



**City of Dallas**

# **Public Safety Technology Projects**

**Public Safety Committee  
February 12, 2024**

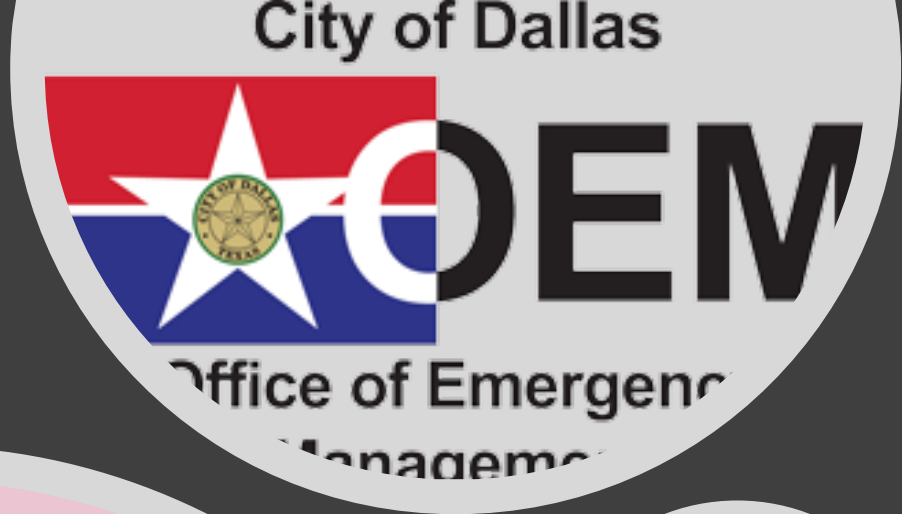
William Zielinski, Chief Information Officer  
Dr. Brian Gardner, Chief Technology and  
Information Security Officer  
Information & Technology Services Department  
City of Dallas

# Presentation Overview



- Purpose
- Public Safety Technology by the Numbers
- 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
- Enterprise 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 technology projects underway.
- Provide an overview of cross-cutting, city-wide technology functions and capabilities managed by Information & Technology Services (ITS).



# Public Safety Technology by the Numbers



- 215 Systems/Applications
- 21,400 Devices
  - 1600 Mobile Data Computers
  - 1200 In-Car DVRs, cameras and cradlepoints
  - 3900 Mobile Radios
  - 4700 Desktop Computers
  - 2500 Siren Lights
  - 7500 Handheld Radios
- 125 Interfaces
- 94 Locations
- 30 Towers
- 4500 other network connected devices



# 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)



# Dallas Police Department (DPD)



- Real-Time Crime Center (Jun 2022)
- Body-worn Camera Expansion additional 800 BWCs to DPD (Still in Process)
- Network Enhancements:
  - Wireless Infrastructure – 184 WAPS (Nov 2022)
  - Station circuit upgrades – 78 (Nov 2023)



# 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 from T1s to Fiber (Nov 2023)
- Unmanned Aerial Systems (UAS) Drones (Nov 2022)





# Dallas Fire Department (DFR)



- 8 Fire Stations Replaced/Rebuilt/Refurbished (Ongoing)
  - 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 (May 2025)



# 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)



# 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)



# 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)





- 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)





# Operational Impact: P25 Public Safety Radio System



**Reason/Need:** Project initiated in 2014 to address the following:

- Aging technology – last updated 1996
- Inability of current radio system to support department(s) needs
- Lack of expandable capacity of legacy system
- Lack of interoperability with surrounding agencies

## Public Service Layer

- Nine(9) 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

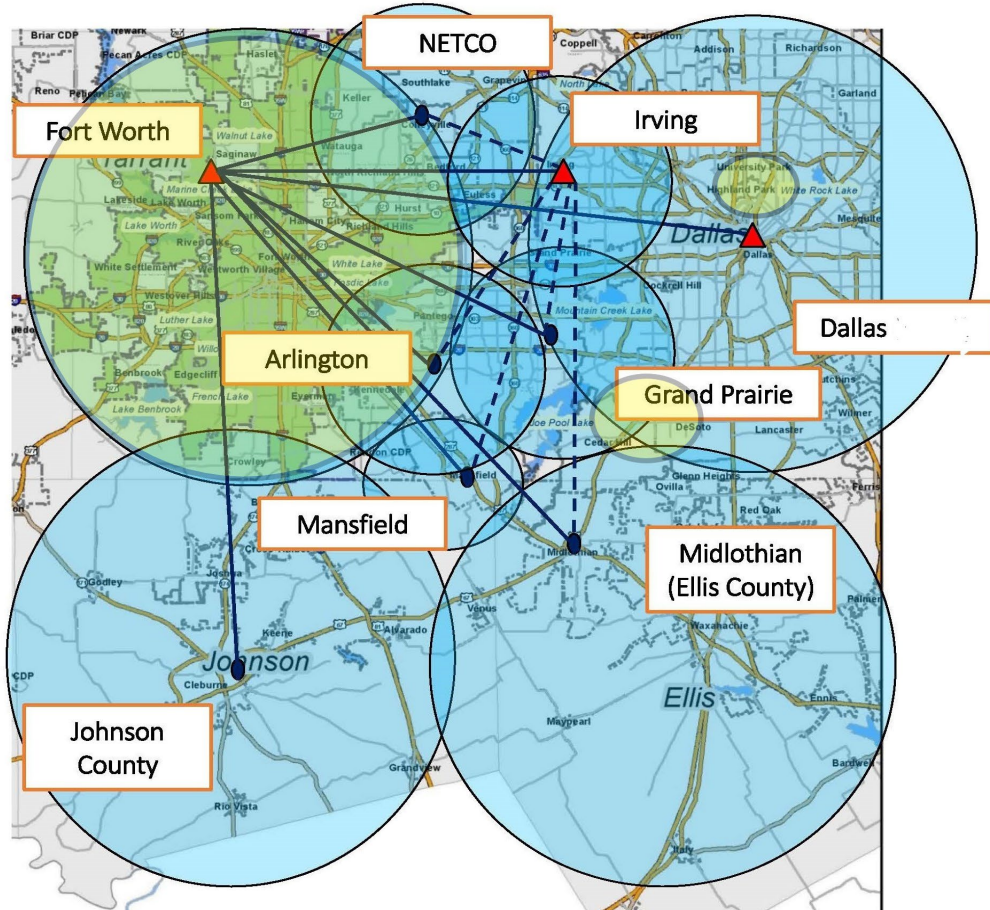
- Office of Emergency Management  
50 APXNext radios deployed
- Dallas Fire  
2498 APXNext radios deployed  
Dispatch center deployed and activated
- Dallas Police  
4200 APXNext radios deployed  
Dispatch center deployed and activated



# P25 Biggest Advances



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 and Impact:**

- Provides 24x7x365 to provide professional, and personal, service to the Dallas Police Department, Dallas Marshalls, and Dallas Fire Rescue, Water Utilities, Animal Services, Sanitation, Crime Scene, Aviation

- **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/Changes

- Circuit Upgrades
  - Expanded Current Network Circuits to meet public safety traffic consumption
- Software Defined Wide Area Network
  - Resiliency for each Critical Location &
  - Improve network performance

(<https://youtu.be/h1XKz-PwyFg?si=otXdg35eBHrdSLwy>)
- Server Virtualization
  - Add Resiliency &
  - Address Technical debt







# Operational Impact: Network Upgrades/Changes

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



# Operational Impact: Camera Governance



## Reason/Need:

The number of optical devices purchased and deployed by City departments has expanded into the thousands over the last five years with no true controls.

## Camera Governance Objectives:

- Ensure cameras deployed across the City of Dallas are leveraged as City-wide assets and utilized to meet a variety of needs
- Maintain an up-to-date comprehensive inventory of the 7200 cameras in use throughout City Departments
- Manage and maintain operational state of cameras with appropriate contractual and budgetary mechanisms.
- Ensure all devices complies with applicable privacy and data security laws to protect residents privacy rights and civil liberties.



# Operational Impact: Camera Governance



## New Technology Implementation and Benefits:

- **FUSUS** - Real-Time Crime Center Solution that connects Police Department Resources Optical Resources:
  - 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
- ❖ Note: FUSUS Hardware: Provides analytic added efficiencies to automatically search video data using specific criteria.



# Next Steps



## Application Support:

- Address 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)



# Next Steps



- Reduce application redundancy
- Move to “Cloud Smart”
- 5 yr. Strategic Plan
  - Create Strategic IT plans
  - Align Technology with Public Safety Business Strategies Leveraging Forrester Resources.
  - Identify Innovative Technologies for Future Public Safety needs Leveraging Partners like Gartner for RMS replacement project and resources for Police and Fire Tech.





# Next Steps



## Infrastructure:

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



# Next Steps



## Infrastructure:

- Network and Servers:
  - Redesign Network for Future Public Safety Needs
  - New Data Center & Expand Virtualization
    - Address Technical Debt
    - Improve Operational Performance
    - Improve Resiliency & Recoverability
- SDWAN Project
  - Improve Public Safety's Resiliency



# Next Steps



## Security:

- 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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