



# HOUSTON FIRE DEPARTMENT RESOURCE STATUS

Samuel Peña, Houston Fire Chief

October 8, 2019



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In October of 2017 and 2018, the Houston Fire Department (HFD) presented a resource needs assessment to the Public Safety and Homeland Security Committee.

The 2017 needs assessment presentation concentrated on Fleet and Flood Response resources and Operational Readiness

The 2018 needs assessment presentation concentrated on NFPA 1851 and Firefighter Health and Safety.

The following provides a progress report on initiatives to address the identified needs



# Agenda

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- Status update of 3 HFD program initiatives
  - Fleet (Engine, Aerial, Ambulance) Replacement Program Improvement
  - Flood Response Program Improvement
  - Firefighter Health and Safety Program Improvement
- Ambulance Service Demand

# Fleet Replacement Program





# Fleet Replacement Program



## October 2017 Recommendation

### Recommended Replacement Quantity

Vehicle Type	Annual Quantity	Annual Investment
Engines (~\$516,000)	9	\$4,644,000
Ladder/Tower (~\$883,000)	4	\$3,532,000
Ambulance (~\$170,000)	16	\$2,720,000
		\$10,896,000

## October 2019 Resource Status

Received/Completed '18-'19		
Engines	18	\$9,700,000
Aerials	2	\$1,900,000
Quint	1	\$935,000
<i>*Aerials arriving by Dec 2019</i>	<i>*3</i>	<i>\$2,800,000</i>
Ambulances	24	\$4,200,000
Amb. Remounts	4	\$200,000
Booster Trucks	1	\$169,000
Light Duty	65	\$1,500,000
<b>Total Investment:</b>		<b>~\$21,400,000</b>



# Fleet Replacement Program

## Fiscal Year20 Projected Purchase

FY20 Projected		
Engines	10	\$5,200,000
Aerials	2	\$1,900,000
Ambulances	5	\$875,000
Rescue Trucks	1	\$926,000
Booster Trucks	4	\$680,000
Light Duty	13	\$473,000
<b>Total Investment: ~\$10,054,000</b>		

## Strategic Purchase Requirements

Trucks Beyond Recommended Replacement Age		
Engines	23 (26% of Fleet)	\$12.5M
Aerials	11 (29% of Fleet)	\$10.1M
Ambulances	28 (27% of Fleet)	\$4.9M
Light Duty Trucks	22	\$500K
		<b>~\$28,000,000</b>

- FY18-FY19 Acquisitions achieved replacement of 38% of Engines and Aerials over 10years of service
- FY20 Funding will replace 10% of existing Engines and Aerials projected to reach 10years of service
- Recommend annual replacement of 10% of all Heavy Apparatus and Ambulances . ~\$10.9M Annual Investment
- Approx. \$28M would replace all existing heavy apparatus and ambulances currently beyond recommended service age

# Flood Response Program





# Flood Response Program



## October 2017 Recommendation

### Swift Water Response Equipment

Equipment Type	Current Inventory	Requested Inventory	Delta	Program Improvement Cost
Zodiac Rescue Boat	6	10	4	\$104,000
Evacuation Boat	10	20	10	\$213,000
High Water Vehicle	1	8	7	\$574,000
Waverunner Jet Ski	4	8	4	\$35,800
Prime Mover	4	10	6	\$480,000
PFD	150	300	150	\$5,300
PS Drone	1	2	1	\$30,000
Additional Equip	---	---	---	\$292,400
			Equipment PI Impact:	<b>\$1,734,500</b>

### Swift Water Response Training

Training	Current Trained Personnel	Requested Trained Personnel	Delta	Program Improvement Cost
Basic Flood Water & Evacuation Boat	130	360	230	\$80,500
Swift Water Ops/Tech Rescue Boat	60	120	60	\$240,000
High Water Vehicle	6	100	94	\$10,000
Training Program Improvement Impact		580	384	<b>\$330,500</b>

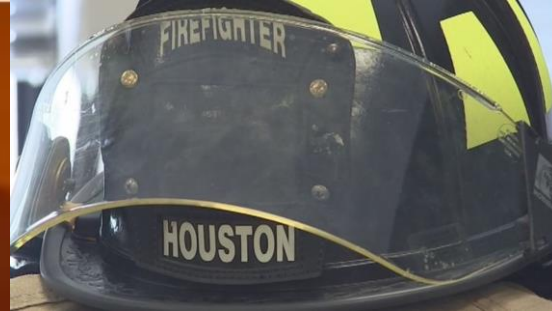
## October 2019 Resource Status

Equipment Type	Inventory Received	'18-'19 Investment
Rescue Boats	11	\$52,000 *\$78,000
Evacuation Boats	21	\$132,000 *\$196,000
HW Vehicles	9	\$398,753 *\$319,012
Wave Runners	10	\$39,000
Prime Movers	10	\$800,000
PS Drones	3	\$60,000
Water Strike Team Training/Equipment	80	\$330,000

GF Investment: \$1,811,765  
 \*Donations: \$593,012  
 Total Investment: **\$2,404,765**



# Firefighter Health and Safety Program



# Firefighter Health and Safety Program



## October 2018 Recommendation

### HFD PPE Program Improvements



#### Mayor/ City Council Approved Purchase (FY17-18)

- \$180,000 for PPE Gear Bags
  - o Prevents exposure to direct sunlight during transport
  - o Prevents mechanical damage during transport
  - o Limits off gassing of any contaminants during transport



- \$560,000 for 2<sup>nd</sup> PPE Sock-Hood
  - o Allows for rapid exchange of contaminated equipment
  - o Allows for proper cleaning and decontamination of soiled PPE sock-hood
  - o Reduces exposure to possible carcinogenic particles to the neck and head areas



### HFD PPE Program Improvement



#### Corporate Donations

- \$17,000 for Commercial Washer/Extractor @ Station 8
- Plan for 16 to 20 Commercial Washers/Extractors in FY19



16

## October 2019 Resource Status

H&S Program Investment: **\$1,516,501**

- 4,000 PPE Gear Bags **Completed** (\$180,000)
- 4,000 PPE 2<sup>ND</sup> Set Sock-Hoods **In-progress** (\$560,000)
- PPE Compliance Officer **Completed** (\$109,307 est. annual pay)
- Arson Breathing Protection **Completed** (\$67,674)
  - Masks & Cartridges
  - Atmospheric Monitors
- Gross Decon Kits **Completed** (\$4,800)
- Decon Wipes **Completed** (\$90,720)
- PPE Gear Washer/Extractor **In-progress** (\$504,000)
  - 56 Units
  - 21 Units Installed

# Firefighter Health and Safety Program



## October 2018 Recommendation

HFD PPE Program Improvement



### Grants

- \$107,000 for Plymovent Exhaust System @ Station 8
- \$703,919 FY 17 AFG Grant
  - 15 Fire Station Vehicle Exhaust System Installation this FY
  - Plan for 15 to 20 Fire Station Vehicle Exhaust System Installations per year.

17

## October 2019 Resource Status

*Plymovent* Program Investment: **\$2,574,322**

- 2017 Assistance to FF Grant (AFG) performance met on schedule **Completed**
  - Grant Funds: \$703,914
  - Grant Match: \$70,391
  - 15 Fire Station *Plymovent* Exhaust System Retrofit
- 2018 AFG Approved **In-progress**
  - Grant Funds: \$1,565,233
  - Grant Match: \$234,784
  - 30 Fire Station *Plymovent* Exhaust System Retrofit Programmed in FY20
- Ice-maker Relocation **In-progress**



# Firefighter Health and Safety Program



## Strategic Purchase/Investment Needs

Equipment	Completed/Projected	Needs	Estimated Cost
Plymovent System	47 Fire Stations	47	\$2,900,000
Extractor/Gear Washers	56 Fire Stations	38	\$380,000
Annual Program M&O	Safety Equipment Maintenance, Replacement and Repair		\$220,000
<i>*Personal Protective Equipment (PPE) Gloves 2<sup>nd</sup> set</i>			\$500,000
<i>*Annual (Mandatory/Non-Punitive) NFPA 1582 Compliant FF Physical Exams</i>			\$2,200,000
<i>*Implementation of IAFC/IAFF Wellness-Fitness Initiative (WFI)</i>			

- ~\$3.28M to complete Plymovent and Extractor Initiative



# Non-Traditional Funding Sources

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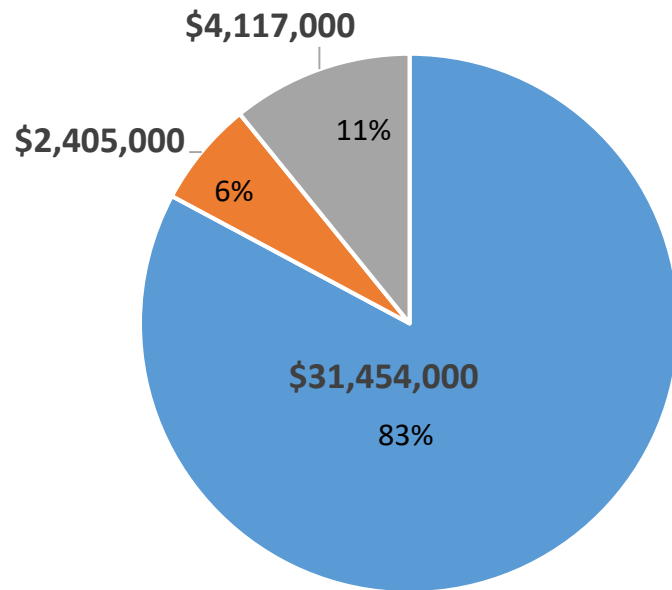
## August 2017 to Present

- Donations: \$892,081
- Grant Funding- Local, State and Federal: \$5,167,402
  - (UASI & HLSR = \$1,394,646)
  - (AFG, State, and other Local = \$3,772,756)
  - (Excludes Ambulance Supplemental Payment Program)
- Total Non-Traditional Funding to HFD: **\$6,059,483**



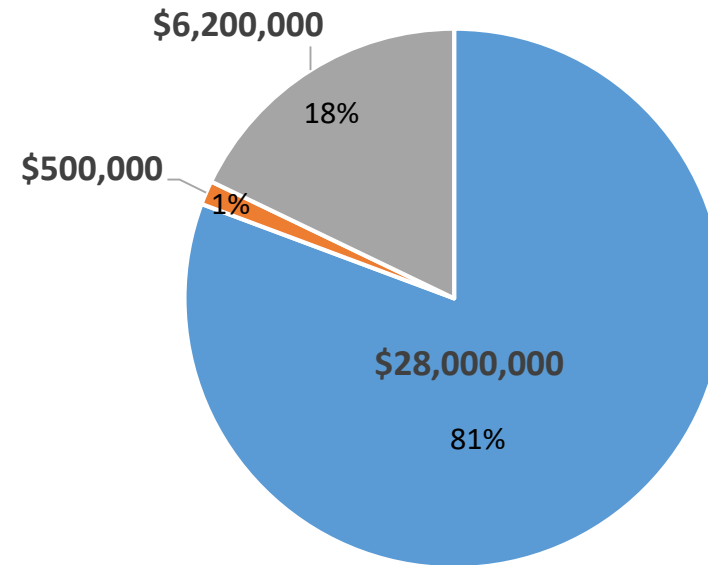
# Investment Summary (All Funds)

### FY18-FY20 Total Investment ~\$37,976,000



■ Fleet ■ Flood Response ■ Health & Safety

### Strategic Investment Need ~\$34,700,000



■ Fleet ■ Flood Response ■ Health & Safety

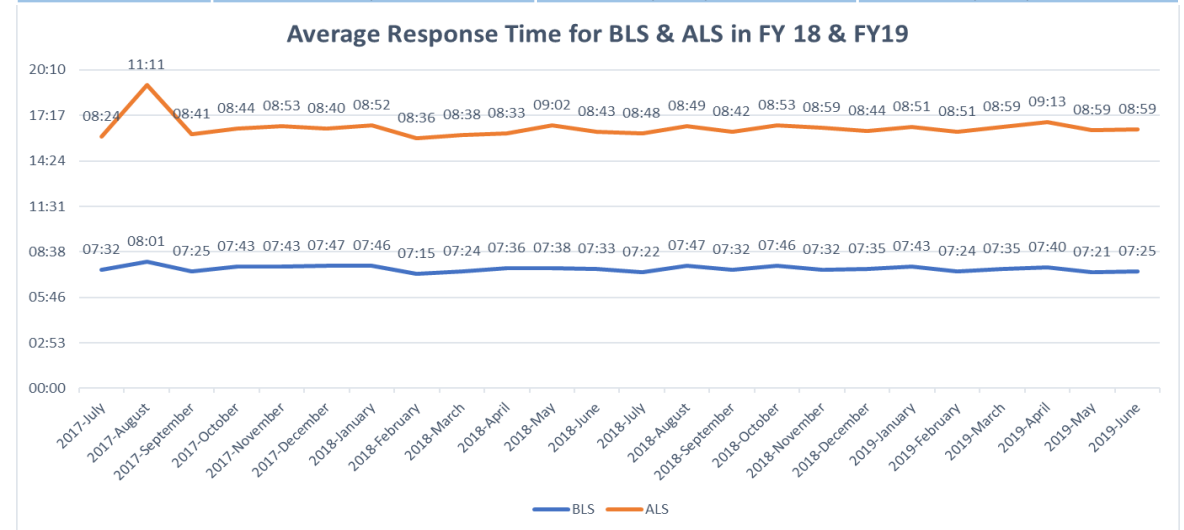




# Ambulance Service Demand

- EMS incidents account for 87% of HFD workload
- Call volume has increased over 16% in the last 6 years
- Increase is completely driven by EMS call volume
- Peak time demand between 1100 and 1800
  - EMS Resource Management in effect 13% of the time
- Dispatch adjustments in attempts to send the most appropriate resource have made to over 37 medical call types
- Dispatch adjustments have made limited impact on Ambulance capacity.
- **Additional Ambulance Units needed in the system**

Year	Total Fire Type Incidents	Total EMS Type Incidents	All Incidents
2010	44,341	226,084	270,425
2011	46,200	230,518	276,718
2012	44,707	248,974	293,681
2013	42,061	257,040	299,101
2014	41,747	276,842	318,589
2015	43,053	289,873	332,926
2016	42,103	293,811	335,914
2017	44,451	297,385	341,836
2018	44,595	295,711	340,306
<b>TOTAL</b>	<b>393,258</b>	<b>2,416,238</b>	<b>2,809,496</b>





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Questions?