El Dorado Hills Fire Department
Deployment Measures

El Dorado Hills Fire Department

MISSION

We the El Dorado Hills Fire Department, exist to serve and protect the Community through emergency management.

Core Values

Integrity, Service, Excellence

Agenda

- **Community Risk Assessment & Standards of Cover 9 Recommendations –** CITYGATE

- **Board Deployment Measures Draft Policy**

- **Current Challenges in attaining ACCURATE Data**

- **Current "Data Mining" and Software Challenges**

- **All Things Connect… History & Where We Are Today**

- **Essential Needs**

  - Focused on: Firefighter & Crew Safety, Customer Service, Accurate Data Collection & Performance Measures

- **Interoperability Concerns – Blended Boarders With Folsom**

- **Moving Forward – Solutions (Pro's & Con's)**

CITYGATE - Community Risk Assessment and Standards of Cover – 9 Recommendations

- **Recommendation #1**

  - **Adopt Department Board of Directors Deployment Measures Policy**

    - "The Department-elected officials should adopt updated, complete performance measures to direct fire crew planning and to monitor the operation of the Department."

    - The measures of time should be designed to deliver outcomes that will save patients medically salvageable upon arrival and to keep small fires from becoming more serious."

CITYGATE - Community Risk Assessment and Standards of Cover – 9 Recommendations

- Recommendation #2 – Adopt response time goals based on population density
- Recommendation #3 – Specific Revised Deployment Goals
  - Distribution of Fire Stations
  - Multiple-Unit Effective Response Force for serious emergencies
  - Hazardous Materials Response
  - Technical Rescue (Water, HazMat, etc.)
  - Emergency Medical Services
- Recommendation #4 – Relocation of Station 91
- Recommendation #5 – Lower Dispatch Processing Time
- Recommendation #6 - Crew Turnout Time – (Maintain Max 2 min)
- Recommendation #7 - Increase staffing at Sta 85 and add an EMS Squad
- Recommendation #8 – Strive to maintain 2 person staffing at rural stations
- Recommendation #9 – Adopt and maintain Impact Fees

"Staff Recommended"
Board Deployment Measures Policy

▶ **Staff Developed Five (5) Specific Deployment Measures Policies**

   ▶ Designed to satisfy CITYGATE Recommendations 1, 2, 3, 5, 6, and 8

      ▶ **DM1** - 911 Call Handling Time

      ▶ **DM2** – Turnout Time

      ▶ **DM3** – Travel Time

      ▶ **DM4** – Total Response Time

      ▶ **DM5** – Effective Response Force Time

▶ Recommendation 4 – Relocate Station 91

▶ Recommendation 7 – Increase Sta 85 staffing and add EMS squad

▶ Recommendation 9 – Adopt and Maintain Development Fees

DM 1 – 911 Call Handling Time

▶ **Call Handling Time Discussion**

▶ **Service Level Goal**
  ▶ 90 Seconds 90% of the time

DM 2 – Turnout Time

▶ **Turnout Time Discussion**

▶ **Service Level Goal**

  ▶ Day Time – Code Three Fire/Rescue (Full PPE Required)

    ▶ 90 Seconds – 90% of the time

  ▶ Day Time – Code Three EMS Only

    ▶ 60 Seconds – 90% of the time

  ▶ Night Time (21:00 Hours to 07:00 Hours) – All Code Three Calls

    ▶ 120 Seconds – 90% of the Time

DM 3 – Travel Time

- **Travel Time Discussion**
- **Service Level Goal**
  - First-Due Urban/Suburban Populations
    - 6 Minute Travel Time to 90% of Code Three Incidents
  - First-Due Rural Populations
    - 8 Minute Travel Time to 90% of Code Three Incidents

  - First-Alarm Effective Response Force – Urban/Suburban Populations
    - 9 Minute Travel Time to 90% of Incidents
  - First-Alarm Effective Response Force – Rural Populations
    - 12 Minute Travel Time to 90% of Incidents

DM 4 – Total Response Time

▶ **Total Response Time Discussion**

▶ **Service Level Goal – Fire/Rescue (Full PPE) – Code 3**
  ▶ First Unit Total Response Time – <u>Urban/Suburban</u>
    ▶ Day – 9:00 Minutes to 90% of the Calls / Night – 9:30 Minutes to 90% of the Calls

  ▶ First Unit Total Response Time – <u>Rural</u>
    ▶ Day – 11:00 Minutes to 90% of the Calls / Night – 11:30 Minutes to 90 of the Calls

▶ **Service Level Goal – EMS Response (No PPE)**
  ▶ First Unit Total Response Time – <u>Urban/Suburban</u>
    ▶ Day 8:30 Minutes to 90% of the Calls / Night 9:30 Minutes to 90% of the Calls

  ▶ First Unit Total Response Time – <u>Rural</u>
    ▶ Day 10:30 Minutes to 90% of the calls / Night 11:30 Minutes to 90% of the calls

DM 5 – Effective Response Force Fire/Rescue – Large Emergency

▶ **Effective Response Force Discussion**

▶ **Service Level Goal**

  ▶ <u>Urban/Suburban</u> Population Areas

    ▶ Day – 12:00 Minutes to 90% of the Calls

    ▶ Night – 12:30 Minutes to 90% of the Calls

  ▶ <u>Rural</u> Population Areas

    ▶ Day – 15:00 Minutes to 90% of the Calls
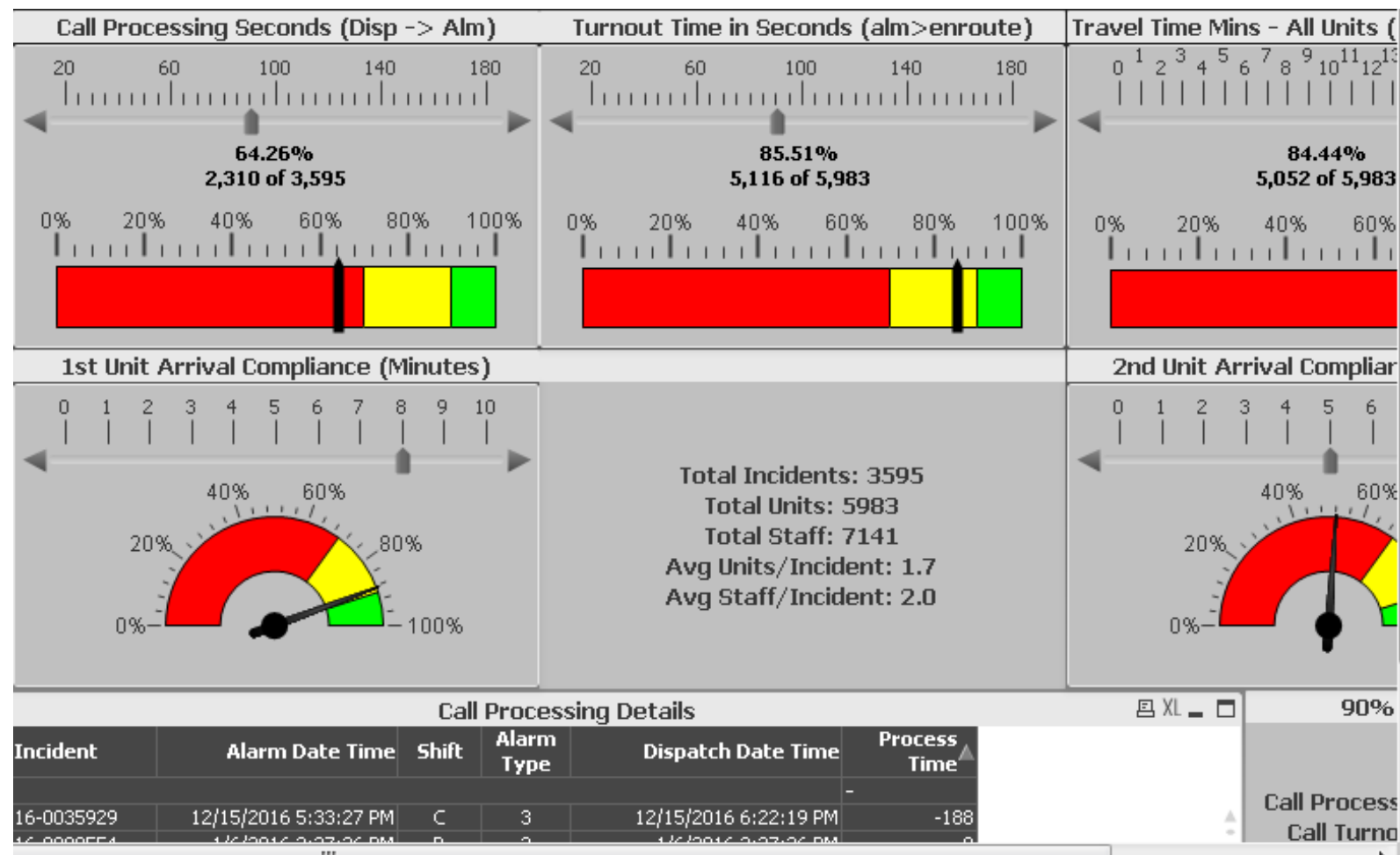
    ▶ Night – 15:30 Minutes to 90% of the Calls

BUT…

- These Five Deployment Measures are what we as an organization would like to recommend

- It is fully reasonable for the Community and BOD to expect an organization of our size to set and report on performance measures

- There is a problem…

DATA COLLECTION CHALLENGES

SUMMARY/OVERVIEW

- We have rough times only on calls
  - Not because of a lack of willingness …because of current technology limitations
- We don't know the exact time when a station is alerted for a call
  - The more units dispatched on a call, the worse the data gets
- Not able to accurately track Call Handling Time
- Not able to track Turnout Times accurately
- Not able to track Travel Times accurately
- Not able to track Total Response Times accurately
- Effective Response Force Times are not possible because non-EDH engines respond to calls in EDH on fires

BACKGROUND

▶ Collection of data has been a long time challenge

▶ Explain FC34 (Handout)

▶ Explain Active 911 (Handout)

▶ Explain Station Alerting

▶ Explain separate "time clocks"

▶ Explain human delays with when times are entered into the system versus when radio traffic is broadcasted (i.e. "on scene")

▶ Explain radio frequency congestion – impact to times with radio broadcast messages versus push button technology

▶ Manual data collection process 6-8 hours monthly

WHEN IS A STATION "ALERTED" FOR AN EMERGENCY?

▶ Fact – we can't define when a station is actually "alerted" to an emergency call

▶ There is a time lag from when CAL FIRE/Camino Emergency Communication Center indicates on the FC34 that they Dispatched a call to the time a station receives the actual alert for that call

▶ On calls with one to two units, the delay is often less than 20 seconds

▶ On multi unit calls (structure fires, vegetation fires, vehicle accidents, etc.) the delay can be up to a couple minutes

TONE SYSTEM

- Listen to Montridge structure tones
- Explain delays

CASE STUDY 1

- Date: 1/10/17   Incident #: 17-001097

- Location: EB 50 at Bass Lake Rd.   Vehicle Accident

- FC34 dispatch time is 08:41:52
- Active 911 dispatch time is 08:43:09
- **1 minute 17 second delay**

CASE STUDY 2

- Date: 1/6/17   Incident #: 17-000583
- Location: Luneman Road at Weber Creek   Water Rescue

- FC34 dispatch time is 07:44:24
- Active 911 dispatch time is 07:46:02
- **1 min 38 second delay**

CASE STUDY 3

- Date: 12/23/16
- Location: 3560 Patterson

- FC34 dispatch time is 15:08:32
- Active 911 dispatch time is 15:10:37
- **2 min 5 second delay**

Incident #: 16-036743

Structure Fire

ACTIVE 911 DELAYS

- Active 911 is OFTEN delayed on multi-unit responses such as structure fires, wildland fires and many vehicle accidents.
    - This equals mapping delays
- It is not uncommon for crews to be several minutes down the road on their way to a call before Active 911 alerts.
- This results in Captains giving their **best guess** on what time they went enroute to these calls.
- When Active 911 is delayed, our Captains are guessing on their enroute times. The current enroute times on most structure fires, vegetation fires and many vehicle accidents are **estimates only**.

CALL HANDLING TIME

▶ If we can't determine when a station is alerted…

▶ You can run a call processing report on Crystal Reports and see that Camino reports that call processing times are good

▶ <u>Due to the technology delays</u> in the system, we are NOT dispatched until some delayed time after the FC34 reported dispatch time

▶ We run Call Handling reports that widely conflict with Camino's reported times

    ▶ Our report includes the technology delay in Call Handling

    ▶ Otherwise, it looks like our crews are not turning out for calls quickly

TURNOUT TIME

- The FC34 incudes an inaccurate enroute time
- Explain checkback system

- Explain limitations of this process
  - Inaccurate times
  - Danger in the delay in recognition of a missed station alerting
- Explain Active 911 loading delays
- Explain need for push button

DATA MINING & SOFTWARE ISSUES?

▶ Firehouse software does not provide the reports desired in the Deployment Measure Policy

▶ More powerful programs exist…for example:

  ▶ Fireview

    ▶ FireView Dashboard = $34,250 initially

    ▶ $9,000 each year after

▶ There are possibly others with varying costs

▶ Right now Administrations stance is;

  ▶ We are wasting money purchasing any software program at this time

    ▶ FIRST - The Data Collection issue must be resolved

  ▶ Without accurate times:

    ▶ Garbage in = garbage out

SOLUTIONS TO DATA COLLECTION PROBLEMS

- We need to know exactly when station alerting **activates** to notify our crews of a call

- We need calls to load directly to the engine computers from our Dispatch Center at the same time they hit the dispatch button

- We need "push button" ENROUTE, ON SCENE, and AVAILABLE buttons that are tied to the dispatch center (without radio traffic)
  - This accurately timestamps all the traffic

- Our current system **may be capable of** providing this technology, but it is currently not available, and will be expensive to implement, and since the remainder of the JPA BOD is not interested in these improvements the full burden of cost will be with EDH Fire.

- Rip and Run interconnection to Alerting System
  - This may help but… it is not working yet, and will still be limited…

ALL THINGS CONNECT…

▶ Deployment Measures require accurate data

▶ Accurate data requires better technology

▶ Better technology requires significant improvement to our current communications system

   ▶ NOTE: We are not talking about cutting edge technology – The technology we need has been utilized by other Police/Fire Agencies throughout the Nation for many years

IT IS IMPORTANT TO UNDERSTAND THAT THIS IS A STATE TECHNOLOGY LAG & JPA SYSTEM COMPLEXITY PROBLEM…

Not a problem with the professionalism or customer service from Camino Emergency Command Center Staff

History

- **Community Driven Strategic Plan - August 2012**
  - **One GOAL…** Continuous Quality Improvement focused on Better Serving Our Residents & Better Safety For Our Firefighters
  - Updated annually
  - Through a SWOT analysis we originally identified 6 Service Gaps that were considered to be road-blocks to us achieving our goal of Improved service and Safety – Specific to this topic…
    - Goal 4 was Emergency Communications – *ALWAYS top Issue Related to FF Safety
    - Goal 6 was International Accreditation
  - As we focused on these two initiatives we uncovered significant deficiencies keeping us from achieving the core competencies related to "international best practices"

- **Letter To Camino ECC – Feb 24, 2014**
  - Outlined nine (9) technology improvement requests aimed at enhancing firefighter safety, improving emergency service response to our Community, and allowing for accurate data collection

History - Continued

- **Response From Camino ECC – March 11, 2014**
  - Camino ECC was willing to help us achieve some of our goals.
  - Their letter highlighted the complexity of operating within the current JPA/Camino ECC/State system.
  - All infrastructure upgrades would be at EDHFD expense

- **Important Note:**
  - We have one vote in a complicated system. Many differing priorities for the other nine agencies
  - Our priorities are not their priorities – Fully understandable

Today…

▶ Thanks to the staff at Camino ECC, Chief Keating, and Mike MacKenzie some good progress has been made toward "Rip & Run" printers, and hardline dispatching (Item 8 from our letter) but… progress is slow, unproven, and expensive.

    ▶ Requires coordination between Camino ECC, CA State IT, Northrop Grumman (CAD), EDHFD IT, and ComTech (Station Alerting System) to make it all work

    ▶ If this system becomes reliable Camino's dispatch times, and our station alerting times should finally be one in the same = Faster response time to our Customers… But…

        ▶ Still unable to accurately report and track Turnout Time, Response Time, and At Scene Time due to the "manual checkback" and "at scene" voice radio communications system

▶ At this time no real progress has been made toward the other technology driven essential needs

"ESSENTIAL NEEDS"

- "Push button" direct CAD link communication (enroute, on scene, etc.)
- Mapping system direct from a CAD push with hydrant overlays, prefire plan layer, etc.
- Dispatching of closest resource using AVL (Automatic Vehicle Location) (GPS)
- Simulcast or Voting Repeater System (no manual repeater selection)
- Repeated Tactical Radio Channels (critical communications not missed)
- Emergency Signal Button use on portable radio to Dispatch
- Ability to have an evacuation tone on Tactical Channel
- Hard line alerting
- Folsom/EDH improved response through "CAD to CAD Transfer" with resources on both sides visible to each other's respective dispatch consoles.

INTEROPERATIBILITY

▶ Interoperability is always an important question

▶ There are solutions to ensure that interoperability is not compromised for any engine/medic responding into El Dorado Hills or back to El Dorado County

▶ Medic 85 may remain on current dispatch system, or switch to SRFECC

  ▶ Medical Director has already approved SRFECC EMD for El Dorado Hills Fire District

▶ With current technology in advanced systems – interoperability is easily ensured…we do this all over the state

▶ The agency that we need to have better interoperability with is Folsom
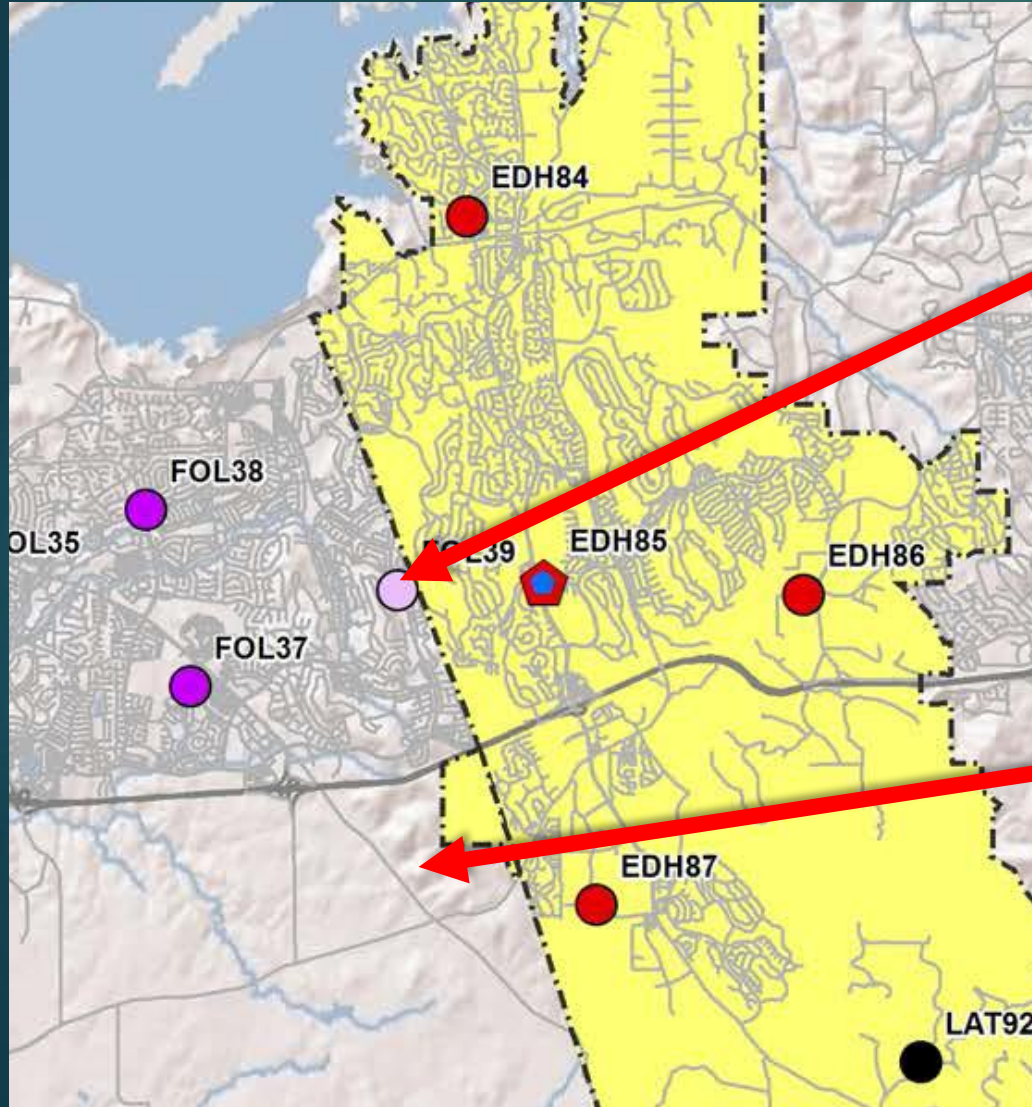
Folsom is building a new fire station that can provide service 1st or 2nd due into EDH with 3-0 ALS staffing. This is a HUGE benefit to EDH. Service levels to the Promontory will dramatically improve

Folsom's new plan area of 10,000 homes South of Highway 50 will be served by E87 either 1st or 2nd due faster than Folsom engines can serve this area for now. Folsom is planning on starting this project this year!

SOLUTIONS – 3 PATHS

- **OPTION 1** – Build our own Dispatch Center

- **OPTION 2** - Join Sac Regional Fire Emergency Communications Center (SRFECC)

- **OPTION 3** – Continue to strive for incremental improvements to our current system

OPTION 1 – Build our own Dispatch Center

Pros

- Absolute control of system and capabilities
- Easy access to information
- State-of-the art center
- Could contract with other agencies for service
- Meets all our identified "essential needs"
- Great flexibility for future

Cons

- Capital infrastructure cost is very high for building and communications system/equipment
- Hiring additional employees – cost
- Most expensive option

OPTION 2 – Contract with SRFECC

Pros

- The technology is currently in place to meet all our "<u>essential needs</u>"

- Cost effective

- A lot of the radio infrastructure needed is already in place

- We would <u>own all infrastructure</u>, and could develop our own Dispatch agency if desired later down the road

- One-Stop-Shop – Business Model

  - All IT and RF support technicians are contained under one roof

Cons

- Some capital infrastructure is still needed

- We would be a contract agency – not in control of system

- Other users in El Dorado County will criticize this option

- Joining this system requires approval from the current SRFECC Board

OPTION 3 – Continue Improvement Initiatives With Camino ECC

Pros

- Most likely least expensive option – Even with EDH Fire covering all expenditures for needed County infrastructure and equipment
- Popular with other fire agencies in El Dorado County

Cons

- May <u>never meet all</u> of our "essential needs"
  - Including critical Firefighter safety elements
- Folsom interoperability may not be improved = Service deficits to both agencies
- Even small improvements to a State operated system takes a <u>long time,</u> and is cumbersome to implement
  - Must be coordinated between multiple agencies
    - State IT
    - Camino ECC
    - Northrop Grumman
    - EDHFD IT
    - Comtech
    - JPA,
    - EDC Radio Tech, etc.

RECOMMENDED PATH

- The **recommendation** of the Administrative Staff is to re-apply with SRFECC for a feasibility study – Already Board Approved 2016
  - SRFECC has new policy in place to allow inclusion with a defined path forward
  - Estimated cost for feasibility study - $25,000

- Suspend adoption of Deployment Measures Policy until accurate data can be obtained
- Suspend Operations Report (Time Sections) until accurate data can be obtained

- Once the study is completed we will have valuable information related to feasibility of operation and estimated infrastructure cost
  - Good, Fully informed decisions can then be made for **our** future, the service delivery we want for our Residents, the level of safety we want for our Firefighters, and the Deployment Measures we want to monitor
  - If SRFECC is the path for EDHFD, Infrastructure cost could be included in Facilities Master Plan and defrayed by Development Fees

Closing Thoughts…

Politics Should Never Interfere With Emergency Services Delivery. Our Departments <u>Mission</u> and <u>Values</u> are very clear, and have always been our guiding principal

Let us not seek the Republican answer, or the Democratic answer, but the right answer. Let us not seek to fix the blame for the past. Let us accept our own responsibility for the future

John F Kennedy