



Fire Station #4 Status and Review

CITY COUNCIL PRESENTATION

APRIL 7, 2025

Presentation Objectives

• 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.
- •Review Insurance Services Office (ISO) key components.
- •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

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 <u>does not include</u> 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

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

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

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)

APriority 3 calls are lower-acuity and do not require lights-and-sirens transport or immediate advanced life support (ALS) intervention.

Call Volume Projection Steps

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.



ESD does not desire to respond to Priority 3 EMS calls

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

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

Initial Station Opening:

- Engine Company Minimum 4-person staffing
- Brush Truck Cross-staffed with available personnel
- Reserve Engine
- 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

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

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.
 - <u>Burleson Fire/EMS staffs a</u> <u>minimum 3 on-duty members per</u> <u>Engine company.</u>

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.
 - <u>Burleson Fire/EMS staffs a minimum 4</u> on-duty members per Ladder/Truck company.

NFPA 1710: First-Due Response Objectives

- Turnout Time: 80 sec (1 min 20 sec) for fire/special ops, 60 sec (1 min) for EMS
- Fire Response: First engine <u>travel time</u> ≤ 240 sec (4 min), second company <u>travel time</u> ≤ 360 sec (6 min)
- <u>Full Alarm Assignment: ≤ 480 sec (8 min)</u> for non-high-rise, ≤ 610 sec (10 min 10 sec) for high-rise
- EMS Response: First responder (AED/BLS) <u>travel time</u> ≤ 240 sec (4 min), ALS unit (Ambulance) <u>travel time</u> ≤ 480 sec (8 min)
- Meeting NFPA 1710 ensures faster, more effective emergency response.



The Critical 10-Minute Life or Death Window

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

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

For a **2,000 sq. ft., two-story singlefamily 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

ISO Class 1 vs. NFPA 1710 Compliance

ISO Class 1 Rating

- **Purpose:** Evaluates a community's overall fire protection capability for insurance purposes.
- Scoring System: 1 (best) to 10 (worst)
- Issued By: Insurance Services Office (ISO) via the Public Protection Classification (PPC) program
- Key Components:
 - Emergency Communications (10%)
 - Fire Department (50%)
 - Water Supply (40%)
 - Community Risk Reduction (extra credit)
- Focus: Infrastructure, equipment, staffing, training, water supply, and dispatch system
- **Outcome:** May impact homeowners' and businesses' insurance premiums

Note: Our ISO Class 1 rating has been sustained through ongoing pursuit toward NFPA 1710 compliance. While we have not fully achieved all levels of 1710 compliance, our continued pursuit has supported our top rating. However, as call volume continues to rise—especially with the projected growth in District 4— our ISO Class 1 status is at risk in future evaluations if additional resources are not assigned to address the increased demand.

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.





Public Safety Facilities

Burleson voters approved Proposition B for \$52,360,000 during the May 7, 2022 special bond election. BRW Station 4 Cost estimation \$15,943,000.00

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



■ Citizens per Station ■ Stations ■ Square Miles

The Euless Fire Department is a notable outlier among peer cities in terms of citizens served per station. In 2024, Euless reported a total call volume of 6,428, which is 42.5% lower than Burleson's 9,150 calls. While Euless has city limits totaling 16.3 square miles, the fire department is only responsible for 11.3 square miles—since a portion of the city falls within DFW Airport jurisdiction and is served by DFW Fire/EMS. In contrast, Burleson Fire/EMS covers a full 28.26 square miles, further emphasizing the greater operational demands placed on our system.

System Changes & Needs with the Addition of Station 4

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.

Example of a Tower Ladder



Proposed Staffing for Engine 4 & 4th Ambulance Cost Estimation

Engine 4 Staffing:

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

Š 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 × 3.5 = 14 | Ambulance: 2 × 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.

43 4th Ambulance Staffing:

- 1 Firefighter/Paramedic
- 1 Firefighter/EMT

Alternative Fire & EMS Coverage Amid Budget Constraints

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.

Year	Milestone
2025	 Confirm land use & conduct Council presentations. Reassess timeline with Council in CIP discussions.
2026	 Plan operational staffing needs as design is set begin in 2027. A phased hiring plan will need to be implemented.
2027	Select architect & construction team.Begin pre-construction planning.
2028	 Finalize architectural plans. Order apparatus (Ladder Tower & Brush Truck).
2029	Begin construction.
2030	 Apparatus delivered. Station 4 opens; construction completed.

Additional Needs Concurrent with Station 4 Implementation

4th Ambulance Staffing

• Several staffing models to consider, ranging from peak-time staffing to full 24hour 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

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?