valley Academy	0%	-	85%	15%	-	-	100%	0%	-	-	
Hurricane Intermediate School	0%	-	85%	15%	-	-	100%	0%	-	-	
LaVerkin Elementary School	0%	-	85%	15%	-	-	100%	0%	-	-	
Three Falls Elementary	0%	-	85%	15%	-	-	100%	0%	-	-	
Liahona Academy 1 (Charter)	0%	-	85%	15%	-	-	100%	0%	-	-	
Ash Creek Ranch	7%	12	85%	15%	10.23	2	100%	0%	10.23	-	
Hurricane High School	8%	14	85%	15%	11.69	2	100%	0%	11.69	-	
Liahona Academy 2	0%	-	85%	15%	-	-	100%	0%	-	-	
Diamond Ranch	7%	12	85%	15%	10.23	2	100%	0%	10.23	-	
Lava Heights	0%	-	85%	15%	-	-	100%	0%	-	-	
Hurricane Middle School	0%	-	85%	15%	-	-	100%	0%	-	-	
School Totals	27%	46			39	7			39	-	
Government											
Virgin Town Office	0%	0	85%	15%	0.37	0	0%	100%	-	0.37	
Leeds Town Hall	0%	0	85%	15%	0.37	0	0%	100%	-	0.37	
Toquerville City Office	0%	0	85%	15%	0.37	0	0%	100%	-	0.37	
Hurricane City Office	0%	0	85%	15%	0.37	0	0%	100%	-	0.37	
Hurricane Valley Library	3%	5	85%	15%	4.38	1	100%	0%	4.38	-	
LaVerkin City Office	0%	0	85%	15%	0.37	0	0%	100%	-	0.37	
Hurricane Leisure and Recreation	7%	12	85%	15%	10.23	2	100%	0%	10.23	-	
Swimming Pool	1%	2	85%	15%	1.46	0	100%	0%	1.46	-	
Washington County Jail	10%	17	10%	90%	1.72	15	0%	100%	-	1.72	
Shooting Facilities	1%	1	20%	80%	0.17	1	100%	0%	0.17	-	
District Fire Stations	0%	0	85%	15%	0.37	0	0%	100%	-	0.37	
Total Government	23%	40			20	19			16	4	
Parks											
City Parks	5%	9	50%	50%	4	4	100%	0%	4.30	-	
State Parks	24%	41	20%	80%	8	33	100%	0%	8.25	-	
National Parks	6%	10	5%	95%	1	10	100%	0%	0.52	-	
Total Parks	35%	60			13	47			13	-	
Other Public Areas											
BLM Recreation/ Forest Service	15%	26	20%	80%	5	21	100%	0%	5.16	-	
Total Other Public Areas	15%	26			5	21			5.16	-	
Total Public Areas		172	45%	55%	78	94			74	4	

APPENDIX E: ALLOCATION OF CALLS TO PUBLIC/PRIVATE LAND USES

	% to Land Use	Calls to Land Use	% to Resident	% to Outside District	Calls Allocated to District Resident	Calls Allocated to Outside District	SFR/MFR Only	City-Wide	SFR/MF R Only	City-Wide
Mutual Aid										
Mutual Aid	100%	284	0%	100%	-	284	100%	0%	-	-
		284			-	284			-	-
Total Public Areas		284			-	284			-	-

	% to Land Use	Calls to Land Use	% to Resident	% to Outside District	Calls Allocated to District Resident	Calls Allocated to Outside District	SFR/MFR Only	City-Wide	SFR/MF R Only	City-Wide
Highways										
Total Highways		245	5%	95%	12	233			-	12.24

	% to Land Use	Calls to Land Use	% to Resident	% to Outside District	Calls Allocated to District Resident	Calls Allocated to Outside District	SFR/MFR Only	City-Wide	SFR/MF R Only	City-Wide
Local Roads										
Local Roads	100%	177	50%	50%	89	89	0%	100%	-	88.57
Total Local Roads		177	50%	50%	89	89			-	89
Total		706					21	12	-	101

Allocation to City Land Uses		
Land Use Type	% to Direct Land Use	Calls to Direct Land Use
Single Family	61%	61
Multi-Family	18%	19
Office	2%	2
Industrial	1%	1
Distribution Facility	1%	1
Commercial/Institutional	17%	17
Total Calls Allocated to City Land	100%	101

Allocation to Residential Land Uses		
Land Use Type	% to Direct Land Use	Calls to Direct Land Use
Single Family	79%	-
Multi-Family	21%	-
Office	0%	-
Industrial	0%	-
Distribution Facility	0%	-
Commercial/Institutional	0%	-
Total Calls Allocated to Reside	100%	-

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APPENDIX F: AVERAGE CALLS PER UNIT

	A	B	C	D	E	F	G	H	I
1	Average Historic Calls per Unit to Development Types								
2	Land Use Type	2014 Calls To Direct Land Use*	Undefined Calls to LU	Calls to Public Areas	Calls to Highways	Calls to Local Roads	2014 Total Calls	2014 Land Use Unit	Calls per Unit
3	Residential								
4	Single Family	658	199	47	43	18	965	7,304	0.132
5	Multi-Family	199	60	14	13	6	292	1,925	0.152
6	Non-Residential								
7	Office	22	7	2	1	1	32	268	0.119
8	Industrial	8	2	1	1	0	12	623	0.019
9	Distribution Facility	11	3	1	1	0	16	1,476	0.011
10	Commercial/Institutional	184	56	13	12	5	270	1,251	0.216
11	Non-Qualifying Calls								
12	Calls Allocated to Outside District Residents	218	66	94	233	89	699		
13	Total	1,299	393	172	303	119	2,286		

Projected Future Calls

0.31

Projected Future Fire / EMS Calls - 10 Year			
Development Type	Future Units	Calls per Unit	Future 10 Year Calls*
Residential			
Single Family (Units)	18,989	0.132	2,509
Multi Family (Units)	4,893	0.152	742
Non-Residential			
Office	784	0.119	93
Industrial	1,825	0.019	34
Distribution Facility	502	0.011	5
Commercial	3,662	0.216	791
Non-Resident Calls			
Development Type	Future District Population	Calls per Capita	Future 2060 Calls*
Calls Allocated to Outside District Residents	66,323	0.030	1,985
Total Undeveloped Future Private Calls			6,160

*Projected Future Calls are based only on future units in addition to existing calls from existing units

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APPENDIX G: EXISTING AND FUTURE STATIONS

1 Summary of Existing Fire Facilities
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Existing Fire / EMS Facilities			
	Acres	SF of Space	Qualifying Cost
Land Associated with the Fire / EMS Station 41	0.62		\$ -
Existing Fire / EMS Station: 41 Mayflower Hurricane		8,806	450,000
Land Associated with the Fire / EMS Station 42	1.50		-
Existing Fire / EMS Station: 42 Hurricane		7,940	648,027
Land Associated with the Fire / EMS Station 43	0.50		-
Existing Fire / EMS Station: 43 LaVerkin		4,050	67,000
Land Associated with the Fire / EMS Station 44	0.59		-
Existing Fire / EMS Station 44: Virgin		1,823	-
Land Associated with the Fire Storage Toquerville 45	0.43		-
Existing Fire Storage Shed: Toquerville 45		500	-
Land Associated with Leeds Station 47	0.59		15,950
Existing Fire / EMS Station 47: Leeds		4,800	131,136
Total	4.23	27,919	\$ 1,312,113

Assumptions
Current Year 2016
Inflation Rate 3.50%

Projection of Future Fire Facilities

Project	Year	Floorspace (SF)	Cost per SF	Land (Acres)	PV Project Expense \$	Construction Year Expense*	% to Growth	Expansionary Cost
Future Fire / EMS Facilities Within 10 Years		Construction Type						
Station 46 Coral Canyon Land (District Purchase)	New	2016	-	1.47	\$294,000	\$294,000	100%	\$294,000
Station 46 Coral Canyon Fire Station	New	2016	8,995 \$ 223.00	-	\$2,005,885	\$2,005,885	100%	\$2,005,885
Station 48 Dixie Springs Land (Owned by City)	New	2018	-	1.50	\$0	\$0	100%	\$0
Station 48 Dixie Springs Fire Station	New	2018	15,000 \$ 223.00	-	\$3,345,000	\$3,583,248	100%	\$3,583,247.63
Station 44 Virgin Rebuild Land (Owned by City)	Relocation	2021	-	0.90	\$0	\$0	72%	\$0
Station 44 Virgin Rebuild Fire Station	Relocation	2021	6,500 \$ 223.00	-	\$1,449,500	\$1,721,551	72%	\$1,238,722
Station 49 Industrial (Owned by City)	New	2024	-	1.50	\$0	\$0	100%	\$0
Station 49 Industrial Fire Station	New	2024	9,100 \$ 223.00	-	\$2,029,300	\$2,672,201	100%	\$2,672,201
Station 11 Copper Hills/ Hurricane Airport	New	2021	-	1.50	\$300,000	\$356,306	100%	\$356,306
Station 11 Copper Hills/ Hurricane Airport	New	2021	9,100 \$ 223.00	-	\$2,029,300	\$2,410,172	100%	\$2,410,172
Station 43 LaVerkin Expansion Land (Owned by City)	Existing Land	2016	-	0.50	\$0	\$0	100%	\$0
Station 43 LaVerkin Expansion Fire Station on Current Site	Expansion	2016	1,400 \$ 47.86	-	\$67,004	\$67,004	100%	\$67,004
Within 10 Years			50,095	7.37	\$11,519,989	\$13,110,366		\$12,627,537
Future Fire / EMS Facilities Beyond 10								
Station 45 Toquerville Rebuild Land (District Purchase)	Relocation	2030	-	1.50	\$300,000	\$485,608	95%	\$458,927
Station 45 Toquerville Rebuild Fire Station	Relocation	2030	9,100 \$ 223.00	-	\$2,029,300	\$3,284,817	95%	\$3,104,332
Kolob Station Land (Owned by WCWCD)	New	2030	-	1.50	\$0	\$0	100%	\$0
Kolob Fire Station (50% grant Funding)	New	2030	4,500	-	\$200,000	\$323,739	100%	\$323,739
Beyond 10 Years			13,600	3.00	\$2,529,300	\$4,094,164		\$3,886,998
Total Future Fire / EMS Facilities			63,695	10.37	\$14,049,289	\$17,204,530		\$16,514,535

Total SF Minus Rebuild 89,291

Recommended Financing of Future Fire/EMS Capital Facilities to be Built within 10 Years

Project	Construction Year Expense	Future Bond Financing Costs	Total	State or Federal	Other Non Impact Fee Qualifying	HVFSSD	Impact Fee Qualifying
Future Fire / EMS Facilities Within 10 Years		Sources of Funding					
Station 46 Coral Canyon Land (District Purchase)	\$294,000		\$294,000	-	-	\$294,000	\$294,000
Station 46 Coral Canyon Fire Station	\$2,005,885	\$1,142,610	\$3,148,495	-	-	\$3,148,495	\$3,148,495
Station 48 Dixie Springs Land (Owned by City)	\$0		\$0	-	-	\$0	\$0
Station 48 Dixie Springs Fire Station	\$3,583,248	\$1,780,199	\$5,363,447	-	-	\$5,363,447	\$5,363,447
Station 44 Virgin Rebuild Land (Owned by City)	\$0		\$0	-	-	\$0	\$0
Station 44 Virgin Rebuild Fire Station	\$1,238,722	\$855,287	\$2,094,009	-	-	\$2,094,009	\$1,506,720.07
Station 49 Industrial (Owned by City)	\$0		\$0	-	-	\$0	\$0
Station 49 Industrial Fire Station	\$2,672,201	\$1,327,580	\$3,999,781	-	-	\$3,999,781	\$3,999,781
Station 11 Copper Hills/ Hurricane Airport	\$356,306		\$356,306	-	-	\$356,306	\$356,306
Station 11 Copper Hills/ Hurricane Airport	\$2,410,172	\$1,374,418	\$3,784,590	-	-	\$3,784,590	\$3,784,590
Station 43 LaVerkin Expansion Land (Owned by City)	\$0		\$0	-	-	\$0	\$0
Station 43 LaVerkin Expansion Fire Station on Current Site	\$0	\$0	\$0	-	-	\$0	\$0
Future Fire / EMS Facilities within 10 Years	\$12,560,533	\$6,480,094	\$19,040,627	-	-	\$19,040,627	\$18,453,338

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