

**7.0 EMERGENCY
MEDICAL SERVICES**



7.0 EMERGENCY MEDICAL SERVICES

7.1 Background

The Pinellas County pre-hospital emergency medical services system, as it has evolved today, began in 1980 with the passage of House Bill 995 (F.S. 80-585) creating a county-wide Emergency Medical Services Authority and with county voter approval for a county-wide referendum for a special taxing district to provide emergency medical services not to exceed a maximum of 1.5 mills.

F.S. 80-585 provided the basic structure for improving the pre-hospital EMS system and eliminating the fragmentation and voids in service area coverage that previously existed. F.S. 80-585, in essence, addressed:

- establishment of uniform standards;
- designation of a county-wide EMS district;
- contract management for provision of first-responder services to all areas of the county;
- planning and evaluation of the EMS systems performance.

The EMS system expanded to provide for first-responder county-wide coverage of citizens and visitors in emergency situations. In 1981-82, the beginning of the Pinellas County EMS system, the EMS Authority awarded approximately 10 million dollars in contract funds and equipment purchases to fire departments throughout the County for first-responder programs. By 1986, the Authority's annual investment in first-responder programs had grown to over 19 million dollars. The County commissioned a study in 1987 in recognition of the high concentration of EMS tax dollars being allocated to the first responder component of



the EMS system with other system components such as public CPR education and improved emergency and non-emergency transportation having failed to progress.

The implementation of the recommendations from the 1987 study preserved the gains already made in first-responder programs and provided for improvements of other system components. The EMS system components enhanced as a result of the study and by the approval of County Ordinance 88-12 included:

- policies for long-term fiscal control and financial stability for the pre-hospital EMS system;
- a single provider for emergency and non-emergency transportation;
- requiring all pre-hospital medical transports to be provided by advanced life support (ALS) services;
- standardization of agreements with all first-responders;
- establishment of a Medical Control Board and a Medical Director to establish standards for state-of-the-art levels of performance and reporting systems to insure continuing quality;
- first-responder closest unit dispatch and automatic aid among districts;
- the EMS Authority as the billings and account manager for ambulance services;
- establishment of subscription membership program for residents to pay for medically necessary ambulance services;
- increased use of 911 for requests for emergency medical assistance calls;
- development of uniform Medical Operations Manual (MOM) protocols;
- provision of supplies and equipment and inventory control through a central system;
- contracting for county-wide in-service continuing education programs capable of meeting all state, local, and National Registry requirements;



- contracting for county-wide centralized EMS transportation dispatch services;
- provision for the education of the citizens regarding the EMS system, injury prevention and CPR training.

The EMS system today has been greatly improved over the past ten years. As defined by the Pinellas County Board of County Commissioners which is also the Pinellas County EMS Authority, the Pinellas County EMS System is that network of organizations and individuals established to provide emergency medical services to citizens of Pinellas County including citizens CPR training and public education, control center operations, first-responder services, all ambulance services and medical quality control and research.

Pinellas County is dedicated to providing the best in 24-hour county-wide emergency protection services. The system responds to approximately 150,000 calls per year or an average of one every three minutes.

7.2 System Components

This section will describe the current EMS system components as they are today, and will identify the strengths, weaknesses and charter issues in each component for consideration of recommended alternatives for improved system performance. The components to be addressed include:

- Administration and Management
- First-Responder Services
- Emergency and non-Emergency Transportation
- Medical Direction
- Education and Training



Exhibit 7-1 shows the current organizational structure of the Pinellas County Pre-Hospital Care EMS System.

7.3 Administration and Management

Emergency Medical Services Administration, together with Fire Administration, operates as a section under Civil Emergency Services. Civil Emergency Services also includes Emergency Management/Communications Administration.

The County's new EMS facility on Ulmerton Road was completed this year. It houses EMS administration, the Fire Coordinator and Inspectors, Office of the Medical Director, Ambulance Inspection Division and the SUNSTAR Ambulance Membership Plan. The facility also houses LifeFleet, the SUNSTAR's ambulance contractor, the ambulance fleet, dispatch center, maintenance garage and a materials warehouse for all expendable supplies.

An EMS Advisory Council composed of 24 members and representing a broad spectrum of the county, EMS providers and mayors, provide advice and guidance to the Administration and the EMS Authority.

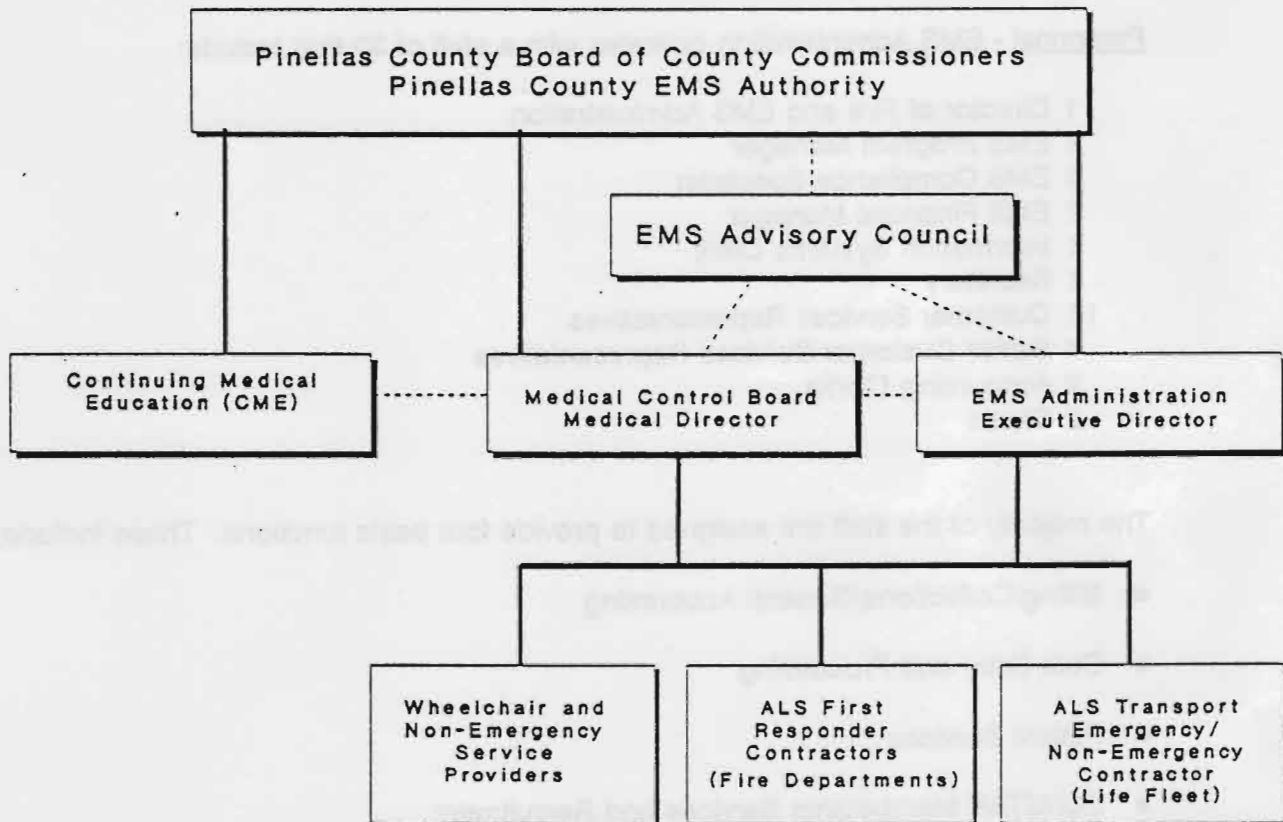
Services - Emergency Medical Services Administration is responsible for the planning, implementation and monitoring of the County EMS system. Major functions include:

- planning for improvements in the EMS system;
- implementation of the rules and ordinances approved by the EMS Authority as well as those State rules and regulations that are applicable and impact on the Pinellas County EMS system;
- development and monitoring of all contracts, including first-responders, medical direction, transportation, continuing education, subscription plan, and others;



EXHIBIT 7-1

PINELLAS COUNTY
PREHOSPITAL CARE EMS SYSTEM
ORGANIZATIONAL STRUCTURE



Legend:
Direct Authority - - - - -
Advisory Responsibility - - - - -



- promotion and maintenance of the EMS subscription program;
- administration of the billing and collection for all emergency and non-emergency transportation services;
- provision of staff support to the EMS Advisory Council;
- conduct of special studies regarding the EMS System.

Personnel - EMS Administration operates with a staff of 30 that include:

- 1 Director of Fire and EMS Administration
- 1 EMS Program Manager
- 1 EMS Compliance Specialist
- 1 EMS Financial Manager
- 1 Information Systems Clerk
- 1 Secretary
- 16 Customer Services Representatives
- 4 Senior Customer Services Representatives
- 2 Accounting Clerks
- 2 Clerks

The majority of the staff are assigned to provide four basic functions. These include:

- Billing/Collections/General Accounting
- Data Entry and Processing
- Patient Services
- SUNSTAR Membership Services and Recruitment

The billing, collections and general accounting sections maintain the general accounting system and bills and collects for ambulance transports to Medicare, other third party payers and private pay. There are approximately 12,000 claims processed per month.

Data entry and processing maintains the data systems for accounting system, EMS run reports and SUNSTAR membership program.



The patient services section provides information to citizens regarding the EMS system handles complaints and provides information regarding claims.

SUNSTAR membership representatives provide assistance to members, as well as plan and conduct the annual membership enrollment drive during the months of January through March each year.

However, with the exception of promotion and maintenance of the EMS subscription program and the billing and collections functions, the majority of the EMS service delivery functions have been privatized and/or provided through contractual relationships with fire departments as first-responders, LifeFleet for transportation, Medical Director for medical control, and St. Petersburg Junior College for education and training. These functional areas of the EMS system will be described in other sections.

Financial - Revenue sources for the EMS are shown in exhibit 7-2. Three major sources constitute over 95% of the funds for the provision of EMS pre-hospital services. The Ad Valorem taxes for the county-wide EMS taxing district constitutes 43% or \$18.8 million. The millage rate of 0.700 mills for 1991-92 fiscal year is the same the prior year and a 21% reduction of the 1989-90 rate of 1.02 mills. Ambulance service fees contribute 30% or \$13.3 million. Collections have increased over the past few years, up from 40% to currently about 70% collections from third party or private pay. It should be pointed out, however, that no person is denied service because of inability to pay. The third largest source of revenue is the beginning fund balanceless 5% statutory payments which is \$9.6 million or 22% of the total revenue. Membership fees to the subscriber program for medically necessary



transportation services are only \$576,640 and represent only 1.3% of the total revenue. Other sources contribute \$1.3 million or 3% of the total revenue.

EXHIBIT 7-2

EMERGENCY MEDICAL SERVICES
1991-92 ANNUAL BUDGET
REVENUE ESTIMATES

AMOUNT	BUDGET	PERCENT OF BUDGET
Ad Valorem Taxes (.700 mill)	\$18,835,000	43.2
Ambulance Services Fees	13,310,000	30.5
Beginning Fund Balance (less 5% statutory)	9,575,980	22.0
Ambulance Annual Membership Fees	576,640	1.3
Other Revenue	1,318,160	3.0
TOTAL	43,615,780	100.00

The Pinellas County EMS program operates with a total 1991-92 budget of \$43,615,780. The per capita costs to the citizens of Pinellas County is \$51.21. However, if only Ad Valorem taxes are considered the cost per citizen is reduced to \$22.11. The factors that cause the reduction are primarily because ambulance transportation fees and the SUNSTAR Ambulance membership plan pay for the transportation component of the EMS system. The 1991-92 County EMS budget is shown in exhibit 7-3. The two largest categories representing 38.3% and 27.5% of the total budget respectively are for the first-responder program and for the transportation components. Administrative personnel costs and the staff for the SUNSTAR membership program and collections and billing are \$952,950 or 2.2% of the total budget.



Medical Direction costs amount to an additional 2.3% of the total budget. Other operational costs (e.g. building and equipment maintenance, supplies, and other service costs) are \$5,084,420 or 11.7% and reserves of \$7,843,050 or 18%.

EXHIBIT 7-3

EMS ADMINISTRATIVE BUDGET
1991-92 ANNUAL BUDGET

ACCOUNT	BUDGET	PERCENT OF BUDGET
Total Personal Services	\$952,950	2.2
Total Operating Expenses	4,189,430	9.6
Medical Director Contract	\$1,000,000	
St. Pete. J. C. Training	400,000	
Equipment Maintenance and Repair	410,710	
Medical and Related Supplies	548,500	
Intergovernment Services-Risk Finance	278,190	
Other Operating	1,552,030	
Total	\$4,189,430	
Total Capital Outlays	125,000	0.3
Total Transfers	1,779,990	4.1
Total Reserves	7,843,050	18.0
Total EMS Ambulance Contract	12,000,000	27.5
Total EMS First-Responder Contracts	16,725,360	38.3
TOTAL EMS ADMINISTRATIVE BUDGET	43,615,780	100.00



Strengths - The strengths of the Administration component include:

- the controls that have been instituted to assure quality, fiscal control and financial stability;
- the success at cost effective privatization of system components;
- the effective use of third party reimbursement to reduce local government's subsidization of the EMS system;
- the establishment of membership subscription plan to relieve out of pocket costs to citizens for medically necessary transportation;
- the development of uniform standards, protocols, and supplies, equipment, and records systems to permit effective interaction of system components and for improved system monitoring;
- the capital investment to develop and maintain a state of the art pre-hospital EMS system;

CHARTER ISSUES

There were no charter or inter-local agreements issues identified in this components which need to be considered by the Charter Committee.

There were also no major operational weaknesses identified in the EMS Administrative Component. The operational deficiencies identified were provided to the administration for consideration.

7.4 First-Responder Services

The Pinellas County EMS system design combines the unique capabilities of fire-fighter first-responders with paramedic transport. In every medical emergency both a paramedic fire unit and one of the County's SUNSTAR paramedic ambulance units are simultaneously dispatched to a call. This tiered dispatch places an emergency unit on the scene in an



average of four minutes. The Pinellas County EMS system has become recognized as a model system and is visited by representatives of many other U. S. cities and other countries.

Services - There are 23 Fire districts that have a total of 59 fire stations. In addition, the St. Petersburg/Clearwater Airport has a station for Airport Services only. EMS first-responder services are provided by 17 of the districts with a total of 54 ALS first-responders units. Exhibit 7-4 shows the EMS districts and service area, number of stations and estimated populations per district which includes seasonal residents and tourists and population served per station. The population per station varies significantly. The range is from a high of 30,000 to a low of 5,195 with an average of one station to 17,934 population. Exhibit 7-5 shows the appropriate location of the ALS first-responder stations and shows in several incidents the close proximity to stations of each other.

The EMS districts do not always follow corporate boundaries or have the same corporate structures. The different types of districts or agencies providing EMS first-responder as well as fire protection services were presented in Section 6.0, Fire Protection Services.

1988 Agreement - Even though there are multiple organizational structures for provision of pre-hospital EMS first-responder service, the County established in 1988 a uniform contract with all entities providing first-responder services. This agreement required closest unit response. The agreement has, therefore, to a large degree negated the need for previous territorial boundaries except for political and budgetary purposes.



EXHIBIT 7-4

EMS DISTRICTS AND SERVICE AREAS, MEMBER OF ALS STATIONS,
POPULATION PER SERVICE AREA AND POPULATION PER ALS STATION

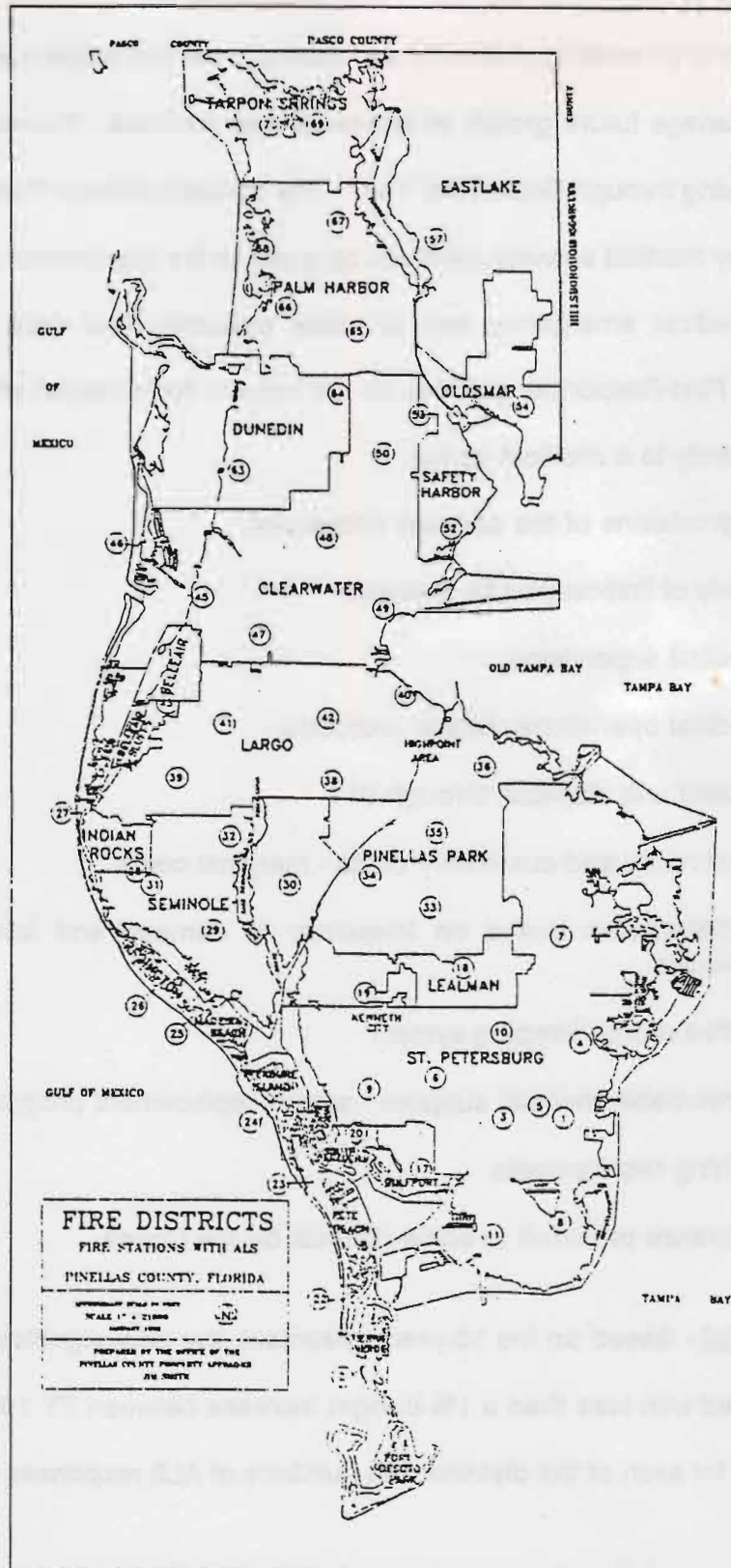
EMS District & Service Area	Number of ALS Stations	Population*	Population/ALS Station
**Belleair Bluffs	1	5,253	5,253
Clearwater	6	127,299	21,216
***Dunedin	2	39,670	19,835
East Lake	1	12,725	12,725
Gulfport	1	8,398	8,398
Indian Rocks Beach Belleair Beach Belleair Shores Indian Shores North Redington Beach Redington Shores	2	19,489	9,744
Largo Belleair 80% Highpoint Area Staff to Belleair Bluffs	5	102,115	20,423
Lealman Kenneth City	2	43,545	21,772
Maderia Beach	1	7,089	7,089
Oldsmar	1	11,086	11,086
Palm Harbor	4	55,345	13,836
Pinellas Park 20% of Highpoint	4	48,652	12,163
****Redington Beach	1	7,175	7,175
Safety Harbor	2	14,667	7,333
St. Petersburg Terra Verde	11	330,010	30,000
St. Petersburg Beach	2	11,039	5,195
Seminole	4	80,570	20,142
South Pasadena	1	9,043	9,043
Tarpon Springs	2	25,753	12,876
Treasure Island	1	9,528	9,528
Totals	54	968,451	17,934 (Average)

Source: Pinellas Fire/EMS Administration

- Note: *
- Population from Pinellas Planning Department (1-28-91)
 - Estimate includes residents, seasonal residents and tourists
 - ** Largo provides ALS staffing
 - *** Services contracted with Life Fleet not Fire Department
 - **** Indian Rocks Beach Provides ALS Staffing



EXHIBIT 7-5





The First-Responder Agreement is a complex document that addresses many issues with the intent of promoting uniformity and quality in the first-responder system and to control costs and manage future growth of first-responder services. The contract period is for 10 years continuing through September 1997. The contract defines "First- Responder Services" as emergency medical services provided by a city or fire department which responds rapidly to a 911 medical emergency and provides treatment and care on the scene of the emergency. First-Responder services do not include the transport of a patient from a scene of an emergency to a medical facility.

Major provisions of the contract addresses:

- levels of first-responder services
- medical supervision
- medical operations manual protocols
- closest unit dispatch through 911
- reasonable and customary costs - marginal costs
- compensation based on frequency of demand and level of service provided
- unified record keeping system
- consumable medical supplies - supply replacement program by County
- training requirements
- insurance provided to some districts by the County

Financial - Based on the 10-year agreement, the prior significant cost increases have been stabilized with less than a 1% budget increase between FY 1990-91 and FY 1991-92. The budgets for each of the districts with numbers of ALS responses is shown in exhibit 7-6.



EXHIBIT 7-6

LISTINGS OF ALS FIRST-RESPONDERS, 1990-91 BUDGETS
 NUMBER OF VEHICLE RESPONSES FOR 1990, AVERAGE COST/ALS VEHICLE
 RESPONSE, NUMBER OF RESPONSES REQUIRING SUBSEQUENT TRANSPORT AND
 AVERAGE COST PER RESPONSE REQUIRING SUBSEQUENT TRANSPORT*

ALS First-Responder and Number of ALS Stations	1990-91 Budget	Average Cost Per Station	Number of Vehicle Responses	Average Cost/Vehicle Response	Average of Responses Requiring Subsequent Transport	Average Cost/Response Requiring Subsequent Transport
Clearwater 6	\$2,262,260	\$377,043	14,117	\$160.25	9,594	\$235.80
Dunedin 2	583,392	291,696	2,352	248.04	1,993	292.72
East Lake 1	336,200	336,200	670	501.79	395	851.14
Gulfport 1	286,680	286,680	1,893	151.44	1,155	248.21
Indian Rocks Beach 3	711,140	237,047	2,282	311.63	1,500	474.09
Largo 6	1,656,770	276,128	9,359	177.02	6,241	265.47
Lealman 2	666,510	333,255	4,185	159.26	2,981	223.59
Maderia Beach 1	288,870	288,870	1,086	265.99	785	367.99
Oldsmar 1	86,340	86,340	542	159.30	503	171.65
Palm Harbor ** 3	604,430	201,477	3,049	198.24	2,481	243.62
Pinellas Park 4	919,720	229,930	5,640	163.07	3,553	258.86
Safety Harbor 2	599,640	299,820	1,518	395.02	1,104	543.15
St. Petersburg *** 10	4,457,400	445,740	50,772	87.79	31,818	140.09
St. Petersburg Beach 2	650,850	325,425	1,473	441.85	1,194	545.10
Seminole 4	1,185,520	296,380	5,073	233.69	3,805	311.57
South Pasadena 1	342,840	342,840	1,335	256.81	950	360.88
Tarpon Springs 2	601,750	300,875	2,717	221.48	1,471	409.08
Treasure Island 1	307,490	307,490	876	351.02	522	589.06
Totals 52	\$16,547,802	\$318,227	108,939	151.90	72,045	229.69

Source: ALS Provider Budgets and Fire/EMS Administration

* Response data includes multiple vehicle responses to the same call and double counting if responses were out of home district.

** Palm Harbor had three operational ALS stations in 1990.

*** St. Petersburg had ten operational ALS stations in 1990.

****Not all responses result in need for patient transport to a hospital for medical care.



Also presented in the cost per vehicle response and the cost per vehicle response that required a subsequent transport.

The 1990-91 budgets were used in order to compare data with the number of vehicle responses. Vehicle response data only was available for 1990. However, as previously mentioned there has been less than a 1% change in budgets between FY 1990-91 and FY 1991-92. In addition, the vehicle response data may be inflated because in some cases more than one ALS first responder unit was used in one ALS first responder call.

The budgets vary greatly by district from a low of \$86,340 to a high of \$4,457,400. The average cost per station is \$318,227 with a deviation of a low of \$86,340 to a high of \$445,740.

When considering the number of vehicle responses, great differences are also shown. St. Petersburg, with the largest budget, has the lowest cost for vehicle response at \$87.79. East Lake with a lower total station cost and a low volume of ALS first responses has an average cost per vehicle response of over \$500.00.

When reviewing the data, no correlations can be made among population served, budgets, cost per station or cost per ALS vehicle responses.

Vehicle Responses - As previously noted, all EMS first-responder calls usually are generated through the 911 dispatch center. Each fire department through their run calls determines the availability of resources and the type and number of vehicles to be used to respond to medical emergencies. Currently first-responders go to every medical emergency as there is no priority dispatch system in place through 911. In addition, an ALS transport



ambulance is dispatched simultaneously on each emergency medical call. The only exception is for nursing home emergencies in which only ALS transport vehicles respond.

Exhibit 7-7 presents the 1990 data for emergency medical vehicle responses. It is important to remember that multiple vehicle response on a single ALS call inflate the vehicle response data.

The number of vehicle responses by district and by station vary significantly. In St. Petersburg the average number of responses per station is 13.9, the highest in the County. East Lake, Indian Rocks Beach, Oldsmar, Safety Harbor, St. Petersburg Beach and Tarpon Springs have stations which average less than two vehicle responses per day. The average vehicle responses per station in Pinellas County is 5.7 with 37 of the 52 (in operation in 1990) below the average.

When considering the ALS responses which result in transportation of the sick or injured, the county average 3.8 per day per station or 66% of all calls result in transport, which may indicate the need to establish priority dispatching to improve efficiencies and prevent the need for both ALS first responders and ALS transport from simultaneously responding to all non-urgent calls.

Another measure of service activity is the number of hours of active service per ALS unit. Exhibit 7-8 shows the hours of active service per district and per ALS unit. Also shown is the percent of time an ALS unit was active based on 8,760 hours per year (24 hours x 365 days/year). Active hours are measured from the time an ALS vehicle leaves the station until it returns. The County average was 6.7% of active service hours per year. Of the stations in operation in 1990, 28 were below the average of 6.7% active service hours.



EXHIBIT 7-7

ALS DISTRICTS AND STATIONS, TOTAL VEHICLE RESPONSES,
 AVERAGE VEHICLE RESPONSES PER DAY, TOTAL VEHICLE RESPONSES
 WITH TRANSPORTS AND AVERAGE VEHICLE RESPONSES PER DAY WITH
 TRANSPORTS FOR 1990

ALS Districts and Stations	1990 Total Vehicle Responses 1990	1990 - 365 Average Total Vehicle Responses/Day	1990 Total Vehicle Responses With Transports/Day	1990 - 365 Average Vehicle Responses With Transport/Day
Clearwater - Total	14,117	38.7	9,594	26.3
#45	3,551	9.7	2,332	6.4
#46	1,319	3.6	907	2.5
#47	2,439	6.7	1,756	4.8
#48	2,385	6.5	1,704	4.7
#49	2,712	7.4	1,747	4.8
#50	1,711	4.7	1,148	3.1
Dunedin Total	2,352	6.4	1,993	5.5
#63	1,372	3.8	1,114	3.1
#64	980	2.7	849	2.3
East Lake				
#57	670	1.8	395	1.1
Gulfport				
#17	1,893	5.2	1,155	3.2
Indian Rocks Beach - Total	2,282	6.3	1,500	4.1
#26 (Red. Bch)	756	2.1	438	1.2
#27	1,036	2.8	768	2.1
#28	490	1.3	294	0.8
Largo - Total	9,359	25.6	6,241	17.1
#38	1,393	3.8	938	2.6
#39	1,620	4.4	1,059	2.9
#40 (H.P.)	1,198	3.3	802	2.2
#41	1,995	5.5	1,376	3.8
#42	1,994	5.5	1,261	3.5
#43 - B. Bluffs	1,159	3.2	805	2.2
Lealman - Total	4,185	11.5	2,981	8.2
#18	2,003	5.5	1,414	3.9
#19	2,182	6.0	1,567	4.3
Maderia Beach				
#25	1,086	3.0	785	2.2
Oldsmar				
#54	542	1.5	503	1.4
Palm Harbor - Total	3,049	8.4	2,481	6.8
#65	1,286	3.5	1,090	3.0
#66	1,014	2.8	768	2.1
#67	749	2.1	623	1.7
#68 (N.S.)*	N.S.	N.S.	N.S.	N.S.



EXHIBIT 7-7 (Continued)

ALS DISTRICTS AND STATIONS, TOTAL VEHICLE RESPONSES, AVERAGE VEHICLE RESPONSES PER DAY, TOTAL VEHICLE RESPONSES WITH TRANSPORTS AND AVERAGE VEHICLE RESPONSES PER DAY WITH TRANSPORTS FOR 1990 (Continued)

ALS Districts and Stations	1990 Total Vehicle Responses 1990	1990 365 Average Total Vehicle Responses/Day	1990 Total Vehicle Responses With Transports/Day	1990 365 Average Vehicle Responses With Transport/Day
Pinellas Park - Total	5,640	15.5	3,553	9.7
#33	2,128	5.8	1,332	3.6
#34	1,688	4.6	1,074	2.9
#35	1,065	2.9	772	2.1
#36	759	2.1	375	1.0
Safety Harbor - Total	1,518	4.2	1,104	3.0
#52	939	2.6	653	1.8
#53	579	1.6	451	1.2
St. Petersburg - Total	50,772	139.1	31,818	87.2
#1	8,357	22.9	5,036	13.8
#2 (N.S.)*	N.S.	N.S.	N.S.	N.S.
#3	7,532	20.6	4,419	12.1
#4	6,904	18.9	4,380	12.0
#5	3,598	9.9	2,071	5.7
#6	4,213	11.5	2,800	7.7
#7	5,869	16.1	3,663	10.0
#8	3,167	8.7	2,117	5.8
#9	3,679	10.1	2,626	7.2
#10	4,396	12.0	2,602	7.1
#11	2,999	8.2	2,082	5.7
St. Petersburg Beach - Total	1,473	4.0	1,194	3.3
#22	567	1.6	418	1.1
#23	906	2.5	776	2.1
Seminole - Total	5,073	13.9	3,805	10.4
#29	2,186	6.0	1,699	4.7
#30	1,239	3.4	858	2.4
#31	511	1.4	350	1.0
#32	1,137	3.1	898	2.5
South Pasadena	1,335	3.7	950	2.6
#20				
Tarpon Springs - Total	2,717	7.4	1,471	4.0
#69	2,120	5.8	1,112	3.0
#70	597	1.6	359	1.0
Treasure Island				
#24	876	2.4	522	1.4
Totals 52	108,939	298.5	72,022	197.4
Average/Station	2,095	5.7	1,385	3.8

Source: EMS Administration
 * N.S. = No Service in 1990



EXHIBIT 7-8

1990 NUMBER OF ACTIVE SERVICE HOURS OF ALS UNITS
BY DISTRICT AND STATION AND PERCENT OF TIME ACTIVE BASED ON
8,760 HOURS PER UNIT PER YEAR

District and Station	1990 Active Hours	Percent of Time Active
Clearwater - Total	5,154.6	9.8
#45	1,229.1	14.0
#46	597.2	6.8
#47	972.3	11.1
#48	915.1	10.5
#49	839.3	9.6
#50	601.6	6.9
Dunedin Total	1,352.5	7.8
#63	817.5	9.3
#64	545.0	6.2
East Lake		
#57	322.6	3.7
Gulfport		
#17	678.1	7.7
Indian Rocks Beach - Total	1,244.2	4.7
#26 (Red. Bch)	427.5	4.9
#27	477.3	5.4
#28	339.4	3.9
Largo - Total	3,474.7	6.6
#38	619.2	7.1
#39	603.6	6.9
#40 (H.P.)	481.6	5.5
#41	681.3	7.8
#42	643.0	7.3
#43 - B. Bluffs	446.0	5.1
Lealman - Total	2,003.6	11.4
#18	939.4	10.7
#19	1,064.2	12.1
Madeira Beach		
#25	381.5	4.4
Oldsmar		
#54	282.1	3.2
Palm Harbor - Total	1,345.4	5.1
#65	333.7	3.8
#66	552.1	6.3
#67	459.6	5.2
#68 (N.S.)*	N.S.	N.S.



EXHIBIT 7-8 (Continued)

1990 NUMBER OF ACTIVE SERVICE HOURS OF ALS UNITS
BY DISTRICT AND STATION AND PERCENT OF TIME ACTIVE BASED ON
8,760 HOURS PER UNIT PER YEAR (Continued)

District and Station	1990 Active Hours	Percent of Time Active
Pinellas Park - Total	2,756.6	7.9
#33	935.6	10.7
#34	744.6	8.5
#35	645.3	7.4
#36	431.1	4.9
Safety Harbor - Total	900.5	5.1
#52	414.4	4.7
#53	486.1	5.5
St. Petersburg - Total	6,237.6	7.1
#1	1,123.2	12.8
#2 (N.S.)*	N.S.	N.S.
#3	775.3	8.8
#4	892.3	10.2
#5	435.1	5.0
#6	496.4	5.7
#7	684.4	7.8
#8	531.5	6.1
#9	406.0	4.7
#10	482.2	5.5
#11	411.2	4.7
St. Petersburg Beach - Total	500.5	2.9
#22	211.4	2.4
#23	289.1	3.3
Seminole - Total	2,330.2	6.7
#29	846.5	9.7
#30	580.2	6.6
#31	332.5	3.8
#32	571.0	6.5
South Pasadena		
#20	183.5	2.1
Tarpon Springs - Total	1,022.9	5.8
#69	678.3	7.7
#70	344.6	3.9
Treasure Island		
#24	258.3	2.9
County Total and Average	30,439.4	6.7

Source: EMS Administration
* N.S. = No Service in 1990



Personnel - Currently there are an estimated 700 firefighter/paramedics and firefighter EMT certified to staff the first-responder units. (Each unit generally includes a firefighter/paramedic and a firefighter/EMT or paramedics.) In addition, there are an estimated 58 supervisory personnel funded for the first responder program. Exact numbers cannot be determined because of the differing methods used to allocate a firefighter's time who is also an EMT or paramedic. Many fire departments currently do not keep separate EMS and Fire budgets since the 1988 contract is used as the base and no increase in funding will be made nor is expected until the total number of EMS runs increase significantly. Additional information on the total number of fire department personnel is described in the fire section.

Strengths - The following were identified as strengths in the ALS First-Responder component on the Pinellas County EMS system.

- Pinellas County is one of the few counties in the state and the country to have a total Advanced Life Support (ALS) EMS system.
- The enhanced 911 emergency communications center assures prompt response to a medical emergency with a simultaneous dispatch of a fire department first-responder ALS unit and a ALS ambulance.
- Citizens of the County are assured of first-responder assistance in a medical emergency within an average of 4 to 5 minute response time due to closest unit dispatch.
- All ALS and rescue units are equipped and maintained with a full compliment of the latest advanced life support equipment.
- The quality of EMS staff is exceptionally high. The certification of all paramedic and emergency medical technicians exceeds the standards established by the State of Florida because of the standards established by the Medical Control Board. In-service education is required and maintained.



- All fire departments operate under Standard Operating Procedures (SOP) that they jointly developed. All ALS first-responder and ALS ambulance personnel operate under the same medical protocols as established in the Medical Operations Manual (MOM). This standardized approach assures consistency and high quality services.
- The 1988 First-Responder Agreement greatly assisted to eliminate inconsistencies that had previously existed in the EMS system with regard to funding, medical direction, transportation, data and reporting systems, and financial accountability and viability of the EMS system.

CHARTER ISSUES

The ALS first responder component of the Pinellas County EMS system is the area which needs consideration by the Pinellas County Charter Committee. The issue is:

- Reduction of the number of ALS first responder stations to improve efficiencies without reducing effectiveness of the EMS system.

There were four administrative weaknesses regarding run cards, priority dispatching, budgeting and recruitment which were discussed with County administrative staff and which were not charter issues.

The following factors were considered in reviewing the need to reduce the number of ALS first responder stations.

- Population per station
- Proximity and location of stations and response time
- ALS first responder vehicle response
- ALS first responder vehicle response which required transports
- ALS first responder budgets and cost per response
- The unique geographic barriers that exist in Pinellas County
- The ability of existing stations to absorb greater volume calls
- Improvement in the efficiency and effectiveness of the existing system
- Statutory requirements of F.S. 80-585
- Requirements and intent of County Ordinance 88-12
- The County's first responder agreement of 1988 and requirement for closest unit dispatch



It is recommended that the following changes be made in first responder services to improve efficiency and effectiveness:

- Station #20 in South Pasadena cease providing first responder services with service area to be covered by Stations #9 in St. Petersburg and #23 in St. Petersburg Beach.
- Station #26 in Redington Beach and staffed by Indian Rocks Beach cease providing first responder services with service area to be covered by station #25 in Madeira Beach.
- Station #28 in Indian Rocks Beach cease providing first responder services with service area to be covered by Station #31 in Seminole.
- Station #43 in Belleair Bluffs cease providing first responder services with service area to be covered by Station #41 in Largo.
- Station #53 in Safety Harbor cease providing first responder services with service area to be covered by station #50 in Clearwater and Station #54 in Oldsmar.

The reconfiguration of the EMS first responder component would have a limited impact based on the 1990 vehicle response data. Exhibit 7-9 shows that the 52 ALS first responder stations average 5.74 responses per day per station. The reduction of the five stations only increases the average responses to 6.35 per day per station.

The approximate cost savings are shown in exhibit 7-10. The savings of \$1,469,317 is estimated and adjusted based on two factors. First, department budgets do not allocate administrative expenses by station. Therefore, 10% adjustment or \$84,560 has been allowed for administrative expenses that would be incurred to the departments even without reductions in the numbers of stations in operation.



EXHIBIT 7-9

1990 ALS VEHICLE RESPONSES AND ESTIMATED
IMPACT OF REDUCTION OF SEVEN ALS FIRST RESPONDER STATIONS

STATIONS	1990 AVERAGE RESPONSES	ESTIMATED RESPONSES BASED ON SYSTEM CHANGES
#20 South Pasadena	3.7	-0-
#9 St. Petersburg	10.1	12.3
#23 St. Petersburg Beach	2.5	4.0
#26 Redington Beach	2.1	-0-
#25 Madeira Beach	3.0	5.1
#28 Indian Rocks Beach	1.3	-0-
#31 Seminole	1.4	2.7
#43 Belleair Beach/Largo	3.2	-0-
#41 Largo	5.5	8.7
#53 Safety Harbor	1.6	-0-
#50 Clearwater	4.7	5.7
#54 Oldsmar	1.5	2.1
All Other Stations (40)	257.9	257.9
Total	298.5	298.5
Average/Station	5.74	6.35



EXHIBIT 7-10

ESTIMATED COST SAVING BY REDUCTION
OF FIVE ALS FIRST RESPONDER STATIONS BASED ON
1991-92 BUDGETS

STATIONS	BUDGET
#20 South Pasadena	336,290
#26 Redington Beach/Indian Rocks Beach	282,440
#28 Indian Rocks Beach	282,440
#43 Belleair Bluffs/Largo	272,127
#53 Safety Harbor	291,020
Total Unadjusted Saving	\$1,469,317
Administration Adjustment @ 10%	(84,560)
Adjustments for Change In Run Volume	(338,000)
Net Savings	\$1,046,757

Secondly, because of the increased volume of responses, additional staffing would be expected for stations absorbing the additional volume. This adjustment is projected to cost \$338,000.

The net savings as a result of reduction of the five stations is \$1,046,757.

Constraints - The legislation, F.S. 80-585, creating the county-wide EMS Authority has a key provision which the Charter Committee must consider. Section 4 states "No existing municipal emergency medical services department within Pinellas County maybe abolished without the expressed consent of the governing body of that department". Therefore, the changes as proposed will possibly require the authorization of the governing bodies of:



- Belleair Bluffs
- Safety Harbor
- South Pasadena
- Redington Beach

These are the municipal governments that are affected.

CHARTER ISSUES - ALTERNATIVES

A second alternative is to propose, through a referendum, the repeal of Section 4 of F.S. 80-585 and grant the EMS Authority, as the county-wide governing body the power to allocate resources in a cost effective manner and continue maintain high quality EMS first responder services.

A third alternative as discussed in the fire services section in a referendum to create a county-wide fire district.

7.5 Emergency and Non Emergency Transportation

The EMS Authority in December, 1987 awarded a five-year contract to provide ALS ambulance and non-emergency ambulance service for Pinellas County residents and visitors. The contract is based of the estimated base service volume (the number of emergency and non-emergency transports within the County) which is adjusted based on retrospective review of data each year.

LifeFleet Services, the contractors, operates out of the new County-owned and maintained central facility on Ulmerton Road. The facility houses LifeFleet's administrative offices, the ambulance fleet, the ambulance dispatch center, maintenance garage and a materials warehouse.



Services provided under the contract basically include the following:

- Pinellas operations
- Communications
- Public education and information

Pinellas Operations - The Pinellas operations include the ambulance field crews, fleet maintenance, materials management as well as working with the Sheriff's Departments' SWAT team and coordination for disaster management.

The contractors' ambulances operate as SUNSTAR in order to maintain consistency of the County's overall EMS program regardless of the ambulance contractor. The LifeFleet contractor operates and maintains 53 vehicles. The fleet consists of 47 ALS equipped ambulances and six other vehicles to support the operations. LifeFleet is now purchasing an entire new fleet at a cost of approximately \$2.6 million.

A status management system is used to determine the number of vehicles need during any period of the day as well as the positioning (posting) of ambulances to meet anticipated emergency situations. There are generally 35 ALS ambulances roving the county during peak hours and down to about 15 to 16 during nights. The status management system analyzes historical EMS run data to determine the positioning of the ambulances throughout the county to improve emergency response time. A provision of the contract requires LifeFleet to have an ALS ambulance to the scene of an emergency with in 10 minutes of receiving a call. If the 10 minute response time falls below 90 percent of the calls, LifeFleet is fined. LifeFleet has been very successful in maintaining the 10 minute response time as a result of the status management system and their computer-aide dispatch system.



In addition, LifeFleet provides citizens with all non-emergency transports for doctor office visits, inter-hospital transfers, etc. These services are pre-scheduled transports but the units can be utilized for emergency response and transport, if it is the closest unit to an emergency incident site. Another unit is then substituted to provide the scheduled non-emergency transport.

During the 1989-90 contract year (July 1, 1989 - June 30, 1990) and 1990-91 contract year (July 1, 1990 - June 30, 1991) the following ambulance call volume was reported as shown in exhibit 7-11. Of the total calls made during the year 1990-91, 79,861 or approximately 57% resulted in transport of the patient.

EXHIBIT 7-11

1989-90 AND 1990-91 SUNSTAR AMBULANCE
TOTAL CALL VOLUME

TYPE CALLS	1989	1990
Emergency Calls	90,023	89,843
Non-Emergency Calls	42,985	49,945
Out of Area Calls	1,272	1,272
Special Event Standbys	373	304
TOTAL*	134,280	141,060

* Total excludes standbys

Based on LifeFleet's system status plan, staffing for the ambulances includes eight hour shifts, eleven hour shifts and twenty four hour shifts. Personnel for field operations include:

- 120 Paramedics
- 90 Emergency Medical Technicians



- 8 Operations Supervisors
- 1 Administrative Supervisor
- 1 Scheduling Coordinator

In addition LifeFleet operates the first responder system in Dunedin. Two stations are staffed and maintained at locations that are not apart of the Fire Department operations. The staff include 10 paramedics, 9 EMTs and an EMS Coordinator.

LifeFleet is responsible for maintenance and repair of all SUNSTAR ambulances and support vehicles. Almost all vehicle maintenance and repair is performed in-house with a Fleet Manager and five Fleet Maintenance Technicians. A comprehensive preventive maintenance program has been established to maintain the safety and dependability of all vehicles.

The LifeFleet contract also requires materials management with the supplying of all fire department first responders and SUNSTAR units with medical equipment and supplies. Equipment is maintained and exchanged to meet the demands of the field personnel. All Materials Management staff are under the control of the Director of operations and the Lead Supervisor. Ten Materials Management Assistants work twelve hour shifts and a part time employees fill in during peakload periods to assure prompt delivery times for county rescue units.

Materials Management has one of the largest warehouses in the EMS industry. The warehouse is staffed seven days a week, 24 hours a day so that emergency orders can be filled. Purchasing was established as an ancillary Department, with one person, because of the volume and the need to control costs. The areas under Materials Management include:

- Purchasing



- Medical Supply Program
- Equipment Exchange Program
- Equipment Repair and Replacement
- Ambulance Restocking
- Records Management

The Materials Management Department keeps daily distribution records of the exact inventory that is checked out from the warehouse. The total cost of each order is recorded on a monthly report for the County EMS Administration. Daily requisition sheets for supplies are maintained and submitted to the County. The county under the terms of the contract reimburses for all equipment and supplies. The records system also permits allocation of supplies by patient for securing reimbursement from third party payors.

Communications - LifeFleet (Medic One) operates the most sophisticated communications control center in the EMS industry. The center is a part of the Fire/EMS complex on Ulmerton Road and was constructed and is maintained by the County under the total EMS budget. The operations of the center is in the contract and budget of LifeFleet.

The communications system utilizes the McDonnell Douglas EAI System Status Management based Computer Aided Dispatch System (CAD) which presently is the most technologically advanced software available in the industry. LifeFleet is the licensed holder for the software. The CAD interfaces with the ETAK System which permits control center staff, System Status Controllers, to track the locations of all the units and to accurately select the closest available unit for emergency responses and utilize resources with greater efficiency.



The monitoring of system responses, daily and monthly productivity and late runs has enabled LifeFleet to improve efficiency and continuously exceed the 90% response time requirement for all categories of calls. With three years of system run data now available the contractor is able to more accurately match unit hours to the fluctuating demand of the system.

The Control Center is staffed with 17 full-time and 14 part-time Paramedic System Status Controllers (PSSCs) who are either registered or certified through the National Academy of Emergency Medical Dispatchers. The controllers work 12 hour shifts and also work twice monthly as ambulance paramedics to maintain clinical skills. The PSSCs rotate positions within the center in order to maintain proficiency in all phases of Control Center Operations. Two positions were added in 1990-91, the Lead Controller and the High Performance Coordinator. The Lead Controller consists of five selected outstanding System Status Controllers and have them responsible for development of training programs and development of the System Status Plan. The High Performance Coordinator is accountable for the daily operations of the non-emergency dispatching, coding, scheduling and call-taking.

On-line Medical Control began January 1, 1990 as a result of the cooperative efforts of the Control Center Staff and the Medical Director's Office. The position was funded by the Medical Director's Office. The intent was to provide additional medical support to field paramedics requesting assistance. In May 1990 the Emergency Medical Dispatch pre-arrival program began. The Program was established to provide citizens with life-saving instruction prior to the arrival of the Fire Department first responder. The 911 Centers (now Center) began transferring all 911 callers to the SUNSTAR Communications Control Center.



Education and Information - LifeFleet, under the original contract, was responsible for Continuing Medical Education (CME) for the Pinellas County's EMS providers. The contract was amended in January 1991 transferring this responsibility to the St. Petersburg Junior College. There was a consensus of the committee that studied the matter that the CME program conducted by LifeFleet conflicted with the basic mission. Therefore, a more natural source for continuing medical education was selected. LifeFleet did, however, maintain their responsibility for public education and community service.

The following program components were conducted during the last contract period, July 1, 1990, until January 1, 1991, prior to St. Petersburg Junior College assuming responsibility for coordination of the CME program.

- BTLS Testing
- Mass Casualty Incident Exercises
- Disaster Skills Sessions
- Pediatric Skills Sessions
- National Registry Examinations
- ACLS Recertification course
- EMT-Paramedic Refresher Course
- CME Make-ups
- Produced a videotape - "Emergency Driving"

Two LifeFleet staff act as Coordinators for the CME and public education programs. Other faculty from the EMS system, and approved by the Medical Director, are used on a part-time basis.



In the area of public education and community service, LifeFleet has made over 20,763 individual contacts with Pinellas County citizens during the past contract year, up from 14,000 the prior year. Most contacts were at schools or special events, at which crews and/or an ambulance was sent to represent SUNSTAR Emergency Medical Services.

A 15-minute videotape - SUNSTAR was developed which provides an excellent overview of the Pinellas County EMS system. The tape has been used extensively in public education programs. Another successful project has been a public education ambulance robot - "Sunny Star". The robot in the past year was used in over 136 presentations and reached over 11,000 children. In addition, the robot has been used in malls, special events, and other public demonstrations. In conjunction with Bayfront Medical Center, proper methods of handling and treating patients with head and spinal cord trauma. Seventy presentations to 12 schools were made with over 2,100 contacts.

Under the contract, LifeFleet is also required to provide as many lay persons as possible with the ability to save a life or to render life-saving skills until an EMS provider arrives. Staff provide, on a monthly basis, Basic First Aid together with Cardio-Pulmonary Resuscitation (CPR). Additional CPR classes are also scheduled at a nominal cost to other interested groups. In 1990-91, 27 courses were held with an average attendance of eight participants. The total for the year was only 206 participants.

Financial - LifeFleet's contract for the above services for the 1990-91 fiscal year was approximately \$10.7 million. Because of the proprietary nature of the of the line item costs and the fact that the County competitively awards the transport contract, detail information was not available. As previously stated, payment to the contractor is based on the annually



adjusted and estimated emergency and non-emergency transport volume. A total of 79,861 patients were transported during the year with an average transport cost of \$134 per transport.

A study was done in October 1991 of comparison rates with other cities. Exhibit 7-12 presents the findings which indicate that SUNSTAR (LifeFleet) rates are below other cities surveyed and the averages for the group.

EXHIBIT 7-12

RATE COMPARISON OF EMS SERVICES

October 1991

Services	COMPANIES AND AREAS						
	EMSA/ Tulsa	Mast/Kansas City	Central/ Atlanta	LifeFleet/ Tampa	Hillsborough County	Average	SUN- STAR/ Pinellas
ALS Transport	\$483.00	\$409.00	\$315.00	\$252.00	\$290.00	\$349.80	\$207.00
Oxygen	18.27	30.00	37.00	36.75	20.00	28.40	27.80
Mileage	4.87	4.50	6.50	6.04	4.00	5.18	6.20
Waiting Time	18.27	17.50	25.00	15.75	N/A	19.13	13.65

Strengths - Strengths of the EMS emergency and non-emergency transport system

include the following:

- The establishment of a single EMS transport provider under contract with the County has improved the quality and timeliness of emergency and non-emergency transport services.
- The privatization of the transport services with strong quality assurance controls has been cost effective for Pinellas County residents.



- LifeFleet utilizes the most up to date technology and management systems in operation of the successful dispatch and EMS transport system.
- LifeFleet has continually attained and/or exceeded its contractual goals. In the 1990-91 fiscal year non-emergency response times were 98% reliable and emergency response times were 92% reliable, both which exceeded the 90% contractual requirement.
- The System Status Plan contributes greatly to the efficiency of the operation and reduction of the need for added EMS transport vehicles and staff.
- The communications control center with the associated computer hardware and software is the most technologically advanced the emergency service response industry.
- The addition of On-line Medical Control and the Emergency Medical Dispatch pre-arrival programs have improved support to field paramedics as well as assistance to citizens in handling emergencies prior to arrival of first responders.
- The management team and staff of LifeFleet have extensive experience, maintain or exceed state and local certification requirements, have established continuing education and career development programs and has implemented a quality program for Pinellas county which has been recognized throughout the country.
- LifeFleet has established inter-agency relationships in the community as demonstrated by the involvement with the Sheriff's Department SWAT team, disaster preparedness program, Medical Director's Office, 911 Communications Center, Fire Department First Responders, EMS Administration, other associated emergency service agencies and the community service program.

CHARTER ISSUES

No issues were defined which would impact on Charter Committee considerations or on inter-local agreements.

There were two administrative weaknesses noted with regard to staff turnover and public education. These weaknesses were shared with the county administrative staff for consideration.



7.6 Medical Direction

The EMS Authority is authorized to employ and compensate a medical director to provide medical supervision for the daily operations and training pursuant to the EMS Ordinance 88-12 and F.S. 80-585. In March, 1991 Dr. Joseph L. Ryan was appointed as Medical Director and a contract for services initiated with his firm for implementation and expansion of this component of the EMS system.

The Medical Director's Office is in the Ulmerton Road EMS complex which is owned and maintained by the county. The facilities are provided as a part of the contract.

The basic responsibilities of the Medical Director as defined by ordinance 88-12 and the current contract include the following:

- Certification and recertification of EMS personnel
- Development of clinical protocols
- Inspection of equipment and supplies
- Establishment of a quality assurance committee
- Audits of clinical performance
- Provision of on-line medical control
- Establishment of EMS physician fellowship program

Certification - The Office of the Medical Director is responsible for recommending to the Authority the certification and recertification of system paramedics, emergency medical technicians (EMTs), paramedic emergency medical dispatchers (EMDs), on-line medical control staff and wheelchair transport personnel operating within the County system.



Paramedics entering the Pinellas County EMS system must meet standards that have been established that exceed state requirements. The standards include credentials in two nationally recognized advanced training programs - the American Heart Association's Advanced Cardiac Life Support (ACLS) course and the American College of Emergency Physicians' Basic Trauma Life Support (BTLS) program. The paramedic must also be proficient in the standards of care as established in the Pinellas County Medical Operations Manual (MOM) and other administrative and clinical policies and procedures as promulgated by the Office of the Medical Director.

Currently 517 paramedics who entered the system prior to January 1991 have been County certified. An additional 60 have been certified since January 1991 with 40 others in process. Recertification is required every two years and the County's continuing medical education requirements are double the state mandated requirements.

In 1991, there were approximately 500 EMTs in the County. Certification for these individuals is being implemented and expected to take six months for the OMD to process all current and new candidates. EMTs must obtain their state certification and meet the County's higher requirements for continuing education. EMTs are also recertified every two years.

The highest level of training and expertise is required for Pinellas County's Emergency Medical Dispatchers. The candidates, selected from field paramedics, must have two years of patient contact, excellent clinical skills, successfully complete the training program developed by the National Academy of EMD, work in the SUNSTAR Communications Center and provide pre-arrival instructions for 911 calls. Dispatchers must also maintain their County certification as a paramedic and work at least 12 hours per month in the field. The



Communications Center currently employs 17 full-time and 14 part-time certified dispatchers. Recertification is required every two years with 24 Continuing Dispatch Education credits.

On-line medical control (OLMC) staff are a select group of EMS-oriented physicians and paramedic clinical supervisors that provide centralized medical support and control for paramedics performing advanced patient care in the field. To be certified, physicians must be ACLS and BTLIS trained, work orientation shifts under the direct supervision of present OLMC staff, and successfully pass a specially constructed examination on the Medical Operations Manual. Medical Officers of the Day (MODs) are paramedic clinical supervisors working as staff in the medical director's office and must meet the same criteria as the on-line physicians. In addition, MODs receive extensive training by the OMD physician staff in clinical decision-making. There are currently six physicians certified as OLMCs and five paramedic supervisors certified.

Rules and regulations for certification of wheelchair transport personnel have not been developed or adopted. System personnel and related organizations are cooperating in the development of standards which are expected to include CPR training and successful completion of a first aid course. The number of personnel expected to require certification is not now known.

Clinical Protocols - The Office of the Medical Director is responsible for the review and revision of the clinical and administrative protocols and procedures. The majority of the directives are contained in the Medical Operations Manual (MOM). The contract requires an annual comprehensive review of all protocols of the system. However, most revisions are made on a continuous basis as a result of monitoring the system, new medical research, and



changes in policy and requirements from state and national accrediting and policy organizations.

Major revisions of the MOM was completed in early 1991 following an extensive review during the later part of 1990 by system participants. A detailed process has been established to permit opportunities for input from field clinicians, consensus building, provision or implementation training through the CME program and sign-off by provider agencies for uniform compliance.

Equipment and Supplies - The Medical Director's contract requires the development and update of an inspection checklist and documentation form that shall be used by the Authority for inspecting on-board medical equipment and supplies of all first responder and ambulances contracted and regulated by the Authority. The OMD has worked closely with an EMS Coordinators' group (Pinellas Advanced Life Support) in the development and refinement of the inspection forms used during inspection of all on-board medical equipment and supplies used by first responder vehicles and ambulance units. Compliance to the program is managed by the County EMS administrative office.

Any changes in the requirements for equipment or supplies undergoes a thorough review. A system has been established, with the formation of an Equipment Committee, for the review, revision and implementation of changes in system equipment standards.

Currently, the EMS system is evaluating the following products:

- water gel burn sheets
- pediatric immobilization device
- endotracheal intubation device



- protective IV needle catheters
- blood glucose meter
- products to secure endotracheal tubes

Medical Audits of Clinical Performance/Quality Assurance Program - The Medical

Director is required by F.S. 401.26 and the County contract to monitor the clinical performance of system personnel and the establishment of a Quality Assurance Committee.

The objective is to guarantee the provision of the highest quality of medical care to Pinellas County patients.

The quality assurance program established by the Medical Director for Pinellas County includes prompt review of run reports, direct observation of EMTs and paramedics and the evaluation of clinical performance, as well as compliance with standards for drugs, equipment, system protocols and procedures. In addition to routine system auditing, special audits are conducted in response to feedback from patients, families, the general public and members of the system.

The Medical Director with the quality assurance committee has established a structured approach to observe, analyze, record and disseminate findings regarding compliant and non-compliant care by means of audits. The audit process formalizes the procedures for identification of problems in a confidential, fair and structured manner and for implementation of corrective action for individual and/or system performance.

The quality assurance committee is composed of OMD staff members together with senior representatives of the effected department. The committee meets as necessary to



review data and information compiled by the OMD and assists in preparation of recommendations for correction of deficits noted.

During the first six months of 1991 there were over 8,000 contacts with medical control which resulted in 238 inquiries (less than 3%) regarding care or system performance. Inquiries included positive as well as negative comments and questions about performance or practices exercised in a given situation. The number of positive comments were 42 (18%) and negative 196 (82%). All inquiries were generated from four sources, the medical director's office, hospital personnel, field personnel, and citizens. The collected questions and inquiries were grouped into the categories. The categories together with the number of inquiries is listed in exhibit 7-13. The Medical Director's Office and Quality Assurance Committee (if needed) reviewed the incidents and took corrective action when appropriate to ensure compliance with established procedures to improve the quality of patient care.

On-Line Medical Control - On-line medical control (OLMC) was started in January 1990 by the Medical Director's Office. The purpose is to provide field paramedics and EMTs clinical back-up and consultations when necessary in field situations. The OLMC helps the crew sort through the possibilities in differential diagnoses and helps to clarify any points in the treatment process. The OLMC program is also a major tool for directly impacting the quality of care given to patients, for quality assurance and for identification of training needs.

OLMC is available 24 hours a day, seven days a week. The program is coordinated through the EMS communications center and staffed by six emergency physicians and five paramedic medical control officers. EMS physician fellows and emergency medical residents are used on occasion. The Medical Director extends clinical privileges to these individuals



EXHIBIT 7-13

QUALITY ASSURANCE CATEGORIES
AND NUMBER OF INQUIRIES

CATEGORY	NUMBER OF INQUIRES
Transportation	42
Medical Control	8
Verbal Report	3
Documentation (run reports)	46
Communications	5
Commendations	42
Patient Care	61
■ airway management	9
■ medications	12
■ procedures	40
Other	31
TOTAL	238

after meeting explicit credentialing requirements, interviews, participation in OLMC staff conferences and successful completion of a comprehensive orientation and probation program.

While the consultants were conducting the field interviews, numerous favorable comments were received regarding the centralization and establishment of on-line medical control and the quality of support provided to field personnel. The Medical Director's Office also identified beneficial results on the EMS system as a result of on-line medical control which included:

- continued reassessment and change in medical protocols;
- quality assessment of system personnel on a real-time basis;



- the management of hospital bypass problems or requests for variance in policy when appropriate;
- real-time assessment of system training on current standards of care;
- making sure that patients' needs are best served by transport to an appropriate emergency facility;
- reliable alert of the hospital team of the patient's impending arrival and suggestions for appropriate preparation.

EMS Physician Fellowship and Residency Program - The medical director's contract requires the organization of a fellowship program to entice more physicians into emergency medicine and into Pinellas County. The OMD has prepared the curriculum based on requirement established by the Society for Academic Emergency Medicine and the National Association of EMS Physicians. Although several candidates made inquiries, none have elected to enter the program.

A one-month curriculum was established for third and fourth year emergency medicine residents. As an elective rotation, University Hospital of Jacksonville is an active participant and Orlando Regional Medical Center and the State University of New York at Albany are in negotiations. In addition to securing additional physician participation, the rotation has the potential of attracting residency graduates to return for a one-year fellowship.

The previous areas describe the major roles and activities of the Medical Direction component of the Pinellas EMS system. Additionally, the Medical Director's Office conducts EMS research and actively interacts with physicians, hospitals, paramedics, EMTs, education and training programs, citizens and other organizations and groups interested and involved in emergency care.



Personnel - The Medical Director's Office is staffed with seven full-time personnel that include, the Medical Director, four Paramedic Control Officers and two Secretarial/support personnel. Part-time staff include five physicians as on-line medical control officers, and approximately 13 pre-arrival program staff assigned to the communications center.

Financial - The Medical Director's Office budget for 1991- 92 is shown as exhibit 7-14. Personnel expenditures for office staff, on-line medical control and MCO dispatch together with benefits constitutes approximately 88% of the total budget. The remaining 12% is allocated for other general operating expenditures. It should be noted that \$94,000 for the Medical Director and other clinical staff malpractice insurance is not in the Medical Director's budget but paid directly by the EMS Authority.

Strengths - The following were identified as strengths in the Medical Direction component of the total Pinellas County EMS system.

- Medical Direction is centralized eliminating prior multiple and fragmented direction to field paramedics and EMTs.
- Medical Direction is privatized and a neutral system participant without allegiance to any one system component and works under the direction of the EMS Authority with advice and guidance from the Medical Control Board.
- The Office of Medical Director (OMC) has established for EMS system participants certification and recertification requirements higher than state requirements promoting a higher level of patient care. Continuing education requirements are higher and based on medical audits and new techniques used.
- Uniform clinical and administrative protocols have been established and continually updated in recognition of audits, medical literature and input from system participants.



EXHIBIT 7-14

EMS MEDICAL DIRECTOR'S OFFICE
BUDGET 1991-1992*

ACCOUNT	BUDGET	PERCENT OF BUDGET
Total Personal Services	\$928,516	88.4%
Staff Salaries	376,580	
On-Line Medical Control	285,576	
MCO Dispatch	131,400	
Benefits and Taxes	131,961	
Total Operating Expenses	\$116,335	11.1
Professional Services/Faculty/Contractual	40,200	
Accounting/Auditing/Insurance	4,000	
Travel/Vehicle/Maintenance	29,000	
Communications/Postage	13,200	
Printing/Office Supplies	8,958	
Computer/Software	9,000	
Other	11,977	
Total Capital Outlays	5,000	.5
Total Budget	*1,049,851	100.0%

Note: *Malpractice Insurance (\$94,00) for Medical Director and staff paid directly by EMS Authority to Insurance Carrier.

- Procedures have been established by the OMD to assure adequate review, testing, approval, dissemination and training prior to implementation of changes in protocols and/or other recommended system changes.
- A systematic approach has been established for audits of clinical performance, quality assurance and going scrutiny of system compliance.



- Data systems have been established to monitor individual and system performance.
- On-line medical control has been successfully centralized in the EMS communications center. The use of supervisor paramedic medical officers together with physicians who understand field operations and the policies and procedures of the unique Pinellas County EMS system play a prominent role in the support to field paramedics and EMTs in a cost effective manner.
- The centralization of medical dispatch, on-line medical control and the provision of pre-arrival instruction from the central EMS communications center is effective in promoting interaction among EMS system participants, linking vital EMS functions and at the same time avoidance of fragmentation and miscommunications that can occur in a decentralized system.

CHARTER ISSUES

There were no organizational or operational issues identified that need consideration by the Charter Committee.

A few administrative issues regarding time frame for certification of wheel chair transport providers, priority-dispatch and the fellowship program were discussed with County administrative staff.

7.7 Education and Training

The EMS Authority has contracted with the St. Petersburg Junior College for the provision of continuing medical education (CME) for EMTs and paramedics. The program is design to meet training and education requirements of Florida Statutes and Codes (F.S. Ch. 401 and FAC 10D-66) and the requirements that have been established by the Pinellas County EMS Authority and Medical Control Board.



There are two basic components to the CME program including:

- Primary CME - is the minimum required continuing medical education required for EMT's and paramedics in the EMS system to maintain normal status within the EMS system, the State of Florida and, where applicable, the National Registry of Emergency Medical Technicians.
- Remedial CME - is the education for individuals who have a specific deficiency that must be corrected to maintain or restore their normal status within the EMS System.

The program operates under the guidance of a CME steering committee composed of the following representatives:

- Medical Director
- Program Coordinator, Primary CME Program, SPJC
- Curriculum Developer, Primary CME Program, SPJC
- Ambulance Contractor
- Pinellas County Fire Chief's Association
- Providers of Advanced Life Support (PALS)
- Field Level Paramedics - Two
 - 1 ambulance contractor
 - 1 fire department
- Field Level EMTs - Two
 - 1 ambulance contractor
 - 1 fire department

Services - The CME Steering Committee is responsible for assessment of learning needs, guide curriculum development (objectives, contents, and teaching methods), and the recommendation of the educational materials to implement the designed curriculum. The also Committee is responsible for the review and evaluation of the educational efficacy and student satisfaction with courses after they are developed and implemented.



Although the basic EMT and paramedic education programs are under the SPJC Provost for the Health Center, the CME program is under the Provost for Open Campus which is responsible for continuing education. SPJC under the contract is the exclusive provider of the CME program for Pinellas County. SPJC is responsible for the administration and coordination of the CME Program for EMTs and paramedics including the Primary CME program and the Remedial CME Program. Specific responsibilities include:

- provision of curriculum developers, consultants, and CME faculty as needed;
- provision of facilities and equipment for administration and video production as need arises;
- provision of CME faculty workshops as needed;
- registration of student, including the assessment and collection of fees;
- maintenance of student records and a CME data base and information sufficient to verify the total time spent by each individual in training to be made available for interested EMS system participants;
- making available verification of completed CME training segment to all individuals who are registered into the Program;
- evaluation of the educational effectiveness of instruction, courses and programs in consultation with the CME Steering Committee.

Many of the faculty for the program include current Pinellas County EMS system participants (e.g. medical directors staff and field paramedics and EMTs). SPJC program staff in cooperation with the CME Steering Committee select faculty based on certification, specialized preparation and training, education credentials and experience.

Currently, the EMTs receive 48 hours of primary CME every two years as required for maintaining certification. The 48 hours as required in Pinellas is higher than the state



requirement of 30 hours. For paramedics, 72 hours of primary CME is provided and required every two years which is also higher than the state required 30 hours every two years.

It is the continuing goal to make available and provide three hours of training per month per EMS system EMTs and paramedics. Training programs are held at five primary training sites and three secondary sites geographically spread throughout the County to assure accessibility to the programs. Training is provided to over 1,000 EMTs, paramedics and other fire personnel in the system. In addition, most training is provided during on-duty time. Approximately 100 educational sessions are scheduled each month. Student to faculty ratios are kept low to provide for more individualized instruction. When training involves psychomotor skills, the student to faculty ratio is about 8:1. The Medical Director, in addition to the provision of staff as faculty, is responsible for the establishment of procedures to evaluate the clinical impact and effectiveness of the entire CME program as a part of his role in quality assurance for the EMS system.

Financial - The EMS Authority pays SPJC for the total cost of the program less an amount equal to 65% of the FTE received by SPJC from the state of Florida in all areas of the continuing medical education program. The budget for start-up and first year operations is shown in exhibit 7-15.

In addition to the operating budget, the County also provided training equipment and materials from the previous education contractor for use in the SPJC CME program. The estimated cost for these items was \$39,691.



EXHIBIT 7-15

ST. PETERSBURG JUNIOR COLLEGE
EMS CONTINUING MEDICAL EDUCATION PROGRAM
BUDGET FOR AUGUST 1990 - DECEMBER 1991

ACCOUNT	BUDGET	PERCENT OF BUDGET
Total Personal Service	\$84,500	23.7%
Total Operating Expenses	272,546	76.3
Instruction & Consultation	\$105,456	
Curriculum Dev. & Materials	95,640	
Equipment	43,869	
Other	27,081	
Total	\$272,546	
Total	\$357,046	100.0
Less State cont. ed. funds @ 65% FTE total	(93,642)	(26.2)
Total Budget with EMS Authority	\$263,404	73.8%

Personnel - The central staff for the SPJC CME program includes a coordinator, a secretary and a registration clerk. Other staff used in development of curriculum, criteria, assessment, testing and training are on a consulting basis. The consultants and instructors come from the College as well as the EMS system. There are approximately 41 adjunct faculty that assist in the program.

Strengths - The following were identified as strengths in the Education and Training component of the EMS system:

- The training requirements exceed the state minimum requirements.



- The quality of instruction has improved and will continue to strengthen the performance of EMS personnel.
- The number of courses and location of training sites increases the accessibility to continuing medical education.
- Cooperation among EMS system participants is excellent and promotes improved interaction.
- The County and SPJC utilizes 26% state funds for assistance in funding the CME program.

CHARTER ISSUES

There were no issues defined which would impact on Charter Committee considerations or inter-local agreements.

Only minor administrative weaknesses regarding computer linkages, utilization of two departments of SPTC for EMS education and gearing classes for students of varied backgrounds were noted.

Summary - In summary, exhibit 7-16 identifies system which should be considered by the Charter Committee for improved efficiency in operations.

**EXHIBIT 7-16
EMS SYSTEM COMPONENTS, RECOMMENDATIONS AND
PROJECTED ANNUAL COST SAVINGS**

SYSTEM COMPONENT	RECOMMENDATION	SAVINGS
Administration and Management	None	-0-
First Responder Services	Close 5 Stations	\$1,046,757
EMS & Non EMS Transportation	None	-0-
Medical Direction	None	-0-
Education and Training	None	-0-
TOTAL SAVINGS		\$1,046,757