Herriman City

Community Risk Assessment

HERRIMAN CITY

UNIFIED FIRE AUTHORITY
GREATER SALT LAKE

Herriman City Planning Zone

UFA has two stations within the Herriman City Planning Zone covering a total of 8.5 square miles with a population of 55,144 and responded to 1,655 calls for service in 2020.

Planning Zone	Population	Population Percentage of UFA	Square Miles	Population Density per Sq Mile	Classification
Herriman City	55,144	12.23 %	21.63	2,549	Urban

Herriman City has increased its population from 21,825 in 2010 to 55,144 in 2020, showing an increase of 60.42% over a ten-year timeframe. Providing an exponential growth pattern and if all things remain equal, chart 44 demonstrates that Herriman could grow to 119,523 by the year 2040.

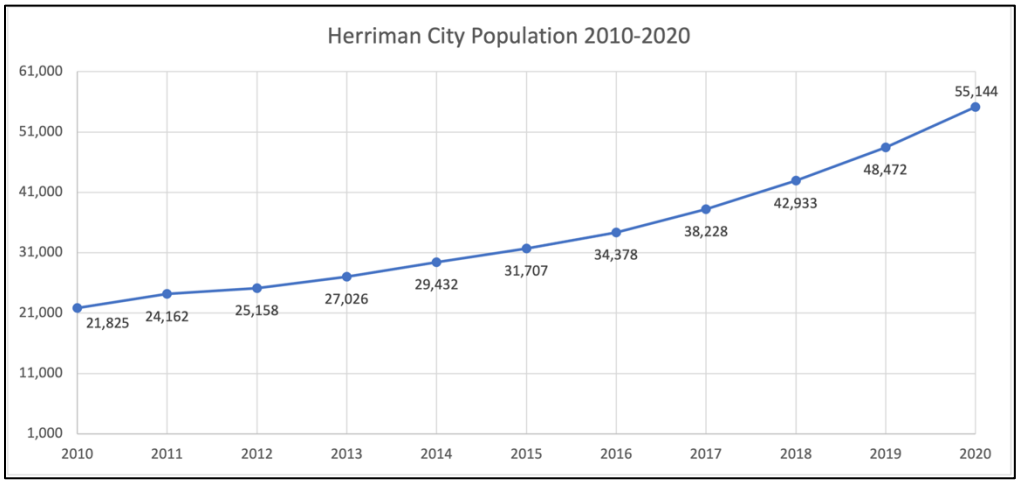


Chart 44 - Herriman City Population 2010-2020

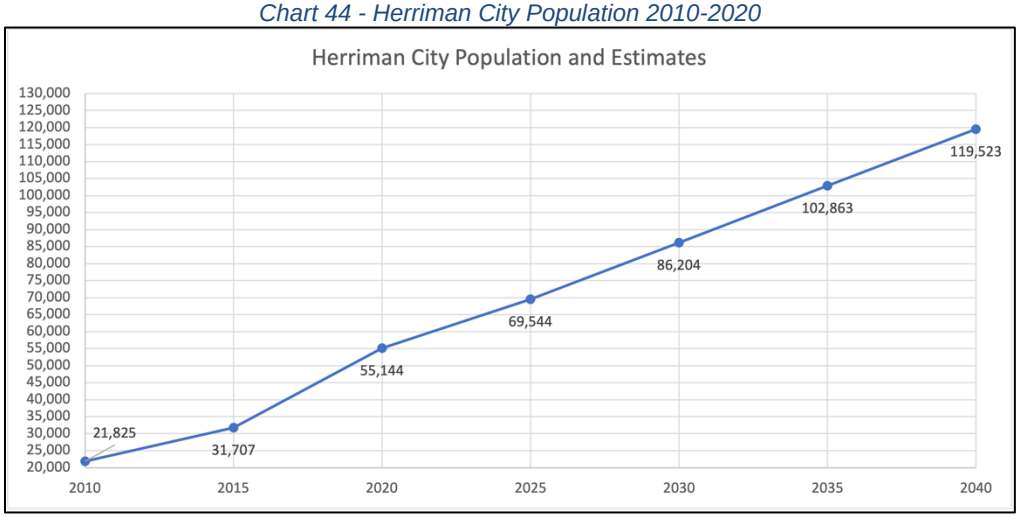


Chart 45 - Herriman City Population and Estimates 2010-2040

Herriman City Station Information

Station 103 information:
• Owner – Herriman City
• Opened – 1978
• Address – 5916 West 13100 South
• Staffing and Apparatus –
  ○ Type 1/3, ME 103 (4 persons)
  ○ Wildland Duty Officer Truck (cross-staffed)
  ○ PL MA 203 (2 persons – 0900-2100)
	
	Image 12 – Herriman City Station 103

Station 123 information:
• Owner – UFSA
• Opened – 2010
• Address – 4850 Patriot Ridge Drive
• Staffing and Apparatus –
  ○ Type 1, ME 123 (4 persons)
  ○ Type 6 Brush Truck (cross-staffed)
  ○ Type 1, WTT 123 (cross-staffed)
	
	Image 13 – Herriman City Station 123

Surrounding UFA and Automatic/Mutual Aid Response Stations

Surrounding fire stations and fire departments that are within an eight-minute response to Herriman City are:

- UFA Station 121 (Riverton City), with a four-person medic ladder and a two-person medic ambulance
- UFA Station 120 (Riverton City), with a two-person medic ambulance
- UFA Station 124 (Riverton City), with a four-person medic engine

- Bluffdale Station 91, with a two-person medic engine and a two-person medic ambulance
- Bluffdale Station 92, with a two-person medic engine and a two-person medic ambulance
- South Jordan Station 62, with a four-person engine and a two-person medic ambulance
- South Jordan Station 63, with a four-person engine and a two-person medic ambulance
- South Jordan Station 64, with a four-person engine and a two-person medic ambulance
- West Jordan Station 54, with a three-person engine and a two-person medic ambulance

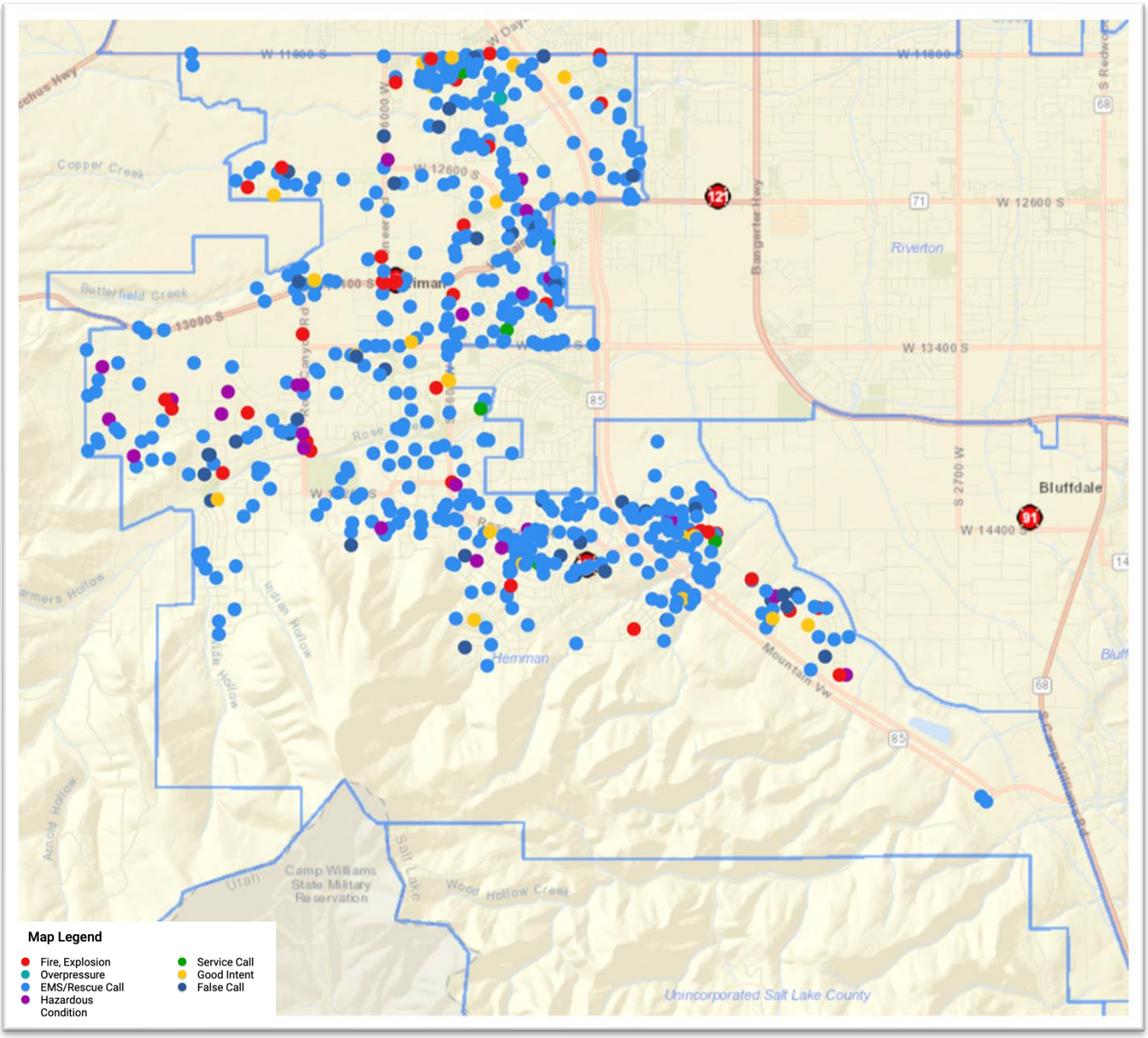
Herriman City – Incidents by Dispatch Type

The following data is what the NFIRS type was when crews arrived on scene. This may be different than what was originally dispatched, including a reclassification of a call type from one to another. Cancelled calls occur if the company is cancelled en route to a call and never arrives on scene, which then changes the dispatch type to an NFIRS 611 call type.

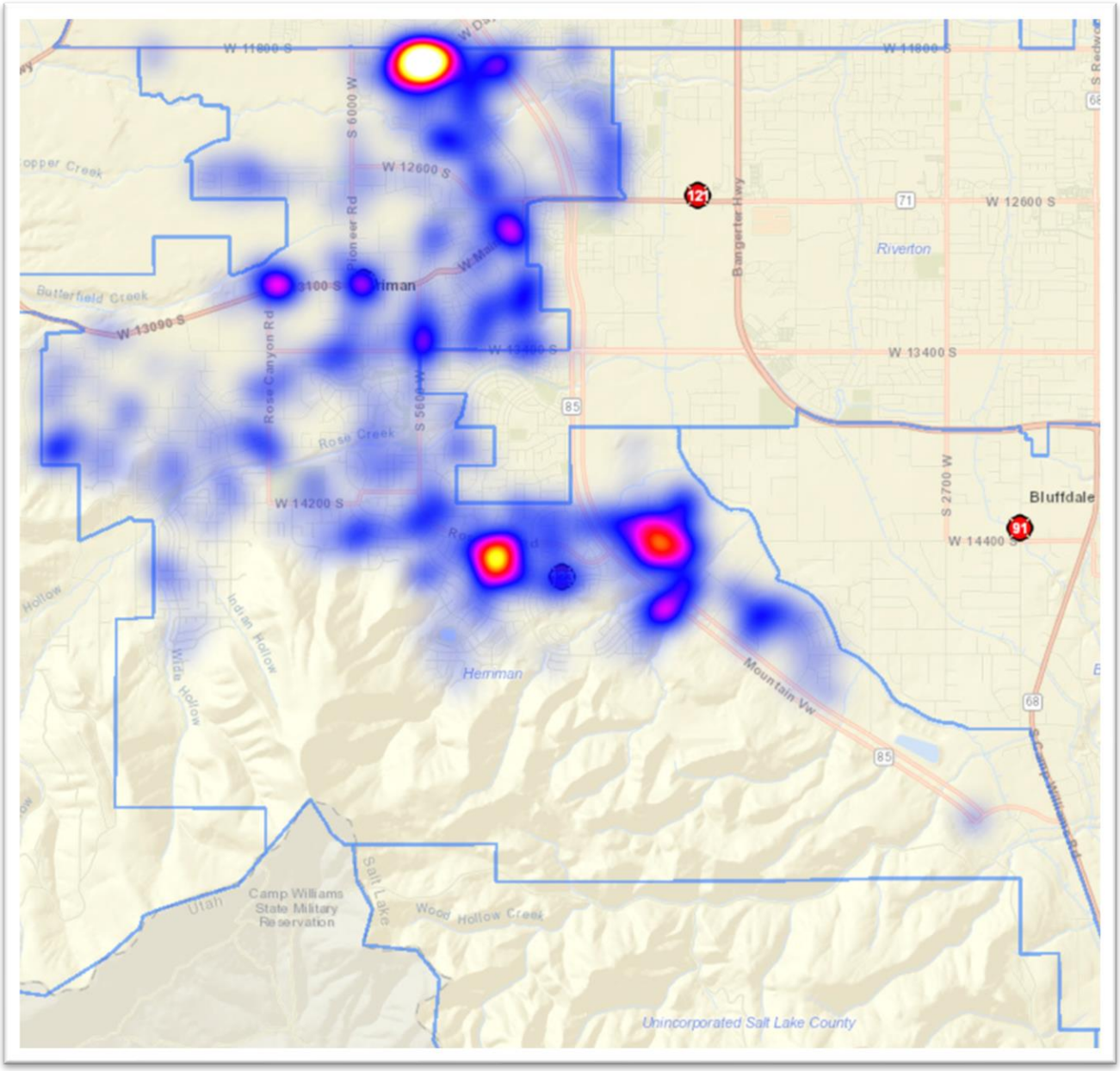
	CY 2020	CY 2019	CY 2018
Fire Suppression	51	23	36
EMS	910	781	689
Hazardous Materials	59	35	34
Service Calls	64	51	48
Good Intent	259	198	106
False Calls	132	142	129
Other (Misc., Flood, Overpressure)	3	3	3
Total	1,478	1,233	1,045
Cancelled	177	113	77
Overall Total	1,655	1,346	1,122

Table 90 – Herriman City Call Type

Herriman City – 2020 Incidents and Heat Map



Map 133 - Herriman City Incident Calls by Call Type



Map 134 - Herriman City Call Volume Heat Map

NFPA 1710

The National Fire Protection Association is an international nonprofit organization that is devoted to eliminating death, injury, property, and economic loss due to fire, electrical and related hazards. The NFPA makes recommendations on over 300 codes and standards. NFPA 1710 recommendations are based off 90th percentile times.

– In Other Words…

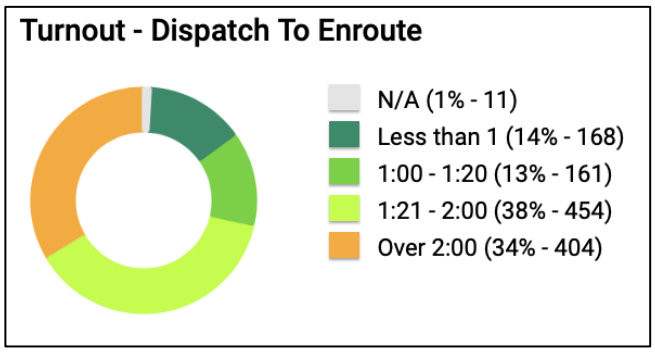
If a value is in the 90th percentile, it means the value is better than 90% of all other values in the dataset. In other words, it is within the top 10% of the values.

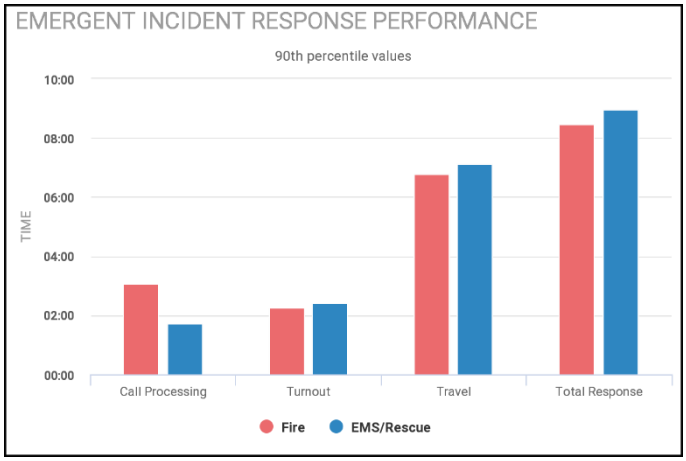
NFPA 1710 encompasses suggested standards for full-time fire departments and recommends the following times (all of which are at the 90th percentile): alarm processing – 64 seconds; turnout time for EMS responses – 60 seconds; turnout time for fire responses – 80 seconds; first arriver apparatus – 240 seconds (4 minutes); initial full-alarm assignment for low and medium hazard responses – 480 seconds (8 minutes); or initial full-alarm assignment for high hazard/high-rise responses – 610 seconds (10 minutes 10 seconds). The total response times are the cumulative totals of call processing time, turnout time, and travel time. NFPA 1710 recommends a total response time of 6:24 for the first arriving apparatus for fire and 6:00 for the first arriving apparatus for EMS.

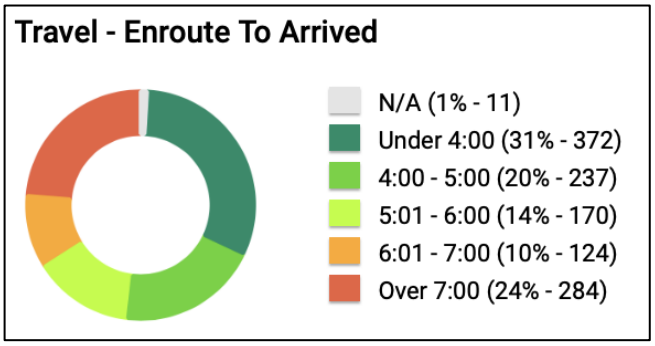
– Of Note…

NFPA 1710 response times have not been adopted by the UFA Board. One of the important elements of the community risk assessment and standards of cover is to identify current 90th percentile times (current baselines) within UFA and to identify realistic benchmarks for the UFA Board to consider for adoption.

Herriman City – 2020 Dispatch and Response Times



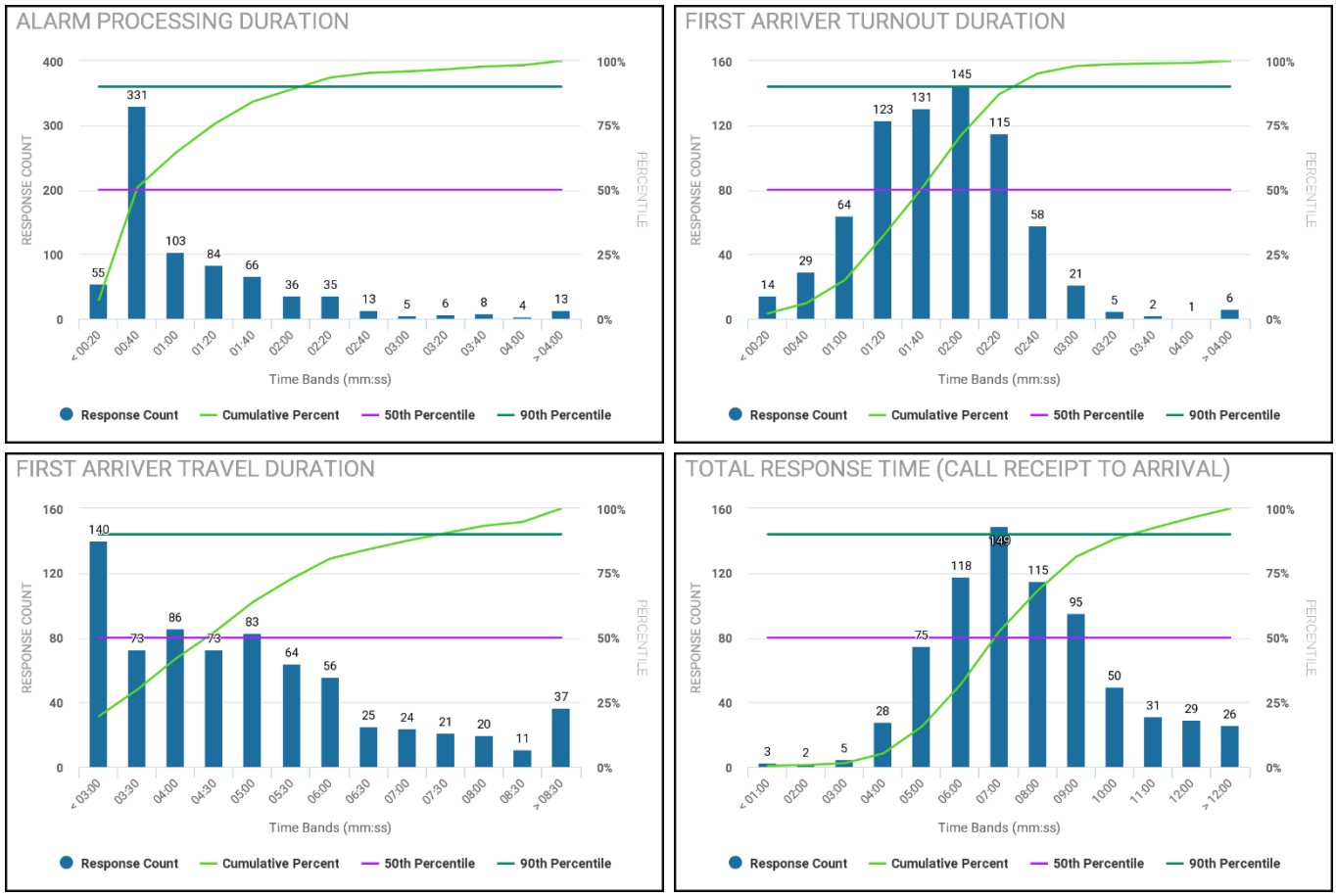




Urban	Call Processing: Fire	Turnout Time: Fire	Travel Time: Fire	Total Response: Fire	Call Processing: EMS	Turnout Time: EMS	Travel Time: EMS	Total Response: EMS
Herriman	2:26	2:22	7:57	11:41	1:44	2:25	7:11	9:56
UFA Urban 2018-2020	2:16	2:39	7:36	10:34	1:47	2:32	6:29	9:18
UFA Rural 2018-2020	2:32	3:05	15:08	19:09	1:56	2:50	14:45	17:45
NFPA 1710	1:04	1:20	4:00	6:24	1:00	1:00	4:00	6:00

Table 91 – Herriman City 2020 Emergent Response Times, 90th percentile values

Herriman City – 2020 Turnout and Travel Time



The charts above illustrate the alarm processing, turnout and travel times for all units responding to service calls within Herriman City (90th percentile). The alarm processing for fire was 2:26 and 1:44 for EMS; turnout time was 2:22 for fire responses and 2:25 for EMS responses; travel time was 11:41 for fire responses and 7:11 for EMS. The 90th percentile total response time was 11:41 for fire and 9:56 for EMS. For the charts above, they show both fire and EMS response times together.

– Of Note…

One item to note is that if you were to add the processing time, the turnout time, and the travel time, it will not necessarily (and often doesn't), sum the total response time. This is due to some of the limitations within the datasets and gaps within timestamps. Where there are missing timestamps, those particular key performance indicators (KPI) are excluded as they cannot accurately be calculated out.

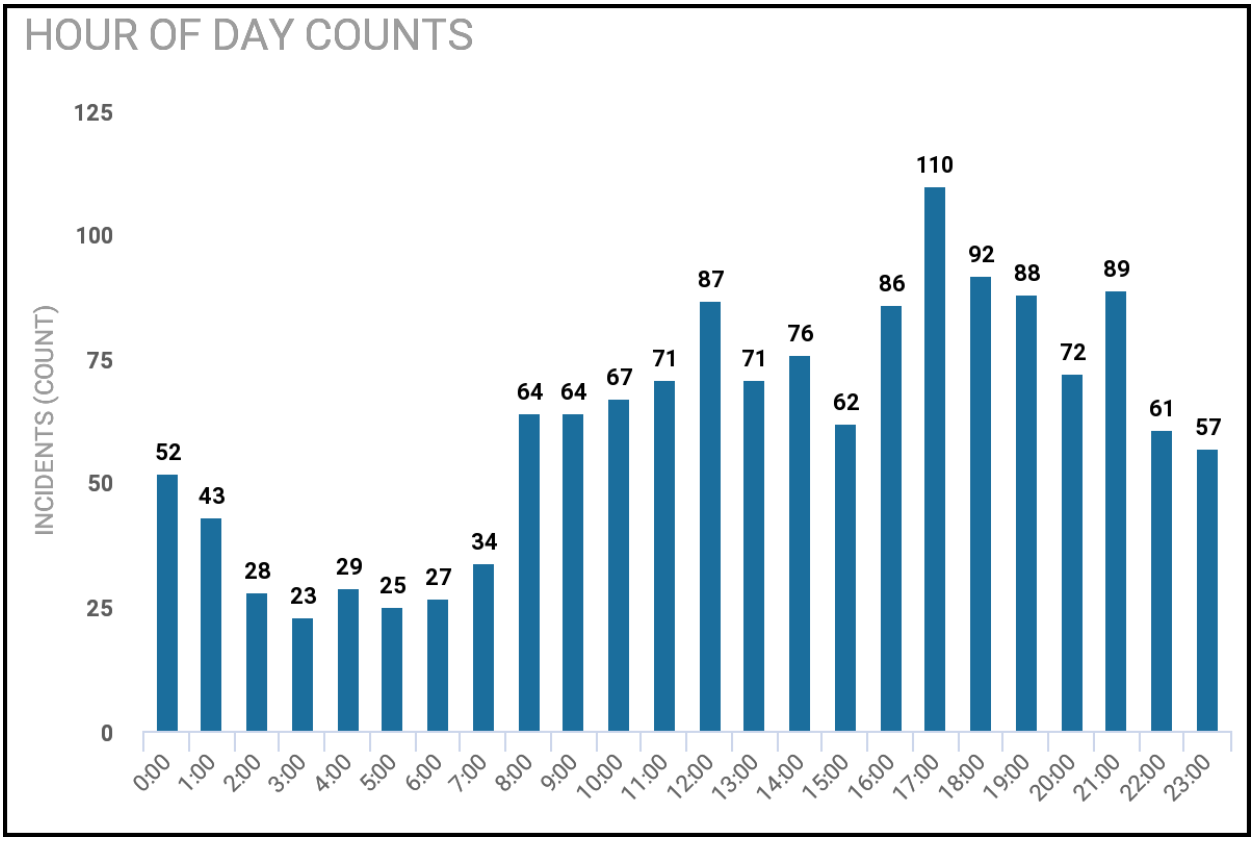


Chart 46 - Herriman City 2020 Incidents by Time of Day

Herriman City – 2020 Incidents by Time of Day

The above table demonstrates the incidents by time of day and the time of greatest demand within Herriman City for all service calls. This chart illustrates that the greatest demand for service delivery begins at 08:00 AM and starts to decrease at 09:00 PM.

Herriman City – 2020 Incidents by Day of Week

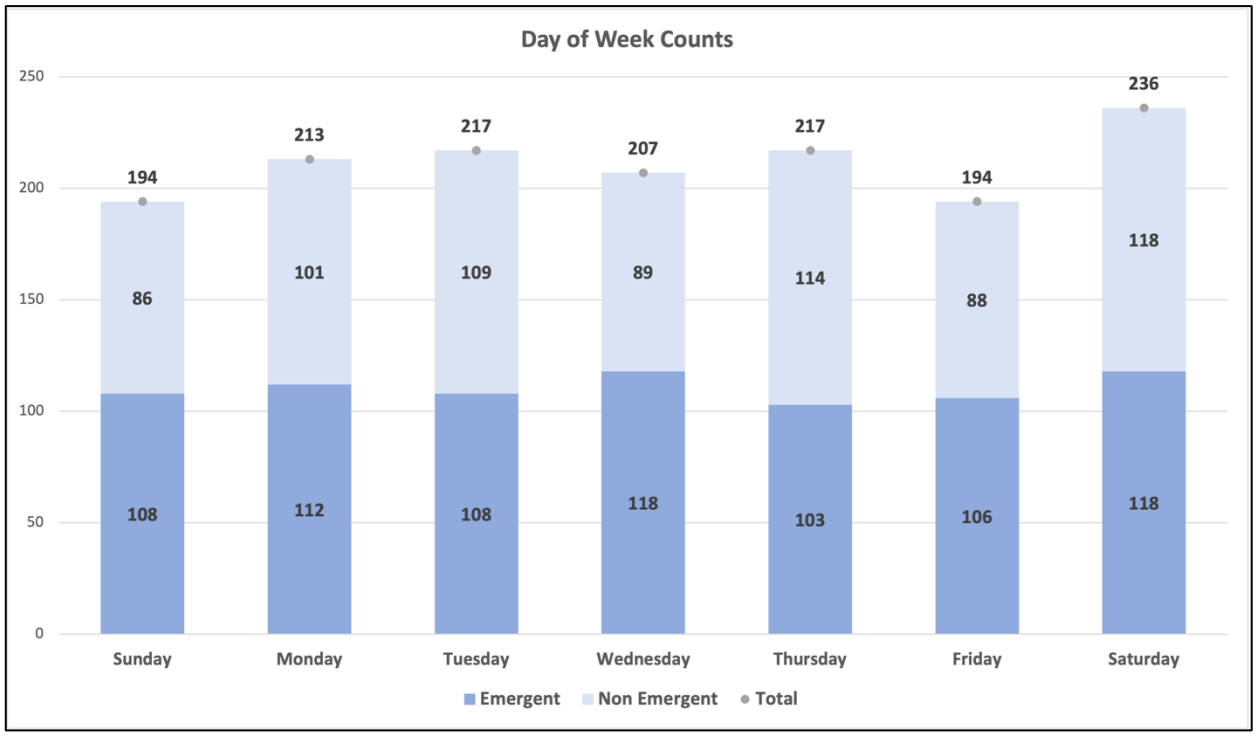


Chart 47 – Herriman City Incidents by Day of Week

This chart demonstrates the call volume based on the day of the week, with an increase in all calls as well as the peak volume for all calls in Herriman City occurring on Saturday.

Herriman City – EMS Calls

EMS calls are filtered by final disposition codes and this data is taken from VECC and determined by the patient acuity at the time of call termination. Often times the EMS calls identified from final disposition are different than the number of EMS calls that were initially dispatched due to one being the initial call type, and one being what call type the call was closed as by responding fire crews.

	CY 2020	CY 2019	CY 2018
ALS Transports	350	240	248
BLS Transports	402	338	236
Scene Release	41	36	55
Public Assistance	4	7	11
EMS Total Calls	793	614	539
Note: There is possibly a difference if you were to add all calls due to data reporting mechanisms. Public assistance calls will sometimes get duplicated with a scene release, depending on dispatch code, but those calls do not carry across to the total calls. Also, cancelled calls go into a different final disposition so the numbers in the 'Incidents by Dispatch Type' are reflective of this difference.			

Table 92 – Herriman City EMS Calls

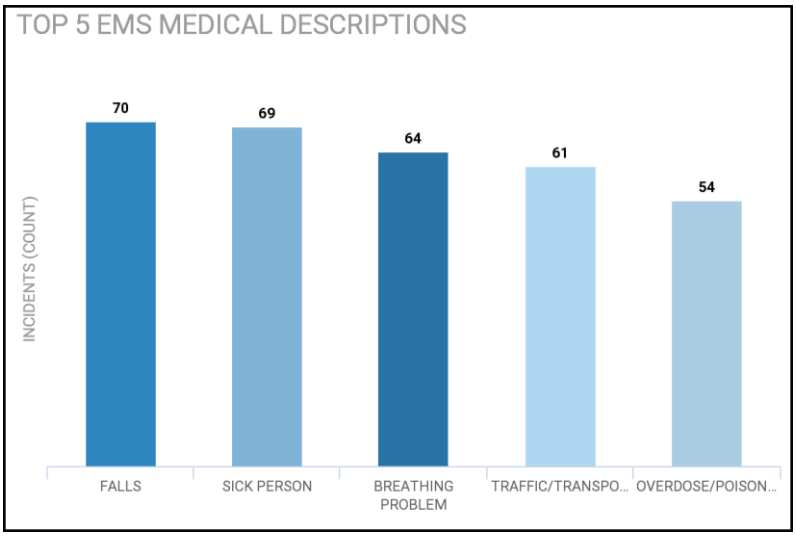


Chart 48 - Top 5 EMS Medical Calls - 2020

Herriman City – 2020 Fire Incidents by Dispatch Type

NFIRS Description	Incident Count	% of Incidents
Structure Fire	19	37.3%
Natural Vegetation Fire	9	17.6%
Outside Rubbish Fire	11	21.6%

NFIRS Description	Incident Count	% of Incidents
Special Outside Fire	3	5.9%
Fire, Other	5	9.8%
Vehicle Fire	4	7.8%
Total	51	100%

Table 93 – Herriman City 2020 Incidents by Dispatch Type

Herriman City – Building Occupancy Classification and Risk Categories

Occupancy Classification	Low	Moderate	High	Maximum	Total
Assembly	17	0	11	0	28
Commercial/Industrial	4	1	0	0	5
Educational	0	11	2	3	16
Government	1	0	0	0	1
Healthcare	0	0	0	0	0
Hazardous	Unknown	Unknown	Unknown	Unknown	30*
Storage	0	0	0	0	0
Residential	286	5,217	2,363	6	7,872
Residential – Multi Unit	160	28	101	3	292
High Rise	N/A	N/A	0	0	0
Total	468	5,257	2,376	12	8,216

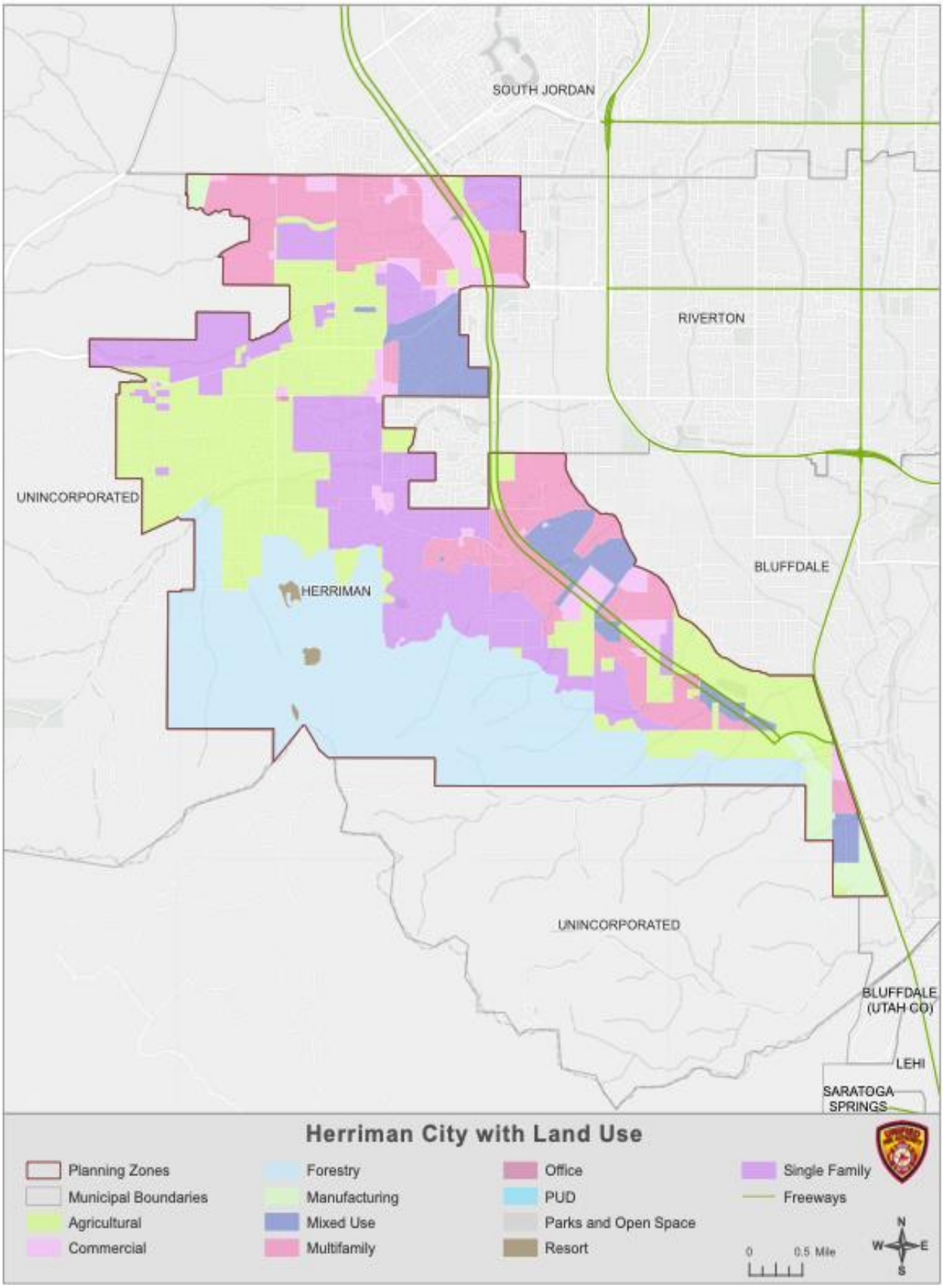
*There is currently a gap within the identification of building size regarding hazardous materials sites. This is a gap that is being closed over the next several years as we collect the data and information.

Table 94 – Herriman City Building Occupancy and Risk Categories

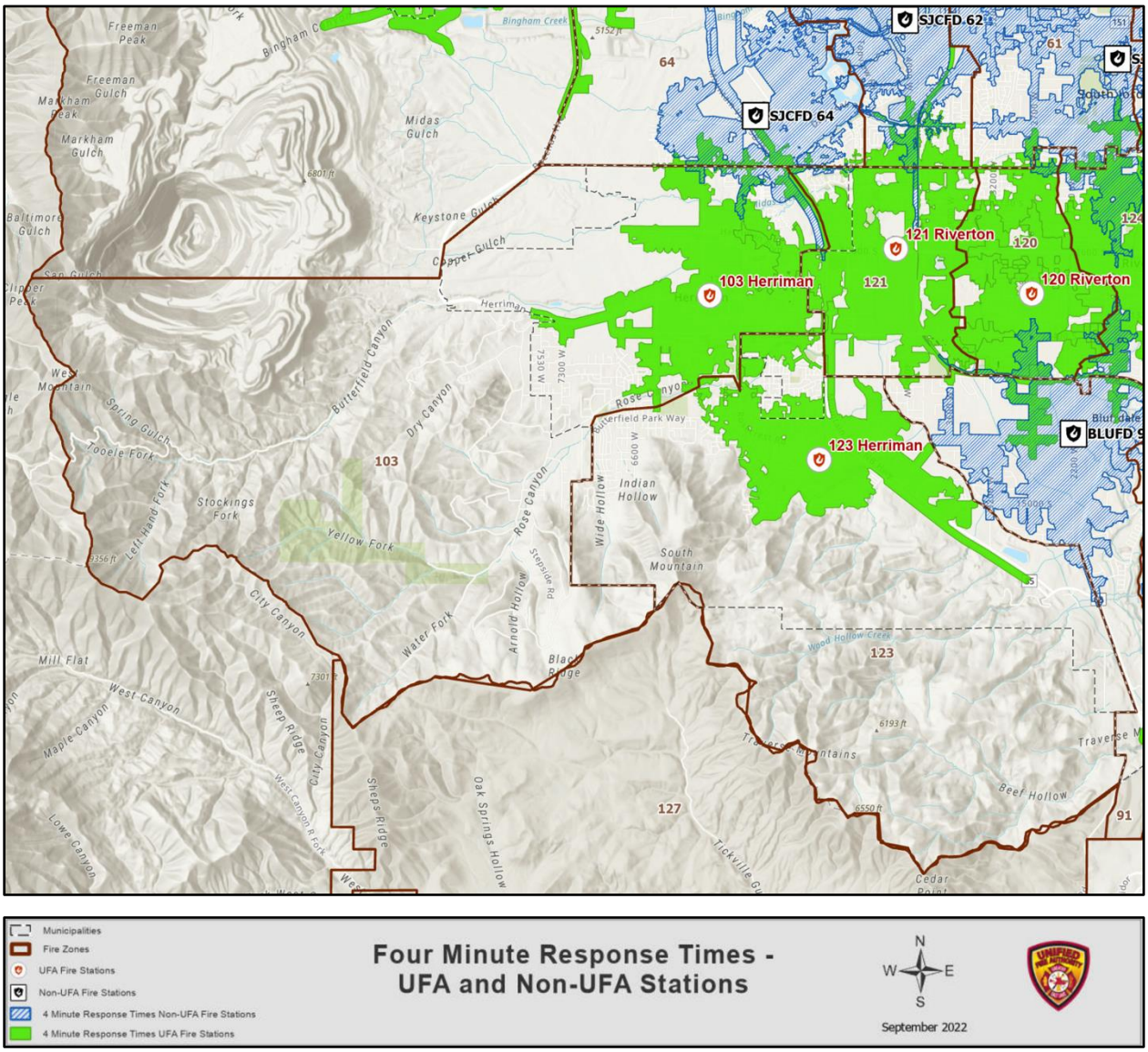
Building Size / Considerations

For purposes of risk classification, UFA has outlined the following risk classifications for building size, regardless of occupancy type (except residential). Low risk = 1-4,999 square feet. Moderate risk = 5,000-9,999 square feet. High risk = 10,000-99,999 square feet. Maximum risk = >100,000 square feet.

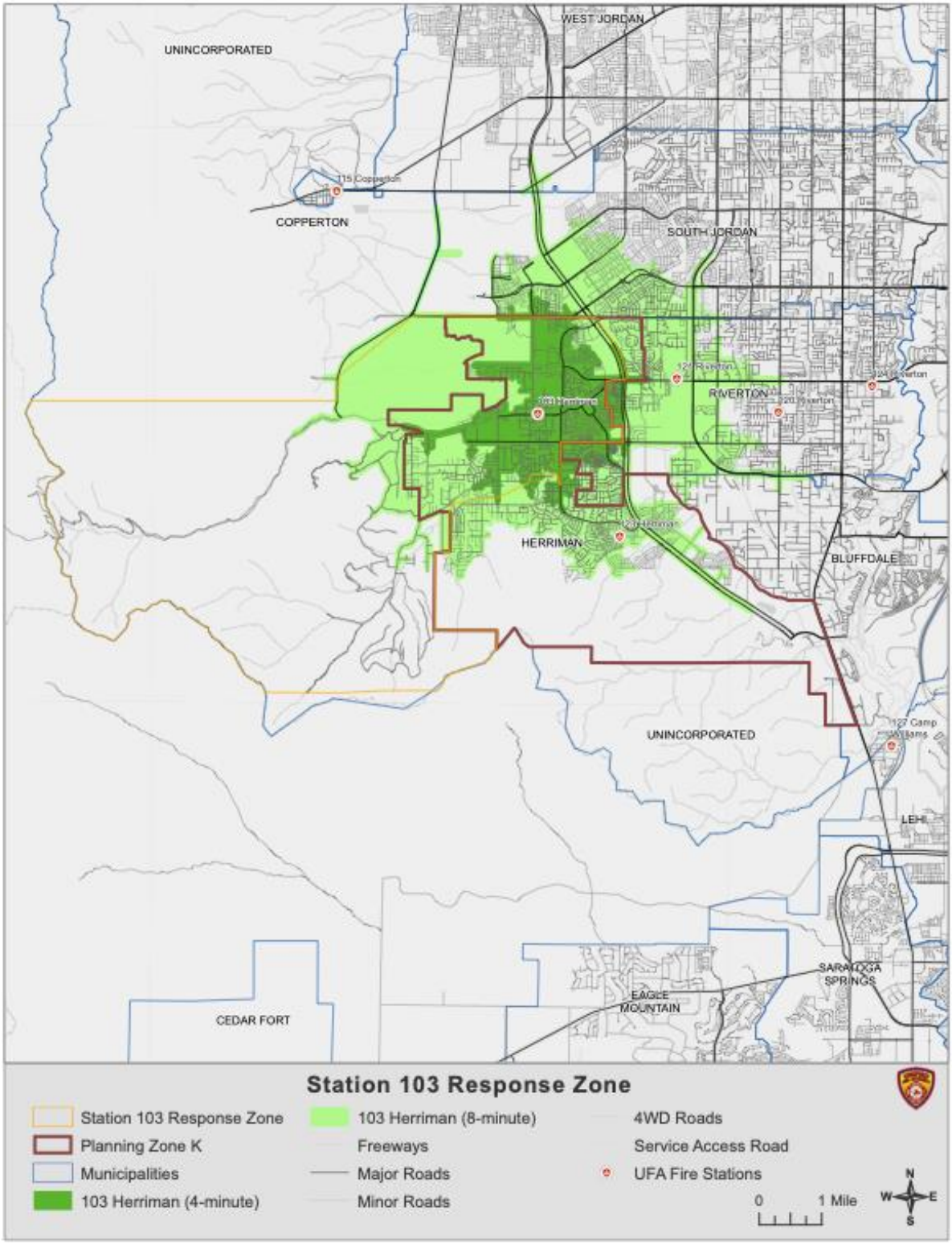
For residential occupancies, the following classifications apply. Low risk = 1-1,999 square feet. Moderate risk = 2,000-3,999 square feet. High risk = 4,000-9,999 square feet. Maximum risk = ≥10,000 square feet.



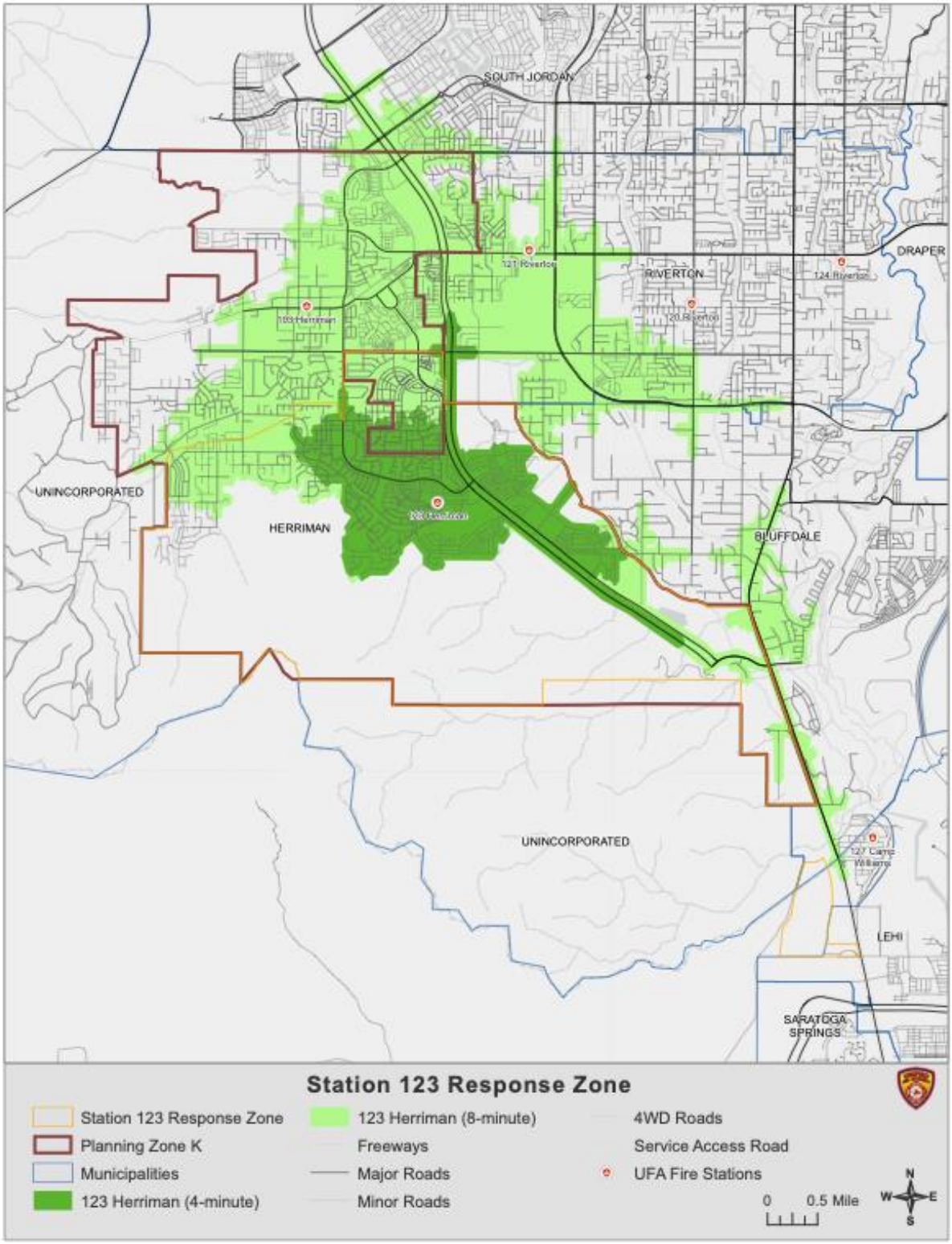
Map 135 - Herriman City with Land Use



Map 136 - 4-Minute Travel Time, UFA and Aid



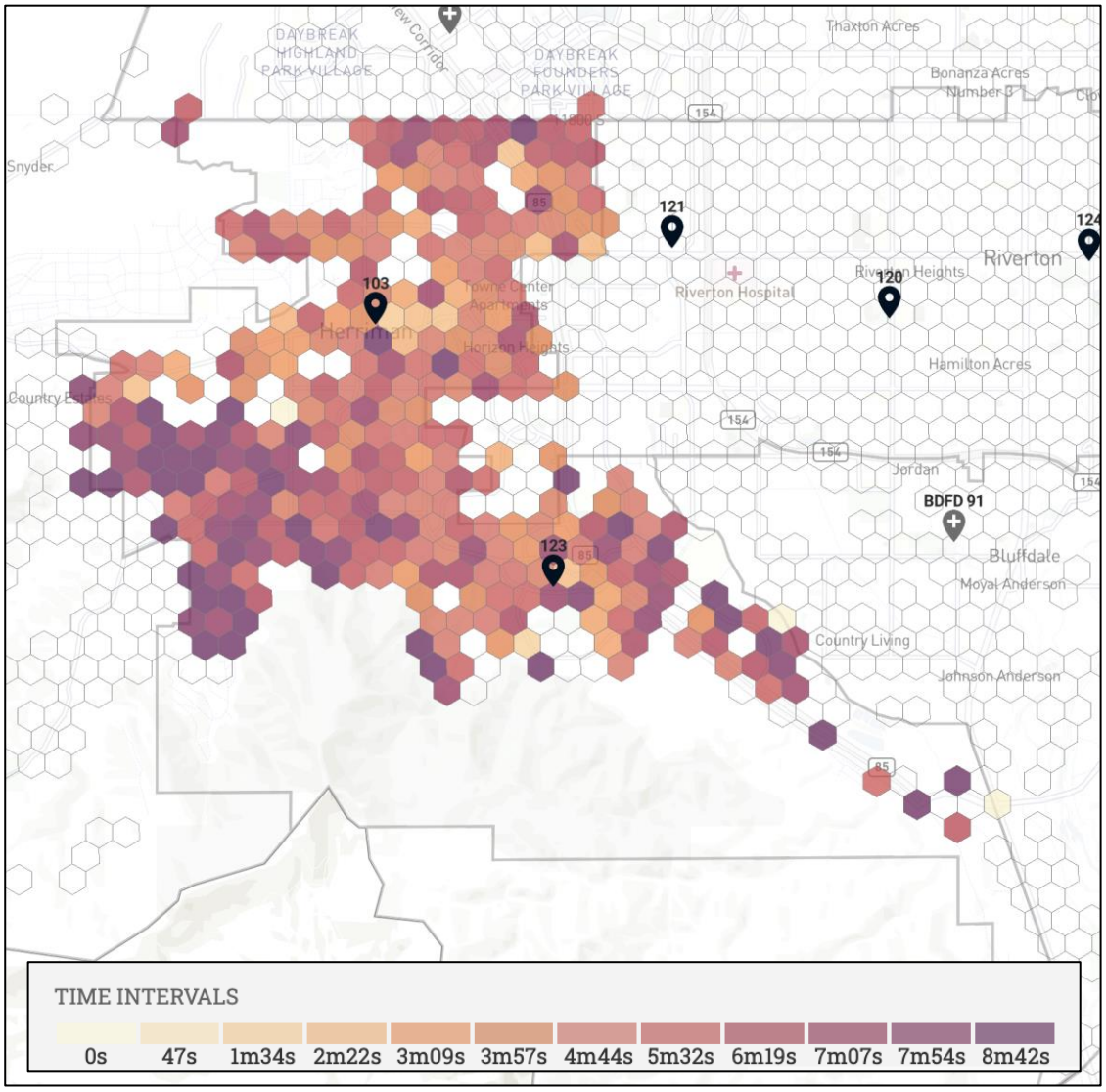
Map 137 - Station 103 4- and 8-Minute Travel Times



Map 138 - Station 123 4- and 8-Minute Travel Times

Herriman City – First Arriver Travel Times

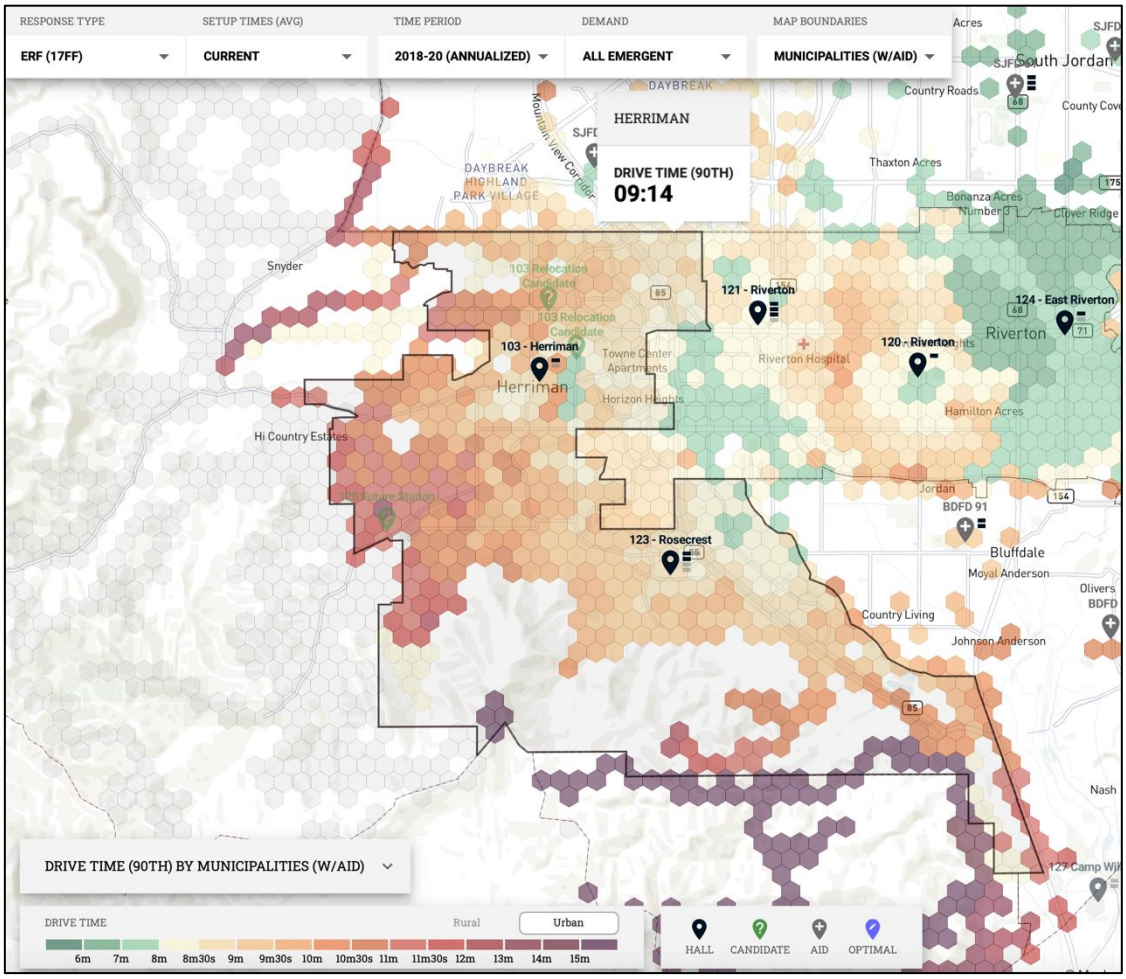
The following maps demonstrate the 90th percentile of travel times based off the last three years of historical data (2018-2020). The darker the color, the more delayed the response with the lighter colors demonstrating below or near target times. The darker colors on the bar within the key demonstrating longer travel times by apparatus. This map's drive times (or travel times) are based off the current NFPA 1710 standard of four minutes (90th percentile) from notification of the alarm to the arrival of the first arriving apparatus — not an adopted standard by UFA. UFA is currently in process of identifying benchmark and target standards to be adopted by the UFA Board of Directors. Currently, within Herriman City, the 90th percentile drive time is 7:57 for fire and 7:11 for EMS.



Map 139 – Herriman City Response Times – All Aid

Herriman City – Residential Fire Effective Response Force (17 FF)

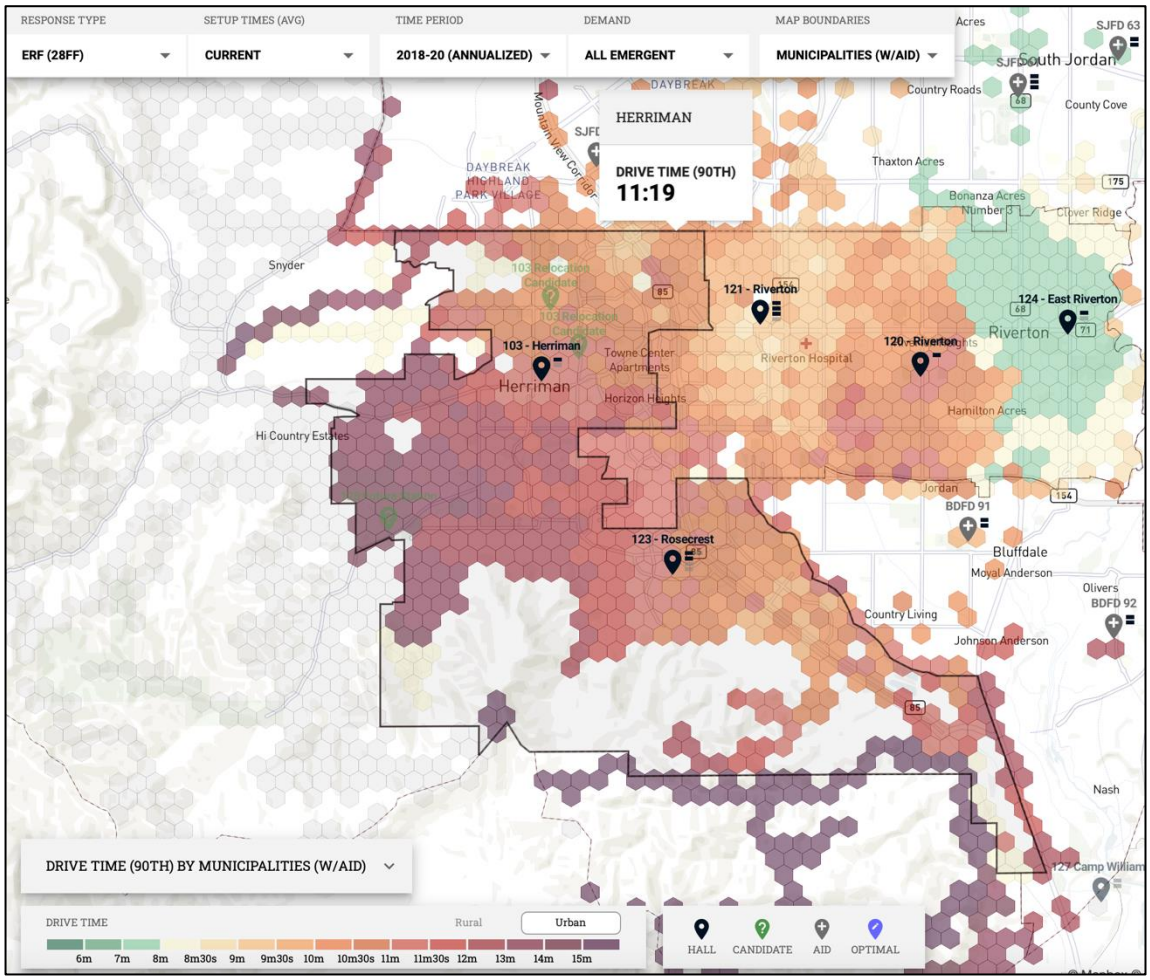
This map demonstrates the coverage of a multi-unit response to a residential fire based off all apparatus being within their station. The green to light yellow demonstrates the ability to have seventeen firefighters (a residential fire effective response force) on scene based off a residential urban fire force response. This map's drive times (or travel times) are based off the current NFPA 1710 standard of eight minutes (90th percentile) from notification of the alarm to the arrival of the initial full alarm assignment (a minimum of 17 firefighters) for a residential, low, or medium hazard assembly — not an adopted standard by UFA. UFA is currently in process of identifying benchmark and target standards to be adopted by the UFA Board of Directors. Based off predictive data, it is projected that the 90th percentile for 17 firefighters to arrive on scene would be 9:14.



Map 140 – Herriman City Response Times – Residential Fire Effective Response Force (17 ERF)

Herriman City – Commercial Fire Effective Response Force (28 FF)

This map demonstrates the coverage of a multi-unit response to a commercial fire based off all apparatus being within their station. The green to light yellow demonstrates the ability to have twenty-eight firefighters (a commercial fire effective response force) on scene based off a residential urban fire force response. This map's drive times (or travel times) are based off the current NFPA 1710 standard of ten minutes and ten seconds (90th percentile) from notification of the alarm to the arrival of the initial full alarm assignment (a minimum of 28 firefighters) for a commercial, high hazard or high-rise assembly — not an adopted standard by UFA. UFA is currently in process of identifying benchmark and target standards to be adopted by the UFA Board of Directors. Based off predictive data, it is projected that the 90th percentile for 28 firefighters to arrive on scene would be 11:19.



Map 141 – Herriman City Response Times – Commercial Fire Effective Response Force (28 FF)

Herriman City Risk Assessments

Infrastructure – Transportation	Infrastructure – Dams	Earthquake Liquefaction	Earthquake Faults	Avalanche	Unreinforced Masonry	Wildland Urban Interface	Tier II Sites	Hospitals	Schools	≥100,000 sq ft Structures	Residential Population
High	High	Low	Low	Low	Low	Mod	Low	Low	High	Mod	High

Table 95 - Herriman City Hazard Matrix

Transportation: Low Risk = 0-99 Linear Miles; Moderate Risk = 100-199 Linear Miles; High Risk = >200 Linear Miles
Dams: Low Risk = 0-3; Moderate Risk = 4-6; High Risk = ≥7
Liquefaction: The areas of liquefaction vary throughout the valley, with areas of high susceptibility running South and East from the Great Salt Lake
Earthquake Faults: Low Risk = 0-30,000 LF of fault line; Moderate Risk = 30,001-60,000 LF of fault line; High Risk = ≥60,001 LF of fault line
Unreinforced Masonry: Low Risk = 0-100; Moderate Risk = 101-1,000; High Risk = ≥1,001
Wildland Urban Interface: Low Risk = 0-25% WUI; Moderate Risk = 26-50% WUI; High Risk = ≥51% WUI
Tier II Sites: Low Risk = 1-5; Moderate Risk = 6-10; High Risk = ≥11
Hospitals: Low Risk = 0; Moderate Risk = 1; High Risk = ≥2
Schools: Low Risk = 0-5; Moderate Risk = 6-10; High Risk ≥11
100,000 sq ft Buildings: Low Risk = 0-5; Moderate Risk = 6-14; High Risk = ≥15
Population: Low Risk = 1-19,999; Moderate Risk = 20,000-39,999; High Risk = ≥40,000

Infrastructure – Transportation

There are several high-level transportation routes within Herriman City or directly bordering Herriman City. The Mountain View Corridor (SR85) runs north and south on the East side of the city. Several arterials and state roads also run through Herriman, with 13400 South, 12600 South and Rosecrest Road. There are 0 linear miles of Interstate/US Highway, 13.9 linear miles of State Highways, and 215.6 total linear miles of roadway. Herriman City is in the high-risk category for road infrastructure.

Infrastructure – Water

There are two water districts within Herriman City, including the Jordan Valley Water Conservancy District, and the South Valley Sewer District.

Infrastructure – Dams

There are twenty identified dams within Herriman City. Herriman City is in the high-risk category for dam infrastructure.

Natural Hazards

Within Herriman City, there are no concerns with avalanche areas, however there are several areas that Herriman units respond to that have avalanche as well as backcountry rescue potential within Unincorporated Salt Lake County. Holladay is in the low-risk category for avalanche. There are no identified fault lines that run through the city (see Map 8). Herriman City is in the low-risk category for both liquefaction and fault lines. Herriman City has 0 linear feet of fault lines. One of the biggest hazards that occur within an earthquake scenario is the number of unreinforced masonry (URM) buildings within Herriman City, with an estimated 37 URM's, which constitutes about 0.15% of the overall URM's within UFA's response areas. Herriman City is in the low-risk category for unreinforced masonry.

Wildland Urban Interface

There is moderate risk of urban interface fires within Herriman City, although on the western border of Herriman, there is high risk of urban interface fires within Unincorporated Salt Lake County.

Hazardous Materials / Tier II Sites

There are three identified HazMat/Tier II Sites within Herriman City, which is in the low-risk category.

Hospitals

Herriman City has no standalone hospitals, which places it in the low-risk category.

Schools

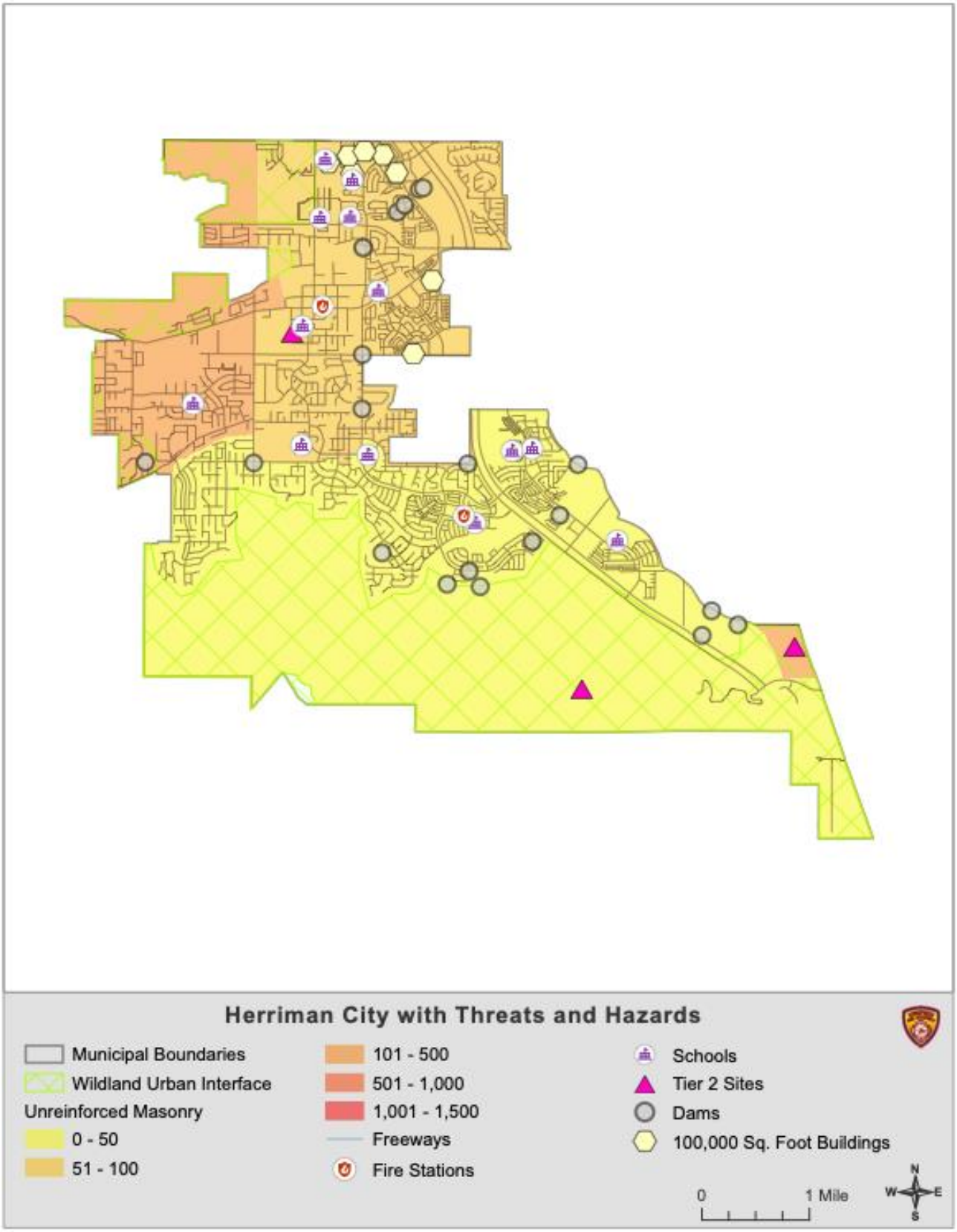
Herriman City has seven elementary schools, two middle schools, three high schools and one private/charter schools within city boundaries, which places it in the high-risk category.

Target Hazards – Structures

Some of the target hazard occupancies in Herriman City include:

- Herriman City Ice Ribbon – 5355 W Herriman Main Street
- Bullfrog Spa Factory - 7017 W 11800 S
- J.L Sorenson Rec Center - 5350 W Main Street
- Ace Hardware - 13342 S 5600 W

- Jordan Valley Water Treatment Facility - 15305 S 3200 W



Map 142 - Herriman City with Combined Hazards

Life and Property Loss

From 2015-2020, there have been zero fatalities attributed to fire. There has been a total estimate of $2,829,642.00 of property loss and a total estimate of $604,522.00 of content loss due to fire.

Unified Fire Shared Services

With a regional-response model, the Unified Fire Authority brings special services to bear when the situation calls for it, not relying on automatic or mutual aid which provides a quicker and more effective delivery of service to its residents.

Battalion Chiefs

Unified Fire Authority staffs three operational battalion chiefs (BCs) daily, in addition to a 40-hour Operations Chief (OC). These BCs and OC respond to large, complex, or expanding incidents — providing incident command, safety, and operational direction. Each BC covers an area of UFA's service area and respond to calls for service in any jurisdiction. Battalion 11 is housed out of Station 101 in Millcreek, Battalion 12 is housed out of Station 121 in Riverton, and Battalion 13 is housed out of Station 118 in Taylorsville.

Heavy Rescue Companies

Heavy Rescue specializes in structural collapse, confined space rescue, trench collapse rescue, vehicle extrication, machinery disentanglement, rope rescue (high angle, low angle, rigging) and rapid intervention (Firefighter Rescue). The UFA Heavy Rescue Program consists of two independent rescue companies strategically placed in UFA's jurisdiction. Station 117 in Taylorsville, and Station 121 in Riverton house our Heavy Rescue Teams.

Hazardous Materials (HazMat) Companies

The Hazardous Materials Teams provide an efficient, effective, and professional Hazardous Material Mitigation response. HazMat Companies respond to hazardous material releases/spills for the purpose of mitigating the release/spill. They select and use proper specialized chemical personal protective equipment dependent on the nature of the incident. The HazMat Program consists of two independent HazMat

companies strategically placed in UFA's jurisdiction. Station 124 in Riverton, and Station 126 in Midvale house our HazMat Teams.

Water Rescue Teams

UFA has swift water and ice rescue capabilities. These companies respond to victims recreating in our swift canyon rivers and our lakes and reservoirs. Station 116 in Cottonwood Heights, Station 117 in Taylorsville, Station 121 in Riverton, and Station 123 in Herriman house companies with water rescue capabilities.

Wildland Division

UFA's Wildland Division provides highly trained and experienced wildland fire and all-risk response resources to local, state, and federal incidents. The Wildland Division oversees the training and certification of UFA personnel for response to wildland fires and all-hazard incidents. We also work with UFA Communities to educate residents on wildfire preparedness and provide mitigation services to reduce the risks of wildfire. UFA has a special capability where a Duty Officer is able to act as the Fire Warden within UFA's jurisdictions, allowing the ordering of resources much more quickly than having to rely on a Fire Warden that may or may not be readily accessible. Station 103 in Herriman currently houses the Duty Officer.

Investigations Division

Arson and Explosive related incidents are considered two of the most dangerous criminal activities that threaten our citizens. The need exists to protect the citizens of our jurisdiction from loss of life and property by reducing the crime of arson, arson-related crimes, improvised explosive devices (IEDS) and the prevention of future violent crimes. The Investigations Division addresses this need by establishing a sound foundation of effective enforcement, focusing on the apprehension of the offender, while in partnership with other Local, state and federal law enforcement agencies. The team utilizes highly-trained Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF) certified K-9's that assist with accelerant and explosives detection.

Urban Search & Rescue

A FEMA Urban Search and Rescue Task Force is a team of individuals which serve as a resource for disaster response at local, state, and federal levels. It is comprised mainly of firefighters but includes structural engineers, medical professionals,

canine/handler teams and emergency managers with highly specialized training in urban search and rescue environments.

Utah Task Force 1 (UT-TF1) is one of 28 Type I, Federal Urban Search & Rescue (US&R) Task Forces in the United States. This program brings a highly trained, multi-hazard Task Force that is especially designed to respond to a variety of emergencies/disasters including earthquakes, hurricanes, tornadoes, floods, terrorist acts and hazardous material releases. Fire department personnel that are task force members receive specialized training and skills that directly benefit Unified Fire Authority.

Salt Lake County Emergency Management

The Salt Lake County Division of Emergency Management serves our citizens by directing and coordinating resources for disasters and emergencies through preparation, planning, mitigation, response, and recovery. The Salt Lake County Emergency Coordination Center is activated and manned during any event—from small-scale to large-scale occurrences—to disasters both natural and man-made that can or have exceeded the resources of any particular jurisdiction. Currently, the Salt Lake County ECC assists and obtains resources for the 22 jurisdictions located within the Salt Lake Valley. Salt Lake County EM assists these jurisdictions through the activation of 15 Emergency Support Functions (ESFs) filled by employees from a multitude of backgrounds. The ESF employees have authority throughout Salt Lake County to fill and order additional support for the operations occurring in the field until the impacted jurisdiction can return to their normal operations and functions. The Emergency Management Division is committed to keeping the public safe through community outreach, training, dissemination of important public information, training of staff and the creation of a more resilient community through mitigation, preparation, response, and recovery. The ECC has been activated for many events such as Child Abduction Response Team (CART) Deployments, wildland fires such as the Rosecrest and Machine Gun fires, flooding, severe weather events, earthquakes, civil unrest, the COVID-19 pandemic, Line of Duty Deaths (LODD), and many other events.

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Unified Fire Authority

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