



Public Safety Committee

AFD Report

October 3, 2023



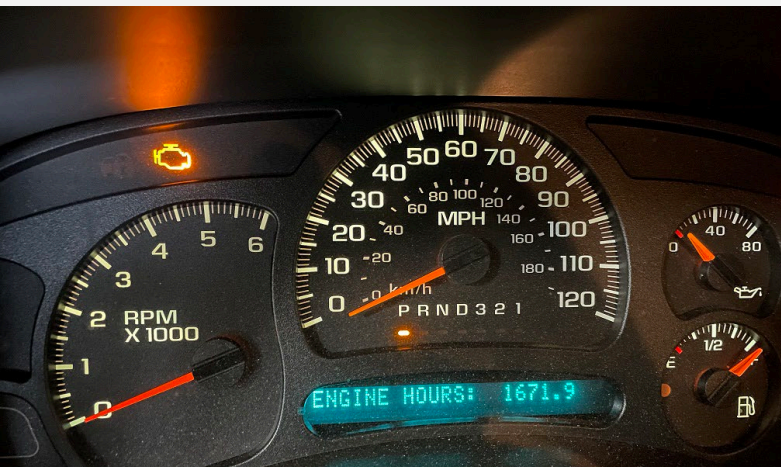
AFD Fleet Condition

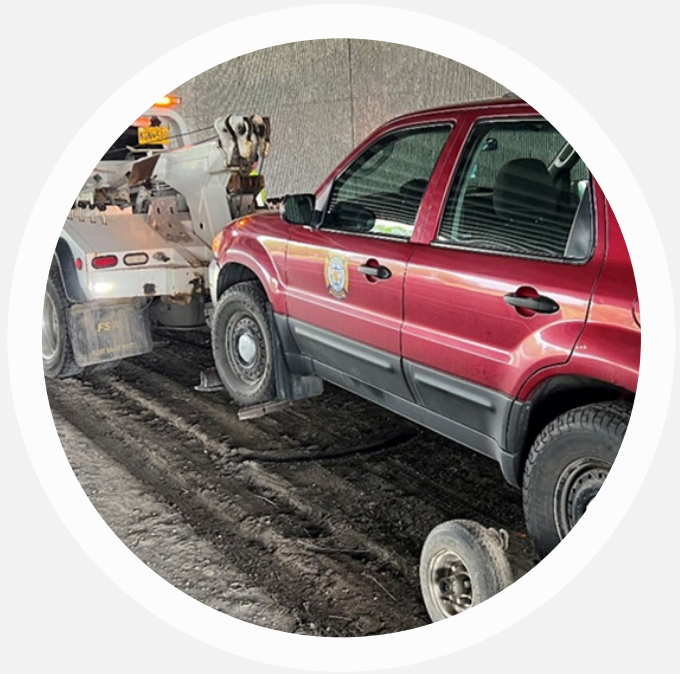




Command Vehicles

- Significant rusting on exterior surfaces
- Perpetual service lights
- Corrosion on undercarriage
- Weathered surfaces with chipped paint
- Seals held together with duct tape





Fire Prevention Vehicles

- Broken fuel pumps make it harder to keep rigs running
- Damaged grills
- Rusted hoods
- Damaged interior
- Mechanically unreliable
- Rusted-through floorboards (pavement visible through hole under floor liner!)

Mileage & Work Orders

UNIT #	YEAR	MILES	MANUFACTURER	MODEL	# Of WO	EXPENSE
7131	1998	150,861	FORD	EXPEDITION	46	23,961.95
7132	1998	155,127	FORD	EXPEDITION	62	26,373.04
7133	1998	154,874	FORD	EXPEDITION	45	26,764.13
7134	1998	166,082	FORD	EXPEDITION	49	34,974.22
7135	2005	158,157	FORD	EXPEDITION	61	27,464.84
7140	2005	86,758	FORD	ESCAPE	47	13,548.98
7142	2005	69,836	FORD	ESCAPE	47	9,788.83
7143	2005	64,397	FORD	ESCAPE	45	11,715.67
7144	2005	71,977	FORD	ESCAPE	47	14,764.46
7148	2005	81,361	FORD	ESCAPE	45	9,929.46
7149	2005	117,556	FORD	ESCAPE	65	34,407.25
7150	2005	99,239	FORD	EXPEDITION	66	46,740.66
7151	2005	102,701	FORD	EXPEDITION	44	25,915.63
7152	2006	168,549	FORD	EXPEDITION	68	48,169.63
7153	2006	127,661	FORD	EXPEDITION	75	38,820.64
7154	2007	159,949	FORD	EXPEDITION	87	47,289.05
7211	2001	87,945	GENERAL MOTOR	K3500 P/U	74	38,683.12
7221	2003	93,020	FORD	F350 4X4	59	20,284.85
7231	2005	127,282	GENERAL MOTOR	SUBURBAN2500	59	33,091.97
7232	1998	141,338	FORD	EXPEDITION	62	24,507.44
7233	2006	167,788	GENERAL MOTOR	SUBURBAN2500	49	44,981.14
7237	2021	6,934	FORD	EXPEDITION	2	6,193.31
7254	2011	190,154	GENERAL MOTOR	SUBURBAN2500	115	79,296.82
7255	2012	156,312	GENERAL MOTOR	SUBURBAN2500	98	60,889.95
7256	2012	109,048	GENERAL MOTOR	SUBURBAN2500	70	39,772.90

Mileage & Work Orders

- Median year is 2005
- Average year is 2005
- Median mileage is 127,282
- Average mileage is 120,596
- Highest mileage is 190,154
- Median WO is 59
- Average WO is 59
- Median WO cost is \$27,464
- Average WO cost is \$31,533



Computing Resource Needs



2023

(Unfunded Expenditures)

Dispatch Work Stations - \$25,955.52

- The Dispatch computers run the CAD (Computer Aided Dispatch system) to record call taking information. The CAD systems also uses current vehicle location and capabilities to send the closest and most appropriate response to an incident. These computers run 24/7 with heavy usage and computing requirements. The computers were past their expected hardware life and were not able to be upgraded to a current OS. They were also outside of the warranty period, making repairs extremely expensive and time consuming for IT staff. We were experiencing an increase in system errors, primarily map crashes and errors related to the medical dispatch triage application that caused it to stop working during calls. It is critical that the triage application functions correctly as it determines the resources that are sent to an incident. Dispatchers routinely experienced routine system slow downs related to performance. These are the most critical end user computers in AFD.

ePCR laptops - \$49,413.46

- The ePCR laptops are used by AFD medics to document patient care records. These laptops are critical to accurate reporting of medical interventions performed and that key information is passed to the hospital staff. The laptops are used to upload critical LifePAK data and also provide the data that trigger alerts to the hospitals for cardiac incidents. These laptops were past end of life and are in heavy use. There were issues with the computers not being powerful enough to upload large LikePAK records and increasing basic hardware failures such as exploding batteries.

Apparatus Computers - \$192,098.25

- The apparatus computers are deployed in all AFD fire and medical vehicles. The computers provide incident data and mapping capabilities. If a computer malfunctions, it directly impacts the response to an incident, increasing the time it takes for the crews to arrive on scene. The computers were past end of life and in 24/7 use. We were seeing increasing issue with hardware age, exploding batteries, and routine wear and tear being deployed in a rough environment in continual operations for over 5 years.

2024

Server Infrastructure \$220,000

- The server infrastructure that hosts all of AFD's systems is in a critical state. The hardware desperately needs replaced due to age and the ability to support current software running on it. We replaced 8 NICs (Network Interface Cards) and a motherboard on one server. One recent incident required 3 AFD IT and 2 MOA IT personnel to work for over 8 hours starting at 3 AM on a Saturday to bring the system back into service. Hardware past the end of life predictably brings these types of issues. These repairs indicate there will likely be additional critical system failures. For the past month, AFD has been operating with up to a 50% reduction in our server capacity. While we are operating in this limited capacity, one additional hardware issue will render us unable to operate all of our current critical department wide applications. Having rotating hardware failures and outages in server infrastructure means migrating servers from host to another, dramatically increasing the risk of major issues with critical 911 responder systems.

CAD rehost project - \$112,494.92

- The CAD system currently requires a 3-hour outage monthly to perform critical security updates. The CAD system provides Dispatch call taking functions, station alerting to alert crews they have been assigned an incident, and mapping and incident data delivery to apparatus computers. This project will significantly limit the downtime and provide a cluster SQL Database environment adding redundancy and system stability to our CAD environment. It also includes an upgrade to a new CAD backup solution as recommended by the CAD vendor. The backup system allows AFD to move to the EOC and provide business continuity for Dispatch systems with no interruption to operational service.

Desktop Computers and Laptops

- Current AFD computers will not be able to take the upgrade required to keep receiving security and anti-virus updates. The computers are currently past end of life and out of warranty support. Hardware issues and poor performance are current challenges.

2025

Network – Data Layer \$270,000 (31/36 devices are past end of life currently)

- Network equipment provides critical infrastructure to provide data transport to and from AFD stations, Dispatch, AFD apparatus, cell phones and pagers. The network is the backbone of our IT operations, and the hardware is showing its age. We routinely encounter outages from hardware not recovering from a power outage, causing an extended outage for the users and requiring an on-site visit from OIT to bring the gear back into service. Network failures cause all of the AFD systems that depend on that device to grind to a halt and cause operational response issues.

SADC move - \$100,000

- MOA IT has consolidated server and infrastructure operations to GCI's South Anchorage Data Center. The facility is a public safety grade hosting facility with professional HVAC and maintenance staff available 24/7. The AFD DataCenter currently is hosted at Station 12. The server room has an active sprinkler system and there is significant risk for the systems. We have also experienced issues with MOA Facilities staff being able to provide adequate support, particularly with the electrical systems. After the 2018 Earthquake, the MOA Facilities team on site had significant challenges bypassing the UPS device which had run out of power to bring power back to the Dispatch Center. Moving to a facility which is dedicated to provide hosting as a key component provides stability to AFD infrastructure. Additionally, in the event of an emergency, priority for OIT technical staff will be to restore service to the core SADC data center and not AFD Station 12.

Additional items scheduled for replacement:

- MedVaults (\$22,000)
- Knox boxes (\$1000 est \$67,000)
- The current combination of on premise and cloud hosted devices is difficult to manage. Recommend replacing all devices to bring into a standard deployment model. These aren't necessarily DS items but should be considered for funding.

2028

Replacement

- Modems - \$252,285 (95 modems 5-year maintenance)
- Apparatus Computers
- Antennas - \$ 33,820

Standard Life Cycle recommendations:

- ePCR and apparatus computers - 4 years
- Desktops - 5 years
- Server - 5 years
- Storage - 5 years
- Modems - 7 years
- Antenna - 7 years



Questions?