

Emergency Response Standards



Emergency Response Standards

- Emergency Response Standards and Fire Station Locations and Relocation
- Proposed Emergency Response Standards and fire Station Locations and Relocation
- Recommendations for City Council

9/4/07
STUDY SESSION #1

Emergency Response Standards

Fire Department Priorities:

- Public education
- Modern fire code adoption and enforcement
- Disaster Preparedness
- Hazard reduction
- Fire protection systems

TIMELY EMERGENCY RESPONSES ARE THE MOST CRITICAL ONCE A FIRE OR MEDICAL INCIDENT HAS OCCURRED

Emergency Response Standards

- Since 1985 the Fire Department's objective has been to respond to fires within 5 minutes and to emergency medical calls within 4-6 minutes.
 - The 5 minute response for fires is based on arrival time prior to flashover (estimated at 9-10 minutes).
 - The 4-6 minute response to emergency medical calls is based on when clinical and biological death occurs.
 - Based on the American Heart Association, 4 minutes is considered clinical death and 6 minutes is considered biological death.

Emergency Response Standards

- It logically follows that 5 minutes would be a good response objective
- However, with other emergency calls, training activities, inspections, etc., 80% of the time would seem reasonable.
- This data is not scientifically based.

Emergency Response Standards

- Although the response process begins immediately after a 911 call is received, the Fire Department response criteria, under our control, starts when the fire station is “toned out”

Emergency Response Standards

- **Current Huntington Beach Fire Department Response Standards after Station "Tone Out"**
 - **Arrival of first fire paramedic within 5 minutes 80% of the time and in all cases within 10 minutes.**
 - **Arrival of the first fire truck within ten minutes 98% of the time and in all cases within 15 minutes. Generally within 5 minutes.**

Emergency Response Standards

- **Response Standards for the Past two Years Have Been Reviewed and Evaluated**
 - **Analyzed emergency response data from April 1, 2005 to March 31, 2006 to determine correctness of standards**
 - **Reviewed current responses and population**
 - **Reviewed average response times related to:**
 - **Emergency medical responses**
 - **Structure fires**
 - **Current station locations**
 - **Relocating fire station locations**

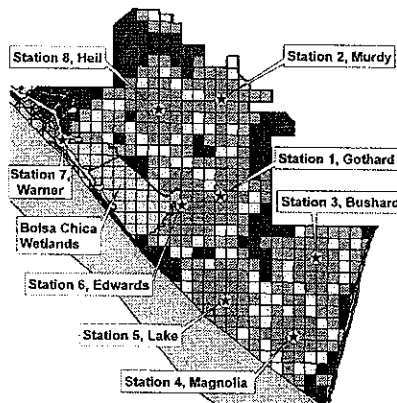
Emergency Response Standards

• Emergency Response System

	1985	1990	1995	2000	2006
Emergency Responses	9,080	10,176	10,280	11,704	12,716
Medical Aids	6,253	7,148	6,282	7,181	10,236
Fires	950	566	479	308	448
Sworn Personnel	141	143	139	141	135
Population	176,156	181,519	188,980	189,594	201,346

HBFD Incident Response Analysis

Current Station Locations
City Response Standard of 5:00

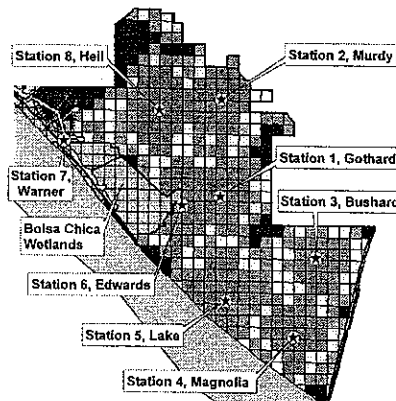


Advanced Life Support

Citywide Emergency Response Statistics:
1st Unit on Scene Average: 5:15
1st Unit on Scene Percentage: 59%

Average Response Time in Minutes

- Within City Response Criteria of 5:00
- Between 5:00 and 5:30
- ▨ Between 5:30 and 6:00
- Greater Than 6:00

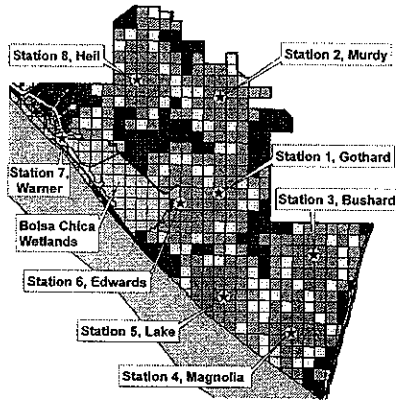


Structure Fires

Citywide Emergency Response Statistics:
1st Unit on Scene Average: 4:48
1st Unit on Scene Percentage: 61%

HBFD Incident Response Analysis

Move Station #8 Heil
City Response Standard of 5:00

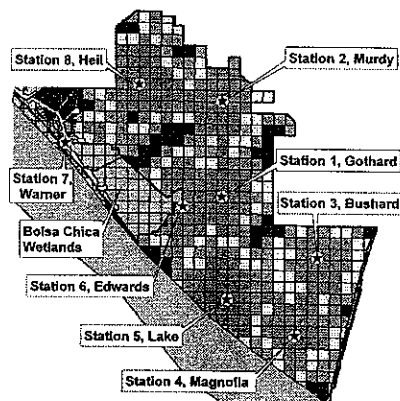


Advanced Life Support

Citywide Emergency Response Statistics:
1st Unit on Scene Average: 5:16
1st Unit on Scene Percentage: 56%

Average Response Time in Minutes

- Within City Response Criteria of 5:00
- Between 5:00 and 5:30
- ▨ Between 5:30 and 6:00
- Greater Than 6:00

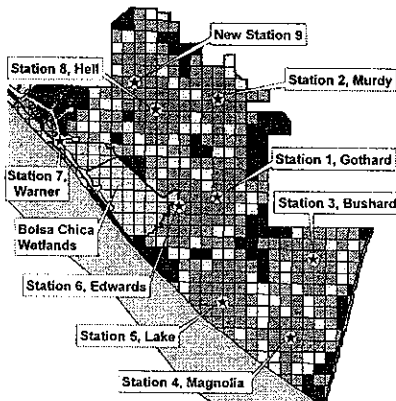


Structure Fires

Citywide Emergency Response Statistics:
1st Unit on Scene Average: 4:51
1st Unit on Scene Percentage: 59%

HBFD Incident Response Analysis

Add Station #9
City Response Standard of 5:00

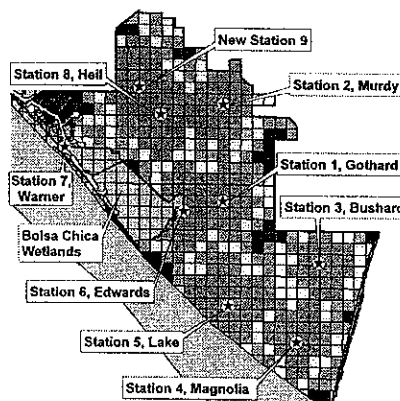


Advanced Life Support

Citywide Emergency Response Statistics:
1st Unit on Scene Average: 5:10
1st Unit on Scene Percentage: 61%

Average Response Time in Minutes

- Within City Response Criteria of 5:00
- Between 5:00 and 5:30
- ▨ Between 5:30 and 6:00
- Greater Than 6:00

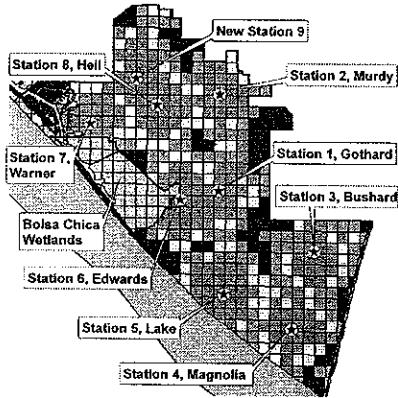


Structure Fires

Citywide Emergency Response Statistics:
1st Unit on Scene Average: 4:44
1st Unit on Scene Percentage: 64%

HBFD Incident Response Analysis

Add Station #9 and Move #7 Warner
City Response Standard of 5:00

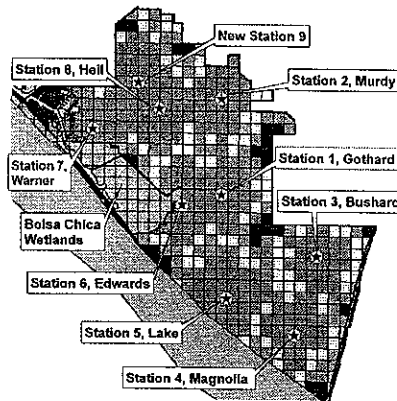


Advanced Life Support

Citywide Emergency Response Statistics:
1st Unit on Scene Average: 5:06
1st Unit on Scene Percentage: 63%

Average Response Time in Minutes

- Within City Response Criteria of 5:00
- Between 5:00 and 5:30
- ▨ Between 5:30 and 6:00
- Greater Than 6:00



Structure Fires

Citywide Emergency Response Statistics:
1st Unit on Scene Average: 4:36
1st Unit on Scene Percentage: 68%

Emergency Response Standards

• Summary Response Table

Scenario	Incident Type	Average Response Time	At Response Standard of 5 minutes, % of Incidents Meeting Criteria
Current Station Locations	Advanced Life Support	5:15	59%
	Structure Fires	4:48	61%
Move Hell Station #8	Advanced Life Support	5:18	58%
	Structure Fires	4:51	59%
Add Station #9	Advanced Life Support	5:10	61%
	Structure Fires	4:44	64%
Add #9 and Move #7	Advanced Life Support	5:06	63%
	Structure Fires	4:36	68%

Emergency Response Standards

- **Response criteria formally established in 1985**
- **Based on flashover within 9 minutes and American Heart Association standards of advanced life support intervention between 4 and 6 minutes**

Emergency Response Standards

- **There is some data available that increasing response time to 7 minutes 80% would result in more non-savable medical emergency patients and fire could “flashover” and greatly intensify firefighting operations requiring more units to respond with larger life and property loss.**

Emergency Response Standards

- From 1988-90 the County of Orange conducted the Orange County Services Cardiac Study. It looked at 1,672 patients treated by paramedics in cardiac arrest and concluded that the highest rate of survival after cardiac arrest were those patients who received CPR in the first minute and paramedic care within 5-6 minutes.

Emergency Response Standards

- Findings:
 - 7% survival rate within an unwitnessed cardiac arrest and paramedics arrive within 7-8 minutes
 - 12.5% survival rate with an unwitnessed cardiac arrest with no CPR and paramedics arrive between 5-6 minutes
 - 17.1% survival rate with a witnessed cardiac arrest and paramedics arrive between 5-6 minutes
 - 25% survival rate with independent paramedic Huntington Beach study

Emergency Response Standards

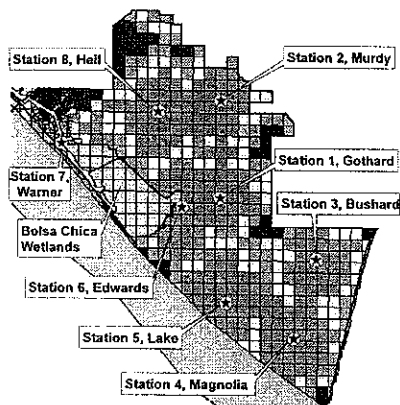
- **Conclusion:**

- It follows that the highest survival rate would be CPR in the first minute and Advance Life Support between 5-6 minutes.

HBFD Incident Response Analysis

Current Station Locations

Increase Standard to 5:30



Advanced Life Support

Citywide Emergency Response Statistics:

1st Unit on Scene Average: 5:15

1st Unit on Scene Percentage: 72%

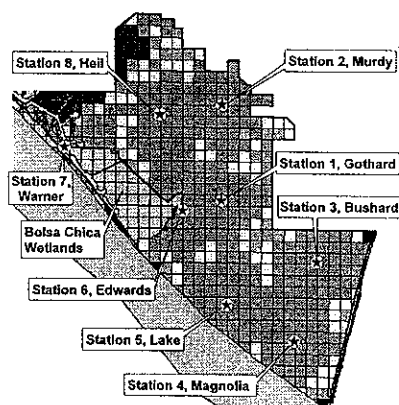
Average Response Time in Minutes

■ Within Proposed Criteria of 5:30

□ Between 5:30 and 6:00

▨ Between 6:00 and 6:30

■ Greater Than 6:30



Structure Fires

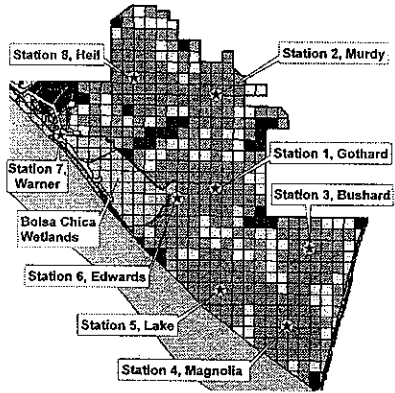
Citywide Emergency Response Statistics:

1st Unit on Scene Average: 4:48

1st Unit on Scene Percentage: 80%

HBFD Incident Response Analysis

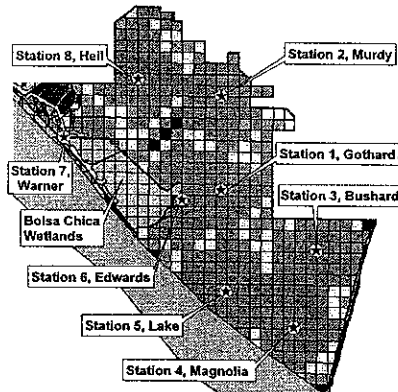
**Move Station #8 Heil
Increase Standard to 5:30**



Advanced Life Support

Citywide Emergency Response Statistics:
1st Unit on Scene Average: 5:16
1st Unit on Scene Percentage: 70%

Average Response Time in Minutes
 ■ Within Proposed Criteria of 5:30
 □ Between 5:30 and 6:00
 ▨ Between 6:00 and 6:30
 ■ Greater Than 6:30

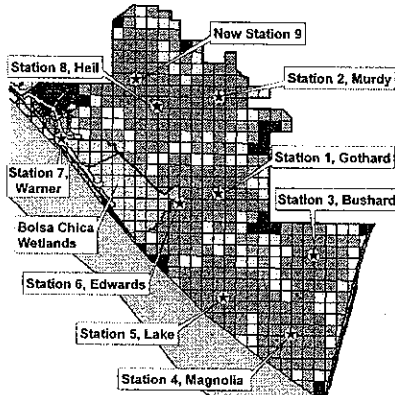


Structure Fires

Citywide Emergency Response Statistics:
1st Unit on Scene Average: 4:51
1st Unit on Scene Percentage: 78%

HBFD Incident Response Analysis

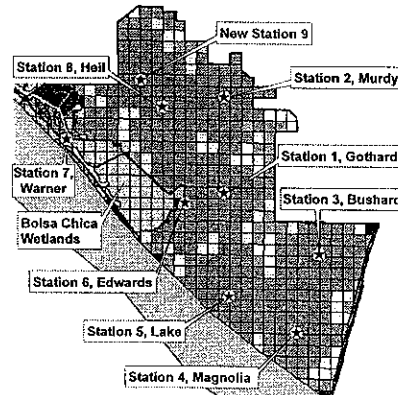
**Add Station #9
Increase Standard to 5:30**



Advanced Life Support

Citywide Emergency Response Statistics:
1st Unit on Scene Average: 5:10
1st Unit on Scene Percentage: 75%

Average Response Time in Minutes
 ■ Within Proposed Criteria of 5:30
 □ Between 5:30 and 6:00
 ▨ Between 6:00 and 6:30
 ■ Greater Than 6:30

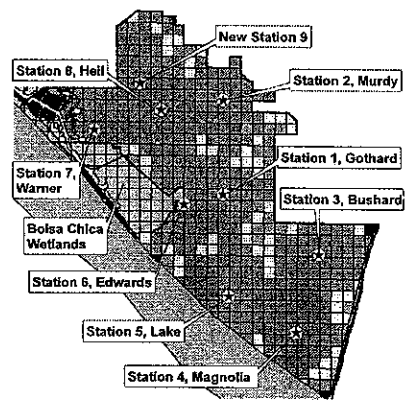
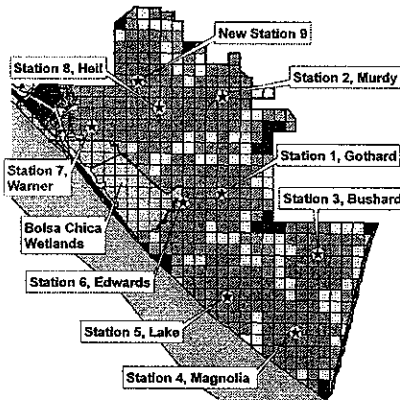


Structure Fires

Citywide Emergency Response Statistics:
1st Unit on Scene Average: 4:44
1st Unit on Scene Percentage: 83%

HBFD Incident Response Analysis

Add Station #9 and Move #7 Warner
Increase Standard to 5:30



Advanced Life Support

Citywide Emergency Response Statistics:
 1st Unit on Scene Average: 5:06
 1st Unit on Scene Percentage: 76%

Average Response Time in Minutes

- Within Proposed Criteria of 5:30
- Between 5:30 and 6:00
- ▨ Between 6:00 and 6:30
- Greater Than 6:30

Structure Fires

Citywide Emergency Response Statistics:
 1st Unit on Scene Average: 4:36
 1st Unit on Scene Percentage: 85%

Emergency Response Standards


• Summary Response Table


Scenario	Structure Fires Advance Life Support (ALS)	Average Response Time	Percent of Incidents Meeting 5 Minute Response Criteria	Percent of Incidents Meeting 5:30 Response Criteria	Station Cost	Cumulative Cost
Current Station Locations	ALS	5:15	59%	72%	\$3 million	\$3 million
	Fires	4:48	81%	80%		
Move Heil Station #8	ALS	5:18	58%	70%	\$4 million	\$4 million
	Fires	4:51	59%	78%		
Add Station #9	ALS	5:10	61%	75%	\$3.5 million	\$7.5 million
	Fires	4:44	64%	83%		
Add #9 and Move #7	ALS	5:08	63%	76%	\$4.5 million	\$12 million
	Fires	4:36	68%	85%		

Emergency Response Standards

- Changes in response standards and fire station locations are consistent with the following strategic plan goals:
- Infrastructure Goals

INFRASTRUCTURE GOALS

 **GOAL 01** Improve the City's plan for funding and completing infrastructure needs and develop strategies for retaining critical infrastructure projects to preserve the physical foundation of the community and ensure the community's value to guests.

 **GOAL 02** Improve the emergency readiness of City equipment, vehicles and buildings.

Emergency Response Standards

- Changes in response standards and fire station locations are consistent with the following strategic plan goals:
- City Services Goals



Provide quality public services with the highest professional standards to meet community expectations and needs, assuring that the City is sufficiently staffed and equipped overall.

Emergency Response Standards

- **Recommendations**

- Short Term**

- **Modify Existing Standards to Better Reflect Response Patterns**
 - **Continue Maintenance on Current Fire Stations with Funding from Grants, Enterprise Funds, General Fund, and other sources**
 - **Rebuild Fire Station 8 – Heil**

- Long Term**

- **Add Fire Station 9**
 - **Further Evaluate Moving Fire Station 7 – Warner**

Emergency Response Standards

