

## FIRST-DUE AND GEOGRAPHIC PLANNING ZONE ANALYSIS

### First-due Station Area Analysis

Taking a more granular approach, each of GFES 7 stations received a comprehensive analysis, including eight pages of maps and data to highlight the planning zones, risk, and past performance on all types of emergency incidents. Below is a master legend to assist in navigating a large amount of analysis on the following pages:

#### Core Competency 2C.7

The agency has identified the total response time components for delivery of services in each service program area and assessed those services in each planning zone.

**First-due Station Area** - This page contains a basic overview of the city and contains a map which shows the fire city in relation to the organization's boundaries, units based out of the station with full or cross staffing, and an overall station risk rating based upon risk, demand, and call concurrency.

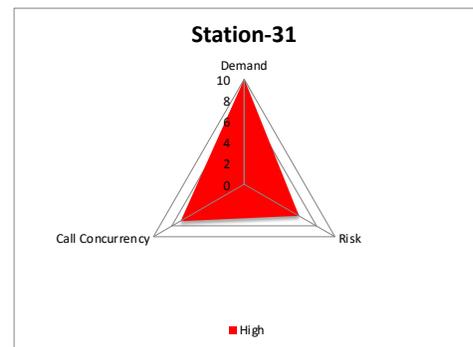
**Response Data** - This heat map of incidents shows the historical incident volume across the first-due station area. Five distinct heat maps show relative frequency and geospatial intensity of the incidents for all calls, fire, EMS, hazmat, and other (which includes technical rescue).

**Historical Data Analysis** – four-years of data for GFES was evaluated by station, including number of incidents, number of unit responses, and baseline response times.

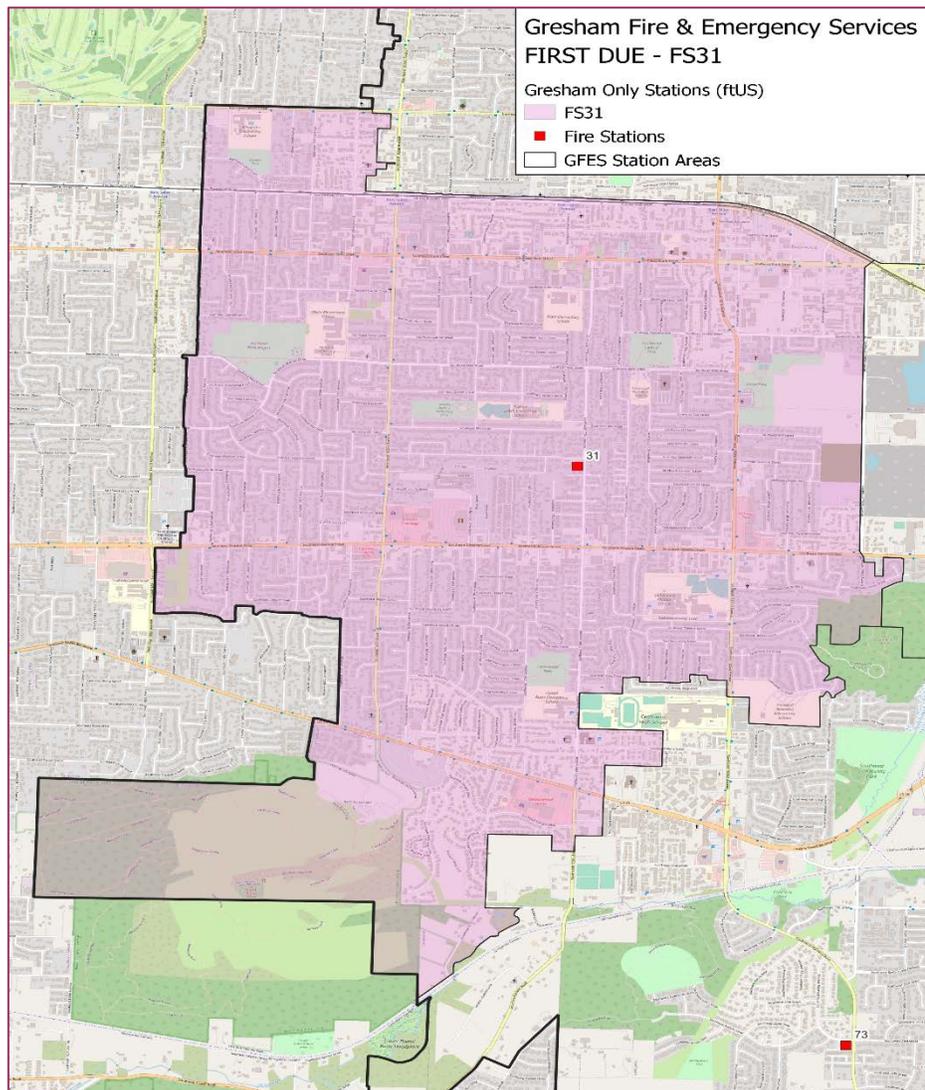
**3D Risk Assessment** - Risk for each first-due station area was evaluated by incident type (fire, EMS, hazmat, and technical rescue) and by demand, call concurrency, and risk; providing a comprehensive and visual way to ascertain the risk of certain incident types within the first-due station areas. The 3D model graphically shows the event probability, the consequences to the community, and the impact on the City.

**GFES Station 31**

Apparatus	Minimum Staffing
Engine 31	4 personnel – “B” Shift only
Rescue 31	2 personnel- “B” Shift only
Water Tender	0 personnel- Cross staffed
<b>Total Minimum Staffing</b>	<b>6 personnel – “B shift only”</b>



Through a unique Intergovernmental Agreement also provides service from Portland Fire Station 31, which is staffed jointly by the cities of Portland and Gresham. The station is staffed for one 24-shift by GFES fire staff.



## Station – Current Deployment and Performance

### Station 31 First-due Area Historical Data Analysis

Incidents for FDA-31 between 2018—2021 by program area.

*Figure 19: Number of Incidents Dispatched by Call Category and Reporting Period – First-due Station 31*

Call Category	Reporting Period <sup>1</sup>			
	2018	2019	2020	2021
<b>EMS</b>	<b>1,944</b>	<b>2,022</b>	<b>1,698</b>	<b>1,801</b>
Cardiac and Stroke	250	263	229	225
Seizure and Unconsciousness	185	171	182	179
Breathing Difficulty	228	244	228	229
Overdose and Psychiatric	226	232	169	127
MVA	102	87	89	84
Fall and Injury	383	423	387	322
Illness and Other	570	602	414	628
Interfacility Transfer	0	0	0	7
<b>Fire</b>	<b>288</b>	<b>333</b>	<b>313</b>	<b>321</b>
Structure Fire	16	12	14	11
Outside Fire	27	13	9	4
Vehicle Fire	4	5	9	8
Alarm	92	62	62	83
Hazardous Condition	55	70	63	52
Fire Other	18	33	40	36
Assist Citizen	73	135	109	120
Assist Police	3	3	7	7
<b>Hazmat</b>	<b>7</b>	<b>6</b>	<b>8</b>	<b>14</b>
Hazmat	7	6	8	14
<b>Rescue</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>
Rescue	1	0	0	0
<b>Total</b>	<b>2,240</b>	<b>2,361</b>	<b>2,019</b>	<b>2,136</b>
<b>Average Calls per Day<sup>2</sup></b>	<b>6.1</b>	<b>6.5</b>	<b>5.5</b>	<b>5.9</b>
<b>YoY Growth</b>	<b>N/A</b>	<b>5.40%</b>	<b>-14.72%</b>	<b>6.08%</b>

Responses for FDA 31 between 2018—2021 by apparatus assignment and the jurisdictions within GFES, outside GFES, and all combined responses.

## Station – Current Deployment and Performance

### Station 31 First-due Area Historical Data Analysis continued:

Assigned Station	Unit ID	Reporting Period <sup>1</sup>			
		2018	2019	2020	2021
31	E31	1,618	1,477	1,350	1,508
	R31	1,164	1,321	1,098	1,070
	<b>Total</b>	<b>2,782</b>	<b>2,798</b>	<b>2,448</b>	<b>2,578</b>
	<b>Average Responses per Day<sup>2</sup></b>	<b>7.6</b>	<b>7.7</b>	<b>6.7</b>	<b>7.1</b>

Figure 20: Call Concurrency – First-due Station 31

First-due Station	Reporting Period	Number of Overlapped Calls	Total Number of Calls	Percentage of Overlapped Calls
31	2018	491	2,240	21.9
	2019	493	2,361	20.9
	2020	389	2,019	19.3
	2021	427	2,136	20.0
	<b>All</b>	<b>1,800</b>	<b>8,756</b>	<b>20.6</b>

Call concurrency within FDA 31 was calculated between 2018 and 2021. The call concurrency has remained below 23% over the four-year rating period

Figure 21: Baseline 90th Percentile Performance of 1<sup>st</sup> Arriving Primary Front-Line Units for Emergency Incidents – Arrivals in First-due Station 31

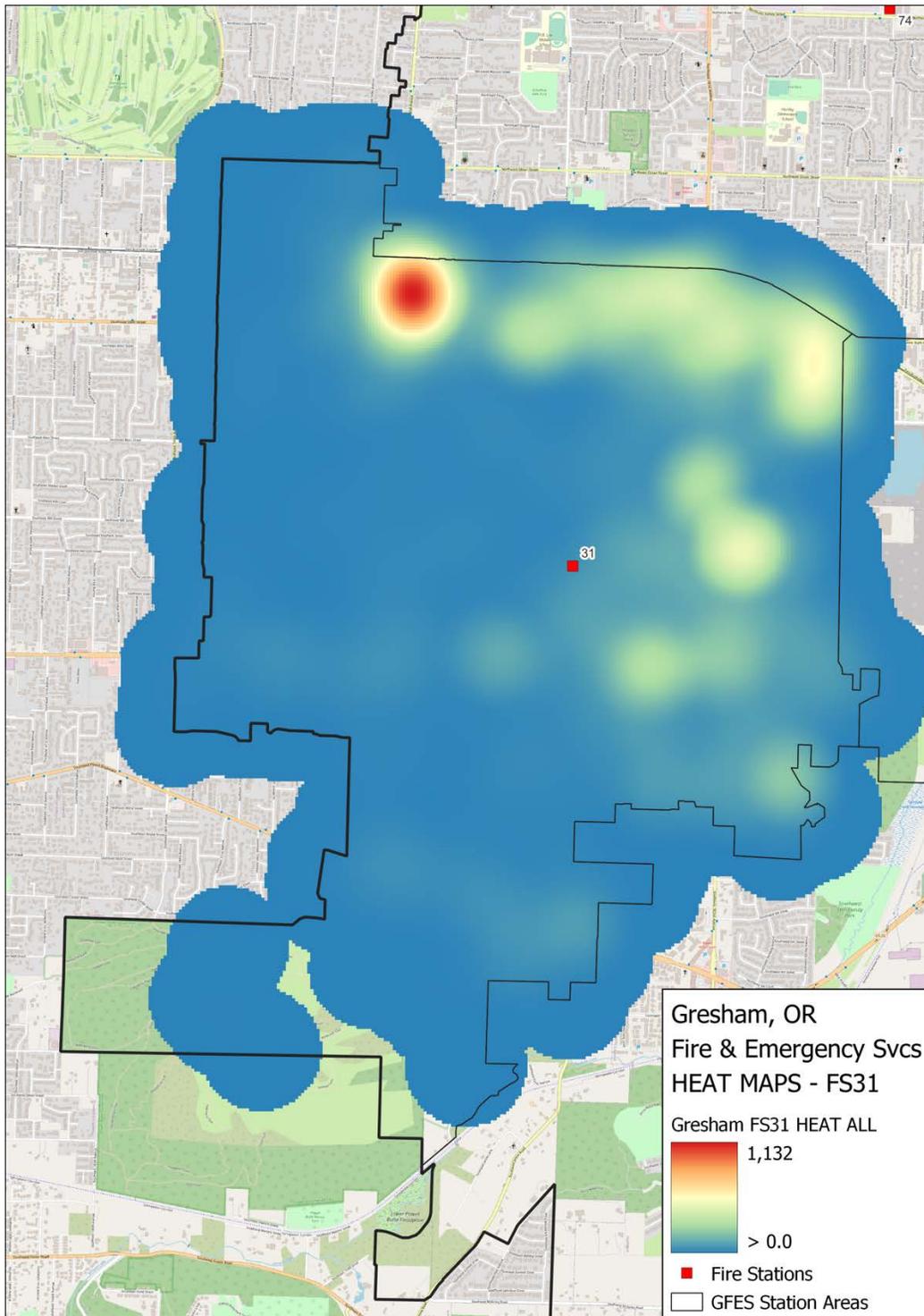
First-due Station 31: 1 <sup>st</sup> Arriving Baseline Performance		2018-2021	2018	2019	2020	2021	2018-2021 Benchmark	2018-2021 Compliance
<b>Alarm Handling</b>		2:24	2:13	2:13	2:15	2:56	2:11	86.7
<b>Turnout Time</b>		2:31	2:20	2:27	2:27	2:45	2:02	79.4
<b>Travel Time</b>	Urban	5:33	5:21	5:31	5:49	5:39	6:04	93.6
	Rural	9:42	6:12	N/A	9:42	N/A	8:50	50.0
<b>Total Response Time</b>	Urban	9:10	8:40	8:46	9:12	9:58	8:56	88.3
		n = 4,981	n = 1,414	n = 1,373	n = 1,142	n = 1,052		
	Rural	12:34	7:40	N/A	12:34	N/A	11:53	50.0
		n = 2	n = 1	N/A	n = 1	N/A		

Color coding legend:   fill ≥ 90%;   fill ≥ 70% to < 90%;   fill < 70%

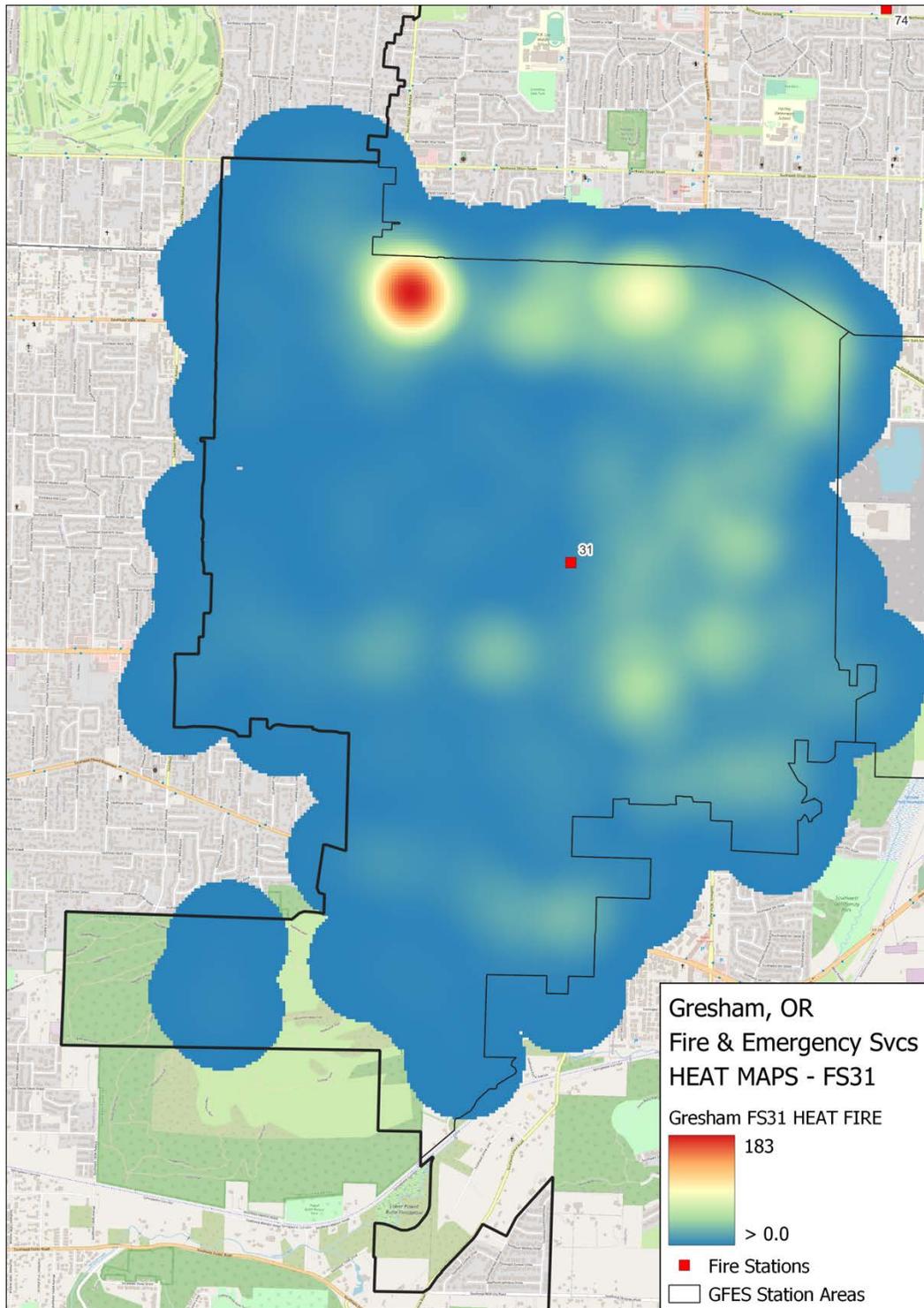
Response time performance for FDA 31 was calculated over the four-year rating period (2018-2021). Analyses were restricted to within FDA 31 and were calculated by the first arriving unit. Benchmark compliance is a 10% improvement over the aggregated GFES performance. Therefore, the benchmark performance is established at the City level and not within each FDA. Finally, a gap analysis between the baseline and benchmark performance was completed utilizing a stoplight approach. If greater than 90% performance (green), between 70% and 89% yellow, and below 70% would be red.

### Overall Hot Spot Map

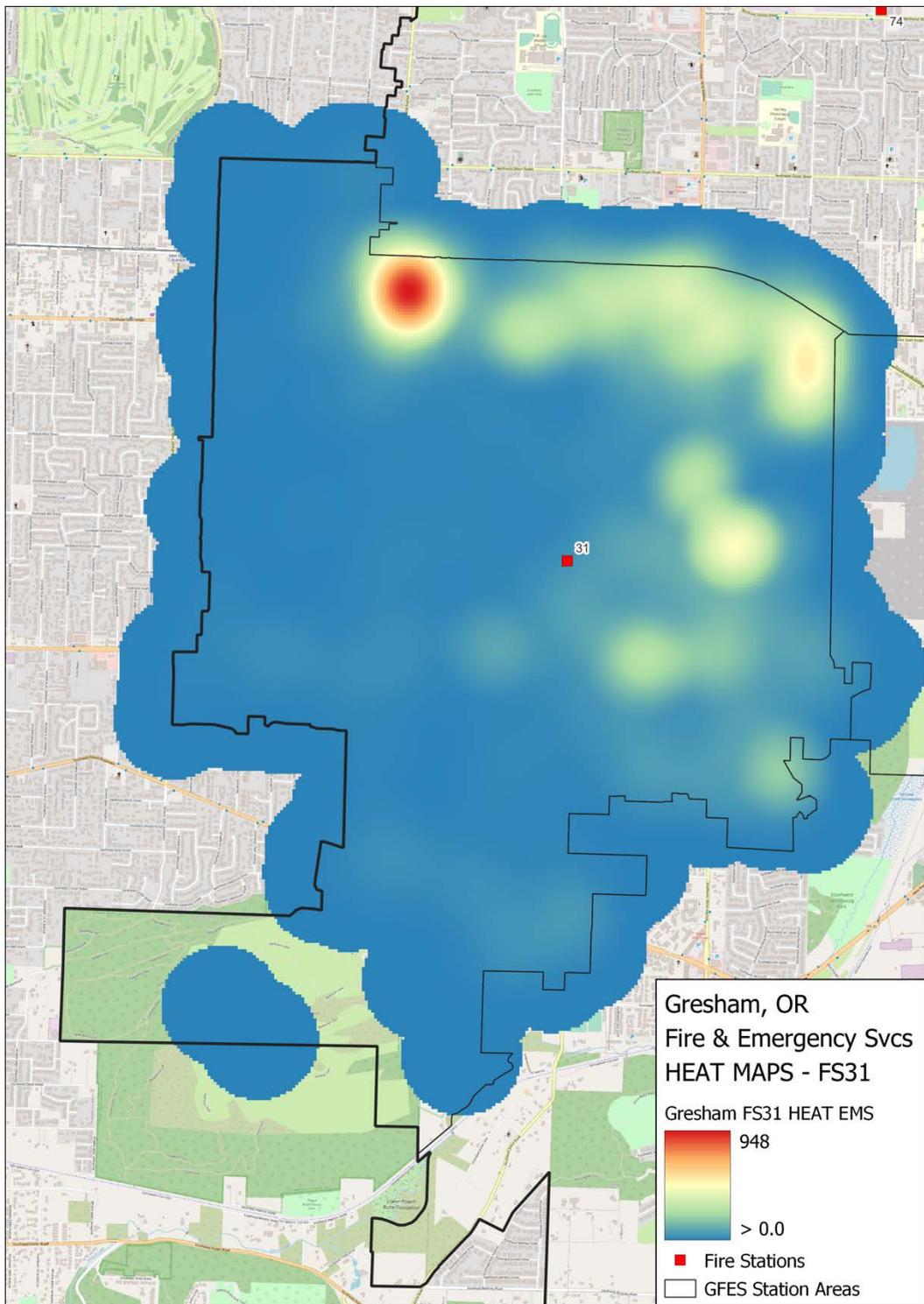
Shows the most call volume in the north and northwest parts of the first-due station area.



Fire Incidents Hot Spot Map



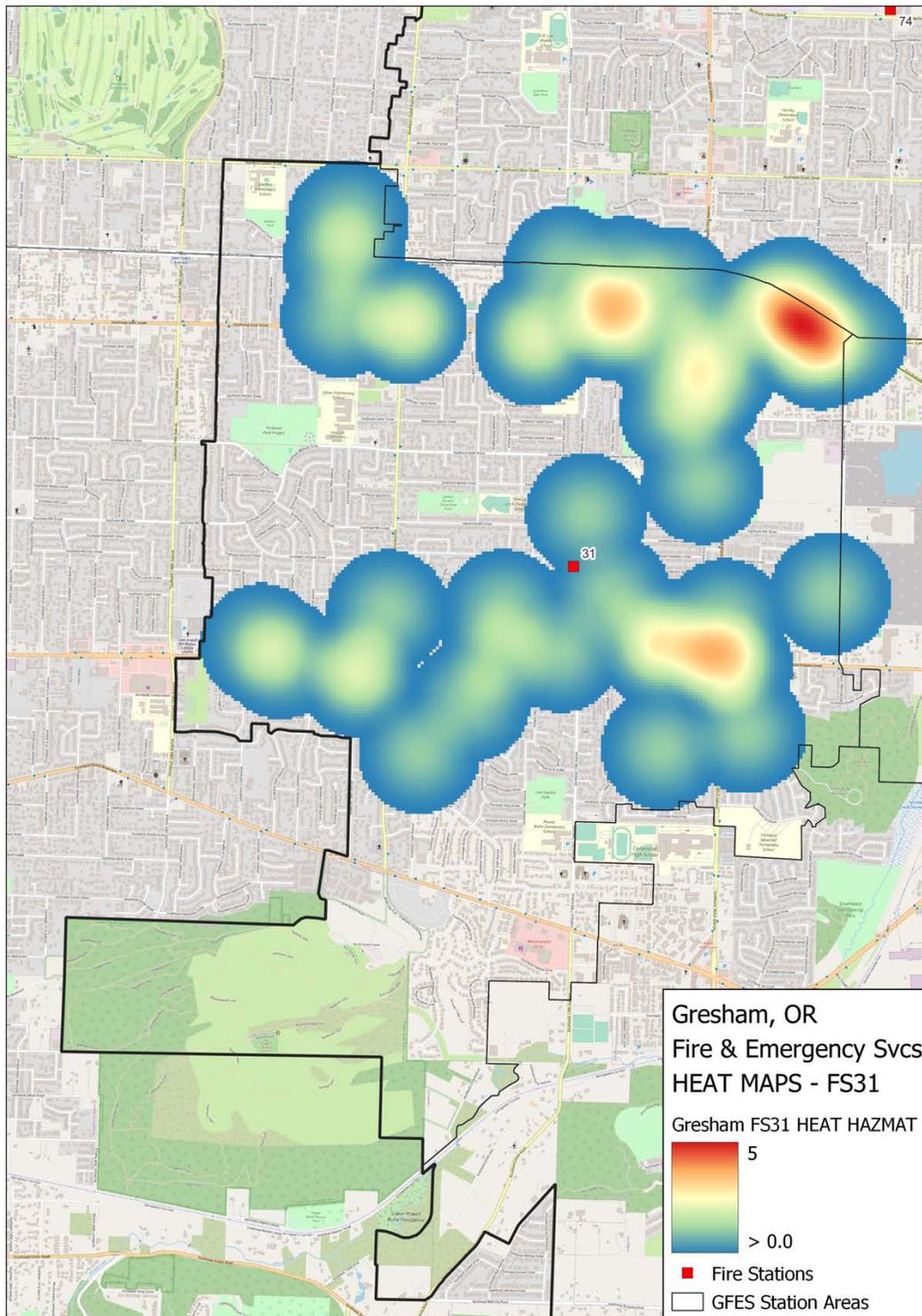
EMS Incidents Hot Spot Map



## Station – Current Deployment and Performance

### Hazardous Materials Incidents Hot Spot Map

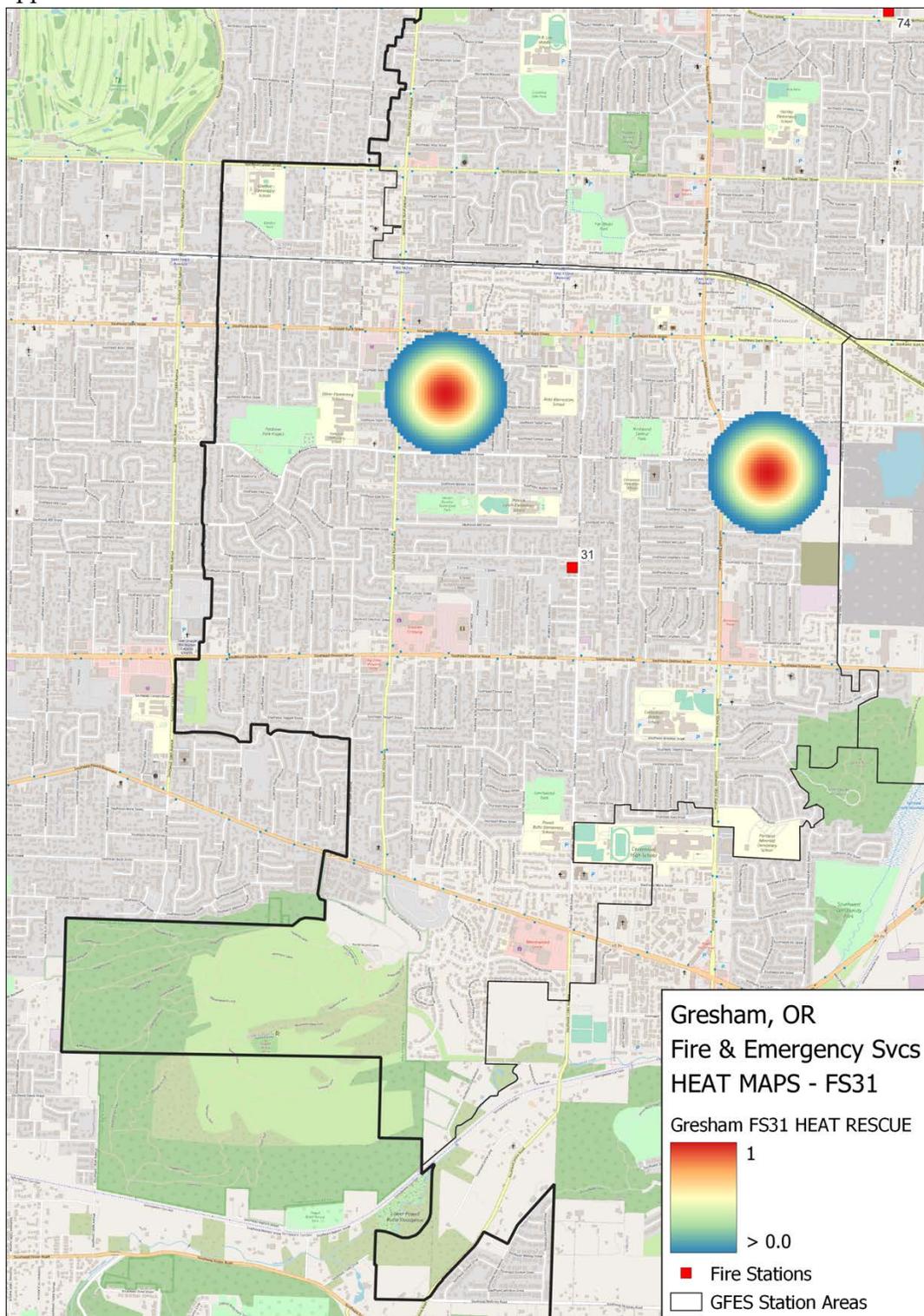
Hazardous materials calls are evenly distributed around 31's FDA. Except for a slight uptick in calls in the N.E. part of Station 31's FDA.



# Station – Current Deployment and Performance

## Rescue Incidents Hot Spot Map

Rescue calls appear to be concentrated on both the East and West of Station 31's FDA.



## Station – Current Deployment and Performance

Figure 22: 2017-2021 90<sup>th</sup> Percentile Performance<sup>1</sup> of 1<sup>st</sup> Arriving Primary Front-Line Units for Emergency Incidents by First-due Station, Program, and Risk Rating – Arrivals in First-due Station 31

First-due Station	Program	Low				Moderate				High				Maximum			
		D	TO	TR	R	D	TO	TR	R	D	TO	TR	R	D	TO	TR	R
		(Minutes)				(Minutes)				(Minutes)				(Minutes)			
31	EMS	2.3	1.8	5.9	8.3	3.1	2.3	5.4	8.9	3.0	2.3	5.8	9.1	1.7	1.6	3.9	6.3
	Fire	2.5	2.3	6.6	10.5	--	--	--	--	--	--	--	--	2.3	1.5	3.7	6.5
	Hazmat	4.5	8.0	8.0	11.2	5.2	2.8	7.7	16.4	--	--	--	--	3.9	2.6	6.2	12.6
	Rescue	--	--	--	--	--	--	--	--	--	--	--	--	0.3	1.3	3.6	5.3
	<b>Total</b>	<b>2.4</b>	<b>1.9</b>	<b>5.9</b>	<b>8.5</b>	<b>3.2</b>	<b>2.5</b>	<b>5.6</b>	<b>9.1</b>	<b>3.0</b>	<b>2.3</b>	<b>5.8</b>	<b>9.1</b>	<b>2.2</b>	<b>1.7</b>	<b>4.1</b>	<b>6.5</b>
All	EMS	2.3	2.2	6.6	9.7	3.1	2.5	6.6	10.7	2.8	2.6	6.8	10.6	2.1	2.3	6.1	9.0
	Fire	2.6	2.2	8.1	11.4	1.1	0.8	3.5	5.4	--	--	--	--	2.3	2.4	5.1	8.1
	Hazmat	2.7	2.2	7.1	10.3	3.6	2.2	8.8	12.9	--	--	--	--	2.8	2.2	6.2	9.4
	Rescue	4.2	2.3	9.3	12.6	--	--	--	--	--	--	--	--	4.2	4.5	13.8	17.7
	<b>Total</b>	<b>2.3</b>	<b>2.2</b>	<b>6.9</b>	<b>9.9</b>	<b>3.2</b>	<b>2.5</b>	<b>6.7</b>	<b>10.8</b>	<b>2.8</b>	<b>2.6</b>	<b>6.8</b>	<b>10.6</b>	<b>2.3</b>	<b>2.4</b>	<b>6.1</b>	<b>9.1</b>

<sup>1</sup>D = Dispatch Time, TO = Turnout Time, TR = Travel Time, R = Response Time

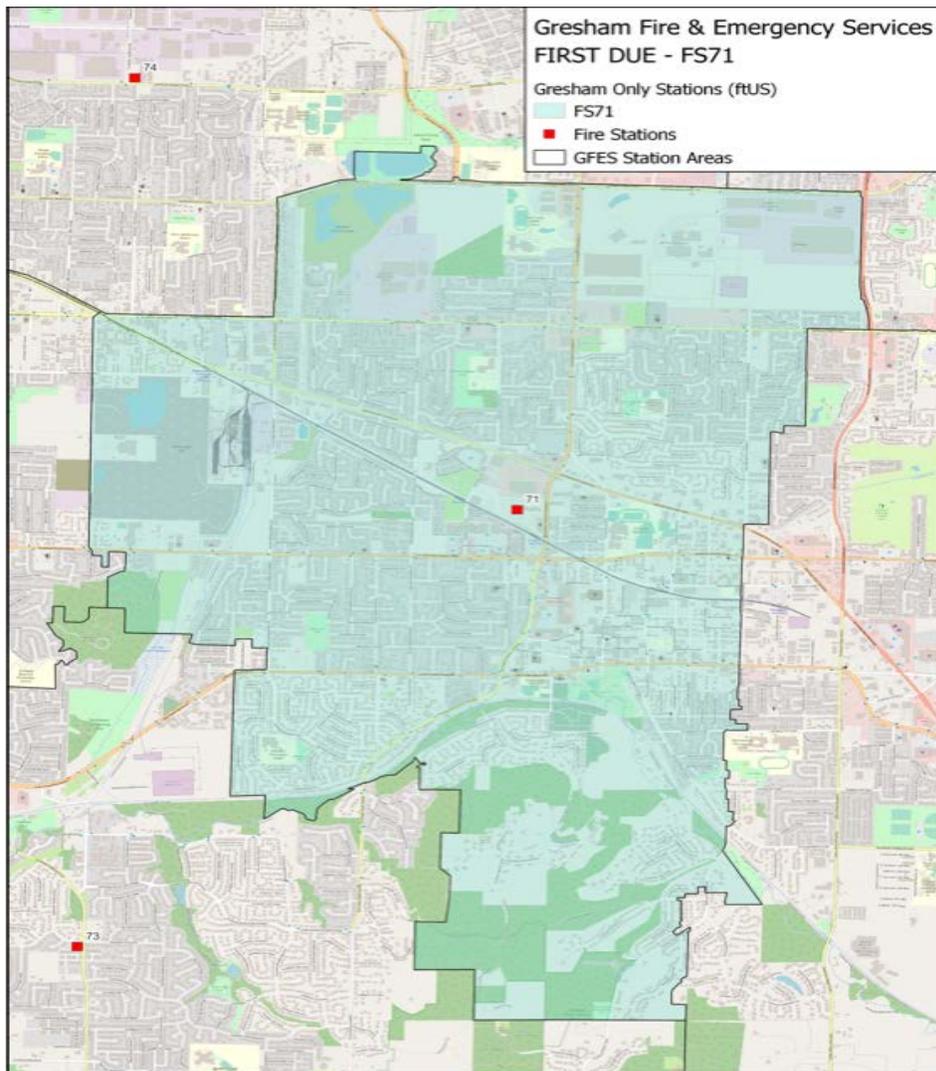
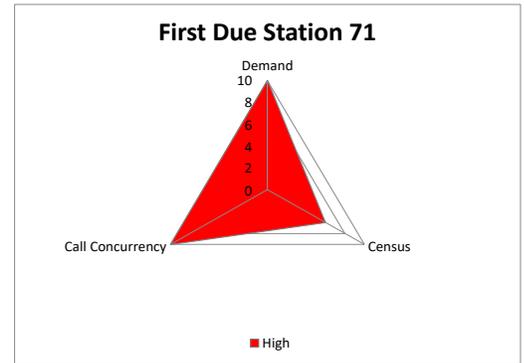
Figure 23: 90<sup>th</sup> Percentile Performance of 1<sup>st</sup> Arriving Primary Front-Line Units for Emergency Incidents by Unit ID and Reporting Period – Units Assigned to Station 31

Unit ID	Reporting Period	Dispatch Time	Turnout Time	Travel Time	Response Time	Sample Size <sup>1</sup>
		(Minutes)	(Minutes)	(Minutes)	(Minutes)	
E31	2018	2.3	2.2	5.4	8.9	646
	2019	2.3	2.4	6.0	9.5	536
	2020	2.5	2.2	5.9	9.9	476
	2021	2.7	2.5	5.7	9.9	331
	<b>All</b>	<b>2.4</b>	<b>2.3</b>	<b>5.8</b>	<b>9.5</b>	<b>1989</b>
R31	2018	2.3	2.5	5.1	8.4	467
	2019	2.2	2.5	5.4	8.5	414
	2020	2.3	2.4	5.5	8.8	335
	2021	3.1	2.9	6.4	10.3	329
	<b>All</b>	<b>2.5</b>	<b>2.5</b>	<b>5.5</b>	<b>9.1</b>	<b>1545</b>

<sup>1</sup>Sample sizes reflect the number of responses made by first arriving primary front-line units to emergency calls; due to missing or excluded time data, sample sizes corresponding to individual table metrics may be smaller.

**GFES Station 71**

Apparatus	Minimum Staffing
<b>Truck 71</b>	4 personnel
<b>Engine 71</b>	3 personnel
<b>Battalion 1</b>	1 personnel
<b>Shift Fire Investigator</b>	1 personnel
<b>Heavy /Technical Rescue/ USAR</b>	0 personnel – Cross staffed
<b>Total Minimum Staffing</b>	<b>9 personnel</b>



## Station – Current Deployment and Performance

Figure 24 Number of Incidents Dispatched by Call Category and Reporting Period – First-due Station 71

Call Category	Reporting Period <sup>1</sup>			
	2018	2019	2020	2021
<b>EMS</b>	<b>3,838</b>	<b>4,117</b>	<b>4,090</b>	<b>4,374</b>
Cardiac and Stroke	634	639	633	587
Seizure and Unconsciousness	355	346	434	433
Breathing Difficulty	411	486	525	461
Overdose and Psychiatric	417	433	439	368
MVA	125	161	169	145
Fall and Injury	792	825	881	910
Illness and Other	1104	1227	1009	1376
Interfacility Transfer				94
<b>Fire</b>	<b>813</b>	<b>782</b>	<b>735</b>	<b>749</b>
Structure Fire	26	30	27	29
Outside Fire	40	29	32	22
Vehicle Fire	17	18	14	18
Alarm	204	226	168	174
Hazardous Condition	160	151	147	128
Fire Other	46	38	52	72
Assist Citizen	283	237	255	283
Assist Police	37	53	40	23
<b>Hazmat</b>	<b>25</b>	<b>23</b>	<b>18</b>	<b>22</b>
Hazmat	25	23	18	22
<b>Rescue</b>	<b>3</b>	<b>6</b>	<b>4</b>	<b>6</b>
Rescue	3	6	4	6
<b>Total</b>	<b>4,679</b>	<b>4,928</b>	<b>4,847</b>	<b>5,151</b>
<b>Average Calls per Day<sup>2</sup></b>	<b>12.8</b>	<b>13.5</b>	<b>13.2</b>	<b>14.1</b>
<b>YoY Growth</b>	<b>N/A</b>	<b>5.32%</b>	<b>-1.91%</b>	<b>6.56%</b>

Figure 25-Number of Responses by Unit ID and Reporting Period Station 71

Assigned Station	Unit ID	Reporting Period <sup>1</sup>			
		2018	2019	2020	2021
71	E71	2,893	3,206	3,213	3,258
	T71	1,760	1,990	1,954	2,119
	C7	436	431	455	531
	I740	31	46	51	643
	R71	548	0	5	0
	C720	0	42	103	0
	HR71	36	22	39	31
	<b>Total</b>	<b>5,704</b>	<b>5,737</b>	<b>5,820</b>	<b>6,582</b>
	<b>Average Responses per Day<sup>2</sup></b>	<b>15.6</b>	<b>15.7</b>	<b>15.9</b>	<b>18.0</b>

<sup>1</sup>Reporting periods reflect calendar years spanning January 1 to December 31 of each respective reporting period.

<sup>2</sup>Reporting period 2020 contained 366 days due to inclusion of leap year date February 29; the other reporting periods each contained 365 days.

## Station – Current Deployment and Performance

### Station 71 First-due Area Historical Data Analysis

Figure 26: Call Concurrency – First-due Station 71

First-due Station	Reporting Period	Number of Overlapped Calls	Total Number of Calls	Percentage of Overlapped Calls
71	2018	1,784	4,679	38.1
	2019	1,893	4,928	38.4
	2020	1,863	4,847	38.4
	2021	2,171	5,151	42.1
	<b>All</b>	<b>7,711</b>	<b>19,605</b>	<b>39.3</b>

Call concurrency within FDA 71 was calculated between 2018 and 2021. The call concurrency remained at 38% for the first three years of the reporting period and accelerated to 42.1 % in 2021.

Response time performance for FDA 71 was calculated over the four-year rating period (2018-2021). Analyses were restricted to within FDA 71 and were calculated by the first arriving unit. Benchmark compliance is a 10% improvement over the aggregated performance. Therefore, the benchmark performance is established at the City/Department level, not within each FDA. Finally, a gap analysis between the baseline and benchmark performance was completed utilizing a stoplight approach. If greater than 90% performance (green), between 70% and 89% yellow, and below 70% would be red.

Figure 27: Baseline 90th Percentile Performance of 1<sup>st</sup> Arriving Primary Front-Line Units for Emergency Incidents

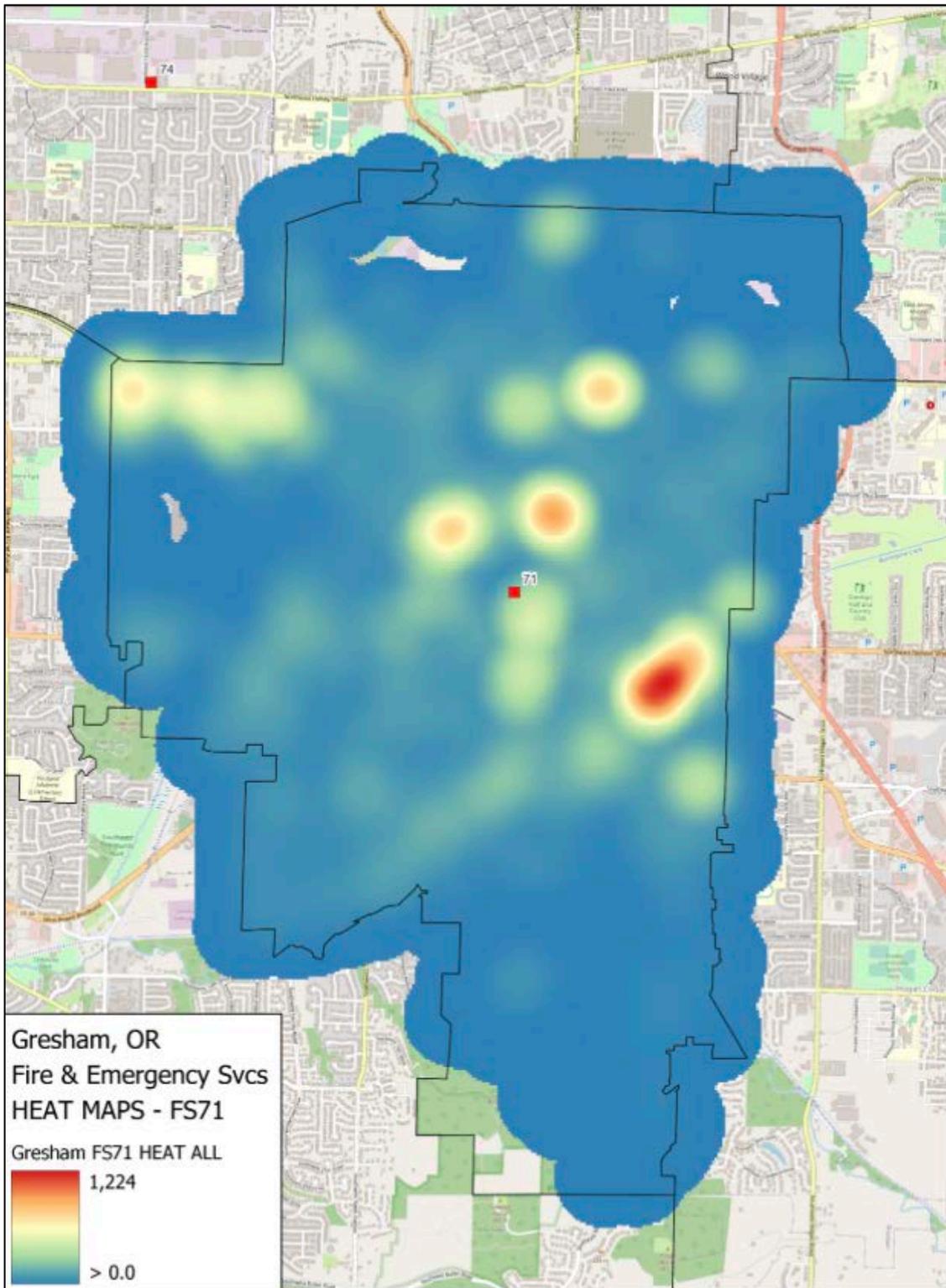
#### Arrivals – First-due Station 71

First-due Station 71:		2018-2021	2018	2019	2020	2021	2018-2021 Benchmark	2018-2021 Compliance
1 <sup>st</sup> Arriving Baseline Performance								
<b>Alarm Handling</b>		2:23	2:07	2:06	2:13	2:48	2:11	87.0
<b>Turnout Time</b>		2:26	2:17	2:15	2:29	2:43	2:02	81.5
<b>Travel Time</b>	Urban	6:17	5:55	6:17	6:41	6:25	6:04	88.4
	Rural	N/A	N/A	N/A	N/A	N/A	8:50	NA
<b>Total Response Time</b>	Urban	9:42	9:02	9:20	9:50	10:16	8:56	84.6
		n = 10,444	n = 2,667	n = 2,689	n = 2,641	n = 2,447		
	Rural	N/A	N/A	N/A	N/A	N/A	11:53	NA
		N/A	N/A	N/A	N/A	N/A		

Color coding legend: green fill ≥ 90%; yellow fill ≥ 70% to < 90%; red fill < 70%

Overall Incidents Hot Spot Map

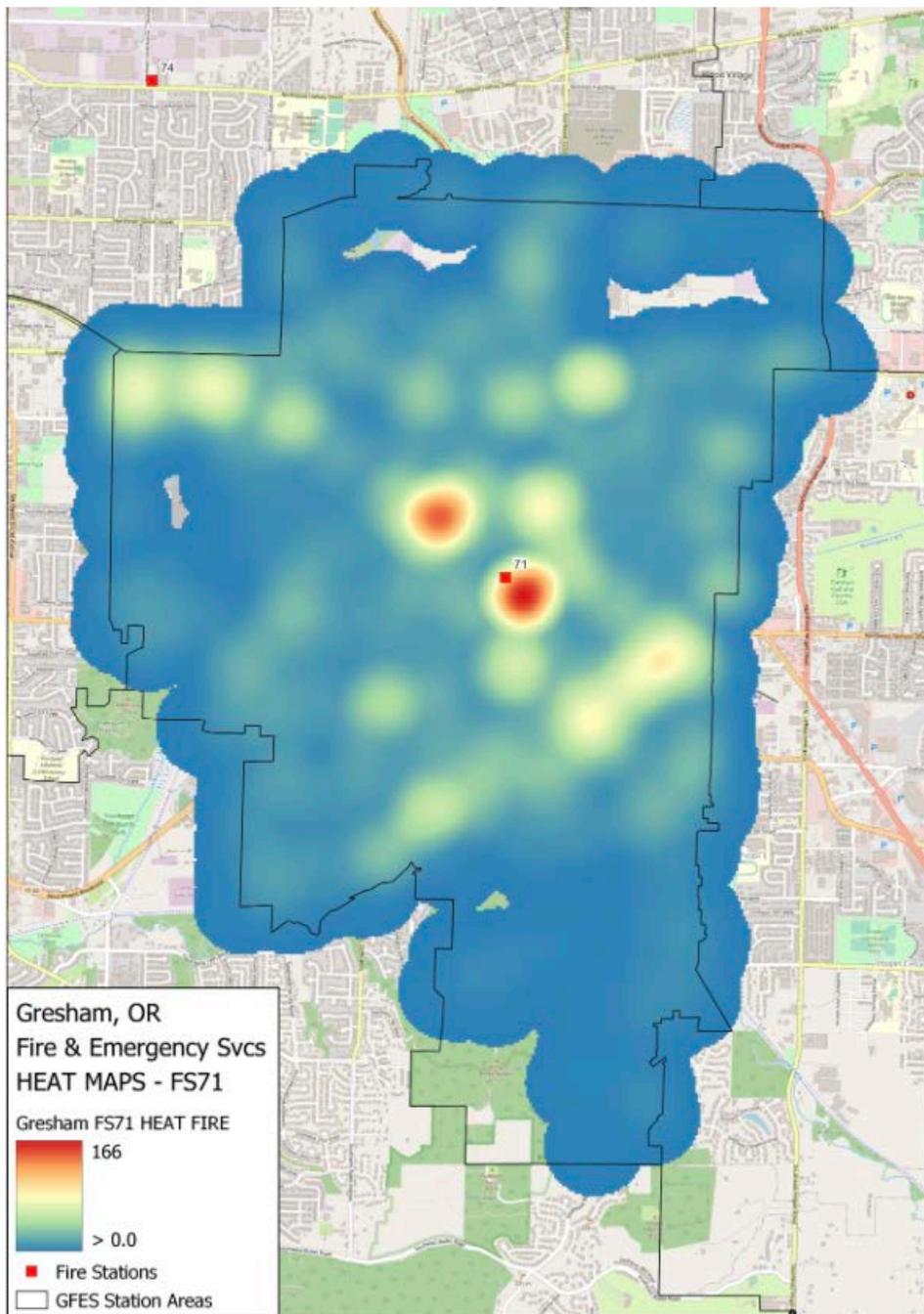
Trends indicate most of the call volume is dispersed across the FDA, with an increase noted in the S.E. part of the response area.



## Station – Current Deployment and Performance

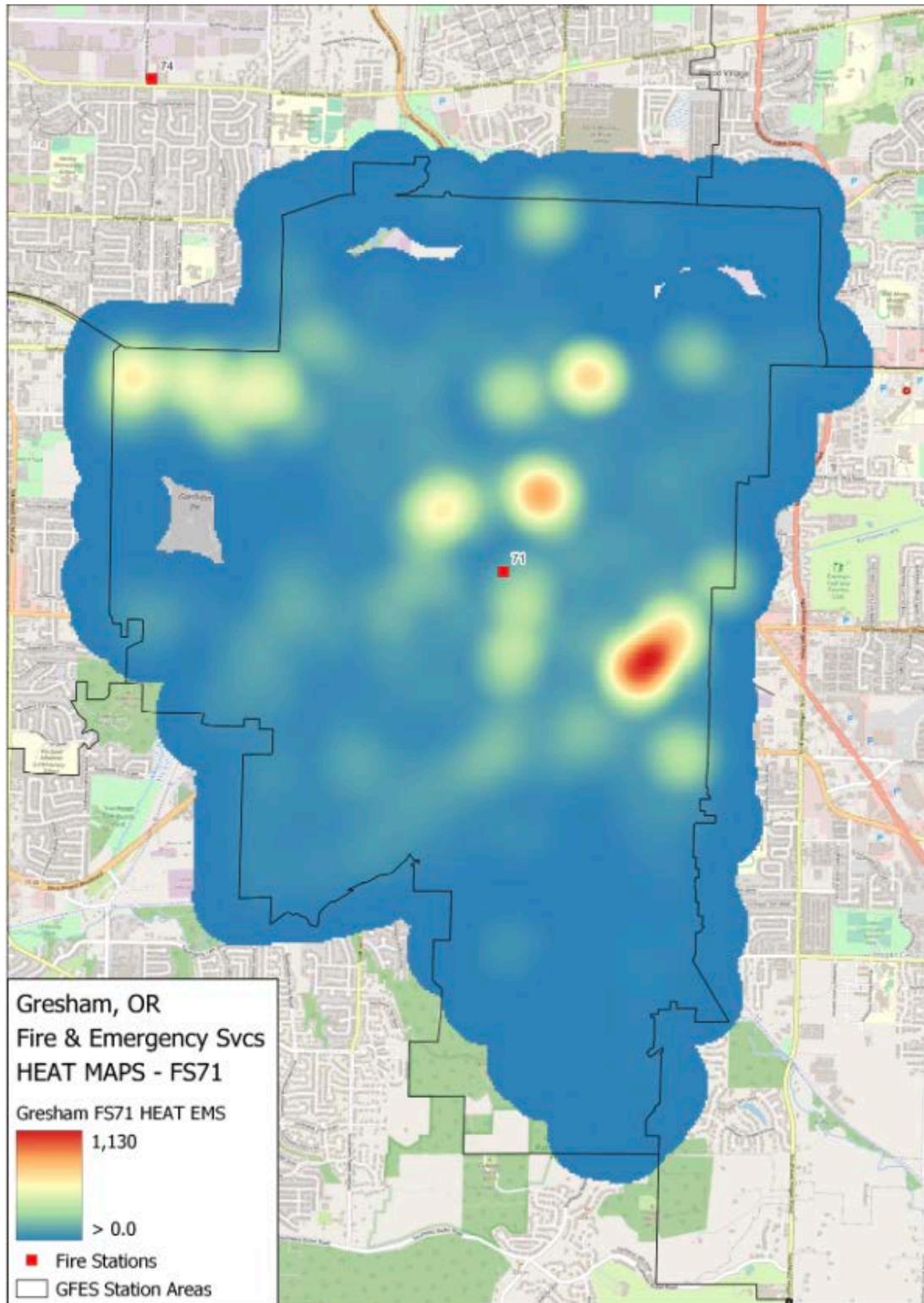
### Fire Incidents Hot Spot Map

Indicates a reasonably even distribution of fire calls with an increase in the area nearest to Station 71's FDA



### Station 71's EMS Incidents Heat Map

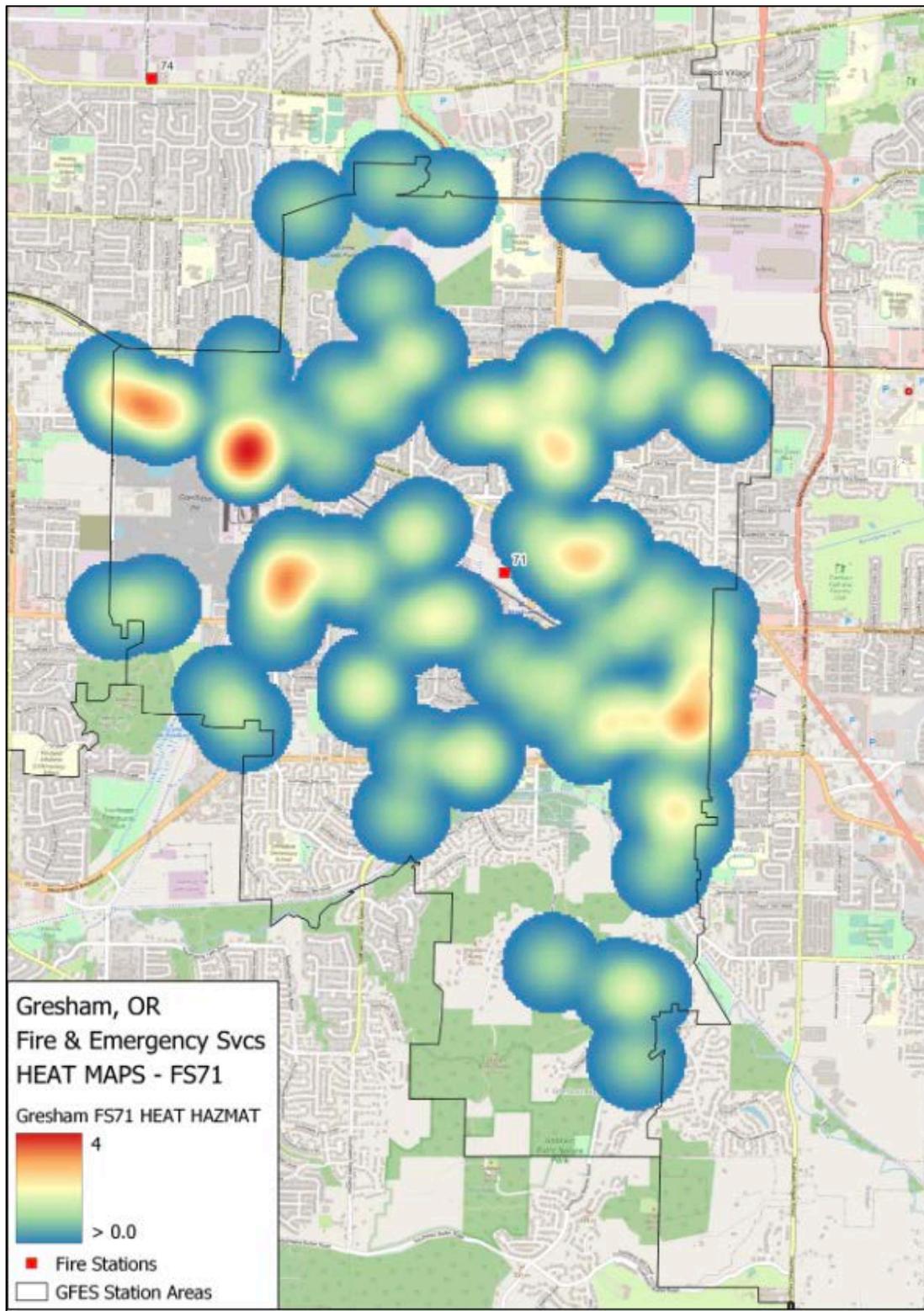
Indicates a reasonably even distribution of EMS calls, with most located Southeast of Station 71's FDA.



## Station – Current Deployment and Performance

### HazMat Incidents Hot Spot Map

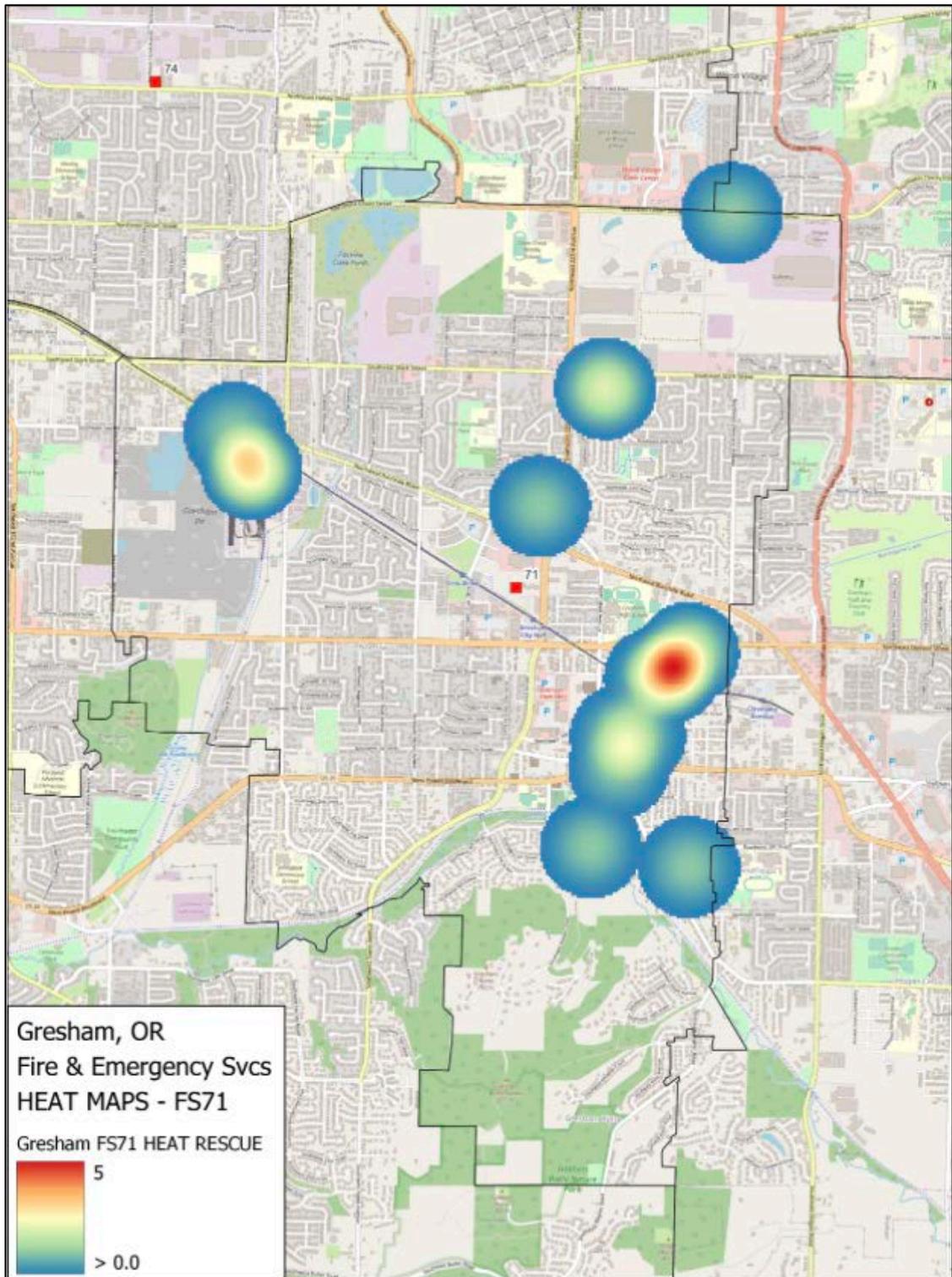
Hazardous materials calls are distributed evenly around Station 71's FDA, except for a notable increase in the N.W. part of the response area.



# Station – Current Deployment and Performance

## Rescue Incident Hotspot Map

Most of the Rescue incidents are in the S.E. part of Station 71's FDA.



## Station – Current Deployment and Performance

Figure 28: 2017-2021 90<sup>th</sup> Percentile Performance<sup>1</sup> of 1<sup>st</sup> Arriving Primary Front-Line Units for Emergency Incidents by First-due Station, Program, and Risk Rating – Arrivals in First-due Station 71

First-due Station	Program	Low				Moderate				High				Maximum			
		D	TO	TR	R	D	TO	TR	R	D	TO	TR	R	D	TO	TR	R
		(Minutes)				(Minutes)				(Minutes)				(Minutes)			
71	EMS	2.3	1.6	5.9	8.2	3.1	1.8	5.9	9.0	2.8	2.1	5.9	8.8	1.6	1.9	5.0	7.0
	Fire	2.5	2.5	7.7	11.2	--	--	--	--	--	--	--	--	2.1	2.4	4.0	6.8
	Hazmat	2.3	2.4	5.3	9.6	3.6	2.1	7.3	12.2	--	--	--	--	2.8	2.3	6.8	9.2
	Rescue	4.2	3.3	33.1	36.0	--	--	--	--	--	--	--	--	1.9	2.3	6.3	8.7
	<b>Total</b>	<b>2.3</b>	<b>1.8</b>	<b>6.1</b>	<b>8.6</b>	<b>3.1</b>	<b>1.8</b>	<b>5.9</b>	<b>9.0</b>	<b>2.8</b>	<b>2.1</b>	<b>5.9</b>	<b>8.8</b>	<b>2.0</b>	<b>2.3</b>	<b>5.0</b>	<b>7.2</b>
All	EMS	2.3	2.2	6.6	9.7	3.1	2.5	6.6	10.7	2.8	2.6	6.8	10.6	2.1	2.3	6.1	9.0
	Fire	2.6	2.2	8.1	11.4	1.1	0.8	3.5	5.4	--	--	--	--	2.3	2.4	5.1	8.1
	Hazmat	2.7	2.2	7.1	10.3	3.6	2.2	8.8	12.9	--	--	--	--	2.8	2.2	6.2	9.4
	Rescue	4.2	2.3	9.3	12.6	--	--	--	--	--	--	--	--	4.2	4.5	13.8	17.7
	<b>Total</b>	<b>2.3</b>	<b>2.2</b>	<b>6.9</b>	<b>9.9</b>	<b>3.2</b>	<b>2.5</b>	<b>6.7</b>	<b>10.8</b>	<b>2.8</b>	<b>2.6</b>	<b>6.8</b>	<b>10.6</b>	<b>2.3</b>	<b>2.4</b>	<b>6.1</b>	<b>9.1</b>

<sup>1</sup>D = Dispatch Time, TO = Turnout Time, TR = Travel Time, R = Response Time

Figure 29: 90<sup>th</sup> Percentile Performance of 1<sup>st</sup> Arriving Primary Front-Line Units for Emergency Incidents by Unit ID and Reporting Period – Units Assigned to Station 71

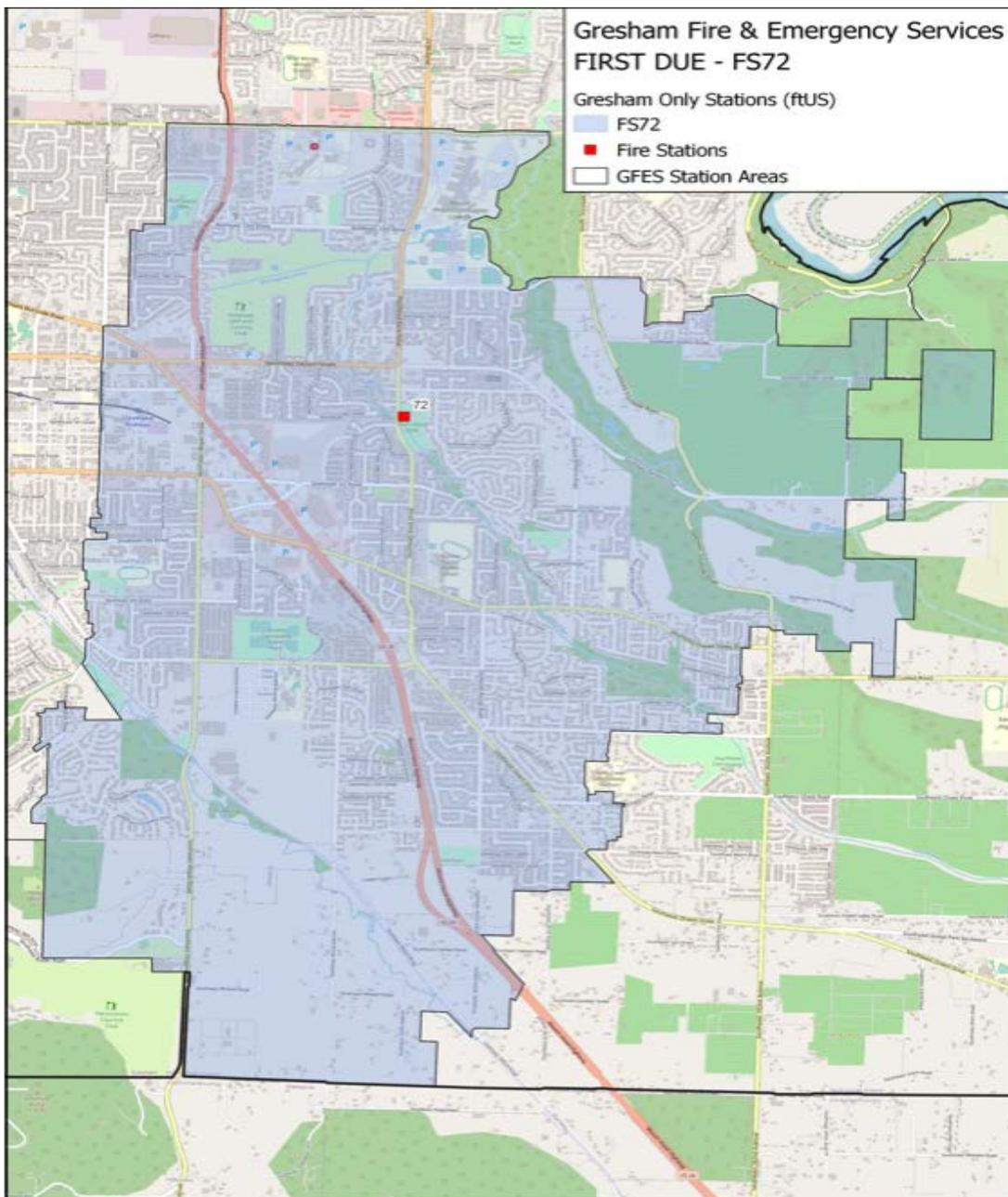
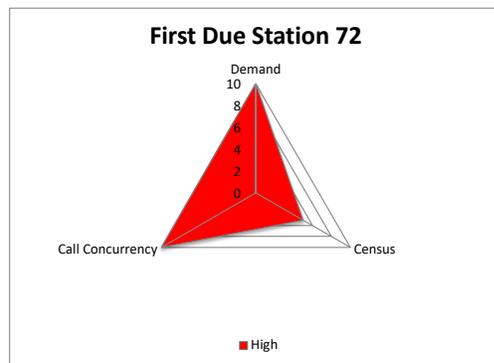
Unit ID	Reporting Period	Dispatch Time	Turnout Time	Travel Time	Response Time	Sample Size <sup>1</sup>
		(Minutes)	(Minutes)	(Minutes)	(Minutes)	
E71	2018	2.3	2.2	6.7	10.0	934
	2019	2.2	2.2	6.8	9.8	1019
	2020	2.3	2.3	6.5	9.7	894
	2021	2.8	2.7	6.6	10.3	722
	<b>All</b>	<b>2.4</b>	<b>2.3</b>	<b>6.7</b>	<b>9.9</b>	<b>3569</b>
T71	2018	2.3	2.2	5.9	8.8	401
	2019	2.1	2.2	6.0	8.7	428
	2020	2.1	2.3	5.8	9.1	359
	2021	2.9	2.6	6.5	10.4	369
	<b>All</b>	<b>2.4</b>	<b>2.3</b>	<b>6.0</b>	<b>9.3</b>	<b>1557</b>
C7	2018	1.8	2.7	5.1	8.0	67
	2019	2.1	3.9	4.9	8.3	56
	2020	2.1	2.6	5.5	8.0	64
	2021	3.3	4.1	5.9	14.6	49
	<b>All</b>	<b>2.4</b>	<b>3.4</b>	<b>5.5</b>	<b>8.6</b>	<b>236</b>
R71	2018	2.0	2.2	5.2	7.8	163
	2019	1.9	0.9	3.1	5.7	2
	<b>All</b>	<b>2.0</b>	<b>2.2</b>	<b>5.2</b>	<b>7.8</b>	<b>165</b>
C720	2018	2.0	1.7	2.8	4.7	2
	2019	2.5	5.0	9.9	14.1	27
	<b>All</b>	<b>2.5</b>	<b>5.0</b>	<b>9.9</b>	<b>14.1</b>	<b>29</b>

<sup>1</sup>Sample sizes reflect the number of responses made by first arriving primary front-line units to emergency calls; due to missing or excluded time data, sample sizes corresponding to individual table metrics may be smaller.

Station – Current Deployment and Performance

**GFES Station 72**

Apparatus	Minimum Staffing
Engine 72	3 personnel
Haz MAT 3	0 personnel - Cross staffed
<b>Total Minimum Staffing</b>	<b>3 personnel</b>



## Station – Current Deployment and Performance

### Station 72 First-due Area Historical Data Analysis

Figure 30: Number of Incidents Dispatched by Call Category and Reporting Period – First-due Station 72

Call Category	Reporting Period <sup>1</sup>			
	2018	2019	2020	2021
<b>EMS</b>	<b>3,831</b>	<b>4,131</b>	<b>4,087</b>	<b>4,789</b>
Cardiac and Stroke	597	641	596	699
Seizure and Unconsciousness	312	355	427	484
Breathing Difficulty	441	424	440	481
Overdose and Psychiatric	365	365	438	346
MVA	185	180	175	131
Fall and Injury	803	849	888	932
Illness and Other	1128	1317	1123	1395
Interfacility Transfer	0	0	0	321
<b>Fire</b>	<b>684</b>	<b>675</b>	<b>758</b>	<b>810</b>
Structure Fire	22	29	27	34
Outside Fire	36	23	28	17
Vehicle Fire	14	15	19	14
Alarm	181	212	202	189
Hazardous Condition	133	124	122	114
Fire Other	46	28	50	78
Assist Citizen	246	239	303	356
Assist Police	6	5	7	8
<b>Hazmat</b>	<b>17</b>	<b>29</b>	<b>17</b>	<b>26</b>
Hazmat	17	29	17	26
<b>Rescue</b>	<b>0</b>	<b>4</b>	<b>1</b>	<b>0</b>
Rescue	0	4	1	0
<b>Total</b>	<b>4,532</b>	<b>4,839</b>	<b>4,863</b>	<b>5,625</b>
<b>Average Calls per Day<sup>2</sup></b>	<b>12.4</b>	<b>13.3</b>	<b>13.3</b>	<b>15.4</b>
<b>YoY Growth</b>	<b>N/A</b>	<b>6.77%</b>	<b>0.22%</b>	<b>15.99%</b>

Figure 31: Number of Responses by Unit ID and Reporting Period- Units Assigned to Station 72

Assigned Station	Unit ID	Reporting Period <sup>1</sup>			
		2018	2019	2020	2021
72	E72	2,824	3,010	3,097	3,331
	HM3	11	14	14	8
	<b>Total</b>	<b>2,835</b>	<b>3,024</b>	<b>3,111</b>	<b>3,339</b>
	<b>Average Responses per Day<sup>2</sup></b>	<b>7.8</b>	<b>8.3</b>	<b>8.5</b>	<b>9.1</b>

<sup>1</sup>Reporting periods reflect calendar years spanning January 1 to December 31 of each respective reporting period.

<sup>2</sup>Reporting period 2020 contained 366 days due to inclusion of leap year date February 29; the other reporting periods each contained 365 days.

## Station – Current Deployment and Performance

### Station 72 First-due Area Historical Data Analysis

Call concurrency within FDA 72 was calculated between 2018 and 2021. The call concurrency has increased each year over the four-year rating period.

Figure 32: Call Concurrency – First-due Zone 72

First-due Station	Reporting Period	Number of Overlapped Calls	Total Number of Calls	Percentage of Overlapped Calls
72	2018	1,687	4,532	37.2
	2019	1,882	4,839	38.9
	2020	1,950	4,863	40.1
	2021	2,599	5,625	46.2
	<b>All</b>	<b>8,118</b>	<b>19,859</b>	<b>40.9</b>

Response time performance for FDA 72 was calculated over the three-year rating period (2018-2021). Analyses were restricted to within FDA 72 and were calculated by the first arriving unit. Benchmark compliance is a 10% improvement over the aggregated performance. Therefore, the benchmark performance is established at the Department level and not within each FDA. Finally, a gap analysis between the baseline and benchmark performance was completed utilizing a stoplight approach. If greater than 90% performance (green), between 70% and 89% yellow, and below 70% would be red.

Figure 33: Baseline 90<sup>th</sup> Percentile Performance of Primary Front-Line Arriving Units for Emergency Incidents – First Due Zone 72

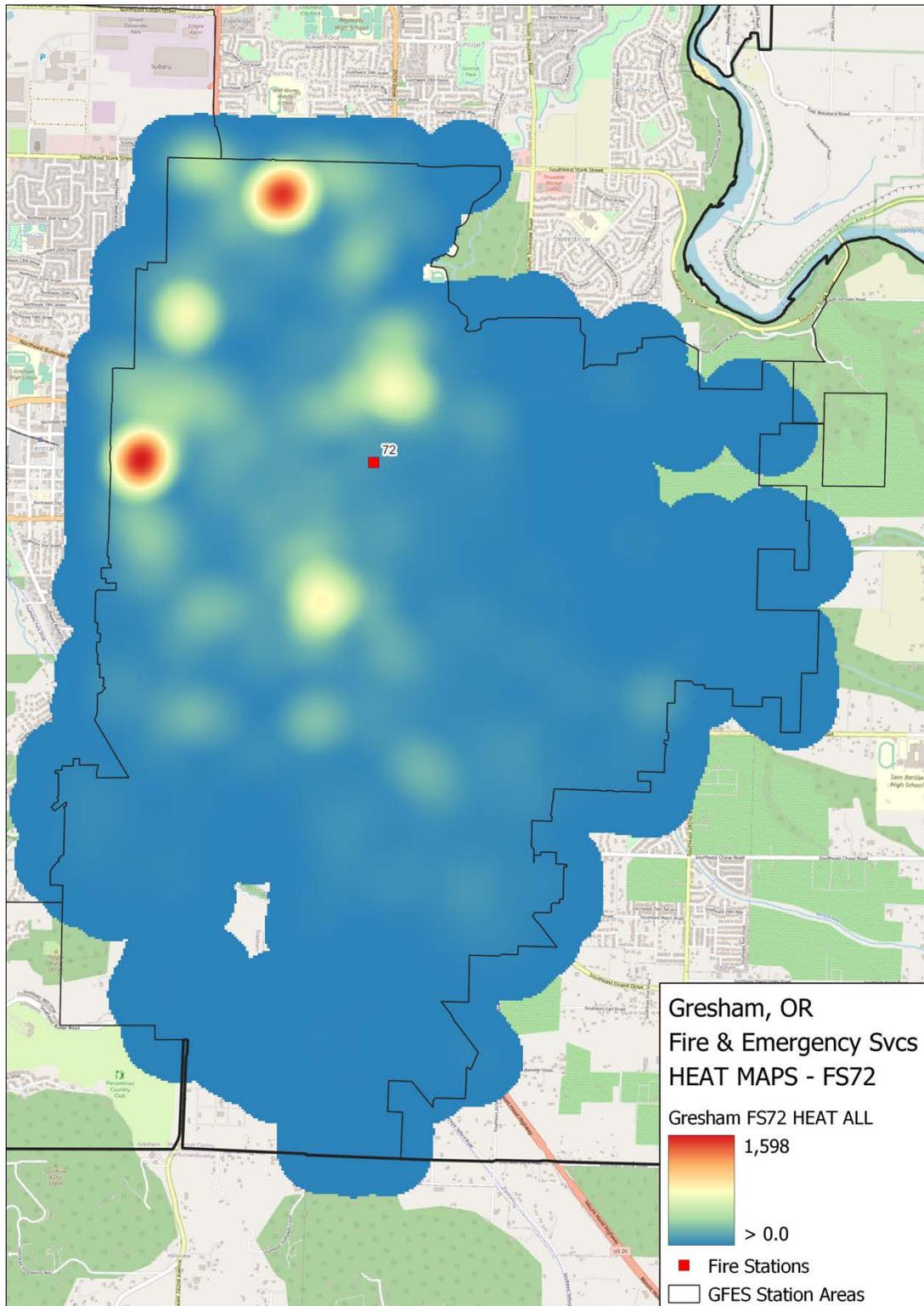
First-due Station 72: 1 <sup>st</sup> Arriving Baseline Performance		2018-2021	2018	2019	2020	2021	2018-2021 Benchmark	2018-2021 Compliance
<b>Alarm Handling</b>		2:26	2:11	2:13	2:16	2:51	2:11	85.7
<b>Turnout Time</b>		2:08	2:04	1:51	2:08	2:24	2:02	88.2
<b>Travel Time</b>	Urban	6:41	6:02	6:29	7:00	7:05	6:04	84.5
	Rural	9:40	8:54	11:08	10:25	9:21	8:50	84.3
<b>Total Response Time</b>	Urban	9:55	8:59	9:18	10:07	10:49	8:56	82.4
		n = 9,850	n = 2,493	n = 2,571	n = 2,316	n = 2,470		
	Rural	13:06	12:13	13:06	13:30	12:21	11:53	84.3
		n = 140	n = 46	n = 28	n = 40	n = 26		

Color coding legend: green fill ≥ 90%; yellow fill ≥ 70% to < 90%; red fill < 70%

## Station – Current Deployment and Performance

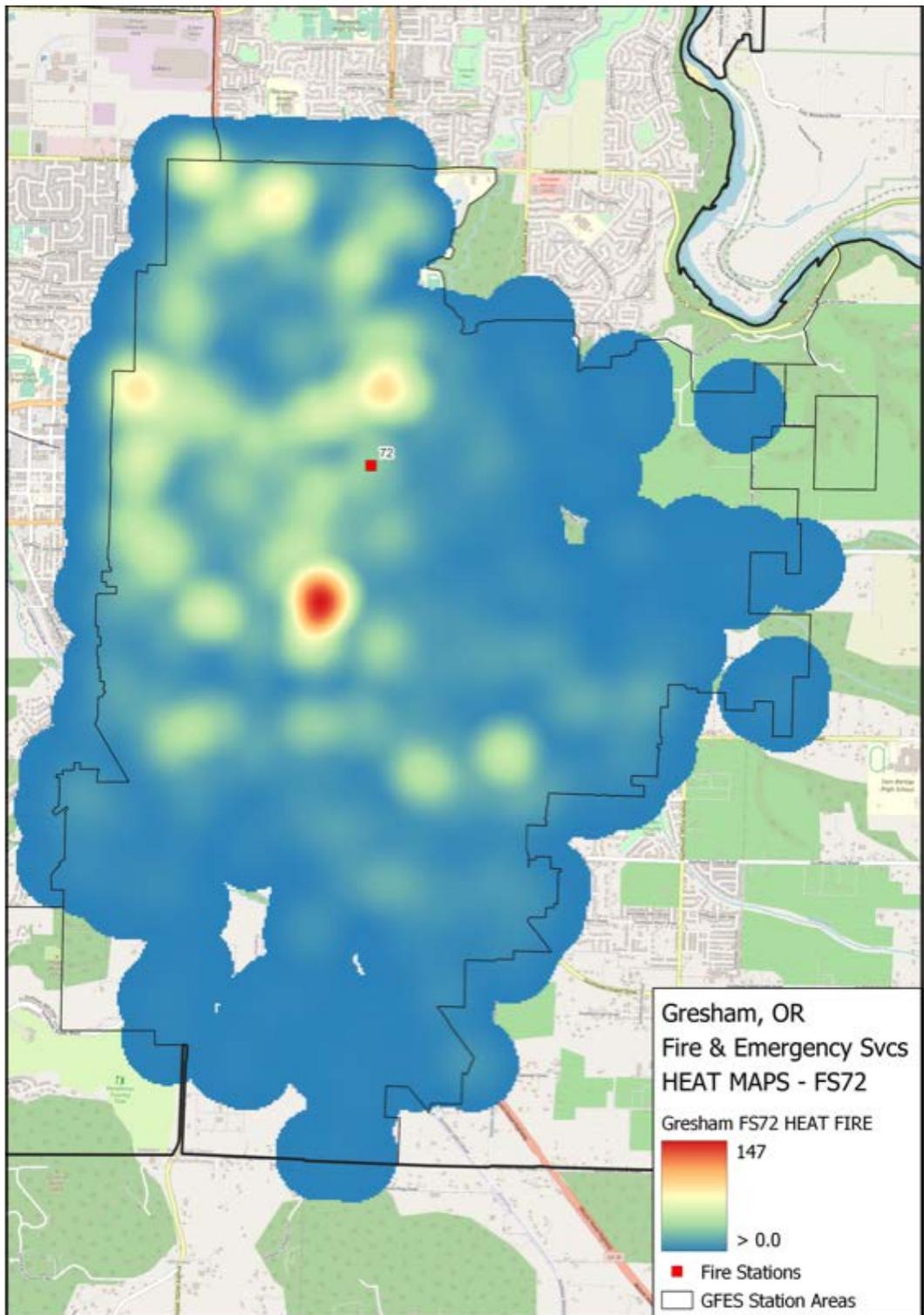
### Overall Incidents Hot Spot Map

The heat map demonstrates most calls are in the central part of the City, running in a corridor from N.W. to S.W. One significant hotspot is located west of Station 72's FDA.



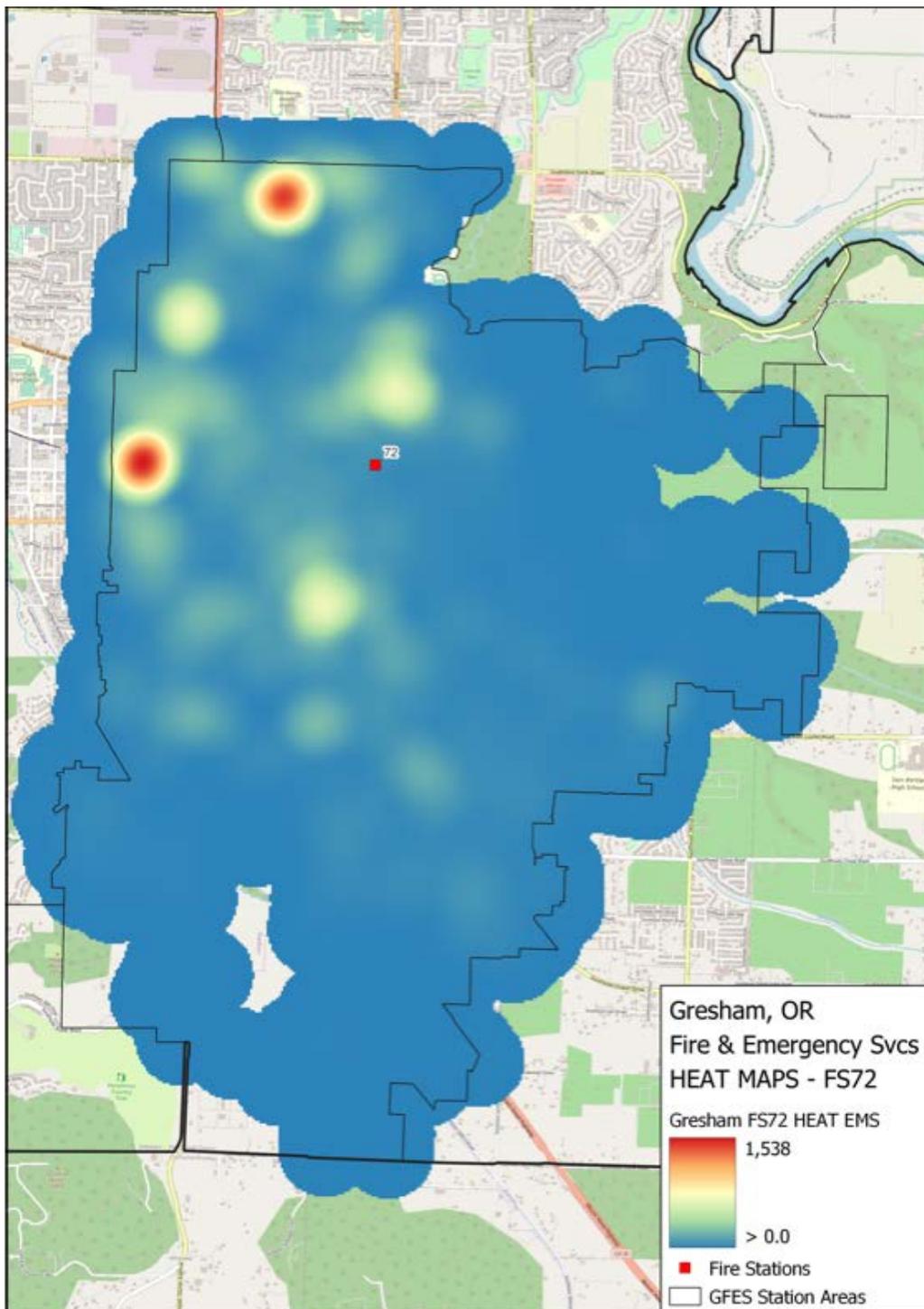
### Fire Incidents Hot Spot Map

Fire incidents are clustered in the Northwestern part of Station 72's with an uptick in the S.W. part of the City.



EMS Incidents Hot Spot Map

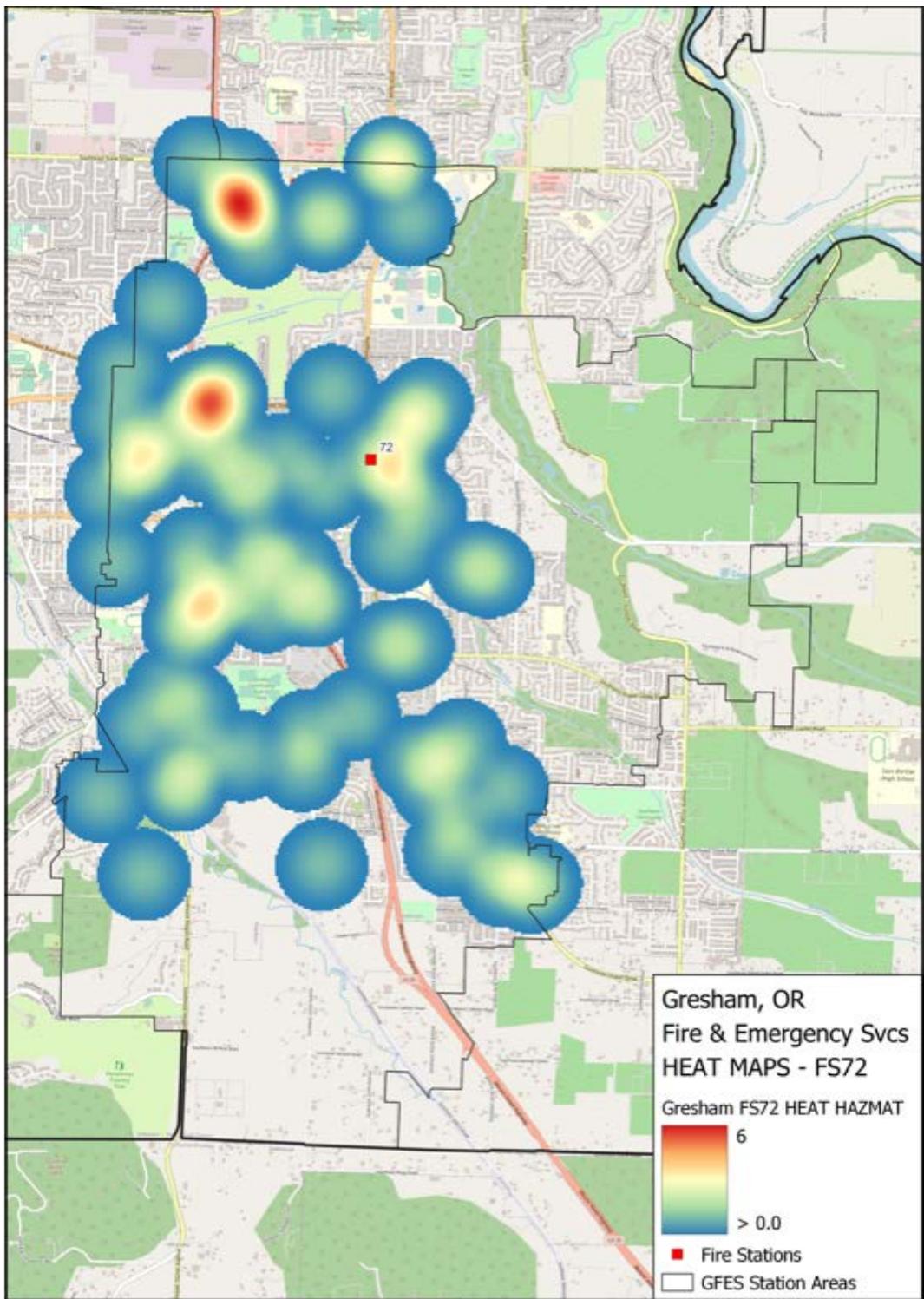
EMS calls are clustered in the West and N.W. areas of Station72's FDA



Station – Current Deployment and Performance

Hazardous Materials Incidents Hot Spot Map

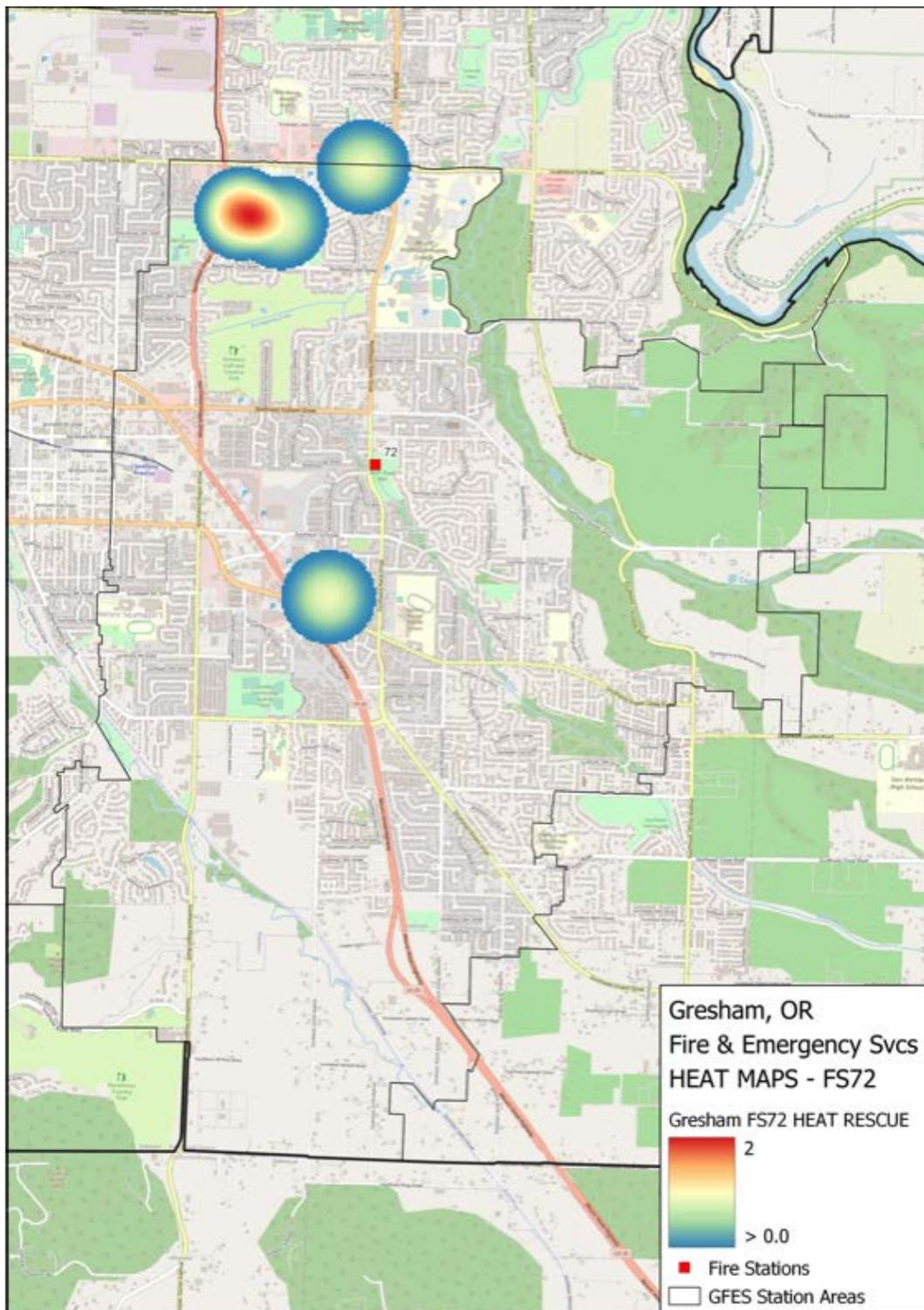
Hazardous materials calls are evenly distributed around the City, with several targeted hot spots in the WNW part of Station 72's FDA.



# Station – Current Deployment and Performance

## Rescue Incidents Hot Spot Map

Rescue incidents are clustered in the north-northeast part of Station 72's FDA.



## Station – Current Deployment and Performance

Figure 34: 2017-2021 90<sup>th</sup> Percentile Performance<sup>1</sup> of 1<sup>st</sup> Arriving Primary Front-Line Units for Emergency Incidents by First-due Station, Program, and Risk Rating – Arrivals in First-due Station 72

First-due Station	Program	Low				Moderate				High				Maximum			
		D	TO	TR	R	D	TO	TR	R	D	TO	TR	R	D	TO	TR	R
		(Minutes)				(Minutes)				(Minutes)				(Minutes)			
72	EMS	2.3	1.4	6.2	8.6	3.1	1.9	6.2	9.7	2.8	2.0	6.3	9.4	1.8	2.0	5.3	7.7
	Fire	2.4	2.3	8.0	11.2	1.1	0.8	3.5	5.4	--	--	--	--	2.3	2.1	4.8	7.5
	Hazmat	2.4	2.2	7.1	10.5	3.0	1.7	10.1	18.6	--	--	--	--	1.7	1.5	6.6	9.0
	Rescue	4.2	1.3	7.1	12.6	--	--	--	--	--	--	--	--	--	--	--	--
	<b>Total</b>	<b>2.3</b>	<b>1.6</b>	<b>6.4</b>	<b>8.9</b>	<b>3.1</b>	<b>1.9</b>	<b>6.5</b>	<b>9.8</b>	<b>2.8</b>	<b>2.0</b>	<b>6.3</b>	<b>9.4</b>	<b>2.0</b>	<b>2.0</b>	<b>5.0</b>	<b>7.7</b>
All	EMS	2.3	2.2	6.6	9.7	3.1	2.5	6.6	10.7	2.8	2.6	6.8	10.6	2.1	2.3	6.1	9.0
	Fire	2.6	2.2	8.1	11.4	1.1	0.8	3.5	5.4	--	--	--	--	2.3	2.4	5.1	8.1
	Hazmat	2.7	2.2	7.1	10.3	3.6	2.2	8.8	12.9	--	--	--	--	2.8	2.2	6.2	9.4
	Rescue	4.2	2.3	9.3	12.6	--	--	--	--	--	--	--	--	4.2	4.5	13.8	17.7
	<b>Total</b>	<b>2.3</b>	<b>2.2</b>	<b>6.9</b>	<b>9.9</b>	<b>3.2</b>	<b>2.5</b>	<b>6.7</b>	<b>10.8</b>	<b>2.8</b>	<b>2.6</b>	<b>6.8</b>	<b>10.6</b>	<b>2.3</b>	<b>2.4</b>	<b>6.1</b>	<b>9.1</b>

<sup>1</sup>D = Dispatch Time, TO = Turnout Time, TR = Travel Time, R = Response Time

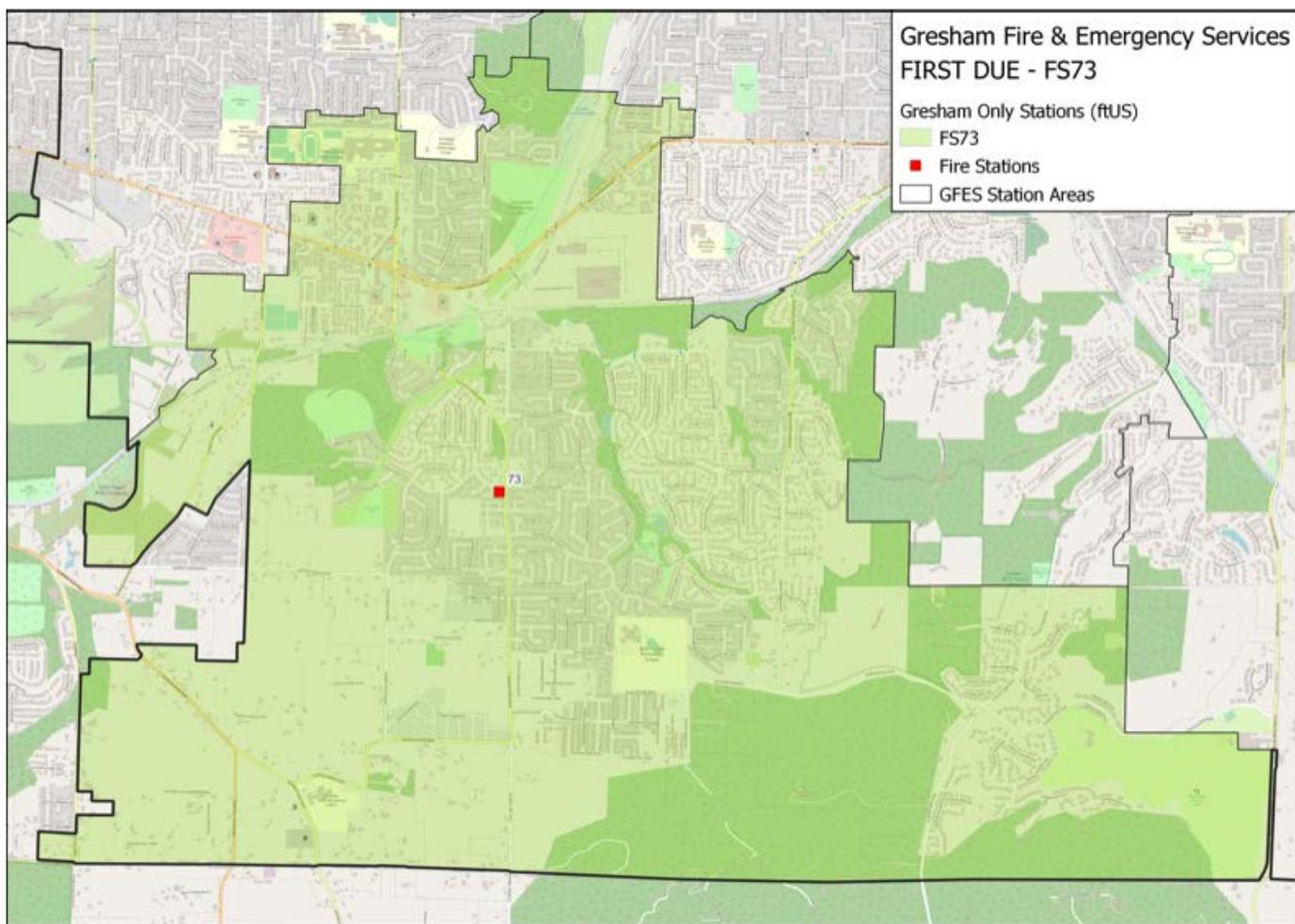
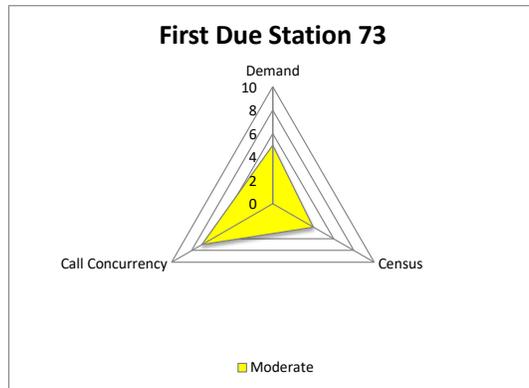
Figure 35: 90<sup>th</sup> Percentile Performance of 1<sup>st</sup> Arriving Primary Front-Line Units for Emergency Incidents by Unit ID and Reporting Period – Units Assigned to Station 72

Unit ID	Reporting Period	Dispatch Time	Turnout Time	Travel Time	Response Time	Sample Size <sup>1</sup>
		(Minutes)	(Minutes)	(Minutes)	(Minutes)	
E72	2018	2.3	1.9	5.8	8.7	1175
	2019	2.3	1.6	6.4	9.0	1187
	2020	2.3	1.9	6.9	9.8	941
	2021	2.8	2.2	6.2	9.7	875
	<b>All</b>	<b>2.4</b>	<b>1.9</b>	<b>6.3</b>	<b>9.4</b>	<b>4178</b>
HM3	2018	0.0	13.3	7.3	20.6	1
	2019	1.3	1.6	45.2	45.3	2
	2020	0.0	0.1	16.7	16.7	1
	2021	0.0	0.2	7.5	7.7	1
	<b>All</b>	<b>1.3</b>	<b>13.3</b>	<b>45.2</b>	<b>45.3</b>	<b>5</b>

<sup>1</sup>Sample sizes reflect the number of responses made by first arriving primary front-line units to emergency calls; due to missing or excluded time data, sample sizes corresponding to individual table metrics may be smaller.

**GFES Station 73**

Apparatus	Minimum Staffing
<b>Engine 73</b>	3 personnel
<b>Total Minimum Staffing</b>	<b>3 personnel</b>



## Station – Current Deployment and Performance

### Station 73 First-due Area Historical Data Analysis

Table 36: Number of Incidents Dispatched by Call Category and Reporting Period – First-due Station 73

Call Category	Reporting Period <sup>1</sup>			
	2018	2019	2020	2021
<b>EMS</b>	<b>1,458</b>	<b>1,615</b>	<b>1,633</b>	<b>1,848</b>
Cardiac and Stroke	228	264	266	303
Seizure and Unconsciousness	132	124	181	170
Breathing Difficulty	157	206	182	196
Overdose and Psychiatric	108	167	141	135
MVA	61	71	69	57
Fall and Injury	328	319	336	422
Illness and Other	444	464	458	557
Interfacility Transfer	0	0	0	8
<b>Fire</b>	<b>319</b>	<b>306</b>	<b>342</b>	<b>452</b>
Structure Fire	10	15	7	21
Outside Fire	15	11	10	17
Vehicle Fire	4	5	5	6
Alarm	65	65	67	74
Hazardous Condition	96	83	112	98
Fire Other	18	15	27	66
Assist Citizen	109	110	113	168
Assist Police	2	1	1	2
Aircraft Emergency	0	1	0	0
<b>Hazmat</b>	<b>15</b>	<b>16</b>	<b>9</b>	<b>7</b>
Hazmat	15	16	9	7
<b>Rescue</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>
Rescue	0	0	0	1
<b>Total</b>	<b>1,792</b>	<b>1,937</b>	<b>1,984</b>	<b>2,308</b>
<b>Average Calls per Day<sup>2</sup></b>	<b>1792.0</b>	<b>1937.0</b>	<b>1984.0</b>	<b>2308.0</b>
<b>YoY Growth</b>	<b>N/A</b>	<b>8.09%</b>	<b>2.43%</b>	<b>16.33%</b>

<sup>1</sup>Reporting periods reflect calendar years spanning January 1 to December 31 of each respective reporting period.

<sup>2</sup>Reporting period 2020 contained 366 days due to inclusion of leap year date February 29; the other reporting periods each contained 365 days.

Call concurrency within FDA 73 was calculated between 2018 and 2021. The call concurrency has increased each year from 2018-2021.

## Station – Current Deployment and Performance

Figure 37: -Call Concurrency- First-due Zone 73

First-due Station	Reporting Period	Number of Overlapped Calls	Total Number of Calls	Percentage of Overlapped Calls
73	2018	307	1,792	17.1
	2019	331	1,937	17.1
	2020	418	1,984	21.1
	2021	534	2,308	23.1
	<b>All</b>	<b>1,590</b>	<b>8,021</b>	<b>19.8</b>

Response time performance for FDA 73 was calculated over the four-year rating period (2018-2021). Analyses were restricted to within FDA 32 and were calculated by the first arriving unit. Benchmark compliance is a 10% improvement over the aggregated performance. Therefore, the benchmark performance is established at the Department level, not within each FDA. Finally, a gap analysis between the baseline and benchmark performance was completed utilizing a stoplight approach. If greater than 90% performance (green), between 70% and 89% yellow, and below 70% would be red.

Figure 38: Baseline 90th Percentile Performance of 1<sup>st</sup> Arriving Primary Front-Line Units for Emergency Incidents

### Arrivals in First-due Station 73

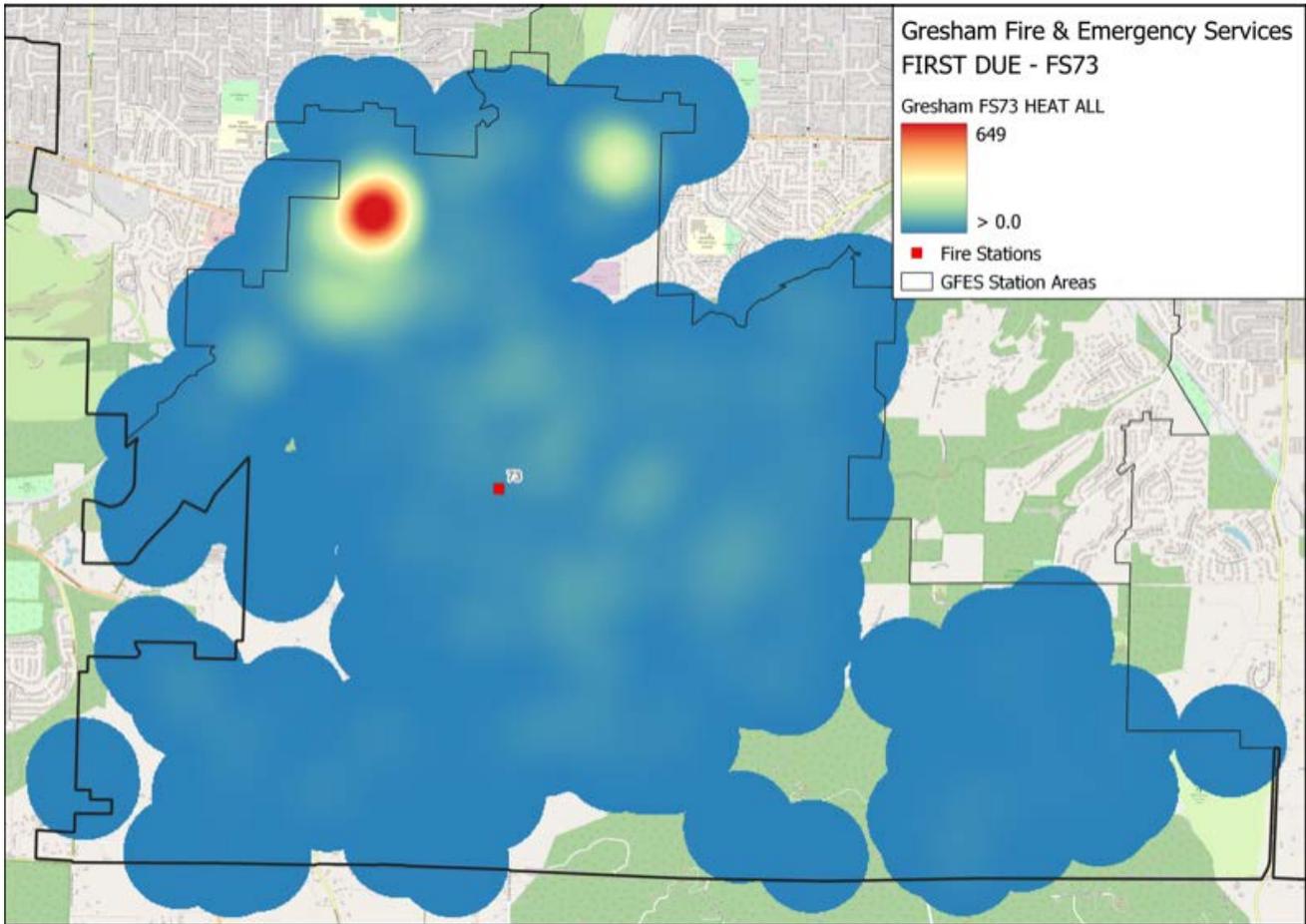
First-due Station 73:								
1 <sup>st</sup> Arriving Baseline Performance		2018-2021	2018	2019	2020	2021	2018-2021 Benchmark	2018-2021 Compliance
<b>Alarm Handling</b>		2:27	2:06	2:08	2:22	2:48	2:11	86.1
<b>Turnout Time</b>		2:07	2:02	2:05	2:05	2:13	2:02	88.6
<b>Travel Time</b>	Urban	6:23	5:47	6:22	6:44	6:31	6:04	87.7
	Rural	7:58	7:01	8:02	8:02	8:12	8:50	93.9
<b>Total Response Time</b>	Urban	9:39	8:45	9:26	9:57	10:19	8:56	85.0
		n = 4,617	n = 1,143	n = 1,160	n = 1,165	n = 1,149		
	Rural	12:00	10:52	11:46	13:29	11:19	11:53	88.9
		n = 270	n = 73	n = 71	n = 80	n = 46		

Color coding legend:   fill ≥ 90%;   fill ≥ 70% to < 90%;   fill < 70%

## Station – Current Deployment and Performance

### Overall Hot Spot Map

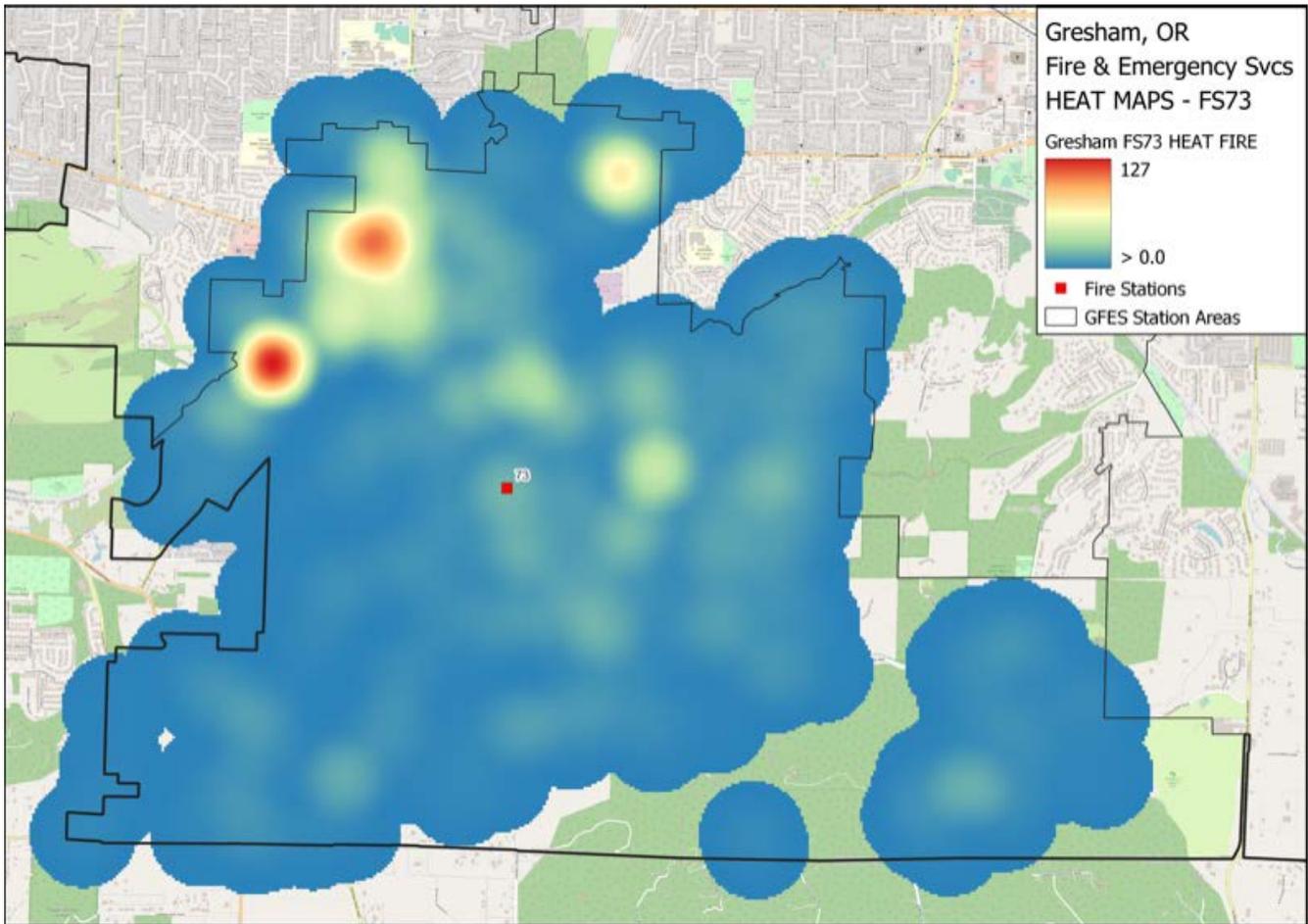
Most calls in Station 73's FDA are clustered in the N.W. part of the City.



## Station – Current Deployment and Performance

### Fire Incidents Hot Spot Map

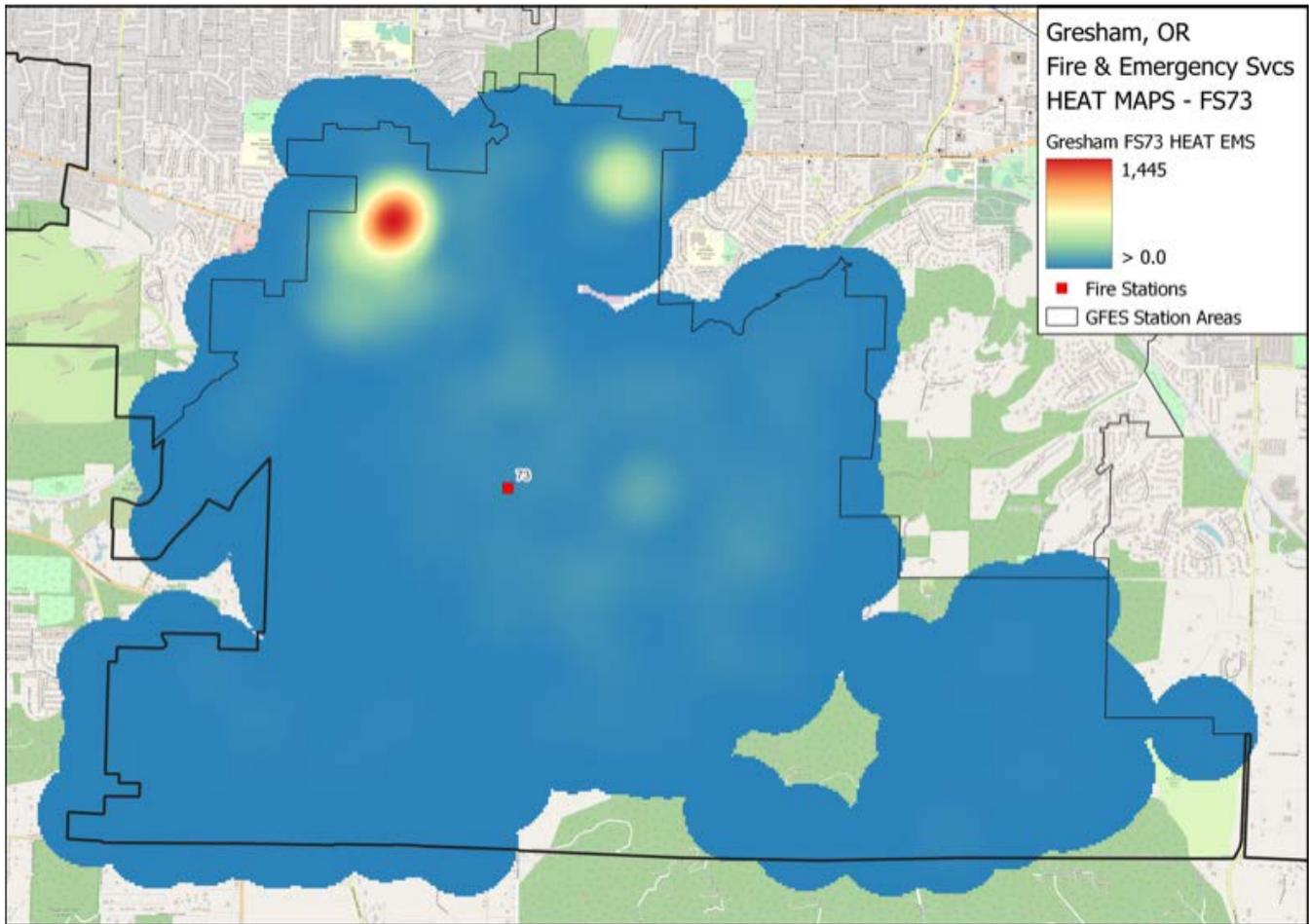
Fire incidents are targeted in the N.W. part of Station 73's FDA.



Station – Current Deployment and Performance

EMS Incidents Hot Spot Map

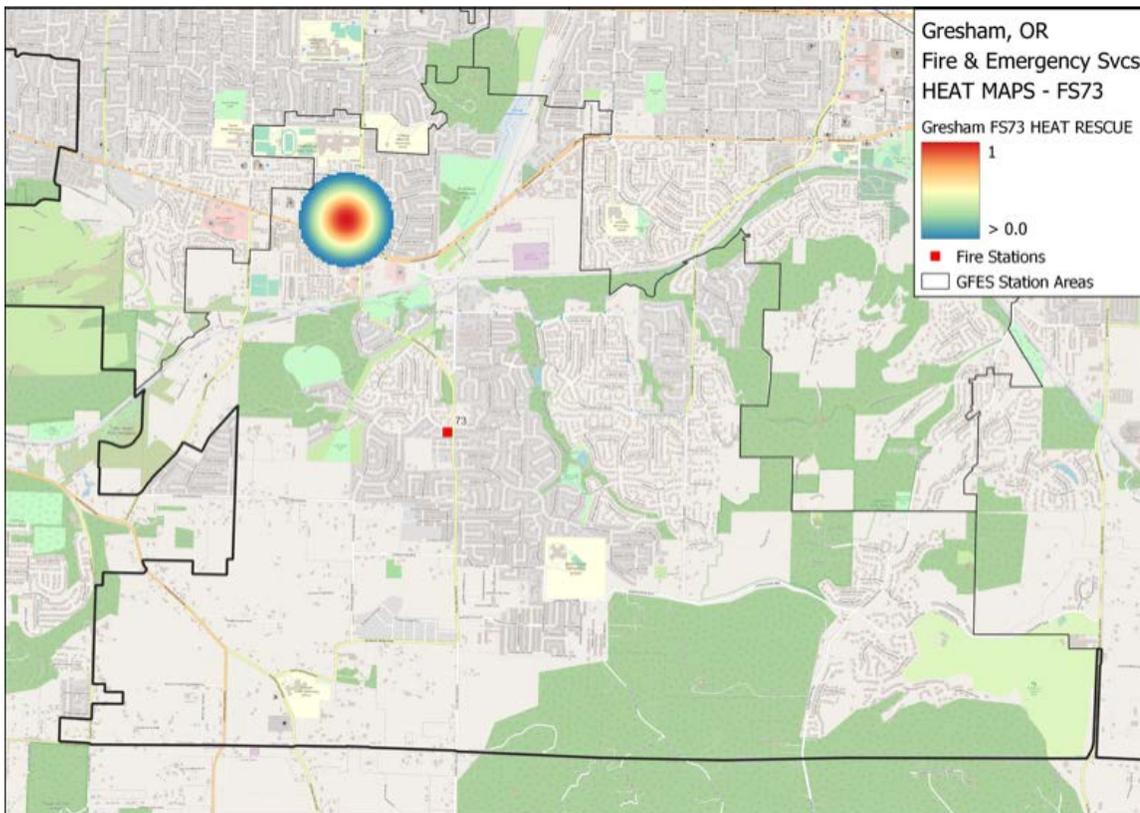
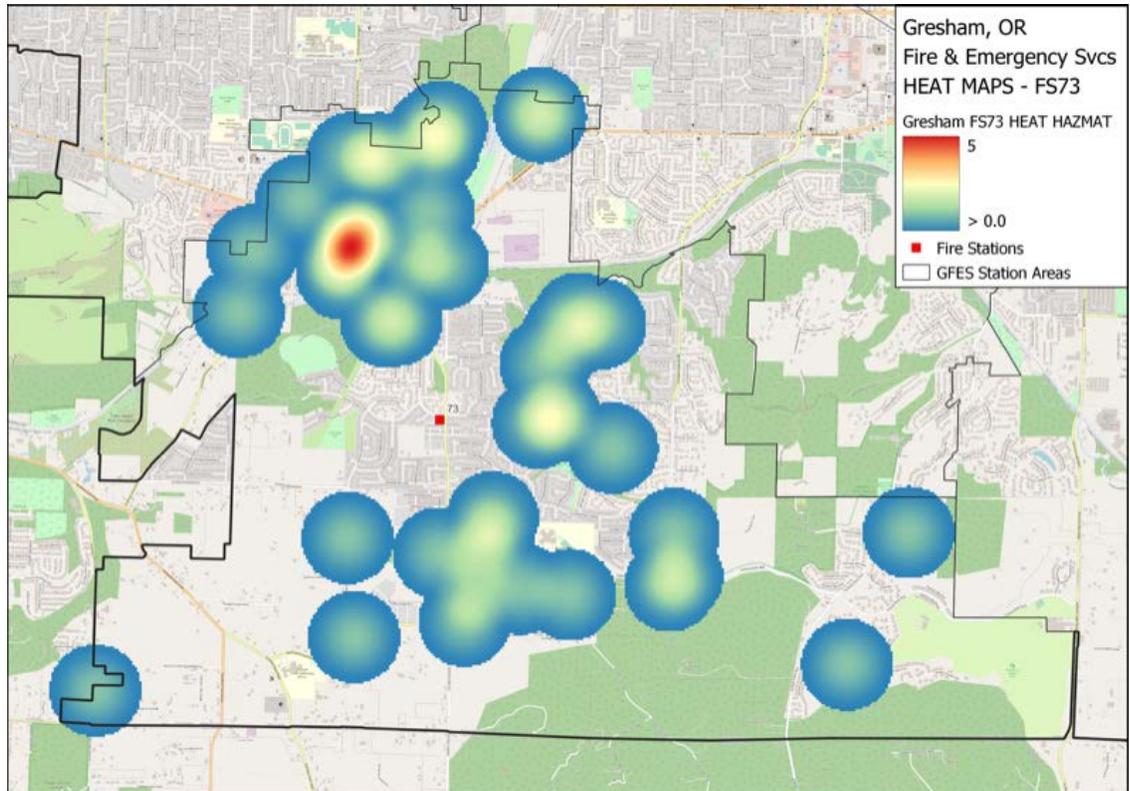
EMS Incidents are clustered in the N.W. part of Station 73's FDA.



## Station – Current Deployment and Performance

### Hazardous Materials Incident Hot Spot Map

Hazardous materials incidents are evenly distributed throughout the City, with one in the N.W. part of Station 73's FDA that has a slight uptick in calls.



### Rescue Incidents Hot Spot Map

Rescue calls are clustered in the N.W. part of Station 73's FDA

## Station – Current Deployment and Performance

Figure 39: 2017-2021 90<sup>th</sup> Percentile Performance<sup>1</sup> of 1<sup>st</sup> Arriving Primary Front-Line Units for Emergency Incidents by First-due Station, Program, and Risk Rating – Arrivals in First-due Station 73

First-due Station	Program	Low				Moderate				High				Maximum			
		D	TO	TR	R	D	TO	TR	R	D	TO	TR	R	D	TO	TR	R
		(Minutes)				(Minutes)				(Minutes)				(Minutes)			
73	EMS	2.2	1.8	6.9	9.3	2.8	1.8	6.3	9.5	2.8	1.9	6.7	9.7	2.4	2.0	5.9	8.9
	Fire	3.3	2.2	7.8	11.6	--	--	--	--	--	--	--	--	2.1	1.8	5.8	7.8
	Hazmat	2.3	1.8	6.4	10.1	4.5	5.3	7.4	12.6	--	--	--	--	2.1	2.2	4.9	7.8
	Rescue	1.2	1.3	9.3	11.8	--	--	--	--	--	--	--	--	--	--	--	--
	<b>Total</b>	<b>2.3</b>	<b>1.8</b>	<b>7.0</b>	<b>9.6</b>	<b>2.8</b>	<b>1.8</b>	<b>6.3</b>	<b>9.5</b>	<b>2.8</b>	<b>1.9</b>	<b>6.7</b>	<b>9.7</b>	<b>2.3</b>	<b>2.0</b>	<b>5.8</b>	<b>8.8</b>
All	EMS	2.3	2.2	6.6	9.7	3.1	2.5	6.6	10.7	2.8	2.6	6.8	10.6	2.1	2.3	6.1	9.0
	Fire	2.6	2.2	8.1	11.4	1.1	0.8	3.5	5.4	--	--	--	--	2.3	2.4	5.1	8.1
	Hazmat	2.7	2.2	7.1	10.3	3.6	2.2	8.8	12.9	--	--	--	--	2.8	2.2	6.2	9.4
	Rescue	4.2	2.3	9.3	12.6	--	--	--	--	--	--	--	--	4.2	4.5	13.8	17.7
	<b>Total</b>	<b>2.3</b>	<b>2.2</b>	<b>6.9</b>	<b>9.9</b>	<b>3.2</b>	<b>2.5</b>	<b>6.7</b>	<b>10.8</b>	<b>2.8</b>	<b>2.6</b>	<b>6.8</b>	<b>10.6</b>	<b>2.3</b>	<b>2.4</b>	<b>6.1</b>	<b>9.1</b>

<sup>1</sup>D = Dispatch Time, TO = Turnout Time, TR = Travel Time, R = Response Time

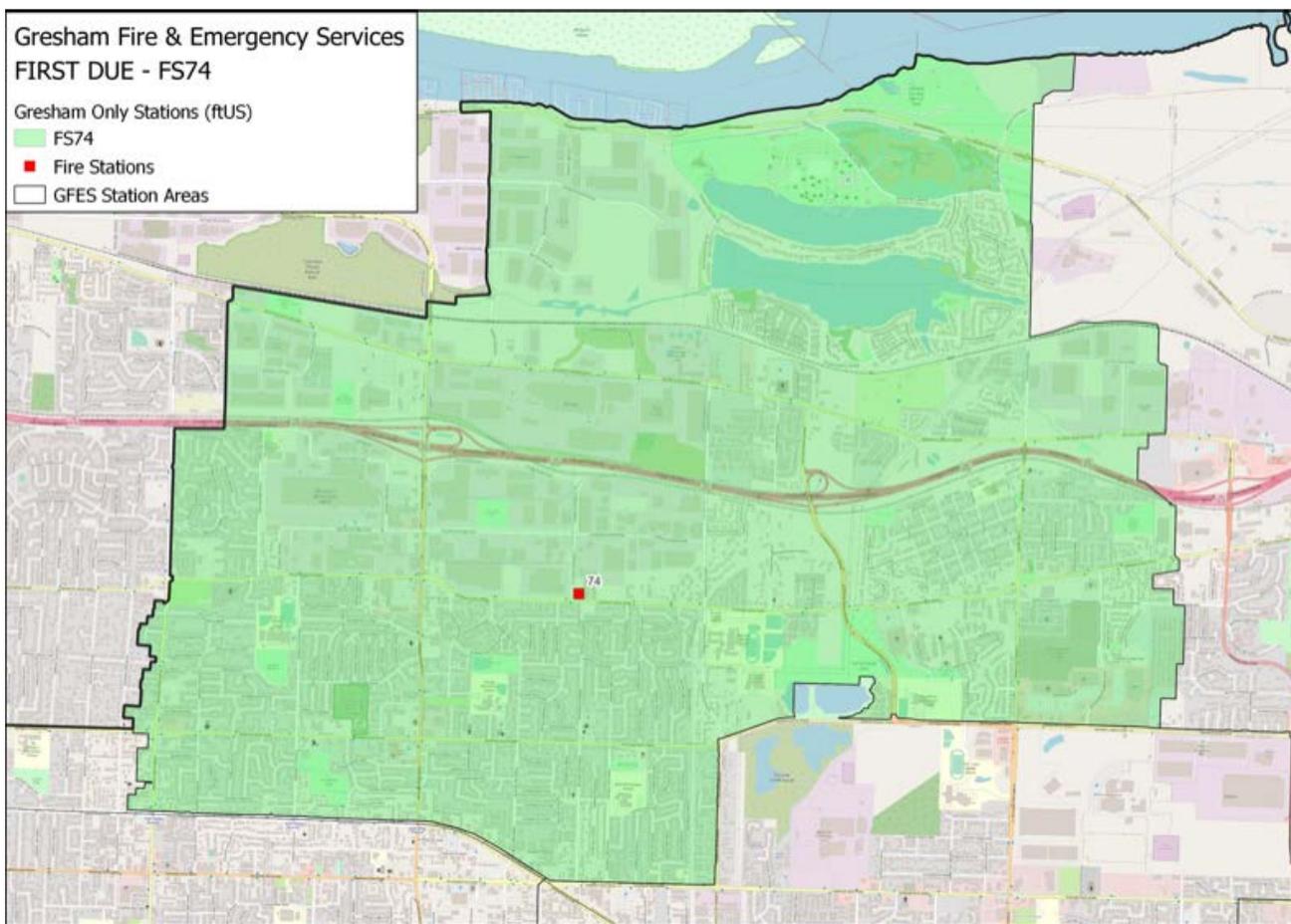
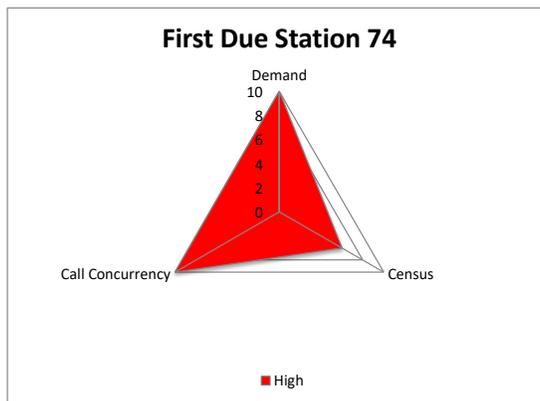
Figure 40: 90<sup>th</sup> Percentile Performance of 1<sup>st</sup> Arriving Primary Front-Line Units for Emergency Incidents by Unit ID and Reporting Period – Units Assigned to Station 73

Unit ID	Reporting Period	Dispatch Time	Turnout Time	Travel Time	Response Time	Sample Size <sup>1</sup>
		(Minutes)	(Minutes)	(Minutes)	(Minutes)	
E73	2018	2.1	1.9	5.2	7.9	839
	2019	2.1	1.9	5.6	8.4	836
	2020	2.3	2.0	6.0	9.2	818
	2021	2.8	2.0	5.7	9.4	745
	<b>All</b>	<b>2.4</b>	<b>1.9</b>	<b>5.6</b>	<b>8.8</b>	<b>3238</b>

<sup>1</sup>Sample sizes reflect the number of responses made by first arriving primary front-line units to emergency calls; due to missing or excluded time data, sample sizes corresponding to individual table metrics may be smaller.

**GFES Station 74**

Apparatus	Minimum Staffing
<b>Engine 74</b>	3 personnel
<b>Rescue 74 (PU or SUV)</b>	2 personnel
<b>Brush 74</b>	0 personnel – Cross Staffed
<b>Total Minimum Staffing</b>	<b>5 personnel</b>



Station – Current Deployment and Performance  
 Station 74 First-due Area Historical Data Analysis

Figure 41: Number of Incidents Dispatched by Call Category and Reporting Period  
 First-due Station 74

Call Category	Reporting Period <sup>1</sup>			
	2018	2019	2020	2021
<b>EMS</b>	<b>3,361</b>	<b>3,826</b>	<b>3,775</b>	<b>3,975</b>
Cardiac and Stroke	483	531	527	603
Seizure and Unconsciousness	320	355	433	359
Breathing Difficulty	376	378	512	424
Overdose and Psychiatric	389	436	512	358
MVA	206	200	187	172
Fall and Injury	637	730	681	747
Illness and Other	950	1196	923	1306
Interfacility Transfer	0	0	0	6
<b>Fire</b>	<b>701</b>	<b>723</b>	<b>852</b>	<b>1028</b>
Structure Fire	19	31	29	43
Outside Fire	40	35	69	59
Vehicle Fire	28	27	31	42
Alarm	221	204	233	262
Hazardous Condition	121	131	182	162
Fire Other	45	71	76	150
Assist Citizen	218	210	223	291
Assist Police	7	13	7	17
Aircraft Emergency	2	1	2	2
<b>Hazmat</b>	<b>27</b>	<b>29</b>	<b>29</b>	<b>34</b>
Hazmat	27	29	29	34
<b>Rescue</b>	<b>4</b>	<b>10</b>	<b>6</b>	<b>14</b>
Rescue	4	10	6	14
<b>Total</b>	<b>4,093</b>	<b>4,588</b>	<b>4,662</b>	<b>5,051</b>
<b>Average Calls per Day<sup>2</sup></b>	<b>1792.0</b>	<b>1937.0</b>	<b>1984.0</b>	<b>2308.0</b>
<b>YoY Growth</b>	<b>N/A</b>	<b>8.09%</b>	<b>2.43%</b>	<b>16.33%</b>

<sup>1</sup>Reporting periods reflect calendar years spanning January 1 to December 31 of each respective reporting period.

<sup>2</sup>Reporting period 2020 contained 366 days due to inclusion of leap year date February 29; the other reporting periods each contained 365 days.

Figure 42: Number of Responses by Unit ID and Reporting Period – Units Assigned to Station 74

Assigned	Unit ID	Reporting Period <sup>1</sup>
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## Station – Current Deployment and Performance

Station		2018	2019	2020	2021
74	E74	2,725	2,173	2,386	2,770
	R74	983	2,010	1,922	1,945
	RHB74	3	3	1	9
	BU74	0	0	0	2
	<b>Total</b>	<b>3,711</b>	<b>4,186</b>	<b>4,309</b>	<b>4,726</b>
	<b>Average Responses per Day<sup>2</sup></b>	<b>10.2</b>	<b>11.5</b>	<b>11.8</b>	<b>12.9</b>

<sup>1</sup>Reporting periods reflect calendar years spanning January 1 to December 31 of each respective reporting period.

<sup>2</sup>Reporting period 2020 contained 366 days due to inclusion of leap year date February 29; the other reporting periods each contained 365 days.

Figure 43: Call Concurrency – First-due Station 74

First-due Station	Reporting Period	Number of Overlapped Calls	Total Number of Calls	Percentage of Overlapped Calls
74	2018	1,351	4,093	33.0
	2019	1,627	4,588	35.5
	2020	1,664	4,662	35.7
	2021	1,985	5,051	39.3
	<b>All</b>	<b>6,627</b>	<b>18,394</b>	<b>36.0</b>

Response time performance for FDA 74 was calculated over the four-year rating period (2018-2021). Analyses were restricted to within FDA 74 and were calculated by the first arriving unit. Benchmark compliance is a 10% improvement over the aggregated performance. Therefore, the benchmark performance is established at the City/Department level, not within each FDA. Finally, a gap analysis between the baseline and benchmark performance was completed utilizing a stoplight approach. If greater than 90% performance (green), between 70% and 89% yellow, and below 70% would be red.

Figure 44: Baseline 90th Percentile Performance of 1<sup>st</sup> Arriving Primary Front-Line Units for Emergency Incidents Arrivals in First-due Station 74

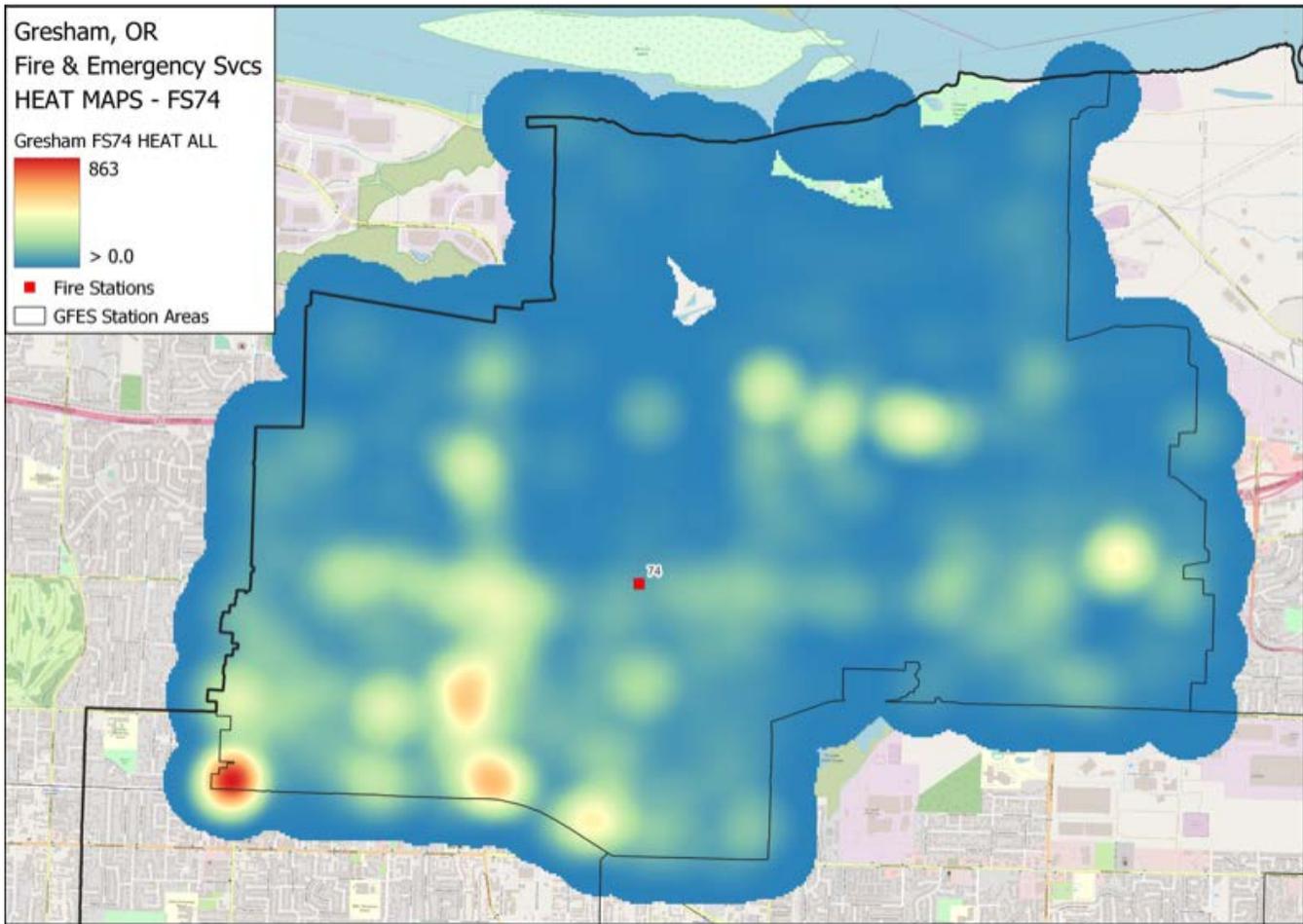
First-due Station 74:		2018-2021	2018	2019	2020	2021	2018-2021 Benchmark	2018-2021 Compliance
1 <sup>st</sup> Arriving Baseline Performance								
<b>Alarm Handling</b>		2:27	2:10	2:11	2:20	2:57	2:11	86.0
<b>Turnout Time</b>		2:14	2:15	2:02	2:06	2:32	2:02	86.4
<b>Travel Time</b>	Urban	7:05	6:51	6:59	7:28	7:05	6:04	81.9
	Rural	9:22	9:43	8:48	9:14	9:09	8:50	86.4
<b>Total Response Time</b>	Urban	10:11	9:44	9:47	10:23	10:51	8:56	80.6
		n = 10,211	n = 2,410	n = 2,650	n = 2,750	n = 2,401		
	Rural	12:09	12:09	11:33	11:44	12:30	11:53	87.0
		n = 185	n = 54	n = 40	n = 53	n = 38		

Color coding legend: **green** fill ≥ 90%; **yellow** fill ≥ 70% to < 90%; **red** fill < 70%

## Station – Current Deployment and Performance

### All Incidents Hot Spot Map

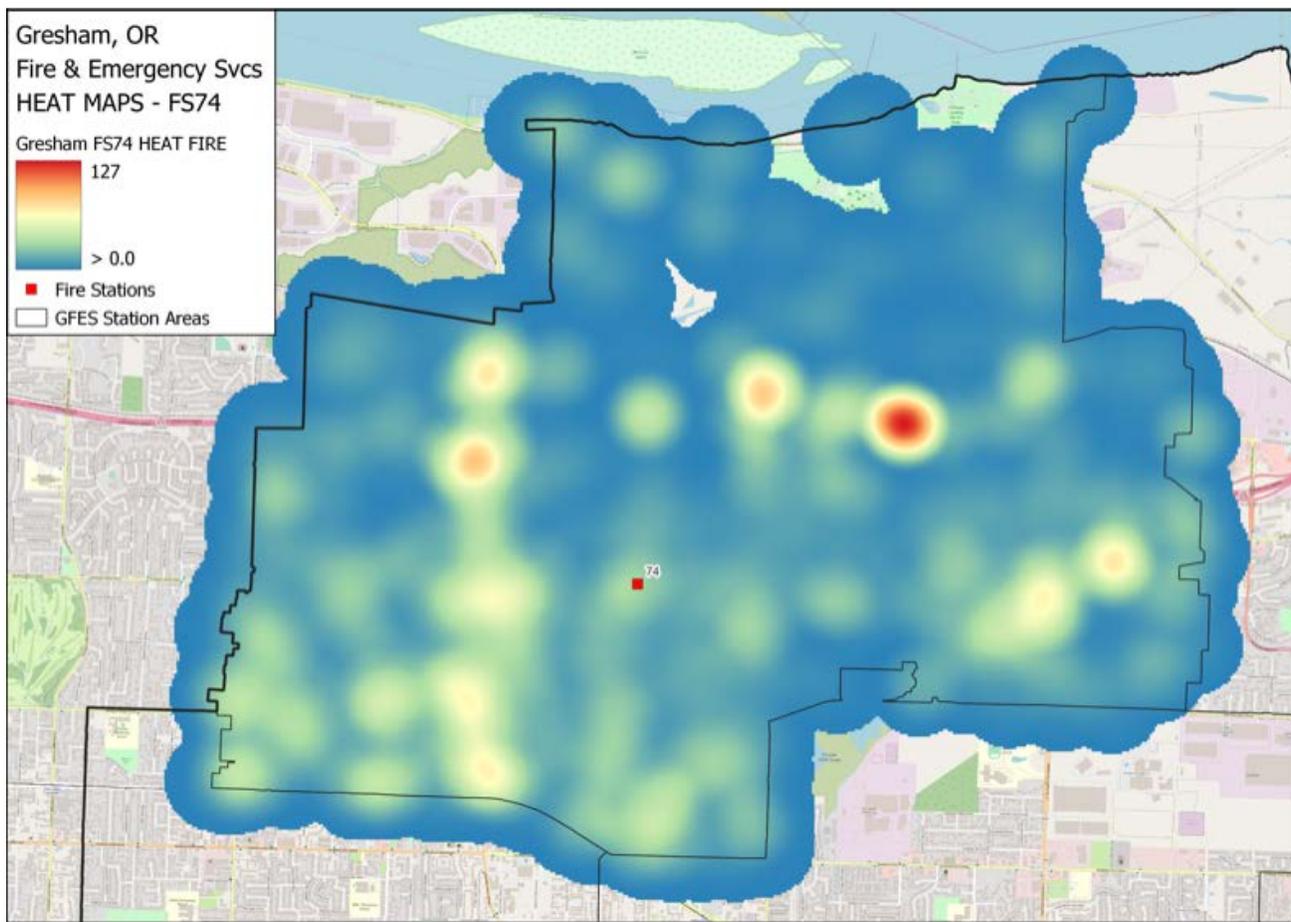
Most calls are distributed around the FDA with a targeted area in the S.W. part of Station 74's FDA.



## Station – Current Deployment and Performance

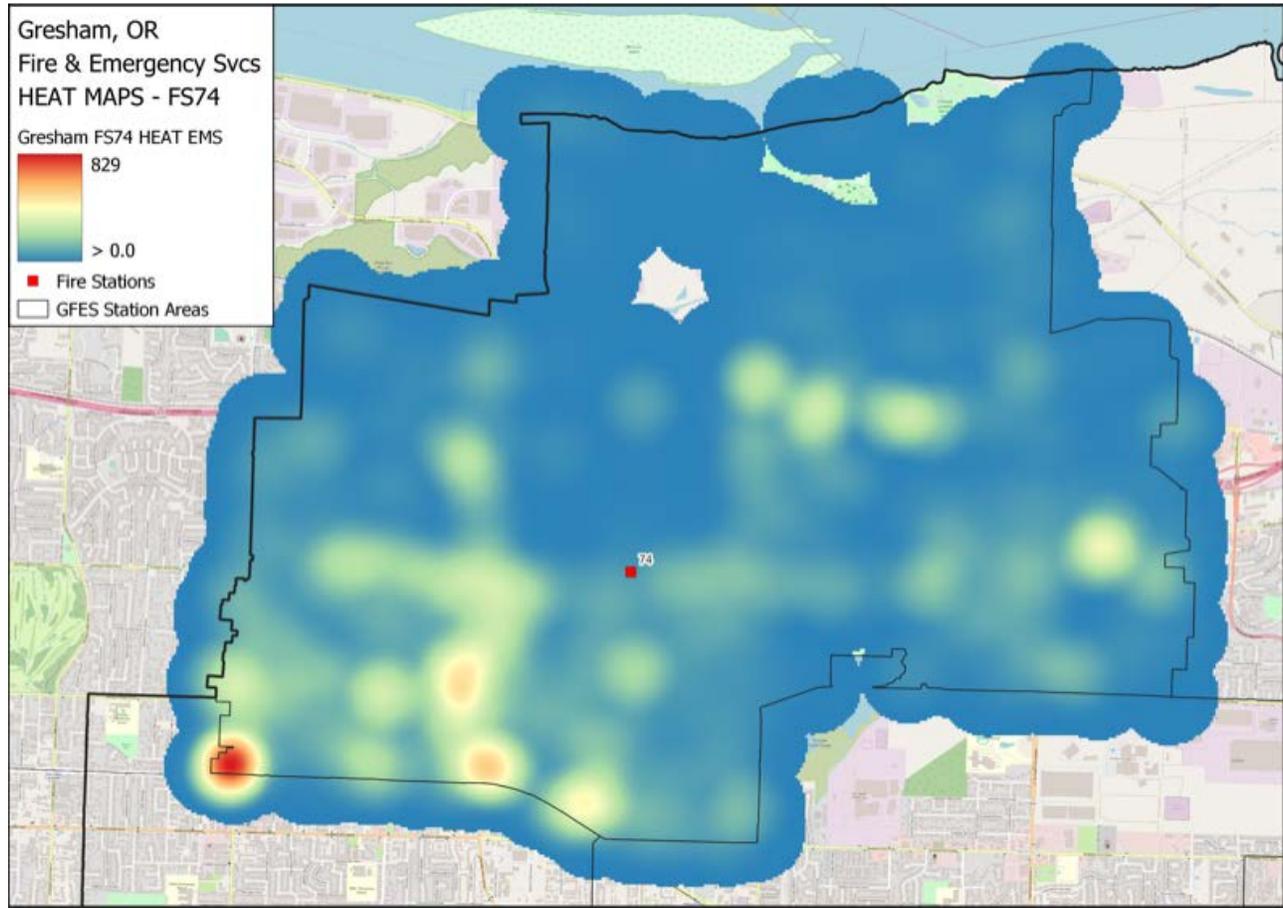
### Fire Incidents Hot Spot Map

Fire calls in Station 74's FDA are distributed around the FDA, with an uptick in calls in the N.E. section of the response city.



### EMS Incidents Hot Spot Map

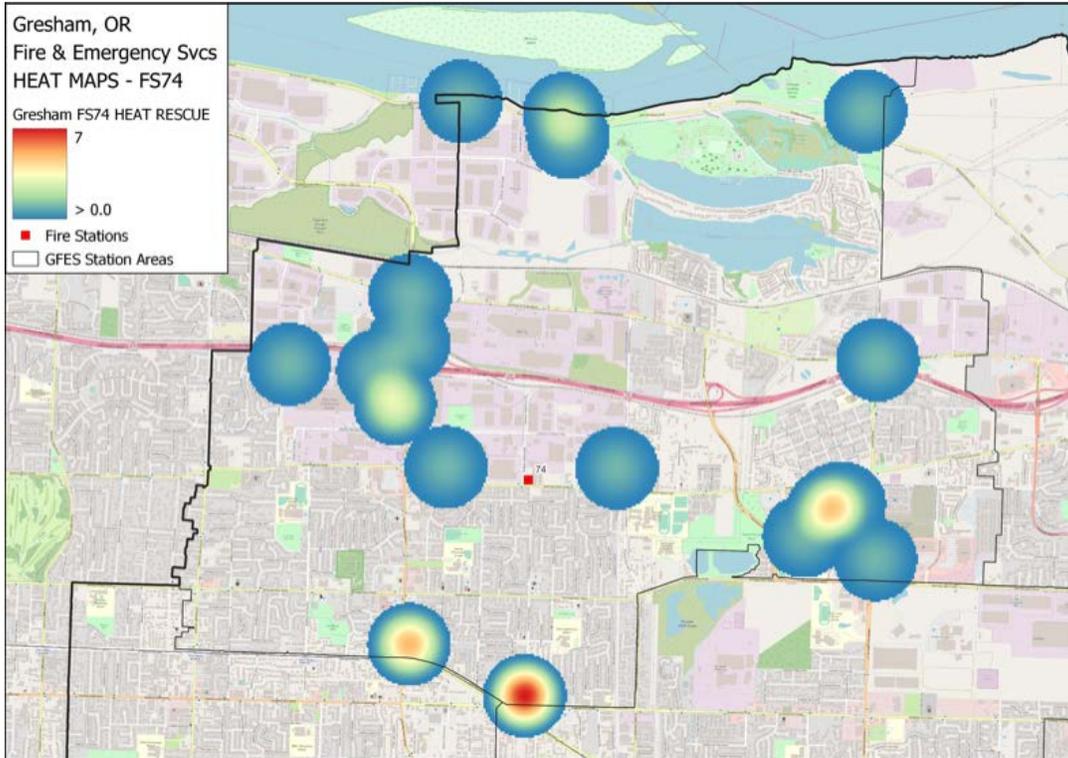
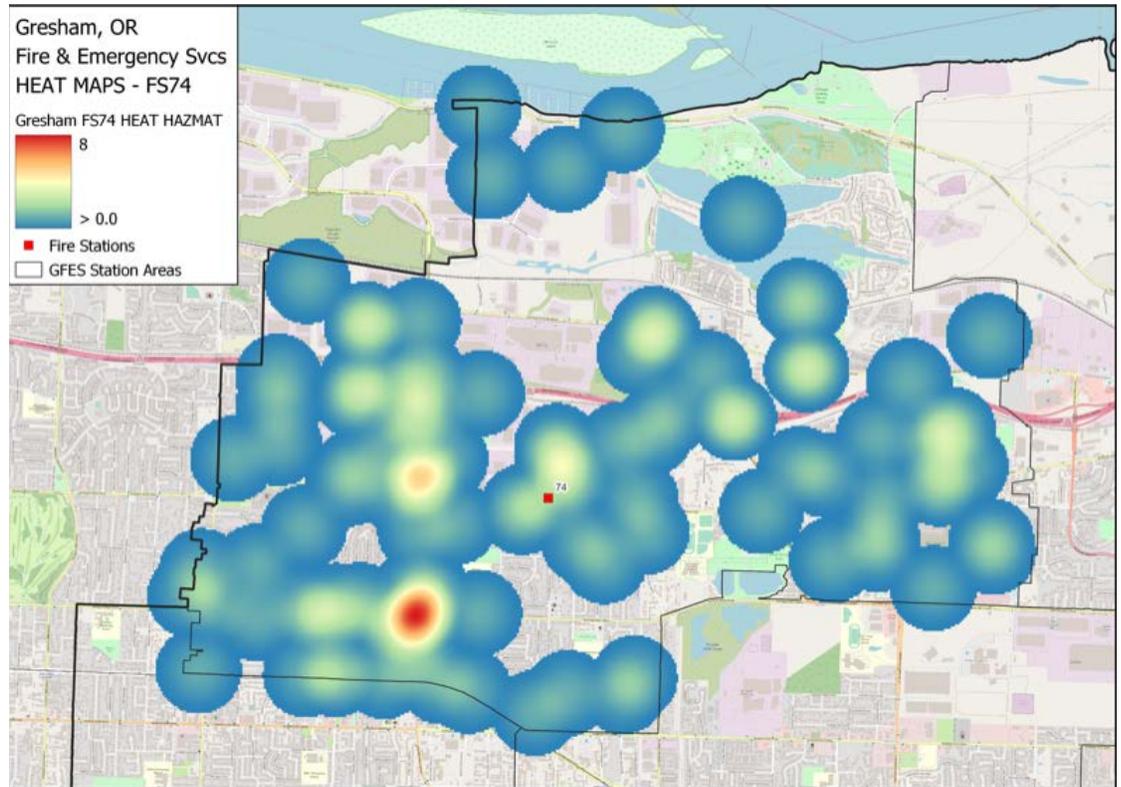
Most of the EMS calls are distributed around the FDA with clusters in the S.W. part of Station 74's FDA.



## Station – Current Deployment and Performance

### Hazardous Materials Incidents Hot Spot Map

Hazardous materials incidents are distributed around the FDA with a clustered area in the S.W. section of Station 74's FDA.



### Rescue Incidents Hot Spot Map

Rescue Incidents were distributed around the FDA, with a cluster in the southern part of Station 74's FDA.

## Station – Current Deployment and Performance

Figure 45: 2017-2021 90<sup>th</sup> Percentile Performance<sup>1</sup> of 1<sup>st</sup> Arriving Primary Front-Line Units for Emergency Incidents by First-due Station, Program, and Risk Rating – Arrivals in First-due Station 74

First-due Station	Program	Low				Moderate				High			Maximum				
		D	TO	TR	R	D	TO	TR	R	D	TO	TR	R	D	TO	TR	R
		(Minutes)				(Minutes)				(Minutes)			(Minutes)				
74	EMS	2.3	1.5	6.7	8.9	3.2	1.9	6.2	9.4	2.9	2.0	6.9	9.6	2.1	1.9	6.7	8.7
	Fire	2.5	2.2	8.2	11.4	--	--	--	--	--	--	--	--	2.4	2.5	5.8	9.1
	Hazmat	2.8	1.8	7.5	10.1	4.0	1.9	8.8	14.2	--	--	--	--	3.3	4.2	5.1	9.5
	Rescue	2.7	2.3	8.3	10.7	--	--	--	--	--	--	--	--	6.8	4.6	13.8	18.3
	<b>Total</b>	<b>2.4</b>	<b>1.7</b>	<b>7.0</b>	<b>9.4</b>	<b>3.3</b>	<b>1.9</b>	<b>6.6</b>	<b>9.7</b>	<b>2.9</b>	<b>2.0</b>	<b>6.9</b>	<b>9.6</b>	<b>2.4</b>	<b>2.5</b>	<b>6.6</b>	<b>9.4</b>
All	EMS	2.3	2.2	6.6	9.7	3.1	2.5	6.6	10.7	2.8	2.6	6.8	10.6	2.1	2.3	6.1	9.0
	Fire	2.6	2.2	8.1	11.4	1.1	0.8	3.5	5.4	--	--	--	--	2.3	2.4	5.1	8.1
	Hazmat	2.7	2.2	7.1	10.3	3.6	2.2	8.8	12.9	--	--	--	--	2.8	2.2	6.2	9.4
	Rescue	4.2	2.3	9.3	12.6	--	--	--	--	--	--	--	--	4.2	4.5	13.8	17.7
	<b>Total</b>	<b>2.3</b>	<b>2.2</b>	<b>6.9</b>	<b>9.9</b>	<b>3.2</b>	<b>2.5</b>	<b>6.7</b>	<b>10.8</b>	<b>2.8</b>	<b>2.6</b>	<b>6.8</b>	<b>10.6</b>	<b>2.3</b>	<b>2.4</b>	<b>6.1</b>	<b>9.1</b>

<sup>1</sup>D = Dispatch Time, TO = Turnout Time, TR = Travel Time, R = Response Time

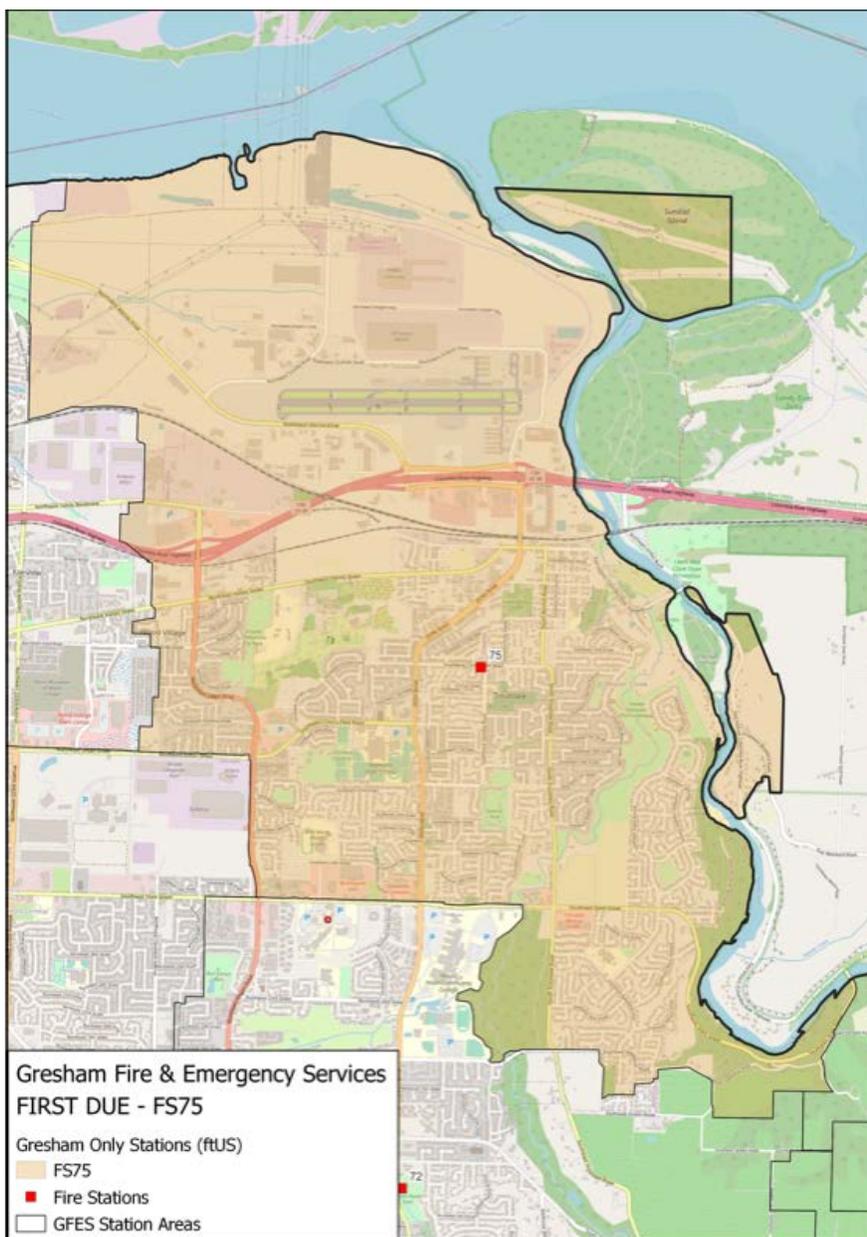
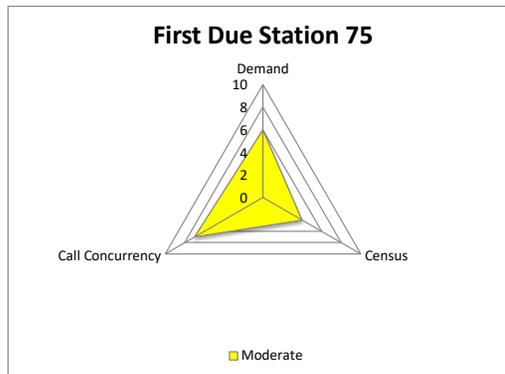
Figure 46: 90<sup>th</sup> Percentile Performance of 1<sup>st</sup> Arriving Primary Front-Line Units for Emergency Incidents by Unit ID and Reporting Period – Units Assigned to Station 74

Unit ID	Reporting Period	Dispatch Time	Turnout Time	Travel Time	Response Time	Sample Size <sup>1</sup>
		(Minutes)	(Minutes)	(Minutes)	(Minutes)	
E74	2018	2.2	1.9	6.6	9.5	1046
	2019	2.2	1.7	7.1	9.9	958
	2020	2.2	1.9	7.3	10.1	955
	2021	2.7	2.2	7.0	10.1	748
	<b>All</b>	<b>2.4</b>	<b>1.9</b>	<b>7.0</b>	<b>9.9</b>	<b>3707</b>
R74	2018	2.2	2.5	5.5	8.4	351
	2019	2.2	1.9	5.9	8.8	699
	2020	2.4	2.1	6.4	9.2	586
	2021	3.0	2.6	6.2	9.9	534
	<b>All</b>	<b>2.5</b>	<b>2.2</b>	<b>6.1</b>	<b>9.2</b>	<b>2170</b>

<sup>1</sup>Sample sizes reflect the number of responses made by first arriving primary front-line units to emergency calls; due to missing or excluded time data, sample sizes corresponding to individual table metrics may be smaller.

**GFES Station 75**

Apparatus	Minimum Staffing
Engine 75	3 personnel
Water Rescue 75	0 personnel – Cross staffed
<b>Total Minimum Staffing</b>	<b>3 personnel</b>



## Station – Current Deployment and Performance

### Station 75 First-due Area Historical Data Analysis

Figure 47: Number of Incidents Dispatched by Call Category and Reporting Period  
First-due Station 75

Call Category	Reporting Period <sup>1</sup>			
	2018	2019	2020	2021
<b>EMS</b>	<b>1,681</b>	<b>1,849</b>	<b>1,785</b>	<b>2,043</b>
Cardiac and Stroke	235	259	228	247
Seizure and Unconsciousness	160	170	237	173
Breathing Difficulty	149	206	187	203
Overdose and Psychiatric	226	230	284	218
MVA	80	92	92	81
Fall and Injury	354	400	355	448
Illness and Other	477	492	402	672
Interfacility Transfer	0	0	0	1
<b>Fire</b>	<b>366</b>	<b>408</b>	<b>482</b>	<b>489</b>
Structure Fire	8	10	18	23
Outside Fire	18	10	24	11
Vehicle Fire	16	13	15	11
Alarm	138	150	157	163
Hazardous Condition	62	68	87	68
Fire Other	26	18	44	30
Assist Citizen	79	120	129	168
Assist Police	18	19	7	14
Marine Incident	1	0	0	1
Aircraft Emergency	0	0	1	0
<b>Hazmat</b>	<b>16</b>	<b>15</b>	<b>15</b>	<b>18</b>
Hazmat	16	15	15	18
<b>Rescue</b>	<b>1</b>	<b>4</b>	<b>3</b>	<b>3</b>
Rescue	1	4	3	3
<b>Total</b>	<b>2,064</b>	<b>2,276</b>	<b>2,285</b>	<b>2,553</b>
<b>Average Calls per Day<sup>2</sup></b>	<b>1792.0</b>	<b>1937.0</b>	<b>1984.0</b>	<b>2308.0</b>
<b>YoY Growth</b>	<b>N/A</b>	<b>8.09%</b>	<b>2.43%</b>	<b>16.33%</b>

<sup>1</sup>Reporting periods reflect calendar years spanning January 1 to December 31 of each respective reporting period.

<sup>2</sup>Reporting period 2020 contained 366 days due to inclusion of leap year date February 29; the other reporting periods each contained 365 days.

Figure 48: Number of Responses by Unit ID and Reporting Period – Units Assigned to Station 75

Assigned Station	Unit ID	Reporting Period <sup>1</sup>			
		2018	2019	2020	2021
75	E75	1,679	1,805	1,737	1,811
	WR75	9	12	17	13
	RB75	1	2	4	2
	<b>Total</b>	<b>1,689</b>	<b>1,819</b>	<b>1,758</b>	<b>1,826</b>
	<b>Average Responses per Day<sup>2</sup></b>	<b>4.6</b>	<b>5.0</b>	<b>4.8</b>	<b>5.0</b>

<sup>1</sup>Reporting periods reflect calendar years spanning January 1 to December 31 of each respective reporting period.

<sup>2</sup>Reporting period 2020 contained 366 days due to inclusion of leap year date February 29; the other reporting periods each contained 365 days.

## Station – Current Deployment and Performance

Call concurrency within FDA 75 was calculated between 2018 and 2021. The call concurrency increased to 23.1% during the four-year reporting period. The call concurrency has remained below 11% over the four-year rating period.

Figure 49: Call Concurrency – First-due Station 75

First-due Station	Reporting Period	Number of Overlapped Calls	Total Number of Calls	Percentage of Overlapped Calls
75	2018	350	2,064	17.0
	2019	450	2,276	19.8
	2020	440	2,285	19.3
	2021	591	2,553	23.1
	<b>All</b>	<b>1,831</b>	<b>9,178</b>	<b>19.9</b>

Response time performance for FDA 75 was calculated over the four-year rating period (2018-2021). Analyses were restricted to within FDA 75 and were calculated by the first arriving unit. Benchmark compliance is a 10% improvement over the aggregated performance. Therefore, the benchmark performance is established at the City/Department level on, not within each FDA. Finally, a gap analysis between the baseline and benchmark performance was completed utilizing a stoplight approach. If greater than 90% performance (green), between 70% and 89% yellow, and below 70% would be red.

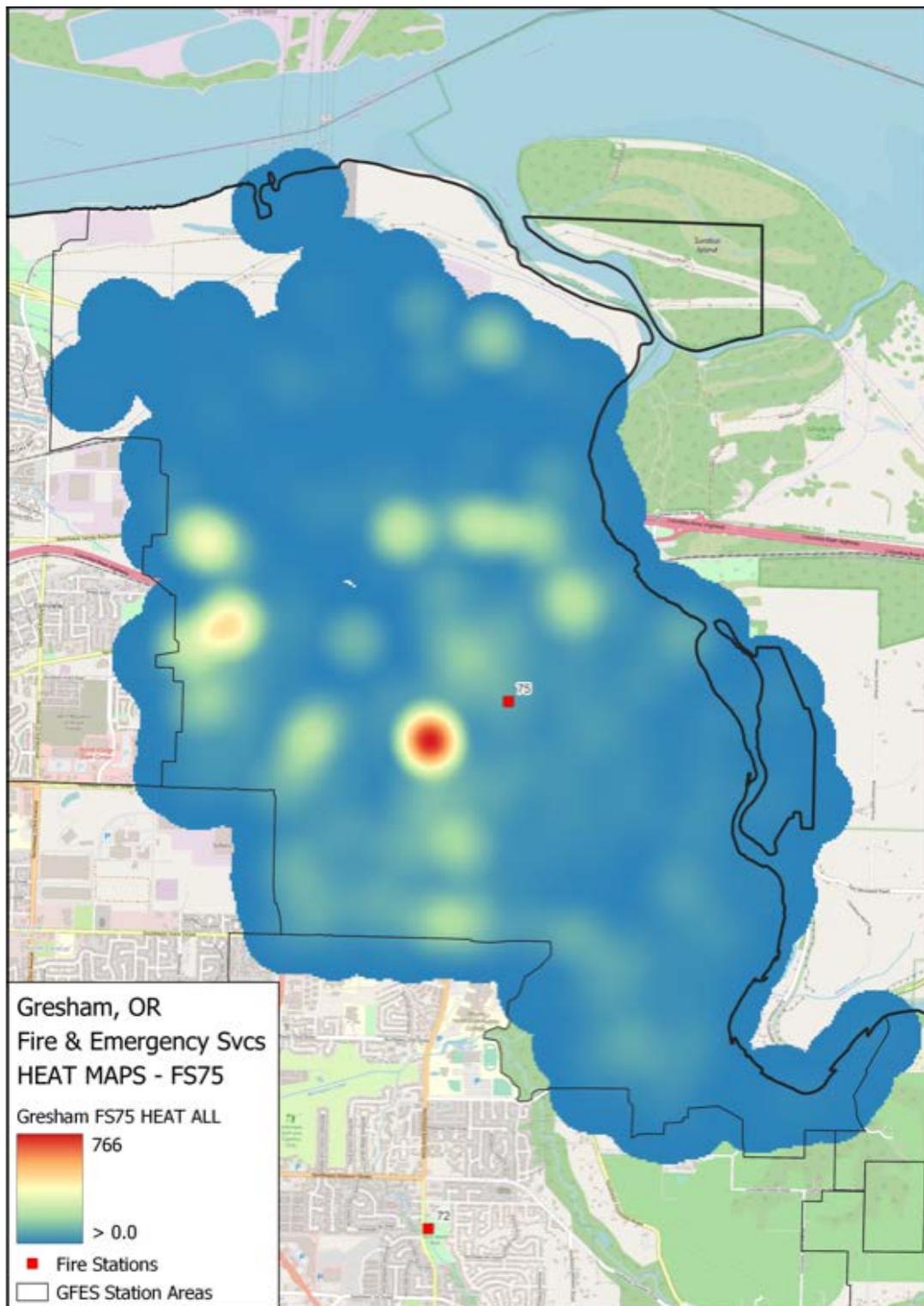
Table 50: Baseline 90th Percentile Performance of 1<sup>st</sup> Arriving Primary Front-Line Units for Emergency Incidents – Arrivals in First-due Station 75

First-due Station 75:		2018-2021	2018	2019	2020	2021	2018-2021 Benchmark	2018-2021 Compliance
1 <sup>st</sup> Arriving Baseline Performance								
<b>Alarm Handling</b>		2:25	2:05	2:15	2:19	2:52	2:11	87.1
<b>Turnout Time</b>		2:01	2:00	1:51	2:01	2:11	2:02	90.6
<b>Travel Time</b>	Urban	7:34	7:02	7:43	7:54	7:36	6:04	72.6
	Rural	10:43	11:08	10:43	8:24	21:22	8:50	76.9
<b>Total Response Time</b>	Urban	10:32	9:47	10:30	10:46	11:17	8:56	75.1
		n = 4,901	n = 1,233	n = 1,285	n = 1,259	n = 1,124		
	Rural	13:51	14:13	13:51	9:25	2:35	11:53	79.5
		n = 39	n = 19	n = 7	n = 6	n = 7		

Color coding legend: green fill ≥ 90%; yellow fill ≥ 70% to < 90%; red fill < 70%

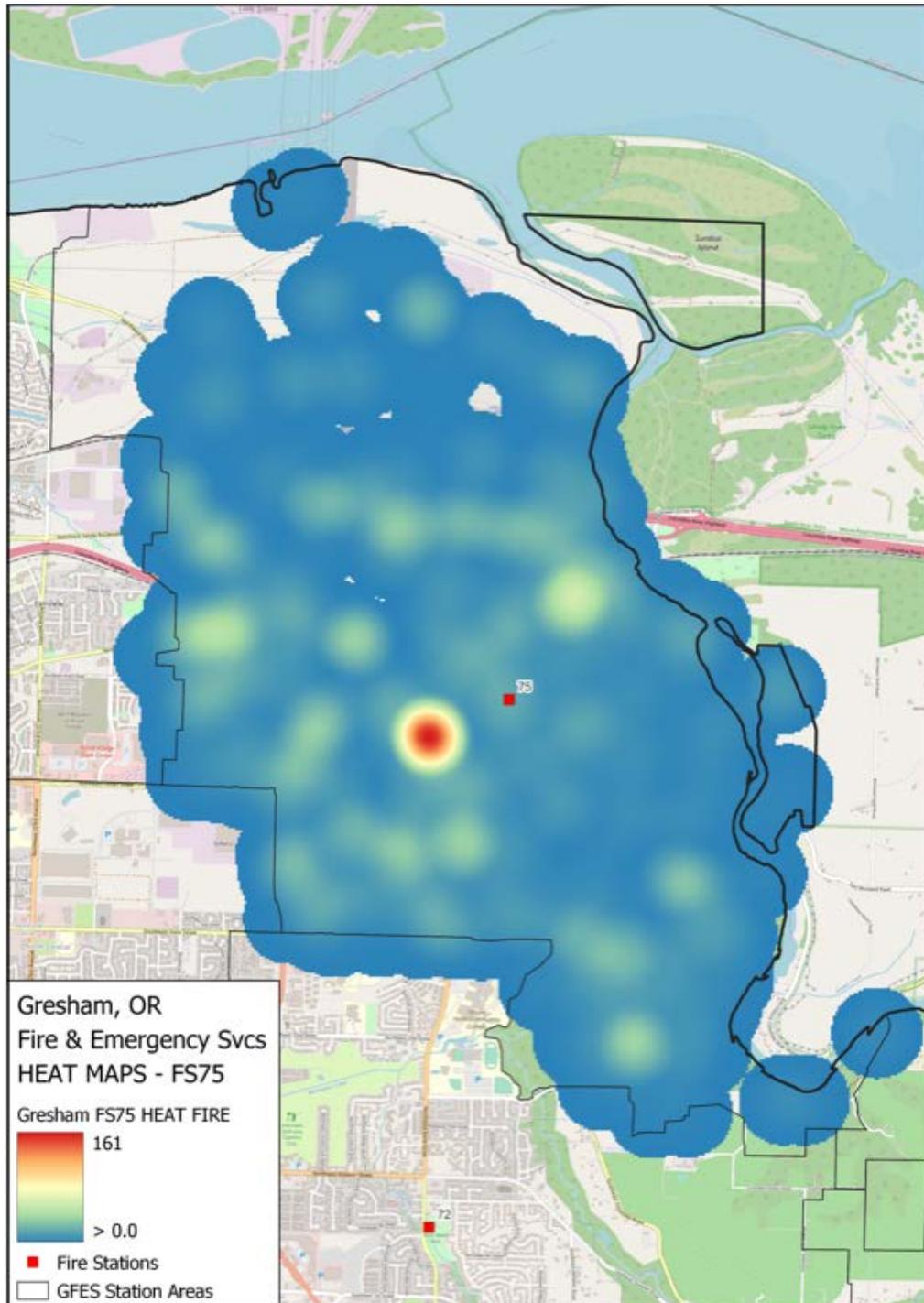
Overall Incidents Hot Spot Map

Most calls are distributed around the FDA with a cluster in the S.W. part of Station 75's FDA.



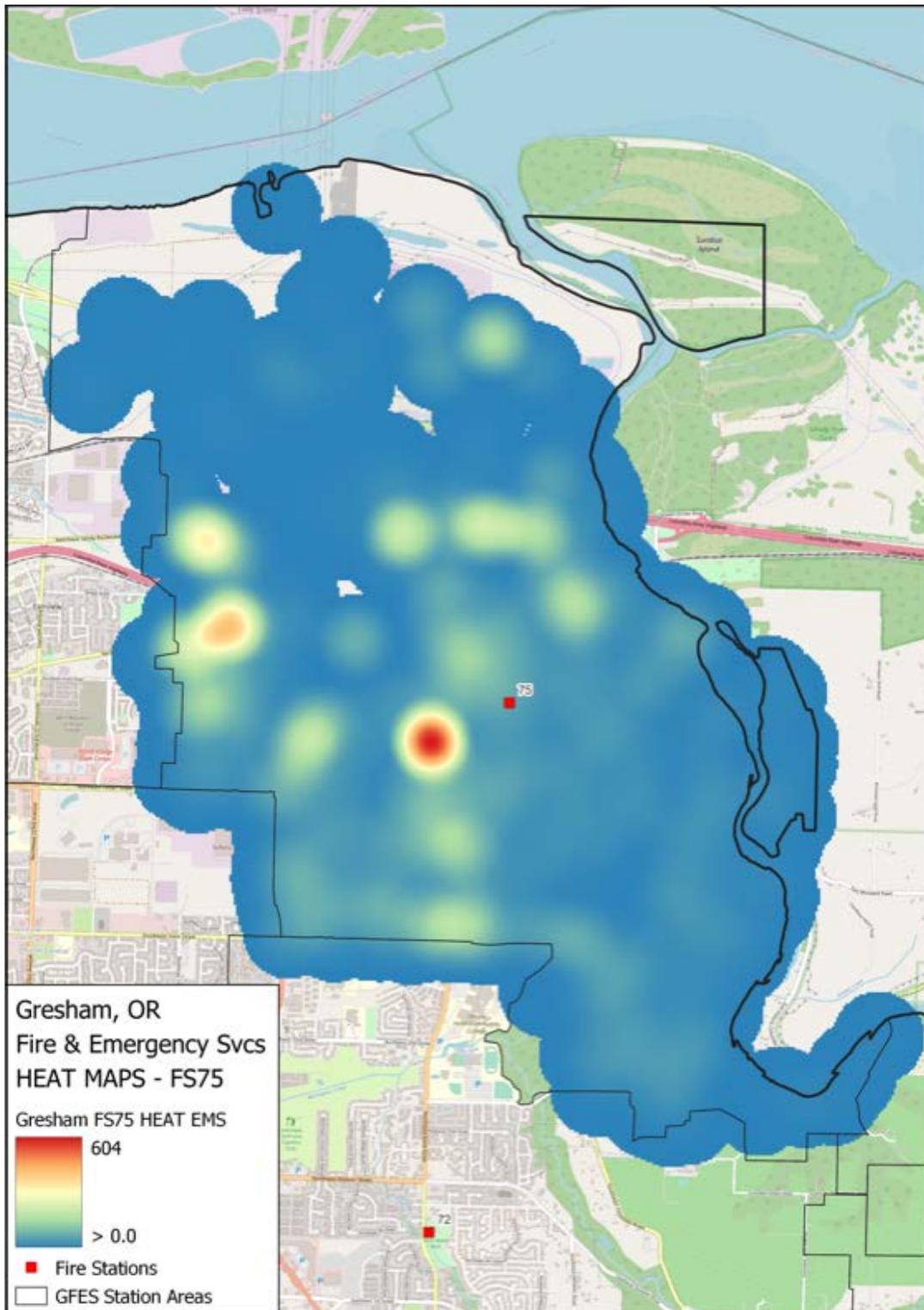
Fire Incidents Hot Spot Map

Most fire calls are distributed around the City with a cluster in the S.W. part of Station 75's FDA.



EMS Incidents Hot Spot Map

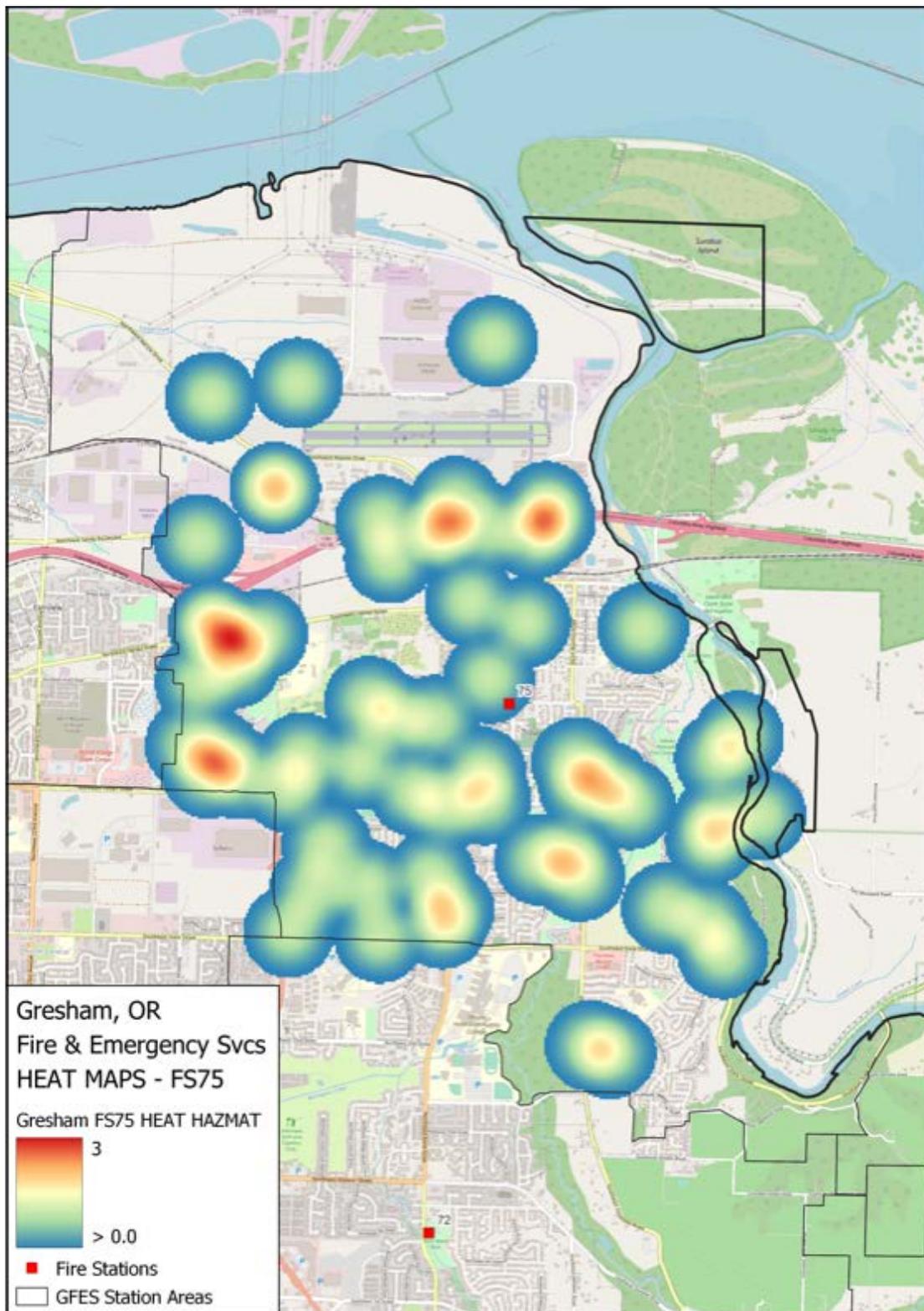
Many of the EMS calls distributed around the response are clustered in the S.W. part of Station 75's FDA.



## Station – Current Deployment and Performance

### Hazardous Materials Incidents Hot Spot Map

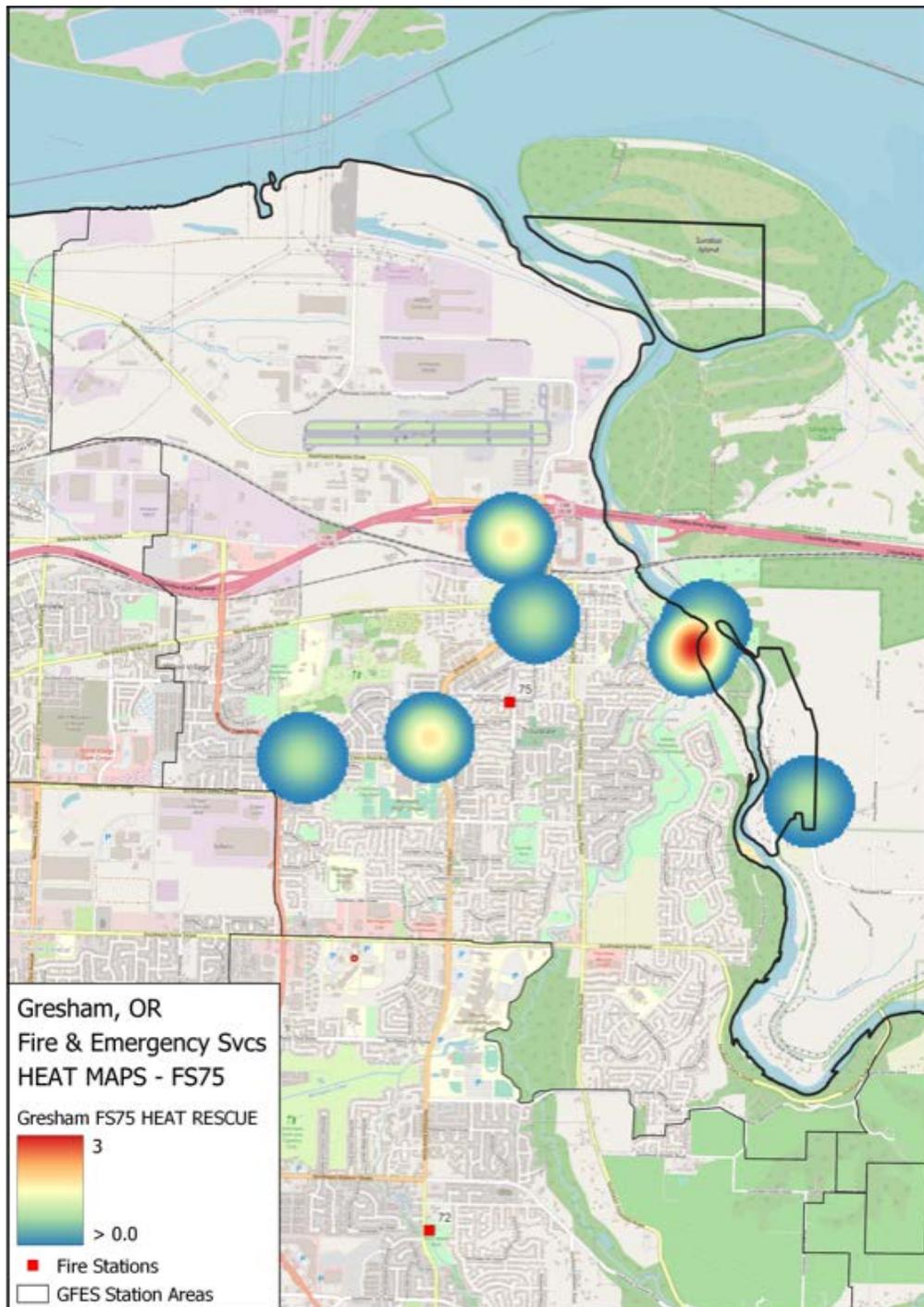
Hazardous materials incidents are distributed around the FDA with a clustered area in the western part of Station 75's FDA.



## Station – Current Deployment and Performance

### Rescue Incidents Hot Spot Map

Rescue incidents are distributed around Station 75's FDA, an increase clustered in the N.E. part of the response area.



## Station – Current Deployment and Performance

Table 51: 2017-2021 90<sup>th</sup> Percentile Performance<sup>1</sup> of 1<sup>st</sup> Arriving Primary Front-Line Units for Emergency Incidents by First-due Station, Program, and Risk Rating – Arrivals in First-due Station 75

First-due Station	Program	Low				Moderate				High				Maximum			
		D	TO	TR	R	D	TO	TR	R	D	TO	TR	R	D	TO	TR	R
		(Minutes)				(Minutes)				(Minutes)				(Minutes)			
75	EMS	2.3	1.5	7.1	9.2	3.2	1.5	7.0	10.4	2.7	2.1	7.2	10.3	2.7	1.6	5.9	8.8
	Fire	2.6	2.1	8.7	11.6	--	--	--	--	--	--	--	--	2.3	2.3	6.4	8.4
	Hazmat	3.8	2.0	7.1	10.6	3.5	2.4	9.0	12.3	--	--	--	--	2.3	2.0	7.3	9.7
	Rescue	1.8	1.6	9.3	10.7	--	--	--	--	--	--	--	--	2.0	2.1	6.4	9.0
	<b>Total</b>	<b>2.3</b>	<b>1.6</b>	<b>7.3</b>	<b>9.7</b>	<b>3.2</b>	<b>1.6</b>	<b>7.2</b>	<b>10.7</b>	<b>2.7</b>	<b>2.1</b>	<b>7.2</b>	<b>10.3</b>	<b>2.3</b>	<b>2.0</b>	<b>6.2</b>	<b>9.0</b>
All	EMS	2.3	2.2	6.6	9.7	3.1	2.5	6.6	10.7	2.8	2.6	6.8	10.6	2.1	2.3	6.1	9.0
	Fire	2.6	2.2	8.1	11.4	1.1	0.8	3.5	5.4	--	--	--	--	2.3	2.4	5.1	8.1
	Hazmat	2.7	2.2	7.1	10.3	3.6	2.2	8.8	12.9	--	--	--	--	2.8	2.2	6.2	9.4
	Rescue	4.2	2.3	9.3	12.6	--	--	--	--	--	--	--	--	4.2	4.5	13.8	17.7
	<b>Total</b>	<b>2.3</b>	<b>2.2</b>	<b>6.9</b>	<b>9.9</b>	<b>3.2</b>	<b>2.5</b>	<b>6.7</b>	<b>10.8</b>	<b>2.8</b>	<b>2.6</b>	<b>6.8</b>	<b>10.6</b>	<b>2.3</b>	<b>2.4</b>	<b>6.1</b>	<b>9.1</b>

<sup>1</sup>D = Dispatch Time, TO = Turnout Time, TR = Travel Time, R = Response Time

Table 52: 90<sup>th</sup> Percentile Performance of 1<sup>st</sup> Arriving Primary Front-Line Units for Emergency Incidents by Unit ID and Reporting Period – Units Assigned to Station 75

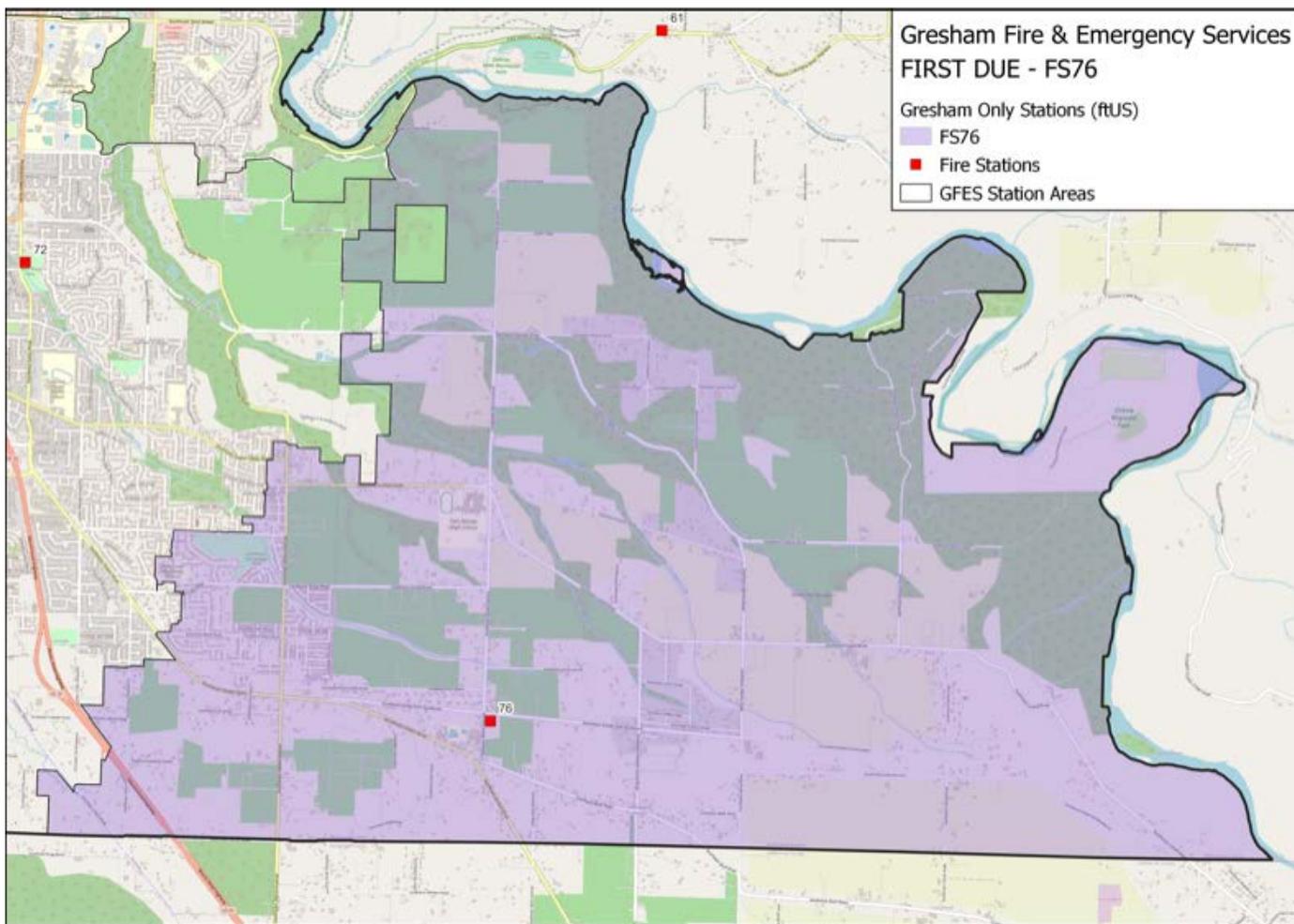
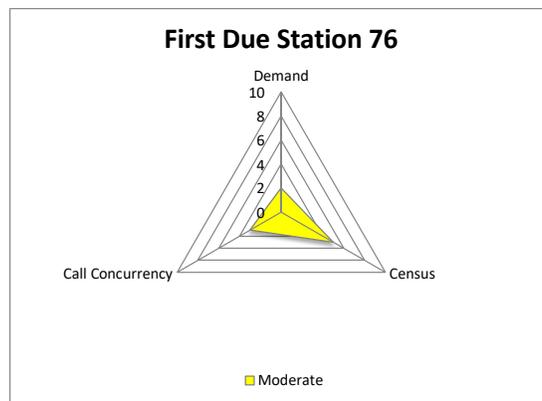
Unit ID	Reporting Period	Dispatch Time	Turnout Time	Travel Time	Response Time	Sample Size <sup>1</sup>
		(Minutes)	(Minutes)	(Minutes)	(Minutes)	
E75	2018	2.1	1.8	7.1	9.7	773
	2019	2.3	1.8	7.5	10.4	700
	2020	2.4	1.9	7.5	10.2	675
	2021	2.8	2.1	7.0	10.5	534
	<b>All</b>	<b>2.4</b>	<b>1.9</b>	<b>7.3</b>	<b>10.2</b>	<b>2682</b>

<sup>1</sup>Sample sizes reflect the number of responses made by first arriving primary front-line units to emergency calls; due to missing or excluded time data, sample sizes corresponding to individual table metrics may be smaller.

Station – Current Deployment and Performance

**GFES Station 76**

Apparatus	Minimum Staffing
Engine 76	3 personnel
Brush 76	0 personnel – Cross-staffed
<b>Total Minimum Staffing</b>	<b>3 personnel</b>



## Station – Current Deployment and Performance

### Station 76 First-due Area Historical Data Analysis

Figure 53: Number of Incidents Dispatched by Call Category and Reporting Period- First-due Station 76

Call Category	Reporting Period <sup>1</sup>			
	2018	2019	2020	2021
<b>EMS</b>	<b>392</b>	<b>458</b>	<b>412</b>	<b>457</b>
Cardiac and Stroke	61	70	76	85
Seizure and Unconsciousness	35	27	57	57
Breathing Difficulty	45	66	56	53
Overdose and Psychiatric	25	33	35	19
MVA	28	17	24	17
Fall and Injury	79	90	71	79
Illness and Other	119	155	93	139
Interfacility Transfer	0	0	0	8
<b>Fire</b>	<b>121</b>	<b>113</b>	<b>124</b>	<b>124</b>
Structure Fire	5	7	6	4
Outside Fire	7	2	12	5
Vehicle Fire	2	3	5	2
Alarm	26	27	29	35
Hazardous Condition	48	47	49	34
Fire Other	7	4	4	14
Assist Citizen	25	21	19	27
Assist Police	1	2	0	3
<b>Hazmat</b>	<b>0</b>	<b>5</b>	<b>1</b>	<b>3</b>
Hazmat	0	5	1	3
<b>Rescue</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>3</b>
Rescue	0	2	0	3
<b>Total</b>	<b>513</b>	<b>578</b>	<b>537</b>	<b>587</b>
<b>Average Calls per Day<sup>2</sup></b>	<b>1792.0</b>	<b>1937.0</b>	<b>1984.0</b>	<b>2308.0</b>
<b>YoY Growth</b>	<b>N/A</b>	<b>8.09%</b>	<b>2.43%</b>	<b>16.33%</b>

<sup>1</sup>Reporting periods reflect calendar years spanning January 1 to December 31 of each respective reporting period.

<sup>2</sup>Reporting period 2020 contained 366 days due to inclusion of leap year date February 29; the other reporting periods each contained 365 days.

Figure 54: Number of Responses by Unit ID and Reporting Period Units Assigned to Station 76

Assigned Station	Unit ID	Reporting Period <sup>1</sup>			
		2018	2019	2020	2021
76	E76	657	711	635	717
	BU76	16	11	52	87
	<b>Total</b>	<b>673</b>	<b>722</b>	<b>687</b>	<b>804</b>
	<b>Average Responses per Day<sup>2</sup></b>	<b>1.8</b>	<b>2.0</b>	<b>1.9</b>	<b>2.2</b>

## Station – Current Deployment and Performance

Call concurrency within FDA 76 was calculated between 2018 and 2021. The call concurrency increased to 10.1% during this three-year rating period. The call concurrency has remained below 11% over the three-year rating period.

Figure 55: Call Concurrency – First-due Station 76

First-due Station	Reporting Period	Number of Overlapped Calls	Total Number of Calls	Percentage of Overlapped Calls
76	2018	24	513	4.7
	2019	39	578	6.7
	2020	33	537	6.1
	2021	50	587	8.5
	<b>All</b>	<b>146</b>	<b>2,215</b>	<b>6.6</b>

Response time performance for FDA 76 was calculated over the four-year rating period (2018-2021). Analyses were restricted to within FDA 76 and were calculated by the first arriving unit. Benchmark compliance is a 10% improvement over the aggregated performance. Therefore, the benchmark performance is established at the City/Department level on, not within each FDA. Finally, a gap analysis between the baseline and benchmark performance was completed utilizing a stoplight approach. If greater than 90% performance (green), between 70% and 89% yellow, and below 70% would be red.

Figure 56: Baseline 90th Percentile Performance of 1<sup>st</sup> Arriving Primary Front-Line Units for Emergency Incidents – Arrivals in First-due Station 76

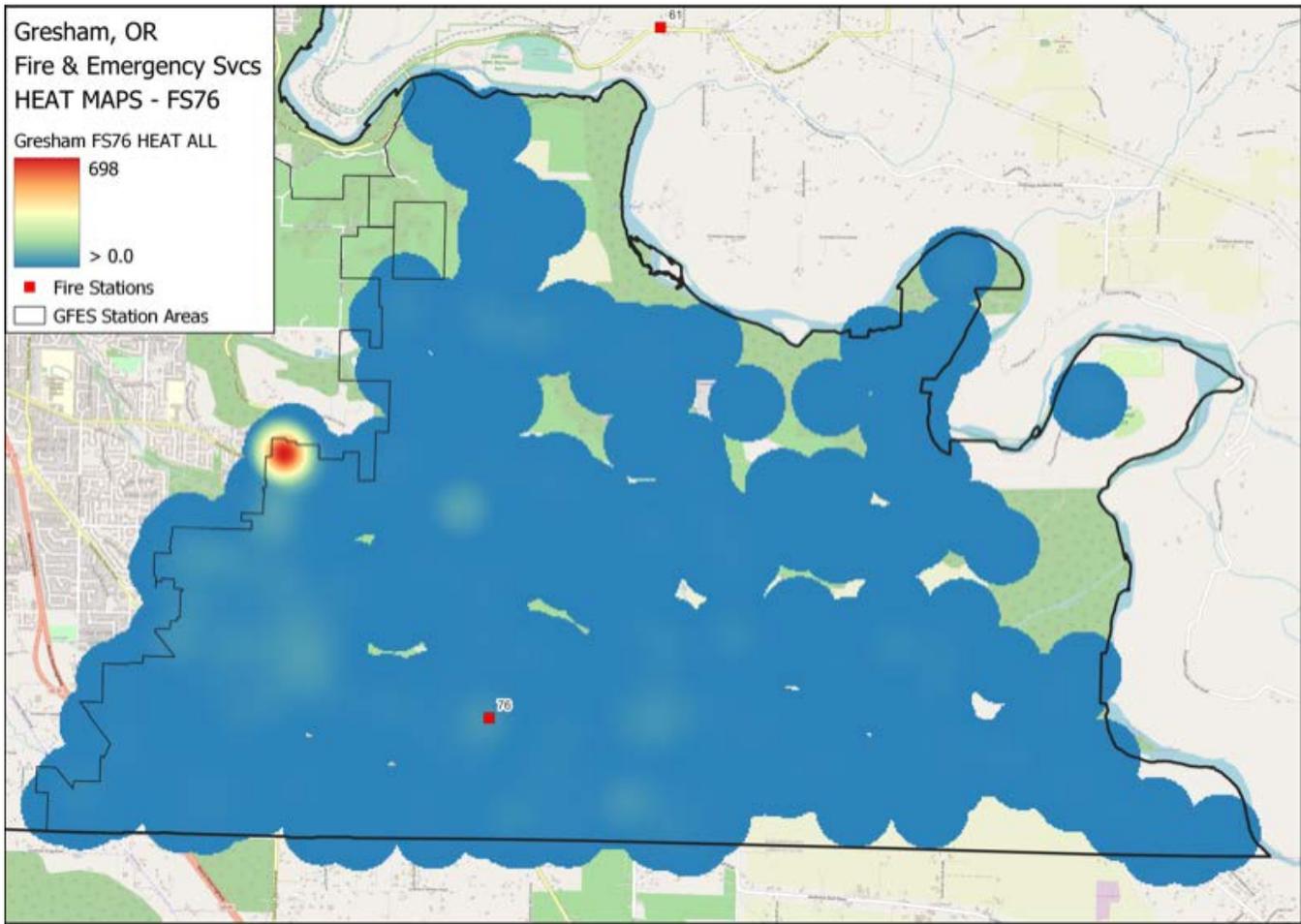
First-due Station 76:		2018-2021	2018	2019	2020	2021	2018-2021 Benchmark	2018-2021 Compliance
1 <sup>st</sup> Arriving Baseline Performance								
<b>Alarm Handling</b>		2:32	1:59	2:27	2:25	2:58	2:11	84.8
<b>Turnout Time</b>		2:14	2:15	1:45	2:14	2:38	2:02	85.6
<b>Travel Time</b>	Urban	6:47	5:59	6:30	6:45	7:17	6:04	74.3
	Rural	10:27	10:27	9:16	10:07	12:37	8:50	85.3
<b>Total Response Time</b>	Urban	10:18	9:21	9:27	9:55	11:42	8:56	73.0
		n = 682	n = 128	n = 179	n = 176	n = 199		
	Rural	13:38	12:52	13:15	13:19	16:18	11:53	84.4
		n = 661	n = 192	n = 161	n = 182	n = 126		

Color coding legend:   fill ≥ 90%;   fill ≥ 70% to < 90%;   fill < 70%

# Station – Current Deployment and Performance

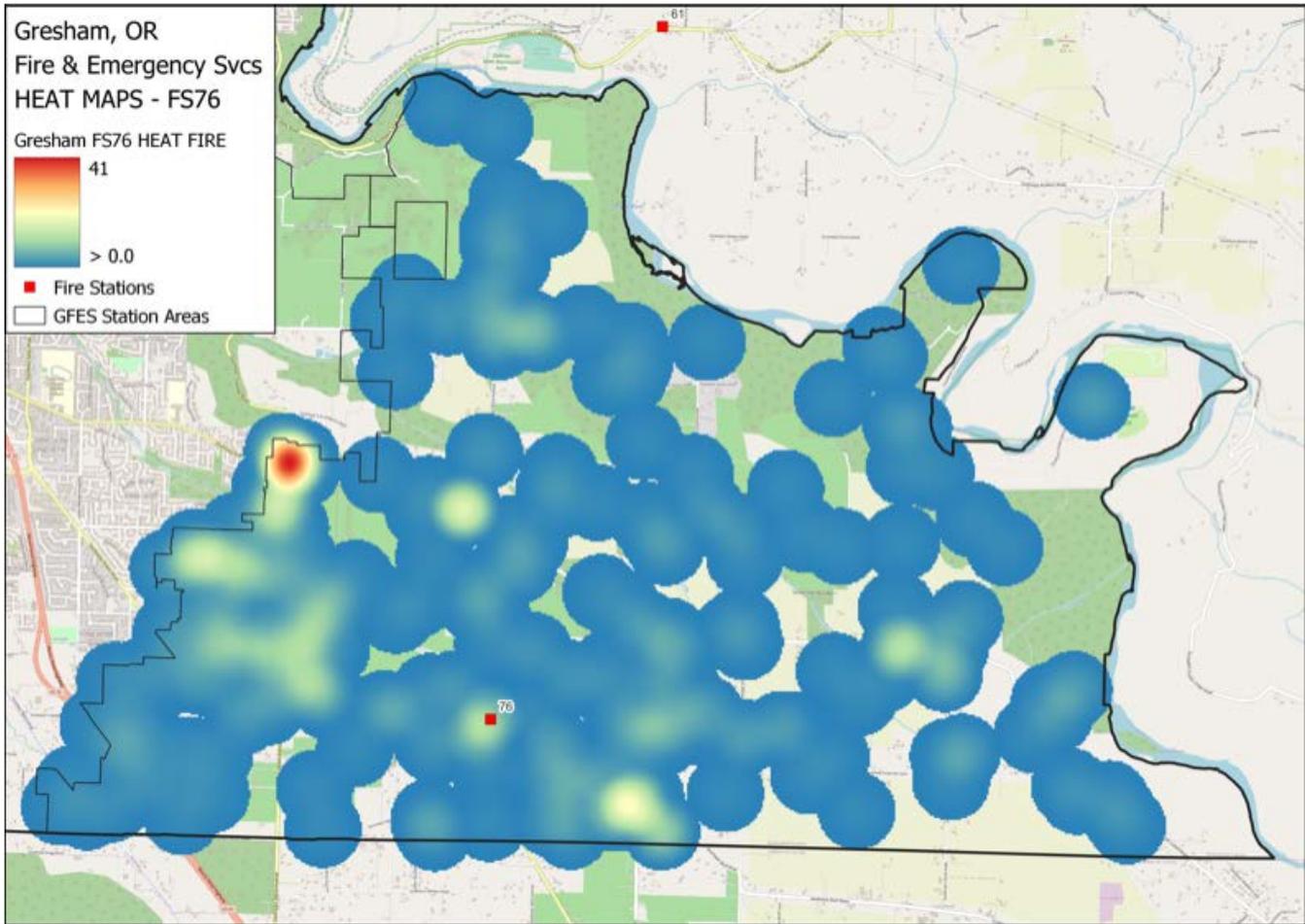
## Overall Incidents Hot Spot Map

Incidents are clustered in the N.W. part of Station 76's FDA

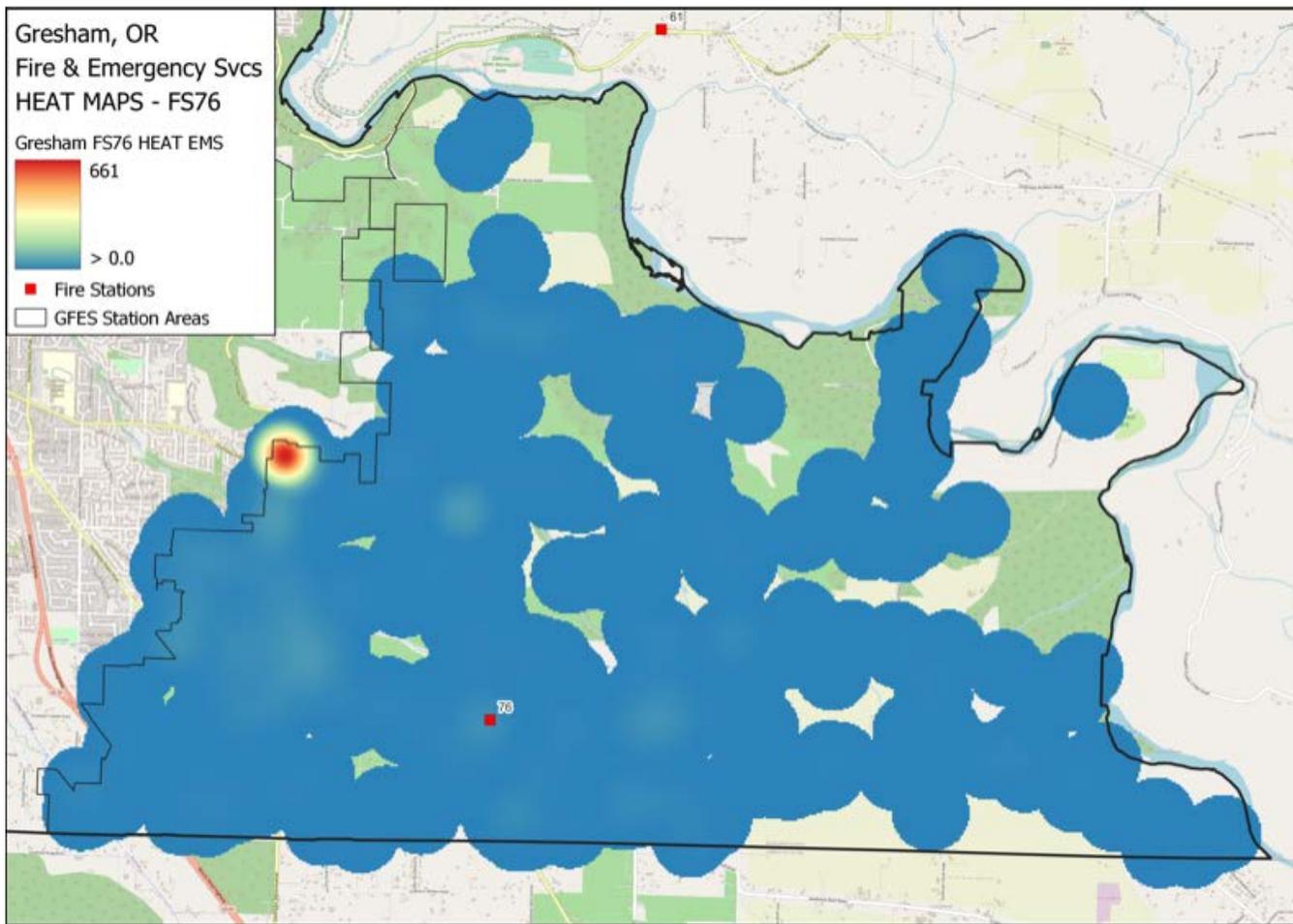


### Fire Incidents Hot Spot Map

Fire incidents are distributed around the FDA with a focused area in the N.W. section of Station 76's FDA.



EMS Incidents Hot Spot Map

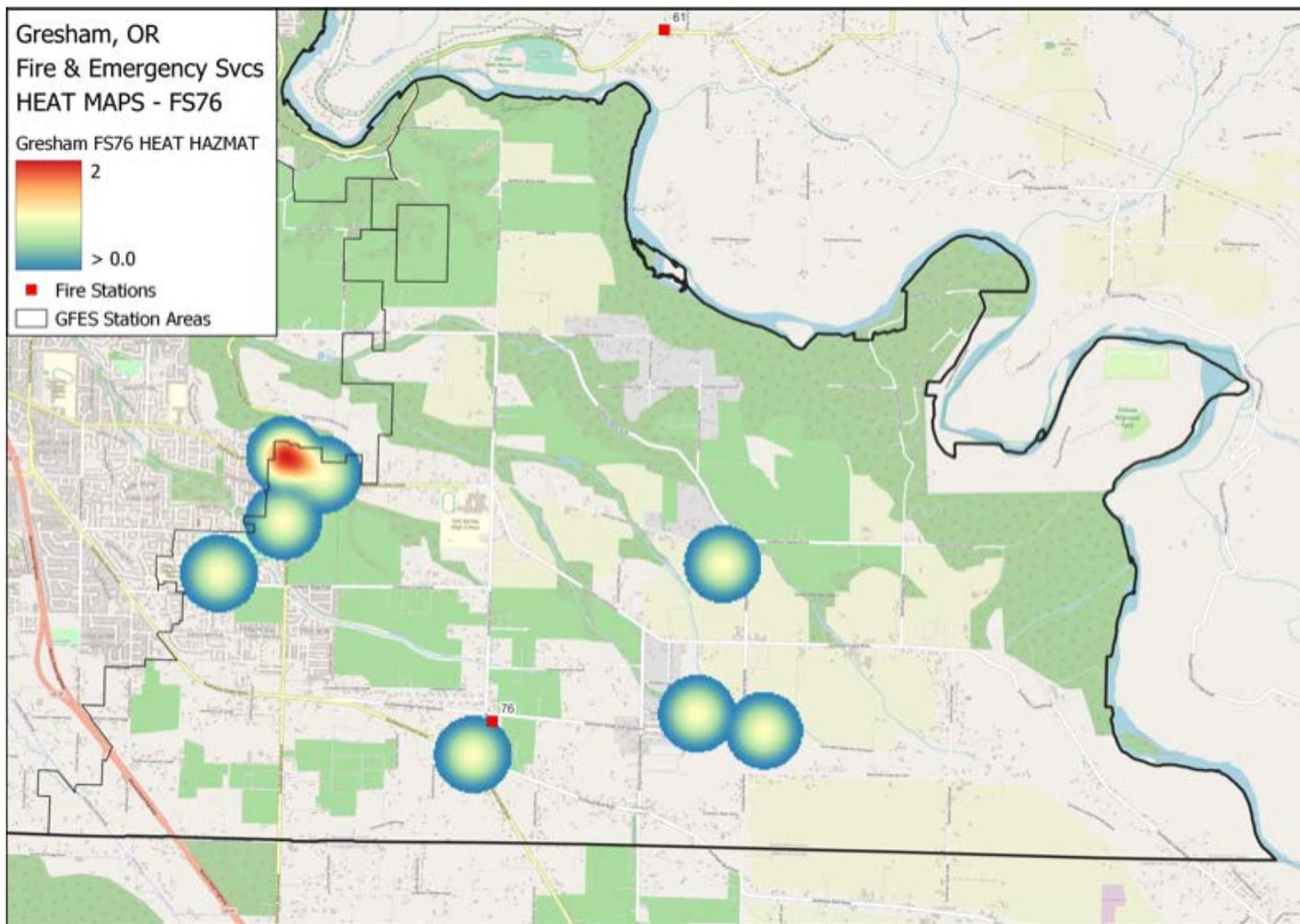


incidents are distributed around the FDA with a focused area in the N.W. section of Station 76's FDA.

## Station – Current Deployment and Performance

### Hazardous Materials Incidents Hot Spot Map

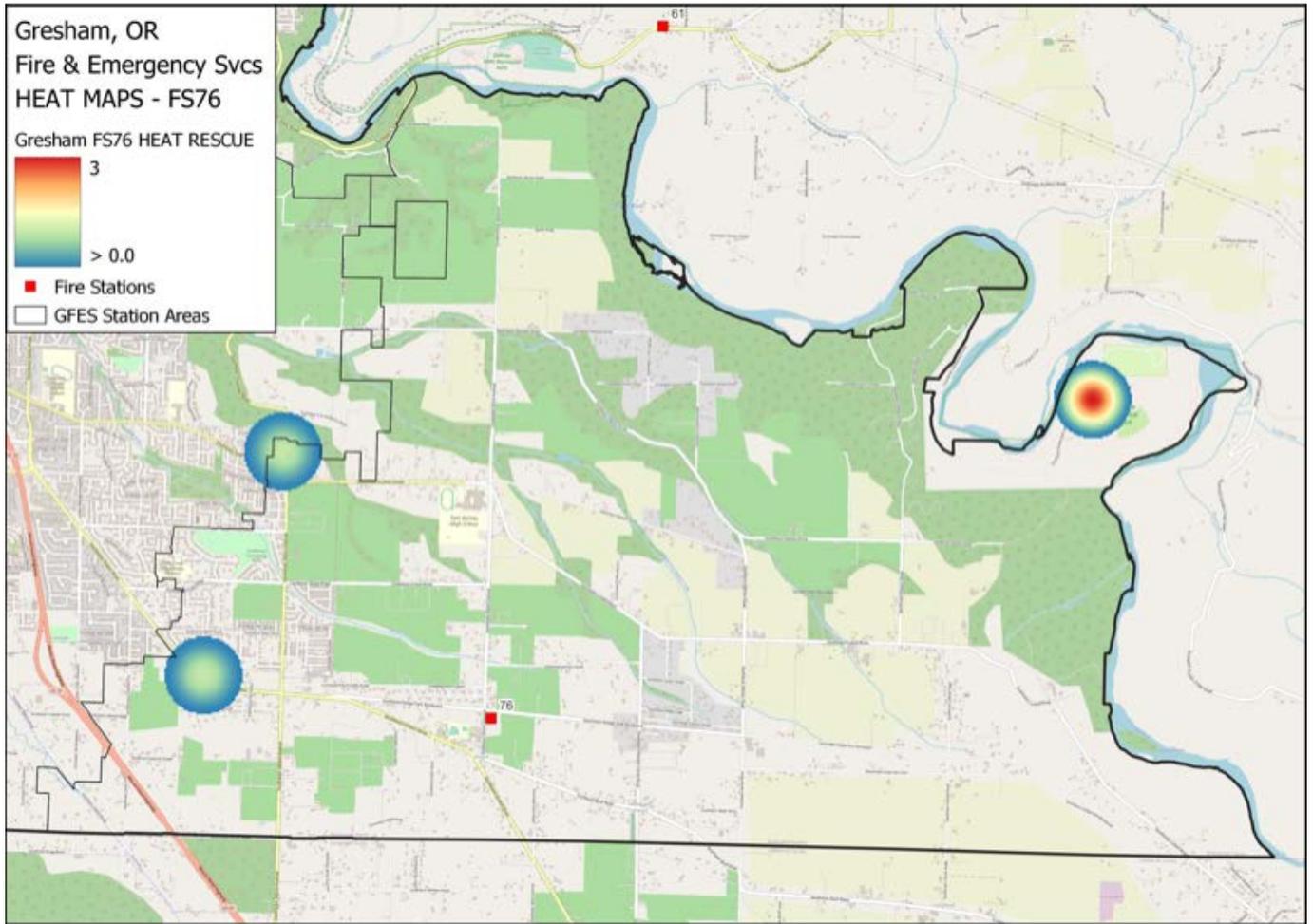
Hazardous materials incidents are scattered around the FDA with a focused area in the N.W. section of Station 76's FDA.



# Station – Current Deployment and Performance

## Rescue Incidents Hot Spot Map

Rescue incidents are focused in an area in the N.E. section of Station 76's FDA.



## Station – Current Deployment and Performance

Figure 57: 2017-2021 90<sup>th</sup> Percentile Performance<sup>1</sup> of 1<sup>st</sup> Arriving Primary Front-Line Units for Emergency Incidents by First-due Station, Program, and Risk Rating – Arrivals in First-due Station 76

First-due Station	Program	Low				Moderate				High				Maximum			
		D	TO	TR	R												
		(Minutes)				(Minutes)				(Minutes)				(Minutes)			
76	EMS	2.1	1.7	8.2	10.3	3.7	2.0	7.6	11.4	3.0	2.1	8.2	11.5	1.7	2.8	7.1	9.4
	Fire	3.1	2.3	11.9	15.7	--	--	--	--	--	--	--	--	2.7	2.2	8.6	13.3
	Hazmat	1.7	2.9	8.8	10.8	3.0	1.4	5.6	9.2	--	--	--	--	2.8	1.6	4.6	8.0
	Rescue	0.6	1.3	5.8	7.7	--	--	--	--	--	--	--	--	6.5	5.3	15.5	23.4
	<b>Total</b>	<b>2.3</b>	<b>1.9</b>	<b>8.7</b>	<b>11.3</b>	<b>3.7</b>	<b>2.0</b>	<b>7.6</b>	<b>11.4</b>	<b>3.0</b>	<b>2.1</b>	<b>8.2</b>	<b>11.5</b>	<b>2.8</b>	<b>2.8</b>	<b>8.6</b>	<b>13.3</b>
All	EMS	2.3	2.2	6.6	9.7	3.1	2.5	6.6	10.7	2.8	2.6	6.8	10.6	2.1	2.3	6.1	9.0
	Fire	2.6	2.2	8.1	11.4	1.1	0.8	3.5	5.4	--	--	--	--	2.3	2.4	5.1	8.1
	Hazmat	2.7	2.2	7.1	10.3	3.6	2.2	8.8	12.9	--	--	--	--	2.8	2.2	6.2	9.4
	Rescue	4.2	2.3	9.3	12.6	--	--	--	--	--	--	--	--	4.2	4.5	13.8	17.7
	<b>Total</b>	<b>2.3</b>	<b>2.2</b>	<b>6.9</b>	<b>9.9</b>	<b>3.2</b>	<b>2.5</b>	<b>6.7</b>	<b>10.8</b>	<b>2.8</b>	<b>2.6</b>	<b>6.8</b>	<b>10.6</b>	<b>2.3</b>	<b>2.4</b>	<b>6.1</b>	<b>9.1</b>

<sup>1</sup>D = Dispatch Time, TO = Turnout Time, TR = Travel Time, R = Response Time

Table 58: 90<sup>th</sup> Percentile Performance of 1<sup>st</sup> Arriving Primary Front-Line Units for Emergency Incidents by Unit ID and Reporting Period – Units Assigned to Station 76

Unit ID	Reporting Period	Dispatch Time	Turnout Time	Travel Time	Response Time	Sample Size <sup>1</sup>
		(Minutes)	(Minutes)	(Minutes)	(Minutes)	
E76	2018	2.0	2.2	7.0	10.3	315
	2019	2.3	1.9	7.1	9.9	333
	2020	2.3	2.1	7.3	10.1	272
	2021	2.7	2.3	7.7	11.5	242
	<b>All</b>	<b>2.3</b>	<b>2.1</b>	<b>7.3</b>	<b>10.5</b>	<b>1162</b>
BU76	2018	0.0	3.5	5.8	9.3	4
	2019	0.0	2.5	3.0	5.5	1
	2020	2.3	4.2	9.1	11.9	16
	2021	2.2	4.7	12.0	18.1	20
	<b>All</b>	<b>2.2</b>	<b>4.5</b>	<b>10.4</b>	<b>16.8</b>	<b>41</b>

<sup>1</sup>Sample sizes reflect the number of responses made by first arriving primary front-line units to emergency calls; due to missing or excluded time data, sample sizes corresponding to individual table metrics may be sma

## BENCHMARK AND BASELINE STATEMENTS AND TABLES

The agency has established benchmark performance objectives and baseline measurements for four major categories of emergency responses, including fires, emergency medical services, hazardous materials, and technical rescue incidents. These objectives and measures are also tailored by risk level classification for low, moderate, high, and maximum risks; this includes the amount of personnel required (effective response force) to perform the required critical tasking that aligns with both the needs of the incident and City policies and standard operating guidelines.

**Core Competency 2C.5**

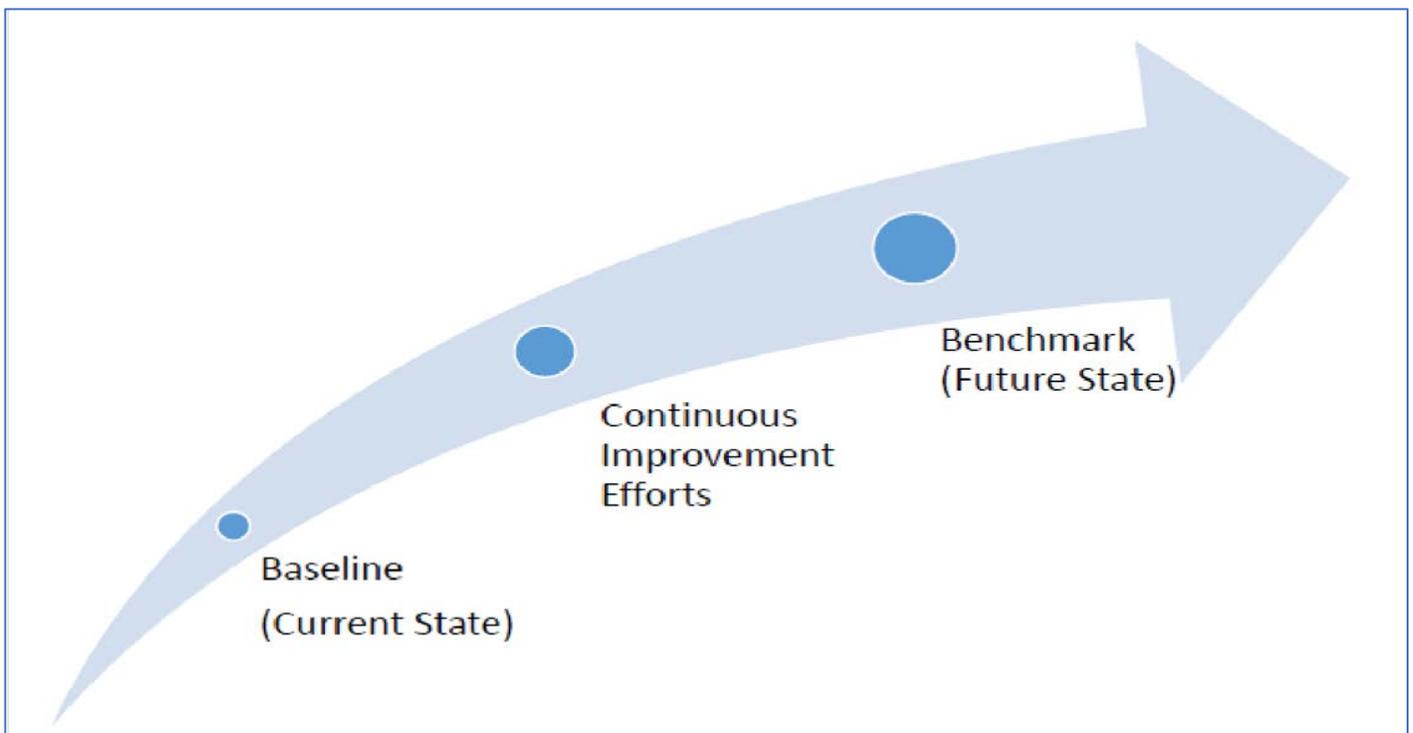
The agency has identified the total response time components for delivery of services in each service program area and found those services consistent and reliable within the entire response area.

In simple terms, the benchmark is the desired level of performance, and the baseline is the current level of performance. Rather than using averages for response times, these goals are measured against 90% fractals, aligning with best practices in the fire industry for both the Center for Public Safety Excellence and National Fire Protection Association standards. This measurement style affords a much more accurate view of performance.

**Performance Indicator 2C.7**

The agency has identified the total response time components for delivery of services in each service program area and assessed those services in each planning zone.

The benchmark statements and baseline charts all reflect current City practices. Historic data presented in the baseline charts represent actual incident data from 2018-2021. Automatic Baseline data is only available for certain risk levels for each of the four incident types due to some risk levels not happening frequently enough to produce valid data. These are clearly noted within each table and the corresponding baseline statements.



## Performance Statements - Fires

### Benchmark Statements

For **low-risk fire incidents**, the 90th percentile of total response time for the arrival of the first-due unit, staffed with a minimum of three firefighters, shall be 8 minutes and 56 seconds (urban) or 11 minutes and 53 seconds (rural). The first-due unit shall be capable of establishing command, sizing up the incident, utilizing appropriate tactics per City standard operating guidelines, developing an initial action plan, extending an appropriate hose line, and beginning an initial fire attack or rescue.

For **moderate-risk fires**, the 90th percentile of total response time for the arrival of the effective response force, consisting of 7 personnel, shall be 10 minutes (urban) or 15 minutes (rural). The effective response force shall have the capability to establish command, provide an uninterrupted water supply, advance an attack line and backup line for fire control, establish a rapid intervention crew, complete forcible entry, and ventilation, conduct primary and secondary searches, control utilities and perform salvage and overhaul operations. These critical tasks shall be done in a safe manner in accordance with department standard operating guidelines.

For **high-risk fires**, the 90th percentile of total response time for the arrival of the effective response force, consisting of 17 personnel, shall be 12 minutes (urban) or 17 minutes (rural). The effective response force shall have the capability to establish command, provide an uninterrupted water supply, advance an attack line and backup line for fire control, place elevated streams into service, establish a rapid intervention crew, complete forcible entry and ventilation, conduct primary and secondary searches, control utilities and perform salvage and overhaul operations. These critical tasks shall be done in a safe manner in accordance with department standard operating guidelines.

For **maximum-risk fires**, the 90th percentile of total response time for the arrival of the effective response force, consisting of 20 personnel, shall be 14 minutes (urban) or 20 minutes (rural). The effective response force shall have the capability to establish command, provide an uninterrupted water supply, advance multiple attack lines and backup lines for fire control, place elevated streams into service, establish a rapid intervention crew, complete multiple forcible entries, and ventilation procedures, conduct primary and secondary searches, control utilities, perform occupant evacuation and perform salvage and overhaul operations. These critical tasks shall be done in a safe manner in accordance with department standard operating guidelines.

Benchmarks and Performance Statements

**Performance Statements - Fires (restricted to within jurisdiction performance)**

**Baseline Statements**

For **low-risk fires**, the 90th percentile of total response time for the arrival of the first-due unit, staffed with a minimum of 3 firefighters, was 11 minutes and 9 seconds (urban) and 14 minutes and 45 seconds (rural). The first-due unit can establish command, size up the incident, utilize appropriate tactics per City standard operating guidelines, develop an initial action plan, extend an appropriate hose line, and begin an initial fire attack or rescue.

Figure 592: Low-Risk Fire Calls 90<sup>th</sup> percentile

Low-Risk Fire – 90 <sup>th</sup> Percentile Times – Baseline Performance			2018-2021	2018	2019	2020	2021
<b>Alarm Handling</b>	Pick-up to Dispatch	Urban	2:29	2:29	2:28	2:28	2:38
		Rural	3:38	3:29	3:36	3:56	3:17
<b>Turnout Time</b>	Turnout Time	Urban	2:14	2:06	2:03	2:20	2:42
	1 <sup>st</sup> Unit	Rural	2:15	2:10	2:02	2:22	2:36
<b>Travel Time</b>	Travel Time 1 <sup>st</sup> Unit <b>Distribution</b>	Urban	7:56	7:30	7:55	8:02	8:55
		Rural	11:08	10:50	10:25	11:10	15:24
	Travel Time ERF <b>Concentration</b>	Urban	NA	NA	NA	NA	NA
		Rural	NA	NA	NA	NA	NA
<b>Total Response Time</b>	Total Response Time 1st Unit on Scene <b>Distribution</b>	Urban	11:09	10:40	11:05	11:10	12:12
			n = 5,475	n = 1,585	n = 1,558	n = 1,679	n = 653
		Rural	14:45	14:13	14:40	14:34	22:00
			n = 398	n = 128	n = 102	n = 132	n = 36
	Total Response Time ERF <b>Concentration</b>	Urban	NA	NA	NA	NA	NA
		Rural	NA	NA	NA	NA	NA

Figure 60: Moderate Risk Fire Calls 90<sup>th</sup> percentile

Moderate-Risk Fire – 90 <sup>th</sup> Percentile Times – Baseline Performance			2018-2021	2018	2019	2020	2021
<b>Alarm Handling</b>	Pick-up to Dispatch	Urban	1:08	1:08	N/A	N/A	N/A
		Rural	N/A	N/A	N/A	N/A	N/A
<b>Turnout Time</b>	Turnout Time	Urban	0:50	0:50	N/A	N/A	N/A
	1 <sup>st</sup> Unit	Rural	N/A	N/A	N/A	N/A	N/A
<b>Travel Time</b>	Travel Time 1 <sup>st</sup> Unit <b>Distribution</b>	Urban	3:28	3:28	N/A	N/A	N/A
		Rural	N/A	N/A	N/A	N/A	N/A
	Travel Time ERF <b>Concentration</b>	Urban	4:08	4:08	N/A	N/A	N/A
		Rural	n = 1	n = 1	N/A	N/A	N/A
<b>Total Response Time</b>	Total Response Time 1st Unit on Scene <b>Distribution</b>	Urban	5:26	5:26	N/A	N/A	N/A
			n = 1	n = 1	N/A	N/A	N/A
		Rural	N/A	N/A	N/A	N/A	N/A
			N/A	N/A	N/A	N/A	N/A
	Total Response Time ERF <b>Concentration</b>	Urban	6:08	6:08	N/A	N/A	N/A
		Rural	N/A	N/A	N/A	N/A	N/A

**Moderate risk fires**, the 90th percentile of total response time for the arrival of the effective response force, consisting of 7 personnel, was not statistically relevant since only one incident occurred where the ERF was assembled. The effective response force has the capability to establish command, provide an uninterrupted water supply, advance an attack line and backup line for fire control,

establish a rapid intervention crew, complete forcible entry and ventilation, conduct primary and secondary searches, control utilities and perform salvage and overhaul operations. These critical tasks are done in a safe manner in accordance with department standard operating guidelines.

**Performance Statements – Fires continued**

**Baseline Statements**

For **high-risk fires**, the 90th percentile of total response time for the arrival of the effective response force, consisting of 17 personnel, was not statistically relevant because zero incidents occurred where the ERF was assembled. The effective response force has the capability to establish command, provide an uninterrupted water supply, advance an

High-Risk Fire – 90 <sup>th</sup> Percentile Times – Baseline Performance			2018-2021	2018	2019	2020	2021
<b>Alarm Handling</b>	Pick-up to Dispatch	Urban	N/A	N/A	N/A	N/A	N/A
		Rural	N/A	N/A	N/A	N/A	N/A
<b>Turnout Time</b>	Turnout Time	Urban	N/A	N/A	N/A	N/A	N/A
		1 <sup>st</sup> Unit	Rural	N/A	N/A	N/A	N/A
<b>Travel Time</b>	Travel Time 1 <sup>st</sup> Unit <b>Distribution</b>	Urban	N/A	N/A	N/A	N/A	N/A
		Rural	N/A	N/A	N/A	N/A	N/A
	Travel Time ERF <b>Concentration</b>	Urban	N/A	N/A	N/A	N/A	N/A
		Rural	N/A	N/A	N/A	N/A	N/A
<b>Total Response Time</b>	Total Response Time 1 <sup>st</sup> Unit on Scene <b>Distribution</b>	Urban	N/A	N/A	N/A	N/A	N/A
			N/A	N/A	N/A	N/A	N/A
		Rural	N/A	N/A	N/A	N/A	N/A
	Total Response Time ERF <b>Concentration</b>		Urban	N/A	N/A	N/A	N/A
		N/A		N/A	N/A	N/A	N/A
		Rural	N/A	N/A	N/A	N/A	N/A

attack line and backup line for fire control, place elevated streams into service, establish a rapid intervention crew, complete forcible entry and ventilation, conduct primary and secondary searches, control utilities and perform salvage and overhaul operations. These critical tasks are done in a safe manner in accordance with department standard operating guidelines.

For **maximum risk fires**, the 90th percentile of total response time for the arrival of the effective response force, consisting of 20 personnel, was able to be assembled in the urban areas in 14 minutes and 47 seconds and 83 minutes and 14 seconds in the rural response areas. The effective response force has the capability to establish command, provide an uninterrupted water supply, advance multiple attack lines and

Maximum-Risk Fire – 90 <sup>th</sup> Percentile Times – Baseline Performance			2018-2021	2018	2019	2020	2021
<b>Alarm Handling</b>	Pick-up to Dispatch	Urban	2:16	2:13	2:08	2:30	1:59
		Rural	2:42	1:29	5:08	1:56	4:15
<b>Turnout Time</b>	Turnout Time	Urban	2:17	2:17	2:11	2:27	1:40
		1 <sup>st</sup> Unit	Rural	2:53	3:06	2:05	3:32
<b>Travel Time</b>	Travel Time 1 <sup>st</sup> Unit <b>Distribution</b>	Urban	4:59	4:43	4:47	5:32	5:08
		Rural	11:31	5:52	8:37	14:23	13:22
	Travel Time ERF <b>Concentration</b>	Urban	9:00	11:35	9:00	8:37	8:23
		Rural	22:30	22:30	17:11	10:17	10:54
<b>Total Response Time</b>	Total Response Time 1 <sup>st</sup> Unit on Scene <b>Distribution</b>	Urban	7:57	7:17	6:52	8:39	7:48
			n = 472	n = 121	n = 144	n = 147	n = 60
		Rural	15:49	8:00	13:15	16:21	16:28
	n = 33		n = 5	n = 9	n = 13	n = 6	
	Total Response Time ERF <b>Concentration</b>	Urban	14:47	32:30	13:24	14:23	12:07
			n = 242	n = 60	n = 78	n = 71	n = 33
Rural		83:14	60:10	83:14	14:35	15:55	
	n = 8	n = 2	n = 1	n = 4	n = 1		

backup lines for fire control, place elevated streams into service, establish a rapid intervention crew, complete multiple forcible entries, and ventilation procedures, and conduct primary and secondary searches. These critical tasks are done in a safe manner in accordance with department standard operating guidelines:

## Performance Statements - Emergency Medical Services (EMS)

### Benchmark Statements

For **low-risk EMS incidents**, the 90th percentile of total response time for the arrival of the first-due unit, staffed with a minimum of two firefighters, shall be 8 minutes and 56 seconds (urban) and 11 minutes and 53 seconds (rural). The first-due unit shall be capable of establishing command, sizing up the incident, conducting an initial patient assessment, obtaining vitals and patient medical history, initiating basic life support measures in accordance with City standard operating guidelines, and transporting to an appropriate health care facility.

For **moderate-risk EMS incidents**, the 90th percentile of total response time for the arrival of the effective response force, consisting of 3 personnel, shall be 8 minutes and 56 seconds (urban) and 11 minutes and 53 seconds (rural). The units shall be capable of establishing command, sizing up the incident, conducting an initial patient assessment, obtaining vitals and patient medical history, initiating advanced life support efforts in accordance with City standard operating guidelines, and transporting to an appropriate health care facility.

For **high-risk EMS incidents**, the 90th percentile of total response time for the arrival of the effective response force, consisting of 6 personnel, shall be 12 minutes (urban) and 17 minutes (rural). The units shall be capable of establishing command, sizing up the incident, conducting initial patient assessments for multiple patients, obtaining vitals and patient medical history, initiating advanced life support efforts in accordance with City standard operating guidelines transporting several patients to an appropriate health care facility.

For **maximum-risk EMS incidents**, the 90th percentile of total response time for the arrival of the effective response force, consisting of 24 personnel, shall be 14 minutes (urban) and 20 minutes (rural). The units shall be capable of establishing command, sizing up the incident, triaging multiple patients simultaneously, conducting initial patient assessments for multiple patients, obtaining vitals and patient medical history, initiating basic and advanced life support measures in accordance with city standard operating guidelines, setting up an onsite treatment and triage location, and transporting multiple patients simultaneously to multiple health care facilities.

## Benchmarks and Performance Statements

### Performance Statements - Emergency Medical Services (EMS)

#### Baseline Statements

For **low-risk emergency medical services incidents**, the 90th percentile of total response time for the arrival of the first-due unit, staffed with a minimum of two firefighters, was 9 minutes and 37 seconds (urban) and 12 minutes and 5 seconds (rural). The first-due unit shall be capable of establishing command, sizing up the incident, conducting an initial patient assessment, obtaining vitals and patient medical history, initiating basic life support measures in accordance with city standard operating guidelines, and transporting to an appropriate health care facility.

*Figure 61: Baseline 90th Percentile Performance of Primary Front-Line Arriving Units for Emergency EMS Incidents – Low Risk (1<sup>st</sup> Arrival ERF)*

Low-Risk EMS – 90 <sup>th</sup> Percentile Times – Baseline Performance			2018-2021	2018	2019	2020	2021
<b>Alarm Handling</b>	Pick-up to Dispatch	Urban	2:17	2:05	2:07	2:15	2:46
		Rural	2:14	1:47	2:18	2:13	2:50
<b>Turnout Time</b>	Turnout Time 1 <sup>st</sup> Unit	Urban	2:13	2:11	2:06	2:14	2:28
		Rural	2:17	2:20	2:05	2:10	2:29
<b>Travel Time</b>	Travel Time 1 <sup>st</sup> Unit <b>Distribution</b>	Urban	6:32	5:59	6:26	6:55	6:52
		Rural	9:09	8:56	9:07	9:40	8:15
	Travel Time ERF <b>Concentration</b>	Urban	NA	NA	NA	NA	NA
		Rural	NA	NA	NA	NA	NA
<b>Total Response Time</b>	Total Response Time 1 <sup>st</sup> Unit on Scene <b>Distribution</b>	Urban	9:37	8:55	9:19	9:55	10:26
			n = 34,142	n = 9,497	n = 9,886	n = 9,304	n = 5,455
		Rural	12:05	11:35	12:17	12:07	12:30
			n = 733	n = 237	n = 189	n = 203	n = 104
	Total Response Time ERF <b>Concentration</b>	Urban	NA	NA	NA	NA	NA
			NA	NA	NA	NA	NA
Rural		NA	NA	NA	NA	NA	
		NA	NA	NA	NA	NA	

## Benchmarks and Performance Statements

For **moderate-risk EMS incidents**, the 90th percentile of total response time for the arrival of the effective response force, consisting of 3 personnel, was 10 minutes and 35 seconds (urban) and 12 minutes and 14 seconds (rural). The units shall be capable of establishing command, sizing up the incident, conducting an initial patient assessment, obtaining vitals and patient medical history, initiating advanced life support efforts in accordance with City standard operating guidelines, and transporting to an appropriate health care facility (see below figure).

Figure 62: Baseline 90th Percentile Performance of Primary Front-Line Arriving Units for Emergency EMS Incidents – Moderate Risk (1<sup>st</sup> Arrival ERF)

Moderate-Risk EMS – 90 <sup>th</sup> Percentile Times – Baseline Performance			2018-2021	2018	2019	2020	2021
<b>Alarm Handling</b>	Pick-up to Dispatch	Urban	3:07	1:22	1:50	1:26	3:15
		Rural	3:18	1:52	5:33	1:14	3:38
<b>Turnout Time</b>	Turnout Time 1 <sup>st</sup> Unit	Urban	2:32	2:09	2:13	2:16	2:35
		Rural	2:30	2:55	1:06	2:48	2:30
<b>Travel Time</b>	Travel Time 1 <sup>st</sup> Unit <b>Distribution</b>	Urban	6:31	5:24	5:21	6:20	6:37
		Rural	8:16	7:56	8:16	10:07	8:47
	Travel Time ERF <b>Concentration</b>	Urban	NA	NA	NA	NA	NA
		Rural	NA	NA	NA	NA	NA
<b>Total Response Time</b>	Total Response Time 1 <sup>st</sup> Unit on Scene <b>Distribution</b>	Urban	10:35	7:49	8:14	9:10	10:50
			n = 2,228	n = 131	n = 147	n = 146	n = 1,804
		Rural	12:14	11:24	12:05	13:22	12:18
			n = 53	n = 7	n = 4	n = 8	n = 34
	Total Response Time ERF <b>Concentration</b>	Urban	NA	NA	NA	NA	NA
			NA	NA	NA	NA	NA
Rural		NA	NA	NA	NA	NA	
		NA	NA	NA	NA	NA	

Figure 63: Baseline 90th Percentile Performance of Primary Front-Line Arriving Units for Emergency EMS Incidents – High Risk (2<sup>nd</sup> Arrival ERF)

High-Risk EMS – 90 <sup>th</sup> Percentile Times – Baseline Performance			2018-2021	2018	2019	2020	2021
<b>Alarm Handling</b>	Pick-up to Dispatch	Urban	2:46	N/A	N/A	N/A	2:46
		Rural	2:51	N/A	N/A	N/A	2:51
<b>Turnout Time</b>	Turnout Time 1 <sup>st</sup> Unit	Urban	2:37	N/A	N/A	N/A	2:37
		Rural	2:16	N/A	N/A	N/A	2:16
<b>Travel Time</b>	Travel Time 1 <sup>st</sup> Unit <b>Distribution</b>	Urban	6:45	N/A	N/A	N/A	6:45
		Rural	11:33	N/A	N/A	N/A	11:33
	Travel Time ERF <b>Concentration</b>	Urban	10:04	N.A.	N.A.	N.A.	10:04
		Rural	9:37	N.A.	N.A.	N.A.	9:37
<b>Total Response Time</b>	Total Response Time 1 <sup>st</sup> Unit on Scene <b>Distribution</b>	Urban	10:31	N/A	N/A	N/A	10:31
			n = 2,610	N/A	N/A	N/A	n = 2,610
		Rural	16:09	N/A	N/A	N/A	16:09
			n = 49	N/A	N/A	N/A	n = 49
	Total Response Time ERF <b>Concentration</b>	Urban	27:36	NA	NA	NA	27:36
			n = 46	NA	NA	NA	n = 46
Rural		27:01	NA	NA	NA	27:01	
		n = 3	NA	NA	NA	n = 3	

For **high-risk EMS incidents**, the 90th percentile of total response time for the arrival of the effective response force, consisting of 6 personnel, was 27 minutes and 36 seconds (urban) and 27 minutes and 01 seconds (rural). The units shall be capable of establishing command, sizing up the incident, conducting initial patient assessments for multiple patients, obtaining vitals and patient medical history, initiating advanced

## Benchmarks and Performance Statements

life support efforts in accordance with City standard operating guidelines transporting several patients to an appropriate health care facility.

For **Maximum risk EMS incidents**, the 90th percentile of total response time for the arrival of the effective response force, consisting of 24 personnel, was not statistically relevant because zero incidents occurred where the ERF was assembled. The units shall be capable of establishing command, sizing up the incident, conducting as initial patient assessment, obtaining vitals and patient medical history, initiating advanced life support efforts in accordance with City standard operating guidelines, and transporting to an appropriate health care facility.

Figure 64: Baseline 90th Percentile Performance of Primary Front-Line Arriving Units for Emergency EMS Incidents – Maximum Risk (9<sup>th</sup> Arrival ERF)

Maximum-Risk EMS – 90 <sup>th</sup> Percentile Times – Baseline Performance			2018-2021	2018	2019	2020	2021
<b>Alarm Handling</b>	Pick-up to Dispatch	Urban	2:02	1:33	1:25	1:33	2:09
		Rural	2:17	1:41	4:32	1:43	2:42
<b>Turnout Time</b>	Turnout Time 1 <sup>st</sup> Unit	Urban	2:18	2:19	1:54	1:54	2:30
		Rural	2:13	1:49	2:42	2:02	2:52
<b>Travel Time</b>	Travel Time 1 <sup>st</sup> Unit <b>Distribution</b>	Urban	5:51	6:27	5:31	5:42	5:51
		Rural	6:39	6:08	6:41	6:39	7:07
	Travel Time ERF <b>Concentration</b>	Urban	NA	NA	NA	NA	NA
		Rural	NA	NA	NA	NA	NA
<b>Total Response Time</b>	Total Response Time 1 <sup>st</sup> Unit on Scene <b>Distribution</b>	Urban	8:37	8:34	7:18	8:49	8:57
			n = 398	n = 64	n = 57	n = 83	n = 194
		Rural	9:58	8:18	10:51	9:25	10:07
			n = 74	n = 20	n = 12	n = 21	n = 21
	Total Response Time ERF <b>Concentration</b>	Urban	NA	NA	NA	NA	NA
			NA	NA	NA	NA	NA
Rural		NA	NA	NA	NA	NA	
		NA	NA	NA	NA	NA	

## Performance Statements - Hazardous Materials

### Benchmark Statements

For **low-risk hazardous materials incidents**, the 90th percentile of total response time for the arrival of the first-due unit, staffed with a minimum of 3 firefighters, shall be 8 minutes and 56 seconds (urban) or 11 minutes and 53 seconds (rural). The first-due unit shall be capable of establishing command, sizing up the incident, developing an incident action plan in accordance with City standard operating guidelines, isolating the hazard, and calling for appropriate assistance if needed.

For **moderate risk hazardous materials incidents**, the 90th percentile of total response time for the arrival of the effective response force, consisting of 10 personnel, shall be 10 minutes (urban) or 13 minutes (rural). The units will be capable of establishing command, sizing up the incident, developing an incident action plan in accordance with City standard operating guidelines, isolating the hazard, initiating mitigation efforts - including containment and/or offloading of common hydrocarbon materials, and calling for appropriate assistance if needed.

For **high-risk hazardous materials incidents**, the 90th percentile of total response time for the arrival of the effective response force, consisting of 20 personnel, including a minimum of 5 hazardous materials technicians, shall be 12 minutes (urban) or 17 minutes (rural). The units will be capable of establishing command, sizing up the incident, developing an incident action plan in accordance with City standard operating guidelines, researching the hazard, isolating the hazard, initiating mitigation efforts, establishing decontamination actions, and acting as a liaison with other agencies and private sector businesses or residents involved.

For **maximum-risk hazardous materials incidents**, the 90th percentile of total response time for the arrival of the effective response force, consisting of 27 personnel, shall be 14 minutes (urban) or 20 minutes (rural). The units will be capable of establishing command, sizing up the incident, developing an incident action plan in accordance with City standard operating guidelines, researching the hazard, isolating the hazard, initiating mitigation efforts, establishing decontamination actions, and acting as a liaison with other agencies and private sector businesses or residents involved.

Benchmarks and Performance Statements

**Performance Statements - Hazardous Materials**

**Baseline Statements**

For **low-risk hazardous materials incidents**, the 90th percentile of total response time for the arrival of the first-due unit, staffed with a minimum of three firefighters, was 10 minutes and 16 seconds (urban) or 10 minutes and 48 seconds (rural).

Figure 65: Hazardous Materials Low-Risk Incidents

Low-Risk Hazmat – 90 <sup>th</sup> Percentile Times – Baseline Performance			2018-2021	2018	2019	2020	2021
<b>Alarm Handling</b>	Pick-up to Dispatch	Urban	2:42	2:34	2:42	2:21	3:23
		Rural	1:10	N/A	1:10	N/A	N/A
<b>Turnout Time</b>	Turnout Time 1 <sup>st</sup> Unit	Urban	2:09	2:23	2:06	2:20	2:09
		Rural	0:53	N/A	0:53	N/A	N/A
<b>Travel Time</b>	Travel Time 1 <sup>st</sup> Unit <b>Distribution</b>	Urban	7:06	7:03	7:06	6:25	9:31
		Rural	8:45	N/A	8:45	N/A	N/A
	Travel Time ERF <b>Concentration</b>	Urban	N/A	N/A	N/A	N/A	N/A
		Rural	N/A	N/A	N/A	N/A	N/A
<b>Total Response Time</b>	Total Response Time 1 <sup>st</sup> Unit on Scene <b>Distribution</b>	Urban	10:16	9:13	10:07	9:47	12:21
			n = 161	n = 49	n = 49	n = 35	n = 28
		Rural	10:48	N/A	10:48	N/A	N/A
			n = 1	N/A	n = 1	N/A	N/A
	Total Response Time ERF <b>Concentration</b>	Urban	N/A	N/A	N/A	N/A	N/A
		Rural	N/A	N/A	N/A	N/A	N/A

The first-due unit can establish command, size up the incident, develop an incident action plan in accordance with City standard operating guidelines, isolate the hazard, and call for additional resources if needed.

Figure 66: Hazardous Materials Moderate-Risk Incidents

Moderate-Risk Hazmat – 90 <sup>th</sup> Percentile Times – Baseline Performance			2018-2021	2018	2019	2020	2021
<b>Alarm Handling</b>	Pick-up to Dispatch	Urban	3:34	3:34	3:28	3:04	5:19
		Rural	2:57	N/A	N/A	2:57	N/A
<b>Turnout Time</b>	Turnout Time 1 <sup>st</sup> Unit	Urban	2:03	1:55	1:42	2:27	2:45
		Rural	3:03	N/A	N/A	3:03	N/A
<b>Travel Time</b>	Travel Time 1 <sup>st</sup> Unit <b>Distribution</b>	Urban	8:43	7:44	8:59	8:12	7:31
		Rural	14:05	N/A	N/A	14:05	N/A
	Travel Time ERF <b>Concentration</b>	Urban	18:55	N/A	18:55	N/A	N/A
		Rural	N/A	N/A	N/A	N/A	N/A
<b>Total Response Time</b>	Total Response Time 1 <sup>st</sup> Unit on Scene <b>Distribution</b>	Urban	12:46	12:17	12:46	12:36	16:21
			n = 132	n = 43	n = 42	n = 35	n = 12
		Rural	17:08	N/A	N/A	17:08	N/A
			n = 2	N/A	N/A	n = 2	N/A
	Total Response Time ERF <b>Concentration</b>	Urban	61:23	N/A	61:23	N/A	N/A
		Rural	N/A	N/A	N/A	N/A	N/A

For **moderate-risk hazardous materials incidents**, the 90th percentile of total response time for the arrival of the effective response force, consisting of 10 personnel, was not statistically relevant, with less than nine calls requiring an EFR. The units can establish command, size up the incident, develop an incident action plan in accordance with City standard operating guidelines, isolate the hazard, initiate mitigation efforts, including containment and/or offloading of common hydrocarbon materials, and call for additional resources if needed.

Benchmarks and Performance Statements  
**Performance Statements - Hazardous Materials**

**Baseline Statements**

For **high-risk hazardous materials incidents**, the 90th percentile of total response time for the arrival of the effective response force, consisting of 20 personnel, was not statistically relevant since only one rural incident occurred (urban or rural) where the ERF was assembled. The units can establish command, size up the incident, develop an incident action plan in accordance with City standard operating guidelines, research the hazard, isolate the hazard, initiate mitigation efforts, establish decontamination actions, and act as a liaison with other agencies and private sector businesses or residents involved.

Figure 67: Hazardous Materials High-Risk Incidents

High-Risk Hazmat – 90 <sup>th</sup> Percentile Times – Baseline Performance			2018-2021	2018	2019	2020	2021
<b>Alarm Handling</b>	Pick-up to Dispatch	Urban	N/A	N/A	N/A	N/A	N/A
		Rural	N/A	N/A	N/A	N/A	N/A
<b>Turnout Time</b>	Turnout Time 1 <sup>st</sup> Unit	Urban	N/A	N/A	N/A	N/A	N/A
		Rural	N/A	N/A	N/A	N/A	N/A
<b>Travel Time</b>	Travel Time 1 <sup>st</sup> Unit <b>Distribution</b>	Urban	N/A	N/A	N/A	N/A	N/A
		Rural	N/A	N/A	N/A	N/A	N/A
	Travel Time ERF <b>Concentration</b>	Urban	N/A	N/A	N/A	N/A	N/A
		Rural	N/A	N/A	N/A	N/A	N/A
<b>Total Response Time</b>	Total Response Time 1st Unit on Scene <b>Distribution</b>	Urban	N/A	N/A	N/A	N/A	N/A
			N/A	N/A	N/A	N/A	N/A
		Rural	N/A	N/A	N/A	N/A	N/A
			N/A	N/A	N/A	N/A	N/A
	Total Response Time ERF <b>Concentration</b>	Urban	N/A	N/A	N/A	N/A	N/A
		Rural	N/A	N/A	N/A	N/A	N/A

Figure 68: Hazardous Materials Maximum-Risk Incidents

Maximum-Risk Hazmat – 90 <sup>th</sup> Percentile Times – Baseline Performance			2018-2021	2018	2019	2020	2021
<b>Alarm Handling</b>	Pick-up to Dispatch	Urban	2:57	1:56	2:18	1:44	3:49
		Rural	2:48	0:39	2:48	N/A	N/A
<b>Turnout Time</b>	Turnout Time 1 <sup>st</sup> Unit	Urban	2:15	1:40	2:02	1:31	4:09
		Rural	1:37	0:32	1:37	N/A	N/A
<b>Travel Time</b>	Travel Time 1 <sup>st</sup> Unit <b>Distribution</b>	Urban	6:28	4:36	6:29	5:11	6:09
		Rural	4:53	4:53	4:33	N/A	N/A
	Travel Time ERF <b>Concentration</b>	Urban	18:42	14:34	18:42	N/A	N/A
		Rural	N/A	N/A	N/A	N/A	N/A
<b>Total Response Time</b>	Total Response Time 1st Unit on Scene <b>Distribution</b>	Urban	9:28	8:52	8:58	9:09	9:29
			n = 79	n = 13	n = 23	n = 21	n = 22
		Rural	8:00	6:04	8:00	N/A	N/A
			n = 3	n = 1	n = 2	N/A	N/A
	Total Response Time ERF <b>Concentration</b>	Urban	29:52	17:58	29:52	N/A	N/A
		Rural	N/A	N/A	N/A	N/A	N/A

For **maximum-risk hazardous materials incidents**, the 90th percentile of total response time for the arrival of the effective response force, consisting of 27 personnel, was not statistically relevant since no incidents occurred where the ERF was assembled. The units can establish command, size up the incident, develop an incident action plan per City standard operating guidelines, research the hazard - including initial monitoring, and call for appropriate assistance from both the GFES and outside agencies if needed.

## Performance Statements - Technical Rescue

### Benchmark Statements

For all **technical rescue incidents**, the 90th percentile of total response time for the arrival of the first-due unit, staffed with a minimum of 3 firefighters, shall be 8 minutes and 56 seconds (urban) or 11 minutes and 53 seconds (rural). The first-due unit shall be capable of establishing command, sizing up the incident, developing an incident action plan in accordance with City standard operating guidelines, denying access to bystanders, and calling for appropriate assistance from outside agencies if needed.

For **moderate-risk technical rescue incidents**, the 90th percentile of total response time for the arrival of the effective response force, consisting of 11 personnel, shall be 10 minutes (urban) or 13 minutes (rural). The units will be capable of establishing command, performing an assessment of the incident, and initiating mitigation activities such as isolating the hazard, de-energizing equipment, conducting lockout/tag-out procedures, and denying access to bystanders.

For **high-risk technical rescue incidents**, the 90th percentile of total response time for the arrival of the effective response force, consisting of 14 personnel, shall be 12 minutes (urban) or 17 minutes (rural). The units will be capable of establishing command, performing an assessment of the incident, and initiating mitigation activities such as isolating the hazard, deploying primary and belay rope systems, stabilizing the trench and/or structure, and setting up a safe operating zone to perform patient assessment and treatment.

For **maximum risk technical rescue incidents**, the 90th percentile of total response time for the arrival of the effective response force, consisting of 20 personnel, shall be 14 minutes (urban) or 20 minutes (rural). The units will be capable of establishing command, sizing up the incident, developing an incident action plan per City standard operating guidelines, researching the hazard, isolating the hazard, initiating mitigation efforts, performing technical rescue operations, triaging/treating patients, and liaising with external agencies.

Benchmarks and Performance Statements  
**Performance Statements - Technical Rescue**  
**Baseline Statement**

For **low-risk technical rescue incidents**, the 90th percentile of total response time for the arrival of the first-due unit, staffed with a minimum of 3- firefighters, was 12 Minutes and 35 seconds.

For **moderate risk technical rescue incidents**, the 90th percentile of total response time for the arrival of the effective response force, consisting of 11 responders, was not statistically relevant since only two incidents occurred where the ERF was assembled in an urban setting and two in a rural location. The units will be capable of establishing command, performing an assessment of the incident, and initiating mitigation activities such as isolating the hazard, de-energizing equipment, conducting lockout/tag-out procedures, and denying access to bystanders.

Figure 69: Technical Rescue Low-Risk Incidents

Low-Risk Rescue – 90 <sup>th</sup> Percentile Times – Baseline Performance			2018-2021	2018	2019	2020	2021
<b>Alarm Handling</b>	Pick-up to Dispatch	Urban	4:11	4:12	4:11	1:23	2:14
		Rural	N/A	N/A	N/A	N/A	N/A
<b>Turnout Time</b>	Turnout Time	Urban	2:18	1:27	1:37	2:13	2:49
	1 <sup>st</sup> Unit	Rural	N/A	N/A	N/A	N/A	N/A
<b>Travel Time</b>	Travel Time 1 <sup>st</sup> Unit <b>Distribution</b>	Urban	9:15	7:44	9:16	9:06	8:20
		Rural	N/A	N/A	N/A	N/A	N/A
	Travel Time ERF <b>Concentration</b>	Urban	N/A	N/A	N/A	N/A	N/A
		Rural	N/A	N/A	N/A	N/A	N/A
<b>Total Response Time</b>	Total Response Time 1st Unit on Scene <b>Distribution</b>	Urban	12:35	10:53	12:35	12:00	12:15
			n = 37	n = 5	n = 16	n = 6	n = 10
		Rural	N/A	N/A	N/A	N/A	N/A
			N/A	N/A	N/A	N/A	N/A
	Total Response Time ERF <b>Concentration</b>	Urban	N/A	N/A	N/A	N/A	N/A
			N/A	N/A	N/A	N/A	N/A
Rural		N/A	N/A	N/A	N/A	N/A	
		N/A	N/A	N/A	N/A	N/A	

Figure 70: Technical Rescue Moderate-Risk Incidents

Moderate-Risk Rescue – 90 <sup>th</sup> Percentile Times – Baseline Performance			2018-2021	2018	2019	2020	2021
<b>Alarm Handling</b>	Pick-up to Dispatch	Urban	N/A	N/A	N/A	N/A	N/A
		Rural	N/A	N/A	N/A	N/A	N/A
<b>Turnout Time</b>	Turnout Time	Urban	N/A	N/A	N/A	N/A	N/A
	1 <sup>st</sup> Unit	Rural	N/A	N/A	N/A	N/A	N/A
<b>Travel Time</b>	Travel Time 1 <sup>st</sup> Unit <b>Distribution</b>	Urban	N/A	N/A	N/A	N/A	N/A
		Rural	N/A	N/A	N/A	N/A	N/A
	Travel Time ERF <b>Concentration</b>	Urban	N/A	N/A	N/A	N/A	N/A
		Rural	N/A	N/A	N/A	N/A	N/A
<b>Total Response Time</b>	Total Response Time 1st Unit on Scene <b>Distribution</b>	Urban	N/A	N/A	N/A	N/A	N/A
			N/A	N/A	N/A	N/A	N/A
		Rural	N/A	N/A	N/A	N/A	N/A
			N/A	N/A	N/A	N/A	N/A
	Total Response Time ERF <b>Concentration</b>	Urban	N/A	N/A	N/A	N/A	N/A
			N/A	N/A	N/A	N/A	N/A
Rural		N/A	N/A	N/A	N/A	N/A	
		N/A	N/A	N/A	N/A	N/A	

Benchmarks and Performance Statements

**Performance Statements - Technical Rescue**

**Baseline Statement**

For **high-risk technical rescue incidents**, the 90th percentile of total response time for the arrival of the effective response force, consisting of 14 responders, was not statistically relevant because zero incidents occurred (urban or rural) where the ERF was assembled.

The units will be capable of establishing command, performing an assessment of the incident, and initiating mitigation activities such as isolating the hazard, deploying primary and belay rope systems, stabilizing the trench and/or structure, and setting up a safe operating zone to perform patient assessment and treatment.

Figure 71: Technical Rescue High-Risk Incidents

High-Risk Rescue – 90 <sup>th</sup> Percentile Times – Baseline Performance			2018-2021	2018	2019	2020	2021
<b>Alarm Handling</b>	Pick-up to Dispatch	Urban	N/A	N/A	N/A	N/A	N/A
		Rural	N/A	N/A	N/A	N/A	N/A
<b>Turnout Time</b>	Turnout Time	Urban	N/A	N/A	N/A	N/A	N/A
	1 <sup>st</sup> Unit	Rural	N/A	N/A	N/A	N/A	N/A
<b>Travel Time</b>	Travel Time 1 <sup>st</sup> Unit <b>Distribution</b>	Urban	N/A	N/A	N/A	N/A	N/A
		Rural	N/A	N/A	N/A	N/A	N/A
	Travel Time ERF <b>Concentration</b>	Urban	N/A	N/A	N/A	N/A	N/A
		Rural	N/A	N/A	N/A	N/A	N/A
<b>Total Response Time</b>	Total Response Time 1st Unit on Scene <b>Distribution</b>	Urban	N/A	N/A	N/A	N/A	N/A
			N/A	N/A	N/A	N/A	N/A
		Rural	N/A	N/A	N/A	N/A	N/A
			N/A	N/A	N/A	N/A	N/A
	Total Response Time ERF <b>Concentration</b>	Urban	N/A	N/A	N/A	N/A	N/A
			N/A	N/A	N/A	N/A	N/A
		Rural	N/A	N/A	N/A	N/A	N/A
			N/A	N/A	N/A	N/A	N/A

For **maximum risk technical rescue incidents**, the 90th percentile of total response time for the arrival of the effective response force, consisting of 20 personnel was not statistically relevant since no incidents occurred where the ERF was assembled.

The units will be capable of establishing command, sizing up the incident, developing an incident action plan in accordance with City standard operating guidelines, researching the hazard, isolating the hazard, initiating mitigation efforts, perform technical rescue operations, triage/treat patients, and liaise with external agencies.

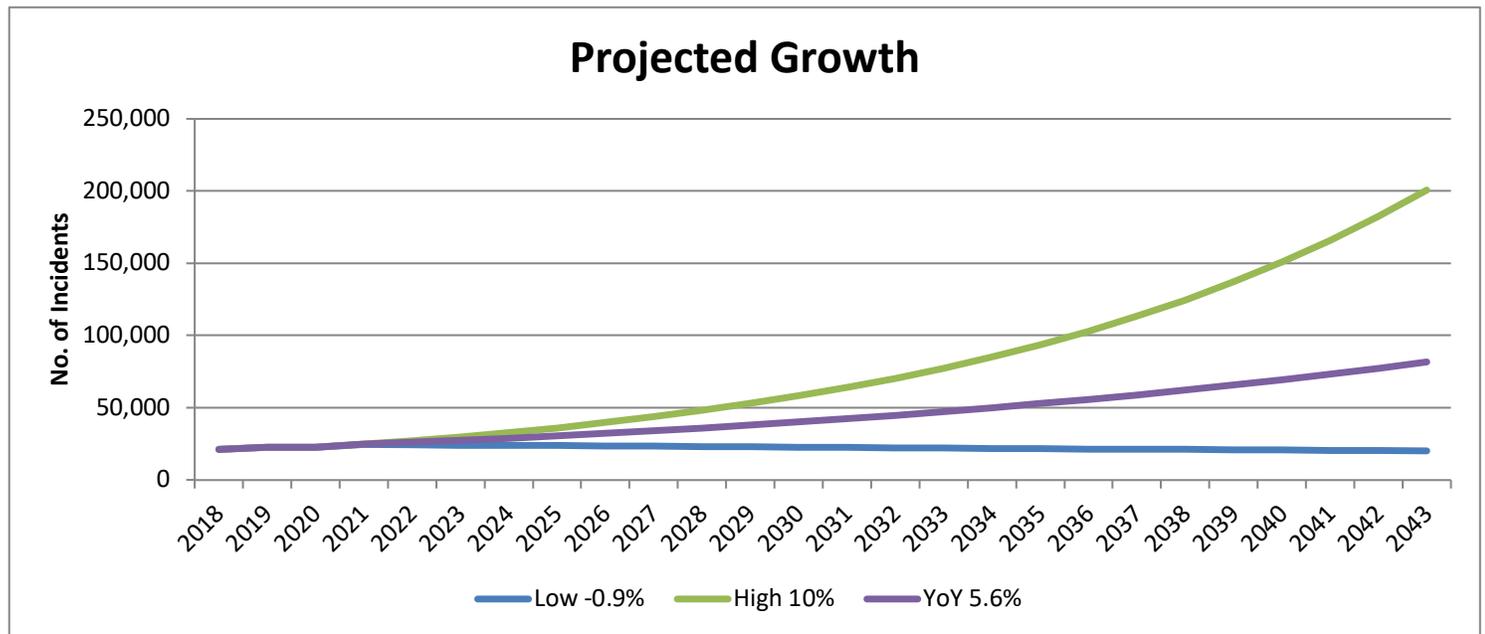
Figure 72: Technical Rescue Maximum-Risk Incidents

Maximum-Risk Rescue – 90 <sup>th</sup> Percentile Times – Baseline Performance			2018-2021	2018	2019	2020	2021
<b>Alarm Handling</b>	Pick-up to Dispatch	Urban	4:14	6:45	4:38	4:14	2:13
		Rural	6:30	N/A	0:59	2:36	6:30
<b>Turnout Time</b>	Turnout Time	Urban	4:04	3:01	2:28	4:38	4:04
	1 <sup>st</sup> Unit	Rural	9:18	N/A	1:39	0:46	9:18
<b>Travel Time</b>	Travel Time 1 <sup>st</sup> Unit <b>Distribution</b>	Urban	8:15	6:04	7:14	13:48	8:15
		Rural	17:31	N/A	16:16	9:50	17:31
	Travel Time ERF <b>Concentration</b>	Urban	9:27	N/A	N/A	6:31	9:27
		Rural	N/A	N/A	N/A	N/A	N/A
<b>Total Response Time</b>	Total Response Time 1st Unit on Scene <b>Distribution</b>	Urban	14:17	14:17	14:20	18:18	12:19
			n = 27	n = 4	n = 8	n = 8	n = 7
		Rural	23:23	N/A	17:37	13:12	23:23
			n = 9	N/A	n = 3	n = 1	n = 5
	Total Response Time ERF <b>Concentration</b>	Urban	36:38	N/A	N/A	12:45	36:38
			n = 3	N/A	N/A	n = 1	n = 2
		Rural	N/A	N/A	N/A	N/A	N/A
			N/A	N/A	N/A	N/A	N/A

## PROJECTED GROWTH

The available data set included five reporting periods of data, representing 2018 - 2021. From 2018-2021, calls for services increased from 21,139 to 24,659, with an average growth rate of 5.6% per year. The Figure below depicts observed call volume during the last four-year reporting periods and various hypothetical growth scenarios for the next 20 years. These projections should be used with caution due to the variability in growth observed across prior calendar years. In all cases, data should be reviewed annually to ensure timely updates to projections and utilize a five-year rolling average.

Figure 73: Observed and Hypothetical Growth in Call Volume



Assuming that future demands may not be reasonably distributed across the various stations in the system, the system may require a redistribution of workload and reinvestment in resources to meet the growing demand. While the system should be evaluated continuously for performance and desired outcomes, the department should specifically re-evaluate workload and performance indicators for every 1,000-call increase to ensure system stability.

**Conclusions and Recommendations**



### **Overall Evaluation**

The overall evaluation is the final component of the Standards of Cover (SOC) process. As a risk-based process incorporating risk, mitigation, and outcomes measures, the Department and the City leadership can more easily discuss service levels, outcomes, and the associated cost allocations based on community risk.

Overall, the department is performing well within the current system. The community enjoys high-quality services from a professional and well-trained department. Predominantly, the department's distribution and concentration delivery models are appropriately aligned with the City's unique risks. However, some areas have been identified where the Department could make incremental system adjustments to improve.

### **General Observations**

#### **Total Response Time**

The department has established baseline and benchmark performance objectives during the development of this SOC. While it is up to the department to establish policy related to meeting or exceeding community expectations, there are opportunities to better align goals and baseline objectives.

#### **Internal Performance Objectives**

Historically, the department did not utilize formally adopted performance objectives, but rather these were adopted as part of the standards of response coverage process. A gap analysis between baseline and benchmark performance is fully evaluated in the SOC. In addition, a per-station comparison is provided.

## Conclusion and Recommendations

Table 74: 90<sup>th</sup> Percentile Dispatch, Turnout, Travel, and Response Times by Call Type – First Arriving Gresham Units

Call Category	Dispatch Time	Turnout Time	Travel Time	Response Time	Sample Size
Cardiac and Stroke	2.8	2.5	6.7	10.3	2,247
Seizure and Unconsciousness	2.8	2.5	6.5	10.2	1,584
Breathing Difficulty	2.4	2.5	6.7	10.3	1,739
Overdose and Psychiatric	3.5	2.6	9.1	14.3	400
MVA	2.7	2.3	6.0	9.4	473
Fall and Injury	3.0	2.5	7.2	11.0	2,462
Illness and Other	3.1	2.6	6.9	11.1	1,363
Interfacility Transfer	4.3	1.1	7.6	10.2	3
<b>EMS Total</b>	<b>2.9</b>	<b>2.5</b>	<b>6.8</b>	<b>10.6</b>	<b>10,271</b>
Structure Fire	2.0	1.7	5.1	7.8	51
Outside Fire	2.3	2.2	7.5	10.3	46
Vehicle Fire	1.9	2.3	8.4	10.9	34
Alarm	2.3	2.8	9.2	12.3	319
Hazardous Condition	3.2	2.6	9.7	14.7	212
Fire Other	2.8	2.6	7.1	10.4	87
Assist Citizen	6.7	0.7	8.1	10.5	2
Assist Police	0.9	1.9	10.6	13.3	3
Marine Incident	0.3	0.6	8.5	9.5	1
<b>Fire Total</b>	<b>2.6</b>	<b>2.6</b>	<b>9.0</b>	<b>12.2</b>	<b>755</b>
<b>Hazmat</b>	<b>3.9</b>	<b>2.6</b>	<b>7.5</b>	<b>12.4</b>	<b>62</b>
<b>Rescue</b>	<b>2.9</b>	<b>4.1</b>	<b>11.5</b>	<b>17.7</b>	<b>22</b>
<b>Total</b>	<b>2.9</b>	<b>2.5</b>	<b>7.0</b>	<b>10.7</b>	<b>11,110</b>

### Dispatch Time

Throughout the development of the SOC, the department understands the relative opportunity to improve the citizen's experience by improving dispatch time. NFPA 1710 and NFPA 1221/1225 recommend a 60 and 64-second dispatch time.

Currently, the performance is 2.9 minutes in an environment that utilizes a call triage, or prioritization process could be better aligned with national recommendations of approximately 1.5 to 2 minutes.

### Turnout Time

Throughout the development of the SOC, the Department understands the relative opportunity to improve the citizen's experience by improving turnout time. The CFAI and NFPA 1710 recommend a 60-second turnout time for EMS events and either 90 seconds or 80 seconds for non-EMS events, respectively.

Currently, EMS performance is 2.5 minutes, and Fire is 2.6 minutes, both approximately twice the recommended best-practice performance. The improvement of turnout time provides a substantive return on

## Conclusion and Recommendations

investment to the citizens' overall total response time experience. A one-minute improvement to turnout time at little to no cost would have a fiscal equivalency of a multi-million-dollar investment in response capability.

### Observation:

A one-minute improvement to turnout time at little to no cost would have a fiscal equivalency of a multi-million-dollar investment in response capability.

## Travel Time

Utilizing the department or jurisdiction level analysis, the travel time is 7.0 minutes. The travel time for EMS incidents was 6.8 minutes, and for fire-related events was 9.0 minutes. While the NFPA 1710 recommendations suggest a 4-minute travel time at the 90<sup>th</sup> percentile, Fitch's experience is that most jurisdictions perform between 5- and 9 minutes. Therefore, the City's current performance is well aligned with the national experience. Any changes would solely remain a local policy choice.

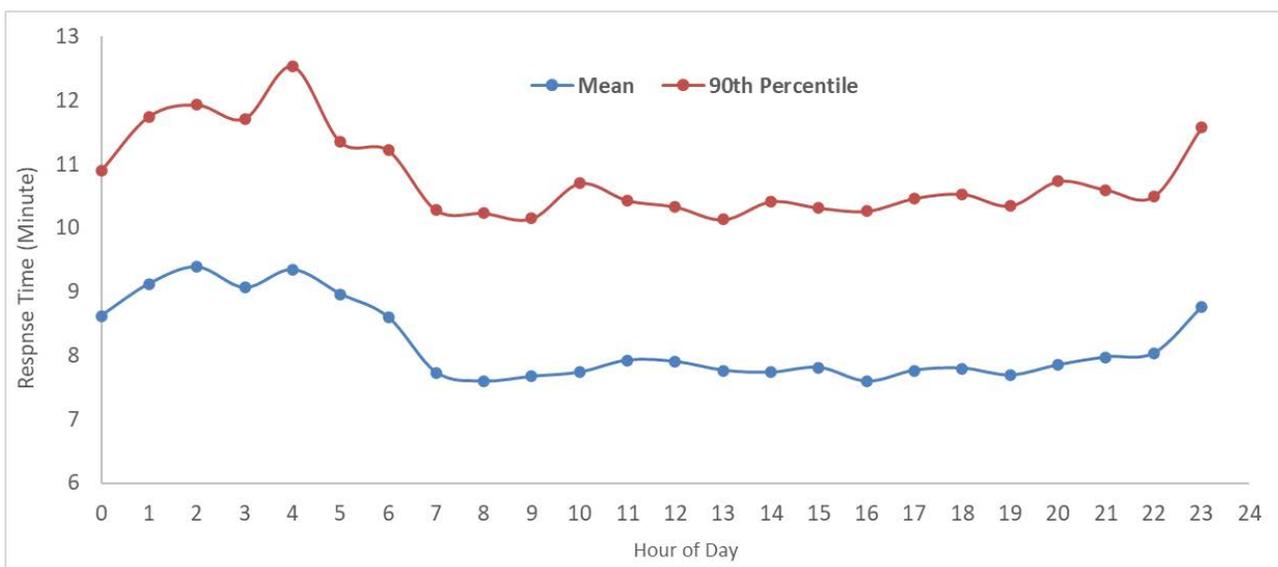
### Observation:

The City's current performance is well aligned with the national experience. Any changes would solely remain a local policy choice.

## Total Response Time by Hour of Day

Lastly, we analyzed average and 90<sup>th</sup> percentile response time by the hour of the day. From 2300 to 0600, the average and 90<sup>th</sup> percentile response time was longer than the rest of the day. In other words, the overnight hours, typically a period where personnel may be sleeping and/or driving more cautiously while awaking, is longer than any other period that is influenced by rush hours, etc. Finally, the period during the peak of the day, when the department is at the busiest, the department's performance was the best.

Figure 29: Average and 90<sup>th</sup> Percentile Response Time by Hour of Day



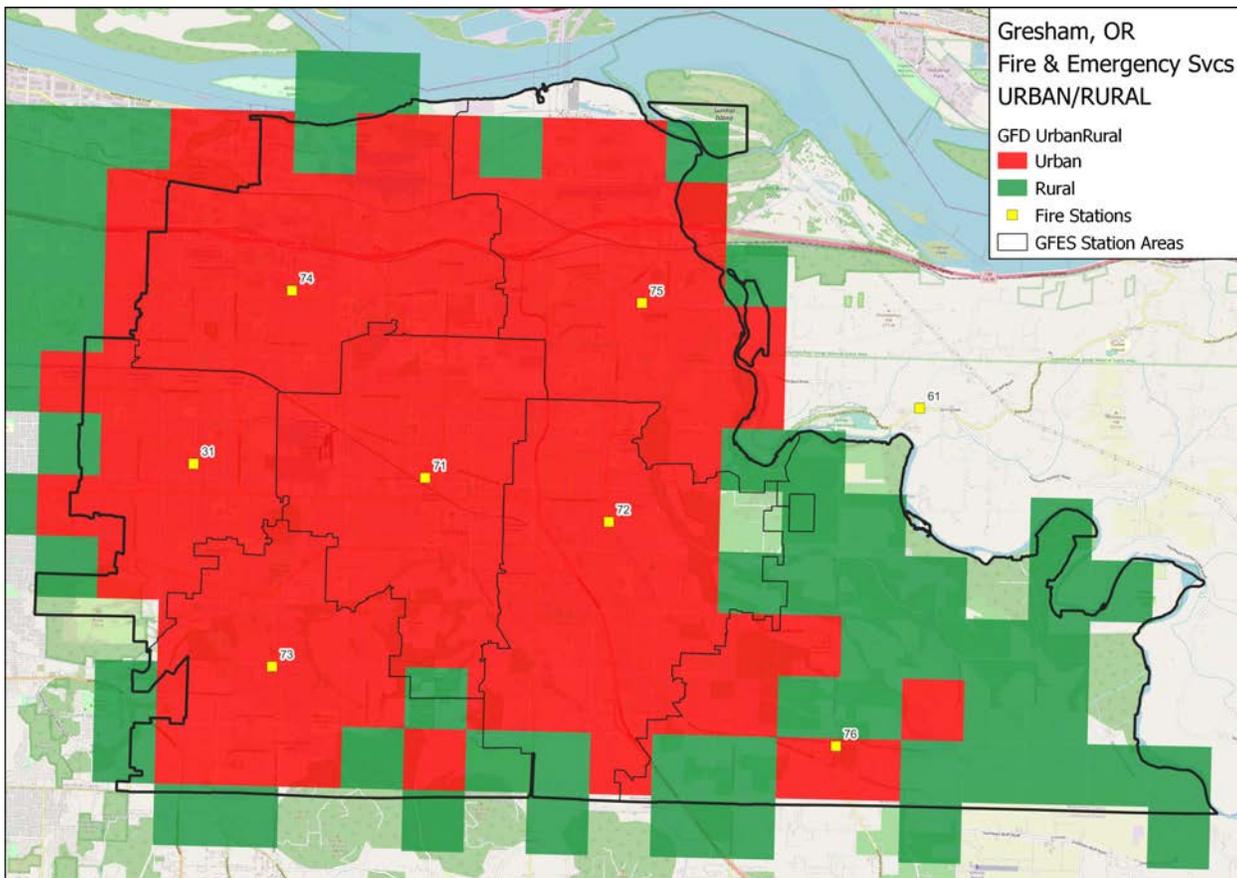
## Conclusion and Recommendations

### Consideration for a Commensurate Risk Model

Urban/Rural call density is calculated based on the relative concentration of incidents based on approximately 0.5-mile geographic areas as well as the adjacent 0.5-mile areas. The results demonstrate an urban and rural designation based on call density for services and not based on population. The red areas are designated as urban service areas, and the green areas are designated as rural service areas. Any area that is not colored has less than one call every six months in the 0.5-mile area and the adjacent areas.

In the figure below, each fire station response area has a mix of urban and rural call densities. Therefore, the consideration of staffing all stations in a consistent manner would provide a commensurate risk model across all areas of the jurisdiction. This strategy is well aligned and more responsive as a commensurate risk model than the current census definition of urban and rural.

Figure 30: Urban and Rural Call Density Map with Current Stations

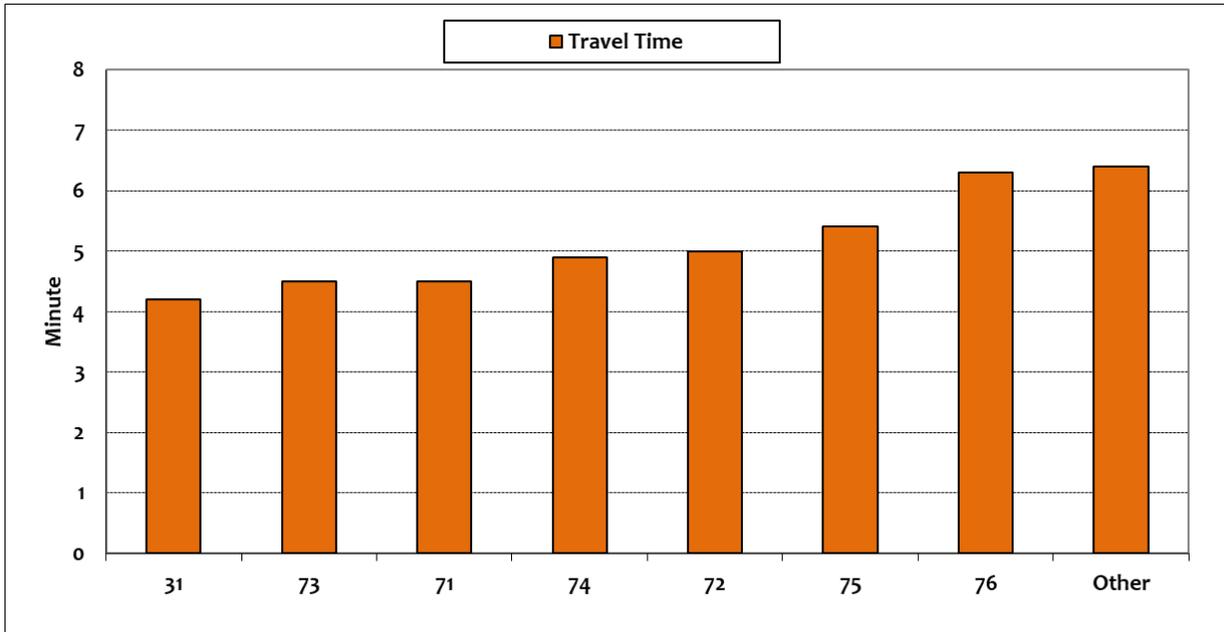


Additionally, the individual stations were evaluated to provide insight into the relative ability to provide a commensurate level of service across each of the station areas. Focusing on the travel time, the overall Citywide performance is 7.0 minutes at the 90<sup>th</sup> percentile. Station 31 has the best performance at 5.7 minutes, and Station 76 has the longest travel time at 8.4 minutes, both at the 90<sup>th</sup> percentile. However, the majority of stations provide a travel time of between 6 and 8 minutes. Station 76 has a large geographic coverage area and

## Conclusion and Recommendations

significant rural responsibility. Therefore, Station 76's variance in response time is both expected and performing within 48 seconds of the station with the next longest response time: Station 75. Finally, Station 76's location is well aligned with the incident density to provide the quickest response to where the calls are occurring.

Figure 31: 90th Percentile Travel Time Performance by Station FDZ in the Ascending Order



### Observation:

Station 76's location is well aligned with the incident density to provide the quickest response to where the calls are occurring.

In other words, the department's deployment strategies follow a commensurate risk model as all stations only vary approximately 2.5 minutes in travel time at the 90<sup>th</sup> percentile. Following a system of measures, the department will be well-positioned to adjust the deployment models to meet changes in development, workload, and risks.

### Observation:

The department's deployment strategies follow a commensurate risk model as all stations only vary approximately 2.5 minutes in travel time at the 90<sup>th</sup> percentile.

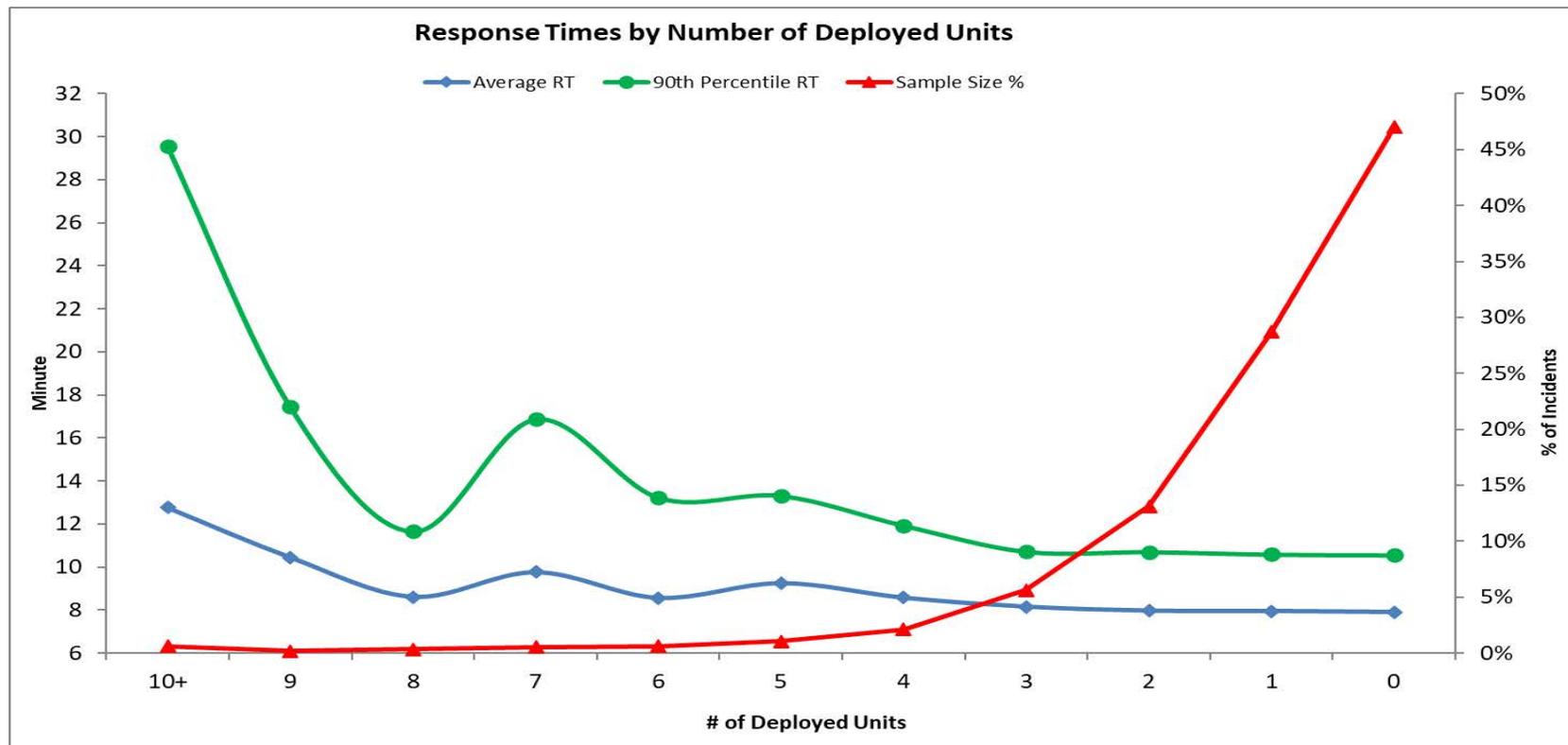
### Observation:

Following a system of measures, the department will be well-positioned to adjust the deployment models to meet changes in development, workload, and risks.

## Response Time Performance by Available Vehicles

We investigated whether response time performance deteriorated when fewer 24-hour per day primary front-line vehicles were available to respond to calls. In this analysis, we only included calls with Gresham units that responded in the response time calculation. In other words, calls responded to by AMR units are not included. For 1% of the time, eight or more units were utilized on calls. For 98% of the calls, the department has less than five units busy with other calls. For 47% of the time, all Gresham units were available to respond to any call. The average and 90<sup>th</sup> percentile response time increased slightly when four or more units were tied to other assignments and increased significantly when six or more units were occupied.

Figure 32: Average and 90<sup>th</sup> Percentile Response Times by Number of Available Units

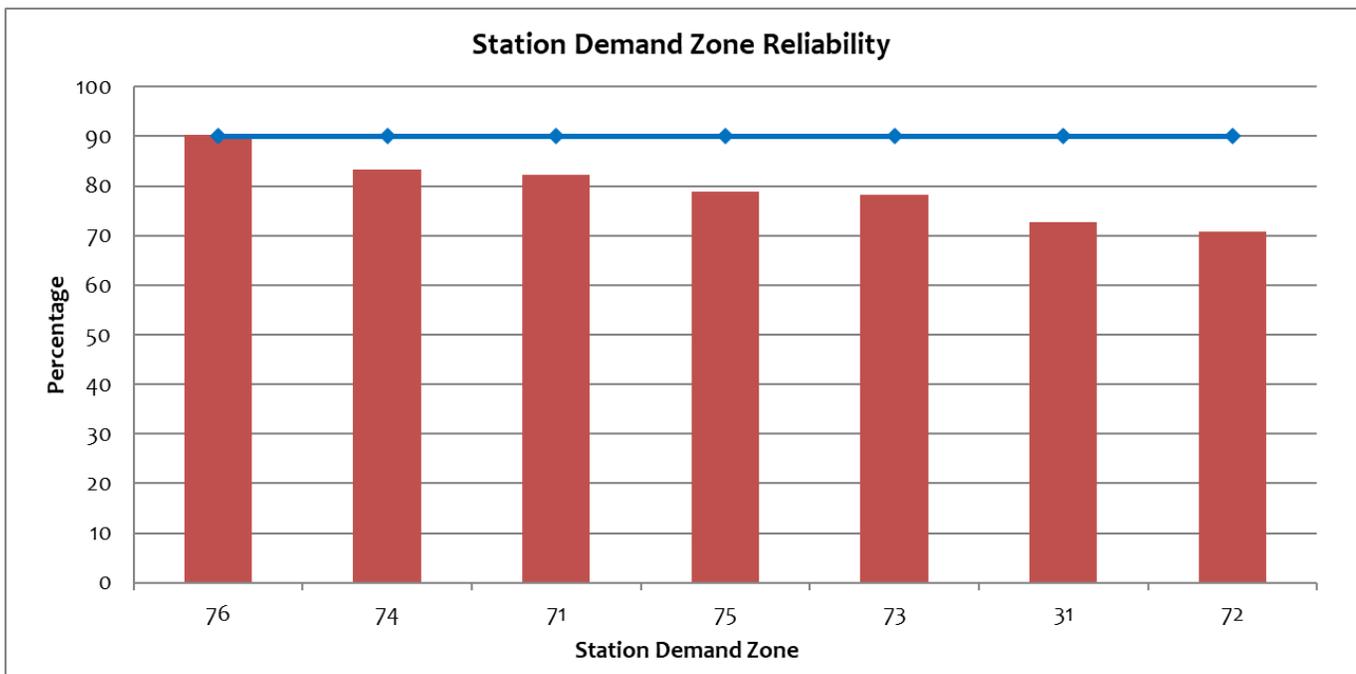


## System Reliability

### Percentage of First-due Compliance

The reliability of the distribution model is a factor in how often the response model is available and able to respond to the call within the assigned demand zone. In this analysis, calls that are solely responded to by AMR units are not included. If at least one unit from the first-due zone can respond to a call, we consider the station can respond to the call within the assigned demand zone. Utilizing the department’s Fire Station Demand Zones (FDZ), analyses reveal that 76 is capable of meeting its demand for services at the 90<sup>th</sup> percentile. In other words, when a request for service is received, FDZ 76 is available to answer the call nine out of 10 times. Stations 31 and 72 had the lowest reliability. It is considered both best practice and the most reliable measure to perform at the 90<sup>th</sup> percentile, as indicated by the “blue” line in the Figure below.

Figure 33: Percentage Reliability by Station FDZ in the Descending Order



**Observation:**

Station 72 has the lowest reliability of the deployed stations.

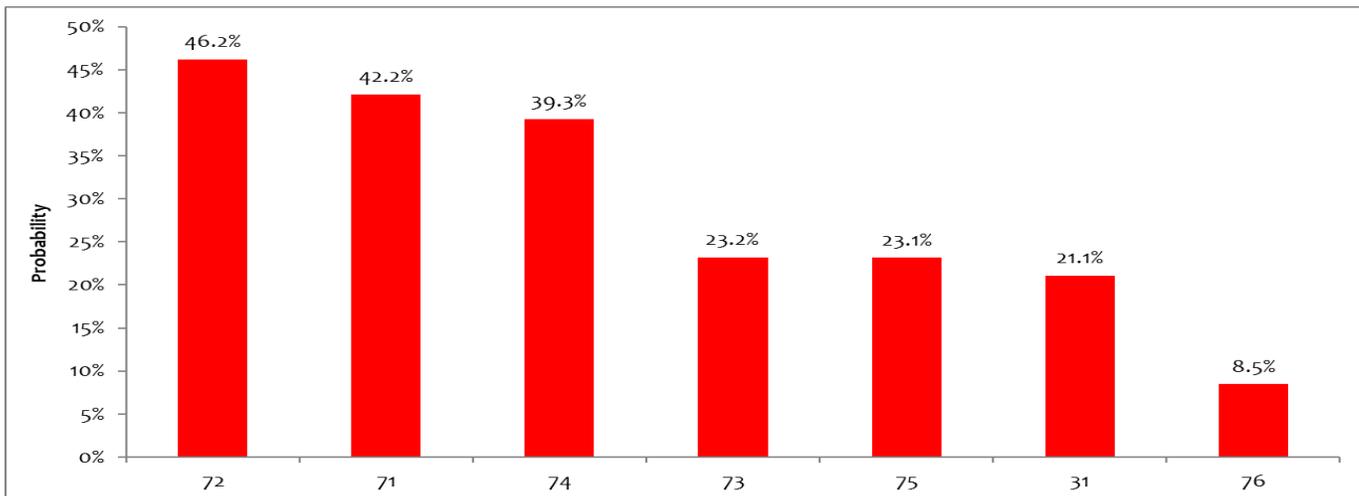
## Conclusion and Recommendations

### Overlapped Call Analysis

Overlapped calls are defined as the rate at which another call was received for the same first-due zone while there were one or more ongoing calls in the same first-due zone. For example, if there is one call in station 1's zone before the call is cleared, and another request in station 1's zone occurs, the second call would be captured as an overlapped call. If there is an ongoing structure fire call, all calls that occurred after the structure fire started but before the structure fire call was cleared would be counted as overlapped calls. Understanding the probability of overlapped calls occurring will help to determine the number of units to staff for each station. The larger the call volume a first-due zone has, the more likely it is to have overlapped or simultaneous calls. The demand distribution throughout the day will impact the chance of overlapped or simultaneous calls. The duration of a call will also have a major influence since the longer it takes to clear a request, the more likely it is to have an overlapped request.

Station 72 has the most demand, and the duration of calls lasted 53 minutes; thus, it has the highest probability of having overlapped calls at 46.2%. This means that during the period of an active station 72 call, there is a 46.2% chance that another incident in station 72 will occur. Calls in 71 and 74 had the second and third highest probability of overlapped calls occurring since they had the 2<sup>nd</sup> and 3<sup>rd</sup> most call volume. Therefore, a Rescue placed at Station 72 is recommended to mitigate the high call concurrency of incidents. The results are presented below.

Figure 34: Probability of Overlapped Calls Occurring by Station FDZ



#### Observation:

Station 72 has this highest call concurrency of all of the deployed stations.

#### Recommendation:

It is recommended that Station 72 adds a Rescue as a second unit assigned to the station.

## Conclusion and Recommendations

### Consideration for a System of Measures to Direct Reinvestment

It is still important to measure and manage the efficiencies of a well-run operation using a system of measures, as presented in the table below. In this manner, the daily management continues in place, but the strict adherence to system design performance is secondary to the outcome measures. For example, if response time increases and there is no change in outcomes, then it would be purely a policy choice to act. Conversely, if the outcomes change, then the Department leadership will turn to the system of measures and attempt to discern which of the variables or combination of variables may be contributing to the change in outcomes.

The summary of measures provided below includes all aspects of time by apparatus staffing by type, relative risk ratings, and system resiliency measures such as reliability, call concurrency, workload, and unit hour utilization. For example, reliability should be at least 70% for each station, and only if the reliability drops below the 70% threshold before considering a mitigation reaction. Similarly, call concurrency is credible until the call concurrency reaches 70%. In other words, only 30% of the calls are overlapping. Call concurrency is suggested as a per-unit threshold unless the majority of calls are multi-unit responses. For example, if there are two units assigned to a station, the station-level call concurrency can perform well at 60% or less for single-unit responses, as long as the two resources do not correspond to the majority of incidents. Finally, the cross-staffing strategy speaks to an upper threshold of call volume of no more than 1,500 calls per year (4 calls per day) and a call concurrency of 15% or less; units can generally be confidently cross-staffed.

The system of measures provided is not intended to be overly prescriptive for the Department. The Department should adopt the system performance objectives internally and update them as needed.

**Table 75: Summary of Recommended Baseline Process Objectives**

Type of Measure	Performance Metric	Recommended Performance Urban	Priority	Review Period
Station/Unit Performance	Turnout Time – EMS	≤1.0 Min at 90%	Emergent	Quarterly
	Turnout Time – All Other	≤1.5 Min at 90%	Emergent	Quarterly
	Travel Time	≤7 Min at 90%	Emergent	Quarterly
	Minimum Engine Staffing	≥3 Firefighters	All Responses	Daily
	Minimum Rescue Staffing	≥1 FF/PM ≥1 FF/EMT	All Responses	Daily
System Design and Performance	Dispatch	≤2 Min at 90%	Emergent	Monthly
	Station Risk Rating	Increases in Risk		Annually
	Reliability	≥70%		Quarterly
	Call Concurrency	≤30% Per Unit		Quarterly
	Call Volume	3,000 – Initial 1,000 – Ongoing		Annually
	Unit Hour Utilization	≤0.25 on 24-hour units ≤0.50 on 12-hour units		Quarterly
	Cross-Staffing at Unit Level	<1,500 annual calls and <15% Call Concurrency		Annually

## Conclusion and Recommendations

### Recommendation:

It is recommended that the department adopt a system of measures or triggers to best manage changes in the environment.

## Validation of Current Performance

The 2021 historical performance demonstrated a 7.0-minute overall department travel time performance at the 90<sup>th</sup> percentile. The planning assessments estimated 94.77% risk coverage by all seven stations within 7 minutes of travel time. Therefore, there is a high degree of agreement between the planning tools and actual historical performance.

When referring to the marginal utility analyses provided in the tables on the following pages, ascending rank order is the station's capability to cover risk (incidents) for all calls in relation to the total historical call volume of the sample period 2021 (January 1, 2021 – December 31, 2021).

- Station – is the identifier for the current GFES station
- Station Capture – is the number of calls the station would capture within the specified travel time parameter
- Total Capture – is the cumulative number of calls captured with the addition of each station
- Percent Capture – is the cumulative percentage of risk covered with the addition of each station

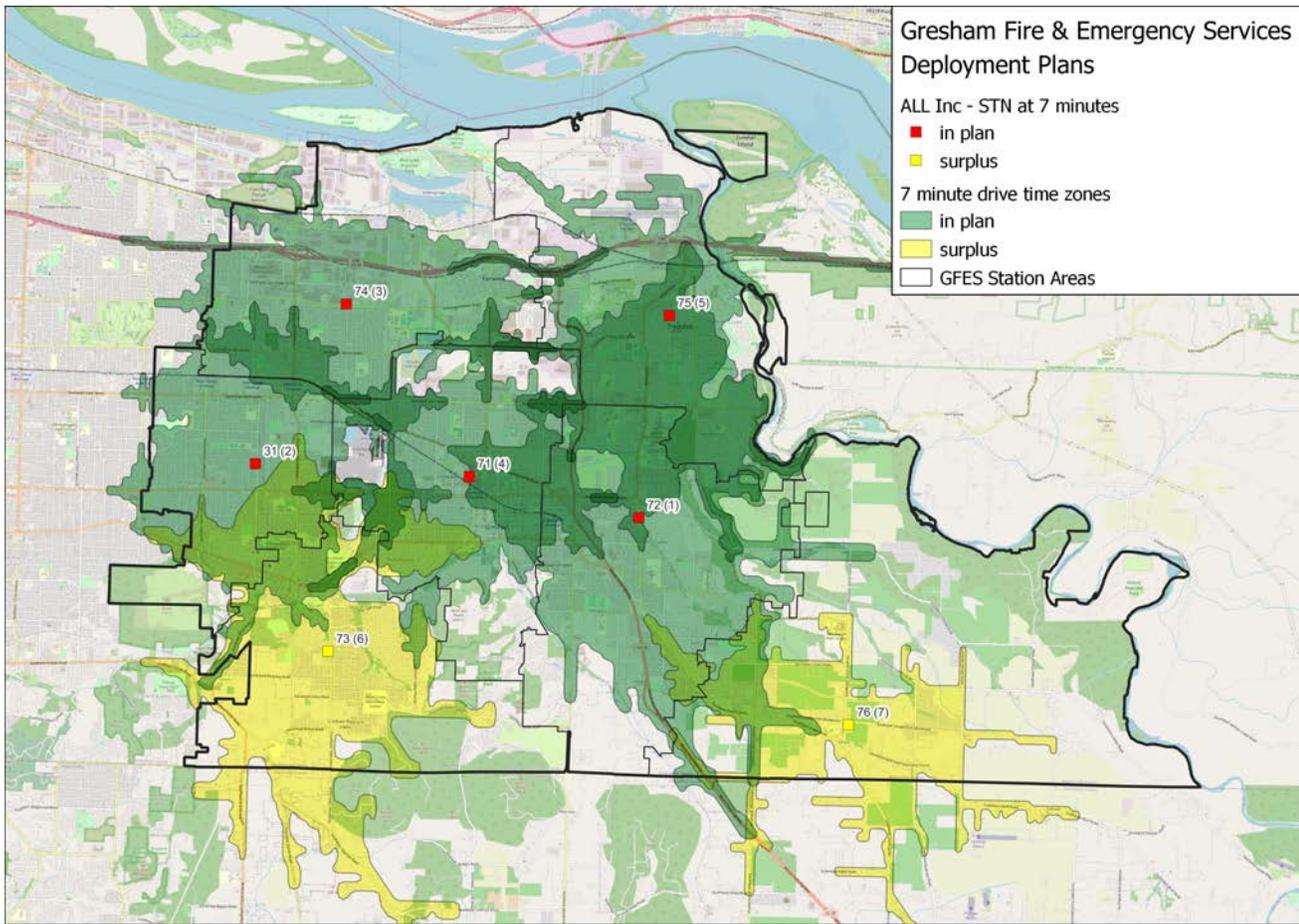
The goal would be to achieve at least 90% capture. The figure illustrates the drive time capabilities.

**Table 76: Marginal Station Contribution for 7-Minute Travel Time – All Calls**

Rank	Station	Drive Time	Station Capture	Total Capture	Percent Capture
1	72	7	66,375	66,375	35.96%
2	31	7	49,675	116,050	62.87%
3	74	7	28,455	144,505	78.28%
4	71	7	16,755	161,260	87.36%
5	75	7	6,626	167,886	90.95%
6	73	7	5,850	173,736	94.12%
7	76	7	1,215	174,951	94.77%

## Conclusion and Recommendations

Figure 35: Current Station Bleed Map for 7-Minute Travel Time – All Calls



### Adopting a Formalized Move-up Plan

The 7-minute marginal utility analysis validated that the current station configuration can deliver a 7-minute travel time to nearly 95% of all incidents. However, dynamically deployed systems are afforded the greatest efficiency in the utilization of their resources. A traditional fire department model is a *static* system, where each resource is assigned a “home” station and, after each call, the unit attempts to return to its home station. Through the lens of a direct “home” station area, it passes the common-sense test as the assigned units are assumed to be the closest.

However, from a system or city perspective, some incremental efficiencies may be found in considering that marginal utility analyses that quantitatively guide the move-up plan.

Assuming a 7-minute, and 7-station deployment, the department should have a minimum of 11 resources in the system each day to meet both the geographic demand for services and the average hourly demand of 4 calls per hour (7 stations + 4 average demand/hour = 11). Therefore, the department is not sufficiently resourced for the

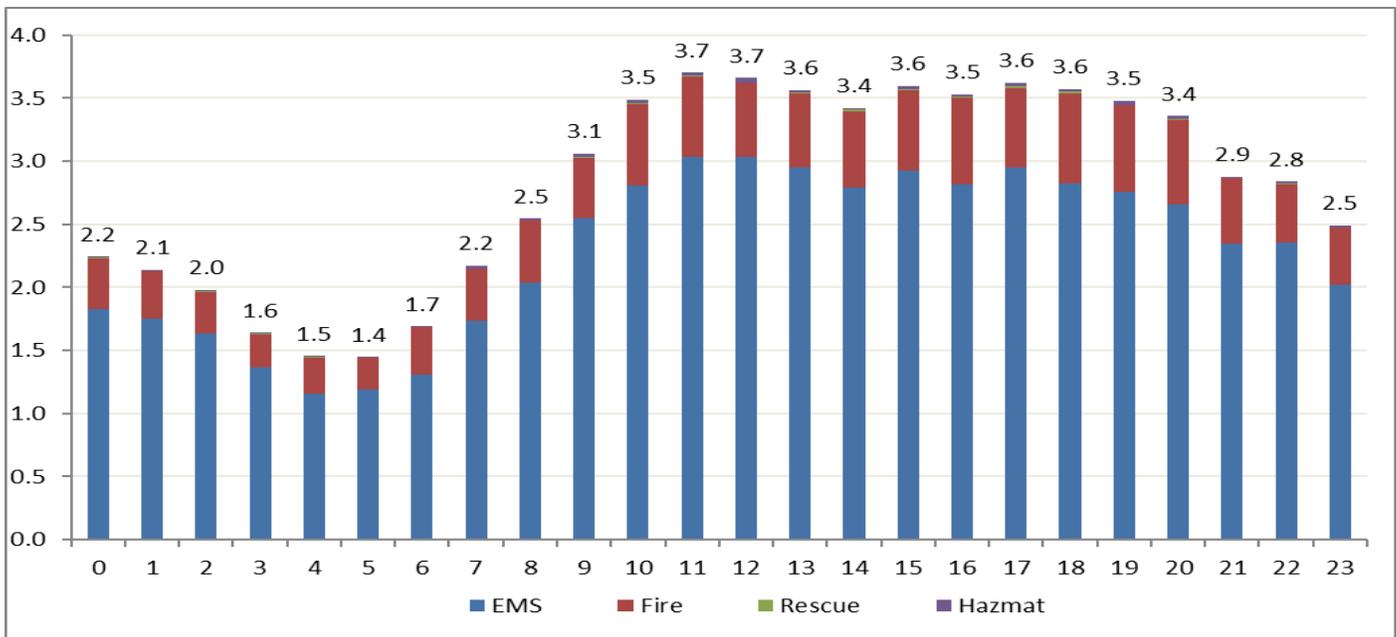
## Conclusion and Recommendations

deployment. However, an opportunity for improvement may be available by utilizing a more aggressive move-up strategy as units are drawn down.

### Recommendation:

Assuming a 7-minute, and 7-station deployment, the department should have a minimum of 11 resources in the system each day to meet both the geographic demand for services and the average hourly demand of 4 calls per hour (7 stations + 4 average demand/hour = 11).

Figure 36: Overall: Average Calls per Day by Hour of Day



Following the findings of the marginal utility analysis, when the department is resource-constrained, the units should be temporarily moved up accordingly. This progressive move-up policy will provide a more efficient capture and success in a commensurate delivery approach across the city. For example, if there were only three resources remaining in the system, they should be located at 72, 31, and 74, respectively. This configuration would provide for at least 78% of the incidents responded to within 7 minutes.

### Recommendation:

It is recommended that the department formalize their internal move-up strategy to maximize efficiencies and optimal performance.

## Conclusion and Recommendations

### Consideration of an EMS Overlay – Expansion of the Rescue Concept

Consistent with the national experience, the majority of the community’s requests for services are for EMS, at 81.2%. Therefore, there is an opportunity to address EMS from a more dedicated and strategic resource allocation. Policy groups are becoming increasingly sensitive to the utilization of large apparatus that are more expensive to staff and operate for EMS incidents that don’t require a large personnel contingency or the most rapid response time. Therefore, it is possible to provide an EMS overlay utilizing rescues or other dedicated EMS units to respond to approximately 50% of the EMS incidents or more.

This reallocation of resources provides a more cost-effective manner of addressing requests for EMS that may be better aligned with expectations. Typically, fire apparatus is staffed with 3 to 4 personnel and cost upwards of \$25 / mile to operate, while rescues are staffed with two personnel and may operate for closer to \$5 / mile.

An 8-minute travel time scenario is provided for the department’s conceptual consideration.

#### 8-Minute Travel Time – EMS Calls

Results suggest that 97.72% of calls could be responded to within 8-minutes or less travel time with seven stations. However, three stations could achieve 90% coverage within 8-minutes. These stations would be Stations 72, 31, and 74, respectively. This configuration may be helpful in considering an EMS deployment and/or move-up solution.

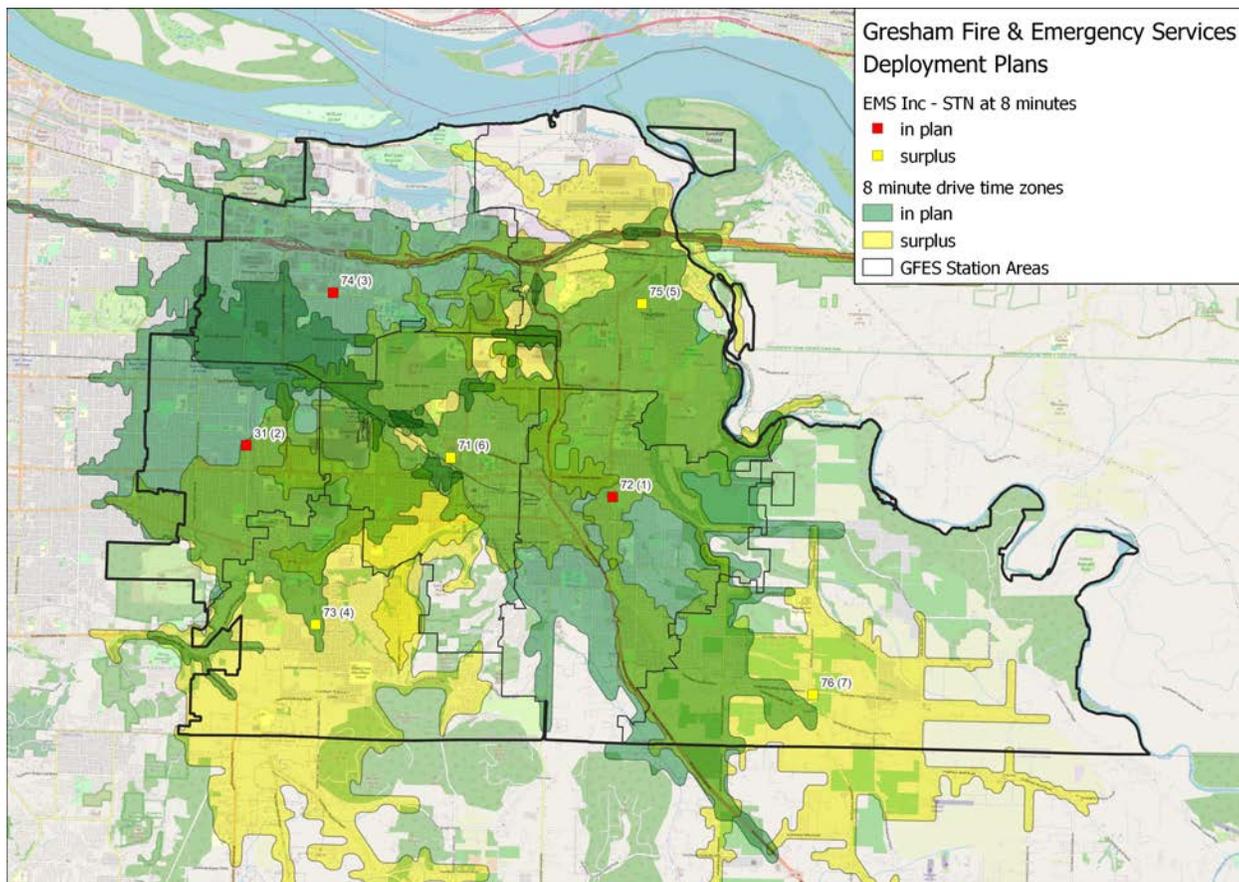
Assuming an 8-minute, and 3-station EMS deployment, the department should have a minimum of 6 resources in the system each day to meet both the geographic demand for services and the average hourly demand of 3 EMS calls per hour (3 stations + 3 average demand/hour = 6).

**Table 77: Marginal Station Contribution for 8-Minute Travel Time – EMS Calls**

Rank	Station	Drive Time	Station Capture	Total Capture	Percent Capture
1	72	8	47,990	47,990	44.06%
2	31	8	34,790	82,780	76.00%
3	74	8	15,875	98,655	90.58%
4	73	8	4,911	103,566	95.09%
5	75	8	1,259	104,825	96.24%
6	71	8	1,004	105,829	97.16%
7	76	8	601	106,430	97.72%

## Conclusion and Recommendations

Figure 37: Current Station Bleed Map for 8-Minute Travel Time – EMS Calls



Therefore, with six dedicated EMS resources, the department could significantly reduce the utilization of large fire apparatus in EMS incidents. If the EMS demand for the rescues would only cover 50% of the incidents, then the total number of EMS resources could be reduced to five.

Of course, if the department is desirous, a more measured implementation strategy would be to start with three rescue resources at stations 72, 74, and 31 or 72, 74, and 73 (depending on Station 31's deployment and commitment). In this deployment, the rescues could be utilized as the first units assigned to EMS incidents unless it is a critical event. The first response apparatus assigned to the station would handle any subsequent calls as they are today. This will reduce workload, increase availability, and future cost avoidance within the fire suppression program.

### Recommendation:

It is recommended that the department consider implementation of an EMS overlay strategy.

## Conclusion and Recommendations

### Effective Response Force Assembly

There are two prevailing recommendations for the time to assemble an effective response force (ERF) for structure fires. First, NFPA 1710 suggests that the ERF should arrive in eight minutes travel time or less. Second, CFAI provides a baseline travel time performance objective of 10 minutes and 24 seconds 90% of the time or less as well as a 13-minute travel time ERF for suburban areas.

ERF analyses were completed to evaluate the capability of Gresham units only, as well as the inclusion of the neighboring jurisdictions. All scenarios were based on an ERF of 17 personnel (high-risk fire).

Table 78: Comparisons of Effective Response Force Configurations – 17 Personnel

Travel Time Objective	Gresham Only	Gresham and Regional Aid
8-Minute	1.89%	1.89%
10-Minute	14.83%	19.47%
12-Minute	33.14%	45.02%
14-Minute	50.50%	62.35%
16-Minute	66.42%	79.85%
18-Minute	75.40%	85.98%
20-Minute	81.17%	89.76%

Overall, the ERF has more robust coverage in the core of the City, where the greatest concentric station areas are located. The border areas to the parameter and to the southeast of the jurisdiction are less robust since they do not benefit from concentric response zones.

Mapping for 10- and 20-minute travel times are provided below for the Gresham units and Regional responses, respectively.

## Conclusion and Recommendations

Figure 38: 10-Minute ERF from All Current Stations – Gresham Units and Stations Only

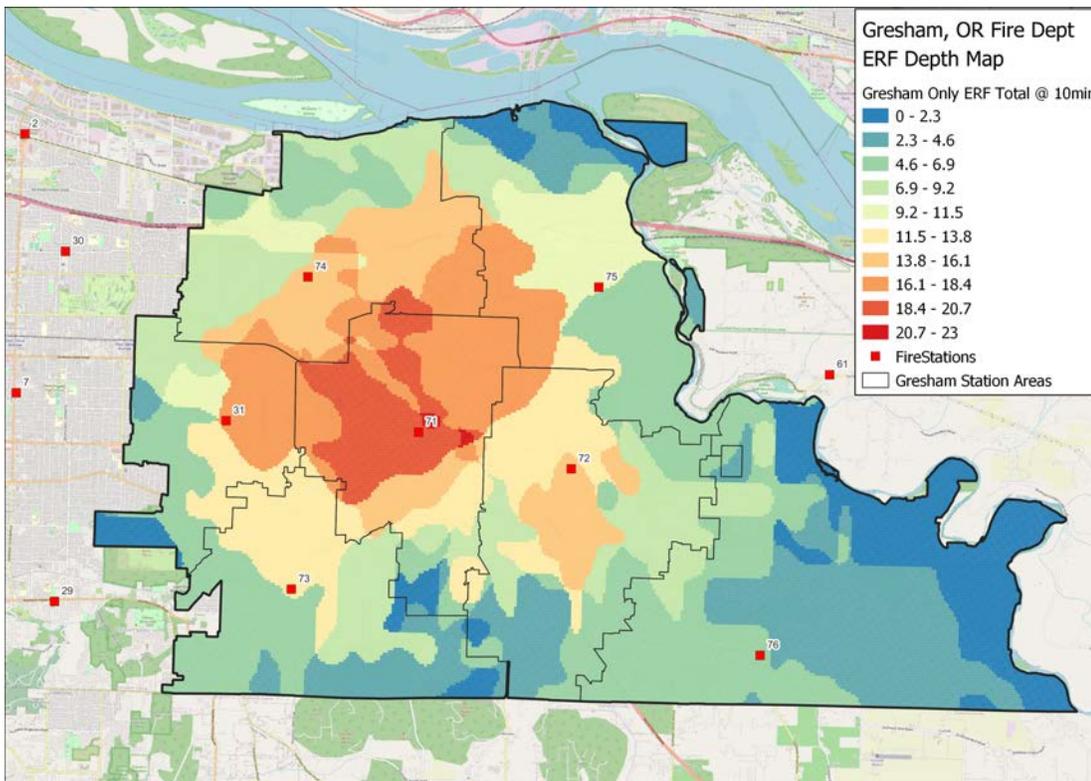
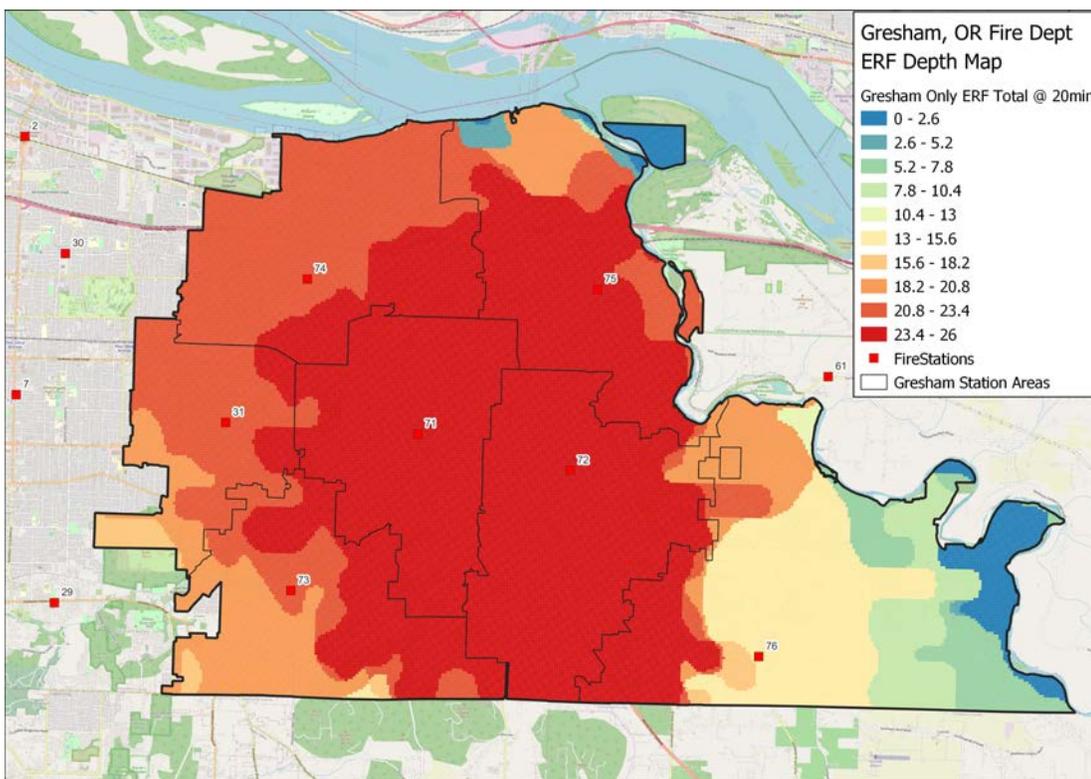


Figure 39: 20-Minute ERF from All Current Stations – Gresham Units and Stations Only



## Conclusion and Recommendations

Figure 40: 10-Minute ERF from Gresham and Regional Partners

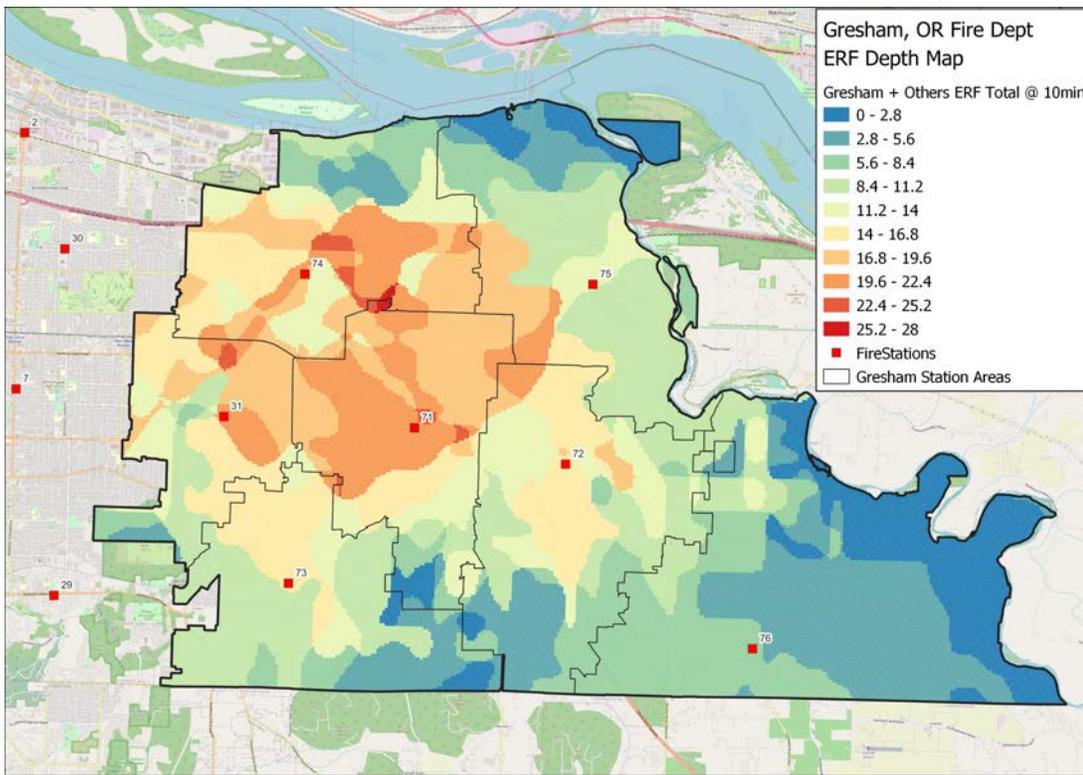
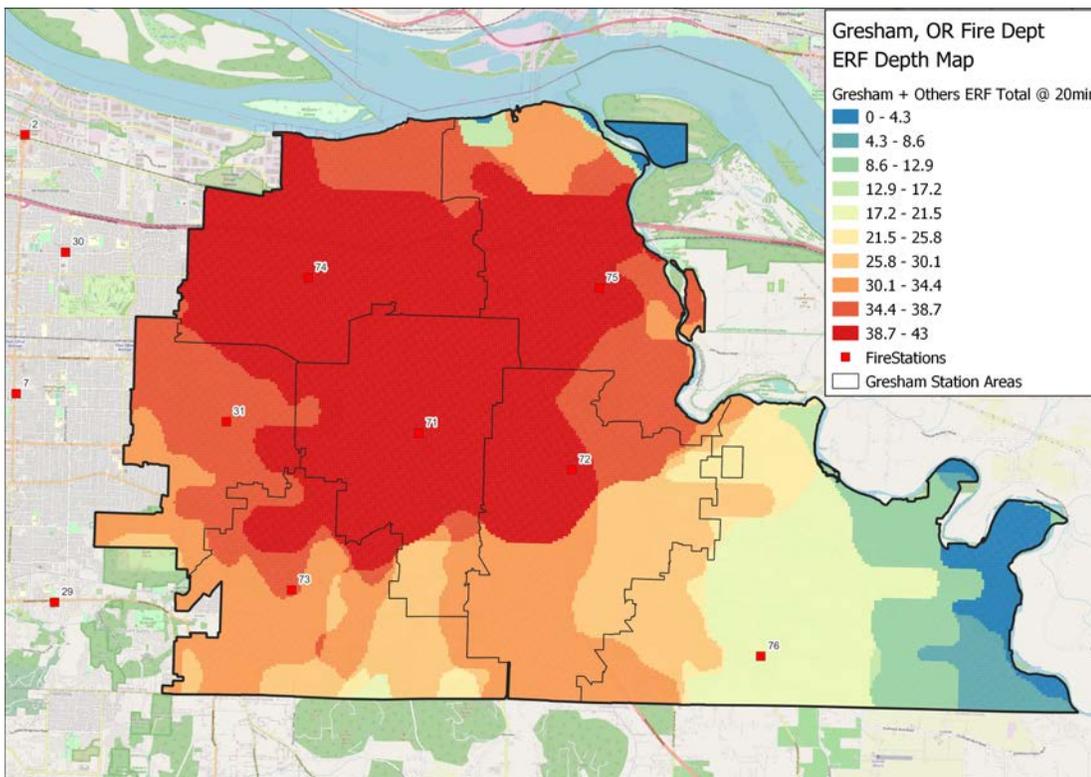


Figure 41: 20-Minute ERF from Gresham and Regional Partners



## Conclusion and Recommendations

### TRANSPORT

AMR provided transport service for the city. We analyzed outcomes of EMS calls through an examination of the “Begin to Transport Time” and “Transport to Destination Time” variables available in the data file. EMS calls were transport calls if at least one unit responding to the call had a reported either “Begin to Transport Time” or “Transport to Destination Time” value.

The number of EMS transports totaled 13,454, averaging 36.9 transports per day. Approximately 67.2% of EMS calls have patients being transported to the hospital. MVA had the lowest transport rate.

The duration of a call is defined as the difference between the first unit dispatch time and the last unit clear time. On average, the duration of a non-transport EMS call was 23.1 minutes. The duration of a transport call is 3.1 times of a non-transport call, averaging 70.7 minutes per call.

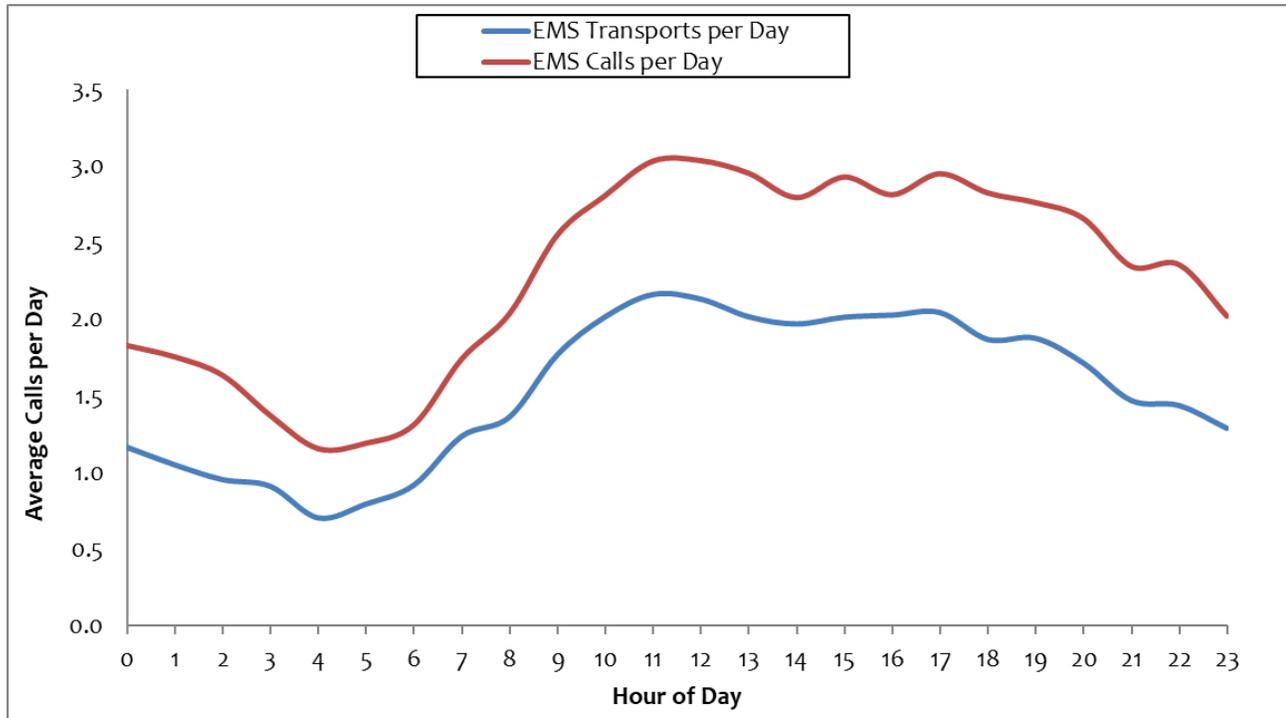
Table 79: EMS Non-Transport and Transport Calls by EMD Determinant

EMD Determinant	Transport		Non-Transport		Transport Rate
	Duration (minute)	Number of Calls	Duration (minute)	Number of Calls	
Cardiac and Stroke	71.4	2,065	28.7	842	71.0%
Seizure and Unconsciousness	70.9	1,292	23.8	689	65.2%
Breathing Difficulty	70.6	1,536	24.5	631	70.9%
Overdose and Psychiatric	69.4	1,077	22.1	522	67.4%
MVA	72.9	274	17.2	522	34.4%
Fall and Injury	70.1	2,492	19.9	1,483	62.7%
Illness and Other	69.9	4,287	24.1	1,861	69.7%
Interfacility Transfer	81.4	431	32.1	14	96.9%
<b>EMS Total</b>	<b>70.7</b>	<b>13,454</b>	<b>23.1</b>	<b>6,564</b>	<b>67.2%</b>

## Conclusion and Recommendations

We analyzed the variation of total EMS requests and transport requests by the hour of the day and the average hourly rate of requests. The variation in total EMS requests and EMS transport reports followed a similar pattern. The busiest period for EMS and EMS transport requests was between 1000 and 2000. Requests by the hour of the day are represented below.

Figure 42: Average EMS Calls and EMS Transports per Day by Hour of Day



## Unit Hour Utilization

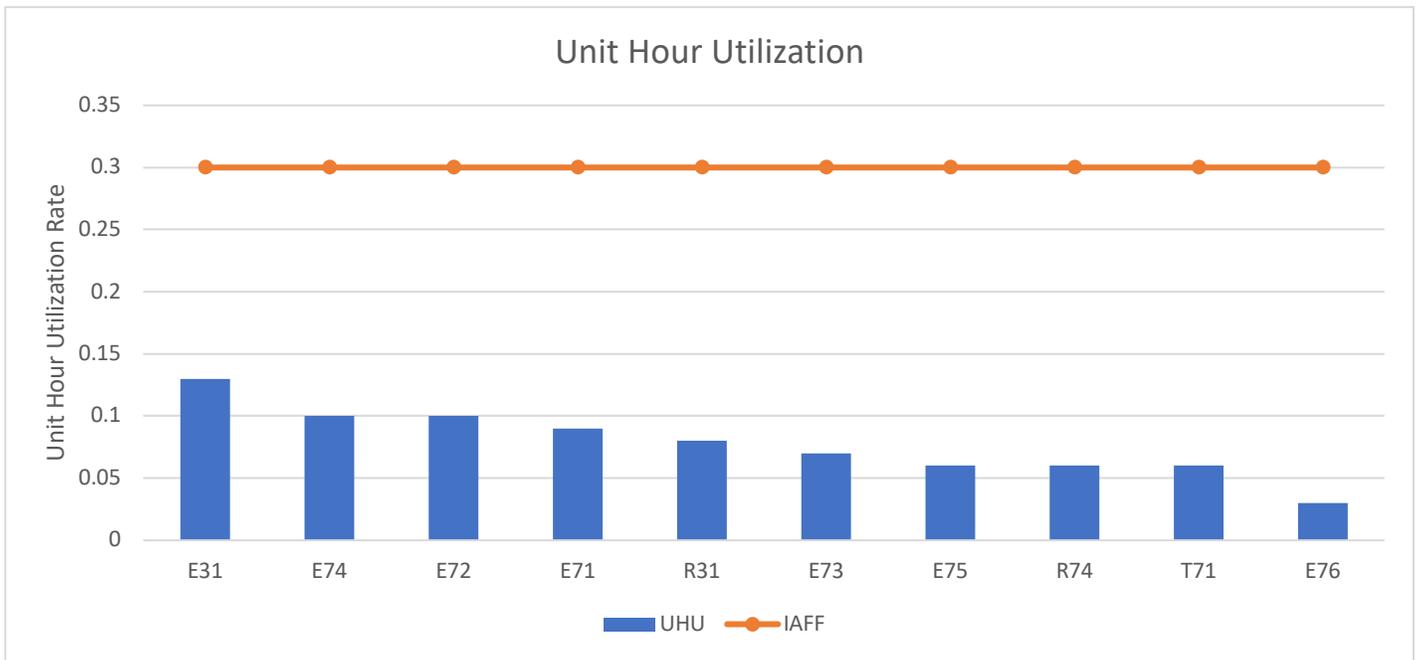
The number of calls responded to primarily addressed the wear and tear on the apparatus. Another measure, time on task, is necessary to evaluate best practices in efficient system delivery and consider the impact workload has on personnel. Unit Hour Utilization (UHU) determinants were developed by a mathematical model. This model includes both the proportion of calls handled in each major service area (Fire and EMS) and the total unit time on task for these service categories in 2021. The resulting UHUs represent the percentage of the work period (24 hours) that is utilized in responding to requests for service. The International Association of Fire Fighters (IAFF) recommends that 24-hour units do not surpass a 0.30 or 30% workload threshold. In other words, best practice would not have units and personnel exceeding 30% of their workday responding to calls. This would equate to approximately 7.2 hours of the 24-hour period. These thresholds take into consideration the necessity to accomplish non-emergency activities such as training, health and wellness, public education, and fire inspections.

## Conclusion and Recommendations

Overall, the department is performing at approximately 0.078, or 8% utilization of 10 fully staffed units. The most utilized unit is Engine 31 at Station 31, at 0.13.

FITCH recommends using a UHU value of 0.25 as a planning threshold, as it may take time to work through the budget and policy approval processes to secure additional resource investments

Figure 43: Unit Hour Utilization – 24-Hour Per Day Units Across All Jurisdictions



### Observation:

Overall, the department workload is approximately 8% for 911-related incidents.

### Recommendation:

It is recommended that the department adopt a UHU planning threshold of 0.25, or 25%.

## Conclusion and Recommendations

### Projected Growth

The available data set included five reporting periods of data, representing 2018 to 2021. From 2018-2021, calls for services increased from 21,139 to 24,659, with an average growth rate of 5.6% per year. The figure below depicts observed call volume during the last four-year reporting periods and various hypothetical growth scenarios for the next 20 years. These projections should be used with caution due to the variability in growth observed across prior calendar years. In all cases, data should be reviewed annually to ensure timely updates to projections and utilize a five-year rolling average.

Figure 44: Observed and Hypothetical Growth in Call Volume

