

Public Safety DFR Program

The Future of Public Safety

Drone as a First Responder (DFR) Program
Community Meetings
July 29/Nov 15/Nov 29, 2023



Opening Comments

Police Chief Sean Washington
Fire Chief Zoraida Diaz





What is a DFR Program?



- Drone as a First Responder
- Provides a rapid response to Police and Fire emergencies
- The Drone as a First Responder (DFR) concept is different than our current field deployed drone program. Instead of launching a drone after officers or firefighters are on scene, drones located at fixed locations respond to emergencies upon initial receipt of 911 calls.
- The intent of the program is to have a drone on scene prior to police officer/firefighter arrival. Certified teleoperators scan and evaluate the situation remotely and relay information to field supervisors.
- The drones have the ability to broadcast real-time video of the incident to all first responders dispatched to an incident. This video, monitored by trained users, can help responding personnel develop tactical plans, assist in the de-escalation of potentially dangerous situations, and provides an extra level of safety to department personnel and the general public.

What can DFR do for Fremont?





What can a DFR Program do for Fremont?



- Help augment responses to any emergency situation
- In most cases, provide “eyes on scene” before field units arrive
- Provide visual, real-time information to help de-escalate dangerous situations
- Provide visual, real-time information to incident commanders to help verify radio traffic and assist in development of strategy and tactics
- Help to reduce the number of units responding “CODE 3”



More on What a DFR Program Can Do



- Video documentation of incidents for training purposes and after-action reviews
- Provide another layer of safety to Police Officers and Firefighters by providing a 360-degree view of the scene
- DFR allows for more efficient resource deployment
- Secondary drones can be launched when needed by on scene pilots
- Drone = most efficient tool available to assist in locating missing persons, search and rescue incidents, area searches for dangerous suspects, locating evidence, identifying hot spots on fires, and assisting with disaster management



Fremont Leading the Way



- The City of Fremont will be the **first city in the country** to have a public safety “**Drone as First Responder**” program. This is a collaboration between police and fire.
- The City of Fremont has always been at the forefront of technology and innovation. The program supports Fremont’s “**Smart City**” initiative.
- The use of this technology will increase public safety, reduce risk to first responders and can be used as a recruitment tool.



Assisting Other Departments



- In the future, our drone program can assist other Departments within the City of Fremont. These include:
 - Animals Services
 - Buildings
 - Code Enforcement
 - Maintenance Services
 - Planning
 - Public Works
 - Urban Forestry
 - Transportation

What is the Difference between our Current UAS Program and DFR?



Current Deployment Model



Blanket Area - Small Unmanned Aircraft System COA
Public Agency
2022-WSA-10810-COA

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DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION (FAA) CERTIFICATE OF WAIVER OR AUTHORIZATION (COA)	
ISSUED TO Fremont Police Department	Part 91
ADDRESS	

The Certificate of Authorization (COA)

IN/A
STANDARD PROVISIONS
1. A copy of the application made for this certificate shall be attached and become a part hereof. 2. This certificate shall be presented for inspection upon the request of any authorized representative of the FAA or of any state or municipal official charged with the duty of enforcing local laws or regulations. 3. The holder of this certificate shall be responsible for the strict observance of the terms and provisions contained herein. 4. This certificate is nontransferable.
Note: This certificate constitutes a waiver of those Federal rules or regulations specifically referred to above. It does not constitute a waiver of any state law or local ordinance.
SPECIAL PROVISIONS
Special Provisions A through I are set forth on the reverse side hereof.



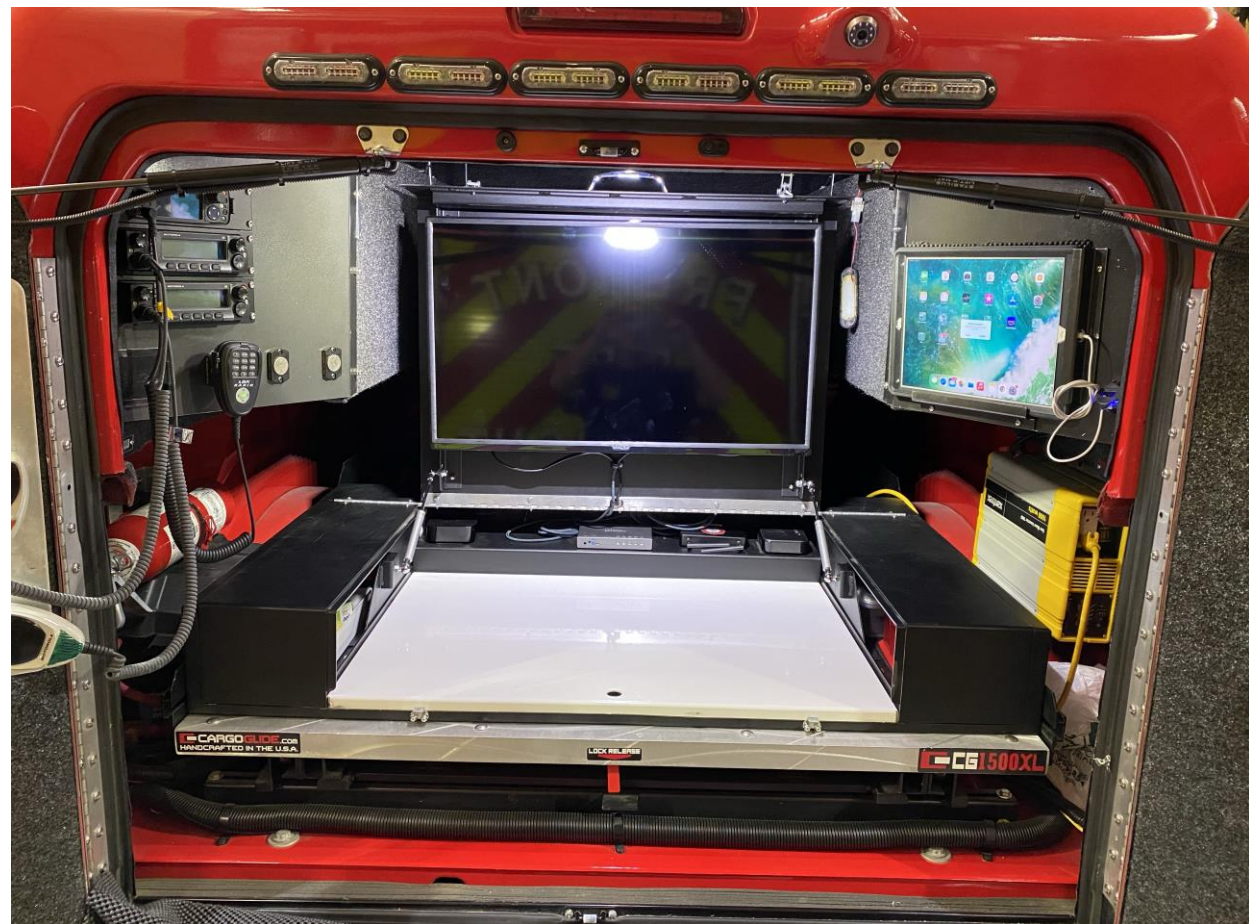
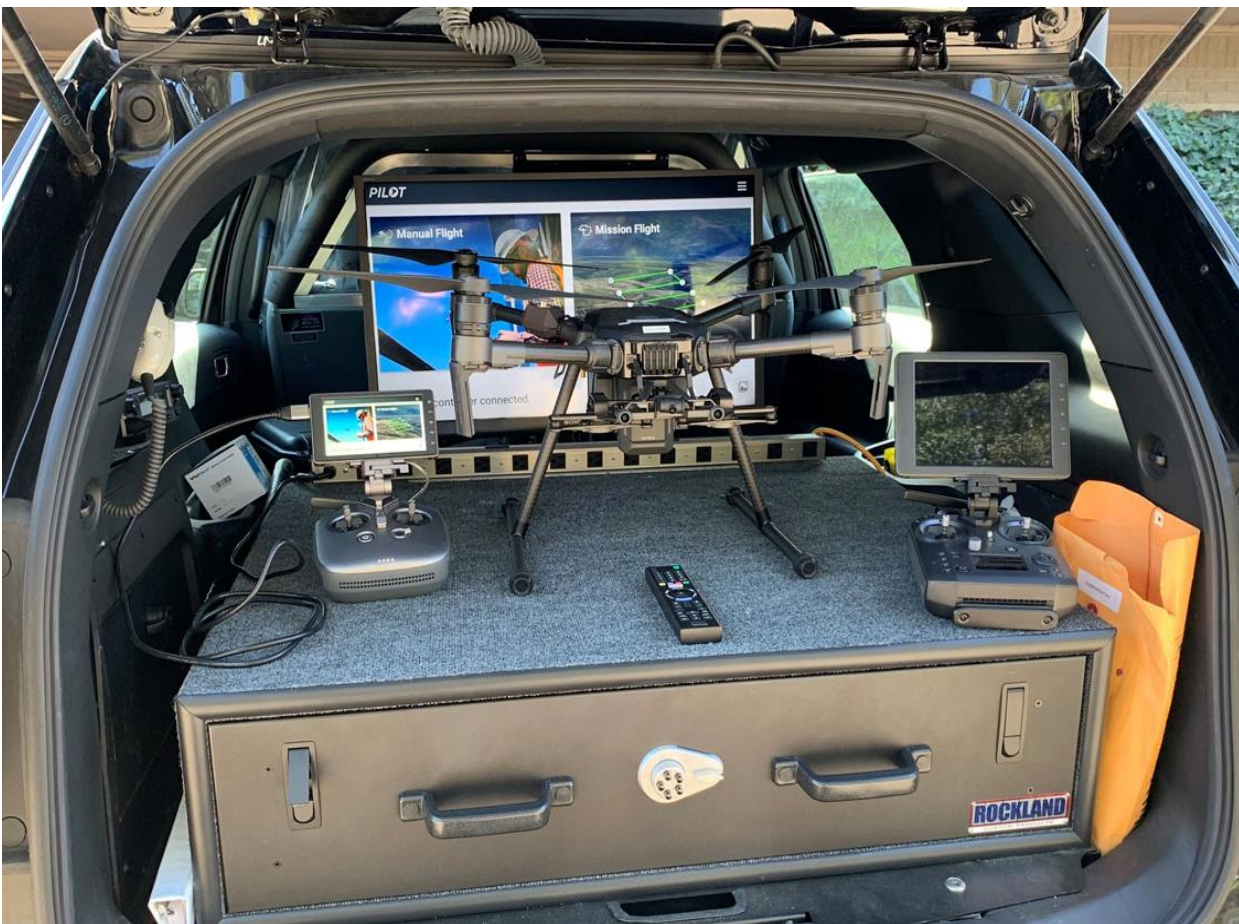
Remote Pilot in Command (RPIC)





Visual Observer (VO)





Pilots carry drones in their vehicles and deploy when they arrive on scene



DFR

Deployment Model



Blanket Area - Small Unmanned Aircraft System COA
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The Certificate of Authorization (COA) and Waivers from the FAA

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Tele-Operator





Remote Pilot in Command



Live video is fed to responding units and
Tele-Operator relays important information



DFR Drone as First Responder Proof of Concept





Fremont UAS Policy



- Both FPD and FFD policies are posted for review
- Important highlights
 - Defines when a pilot can deploy a UAS
 - Prohibited use
 - Shall not weaponize
 - Shall not harass, intimidate or discriminate
 - Shall not conduct random surveillance
 - Shall not target a person based solely on actual or perceived characteristics

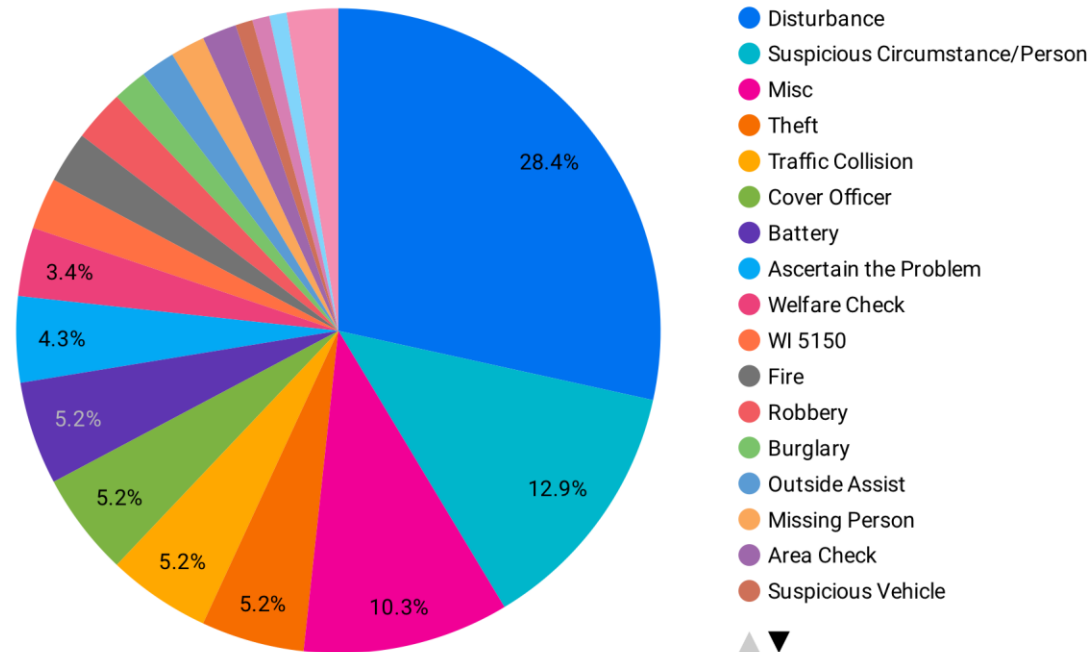
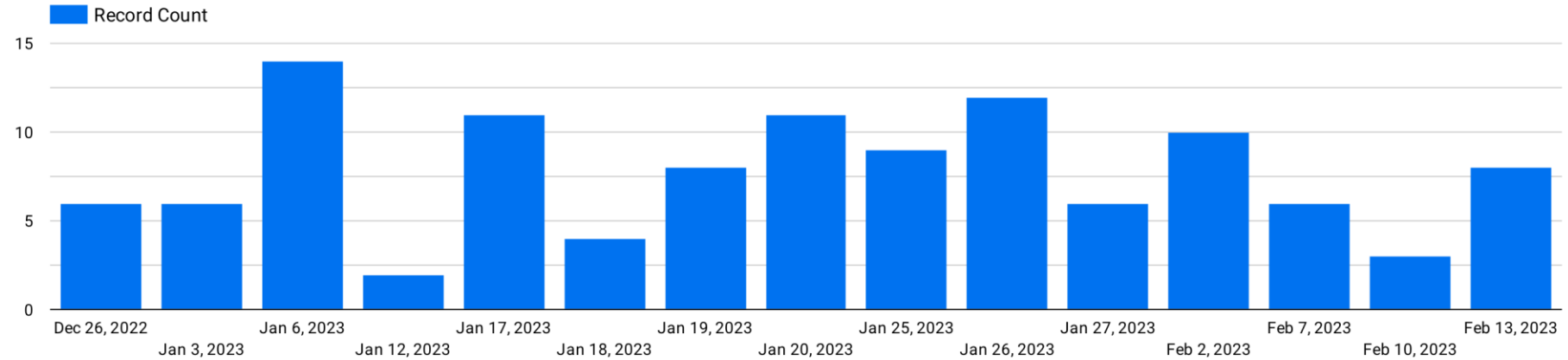


Drone as First Responder Metrics



Drone as First Responder Metrics

Click bar graph to see break down of calls for service on the pie chart for those dates.



Average response time:
2 Minutes 30 Seconds

Average time on scene:
8 minutes 36 Seconds



Review of DRF Pilot Program



- # of calls
- Synopsis of how and when we deployed
- # of days flown
- Average response time
- Time drone remains on scene
- Success stories



Equipment for DFR





Current Equipment



- Fremont's primary UAS platforms
 - DJI M30
 - DJI Mavic 3 Dual
 - All units have thermal camera capabilities
 - Most units have speaker attachments for one-way communications and spotlights

DJI M30



DJI Mavic 3 Dual





Future of Drone Deployment





Future of Drone Deployment



- Docking stations
- Detect and avoid system (radar)
- Drones available at multiple locations within the city





Examples of Successful Mission





2023 Niles Flood Rescue





Locating Arson and Robbery Suspect





Vehicle into the Water



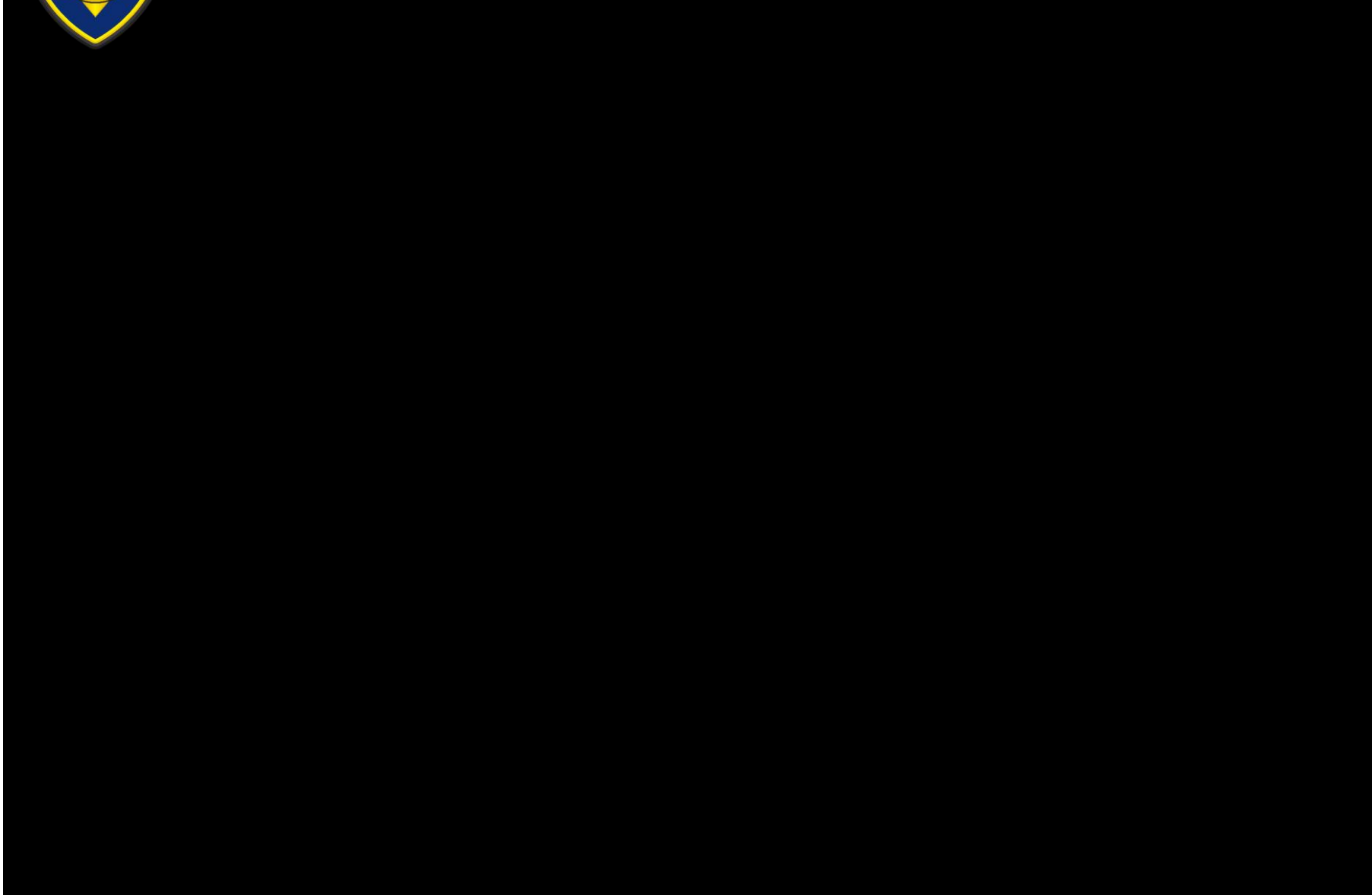


Locating Hiding Suspect





Multiple Alarm Fire





Locating Hiding Elder Abuse Suspect





Residential Structure Fire





Future Goals for Fremont's UAS



- UAS coverage throughout the city
- Reduce response times
 - Add multiple launch points
 - Add drones with longer flight times and greater speeds
- Add better technology as the UAS industry advances
- Use as a recruitment tool for both departments

Closing Comments

Police Chief Sean Washington
Fire Chief Zoraida Diaz





Community Benefits: Law Enforcement (Crime Mitigation)



- Improved Public Safety Resource
- Technology Compliments Real Time Information Center (RTIC) Initiative
- Staffing Efficiency (resource allocation)
- Enhanced Deterrence, Detection and Response
- Additional Accountability and Transparency



Police Legitimacy, Accountability and Transparency



- AB 481
- FPD Policy
- City Council
- Community Engagement
- Community Advisory Board
- Youth Advisory Board
- Community Meetings
- Partner Agency Site Visits
- Staff Accountability (Body Camera)
- Staffing Efficiency



Questions?

