



# Fire Station #4 Status and Review

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Presented to: Public Safety Committee  
March 05, 2025

# Presentation Objectives

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- Provide an **update** on Fire Station 4 planning and development.
- Outline **growth projections** and their impact on emergency response.
- Review **NFPA 1710 standards** and current response challenges.
- Discuss the **staffing, equipment, and infrastructure needs** for Station 4.
- Seek feedback on **timing, funding, and CIP integration** for construction.

**📌 Ensuring timely planning and development of Station 4 is critical to maintaining effective fire and EMS response as Burleson continues to grow.**

# West Side Burleson – Projected Growth

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## Projected Growth & Timeline

### Chisholm Summit Development:

- 3,000 new homes planned
- Construction is set to begin with 50 homes in 2026
- Approx. 200 homes added per year there after.

### Impact on Emergency Services:

- Rising Fire/EMS Demand: Call volume increases by 94+ calls per year per 200 homes added. This **does not include** year-over-year percentage growth calculation.
- Longer response times if resources are not expanded.
- More strain on existing stations and resources.
- Increased Unit Hour Utilization (UHU) for both ambulance and fire responses due to the lack of dedicated services in this area.

# Why Station 4 is Critical for Burleson

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## Key Challenges Without Station 4:

### Delayed Response Times:

- Current drive time: 11-15 minutes to west-side emergencies.

### Call Volume & Dependence on Mutual Aid:

- 160 calls per year in the Station 4 area.
- ESD automatic aid for structure fires but only mutual aid for EMS and all other call types.
- ESD does not desire to respond to Priority 3 EMS calls, leaving gaps in coverage.
- ESD current limit is around 400 calls for automatic/mutual aid a year.
- The ESD would consider a contract for services if annual call volume approaches 400 calls, but further discussions would be required to assess capacity and associated costs.

## How Station 4 Solves These Issues:

- **Cuts drive time significantly**, improving response time for life-threatening emergencies.
- **Increases local coverage**, reducing reliance on mutual aid.
- **Provides full EMS & fire services on the west side of the city.**
- **Ensures faster response to both high-priority EMS & fire incidents.**
- Adding **Station 4** not only enhances **west-side coverage** but also strengthens **NFPA 1710 assembly compliance citywide**, ensuring faster and more effective emergency response across all districts.

# West Side Burleson

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## Why We Must Plan Now for a Fire Station on the West Side

### Current Target Hazards in the West Side

#### Joshua ISD Schools:

- RC Loflin Middle School
- Caddo Grove Elementary


#### Established Residential & Traffic Risks:

- Blue Bird Meadows Neighborhood
- Chisholm Trail Parkway & CR 1902

# Priority 3 EMS

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A **Priority 3 EMS call** is a **non-life-threatening medical emergency** that requires an EMS response but does not involve **immediate danger to life or serious injury**. These calls typically include:

- Minor injuries (e.g., sprains, minor cuts, or abrasions)
  - Illnesses without severe symptoms (e.g., mild fever, nausea, or minor allergic reactions)
  - Welfare checks for non-critical patients
  - Assist requests (e.g., lift assists for non-injured individuals)
-  **Priority 3 calls are lower-acuity and do not require lights-and-sirens transport or immediate advanced life support (ALS) intervention.**

# Call Volume Projection Steps

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## **New Population:**

- New homes × 2.72 (population multiplier)

## **Estimated Call Volume:**

- New population × 0.173 (calls per person per year)
- Add 160 current annual calls to total

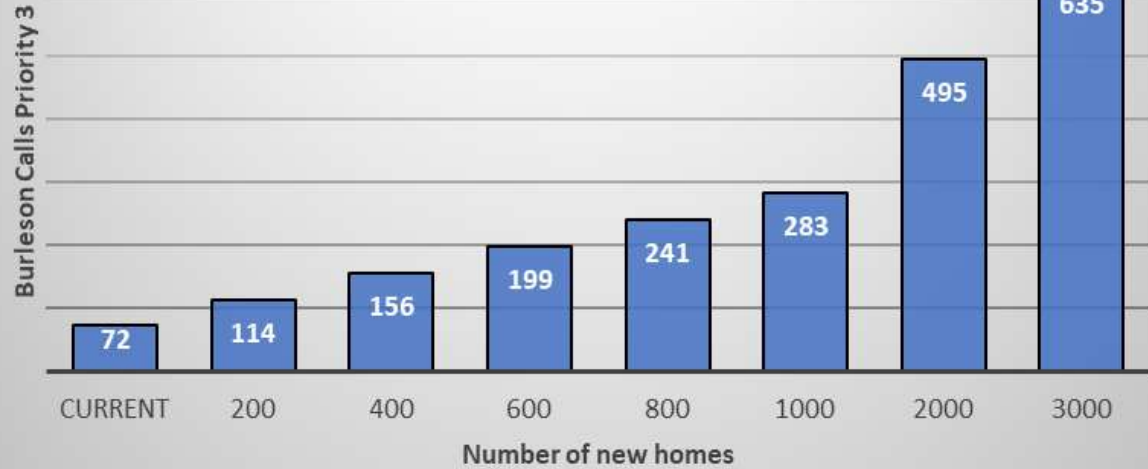
## **EMS & Priority 3 Calls:**

- Total calls × 75% (EMS proportion)
- EMS calls × 60% (Priority 3 proportion)
- Priority 3 EMS = Burleson Fire/EMS responsibility (JCESD does not respond to P3 EMS)

## **JCESD Expected Auto/Mutual Aid Response:**

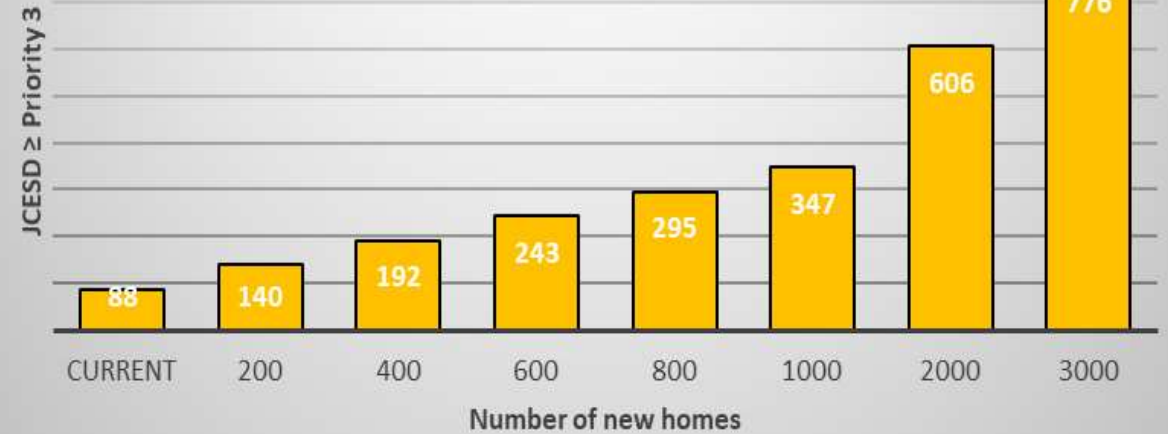
- Total calls minus Priority 3 EMS calls
- This projection does not account for the system's 19% call volume growth over the past five years, meaning actual demand may be even higher.

### 'Burleson Calls Priority 3'



ESD does not desire to respond to Priority 3 EMS calls

### 'JCESD ≥ Priority 3'



Burleson Fire/EMS will respond to all calls for service, with JCESD serving as the primary first-arriving unit for **Priority 1 and Priority 2** incidents.

## Projected Chisolm Summit Development Doors

This projection does not account for the system's 19% call volume growth over the past five years, meaning actual demand may be even higher.



# Minimum Daily Staffing

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## Current Staffing & Coverage (Before Station 4 or 4th Ambulance)

- Minimum daily staffing 17 personnel
- Response coverage gap on the west side of the city
- Longer response times to incidents in growing areas
- 💡 Challenge: Limited coverage on the west side increases response time for critical emergencies.

## Deploying a 4th Ambulance Before Station 4 Opens

- Minimum Daily Staffing 19 personnel
- Rising EMS call volume and UHU will strain resources and impact response times before Station 4 is completed.
- 💡 Solution: Adding a 4th ambulance improves citywide response, reduces unit fatigue, and ensures faster, more effective EMS care.

## Improved Staffing & Coverage (After Station 4)

- Minimum daily staffing 23 personnel
- Balanced coverage across the city, including the west side
- Faster response times for Fire & EMS
- Better resource allocation for simultaneous incidents
- 💡 Solution: Station 4 ensures equal emergency services across all areas, improving safety and reducing response times.

# Station 4 Deployment Plan

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## Initial Station Opening:

- Engine Company – Minimum 4-person staffing
- Brush Truck – Cross-staffed with available personnel
- Reserve Engine Company
- The fourth bay provides housing capacity for the MCI trailer and Heavy Rescue unit, improves long-term apparatus space planning across all stations, and replaces the lost bay at Station 1.

## Full Station Build-Out Plan:

- Engine Company – Minimum 4-person staffing
- Ladder Company – Minimum 4-person staffing
- Ambulance – Minimum 2-person staffing
- Battalion 2 – Minimum 1-person staffing
- Brush Truck – Cross-staffed with existing crews
- Reserve Engine Company

**📌 The phased approach ensures operational readiness at opening, with strategic growth planned to enhance emergency response capabilities.**

NFPA 1710 Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments

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**Engine Companies (5.2.3.1)**

- **Primary Functions:**
  - Pump and deliver water.
  - Perform basic firefighting operations.
  - Conduct search and rescue.
- **Minimum Staffing Requirement (5.2.3.1.1):**
  - **4 on-duty members** per engine company.
  - Burleson Fire/EMS staffs a minimum **3** on-duty members per Engine company.

**Ladder/Truck Companies (5.2.3.2)**

- **Primary Functions:**
  - Forcible entry
  - Ventilation
  - Search and rescue
  - Aerial operations (water delivery & rescue)
  - Utility control
  - Illumination
  - Overhaul and salvage work
- **Minimum Staffing Requirement (5.2.3.2.1):**
  - **4 on-duty members** per ladder/truck company.
  - Burleson Fire/EMS staffs a minimum **4** on-duty members per Ladder/Truck company.

# NFPA 1710: First-Due Response Objectives

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- Turnout Time: 80 sec (1 min 20 sec) for fire/special ops, 60 sec (1 min) for EMS
- Fire Response: First engine travel time ≤ 240 sec (4 min), second company travel time ≤ 360 sec (6 min)
- Full Alarm Assignment: ≤ 480 sec (8 min) for non-high-rise, ≤ 610 sec (10 min 10 sec) for high-rise
- EMS Response: First responder (AED/BLS) travel time ≤ 240 sec (4 min), ALS unit (Ambulance) travel time ≤ 480 sec (8 min)

📌 Meeting NFPA 1710 ensures faster, more effective emergency response.



# NFPA 1710 Full Alarm Assignment for a Structure Fire (5.2.4.1.1)

For a 2,000 sq. ft., two-story single-family dwelling

## Incident Command:

- **1 member** dedicated to overall coordination outside the hazard area.

## Water Supply & Application:

- **400 GPM (minimum) uninterrupted water supply** for 30 minutes, maintained by **1 operator**.
- **300 GPM fire attack rate** using **two handlines** (minimum **100 GPM each**), each operated by **2 members (total: 4 members)**.

## Support & Fireground Operations:

- **2 members** for hydrant hookup, hose line deployment, utility control, and forcible entry.
- **2 members** for victim search and rescue.
- **2 members** for ground ladder operations and ventilation.
- **1 aerial operator** (if an aerial device is used).

## Rapid Intervention Crew (RIC):

- Initial IRIC assembled from the first attack crew.
- **Full RIC established** as more resources arrive (**4 members**).

## Total Effective Response Force:

- **Minimum: 16 members**
- **17 members** if an aerial device is used
- **Burleson Fire/EMS Minimum Daily staffing 17 members**

# NFPA 1710 Open-Air Strip Shopping Center – Initial Full Alarm Assignment (5.2.4.2)

## Response Requirements for Structure Fires (13,000 – 196,000 sq. ft.)

### Incident Command & Safety:

- **2 members** dedicated to overall coordination and safety outside the hazard area.

### Water Supply & Application:

- **Two uninterrupted water supplies** at a minimum of **500 GPM**, each maintained by **1 operator (2 members)**.
- **500 GPM fire attack rate** using **three handlines** (minimum **150 GPM each**), each operated by **2 members (total: 6 members)**.

### Support & Fireground Operations:

- **3 members** for hydrant hookup, hose deployment, utility control, and forcible entry.
- **4 members** for **search and rescue** (two teams of two).
- **4 members** for **ground ladder operations & ventilation** (two teams of two).
- **1 aerial operator** (if an aerial device is used).

### Rapid Intervention Crew (RIC):

- Initial **IRIC from the first attack crew**.
- **Full RIC established** as more resources arrive (**4 members**).

### Emergency Medical Component:

- **2 members** for immediate on-scene EMS and patient transport.

### Total Effective Response Force:

- **Minimum: 27 members**
- **28 members** if an aerial device is used
- **Burleson Fire/EMS Minimum Daily staffing 17 members**

# NFPA 1710 Apartment Fire – Initial Full Alarm Assignment (5.2.4.3)

## Response Requirements for a 1,200 sq. ft. Apartment in a Three- Story Garden-Style Building

### Incident Command & Safety:

- **2 members** dedicated to coordination and safety outside the hazard area.

### Water Supply & Application:

- **Two uninterrupted water supplies** at a minimum of **400 GPM**, each maintained by **1 operator (2 members)**.
- **300 GPM fire attack rate** using **three handlines** (minimum **100 GPM each**), each operated by **2 members (total: 6 members)**.

### Support & Fireground Operations:

- **3 members** for hydrant hookup, hose deployment, utility control, and forcible entry.
- **4 members** for **search and rescue** (two teams of two).
- **4 members** for **ground ladder operations & ventilation** (two teams of two).
- **1 aerial operator** (if an aerial device is used).

### Rapid Intervention Crew (RIC):

- Initial IRIC from the first attack crew.
- **Full RIC established** as more resources arrive (**4 members**).

### Emergency Medical Component:

- **2 members** for immediate on-scene EMS and patient transport.

### Total Effective Response Force:

- **Minimum: 27 members**
- **28 members** if an aerial device is used
- **Burleson Fire/EMS Minimum Daily staffing 17 members**

# The Critical 10-Minute Life or Death Window

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## Structure Fire Growth (Time vs. Fire Spread)

- 🔥 A room igniting and fully engulfed over 10 minutes.
- **0-2 minutes:** A fire starts, small and controllable.
- **3-4 minutes:** Flashover potential begins.
- **5-7 minutes:** Fire spreads rapidly, escape becomes difficult.
- **8-10 minutes:** Flashover occurs, entire room is engulfed, survivability is **near zero**.
- 💡 **Fact: After 10 minutes, survivability in a structure fire is almost nonexistent due to heat, smoke, and oxygen depletion.**

## Cardiac Arrest (Time vs. Survival Rate)

- 📊 A timeline showing survival rates decreasing over time.
- **0-4 minutes: 50-70% survival** with CPR & defibrillation.
- **5-6 minutes: 25-30% survival** if no CPR is started.
- **7-10 minutes: Less than 10% survival** without immediate medical intervention.
- 💡 **Fact: After 10 minutes without defibrillation, survival is nearly zero**



# Burleson Fire/EMS Assembly Objectives

## Burleson's Challenges & Goals Current Challenges:

- **All on-duty personnel must be available** to assemble for a structure fire.
- **High call volume and competing incidents** limit the ability to assemble personnel quickly.
- **Mutual aid is valuable**, but response times from aid partners are longer, delaying assembly in the critical early minutes.

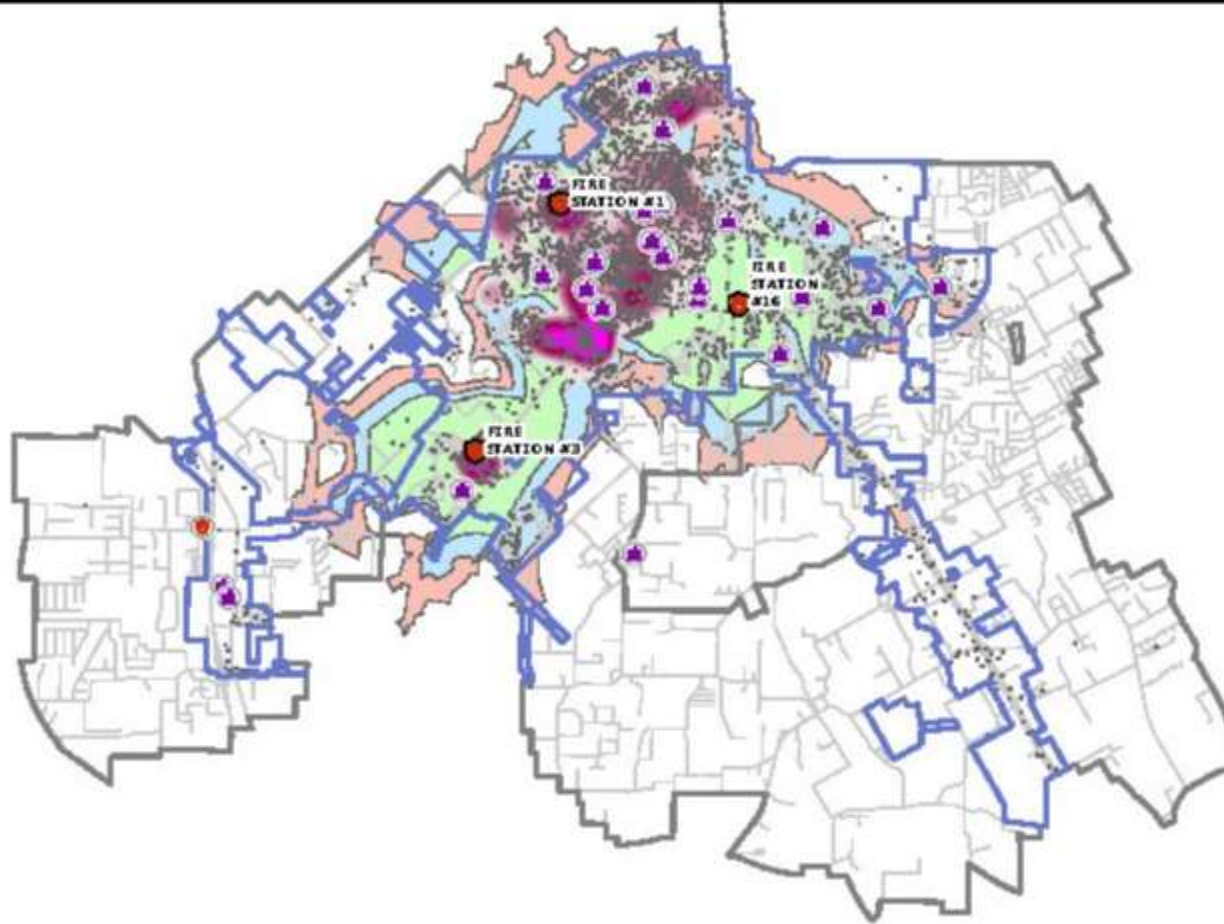
## Burleson Fire/EMS in pursuit of NFPA 1710

- **Goal < 7-minute drive time** for the first unit on scene 90% of incidents.
- **Minimum staffing of 23 to provide Station 4 and a 4th Ambulance with staffing**
- **Proper assembly time** is crucial for a coordinated attack on structure fires and critical medical emergencies.

## Burleson's Strategy for Improvement:

- **Increase minimum staffing** to meet proper assembly times.
- **Strategically locate fire stations** (e.g., Station 4) to improve response coverage.
- **Enhance self-sufficiency** by reducing dependence on mutual aid for initial response.
- **Ensure quicker, more effective fire suppression and EMS Care** within NFPA 1710 standards.

# Current Situation



- Existing Fire Stations
- Schools
- Johnson County ESD
- City Limit

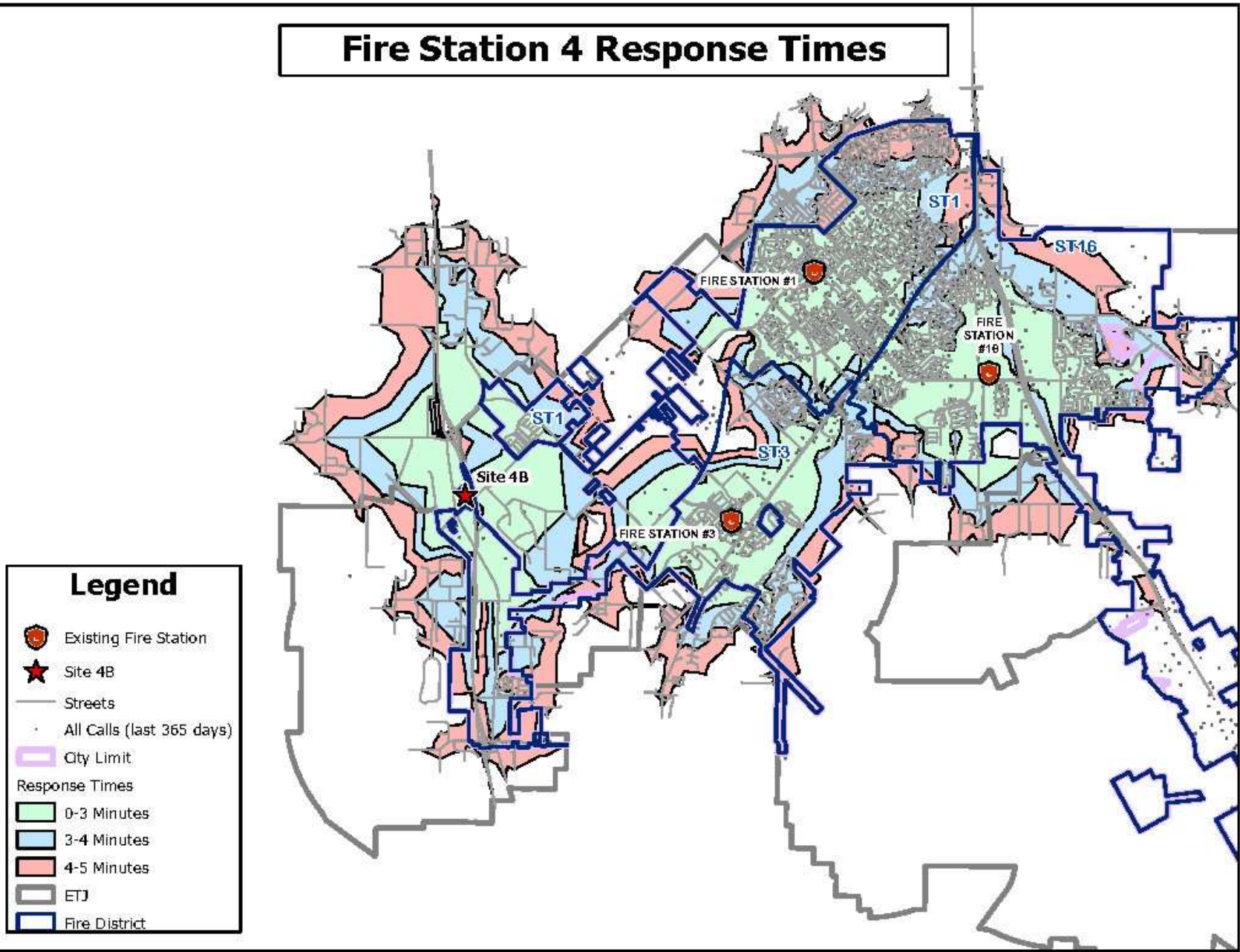
- ETJ
- Street Centerline
- All Calls (last 365 days)

- Fire Incidents Heat Map (All calls last 365 days)
- Sparse
  - Dense

- Current Response Times
- 0-3 Minutes
  - 3-4 Minutes
  - 4-5 Minutes



# Fire Station 4 Response Times



## Public Safety Facilities

Burleson voters approved Proposition B for \$52,360,000 during the May 7 special bond election.  
BRW Station 4 Cost estimation \$15,943,000.00

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### Fire Station 4 Construction

#### Background

- The city of Burleson currently has three fire stations and none are located on the city's western border.
- The construction of Fire Station 4 would provide fire and emergency medical services to the western portion of the city in a manner that meets safety and response criteria for the citizens and firefighters based on National Fire Protection Association (NFPA), Texas Commission on Fire Protection best practice standards.
- In 2021, a feasibility study was conducted to review fire station needs.
- The Special Citizens Advisory Bond Committee considered fire department needs and options for a new station.
- The committee unanimously recommended the proposed fire station on the 2022 Bond Election ballot.



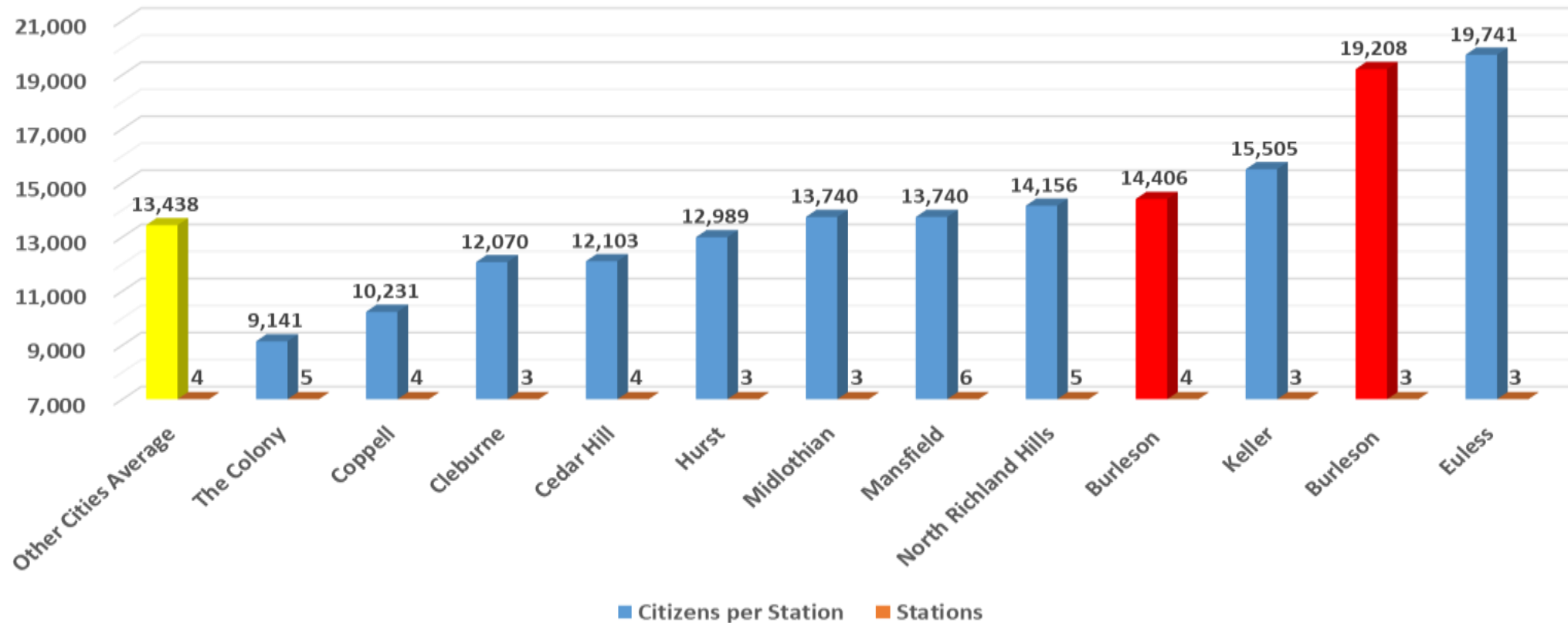
#### Bond Project

##### Proposed Fire Station 4 consists of:

- Construction of a 18,944 square foot, four-bay fire station on the western portion of Burleson.
- Living quarters for 11 fire personnel.
- Storm Shelter.
- Training room.
- Community engagement space.
- An office for Burleson Police Department.



# Comparative Cities – Citizens per Station



The Euless Fire Department stands out as an outlier in citizens per station compared to peer cities. Their 2024 call volume of 6,428 is 42.5% lower than Burleson's 9,150 calls. Additionally, Euless covers 16.3 square miles, whereas Burleson spans 28.26 square miles, further highlighting the unique operational demands on our system.

# System Changes & Needs with the Addition of Station 4

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## Ladder Tower Purchase & Placement

- A new Tower Ladder truck will be purchased to enhance aerial firefighting and rescue capabilities.
- Since Station 4 is located in the county area, the Tower Ladder will be stationed at Station 1 to better serve the city core.
- This restores bucket capabilities previously lost in recent years.

## Engine & Ambulance Deployment Adjustments

- An engine will be relocated to Station 4 to ensure fire/EMS coverage in the expanding west side.
- The 4th ambulance will be double-company at Station 1, reducing excessive back-and-forth movement across the city and improving EMS efficiency.

## Minimum Staffing at Station 4

- Engine 4 will be staffed with a guaranteed 4-person crew, including one dedicated position as a firefighter/paramedic to maintain advanced EMS response capabilities.

# Proposed Staffing for Engine 4 & 4th Ambulance Cost Estimation

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## Engine 4 Staffing:

- 1 Lieutenant
- 1 Engineer
- 1 Firefighter/EMT
- 1 Firefighter/Paramedic

## 4th Ambulance Staffing:

- 1 Firefighter/Paramedic
- 1 Firefighter/EMT

## Cost Breakdown:

- **Average cost per position: \$123,261.10** (*Includes base salary & benefits, with no additional certification pay beyond known paramedic pay*).
- **Staffing multiplier: 3.5 per position** (*Covers three shifts + time off relief*).
- **Total FTEs required: 21 (Engine:  $4 \times 3.5 = 14$  | Ambulance:  $2 \times 3.5 = 7$ )**
- *Total annual Ambulance cost: \$862,827.70*
- *Total annual Engine cost: \$1,725,655.40*
- **Total annual staffing cost: \$2,588,483.10**

★ **Note:** Salary estimates are based on **current rates** and do not account for **future cost escalations**, including **COLA adjustments, step plan increases, additional certification pay, overtime variations, or FLSA impacts**. Actual costs may increase over time and require future budget adjustments.

# Alternative Fire & EMS Coverage Amid Budget Constraints

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With upcoming CIP and operational constraints, the CMO has requested the Fire Department to explore alternative solutions to ensure emergency coverage in the growing west side of Burleson.

## Strengthen Collaboration with Johnson County ESD #1

- ✓ **Automatic Aid Expansion** – Increase **pre-designated responses** for high-priority incidents.
- ✓ **Mutual Aid Agreements** – Ensure consistent **resource sharing** without long-term financial commitments.
- ✓ **Contract for Services** – Evaluate a **formal contract** with ESD for interim response coverage if **call volume approaches 400+ annually**.

## Establish a Pre-Construction Presence

- ✓ **Responding from ESD Facilities** – Explore **staging a Burleson unit** at an ESD station to reduce response times.
- ✓ **Utilize the Training Division Fire Academy** – **Station personnel temporarily** at the Fire Academy to provide **limited emergency response** coverage in the area.



### Current CIP Timeline for Station 4

Year	Milestone
2025	<ul style="list-style-type: none"><li>• Confirm land use &amp; conduct Council presentations.</li><li>• Reassess timeline with Council in CIP discussions.</li></ul>
2026	<ul style="list-style-type: none"><li>• Plan operational staffing needs as design is set begin in 2027.</li><li>• A phased hiring plan will need to be implemented.</li></ul>
2027	<ul style="list-style-type: none"><li>• Select architect &amp; construction team.</li><li>• Begin pre-construction planning.</li></ul>
2028	<ul style="list-style-type: none"><li>• Finalize architectural plans.</li><li>• Order apparatus (Ladder Tower &amp; Brush Truck).</li></ul>
2029	<ul style="list-style-type: none"><li>• Begin construction.</li></ul>
2030	<ul style="list-style-type: none"><li>• Apparatus delivered.</li><li>• Station 4 opens; construction completed.</li></ul>

# Additional Needs Concurrent with Station 4 Implementation

## 4th Ambulance Staffing

- Several staffing models to consider, ranging from peak-time staffing to full 24-hour staffing, ensuring resources align with demand and operational efficiency.

## Fire Inspector / Investigator

- Fire inspections are primarily conducted by crews, creating conflicts with operational duties and training time. A dedicated inspector will improve efficiency, compliance, and fire prevention efforts.

## Lieutenant for Training

- The training office is overwhelmed with no dedicated support. A Training Lieutenant is essential to deliver training to crews, maintain operational readiness, and ensure compliance with evolving fire and EMS standards.

## Deputy Emergency Manager

- The Emergency Management Office lacks redundancy and additional staff to handle increasing workload demands.
- A Deputy Emergency Manager is needed to support disaster preparedness, emergency response coordination, and continuity of operations as the city's risk profile grows.

# Council Feedback on Key Considerations for Station 4 & EMS Expansion

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## Timing & Funding

- **Prioritize funding decisions** to align with **CIP constraints** and long-term financial planning.
- **Refine the operational budget** to support a **phased staffing approach** that meets service demands.
- **Avoid funding delays**, as **station design, construction, and phased hiring** require approximately **3.5 years** for full implementation.

## Alternative Coverage Solutions

- **Explore automatic/mutual aid agreements** and **interim coverage contract options** with ESD to enhance service reliability.
- **Assess feasibility** of **staging personnel** at the **Fire Academy or an ESD facility** to improve response times.
- **Avoid long-term reliance on outside agencies**—work toward self-sufficiency.

## Operational Impact

- **Initiate staffing and resource planning** to maintain adequate emergency response.
- **Phase in additional personnel and apparatus** to match increasing call volume.
- **Plan for long-term growth**, ensuring sustainability beyond initial staffing and equipment.
- **Continue strategic planning for concurrent Fire Department needs** to support overall operations.



Questions or Comments?