



# JONESBORO FIRE DEPARTMENT

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Protecting Lives and Property since 1899

## Jonesboro Fire Department 2008 Year End Report

### EXECUTIVE SUMMARY

Another year has passed with the Jonesboro Fire Department experiencing a lot of activity in terms of new fire stations, customer service improvements, and personnel development. This report is broken down into sections with more detailed explanation given in each section:

1. Operational statistics.....(page 3-6)
  - 4569 total incident runs for 2009
  - 546 were fire runs
  - 2,648 were rescue and emergency medical runs with an additional 60 vehicle extrications
  - In 2009 we experienced 0 fire fatalities
  - Incident response times of 4 minutes and under 59.2% of the time
  - Incident response times of 6 minutes and under 86.9% of the time
2. Operational and Customer Service Improvements .....(page 7-9)
  - Protocols have been established and put into place for “Medical First Responder” calls with smaller brush units being utilized rather than the large fire engines in their response districts as appropriate.
  - Fire district maps have been redrawn to reflect new service response districts.
  - Computerized mapping has been added to our fire trucks.
  - A Safety Officer is now established at every large incident with PARs (personal accountability records being taken every 15 minutes.
  - The Training Division began establishing timed guidelines for service evolutions ensuring consistency in operational proficiency provided to our customers.
  - The Fire Marshal Division has been working hand-in-hand with the Building Department in efforts to streamline the building process for contractors and builders.
3. Fire Station Construction Plan (Four Phase Plan).....(page 10-18)

- Building Phase 2 was completed with the opening of relocated station 6 at 206 N. Patrick and relocated station 2 at 1413 W. Nettleton.
- We are still awaiting the results of our Application for Assistance to Firefighters Building Construction Grant

We are looking forward to 2010 and believe that next year will be just as noteworthy for us as we move ahead with our strategic goals:

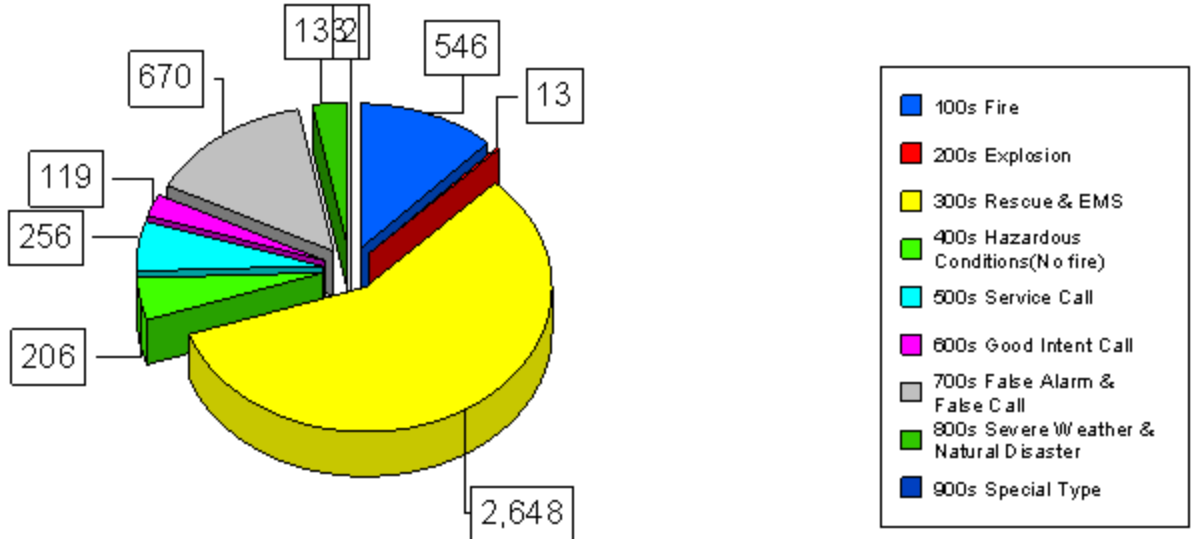
- Establishment of a safety officer at every working incident, multi or single unit response.
- The Start of Phase 3 of our 4 Phase Building Plan with land acquisition for a relocated station 4.
- Development of new fire station paging protocols while integrating a new paging system into day-to-day operations.
- Acquisition of additional mobile data terminals to have every front line unit equipped with the computerized mapping.
- Maintain minimum staffing levels while reducing overtime usage by eliminating on-duty preventable injuries through added safety procedures and precautions.



Leonard Jadrich  
Fire Chief

## SECTION 1: 2008 OPERATIONAL STATISTICS

- We had a total 4569 incident calls for the year 2009.
- The graph below shows 4593 incident calls because of exposure fires



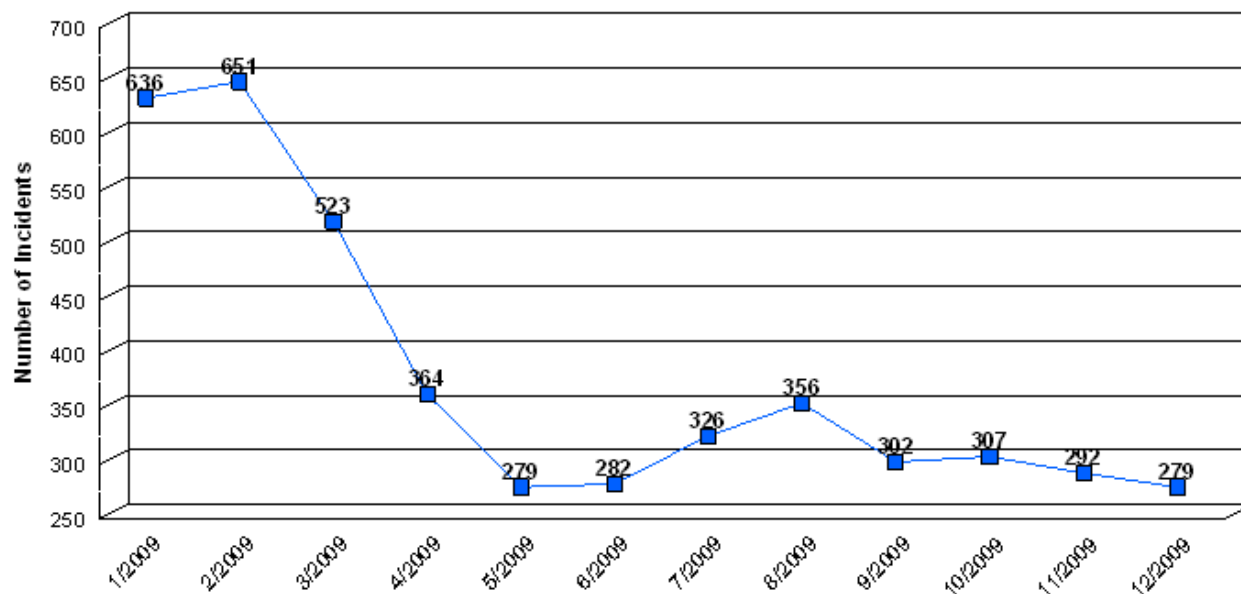
Type of Incident	Total of Incidents	Percentage Value
100 Series-Fire	546	11.89%
200 Series-Explosion	13	0.28%
300 Series-Rescue & First Responder	2648	57.65%
400 Series-Hazardous Conditions (No Fire)	206	4.49%
500 Series-Service Call	256	5.57%
600 Series-Good Intent Call	119	2.59%
700 Series-False Alarm & False Call	670	14.59%
800 Series-Severe Weather & Natural Disaster	133	2.90%
900 Series-Special Type	2	0.04%

**Grand Total 4593**

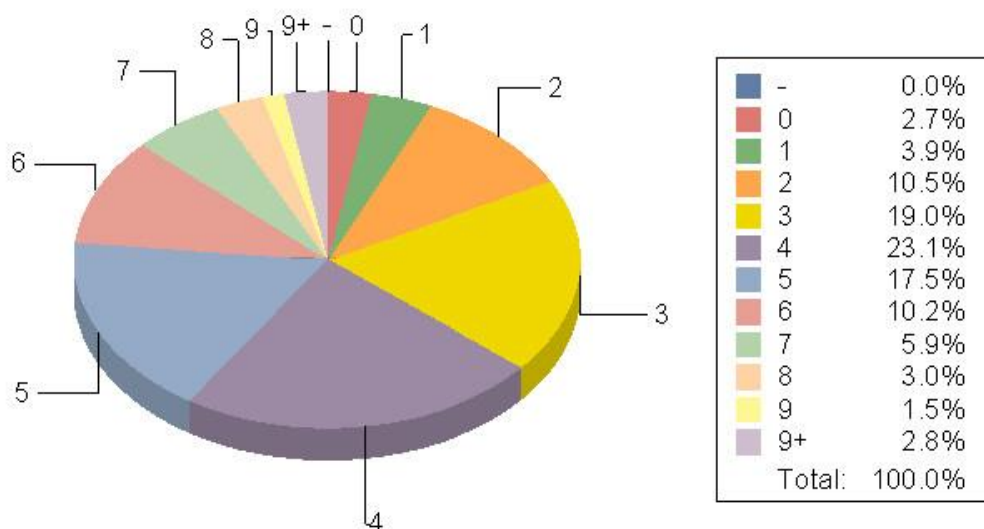
Type of Incident Most Frequent: 300 Series-Rescue & EMS

### Number of Incidents by Month

- ❖ January and February numbers were a reflection of the ice storm
- ❖ First responder protocols were put into place in mid March reducing unnecessary runs



### Response Times in Minutes



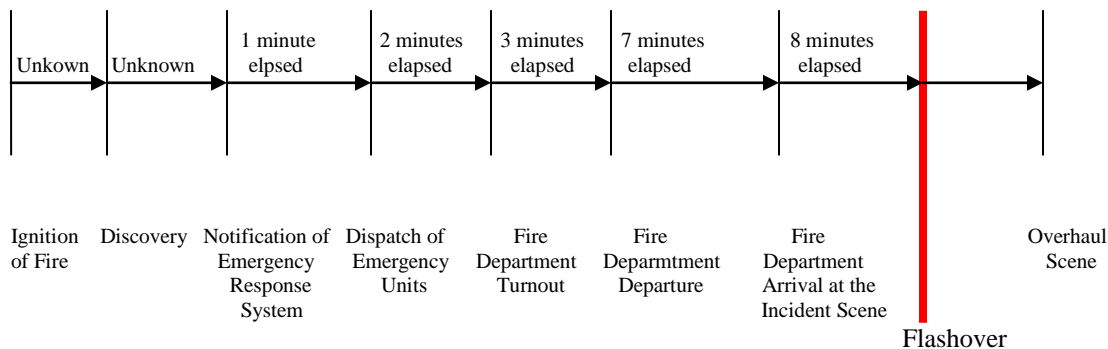
This graph represents response times to incidents during the year 2009. 86.9% of the time we

were on the incident scene in 6 minutes or less from the time dispatched. With the addition of 2 minutes elapsed time for dispatch to process and page out the alarm, this puts the arrival of engine companies on scene at 8 minutes and under 86.9% of the time. The 8-minute goal for arriving companies is critical because the progression of a structure fire to the point of “flashover” (the rapid spreading of a fire due to super heating of room contents and other combustibles) generally occurs in less than 10 minutes.

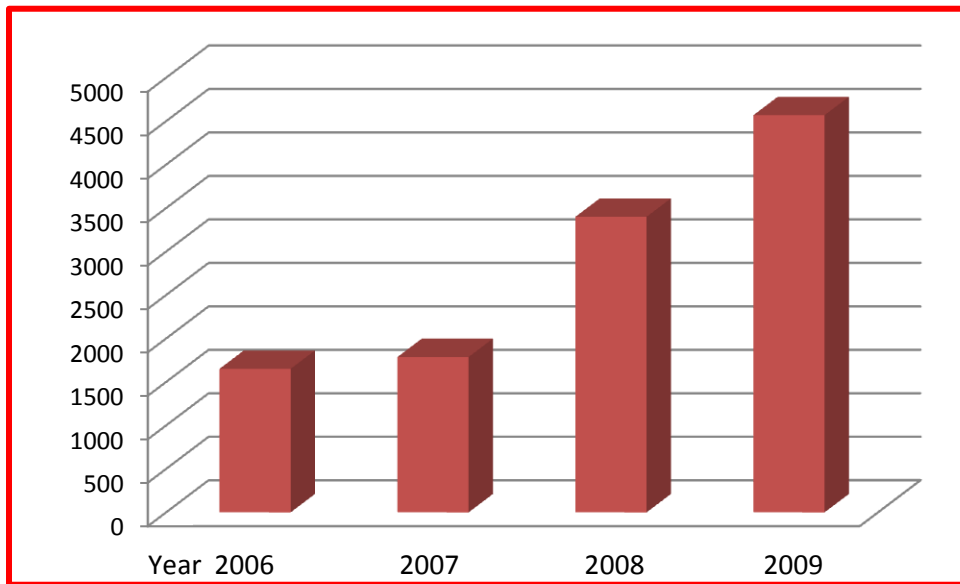
Occupational Safety and Health Administration Regulation, 29 CFR 1910.134 and National Fire Protection Association, Standard 1500: As there is potential delay between fire ignition, discovery, and the transmission of an alarm, it may be said that flashover may be likely to occur within 8 minutes of firefighters receiving the alarm. It is critical that apparatus arrive on the scene 8 to 10 minutes, before the fire’s exponential growth exceeds the capabilities of the on-scene resources to mitigate the emergency.

In addition, structure fires occurring at the farthest reaches of the 8-minute polygons are more likely to burn up to and beyond the point of flashover, which presents significant risk to firefighters operating within the structure. This may force operations to shift from an offensive to a defensive mode. This is especially true in structures which have no automatic suppression or detection systems, as seen in older buildings.

### Timeline of a Fire Department Response to a Structure Fire



**Total Number of Incident Runs per Year Since 2006**



## **SECTION 2: OPERATIONS AND CUSTOMER SERVICE IMPROVEMENTS**

### **Medical First Responder Protocols**

We started running as “First Responders” on 8-15-2008, running as medical assists to 911 calls working in conjunction with both local ambulance companies and not in competition. After running calls for about 4 months it became obvious that we were responding to runs in which we were truly needed and runs completely unnecessary. This is when we developed protocols for dispatch to use with the callers to determine better the extent of injuries of the victim before making the call to send us. This has reduced our runs to unnecessary incidents while still responding us to the necessary calls.

We also made a decision to run the smaller squad units (pick-up trucks) from the stations in which they are housed as the first responder vehicle saving on the wear and tear of our large fire engines. We run the smaller the smaller squad units out of stations 3 and 6 in their service response districts shutting down the ladder companies at these two stations when the squad is needed and moving the two men staffed on the ladder to the squad units.

- Total of 2575 medical emergency calls in 2009
- Average of 7 medical calls per day
- With an additional 60 full vehicle extrications in 2009

### **Fire District Maps**

With the opening of the newly relocated stations service response districts were also redrawn. A service response district is determined to be 1 ½ mile (actual road miles from each fire station) by ISO. Areas not falling within the 1 ½ miles is then split between the two stations for service. The map was updated and then installed in the CAD system at dispatch for dispatching fire apparatus.

### **Computerized Mapping**

This has taken approximately 2 years to completion in November of 2009. The truck mapping was integrated with the CAD mapping currently being used by our Dispatch Center with the help of our outside vender, Relativity. Hardware and software carried in the fire engines is being serviced by one of our own firefighters with the City’s IT department overlooking the process and performing any integration into the City’s network as needed.

After receiving the call for help the dispatcher enters the data into his computer system and the incident address location is sent to the fire engines through the 800 radio frequency and displayed on a mobile data terminal (MDT) for the shot-gun man’s viewing. The shot-gun man can call out directions if needed to the driver, but most importantly he can find the fire

hydrants close to the incident. The mapping is very similar to what you would find on an automobile GPS navigation system.

This next year we will add the mapping to the rest of our first responding equipment and start uploading additional information into the computer's memory, such as inspection data, call back information, digital pictures of problem areas at the location, floor plans, etc.

### **Safety Officer**

Today's firefighter responds to emergencies of every type: medical emergencies, auto extrications, water rescue, high angle tactical rope operations, hazardous materials incidents, confined space rescues, and of course, fires. We have our hands into everything and no matter when we are called, or to what type of emergency we respond, we have to be on the top of our game. There is no room for doing things half right when our lives and the lives of the citizens of Jonesboro hang in the balance. With the complexity of situations it becomes very easy for a firefighter to get rushed or confused and not ready for the specific activity required.

This year we formally established "Safety Officers" at every large incident as a precaution against a firefighter getting confused or complacent and getting hurt. This safety officer is an extra officer named as "Safety Officer" within the "Incident Command System." His sole responsibility at the incident is to overlook every activity to ensure all safety precautions are being adhered to. This officer may immediately stop an activity if deemed unsafe and then make the appropriate safety corrections before allowing the activity to continue. The Safety Officer is basically a second set of eyes for the Incident Commander with the role of protecting the welfare of our firefighter's lives.

### **Training Division**

This year we looked hard at increasing customer satisfaction and expectations through our training department by establishing efficiency timed evolution training. Evolution training is simply repeated training covering a specific company function over and over to develop an acceptable time standard to be met by every engine company. It is similar to the way a football team will train over and over again on one play until everyone gets it right all the time. We would like to assure Grandma Jones living in the south side of town and serviced by engine 5 that she is getting the same expected service as Grandma Smith living in the north side of town and served by engine 6. McDonalds is a great example of always meeting customer expectations by meeting set company standards. You can eat at McDonalds in Anchorage Alaska and get the exact same burger as when you eat at the McDonalds in Miami.

Some of the evolutions trained on include:

- Advancing a 1"  $\frac{3}{4}$  handline up stairs
- Donning of turnouts and airpacks
- Search and rescue techniques

- Engine pumping scenarios
- Entanglement
- Etc

An acceptable time standard was set for each evolution of which each company was expected to achieve and evaluated on.

This type of training will continue through 2010 as we lower timed guidelines increasing engine company proficiency and accuracy of the evolution.

### **Fire Marshal Division**

The Fire Marshal's Division has been working hand-in-hand with the Building Department and Code Enforcement divisions towards serving their customers more efficiently. Seldom has a day gone by when the Fire Marshals do not have a scheduled meeting with local or out-of town architects, builders, contractors, sprinkler companies, etc. Currently we have divided up the workload with the Building Department looking at plans in relation to the building and the Fire Marshal reviewing the plan in relation to "life safety." Plans are reviewed by both departments independently and simultaneously so as to speed the turn-around process for the builders. Our goal is to make this a efficient and friendly place for the construction business to operate.

## **SECTION 3: FIRE STATION CONSTRUCTION Plan (Four Phase Plan)**

### **Introduction**

Our fire station addition and relocation “Four Phase Plan” was started in 2006 of which we have currently completed the second phase of this plan. The plan was broken down into four phases in an attempt to spread the cost over time. Maps have been studied, personnel issues have been questioned, and operational procedures have been scrutinized during the plans formation. We have taken into account GIS (Geographic Information System) studies as well as ISO (Insurance Service Organization) surveys to come up with what we feel an exciting plan to move forward with the Jonesboro Fire Department. Costs; especially manpower costs, have been reduced down to a minimum while providing a much better fire protection service to the citizens of Jonesboro.

### **Plan Summary**

The four phase plan developed in 2006 was a result of the 2006 ISO (Insurance Service Organization) survey report dated June 19, 2006. In the survey it was noted that we needed a total of four new stations to fill in the gaps left by our current fire station locations. The furthestmost south eastern section of town would also be retro-graded to a class 9 because it was further than 5 miles to our nearest station. It also became clear that we will need an additional two stations in the south western region of town within the next couple of years, for a total of six new stations as our department is currently set up. ISO has also determined we need a total of four ladder companies based on our current fire station locations to adequately cover the buildings over three stories throughout the city.

In the ISO report of June 19, 2006 we have been notified that a split classification of a 4/9 was now appropriate for the City of Jonesboro. Enjoying a classification of 3 since December 1, 1993, we had until September 19, 2006 to return a written plan to ISO on any plans we would put into effect to maintain our class 3 rating if so desired by the council. We then had until September 19, 2007 to have these plans completed or well on their way to completion for ISO not to publish the class 4 rating. After the completion of Phase 1 in early 2008 ISO returned and performed a new survey establishing us to be a solid Class 3 once again on 1-23-09.

During the formulation of the four phase plan, a large dollar savings was achieved with the relocating of some of our existing older stations to a more appropriate service response district eliminating the need for some additional new stations. Costs were saved with the elimination of new stations, new engines for the stations, and new personnel to man the stations. The first phase was completed in early 2008 and consisted of relocating station 3 and adding a new station in the industrial park. Moving station 3 removed a need for a fire station in the heart of what is our main shopping area at the new mall and the new station 7 removed the split rating of a class 9 in the industrial park are. With station’s 3 new location ladder companies could now be relocated dropping our need for four ladder companies down to two saving us the cost

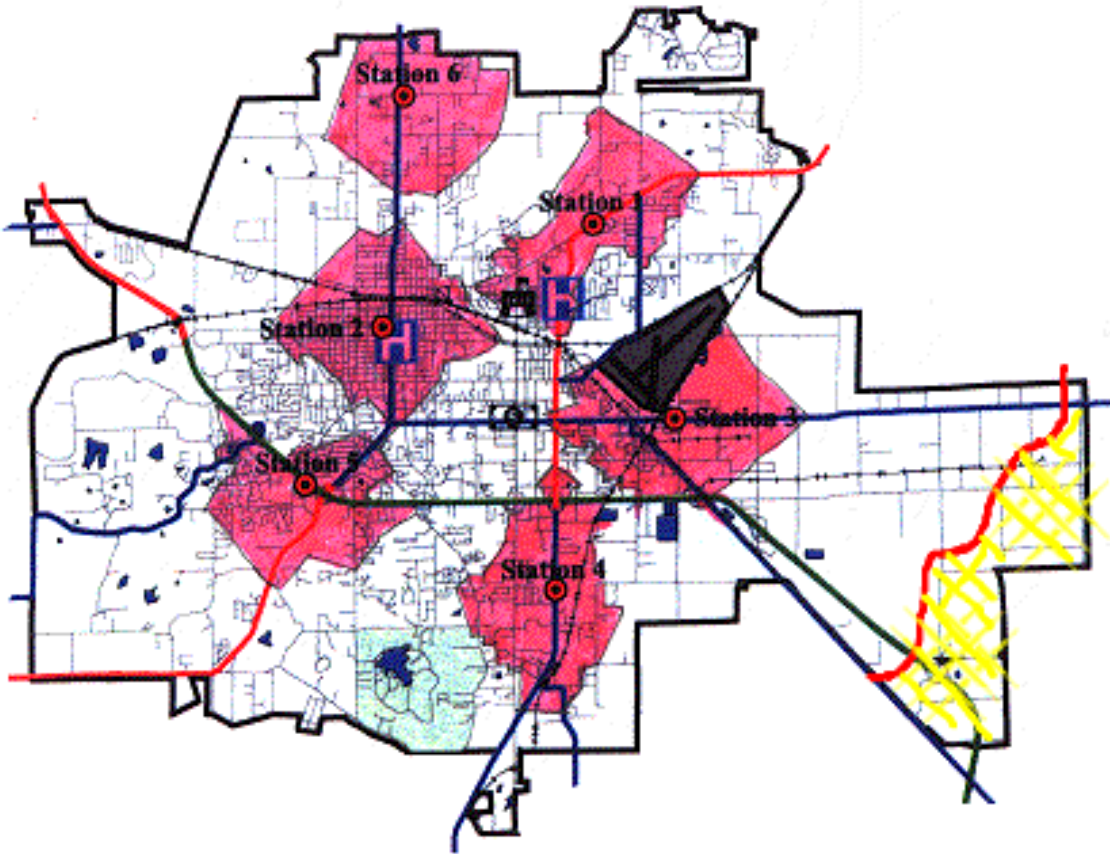
of the ladders and manpower to run the equipment.

The second phase was underway with construction of a relocated station 2 and relocated station 6 in late 2008 and completed in late spring of 2009. Relocating station 2 removes a need for a new fire station around the Annie Camp area while the relocation of station 6 still covers the downtown area, once again saving the cost of new manpower.

The initial Jonesboro Fire Department Four Phase Building Plan reduced the need of 6 stations, 6 new engines, 2 new ladders, and 94 new hires (as determined by ISO from pre-2006 locations) to a more manageable 3 new stations, 3 new engines, and 45 personnel over the course of the plan. At the completion of phase 2 we spent time revisiting our options with the last two phases which consisted of 2 more relocated stations and 2 new stations for a total of 4 more stations to be built and 30 new men. During our review we were able to redraw the last two phases by relocating stations 4 and 5 to very specific locations filling in the service response districts gaps. This redesign allows us to drop the need for two new stations in the last two phases saving the capital costs of the buildings, 2 more engines and 30 new men.

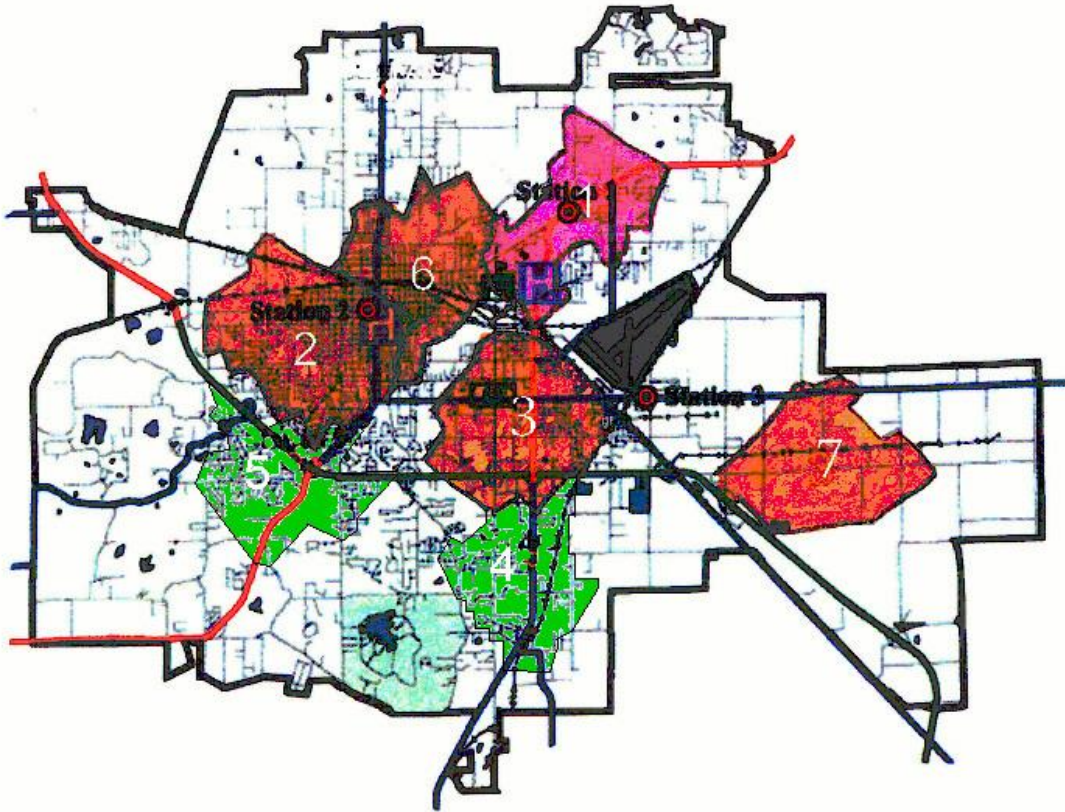
In summary; when all four phases are completed we will relocate 5 existing stations to more efficient locations and add one new station (station 7) costing us one new fire engine and 15 new men along with the capital costs of the buildings. This will bring our city to a near perfect condition in respect to fire coverage as the city stands today while allowing us to better manage our future growth in conjunction with the growth patterns of the city.

## Original Fire Station Coverage Prior to Four Phase Building Plan



The map above shows the city's Fire Station coverage before the Four Phase Plan was initiated in 2006. The red shaded areas represents the 1 ½ actual road miles of coverage by each station as per ISO. Notice that there are large fire protection gaps within the city needing fire protection coverage. The area marked with yellow hash marks is the area in the industrial park classed by ISO as 9 because this area is more than five actual road miles from any station.

## Current Fire Station Coverage after Phase 1 and 2 completed



The map above represents the current fire station coverage throughout the city of Jonesboro at the completion of phase 2. The shaded areas represent the 1 ½ miles of actual road distance from each station covered as the service response district as per ISO. The map above clearly shows with the relocation of station 2, 3, 6 and a new station 7 (stations from Phases 1 &2) how the fire protection gaps have been closed in the area north of the by-pass. Station 4 and 5 in green are our remaining untouched stations.

Station 1	built in 2000
Station 2	built in 2009
Station 3	built in 2008
Station 6	built in 2009
Station 7	built in 2008
Station 4	built in 1975
Station 5	built in 1978

## Completion of Phase One and Two

Both Phase 1 and 2 have been completed, providing the city with near perfect coverage on the North side of the by-pass. All 4 stations were built with the same general footprint and building plans with the exception of station 2 and 3 having additional footage because of training and fitness rooms. Most of the bugs have been worked out of the Phase 1 stations (station 3 and 7) and they are now out of warranty. Phase 2 stations (stations 2 and 6) are still within the first year and we are still working out the construction bugs.

### Phase 1

Completed in late spring of 2008



**Relocated station 3 at 2212 Brazos:** This station is occupied by 5-6 personnel (with room for 8) manning one engine, one ladder and one brush truck with personnel moving from the ladder to the brush truck as needed for response based on received calls. This station houses a fitness room and training room for Battalion 1's response district. This station is 15,368 sq. ft. with three bays.



**New station 7 at 8461 C.W. Post:** This station is occupied by 3 personnel (with room for 8) manning one engine and one tanker truck with personnel moving from the engine to the tanker truck as needed for response based on received calls. This is the smallest of our proposed fire stations with a shorter engine room. This station is 10,047 sq. ft. with three bays.

**Phase Two**  
Completed in early summer 2009

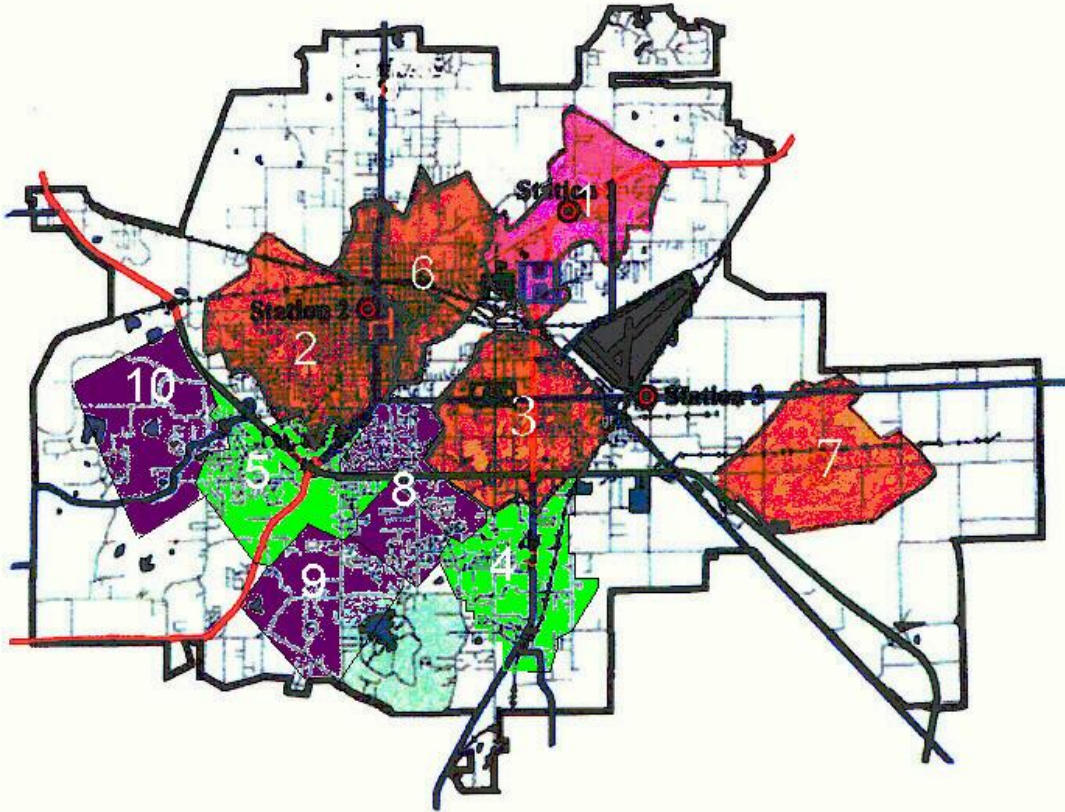


**Relocated station 2 at 1413 W. Nettleton:** This station is occupied by 5-6 personnel (with room for 8) and one Battalion Chief, manning one engine, one ladder and one brush truck with personnel moving from the ladder to the brush truck as needed for response based on received calls. This station is similar to station three with a smaller fitness and training room for Battalion 2's response district. This station is 14,889 sq. ft. with three bays.



**Relocated station 6 at 209 N. patrick:** This station is occupied by 3 personnel (with room for 8) manning one engine. This station is similar to our smallest station 7 with the exception of full size engine room bays for use by a ladder truck in the future. This station is 11,452 sq. ft. with three bays.

## Remaining Future Fire Protection Coverage

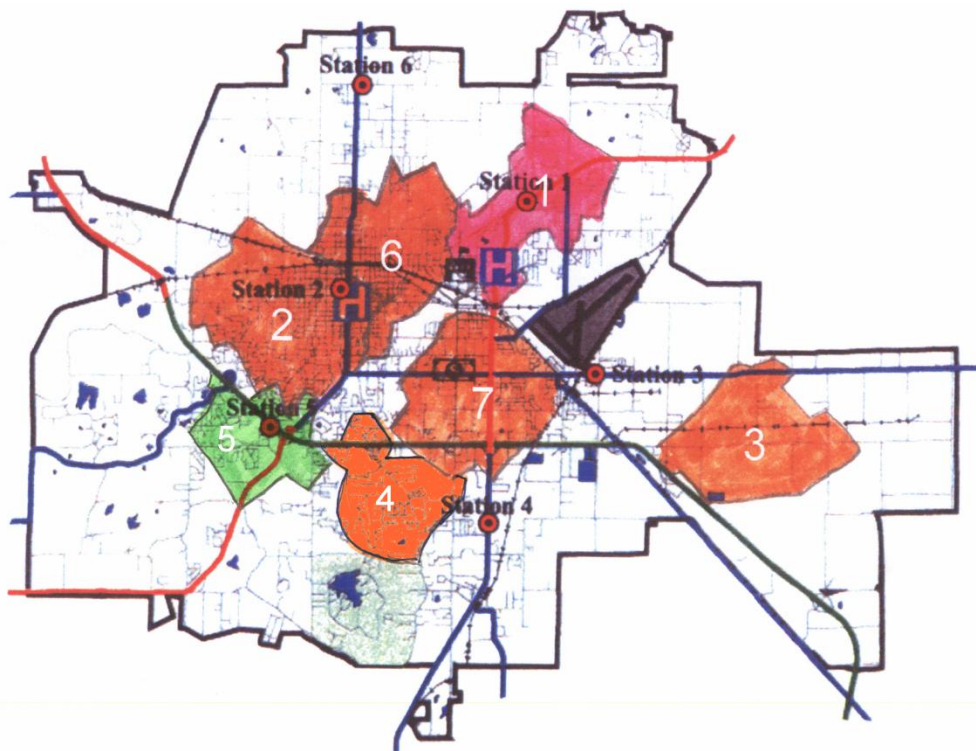


The map above shows the remaining future fire protection coverage areas left to address shaded in purple. The green shaded areas represent the service response districts for stations 4 and 5 as they exist today. There are three more service response areas required by ISO numbered 8, 9, and 10. By relocating stations 4 to the west and station 5 towards Valley View we can fill in these gaps reducing the need of any additional stations saving the costs of 45 men and 3 new engines which would be needed for new stations.

### Revised Phase Three

By selecting very specific building locations we can relocate station 4 and 5 filling in all the deficient service response gaps as noted by ISO. Currently we are in negotiations for land to relocated station 4 and land is available for a relocated station 5 making this possible. Station site selection is based on population and hydrant density with actual roadway mile travel distances from each station of 1 ½ miles. Phase 3 now consists of just relocating station 4 and Phase 4 consists of just relocating station 5. We are still awaiting results of our "Fire Construction Grant" applied for back in July 2009. We have asked for grant money to build 2 stations but will gladly accept money for just one. This grant money if awarded is 100% funded.

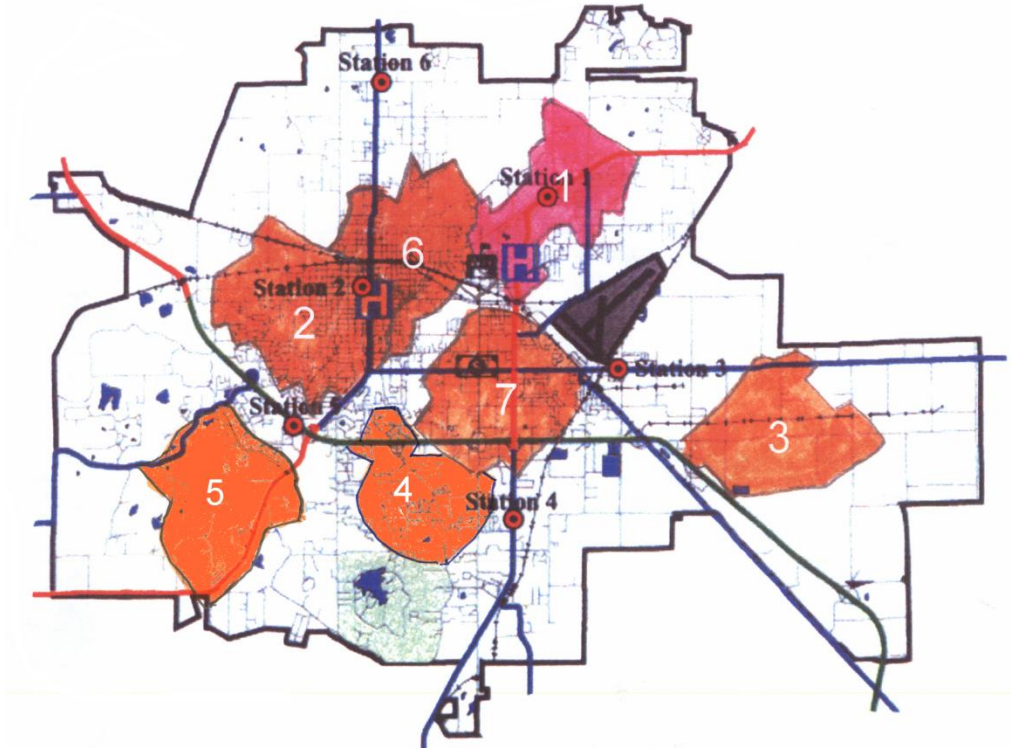
The following map shows service response district coverage after relocated station 4 is operational.



Station 4 will be a relocated station the size of our new station 7 (approximately 10,047 square feet at a cost of \$2,000,000). Station 4 will not need any additional manpower or engines but requires a very specific location which is being sought at this time. The location is just south of Central Baptist Church on Harrisburg RD.

## Phase Four

Phase four is the final building phase considered in this building program and will complete our coverage of the current city population as it looks today. As the city continues to grow we will evaluate the need for any additional stations. The map below shows the location of fire station 5 in phase four and shows the total fire protection coverage for the city when all phases have been completed



Station 5 will be a relocated station the size of our new station 7 (approximately 10,047 square feet at a cost of \$1,868,321). Station 4 will not need any additional manpower or engines. Location is Neely LN and Keller's Chapel