



City of Dallas

Overview of the Public Safety Technology Projects

**Public Safety Committee
March 5, 2024**

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City of Dallas

Overview



- **Purpose**
- **Technology Overview**
 - Dallas Police Department
 - Dallas Fire Rescue
 - Court & Detention Services
 - Office of Emergency Management
 - Dallas Marshal's Office
 - Office of Integrated Public Safety Solutions
- **Operational Impact**
- **Next Steps**





Public Safety Departments

Purpose



- Provide an update on major projects and program implementations since Mar 2020.
- Provide an overview of current Public Safety technology projects.
- Provide an overview of Public Safety technology functions and capabilities managed by Information & Technology Services (ITS).



Technology by the Numbers



- **215 Systems/Applications**
- **21,400 Devices**
 - 1,600 Mobile Data Computers
 - 1,200 In-Car DVRs, cameras and cradle-points
 - 4,700 Desktop Computers
 - 2,500 Siren Lights
 - 7,500 Handheld Radios
- **125 Interfaces**
- **94 Locations**
- **30 Towers**



Completed - Dallas Police Department (DPD)



- Emergency Service IP Network (ESInet)-911 (Dec 2022)
- Patrol In-Car Camera, DVRs, and cradle points (Jan 2024)
- Automatic License Plate Reader (Aug 2022)
- Real-Time Crime Center (Jun 2022)
- Network Enhancements:
 - Wireless Infrastructure – 184 WAPS (Nov 2022)
 - Station circuit upgrades – 78 (Nov 2023)



Completed - Dallas Fire Department (DFR)



- Dallas Fire Department Psychology Facility (Sept 2022)
- Remote Fuel Island Real Time Fuel Feed (Oct 2023)
- Migration of DFR Fire stations circuits to Fiber (Nov 2023)
- Unmanned Aerial Systems (UAS) Drones (Nov 2022)



Completed -Dallas Fire Department (DFR)



- 8 Fire Stations Replaced/Rebuilt/Refurbished (2021 - current)
 - Station 46 Rebuild (Sept 2021)
 - Station 59 New (Jul 2022)
 - Station 41 Rebuild Temp Site (Aug 2022)
 - Station 36 Rebuild (Apr 2023)
 - Station 58 Replacement (May 2023)
 - Station 19 Rebuild (Sept 2021)
 - Station 41 Rebuild (Jan 2024)
 - Station 21 Love Field Replacement (*scheduled May 2025*)



Completed -Dallas Fire Department (DFR)



- Network Enhancements:
 - Station circuit upgrades – 61 (Jul 2022 thru July 2023)
- Fire Station Alerting System Improvements
 - Upgraded Operating Sys and App Win 10 (Nov 2021)
 - Upgraded Desktop Alerting Sys Computers (Mar 2022)



Completed - Courts and Dallas Marshal's Office



- Upgrade Tyler Court Case Management (Jun 2023)
 - Hardware
 - Software
- Court Notify Upgrade (Jun 2023)
- Bulk Cargo Scanner (Mar 2021)
- Marshal Body Worn Camera Upgrade (Jun 2023)



Completed - Office of Emergency Management (OEM)



- Unified Command Vehicle (UCV) (Jun 2021)
- Emergency Operation Center (EOC) Technology enhancements (Sept 2021)
- P25 Radio Console Upgrade (Mar 2023)
- Unified Camera Feed from DPD Grid area cameras and Central Business District (Nov 2023)



Completed -Office of Integrated Public Safety Solutions



(OIPSS)

- Deployed DPD and DFR MDCs to Unit (Jan 2021)
- Deployed hotspots to connect multiple wireless devices in vehicles. (Jan 2021)
- Camera Trailers (Dec 2023)
- Permanent solution replace hotspots with Cradle-points *(In-Process)*
- New Facility set in Westend *(In-Process)*





Project initiated in 2014 to address the following:

- Aging technology – last updated 1996
- Inability of current radio system to support Public Safety & other departments needs
- Lack of expandable capacity of legacy system
- Lack of interoperability with surrounding agencies



Operational Impact: P25 Public Safety Radio System



Public Service Layer

- Currently Nine(9) additional departments with units on the system
- 2280 units actively programmed and talking on this layer
- Additional departments showing interest in joining system

Departments

- Code Compliance
- Parks and Recreation
- Office of Arts and Culture
- Transportation
- Animal Services
- Public Works
- Dallas Water Utilities
- Convention Center
- Sanitation
- 311





City-Wide Public Safety Implementation Completed

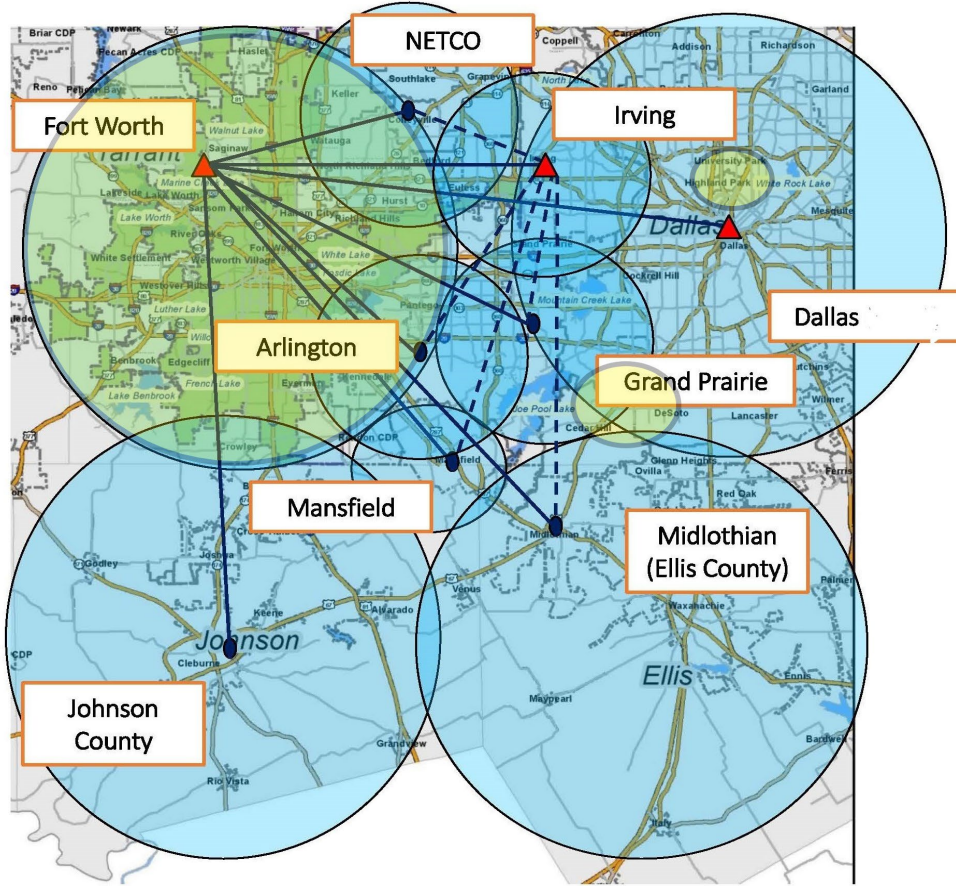
- Office of Emergency Management
 - 50 Next Gen radios deployed (APXNext)
- Dallas Fire
 - 2498 APXNext radios deployed
 - Dispatch center deployed and activated
- Dallas Police
 - 4200 APXNext radios deployed
 - Dispatch center deployed and activated



P25 Newest Features



North Texas Interoperable Radio Network



Enhanced Functionality

- **Emergency Button**
Officers and firefighters can alert the need for immediate assistance
- **GPS capabilities**
Option to transmit location (public safety)

New System features improvements in interoperability

Agencies who provide automatic responses and mutual aid will not have to carry multiple radios

Encryption

New system supports encryption

At current, dispatch channels are not encrypted

Interoperability

Map Legend: Yellow indicates pre-P25, and blue indicates post-P25

90 agencies are primary users on the North Texas Interoperable Radio Network



Operational Impact: Mobile Technology Center



- **Mobile Data Center Support:**

- Provides 24x7x365 professional, personal, service to many City Departments: Dallas Police, Dallas Marshalls, and Dallas Fire Rescue, Water Utilities, Animal Services, Sanitation, Crime Scene, Aviation, and Code Compliance



Operational Impact: Mobile Technology Center



- **Support Activities:**

- 1600 Mobile Data Computers
- 3900 mobile radios
- 1200 Video Recording Systems
- 2500 siren-light systems
- More than 7500 handheld radios
- Last yr. Performed more than 8400 drive in Service Calls
- Completed more than 300 new vehicle installs
- Performed 4930 bench repairs to computers and systems
- QA over 100 control and retrofits





Operational Impact: Network Upgrades

- **Circuit Upgrades**

- Expanded Current Network Circuits to meet public safety traffic consumption

- **Server Virtualization**

- Add Resiliency &
- Address Technical debt

- **Software Defined Wide Area Network (SDWan)**

- Resiliency for each Critical Location &
- Improve network performance (<https://youtu.be/h1XKz-PwyFg?si=otXdg35eBHrdSLwy>)





Operational Impact: Resiliency

SDWAN – redundant circuits and access

15 fire stations - Completed

- 11, 58, 10, 5, 04, 06, 07, 35, 08, 09, 01, 02, 03, 12, 13
- 14, 15, 16, 17, 18 (early March)

7 PD patrol stations - Completed

- NC Patrol, SC Patrol, NW Patrol, SE Patrol, CT Patrol, NE Patrol, SW Patrol
- Police Academy
- Police in Service





Operational Impact: Network Upgrades

- **Upgrade Core VPN concentrator**
 - Add Capacity for Employee, Contractor to manage IT Services
- **Zero Trust - System Micro Segmentation**
 - Isolation between Critical systems
 - Improve Protection for Public systems
- **Upgrade and Replace Camera Firewall**
 - Improve capacity &
 - Address Technical Debt



Camera Governance



Purpose:

Govern the number, types, and maintenance of optical devices purchased and deployed by City departments, managing the technical lifecycle of the city cameras

Objectives:

- Ensure cameras deployed across the City of Dallas are leveraged as City-wide assets and utilized to meet departmental needs
- Maintain an up-to-date comprehensive inventory
- Manage and maintain contractual and budgetary mechanisms.
- Ensure devices comply with applicable privacy and data security laws to protect residents' privacy rights and civil liberties.



Operational Impact: Camera Governance



- **FUSUS**

Real-Time Crime Center Solution that combines Video streams from fixed and mobile sources all seamlessly into a single platform:

- Fixed Cameras
- Automatic License Plate Reader (ALPR) Data
- Automatic Vehicle Location (AVL) Data
- Computer Aided Dispatch (CAD) Data
- In-Car Dash Camera video feeds
- Body Worn Camera feeds
- Other facility camera systems

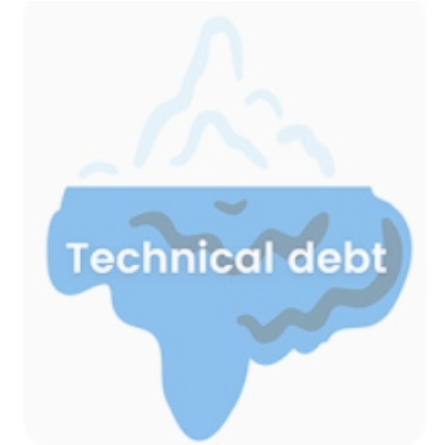


Next Steps – Tech Debt



Technical Debt:

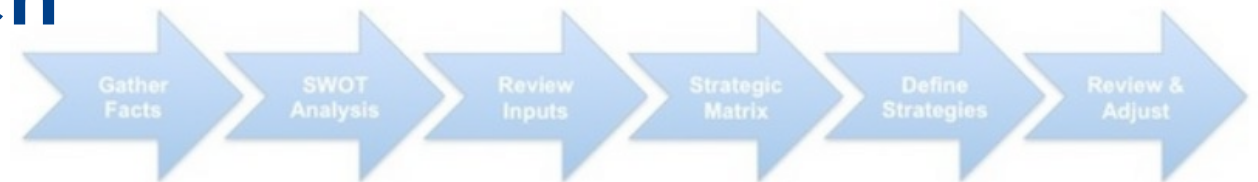
- Upgrade 7 legacy systems
 - DPD Firearms Training(2024)
 - DPD Evidence Manager Property Rm (2024)
 - DPD Fortis Docuware (2024)
 - DPD L3 In-Car DVR servers (2024)
 - DFR Internal Document System (IDS) (2024-2025)
 - DFR Inventory System with Vending Machines (2024-2025)
 - DFR New Firestation Alerting System (2024-2025)
- Reduce application redundancy



Next Steps - Strategic



- Create Strategic Public Safety Technology plans
- Align Technology with Business Strategies
- Identify Innovative Technologies for Future needs
 - Leverage Partners like Forrester/Gartner
 - CAD/RMS replacement
 - Strategic Planning
 - Assist to define Technology resources for Police and Fire Tech.
- **“Cloud Smart” approach**



Next Steps – P25



P25 Infrastructure:

- **Expand P25 footprint agencies**
 - Other Municipalities &
 - ISDs
- **Continue to add New functionalities**
 - Encryption capabilities
 - GPS Location
- **Address FIFA 2026 needs & Requirements**



Next Steps – IT Infrastructure



Infrastructure:

- **Network redesign:**
 - Redesign Network for Future Public Safety Needs
- **New Data Center & Expand Virtualization**
 - Address Technical Debt
 - Improve Operational Performance
 - Improve Resiliency & Recoverability



Next Steps - Cybersecurity



Cybersecurity:

- **Zero Trust Network Segmentation**
 - Isolate critical Public Safety Systems
- **Threat Intelligence**
 - Threat Intelligence against Public Safety
 - Cyber, Physical, & Social Media
- **CJIS & HIPAA Compliance**
 - Meet Technology Audits
- **Disaster Recovery as a Service**
 - Add Failover capability in the Cloud





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