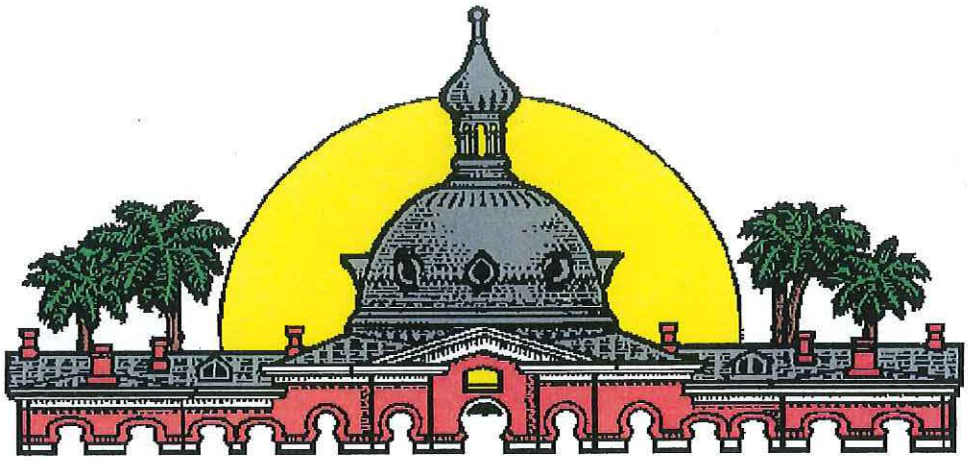
1999 TRAUMA PLAN UPDATE



Hillsborough County Florida

HILLSBOROUGH COUNTY TRAUMA AGENCY

Trauma Service Area Ten

Hillsborough County
Florida

Office of the County Administrator
Daniel A. Kleman

TRAUMA AGENCY

September 20, 1999

Frederick A. Williams, Program Administrator
Department of Health
Bureau of Emergency Medical Services
2002 Old St. Augustine, Bldg. D
Tallahassee, Florida 32301-4881

Dear Mr. Williams:

I am herein submitting the 1999 Update to the Hillsborough County Trauma Plan for your approval. Per your request, two copies are enclosed. The public hearing for this document was held on July 20, 1999 before the Hillsborough County Emergency Medical Planning Council. That advisory body voted to recommend approval of the Plan to the Board of County Commissioners (BOCC). Subsequently, the BOCC voted to approve the Plan Update on August 18, 1999. The Plan is forwarded to your department after the required 60 day waiting period.

Please contact me with any questions at SunCom 543-2051. Thank you for your assistance in this process.

Sincerely,

Barbara K. Uzenoff, RN, MPH
Trauma Coordinator, Hillsborough County Trauma Agency

cc: Catherine L. Carrubba, M.D.
Medical Director, Hillsborough County Trauma Agency

Emergency Operations Center
2711 East Hanna Avenue • Tampa, Florida 33610
(Phone) 813-276-2051 • (Fax) 813-272-5346

FLORIDA DEPARTMENT OF HEALTH

Jeb Bush
Governor

Robert G. Brooks, M.D.
Secretary

BUREAU OF EMERGENCY MEDICAL SERVICES

October 18, 1999
Certified # Z 362 114 949
Return Receipt Requested

Barbara K. Uzenoff, R.N., MPH
Trauma Coordinator
Hillsborough County Trauma Agency
2711 East Hanna Avenue
Tampa, Florida 33610

HILLSBOROUGH COUNTY
OCT 21 1999
TRAUMA AGENCY

Dear Ms. Uzenoff:

We concluded our completeness review of the trauma system plan update for the Hillsborough County Trauma Agency. We ascertained that the document included the majority of required elements, however, the following were found to be missing or incomplete:

1. *Fla. Admin. Code R. 64E-2.019(2)(d)3* states that the plan should "include the proposed trauma agency's recommendation and justification for the number and location of the SATCs and SAPTRCs required to serve its defined geographical area." The plan goes into great detail regarding justification of the two trauma centers within the trauma agency's geographical area and ends with a suggestion by the trauma agency that the county does not support an additional trauma center within Hillsborough County. The plan does not, however, provide a clear recommendation by the trauma agency of the number and location of trauma centers within the geographical area of the trauma agency.

2. *Fla. Admin. Code R. 64E-2.019(2)(e)* states that the plan should "provide a description of the objectives of the plan, a detailed list of the proposed actions necessary to accomplish each objective, and a time table for the implementation of the objectives and action. The timetable shall identify the scheduling of the annual audit and evaluation, including the completion date and submission date to the department." We identified in the plan a detailed description of the objectives and the proposed actions necessary to accomplish each objective. We were, however, unable to identify a timetable for the implementation of the objectives and proposed actions.

3. *Fla. Admin. Code R. 64E-2.019(2)(p)2* states that the plan should include "a copy of the public hearing notice and minutes of the hearing." We identified in the plan the public hearing notices in the Tampa Tribune and the St. Pete Times. We also recognized the Board of County Commissioners' Agenda Item Cover Sheet with the board action

approval, however, the Florida Administrative Code specifically states that the plan must include a copy of the minutes of the hearing, of which we were unable to locate within the plan.

This office must receive your response to our review, regarding the missing or incomplete elements listed above, within thirty days of the receipt of this notice of omissions. At the end of the thirty days, or upon receipt of your response, whichever comes first, we will examine the plan to determine compliance with *Chapters 395 and 401, Florida Statutes (1999), and Fla. Admin. Code R. 64E-2.*

Should you have any comments or questions regarding this letter, you can contact Brien K. Mitchell or myself at (850) 487-1911.

Sincerely

Fred A. Williams
Program Administrator

FAW/bm
bm/agencies/hctaplan

cc: Catherine L. Carruba, M.D., Medical Director, Hillsborough County Trauma Agency
Dino J. Villani

Hillsborough County
Florida

Office of the County Administrator
Daniel A. Kleman

Trauma Agency

November 12, 1999

Frederick A. Williams, Program Administrator
Bureau of Emergency Medical Services
Florida Department of Health
2020 Capital Circle Southeast, Bin C18
Tallahassee, Florida 32399-1738

Dear Mr. Williams:

In response to your letter of October 18, 1999, requesting elaboration on three elements of the plan, we submit the following. They are numbered according to the order in your request.

1. The County is well served by the two existing trauma centers. The volume of trauma is not increasing significantly. The planning guidelines offered in F.S. 395.402 recommend that Level I and Level II centers be able to handle approximately 1000 patients annually. We have not exceeded that capacity to date. Additionally, Hillsborough County is well served by air medical transport, making geographic considerations less of a determining factor. The Hillsborough County Trauma Agency (HCTA) does not anticipate a need for additional trauma centers at this time. The recommendation from HCTA is that no new trauma centers be added to Hillsborough County.

2. You have requested a discrete timetable for the proposed action elements of each objective listed in the plan. Page numbers refer to the HCTA plan.

   Objective I, page 61:
   Action plan item #1 - on going activity, at trauma audit committee.
   Action plan item #2 - on going activity.
   Action plan item #3 - done.
   Action plan item #4 - on going activity.
   Action plan item $5 - on going.

Objective II, page 62:

Action plan item #1 - done.
Action plan item #2 - ongoing. Some providers with decreased capabilities in this area. HCTA continues to encourage providers to computerize. Accomplishment of this is dependent on BLS and ALS agencies' resources to accomplish this. HCTA does not have the authority to impose a timetable on these services.
Action plan item #3 - done.
Action plan item #4 - initial system operational. Ongoing encouragement to services providing this information.

Objective III, page 63:

Action plan item #1 - ongoing. Many cooperative links have been established.
Action plan item #2 - done.
Action plan item #3 - ongoing.

Objective IV, page 64: this is an area of concern. HCTA has no authority over non-trauma centers.

Action plan item #1 - postponed. New trauma criteria being initiated by the State. AHCA date base is 9 to 12 months past date of care. Access is expensive and time consuming. This project will be deferred until there is more history with new trauma alert criteria, and until additional resources can be assigned to this project. This action plan may be abandoned if alternative solutions can be identified.
Action plan #2 - ongoing.

Objective V, page 65:

Action plan item #1 - ongoing.
Action plan item #2 - ongoing.
Action plan item #3 - work in progress. To be completed by June 2000.

Objective VI, page 66:

Action plan item #1 - done, and continues. This was very well received by the providers.
Action plan item #2 - ongoing.

Objective VII, page 67:

Action plan item #1 - (a) done. (b) on going.
Action plan item #2 - ongoing, at regularly scheduled HCTA meetings.
Action plan item #3 - ongoing. Project is dependent on integration into Hillsborough County web sites. Time line - HCTA expects that this will be accomplished over the next 2 years.
Action plan item #4 - done, and ongoing.

3. Minutes to the hearing are attached.

Respectfully submitted,

Catherine L. Carrubba, MD

Catherine L. Carrubba, MD, FACEP, MPH

FLORIDA DEPARTMENT OF HEALTH

Jeb Bush
Governor

Robert G. Brooks, M.D.
Secretary

BUREAU OF EMERGENCY MEDICAL SERVICES

December 14, 1999

Return Receipt
Certified Mail #Z425770490

Barbara K. Uzenoff, R.N.
Trauma Coordinator
Hillsborough County Trauma Agency
2711 East Hanna Avenue
Tampa, FL 33610

Dear Ms. Uzenoff:

We have completed the review of the Hillsborough Trauma Agency Plan update submitted to this office with your letter of September 20. We are pleased to inform you that your plan update is approved effective upon the date of receipt of this letter. This approval includes the changes to the plan requested by this office and submitted by Catherine L. Carrubba, M.D. in her letter of November 12. Dr. Carrubba's letter is considered to be a part of the plan.

Please be advised that pursuant to Chapter 395.401(2)(n), Florida Statutes, the trauma agency will be required to submit an updated trauma agency plan five years from the date of this letter. You may, however, experience substantial changes in your trauma system that may require you to revise your plan prior to this date and submit it to this office for approval. We look forward to working with you in the on-going development of your trauma system.

Please feel free to contact Fred Williams, of this office, at (850) 245-4440 Ext. 2727 should you have questions or need any help.

Sincerely,

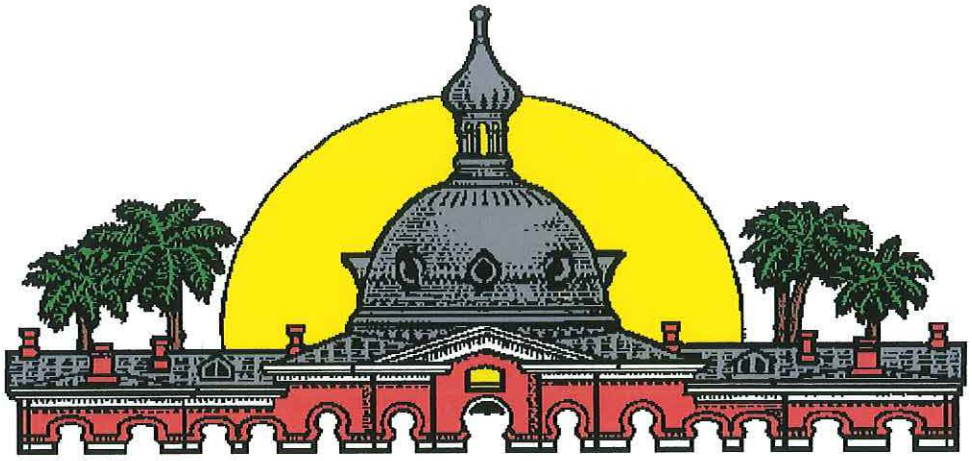
Dino J. Villani
Chief

DJV/faw/hp
cc: Catherine L. Carrubba, M.D., FACEP, MPH
Chairperson, Hillsborough County Commission

HILLSBOROUGH COUNTY
DEC 20 1999
TRAUMA AGENCY

Phone (850) 245-4440 FAX (850) 488-2512 or 487-2911
2020 Capital Circle SE Bin C18, Tallahassee, FL 32399-1738

1999 TRAUMA PLAN UPDATE



Hillsborough County Florida

HILLSBOROUGH COUNTY TRAUMA AGENCY

Trauma Service Area Ten

BOARD OF COUNTY COMMISSIONERS
HILLSBOROUGH COUNTY, FLORIDA

1

RETURN TO:

AGENDA ITEM COVER SHEET

[X] CONSENT [ ] REGULAR MEETING DATE: August 18, 1999

SUBJECT: Approval of the 1999 Update to the Hillsborough County Trauma Plan
DEPT: Public Safety/Trauma Agency CONTACT PERSON: Barbara Uzenoff - 276-2051

RECOMMENDATION:

That the Board of County Commissioners approve the recommended 1999 Update to the Hillsborough County Trauma Plan.

BACKGROUND:

Chapter 395.401, Florida Statutes, requires that all operating trauma agencies have an approved trauma plan to be periodically updated. Section 64E-2.019, Florida Administrative Code, defines the content of trauma plans. This is the first Plan to be considered by the Board of County Commissioners since 1990. This document describes the current trauma system, and emphasizes the differences since the last Plan was approved. It includes updating of demographics, organizational structure, objectives, an inventory of the emergency medical transportation system, emergency communications, trauma system participants and their roles, and trauma system evaluations.

[X] Continued

Financial Impact Statement and Index/Sub-object Code: None.

[ ] Continued

SIGN-OFF APPROVALS		DATE
DIRECTOR		8/3/99
MGMT & BUDGET	N/A (WC)	
CONTRACTS	N/A (WC)	
LEGAL		8.4.99
ACA	for POB	8/5/99

[X] Affected parties notified
[ ] Not required

[X] Advertised
[ ] Not Required

Date: May 28 / June 10, 1999

Paper: Tampa Tribune/St. Pete Times

CIT Project? [ ] yes [X] no

[X] Attachments

1999 Update to the Hillsborough County Trauma Plan
EMPC Minutes of Public Hearing - 7/20/99 with Summary of Changes to the H/C Trauma Plan

[ ] None.

(X) Backup on file in County Administrator's Office

-- OCA STAFF ONLY --

BOARD ACTION: [X] Approved [ ] Disapproved [ ] Continued/Deferred Until _____

OTHER/SPECIAL INSTRUCTIONS: _____

[ ] Original Documents forwarded to Chief Deputy Clerk BY: _____

(Revised 3/25/97)

AGENDA CODE: A-23

Part A

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Hillsborough County Trauma Agency
1999 Trauma Plan Update

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2. Include a map showing the defined geographic area of the proposed trauma agency, each major geographical barrier, all medical facilities, all prehospital ground and air facilities, and all other significant factors that affect the determination of the geographic area boundaries

3. Describe the historical patient flow, patient referral, and transfer patterns used to define the geographic areas of the proposed trauma agency

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Hillsborough County Trauma Agency
1999 Trauma Plan Update

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2. Include a table of organization, the names of the board of directors and each member's affiliation, and identify the individuals who will administer or operate the trauma agency, if known

3. Provide the names, job descriptions and responsibilities of officials who shall be directly responsible for trauma agency personnel, and the names, job descriptions and responsibilities of individuals who shall be responsible for managing and operating the trauma agency on a daily basis

4. Describe in detail the specific authority that trauma agency personnel shall have in directing the operation of prehospital and hospital entities within the purview of the trauma agency, if approved, be it a single or multi-county trauma agency

Section 64E-2.019 (2), F.A.C.

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2. Include a list of all participating and non-participating trauma care resources within the defined geographical area of the proposed trauma agency and documentation showing that these entities have been given the opportunity to participate in the system. Trauma care resources shall include, but are not limited to, hospitals, SATCs, SAPTRCs, prehospital providers, training centers, and planning entities

3. Include the proposed trauma agency's recommendation and justification for the number and location of SATCs and SAPTRCs required to serve its defined geographical area

Hillsborough County Trauma Agency
1999 Trauma Plan Update

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Section 64E-2.019 (2), F.A.C.

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Section 64E-2.019 (2), F.A.C.

(f) **Describe the proposed source of income and anticipated expenses by category for the proposed trauma agency** 61

Section 64E-2.019 (2), F.A.C.

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(h) **Transportation System Design** 62

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2. Include trauma patient flow patterns, emergency inter-hospital transfer agreements, and the number, type, and level of service of prehospital EMS providers within the trauma system

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1999 Trauma Plan Update

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Section 64E-2.019 (2), F.A.C.

(i) **TTPs** 70

1. Provide confirmation that existing department-approved TTPs for each EMS provider, within the defined geographical area of the proposed trauma agency, are accurate and shall be adopted by the proposed trauma agency, pending department approval of the plan

2. A proposed trauma agency may develop uniform TTPs for department approval that shall be adhered to by all EMS providers that serve the geographic area of the proposed trauma agency. If uniform TTPs are submitted to the department for approval, the TTPs shall include the name of each EMS provider that shall operate according to the uniform TTPS, and proof of consultation with each EMS providers medical director. TTPs developed and submitted by a proposed trauma agency shall be processed in accordance with section 64E-2.016, F.A.C.

3. The proposed trauma agency shall provide a copy of any county ordinance governing the transport of trauma patients within the defined geographic area of the proposed trauma agency

Section 64E-2.019 (2), F.A.C.

(j) **Medical Control and Accountability** 72

Identify and describe the qualifications, responsibilities and authority of individuals and institutions providing off-line (system) medical direction and on-line (direct) medical control of all hospitals and prehospital EMS providers operating under the purview of the trauma agency

Hillsborough County Trauma Agency
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Section 64E-2.019 (2), F.A.C.

(k) **Emergency Medical Communications** 73

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2. Describe the proposed trauma agency's compliance with the State of Florida Communications Plan, requirements for normal operating conditions, mass casualty and disaster situations in which commercial power, telephone lines or telephone services are not available, including outages of base stations controlled by leased telephone lines. The specific areas to be addressed are:

a. Statewide medical coordination (SMC) ;
b. Local medical coordination (LMC) ;
c. Vehicle dispatch and response (VDR) ;
d. Medical resource coordination;
e. Local scene coordination;
f. Medical alert paging;
g. Communications coverage;
h. LMC and VDR channels;
i. SMC channel;
j. Cellular phone use if applicable; and
k. Locations and types of communications equipment within the proposed trauma agency's geographical area.

Section 64E-2.019 (2), F.A.C.

(l) **Data Collection** 81

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Hillsborough County Trauma Agency
1999 Trauma Plan Update

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(o) **Public Information and Education** 93

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Hillsborough County Trauma Agency
1999 Trauma Plan Update

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Section 64E-2.019 (2), F.A.C.

(p) **Attachments. Include the following** xx

1. A copy of each contract and agreement entered into by the proposed trauma agency, pending department approval of the proposed trauma agency, for the benefit and operation of the trauma system: Medical Director's Contract

2. A copy of the public hearing notice and minutes of the hearing

INTRODUCTION

Chapter 395, Part II, Florida Statutes (F.S.) and Section 64E-2, Florida Administrative Code (F.A.C.) grants a local or regional trauma agency the authority to plan, implement, and evaluate its trauma service area (TSA). The Hillsborough County Trauma Agency (HCTA) received its approval to operate from the Department of Health and Rehabilitative Services in 1990. It is one of four such bodies in the state. Broward, Palm Beach, and North Central Florida (an eleven-county TSA) are the others.

This is the first plan revision to be promulgated since the 1993 update was published in November 1993 and the fourth update overall. This document will emphasize the differences in the trauma system since the last Plan was accepted by the State Bureau of Emergency Medical Services, and HCTA's direction for the future.

Since the last revision, the most significant administrative change experienced by the HCTA occurred under the 1996 reorganization of Hillsborough County government. Many departments were moved and/or consolidated under different office structures. The Agency was transferred to the Public Safety Department, Office of Community Services, notably expanding the Agency's clerical and operational resources. Previously it operated under the Medical Examiner Department, Office of Municipal Services. This organizational arrangement will be further described in a section dealing specifically with that aspect.

A milestone achieved by the HCTA was the adoption of a county wide uniform trauma transport protocol (UTTP). Chapter 395, F.S., and Section 64E-2, F.A.C., enables a trauma agency to develop policies and procedures to be followed by all County emergency medical service (EMS) prehospital providers for dispatch of vehicles, assessment of the extent and severity of injuries of trauma patients and determination of the destination (facility) to which trauma patients are transported, subject to approval by the State Bureau of EMS. The protocol became effective April 1, 1997 and is renewable every two years thereafter. The UTTP applies to all EMS prehospital providers operating within Hillsborough County, and supersedes any individual provider's trauma transport protocol (TTP).

A summary of the trauma system constituent changes that have occurred since the last Plan Update follows:

Trauma centers

- St. Joseph's Hospital became an state approved pediatric trauma referral center (SAPTRC) in addition to its state approved trauma center (SATC) rating.
- Florida Health Sciences Center (d.b.a. Tampa General Healthcare) went from public to private, nonprofit status.

Non-trauma centers

- Humana Brandon Hospital and Humana South Bay Hospital became Columbia facilities: Brandon Regional Hospital and Columbia South Bay Hospital respectively.
- Centurion Hospital became University Community Hospital at Carrollwood.
- AMI Memorial Hospital and AMI Town and County Hospitals became Tenet facilities.

Other non-initial receiving hospitals

- Centro Asturiano Hospital closed its doors.
- West Shore Hospital became Vencor Hospital.
- Centro Espanol Hospital became Doctor's Hospital then Transitional Hospital before it was bought by Vencor and turned into Vencor Central Hospital.
- Humana Womens' Hospital was acquired by St. Joseph's Hospital to become St. Joseph's Womens' Hospital.

Prehospital providers

- Apollo Beach Rescue (BLS) folded its operations in 1994.
- Aeromed 2 (ALS-air), a new rotary wing aircraft operated by Tampa General Healthcare, is based in Highlands County since 1994.
- AmeriCare is a new BLS ambulance company since 1997.
- CareFlight (ALS-air) first changed its name to St. Joseph's One and then Bayflite 3 after the Bay Care Alliance was formed in 1997.
- Life Fleet Ambulance Company (BLS-ground) acquired Am Stat Ambulance Company; the service subsequently went through two name changes, MedTrans, then American Medical Response. In 1997, it acquired a Certificate of Public Convenience and Necessity for Advanced Life Support non-emergency medical ground transportation services limited to contracted standbys at Tampa Bay Downs and out-of-county interfacility transfers.
- Hillsborough County Emergency Medical Services merged with Hillsborough County Fire Department in 1997 and changed its name to Hillsborough County Fire Rescue

(HCFR; ALS-ground).

- Tampa Fire Department changed its name to Tampa Fire Rescue (TFR; ALS-ground).
- Temple Terrace Fire Department (TTFD; ALS-ground) originally held a BLS transport license until 1994. It co-operated as an ALS non-transport service from 1991 until 1994. Since 1994 it has operated solely as an ALS transport agency. Since 1997, Hillsborough County Fire Rescue was no longer co-dispatched by Hillsborough County Emergency Dispatch Operations (HCEDO) and Temple Terrace Police Department took over their emergency medical dispatch operations.
- TransCare is a new BLS ambulance company, empowered under F.S. and local contracts to transport Baker Act patients.

The following enhancements to the trauma system infrastructure have occurred since the last Plan Update:

Tampa Bay Regional Urban Search and Rescue Team

- Development of a specialized group of emergency medical services professionals from Hillsborough and Pinellas Counties to handle rescues involving major structural collapses. This is the third such team to be organized in Florida.

Emergency Medical Dispatch and Communications

- All 9-1-1 centers that dispatch fire/medical calls in Hillsborough County utilize the Medical Priority Dispatch System (a.k.a. Clawson system). Implementation was completed in Spring of 1997.
- Creation of a Emergency Medical Dispatch (EMD) quality assurance (QA)/quality improvement (QI) position in the 9-1-1 administration office. This position oversees and coordinates with all EMD centers to assist in training needs, curriculum, continuing dispatch education, and the review of tapes of actual calls. Each EMD center maintains an in-house position that conducts the random call samples training needs, and certification issues. This position works in conjunction with the 9-1-1 EMD QA/QI and both communicate with the managers of the EMD centers on a routine basis.
- Institution of the Ericsson 800 trunked radio system for HCFR and the Hillsborough County Sheriff's Office (HCSO) beginning in 1996. This new 800-MHz frequency gives new capabilities for:

    - Multiple users to access the same channel.
    - Complete county wide coverage.
    - Direct communication between HCFR and HCSO.
    - Aeromedical and hospital providers' monitoring of calls.
    - Contact with Medic One (the physician advisor on call for on-line assistance) replaces cellular patch.
    - User groups, e.g., for mass casualty, hospitals, doctors, and the transit authority.
    - Statewide medical channels
    - Separate line for utility companies on the subfleet
    - A Public Safety hailing channel for fire/law enforcement agencies in surrounding counties to communicate with HCSO and EDO Communication Centers when entering and traveling through Hillsborough County.
    - The ability to patch conventual VHF frequencies to an 800 talk group allowing unit to unit radio transmissions and unit to HCEDO communication center transmissions for municipalities inside Hillsborough County

The following change in nomenclature for a major trauma system component has occurred since the last Plan Update:

The HCTA undertook a project to objectively examine the appropriateness of the boundaries currently used by the prehospital providers in making trauma center transport destination determinations. With the County's prehospital ground transport modeling analysis now completed, it elects to replace the term "catchment area" with the term "trauma center receiving zones" at this writing. The history of the controversy and the HCTA's recommendations about trauma center receiving zones made on the basis of that evaluation are presented in the main body of this document. The materials, methods and results of the Hillsborough County Trauma Center Receiving Zones project and a description of the computer program used to generate those zones are presented in Appendix A. The output from the mapping phase of the same study is shown in Appendix E.

The following trauma system operational changes have occurred since the last Plan Update:

Special transport destination criteria

The HCTA continues to support the principle that certain traumatic injuries recognized in the field are most appropriately managed when those patients are initially transported to the trauma center having the specialized capabilities to handle specific conditions. The Plan previously stipulated four conditions under which the catchment area, hereafter referred to as trauma center receiving zones, should be overridden to determine the most appropriate facility for transport destination: patients with serious burns, or were pregnant, or had isolated spinal injury with paralysis, or who were children.

Each of the aforementioned exceptions to transport destination has been either amended or replaced. The HCTA recognizes the following three circumstances under which an alternative trauma center transport destination shall be overridden if the patient meets particular criteria:

- Amended definition: Suspected spinal cord injury with evidence of significant motor or sensory involvement.

  Any patient that the prehospital provider suspects has suffered an insult to the spinal cord and has either a motor or sensory deficit shall be considered to have experienced spinal cord injury for the purpose of determining the most appropriate trauma center. Currently Tampa General

Healthcare is the only State Department of Vocational Rehabilitation designated facility in the County for the State Brain and Spinal Cord Injury Program (BSCIP). This trauma center is certified in both the acute and rehabilitation phases of care for these specific injuries.

- Amended definition: A patient with trauma alert burn criteria (2° or 3° burn involving 15% or greater body surface area) and/or a circumferential burn.
  Currently Tampa General Healthcare has the only burn center in the County.

- New definition: A patient with an amputation with the potential for reimplantation.
  Currently Tampa General Healthcare is the only trauma center with a transplant team on call 24 hours a day.

Part B

Population and Geographic Area to be Served

1. Describe the population and defined geographic area to be served by the trauma agency.

Hillsborough County is located on the west central coast of Florida on one of the finest protected natural harbors in the world. The county covers an area of 1,073 square miles and occupies 76 miles of coastline. It is bounded on the east by Polk County, on the west by Pinellas County, on the south by Manatee County and Tampa Bay, and on the north by Pasco County.

The terrain is generally flat with a shallow water table. The elevation ranges from sea level to 170 feet above sea level. The county possesses approximately 29,500 acres of water area. Notable environmentally sensitive areas include the mangrove swamp and coastal marshes adjacent to the coastline; riverine wetlands; and inland freshwater wetlands throughout the county. The coastal areas of the county fronting on Tampa Bay, Old Tampa Bay and Hillsborough Bay are considered hazard areas for a hurricane storm surge. Low lying areas along the four county rivers (Hillsborough, Palm, Alafia, and Little Manatee) and certain areas in the northwest, north and southeast inland areas are considered fresh water flood prone areas. Heavy development has occurred in many of these locations. Additional information about these topics is covered in more detail in the section dealing with other geographic factors and elsewhere, e.g., in the County's Comprehensive Emergency Management Plan (CEMP) and documents promulgated by other county agencies.

Average mean annual temperature in Tampa is 72.2° F. The normal daily fluctuations in temperature in the winter months are from the low 40's to the low 70's, while during the summer months the temperature ranges from the low 70's to the low 90's. Average annual rainfall is 51.6 inches.

Hillsborough County is the fourth most populous in the state, containing urban, suburban and rural sections. Approximately two-thirds of the population lives within the unincorporated area of Hillsborough County. Many areas in the northwest, south, and eastern parts of the county are rural and sparsely populated, comprising farmland, citrus groves and phosphate mining strips.

The county population is reported at 891,680 (1995 estimate). In the five years preceding, the population grew by 57,626 persons, an increase of almost 7%, or an average yearly growth of 11,525 persons (+1.4%). Most of this increase was due to births (34,701 more births than deaths) during that period. The regions experiencing the greatest absolute positive change in population during this time were generally in the unincorporated areas: western (Keystone-Odessa), eastern (Brandon and Plant City), northern (New Tampa) and southern (Sun City Center) sectors of the county. At the same time, many neighborhoods within incorporated areas experienced population loss. This shift represents an overall decline in an annual growth rate from the previous decade. Between 1980 and 1990, the population rose by approximately 29%.

The Hillsborough County City-County Planning Commission predicts growth to continue over the next twenty years at a rate equal or slightly greater than that of the 1990-1995 period. This contradicts previous predictions of population growth in the earlier Plan.

The community supports a large base of working age citizens. Sixty per cent of the population is between 20 and 65 years old. The median age is 33 for both incorporated and unincorporated jurisdictions. Females (51%) slightly out number males (49%). Twelve per cent of the residents are of Medicare age.

Hillsborough County holds a large Cuban and other Hispanic population. The 1990 census reveals 106,908 (12.8%) people of Hispanic origin in Hillsborough County. The 1994 Florida Statistical Abstract states that 44,567 people speak English "less than very well." The Abstract reflects that 87,545 people speak Spanish at home and 6,655 people speak Asian or Pacific Island languages.

International immigrants have made a significant contribution to the growth of Hillsborough County. Seventy-five per cent of new residents arriving in this county between 1990-1995 were from other countries such as Canada, Vietnam, Cuba and the United Kingdom. Statewide only 20 per cent were foreigners in the comparable time.

As the region is a popular tourist, business, and retirement destination during the winter, there is a considerable transient (visitor) population during approximately six months out of the year. During this time, seasonal residents add approximately 20,000 to the population. The opening of the Tampa Convention Center, the Garrison Seaport Center (a cruise ship terminal), the Florida Aquarium, the Ice Palace (a 20,000 seat hockey and multipurpose arena), Legend's Field (the spring training ground for the Yankees and home to a minor league team), and Brandon Town Center (a large regional mall on I-75) since 1990 have contributed to this influx. The transient population in hotels/motels at one time can be 20,000 or more. Special events occurring in Hillsborough County such as the Florida State Fair, the Gasparilla Festival, the Strawberry Festival and Houlihan's Stadium also increase the population. Busch Gardens, a significant tourist attraction, also causes increases in population on a daily basis. Migrant laborers can swell the population by 11,000 during harvesting periods in the eastern and southern rural areas of the county. The temporary increases in population posed by these various groups plus transfers from out-of-county to our two trauma centers regularly impact the census of trauma patients there. Residents in the incorporated part of the county are distributed among three municipalities: Tampa in the central west, Plant City in the far east, and Temple Terrace in the north central part of the county. Tampa is the largest at 286,320 inhabitants in an area of 109.9 square miles. Growth in this section of the county between 1990-1995 was less than elsewhere (2.25%), but is projected to be sustained into the next millennium.

Tampa is the major industrial and commercial center on the west coast of Florida. The county sits astride segments of I-4, I-75 and I-275 and is a major rail center. A principal industry in this area which uses those transportation systems is the phosphate industry, a major user of hazardous materials. The Port of Tampa ranks as the 11th largest U.S. port in total annual tonnage. It is the largest tonnage port in Florida, and the closest full service U.S. port to the Panama Canal.

MacDill Air Force Base, a Federal military reservation, occupies the southernmost portion of the Interbay peninsula in South Tampa. The base has approximately 1,200 residents and a total work force of about 6,300 military and civilian employees. Previously the home to a wing of F-16 fighter aircraft, the 6th Air Refueling Wing houses twelve KC-135 aircraft. Each plane holds a maximum load of 202,000 pounds of fuel. The base is also the site of two Unified Commands; the United States Central Command and the United States Special Operations Command. Numerous other tenant units are also located on MacDill, notably the National Oceanic and Atmospheric Administration. It is from this NOAA post that the P-3 reconnaissance aircraft are deployed for tracking of hurricane activity.

The 6th Medical Group provides extensive medical services (except neurology, neurosurgery and cardiology) to their personnel, families and retirees on both out patient and inpatient basis. There are no intensive care or coronary care units. Beginning in 1996, the Department of Defense began phasing in a managed care health program, TriCare, to be managed by Humana. This will affect the area hospitals and health care providers as some medical care for the roughly 92,000 military beneficiaries within a fifty-mile radius of the Tampa Bay area may shift to the private sector.

Plant City, the next largest city and second fastest growing section of the county (12.8% from 1990-1995) has 25,670 inhabitants, and occupies a land area of 19.3 square miles. It also is expected to sustain growth at roughly the same level over the next 20 years as it had earlier in this decade. Temple Terrace, population of 20,351, is the smallest municipality in both population and land area, and the most densely populated incorporated city of the county. Its growth is predicted to decline by half through 2015.

In 1993, mean per capita personal income for the County was $15,646 and median household effective buying income (EBI) $32,321. The average unemployment during 1995 was 4.3%. New since 1990 is a half cent sales tax levied by the County to aid in securing health care for indigent county residents. This has had a positive financial impact on all medical services, including trauma.

Economic Profile

The 1995 annual average labor force was 489,853, broken down as follows:

a	Services	40.0%
b.	Retail/Trade	19.7%
c.	Financial/Insurance/Real Estate	8.9%
d.	Manufacturing	8.5%
e.	Wholesale/Trade	8.1%
f.	Transportation/Communications/Utilities	6.3%
g.	Construction	5.2%
h.	Agricultural	3.3%

In 1995-96, the major public sector employers are as follows: Hillsborough County School Board, the 12th largest school system in the United States had 21,843 employees, Hillsborough County Government (8,527), University of South Florida, the 18th largest university in the nation (7,559), MacDill Air Force Base (5,890), U.S. Postal Service (4,284), Tampa International Airport (4,830), and City of Tampa (4,069).

During the same time, the largest employers in the private sector were GTE Communications Corporation (4,010), Publix Food Centers (3,556), GTE Data Services (3,500), Kash N' Karry Food Centers (3,007), and Tampa Electric (3,056), Tribune Company (2,200), and Busch Entertainment Corporation (2,200).

2. Include a map showing the defined geographic area of the proposed trauma agency, each major geographical barrier, all medical facilities, all prehospital ground and air facilities, and all other significant factors that affect the determination of the geographic area boundaries.

Related maps and applicable appendices included in this Update

Appendix B

Title: LOCATION OF TRAUMA CENTERS, HOSPITALS AND THEIR HELIPADS IN HILLSBOROUGH COUNTY

Emphasis: Hillsborough County locations of all hospitals and hospital-based helipads.

Appendix C

Title: LOCATION OF FIRE AND RESCUE STATIONS, AIR AMBULANCES AND THEIR HELIPADS IN HILLSBOROUGH COUNTY

Emphasis: Hillsborough County locations of emergency medical service advanced life support providers base stations and their helipads, e.g., Tampa Fire Rescue, Hillsborough County Fire Rescue, Temple Terrace Fire Department, plus the air medical agencies, St. Joe's One and Aeromed, which are based at the trauma centers, St. Joseph's Hospital (SJH) and Tampa General Healthcare (TGH) respectively. The addresses for these agencies are listed in Part D, Trauma System Structure.

Note: Although the symbol for the two Temple Terrace Fire Stations is a fire station bell, both of these locations are also base stations for rescue operations for that municipality.

Appendix D

Title: HILLSBOROUGH COUNTY HOSPITALS IN EVACUATION ZONES

Emphasis: Hillsborough County showing the hurricane evacuation levels (flood prone areas) and the six hospitals which could potentially be evacuated because of a hurricane.

The geographic area served by the HCTA, Trauma Service Area #10, is formally bounded by the Hillsborough County line. The major roads in this jurisdiction that were in existence at the writing of the previous Plan and are still the predominant thoroughfares are Interstate 75, running north-south midway through the County, Interstate 275 running east-west in the western half of the County before turning north-south to the County line, the Crosstown Expressway, also known as the Lee Roy Selmon Expressway, running northeast-southwest extending from Old Tampa Bay to downtown before turning east-west out to I-75. Many major highway improvements have been made since the last Update of the Plan, including:

construction of the Veteran's Expressway, a new toll road which connects northwestern Hillsborough County to the airport/West Shore area at the eastern end of the Courtney Campbell Causeway,

the widening of Dale Mabry Highway, not a limited-access yet a major north-south thoroughfare extending from the City of Tampa peninsula to the Hillsborough/ Pasco County line,

ongoing expansion of Interstate 4 from 50th Street in Tampa to just west of the Hillsborough/Polk County line, involving the widening of this 21-mile corridor from four to six lanes, the increasing of median width, the reconstruction of many bridges, and the modification or improvement of interchange ramps.

All three causeways linking Hillsborough County with Pinellas County across Old Tampa Bay have also undergone major construction or renovation since 1990.

The new Howard Frankland Bridge construction project established separate east and west bound spans with wide emergency lanes in both directions.

The Courtney Campbell Causeway was widened with wide emergency lanes in both directions and access roads for pedestrian and beach traffic.

The west bound leg of the Gandy Bridge was replaced with a taller span and a wide emergency lane. The previous bridge, to be converted to a 2-½ mile recreational trail for foot and other non-motorized traffic, is not suitable as an emergency evacuation route.

Seven drawbridges are found along the Hillsborough River. Five of the bridges are controlled by the City of Tampa (Platt Street, Brorein Street, Cass Street, Laurel Street and Columbus Drive), the other two by the State (Kennedy Boulevard and Hillsborough Avenue). During periods of high water, such as occurs during tropical storms or hurricanes, some bridges may be impassable.

The predisposition to flooding in areas within Hillsborough County carries implications for access by ground to certain health care facilities. For hurricane evacuation purposes, the county is divided into five evacuation levels (Level A to E) corresponding to the five categories of hurricanes (1 to 5), e.g. Evacuation Level A = Category 1 Hurricane. The Hillsborough County Evacuation Guide, published annually, provides color coded representation of the five evacuation levels. That map has been reproduced in this Plan to show the hospitals which potentially could be affected by an evacuation order. See the HILLSBOROUGH COUNTY HOSPITALS IN EVACUATION ZONES map in Appendix D.

Of the 16 hospitals in Hillsborough County, storm surge data developed from the NOAA computer hurricane simulations indicate that six are located in evacuation zones. These facilities must include hurricane evacuation procedures in their disaster plans. The remaining hospitals should include procedures for receiving patients during hurricanes in their plans. Non-evacuating hospitals must also execute a priority discharge procedure to ensure available space for incoming evacuating hospital and emergency cases.

Among the six hospitals in evacuation zones, the area's only level I trauma center on an island off downtown Tampa, is in a primary evacuation area for flooding resulting from hurricane and other storm activity. Two other initial receiving hospitals for emergency trauma patients, Memorial Hospital (Level D; Category 4) and Town & Country Hospital (Level B; Category 2), could also be affected by evacuation orders.

Of the 32 free standing nursing homes, four are in evacuation zones. (Note: five hospitals also have nursing home units). These nursing homes must arrange with other nursing homes to accommodate their evacuated patients. Provisions must be made for equipment, supplies, and nursing staff.

All hospitals and nursing homes must prepare their own comprehensive emergency management plan (CEMP) in accordance with Section 59A-3-078, F.A.C., which provides for agreements and standard procedures for the inter-hospital transfer of patients, drugs, supplies, records and personnel during times of localized or area wide evacuation. Hillsborough County's Emergency Management Section reviews and approves each of those plans. The County in turn has its own global CEMP to provide uniform policies and procedures for the effective coordination of actions necessary to prepare for, respond to, recover from, and mitigate natural or man-made disasters which might affect the health, safety or general welfare of individuals residing in Hillsborough County. The organization of these activities are discussed further in the section on mass casualty and disaster preparedness.

3. Describe the historical patient flow, patient referral, and transfer patterns used to define the geographic areas of the proposed trauma agency.

Hillsborough County's geographical profile holds important implications for area hospitals and the trauma system. HCTA's jurisdiction, a single county trauma service area (TSA #10), borders with three multi-county trauma service areas encompassing five counties. It is flanked by both counties that are in TSA #9: Pasco and Pinellas, is a neighbor to Hardee and Polk in TSA #11 which also has Highlands, and adjoins Manatee in TSA #13, which also counts DeSoto and Sarasota in its region. None of these TSAs has a trauma agency, though the former two have one trauma center each (a level II SATC/SAPTRC and a level II SATC) within their regions respectively. The second of these, Lakeland Regional Medical Center, is a new addition to the state network. Its proximity to the Hillsborough/Polk county line introduces an alternative transport destination for critically injured patients in easternmost Hillsborough when air transport is neither feasible nor accessible.

In an era of ever-expanding managed care restraints and diminishing volume of trauma cases due to the success of injury prevention programs and protective devices, the trauma centers are increasingly working towards establishing and protecting new markets outside the immediate community. The availability of the air medical transport programs operated by the County's two trauma centers, Tampa General Healthcare (level I SATC, SAPTRC) and St. Joseph's Hospital (level II SATC, SAPTRC) and the distribution of trauma centers statewide are key variables influencing the steady inflow of trauma patients from outside counties to these institutions. In general, most of the external transfers-in occur between facilities rather than scene requests. Among these interfacility transfers, far more admissions (in-patient and 23 hour stays) originate from out-of-county institutions than from other Hillsborough County hospitals, ratio greater than 3 to 1. Complete statistics on transfers to the trauma center EDs resulting in discharges were not available but are estimated not to be of significant volume.

Origin of interfacility trauma transfers to Hillsborough County trauma centers during CY 1996	
Hospitalization either in-patient admission or 23 hour stay	
Origin within county	157
Origin out-of-county	515

Patient flow for trauma alerts within the County is partitioned between the two state-approved trauma centers. The trauma center receiving zones scheme in effect for trauma alert patients after the departures of the trauma centers, University Community Hospital, in 1990, and what is now Columbia Brandon Regional Medical Center, in 1992, remains unchanged: Interstate 275 serves as the landmark dividing the two zones. Patients meeting trauma alert criteria as defined in the County's Uniform Trauma Transport Protocol originating from incidents north and west of this reverse 'L-shaped' thoroughfare are taken to SJH, the remainder are transported to TGH. The same boundaries are observed for determining the destination of trauma alert patients to be transported by ground as by air. Each trauma center owns and operates an air medical program and each serves as the other's back up when there are mechanical problems or other contingencies. A third flight program (Bayflite) based out-of-county (Pinellas) acts as a third tier emergency backup resource. The implication of this arrangement is that for these seriously injured patients, no matter which provider ultimately transports the patient, the destination is independent of the transporting service.

If the trauma patient does not meet trauma alert criteria nor need trauma center level care, the patient may choose his/her hospital destination. However, historically the two air medical transport services have agreed between themselves that when dispatched to a scene for a trauma patient who does not meet trauma alert criteria nor need trauma center level care, that service will follow the trauma center receiving zones destination determination as for trauma alerts. This latter arrangement is a voluntary verbal understanding initiated and entered into freely by the trauma centers because it was felt to be in the patient's best interest to reduce confusion and extraneous decision making about transport destination criteria at scenes where multiple agencies have responded. In all instances, the senior care giver of the ground service at the scene has the final authority about the patient's transport destination. His/her decision shall be adhered to by any other prehospital provider that assumes the care and transport of the trauma patient. The map LOCATION OF TRAUMA CENTERS, HOSPITALS AND THEIR HELIPADS IN HILLSBOROUGH COUNTY is located in Appendix B.

If an accident happens on a major causeway linking Pinellas County with Hillsborough, the responding agency is determined by the direction of traffic flow. East bound lanes of the Courtney Campbell, Howard Frankland and Gandy bridges are responded to by Pinellas County ambulances. West bound lanes are handled by Tampa Fire Rescue. Patients are usually transported to hospitals in the opposing county of ambulance origin.

St. Joseph's Hospital administrative officials petitioned the HCTA to reexamine the existing trauma center receiving zones that govern where the most critically injured trauma patients should be transported, asserting that the current physical boundary is not consistent with Florida Administrative Code. They requested that the trauma center receiving zones be revised to

become consistent with state regulations, alleging that the current plan results in some trauma alert patients being taken to a trauma center which is not closest to the incident. The presumed consequence was that a portion of the trauma center receiving zone now assigned to Tampa General Healthcare in both the incorporated and unincorporated sectors of the County would be allocated instead to St. Joseph's Hospital.

> *The applicable rule, Section 64E-2.015(2), F.A.C, stipulates that each EMS provider shall transport or cause to be transported every trauma alert to a state-approved trauma center (SATC) or state-approved pediatric trauma referral center (SAPTRC) nearest to the location of the incident, unless distance is not relevant to the length of time for transport due to the use of air ambulance, or a further SATC or SAPTRC has (a) special resource(s) that the nearer SATC or SAPTRC does not have, or other permitted exceptions as may be provided in State approved trauma transport protocols.*

It may be reasonably assumed that any change to the status quo would impact both trauma centers. Practically speaking, any shifting of boundaries would change the obligatory transport destination in the service jurisdictions of Tampa Fire Rescue, Hillsborough County Fire Rescue and Temple Terrace Fire Department. One possible consequence of modifying the existing scheme is that St. Joseph's Hospital would acquire additional trauma alert or other potentially seriously injured patients from prehospital emergency medical service (EMS) providers. Under the existing trauma transport protocol, EMS personnel designate a trauma center destination for any patient meeting state criteria and any other deemed to have suffered a mechanism of injury which is conceivably life-threatening. No assessment is available to determine just how many such patients might be affected by changes to the trauma center receiving zones nor what bearing this might have on patient outcomes.

In response to the St. Joseph's Hospital request, HCTA carried out a study to see what ground travel times to each of the trauma centers looked like from hundreds of points county wide. These times were simulated using a Florida Department of Transportation (FDOT) computer travel demand model especially modified for Hillsborough County conditions. With these prehospital provider transport times thus synthesized, it was possible to determine what differences there were between transit times to the two trauma centers from each of these many points. Actual transport times of all trauma alert patients taken to both trauma centers by the ground ALS providers for a specified period correlated strongly with the computer estimated times from the analogous area, which suggests that the model is a satisfactory adjunct in the decision process when defining trauma center receiving zones.

The basis for such an approach can be advanced as follows: the differences in air transport times between the two institutions located about five nautical miles apart are negligible. Furthermore,

it seems logical to conclude that duration of transport is an acceptable surrogate for distance in this context, and arguably, the only meaningful measurement of determining the 'closest trauma center'. The rule deems distance irrelevant in cases of air transport presumably because time differences are minimized by the speeds attained in flight. Similarly, it would be imprudent not to emphasize travel time where traffic patterns and other transportation system infrastructure may make an approach to a particular facility more or less accessible by ground than to the other.

The results of the study show that the travel time differences to the two trauma centers, particularly from those zones where ground transport would normally be anticipated, are small. Comparison to the existing and a previously proposed trauma center receiving zones dividing line showed that transport time differences from zones in the area between the north-south leg of I-275 (the current eastern boundary) and US 301 north of I-4 to the Pasco County line are predominantly between zero and two minutes. Seven TAZs in this circumscribed area, which occupies approximately only a sixth of this land area, have transport time differences between 2-4 minutes. Neither the land area nor the magnitude of the travel time difference in this section makes a compelling case for change. Wherever trauma center receiving zones are established, the importance of designating a clear and unambiguous landmark should not be underestimated. The paramedics at the scene are concerned with ensuring the best possible care in the most expeditious manner for their patients. Any extraneous activity should be reduced to a minimum and all routines made automated. The I-275 border is a distinct and obvious dividing line to these care givers. Their sense of position relative to another road, e.g., Route 301, and arguably other boundaries would not be so obvious and would only contribute to the complexity of an already chaotic situation. Thus, the clearest and most efficient trauma center receiving zones scheme would be to retain identical ground and air transport boundaries.

Refer to the Appendix E map TRANSPORT TIME DIFFERENCES BETWEEN TRAUMA CENTERS: TAMPA GENERAL HEALTHCARE AND ST. JOSEPH'S HOSPITAL for a graphical representation of the results of the Trauma Center Receiving Zones project. Travel time differences between trauma centers from all 700 Florida Department of Transportation traffic analysis zones (TAZs) in the County are reduced to six color-coded non-overlapping two minute intervals (range zero to twelve minutes). Individual TAZs are not shown due to the density at this scale. Major Hillsborough County roadways (I-75, I-275, I-4 and U.S. Highway 301) are highlighted with thickened lines.

The dash-dot line (essentially a north-south orientation) divides the county into two sections. The area to the left or west of this line represents those TAZS resulting in positive travel time differences in relation to St. Joseph's Hospital, conversely the area to the right or east of the line depicts those TAZs with travel time values greater than zero vis-à-vis Tampa General Healthcare.

St. Joseph's Hospital administration was persistent in the pursuit of an enlargement of its market share of trauma patients transported by prehospital EMS providers. In response, the HCTA convened a group of interested physicians to discuss this issue and offer recommendations. The consensus of this body favored deferring this decision to the two medical directors of the County's three ground ALS services, Tampa Fire Rescue, Hillsborough County Fire Rescue, and Temple Terrace Fire Department. Subsequently, these individuals independently concluded that their official positions on the matter opposed any change to the current zones. Appendix F contains the medical directors' letters affirmations of the current trauma center receiving zones.

Based on years of experience of system operation involving the two trauma centers in the current receiving zone configuration, the evidence gathered during the trauma center receiving zones project, the rationale previously presented, and the opinion of the EMS medical directors, the HCTA finds no justification to change the currently defined trauma center receiving zones scheme. Therefore the HCTA endorses the status quo and supports the medical directors' determination against change.

The HCTA proposes that the innovative afore-described transportation modeling scheme represents the best method devised to-date to study the issue of defining trauma center receiving zones. The technique employs a computer simulation whose accuracy was verified by real-life data, to be overlaid on the geographical landscape in question. The numeric calculations and resulting graphical depiction enable an unbiased decision to be made that can be consistent with both practical clinical considerations and Section 64E-2.015 (2), F.A.C. Appendix A contains the description of the materials, methods and results of the complete study.

Part C

Organizational Structure

1. Provide a detailed description of the managerial and administrative structure of the proposed agency.

The HCTA is an administrative office of the County Government under the Emergency Management section of the Department of Public Safety. The Trauma Coordinator reports to the Director of Public Safety. That Director reports to the Deputy County Administrator in matters pertaining to the HCTA. Policy decision are made by the Board of County Commissioners.

The HCTA contracts with a physician from a trauma center with expertise in trauma care systems for medical director services. The consultant's contract is managed by the Director of Public Safety. The contract is cancelable by either party on a 60-day notice. The Medical Director's Contract is included in Appendix G. The Department of Public Safety may pursue alternative arrangements to allow this position to periodically be rotated between TGH and SJH in the future.

2. Include a table of organization, the titles of the board of directors and each member's affiliation.

A diagrammatic representation of the HCTA's position in the current County Government structure is included in Appendix H.

The Trauma Agency assembles three county-wide committees for advisory input to assist with its work.

The Trauma Audit Committee (TAC) convenes for the purpose of addressing hospital and pre-hospital provider quality of care issues concerning trauma, including the overall performance and coordination of the trauma care system. The scope of concern for the TAC meetings includes but is not limited to review of prehospital provider treatment, prolonged scene times, coordination and transfer of care between agencies, all trauma deaths, triage issues, trauma alert criteria, trauma transport protocols and exceptions to same, trauma care at both trauma centers and non-trauma centers including rehabilitation.

The TAC is composed of representatives from all emergency medical service providers, public emergency medical dispatch centers, trauma centers, initial receiving centers, and training officers who advise the HCTA Coordinator and Medical Director. The TAC usually meets monthly, and evaluates system function for opportunities for quality improvement.

The following minimum representation is sought:
Chief of Trauma from each designated trauma center
Emergency physician from each designated trauma center
Emergency physician (not affiliated with a trauma center)
Physicians with specialties and/or affiliations in pediatrics, neurosurgery, orthopedics, anesthesiology, general surgery
Physician who is a representative of the Hillsborough County Medical Association
Trauma nurse coordinator from each designated trauma center
Emergency nurse (not affiliated with a trauma center)
Medical examiner
Program directors, chief flight nurses and Medical Directors from the air medical programs
Administrators, training officers and Medical Directors from the City and County ground ALS providers
Administrators, training officers and Medical Directors from the BLS providers
Medical director of Mass Casualty Planning
Chairman of the Emergency Medical Planning Council

Two other advisory bodies recently formed assist the HCTA with trauma system policies and evaluation issues.

Emergency medical service providers, trauma centers, non-trauma centers and academic public health policy experts are represented on the Trauma Advisory Board (TAB). The group meets ad hoc, is advisory to the Trauma Agency staff and establishes its own policies and procedures. It develops rules for approaching a trauma system needs assessment and the resolution of community wide conflicts that do not deal with individual patient quality of care inquiries. Among their activities, these representatives may consider the appropriateness of uses of the new county wide trauma registry and comment on Plan Updates.

The composition of the TAB is as follows:

Administrators from the City and County ground ALS EMS providers
Faculty from the USF College of Public Health
Administrator, Tampa General Healthcare
Administrator, St. Joseph's Hospital
Administrators from the busiest initial receiving centers
Physician representative from initial receiving center
Trauma surgeon from trauma center
Medical Directors from the air medical programs
Medical Directors from the ground ALS EMS providers
Trauma Coordinator, Hillsborough County Trauma Agency
State Brain and Spinal Cord Injury Program specialist

The Trauma Research Work Group (TRWG) consists of individuals skilled in clinical care, database management and/or evaluation methods to formulate the study questions to be answered using the Agency's centralized trauma registry. This group will be sensitive to the issues of confidentiality, independence and free market enterprise between the trauma centers. This group's first assignment will be to oversee the field testing of the State's newly proposed adult trauma triage criteria before implementation into rule.

The composition of the TRWG is as follows:

Chief of Trauma, Tampa General Healthcare
Chief of Trauma, St. Joseph's Hospital
Trauma Coordinator, Tampa General Healthcare
Trauma Coordinator, St. Joseph's Hospital
Trauma Registrar, St. Joseph's Hospital
Medical Director, HCTA, Aeromed, Tampa Fire Rescue (currently the same individual)
Medical Director , St. Joseph's One
Training Officer, Tampa Fire Rescue
Training Officer, Hillsborough County Fire Rescue
Training Officer, Temple Terrace Fire Department
Epidemiologist injury research specialist, USF College of Public Health
Physician epidemiologist consultant
Trauma Coordinator, Hillsborough County Trauma Agency

3. Provide the job descriptions, titles, and responsibilities of officials who shall be directly responsible for trauma agency personnel, and the job descriptions, titles, and responsibilities of individuals who shall be responsible for managing and operating the trauma agency on a daily basis.

The Trauma Agency has one full-time employee, the Trauma Coordinator, who is a registered nurse with a background in trauma care and one part-time consultant, the Medical Director, with expertise in trauma care systems. The Director of Public Safety oversees these two HCTA positions.

The Trauma Coordinator is an unclassified employee who is responsible for the day-to-day operation of the Trauma Agency. The Medical Director works with the Trauma Coordinator to set goals and objectives for the Trauma Agency and to accomplish the work of the Agency relating to patient care, system function and evaluation. The Trauma Coordinator also consults as needed with trauma surgeons, trauma center physicians, representatives from the constituent services, other governmental offices and agencies and the County attorneys while carrying out the duties and responsibilities of the position. The job descriptions and current CVs for these individuals are in Appendix I.

The Director of Public Safety performs those administrative and managerial duties inherent in assuming responsibility for and directing the overall activities of the Department of Public Safety. Primary duties involve responsibility for providing senior level administrative direction and coordination to vital components of emergency response and public safety functions. The Department is responsible for providing public safety support by administering the 9-1-1 Emergency Telephone System; Emergency Management; Emergency Dispatch Services for Hillsborough County fire and medical functions; Security Services Operations; and the Trauma Agency. The job description for this individual is also included in Appendix I.

With regard to the Trauma Agency, this individual's responsibilities entail overseeing that required projects are completed in a satisfactory and timely manner and providing the necessary clerical and administrative support.

4. Describe in detail the specific authority that trauma agency personnel shall have in directing the operation of prehospital and hospital entities within the purview of the trauma agency, if approved, be it a single or multi-county trauma agency.

The major activities of the Agency fall into two broad categories: quality care assurance and system planning/evaluation. To a lesser extent the Agency is concerned with public education, due to limited manpower resources. A large focus of the Trauma Coordinator's activities is at the level of pre-hospital care to ensure that trauma patients are afforded appropriate and efficient access to the system, are accurately assessed, properly treated and triaged and expeditiously transported to the hospitals best equipped to care for them. At the hospital phase of care, the scope of the Trauma Agency's review includes, but is not limited to inpatient acute and rehabilitative care and all institutional trauma deaths county wide.

The nature of these responsibilities involves county wide oversight of compliance with trauma scorecard methodology and adherence to the Uniform Trauma Transport Protocol. The Coordinator investigates quality of care inquiries initiated either internally or by outside parties. The Trauma Coordinator is empowered to collect data from prehospital and hospital providers regarding assessment, treatment or transport of a particular trauma patient as well as aggregate statistics to measure levels of a service's activity, response and treatment patterns. These investigations can involve review of records of emergency medical dispatching, and all patient encounters. The HCTA reviews all institutional trauma deaths autopsied by the Medical Examiner. To this end, it has acquired blanket authorization from the majority of county hospitals to photocopy those medical records already provided to the Medical Examiner's Office for its death investigations. See the list of facilities and the terms of their agreement to this policy in Appendix J.

Quality of Care Activities

The Trauma Agency will consider verbal or written quality of care inquiries from any system source, e.g. a public safety answering point, a prehospital or hospital provider. Concerns are typically initiated by a phone inquiry from a provider, through or from the Trauma Agency to another provider. A response to the provider or Trauma Agency may consist of discussion at a TAC meeting, written responses, changes in operating procedure or medical protocols. For quality of care inquiries from a hospital to a prehospital provider not routed through the Trauma Agency for disposition, the Trauma Agency encourages the hospital to concurrently copy it the inquiries and responses to facilitate over all tracking of system compliance. Information gained from investigations into quality of care inquiries directed through the Trauma Agency will be treated confidentially; the content will not be used for employee disciplinary hearings.

Disagreements between providers about patient care issues that can be resolved between providers will be returned to the initiating provider to pursue through its own internal chain of command. Only under exceptional circumstances, and always at a provider's request, will the Trauma Agency attempt to mediate differences between services.

Both trauma centers conduct monthly internal trauma quality management conferences. The Trauma Coordinator generates reports of trauma deaths from the Medical Examiner database to assist both trauma services in their preparation for these meetings.

The HCTA's purview extends to any patient accessing the trauma system within the County limits. Tracking inappropriate in-county patient referrals to non-trauma centers or delayed transfers-in from out-of-county facilities to County trauma centers is particularly problematic. Anecdotal evidence suggests that patients may not be afforded the highest level of care when needed in those circumstances. Fortunately, in the near future the HCTA expects that the former will become easier to identify and therefore more amenable to intervention.

Although previously the HCTA has not had the capability to systematically monitor compliance with trauma transport protocols at non-trauma center hospitals, e.g. assure that those patients who meet trauma alert criteria are always transported to trauma centers initially or transferred to a trauma center as soon as medically practicable, it expects to have access to this capability in 1998. Presently, the only reliable indicator available to the HCTA is the presence of a preventable or potentially preventable death at a non-trauma center, determined by autopsy review. Using trauma discharge diagnoses from the Agency for Health Care Administration data files, the HCTA would thereby be able to screen severity of illness indicators at these initial receiving facilities to identify probable trauma alerts.

The care rendered to some of the patients transferred from out-of-county facilities to the County's trauma centers will continue to be a source of concern. There are instances of inappropriate care, delay in transport, and misdiagnosis. While the HCTA has no official jurisdiction outside county boundaries, it could probably have the greatest positive influence on trauma care through intervention and feedback on these transferred cases. Historically, inquiries made to these outside institutions have been met with a high non-response rate. Nevertheless, the HCTA is committed to continue to track these transgressions with the hope of eventually having a positive impact.

System Planning and Evaluation

A prehospital or hospital provider may initiate a request for a modification to the system (and concomitant Trauma Plan modification). The HCTA will gauge such requests on the basis of quality improvement potential for the entire trauma system. A provider alleging a system deficiency must be able to substantiate its claim with data that can be corroborated by the HCTA. Any request for a system change must be stated in terms of measurable improvement in the quality of patient care to be delivered, accompanied by an assessment of its potential impact on the overall system. Moreover, the proposed quality indicators must be acceptable to the Agency.

Examples of system modifications might include:

- alteration in the dispatch or delivery of emergency services
- specific treatment or rehabilitation regimens and transfer policies
- placement of emergency responders
- amount and type of treatment at the scene
- transportation safety
- triage to specific facilities based on specialized capabilities

The Trauma Agency will endorse changes in the system where it determines there is a need for additional resources or identifies deficiencies which negatively impact patient care. The HCTA may employ the clinical benchmarks of its choice, such as is outlined in the Major Trauma Outcome Study, in the performance of the trauma system analysis.

The Trauma Agency selects the quality indicators that are used for system evaluation, which could encompass any phase throughout the continuum of trauma care, including system access, field treatment, emergency department care, inpatient services, rehabilitation and prevention activities.

The Trauma Agency shall use the Trauma Plan Update as a vehicle for proposal of change of any component in the trauma system, to be updated as necessary. Plan Updates will first be presented to the Emergency Medical Planning Council in a public hearing and then approved by the Board of County Commissioners (BOCC) before submission for acceptance by the Bureau of EMS. A Notice of Intent to Consider the Trauma Plan Update will be advertised in at least one newspaper of general circulation at least thirty days prior to the public hearing. Adequate notice will also be given to County hospitals and other interested parties in the trauma service area in advance of the public hearing. The Trauma Agency shall submit the Plan Update to the Bureau of EMS for formal consideration no sooner than sixty days following the public hearing. The Trauma Agency may present (an) interim draft(s) of the update to the Bureau of EMS for review and comment, before the official version is submitted for approval.

Part D

Trauma System Structure

(d) 1. Describe the operational functions of the system; the components of the system; the integration of the components and operational functions; and the coordination and integration of the activities and responsibilities of SATCS, SAPTRCS, hospitals, and prehospital EMS providers.

The Trauma System

The Hillsborough County Trauma System was established to reduce death, disability and other complications resulting from injury through prevention, planning, coordination, evaluation and focused improvement of the continuum of organized trauma care services available in Hillsborough County. Trauma system resources run the gamut from system access (9-1-1 operators and emergency medical dispatchers), prehospital care (ALS and BLS air and ground ambulance providers), acute care (trauma centers and initial receiving facilities), rehabilitation (specialized inpatient and outpatient services) and prevention activities (educational awareness and safety programs).

The technology and nature of current treatment modalities required to treat the critically injured patient delivery involves careful collaboration and precise timing to bring together many specialties and health disciplines to care for the patient. Organized strategies and coordination among health care professionals in a team approach in both the prehospital and hospital arenas are essential to avoid delays in definitive treatment which could cause deleterious consequences and compromise patient care.

Emergency Medical Dispatchers

In Hillsborough County, all emergency medical dispatch PSAPs have adopted a nationally recognized medical priority dispatch system into their standard operating procedure to decide the appropriate level of response (personnel, equipment and vehicles) to send to a scene. While emergency medical dispatch caller interrogation algorithms (Medical Priority Dispatch System) are uniform across agencies, deployment practices necessarily vary because of differences in population distribution and emergency medical resources in the Hillsborough County trauma system. The actual vehicle(s) deployed depends on medical necessity and resource availability. The recommended deployment for a potential trauma alert is an ALS transport vehicle plus additional first responder vehicles such as engine companies. While the necessary equipment and personnel are en route to the scene, the emergency medical dispatchers initiate standardized pre-arrival instructions to the caller which are specifically tailored to the emergency. This service has been demonstrated to positively impact patient outcomes.

The emergency medical dispatch centers for the PSAPs, the communications centers for the private ambulance services and the EMS agencies have voluntarily agreed to synchronize their clocks against a referent time standard to improve the accuracy of run reports and other records of patient encounters. By improving the precision of times documented on run reports, the concordance of times for a given patient's records across agencies (e.g. when transfer of care occurs between non-transport and transport vehicles, BLS to ALS, or ground to air services) can be enhanced. A secondary benefit to be derived from this effort is to improve reliability of measurement of specific EMS performance indicators for trauma research study purposes.

Ideally the referent clock times used by city or county fire, BLS, ALS and air medical services for documentation of prehospital response, transport and treatment should be internally consistent both within and between agencies. In practice, synchronization can be best hoped to be achieved within agencies only. Affected devices include the computer-aided dispatch (CAD) system, personal computer workstations, automatic external defibrillators, portable monitor/defibrillators, voice logging recorders, radio consoles, external clocks, watches and LED displays.

Prehospital EMS Providers

In the prehospital setting, the Uniform Trauma Transport Protocol coordinates the emergency medical service providers' activities from the moment that the trauma patient accesses the trauma system until his arrival at the most appropriate facility for definitive care. This document describes the procedures afforded to the trauma patient for dispatch of vehicles, assessment of the extent and severity of injuries, designation of the mode of transportation and determination of the most appropriate treatment destination. The patient determined severely injured according to state-approved criteria (trauma alert) is transported to a trauma center. A trauma patient with a particular type or severity of injury is directed to a special community trauma care resource at a designated trauma center. A trauma patient with less severe injuries may go to the hospital of his or her preference.

Increasingly, the ALS ground services are upgrading the skills of the crews riding the engines (non-transport vehicles) from BLS to ALS level of care. Typically the engine arrives before the rescue vehicle, reducing the time before emergency care is initiated. This is particularly important in distant rural areas of the county where fire and rescue stations are more widely dispersed.

In general, a request for air medical transport is usually initiated for the trauma patient needing trauma center level care if the patient's estimated time to arrival to such a facility exceeds twenty minutes. In situations where the emergency medical dispatcher advises that the ALS

ambulance's estimated time of arrival (ground or air) to the scene is greater than the estimated time that the on-scene BLS unit can transport the patient to a trauma center, the BLS service may transport the trauma alert patient to that facility.

Trauma Centers

Mandatory trauma center standards established by the State direct the number and type of personnel and resources brought together to manage the critically injured individual. The trauma patient is met by a multi-disciplinary team of health care professionals who continue the assessment and treatment begun by the prehospital providers. The patient is taken to the appropriate adult or pediatric specialized treatment room called the trauma resuscitative area which contains the major medical supplies and equipment necessary to diagnose the nature of injuries and whether surgery is indicated.

The trauma team consists of more than a dozen persons to assist the trauma surgeon and other physician specialists in providing life-sustaining measures while evaluating the extent of injuries. Surgery may or may not be immediately performed. The patient is constantly reassessed during this 'resuscitative' phase, changes in condition are noted and treatment instituted appropriately. The patient is either taken expeditiously to the operating room or transferred to the most suitable care unit to carry on definitive care necessary for optimal recovery. Throughout the hospital stay, changes in the patient's condition are continuously monitored for adverse outcomes which could require medical or surgical intervention.

Discharge from the acute care setting may be followed by referral to an accredited rehabilitative center (in or out patient basis). This phase could come either directly after hospitalization or later, after a convalescence to enable the patient to regain strength to maximize potential benefit from specialized restorative therapies.

Non-Trauma Centers

Trauma alert patients should only be transported to a designated trauma center that can continue the appropriate level of definitive care. Notwithstanding, the emergency medical services (EMS) provider on-scene or en route to a trauma center may encounter difficulties in patient stabilization and decide that transporting a critical injured trauma patient to a non-trauma center that is closer to the scene than a trauma center is in the best medical interest of the patient. Such emergency circumstances are described in the Uniform Trauma Transport Protocol and involve conditions where the rescuer is unable to preserve adequate ventilatory or circulatory support for

the patient during transport. Under these extraordinary occasions, the EMS provider transports such a critically injured trauma patient only to an initial receiving hospital (non-trauma center) which has been previously identified as meeting the State's five minimum requirements for such cases.

These five criteria assure that at an initial receiving hospital:

1) a physician and other personnel who are qualified in particular aspects of emergency resuscitation are always on hand;
2) that there is appropriate equipment and staff in-hospital available to conduct necessary x-rays and;
3) laboratory tests and;
4) that there is equipment and staff on call and available to initiate definitive care or transfer procedures for a trauma alert patient within 30 minutes of the patient's arrival at the hospital and;
5) that the institution has a written transfer agreement with at least one trauma center that includes specific procedures to ensure the timely transfer of the trauma alert patient.

Physicians practicing at non-trauma centers in Hillsborough County are guided by recommendations such as those promulgated by the American College of Surgeons Committee on Trauma for determining when a trauma patient should be referred to a trauma center. The transfer process should be initiated as soon as recognition of a patient meeting trauma alert criteria, even while resuscitative efforts are underway. There are also recommendations for other trauma patients which might benefit from transfer to a higher level of definitive care, such as those with certain physiologic indices, specific injury mechanisms or patterns and historical information. A table of such interhospital triage criteria taken from the Advance Trauma Life Support course manual is reprinted with permission in the Uniform Trauma Transport Protocol.

The referring (non-trauma center emergency department) physician is responsible for initiating the transfer process and communicating directly with the receiving (trauma center) physician about the incoming patient. The referring physician selects the mode of transportation, and organizes patient management during the transfer. The receiving physician must agree with these arrangements. Transportation scheduling procedures are specific to the desired mode of transport. It is assumed that any emergency interhospital transfer of a trauma patient will require ALS level of care en route. Accordingly, BLS providers will not normally be involved with this aspect of trauma transports, except to accompany an ALS crew.

Emergency interhospital trauma patient transports are handled by Hillsborough County Fire Rescue, Tampa Fire Rescue or any ALS vehicle operated by a hospital used for interfacility patient transport between hospitals which are under common ownership within Hillsborough

County, if such transportation is provided at no direct charge to the patient. In 1997, American Medical Response acquired a COPCN to perform interfacility transfers initiating at hospitals within Hillsborough County for transport to destinations outside of the County.

Once a trauma alert patient has been brought to a trauma center that patient may not be moved to a non-trauma center until the attending trauma center physician decides that the patient's life-threatening injuries have been stabilized by the necessary operative or nonoperative measures and such that the patient's medical condition will not be negatively affected by such a transfer.

Occasionally critically injured trauma patients must be moved between trauma centers. Mutual aid agreements among trauma centers in and out-of-county allow certain trauma cases to be appropriately triaged and transferred between facilities as needed.

Regulatory and Quality Assurance Activities of the System Components

Emergency Medical Dispatch

This area is moving toward recognition as a bona fide profession, with the establishment of practice parameters and credentialing of personnel. The three emergency medical dispatch centers accept the State's resolution of minimum standards for training and certification of EMD personnel, with appropriate off-line medical oversight, coordination with local EMS systems, and official referenced standards of practice. The integration of quality assurance activities into EMD operations has been initiated into the three emergency medical dispatch centers and is expected to be an ongoing process.

Prehospital Providers

The emergency medical service providers must adhere to specific standards set forth by the State and County for operation. The Department of Health, Bureau of EMS Licensing and Inspection Division issues and regulates licenses for each service. The Hillsborough County Board of County Commissioners grants certificates of public convenience and necessity (COPCN) for those services based within its jurisdiction. It takes into consideration the recommendations of the Emergency Medical Planning Council (EMPC), a citizen's advisory body composed of individuals with particular expertise in prehospital issues. Licenses and certificates are renewable every two years, pending satisfactory fulfillment of the requirements.

The DOT further regulates the BLS providers. The Public Transportation Commission (PTC) is

a local regulatory body which oversees all vehicles for hire. Their jurisdiction extends to vehicles for hire such as taxis, limos and buses as well as non-emergency services such as wheelchair, stretcher vans, and BLS providers. It covers onboard equipment, vehicle inspections, and licensure of its drivers, for driving record and criminal background. It conducts monthly and sporadic inspections of the commercial services. The PTC monitors only the insurance status of volunteer, not-for-profit BLS services, such as the Sun City Center Squad. The volunteer entities are exempted from fees for vehicles or COPCNs.

Each service must have a medical director. The requirements for medical directorship are proscribed in Florida Statutes but are discussed more generally in the section on Medical Control and Accountability. Each EMS medical director is responsible for ongoing quality assurance review of all EMTs and EMT-Ps operating under his supervision be practiced. Monitoring of personnel performance may be accomplished by a variety of methods of run report review.

For each instance in which a trauma patient was assessed, medical care was rendered, transported, pronounced dead at the scene, transferred to another licensed service, transferred from one medical facility to another, and for instances when the person or persons for whom the emergency medical services provider was dispatched and a trauma patient refused treatment, transport, or both, the crew of each rescue transport vehicle involved shall complete the applicable elements of the trauma care information section of the current Florida EMS Run Report/HRS Form #1894 (or state approved equivalent). The original copy of this trauma patient record is sent to the Bureau of EMS monthly. The emergency medical service provider must maintain a copy of same for a minimum of five years. The engine crews for TFR, HCFR, and TTFD (non-transport vehicles) which frequently may be the first to arrive on the scene, now also complete documentation of patient contact, such as a medical treatment record or run report. The paperwork to be completed is determined by whether that non-transport vehicle is ALS or BLS.

Law enforcement officials report trauma deaths occurring outside an institution, such as those found dead on arrival at the scene of a response by a prehospital provider. Accordingly, virtually all deaths from trauma are thus autopsied. The information gleaned from the postmortem examination on all trauma deaths occurring within the County is available to incorporate in the quality assurance activities of the hospital and prehospital providers.

Prehospital providers outside the County boundary are under no obligation to participate in quality improvement activities that fall under the domain of other TSAs; cooperation is voluntary. Problems identified in patient care rendered by out-of-county providers have been handled on a case-by-case basis, and largely, results of these attempts have been unsatisfactory.

Hospital Providers

The two trauma centers must perform specific activities to maintain their state certification rating. These performance standards are covered in the Department of Health, Florida Trauma Center Approval Standards pamphlet which carries the weight of law. Case reviews of all trauma patients, monthly multi-disciplinary trauma quality management committee meetings, and regular and episodic trauma care-specific continuing education lectures for physicians and nurses are all part of the regulations. The medical and nursing disciplines must each maintain current licensure and often specific credentialing is also mandated beyond the basic requirements.

The trauma services at the two trauma centers in Hillsborough County have the following organizational similarities: A Chief of Trauma, adult and pediatric trauma surgeons, other surgical specialists, anesthesiologists, neurosurgeons, emergency department physicians, a registered nurse trauma coordinator, a trauma registrar who has formal medical records training, other medical records coders or abstractors, technical and clinical personnel, and other support staff.

Each trauma center maintains a database on all admitted trauma patients. Typical information included in each record are the trauma patient's diagnoses and aspects of trauma care rendered by prehospital, any other hospital(s) providers, the trauma center and the medical examiner's findings if the patient expires. By law, if death occurs in the hospital, it is the physician's responsibility to report the death. Failure to comply is a violation of the Medical Examiner's Act, with resultant penalties. Accordingly, almost all deaths resulting from trauma are autopsied by the County Medical Examiner. Selected information from this trauma registry must be reported to the State and the Trauma Agency at regular intervals.

Hospital providers outside the County boundary are under no obligation to participate in quality improvement activities that fall under the domain of other TSAs; cooperation is voluntary. Problems identified in patient care rendered by out-of-county providers have been handled on a case-by-case basis, and largely, results of these attempts have been unsatisfactory.

The HCTA conducts monthly county-wide trauma audit committee (TAC) meetings as a confidential forum for addressing pre-hospital and hospital provider quality of care issues concerning trauma, including the overall performance and coordination of the trauma care system. Designated representatives from the emergency medical dispatch, prehospital and hospital trauma community attend. The confidentiality of such interactions and activities are protected from disclosure by Florida Statute. Discussions at the county wide TAC meetings, or any reports and records prepared by the HCTA or its delegated committee which relate to patient care quality assurance such as consideration of specific persons, cases, incidents relevant to the

performance of quality assurance and system evaluation are privileged.

The prehospital and hospital providers each practice quality improvement activities related to their care of the trauma patient. While a hospital or EMS provider must disclose actual records and reports of patient treatment and transport requested by a trauma agency, these entities are not required to reveal their own quality assurance proceedings, records or reports that they generated from internal review except to the State. Each must cooperate with quality of care inquiries initiated by each other or from the Trauma Agency regarding any trauma patient assessed, treated or transported. The Trauma Agency requests all services to report selected information on trauma call activity at regular intervals.

Using the data collected from all prehospital EMS providers and trauma centers, the Trauma Agency thus has the capacity to evaluate the trauma system. Through the review of run reports, medical records and autopsy reports, the HCTA assesses all hospital trauma deaths for the probability of survival and determines if appropriate triage and the standard of care had been performed.

2. Include a list of all participating trauma care resources within the defined geographical area of the proposed trauma agency and documentation showing that these entities have been given the opportunity to participate in the system. Trauma care resources shall include emergency medical dispatch centers, prehospital and hospital providers (SATCs, SAPTRCs)

The trauma care resources in Hillsborough County may be considered to comprise:

Access/Communications

Public Safety Answering Points (law enforcement agencies)
Secondary Public Safety Answering Points (emergency medical dispatch)
Non-emergency, BLS providers' dispatch
Aeromedical services' dispatch
U.S. Coast Guard dispatch
Florida Marine Patrol dispatch

Prehospital Providers

First Responders

Hillsborough County Fire Rescue engines
Tampa Fire Rescue engines
Temple Terrace Fire Department engines
Plant City Fire Department engines
Hillsborough County Sheriff's Department
Tampa Police Department
Tampa International Airport Security
Florida Marine Patrol
Florida Highway Patrol

Basic/Advanced Life Support Licensed Providers (Water Transport)

Tampa Fire Rescue (Fire Boat, Amphibious Unit)
Federal Government (not state-licensed) BLS+ Responders
U.S. Coast Guard

U.S. Air Force (56th Medical Group TAC)

Three advanced life support (ALS) ground ambulance providers:

Hillsborough County Fire Rescue (HCFR),
Tampa Fire Rescue (TFR),
Temple Terrace Fire Department (TTFD).

Two ALS helicopter ambulance providers each associated with a trauma center:

Aeromed (TGH)
St. Joseph's One (SJH)

Four basic life support (BLS) ground ambulance providers:

AmeriCare
American Medical Response (with COPCN limited to certain ALS activities)
Sun City Center Emergency Squad (volunteer)
TransCare

TransCare has a legal mandate to transport psychiatric patients. Hillsborough County Crisis Center, Inc. Patient Transportation Services (PTS) was designated in 1982 by the Hillsborough County Board of County Commissioners as the agency for transporting psychiatric patients, based on Chapter 394, F.S. Pursuant to Section 394.463 (2) (b) 2, F.S., the law enforcement agency designated for the area in which the person in need of transport for involuntary examination is situated may hereafter decline to transport the person to a receiving facility only if the jurisdiction designated by the county has contracted on an annual basis with an emergency medical service or transportation company for the transportation of persons to receiving facilities pursuant to this sections at the sole cost of the county; and the law enforcement agency and transportation service agree that the continued presence of law enforcement personnel is not necessary for the safety of the person or others.

In 1996, the PTS acquired a BLS license to supplement their fleet of wheelchair vans. Accordingly, this agency is now the designated agency of record to transport psychiatric patients (Code 33) requiring BLS level care in Hillsborough County.

The locations of the stations of the public emergency medical service providers are listed later in this section and shown on the map in Appendix C.

Public EMS agencies' vehicle staffing and special vehicle resources

All three public EMS agencies now have combined fire and rescue providers. In general, there are more fire engines than rescue cars. Fire engines are typically staffed by firefighters which are typically also licensed as emergency medical technicians (EMT) who can perform BLS level assessment and procedures. Rescue cars are typically staffed by paramedics (EMT-P) who can perform ALS level assessment and procedures. Increasingly staffing for the County fire engines is being upgraded to that of paramedic for the stand-alone fire stations, i.e., those without a rescue car. This is especially desirable in areas which are farther from a rescue station. It increases the likelihood that the critically injured patient will be afforded a higher level of prehospital care even before the rescue car (transport vehicle) arrives. With the adoption of the uniform trauma transport protocol, engine personnel, whether EMT or EMT-P are authorized to call a trauma alert and summon a helicopter even before a rescue vehicle arrives, a significant system advancement since 1997. EMT-P manned engines, commonly referred to as paramedic pumpers, are indicated in the tables of services' station locations as "E - 'station number' (EMT-P.)".

A summary of the public EMS' infrastructure (stations and specialized equipment) follows.

Public EMS service	Fire stations	Rescue stations	Combination fire engine / rescue car stations	Paramedic pumpers	HAZMAT equipped fire engines	AARF manned / equipped fire engines
TFR	22	11	11	1	1	4
HCFR	35	18	14	6	2	0
TTFD	2	2	2	2	0	0

Legend of abbreviations for above and following agency-specific tables:

E = engine
R = rescue car
HAZMAT = especially equipped vehicle to deal with hazardous materials in environment
AARF = airport rescue fire fighter; especially equipped vehicle to fight fires from inside engine
VOL = volunteer fire fighter status

Hillsborough County Fire Rescue Stations			
Personnel / Equipment	Station Name	Address	City
	Fire Marshall	2709 E. Hanna Ave.	Tampa
E - 1 (EMT-P)	Progress Village	3302 S. 78th Street	Tampa
E - 2	Lithia	6726 Lithia-Pinecrest Road	Lithia
E - 3	Summerfield	1101 Big Bend Road	Gibsonton
E - 4 / R - 4	Armwood	11826 SR 92	Seffner
E - 6 (EMT-P)	Henderson Road	10100 Henderson Road	Tampa
E - 7	South Brandon	122 W. Bloomingdale Ave.	Brandon
R - 7	Bloomingdale	3000 S. Kings Ave.	Brandon
E - 8 (VOL)	Sundance	602 Lightfoot Road	Wimauma
E - 9 (EMT-P)	Sabal Park	3225 N. Falkenburg Road	Tampa
E - 10 / R - 10	Armdale	8430 N. Grady Avenue	Tampa
E - 11 / R- 11	Brandon	117 Ridgewood Avenue	Brandon
E - 12 / R - 12	Gibsonton	8612 Gibsonton Drive	Gibsonton
E - 13 / R - 13	Gunn Highway	7502 Gunn Highway	Tampa
E - 14 / R - 14	N. Hillsborough	1404 E. 131st Avenue	Tampa
E - 15	Palm River	715 S. 58th Street	Tampa
E - 16 (EMT-P)	Riverview	9250 Kevin Drive	Riverview
E - 17 / R - 17	Ruskin	101 First Avenue N. E.	Ruskin
E - 18 (VOL)	Seffner-Mango	1706 Kingsway Road	Seffner
E -19 / R - 19	Carrollwood	13201 N. Dale Mabry Hwy.	Tampa

Hillsborough County Fire Rescue Stations			
Personnel / Equipment	Station Name	Address	City
E - 20 (HAZ MAT) / R - 20	W. Hillsborough I	7020 W. Hillsborough Ave.	Tampa
E - 21 (EMT-P)	Thonotosassa	11641 Flint Avenue	Thonotosassa
E - 22	Wimauma	1120 7th Street	Wimauma
E - 23 (VOL)	Dover	3138 Sydney-Dover Road	Dover
R - 23	Dover	2820 Gallagher Road	Dover
E - 24 (VOL) / R -24	Lutz	129 / 125 respectively Lutz-Lake Fern Road	Lutz
E - 25	Springhead	4503 Coronet Road	Plant City
E - 26 (VOL)	Cork Knights	5302 W. Thonotosassa Road	Plant City
E - 27 (VOL)	Bloomingdale	4705 E. Bloomingdale	Brandon
E - 28 / R -28	Ed Powers	114 Pebble Beach Blvd.	Sun City
E - 29 (HAZ MAT)	Apollo Beach	626 Gulf & Sea Blvd.	Apollo Beach
E - 30	Midway	2426 Charlie Taylor Road	Plant City
E - 31 (VOL)	W. Hillsborough II	8901 Memorial Highway	Tampa
E - 32 / R -32	East Lake	5808 Harney Road	Tampa
E - 33 / R- 33	Faulkenburg	850 S. Faulkenburg Road	Tampa
E -34 (EMT-P)	Van Dyke	6415 Van Dyke Road	Lutz
E - 35	Westchase	10401 Countryway Blvd.	Tampa
E - 36 / R - 36	Valrico	116 N. Dover Road	Valrico
R - 44	Plant City South	403 S. Evers Street	Plant City
R - 74	UCH Hosp. Fletcher	Fletcher Avenue	Tampa

City of Tampa Fire Rescue Stations		
Station #	Personnel / Equipment	Address
1	E - 31 / R - 31	808 Zack Street
2	ARFF*	4415 Eisenhower Boulevard
3	E - 3	103 S. Newport
4	E - 4 / R - 4	2100 11th Avenue
5	E - 5 / R -5	3900 N. Central
6	E - 6 (HAZ MAT)	311 S. 22nd Street
7	E - 7	6129 Nebraska Avenue
8	E - 8 (EMT-P) / R - 8	2050 N. Manhattan Avenue
9	E - 9	2525 Chestnut Street
10	E -10 / R - 10	3108 34th Street
11	E - 11 (EMT-P) / R - 11	710 E. Fairbanks
12	E - 12 (EMT-P)	3073 W. Hillsborough Avenue
13	E - 13 / R - 13	9415 McKinley Drive
14	E - 14 / R -14	1325 S. Church Avenue
15	E - 15 / R - 15	4919 S. Himes Avenue
16	E - 16	5126 10th Avenue
17	E - 17	601 E. Davis Boulevard
18	E - 18 / R -18	5706 N. 30th Street
19	E - 19	4916 Ingraham
20	E - 20 (EMT-P) / R - 20	16200 Bruce B. Downs Boulevard
22	ARFF*	5020 Tampa Bay Boulevard

*Airport rescue fire fighter

City of Temple Terrace Fire Department Stations		
Station #	Personnel / Equipment	Address
1	E - 11 (EMT-P) / R - 11	124 Bullard Parkway (Headquarters)
2	E - 21 (EMT-P) / R - 21	2 E. Telecom Parkway

Hospital Providers

The location of the trauma centers and all other initial receiving hospitals is listed below and shown on a map in the section dealing with geographic features of this trauma service area. A list of services provided by County Hospitals, adapted from the Tampa Bay Hospital Association publication is included in Appendix K.

Trauma Centers

No. of beds	Two trauma centers, each having separate state designations for adult (patients aged 15 years and older), and children (patients less than 15 years of age).
950	Tampa General Healthcare (TGH), a Level I, state-approved trauma center (SATC) and a state-approved pediatric trauma referral center (SAPTRC). Davis Islands Tampa FL 33601
883	St. Joseph's Hospital (SJH), a Level II SATC, and SAPTRC. 3001 W. Martin Luther King, Jr. Boulevard Tampa FL 33677

Non-Trauma Centers

No. of beds	Seven non-trauma center hospitals meet criteria to be an initial receiving hospital to stabilize trauma alerts under extraordinary circumstances. Three of these facilities send representatives to the county wide TAC meetings*.
220	1) Columbia Brandon Regional Medical Center* 119 Oakfield Drive Brandon FL 33511
112	2) Columbia South Bay Hospital* 4016 State Road 674 Sun City Center FL 33573
174	3) Memorial Hospital 2901 Swann Avenue Tampa FL 33609
132	4) South Florida Baptist Hospital 301 N. Alexander Street Plant City FL 33566
201	5) Town & Country Hospital 6001 Webb Road Tampa FL 33615
120	6) University Community Hospital (Carrollwood) 7171 N. Dale Mabry Highway Tampa FL 33614
424	7) University Community Hospital (Fletcher)* 3100 E. Fletcher Avenue Tampa FL 33613

Other Hospital Providers

No. of beds	Six other hospitals within the County offer specialty services or provide care to a particular population entity but do not meet the State criteria as an initial receiving center.
682	1) James A. Haley Veteran's Administration Hospital 13000 N. Bruce B. Downs Boulevard Tampa FL 33612
162	2) H. Lee Moffitt Cancer Center 12902 Magnolia Drive Tampa FL 33612
65	3) MacDill A.F.B. Hospital 8415 Bayshore Boulevard MacDill AFB FL 33621-1607
60	4) Shriner's Hospital for Crippled Children 12502 N. Pine Drive Tampa FL 33612
102	5) Vencor Central Hospital - Tampa 4801 N. Howard Avenue Tampa FL 33603
73	6) Vencor Hospital - Tampa 4555 S. Manhattan Avenue Tampa FL 33611

Other trauma system entities include:

Life Link of Florida (Regional Organ Procurement Organization (Bone & Tissue Bank))
2111 and 3201 W. Swann Avenue, Tampa

Southwest Florida Blood Bank
3602 Spectrum Boulevard, Tampa plus locations at the two trauma centers, South Florida Baptist Hospital and a free standing location in Brandon.

Hillsborough County Medical Examiner's Office
401 S. Morgan Street, Tampa

3. Include the proposed trauma agency's recommendation and justification for the number and location of SATCs and SAPTRCs required to serve its defined geographical area.

Background

The Florida Legislature recognizes a trauma patient as someone with an injury severity score (ISS) of 9 or greater. It further defines a trauma victim as any person who has incurred a single or multi system life-threatening injury due to blunt or penetrating means and who requires immediate medical intervention or treatment. This classification and trauma victim definition serve as the basis for the Legislature's recommendations for the quantity and type of trauma centers to be established state wide. These estimates factor together statistics about the historical distribution of injuries and hospital treatment patterns across the population and political jurisdictions. The apportionment for trauma service areas and trauma centers are set forth in Section 395.402, F.S. State wide there should be 19 trauma service areas and no more than 44 trauma centers overall. Each trauma service area should have at a minimum one trauma center.

Section 64E-2.022, F.A.C., further proscribes the apportionment of SATCs or SAPTRCs within a trauma service area. The number for Hillsborough County is set at two. The most significant change since 1990 in system structure was the departure of a level II trauma center, Columbia Brandon Regional Medical Center, formerly known as Humana Brandon Hospital. The quantity and severity of trauma transported to that facility were insufficient to maintain the necessary skills of the providers, nor to meet the minimum quota of trauma alert patients necessary to keep State approval. St. Joseph's Hospital and Tampa General Healthcare remained as the County's trauma centers. It should be noted that the Bureau of EMS's apportionment of Hillsborough County SATCs/SAPTRCs to two centers was established after the loss of this system constituent.

Both of the trauma centers are situated in the western, more heavily populated part of the county. After Brandon Hospital's exodus, easternmost Hillsborough County was left further from a trauma center than before. Ground transport times from that region to a trauma center conceivably approach an hour but the more severely injured patients are likely to be flown to their destination, thereby reducing travel time considerably. Because of the availability of air medical transport, the HCTA's position is that geography is not a sufficient basis on which to determine the allocation or distribution of trauma centers.

Also in Section 395.402, F.S., the Legislature's expectation of Level I and Level II trauma centers' treating capacities is offered as a planning guideline. Generally, each should be capable of providing care annually to a minimum of 1000 and 500 trauma victims respectively. Level II centers in counties with populations exceeding 500,000 are expected to be able to care for 1,000

such patients per year. Since Hillsborough County's population is approaching the one million mark, each of its trauma centers: St. Joseph's Hospital (level II SATC, SAPTRC) and Tampa General Healthcare (level I SATC, SAPTRC) should plan to be able to serve a minimum of 1000 trauma patients annually. It should be emphasized that these planning guidelines only refer to capabilities for management of adult trauma victims (ages 16 and greater). While both of these trauma centers are also state-approved pediatric trauma centers, the State stipulates that the pediatric trauma caseload not be cross-counted in demonstrating readiness for adult patients. Florida legislation offers no planning guidelines for threshold capabilities of caring for pediatric trauma patients at the present time.

Adult trauma

The ability to perform severity of illness score calculations on hospital discharge claims data available from Florida's Agency for Health Care Administration (AHCA) lends these public records to be readily utilized for research and public policy purposes. The application of a computer algorithm to the billing records from Florida hospitals' admissions data files generated the frequencies of primary trauma diagnosis hospitalizations aggregated by facility, age and ISS category displayed in the table below. Trauma diagnoses are defined as all ICD-9-CM codes in the range 800.00 through 959.99 except for effects of foreign bodies entering through an orifice (930-939), traumatic complications (958), and late effects of injuries (905-909). The AHCA database and others like it are attractive tools to many interested in easily available and inexpensive sources of data on large populations to describe the nature, extent and sequelae of trauma at the system or regional level. While much has been written about the limitations, deficiencies and implications of using these types of administrative databases for injury surveillance or health policy decisions, their adequacy is beyond the scope of this document.

This rudimentary analysis illustrates that trauma care demands on trauma centers in Hillsborough County for adult patients have not yet exceeded minimum planning capabilities as defined in rule guidelines. For calendar year 1996, the most recent period for which its records are available to the HCTA, 1232 and 1405 adult patients with trauma-related primary diagnosis were admitted to St. Joseph's Hospital and Tampa General Healthcare respectively. Of these hospitalizations, 793 (SJH) and 867 (TGH) of these admissions had an ISS scores of 9 or greater. The source of these admissions include private vehicle as well as prehospital transports, transfers-in from other facilities and non-residents. It excludes those who died in or were discharged from the emergency departments (EDs). County wide there were another 1828 primary diagnosis trauma-related adult admissions (1181 with ISS of 9/+) across the County's non trauma centers for a total of 4933 trauma hospitalizations during that period.

1996 AHCA Hospital Data - Hillsborough County Hospitalizations with Primary Trauma Diagnosis by Facility and Injury Severity Score Categorization						
Facility		Age 0-15	Age 16-54	Age 55+	ISS group Subtotal	Overall
St. Joseph's Hospital	ISS 1-8	88	268	171	527	1418
	ISS 9+	98	369	424	891	
Tampa General Healthcare	ISS 1-8	86	389	149	624	1584
	ISS 9+	93	611	256	960	
Columbia Brandon Regional Medical Center	ISS 1-8	19	82	68	169	416
	ISS 9+	20	38	189	247	
Columbia South Bay Hospital	ISS 1-8	4	18	46	68	227
	ISS 9+	0	14	145	159	
Memorial Hospital	ISS 1-8	1	17	45	63	170
	ISS 9+	1	6	100	107	
H. Lee Moffitt Cancer	ISS 1-8	0	2	1	3	7
	ISS 9+	0	0	4	4	
South Florida Baptist Hospital	ISS 1-8	14	38	37	89	185
	ISS 9+	6	16	74	96	
Town and Country Hospital	ISS 1-8	4	29	19	52	150
	ISS 9+	0	18	80	98	
University Community Hospital - Fletcher	ISS 1-8	15	104	114	233	597
	ISS 9+	16	83	265	364	
University Community Hospital - Carrollwood	ISS 1-8	2	23	48	73	178
	ISS 9+	1	10	94	105	
Vencor Hospital	ISS 1-8	0	0	0	0	1
	ISS 9+	0	0	1	1	
Overall		468	2135	2330	4933	4933

The trauma centers prospectively collect data into their trauma registries on all patients admitted to the trauma service for quality assurance and outcome analyses purposes. Selected information from these registries is regularly reported to the HCTA. Frequencies of specific trauma indicators have been abstracted from those reports for the past three years to demonstrate historical capacity to handle the trauma patient population for this trauma system. Aggregate and stratified trauma service volume from 1995 through 1998 at TGH and SJH is shown below. While the HCTA will be managing a county wide trauma registry in the future, the information presented herein has not been independently verified and no claims about the accuracy of the data can be advanced.

Not unexpectedly there is disagreement between the claims (AHCA) and research (trauma registries) data bases. Compared to the trauma registry estimates, there is under reporting of total admissions with a primary trauma diagnosis. For 1996, between the trauma centers there was approximately 3000 AHCA verified trauma admissions, while self-reported statistics numbered over 3300 hospital stays. In general, billing practices optimize discharge diagnosis coding to maximize insurance reimbursement. Trauma registries contain admitted patients with serious injuries and/or injury as the major reason for admission. Cross matching of these trauma cases with those from the AHCA database to determine the true nature of the hospitalization is desirable but not possible.

Across the two trauma centers, figures obtained from their registries indicate that total trauma activity, e.g., admissions of life-threatening and acute injuries, ED deaths, and distribution of injuries among age groups, has remained more or less stable over this time period. Roughly 3500 to 3700 trauma-related admissions occurred annually over this period. Each year, by the hospitals' own accounts, about 1100 adult trauma alerts combined were treated between those two centers. During 1996, the frequency of adult trauma admissions with an ISS of 9 or greater (not inherently indicative of trauma alert status) taken from the AHCA database for the trauma centers topped 1600.

Though statistics from these two sources are dissimilar, if past experience is predictive of future demand, data from both hospital billing records and trauma registries suggests that the current volume of trauma patients within Hillsborough County does not support an additional SATC at this time.

Hillsborough County's Trauma Centers' (TC) Self-reported Statistics				
Characteristic	1998	1997	1996	1995
All Trauma Alert Admissions at TC	1470	1225	1152	1034
All Non-trauma Alert Admissions at TC	2325	2333	2212	2737
All Trauma Alerts Discharged from TC ED	114	96	155	101
All Trauma Alert Deaths in TC ED	53	55	64	47
All Adult Trauma Alerts Treated at TC	1437	1126	1191	1037
All Pediatric Trauma Alerts Treated at TC	200	201	167	140
All Trauma Alerts Treated at TGH	1170	918	979	819
All Trauma Alerts Treated at SJH	473	409	379	358

Pediatric trauma

Between 1994 and 1996, St. Joseph Hospital's application for State Approved Pediatric Trauma Referral Center (SAPTRC) status was held up in litigation between the State, St. Joseph's Hospital, and Tampa General Healthcare. In the previous HCTA plan and its updates, the need for another pediatric trauma center in this service area was not adequately addressed. This deficiency coupled with a discrepancy between the trauma center application and the rule created confusion and contention about required procedures. The latter has since been clarified by the Bureau in a series of rule and trauma center application form changes. This history of the disagreement between hospitals is addressed further in the section entitled 'Current Controversies in Local Trauma Care Delivery.

There are no legislated guidelines or formulas to estimate the number of such specialized trauma facilities needed. The State has empowered the trauma agencies to establish local requirements. The HCTA proposes that the basis of such a decision should involve a consideration of population and historical patient volume. As previously presented in the AHCA table, the frequencies of pediatric hospital stays for 1996 were 186 admissions at SJH and 179 at TGH or an average of one admission per day between both centers. Approximately half of the admissions at each trauma center had an ISS of 9 or greater. Another 103 pediatric trauma admissions occurred county wide for a total of 468 hospitalizations in Hillsborough County.

In contrast, during 1996, the trauma centers recorded an additional 129 pediatric trauma admissions in their registries over and above AHCA claims' tallies. Combined trauma alerts for that year were 167. The demand for pediatric trauma resources during 1996 in Hillsborough and the three other single county TSAs which had a trauma agency at the time (Palm Beach, Broward, and Dade) are as follows:

1996 Statewide Pediatric Trauma Statistics				
County	Population	Pediatric trauma centers (SAPTRC)	Pediatric trauma center admissions	Pediatric trauma center deaths
Broward	1.4 mil	2	485	13
Dade	2.1 mil	2	390	32
Hillsborough	900,000	2	494	20
Palm Beach	850,000	2	233	17

Based on these claims and hospital reported data, it is the opinion of the HCTA that there is no necessity for additional SAPTRC facilities within Hillsborough County at this time.

Part E

Objectives, Proposed Actions, and Implementation Schedule

(e) Objectives, Proposed Actions, and Implementation Schedule. Provide a description of the objectives of the plan, a detailed list of the proposed actions necessary to accomplish each objective, and a timetable for the implementation of the objectives, and action. The timetable shall identify the scheduling of the annual audit and evaluation, including the completion date and submission date to the department.

Objectives for the HCTA

I. Review and revise current quality assessment measures.

II. Enhance data collection process, integration and standardization of reports collected by the agency from the participants in the trauma system.

III. Increase involvement in injury prevention projects locally.

IV. Develop methods for identifying and evaluating trauma at non-trauma centers.

V. Develop methods for follow up of problems identified in the care of trauma alert patients who originate out-of-county.

VI. Develop a quarterly HCTA Newsletter.

VII. Promote or provide educational forums for system participants.

OBJECTIVE I.

Review and revise current quality assessment measures.

RATIONALE: The primary activity of the Trauma Agency is quality assessment of the trauma services provided to this community by all participants. Evaluation and improvement of the system can only be accomplished through diligent measure of system performance. The current assessment criteria are very general, and while they do suggest that our system continues to perform in a coordinated and collaborative nature, they do not allow for bench marking or easy comparison of our system to national standards. It is proposed that measures be consistent with national standards and currently accepted bench marking measures, to allow a more clear understanding of our performance in comparison to other similar systems of trauma care.

ACTION PLAN:

1. The system evaluation standards will be formulated with the input of Trauma Research Committee. The members will take into account previously developed nationally accepted performance indicators in determining the recommended outcomes as well as the data being collected by prehospital and hospital providers.

2. The proposed Continuous Quality Improvement indicators and measures will be discussed and reworked by the Trauma Audit Committee.

3. The data elements to be collected by all participants will be standardized across providers and consistent with the established CQI elements.

4. The necessary provider adjustments and in-service of changes will be performed to adapt to new procedures and methods.

5. The indicators will be evaluated and revised as necessary for conformance and ability to measure desired effect.

OBJECTIVE II.

Enhance data collection process, integration and standardization of reports collected by the Agency from the participants in the trauma system.

RATIONALE: Correlating data collected from numerous and diverse sources such as the prehospital and hospital providers is an imperfect and arduous process. The difficulties range from incomplete or inaccurate statistics, and differences in data definitions or protocols between prehospital and hospital agencies. Even services which have computerized programs face challenges with retrieval of information as do those which rely strictly on a paper-based system. These areas of inconsistency pose a tremendous drain on resources without a commensurate gain of understanding about the subject matter. It is proposed that the collection system be standardized, that cross-checks and quality assurance standards and processes be implemented to decrease error and improve efficiency.

ACTION PLAN:

1. Require trauma call reporting of all ALS and BLS prehospital providers. Encourage computerization of all ALS and BLS prehospital providers.

2. Adjudicate data from all providers using cross-checks and other verification methods to validate the statistics.

3. Acquire and implement the TraumaBase software to allow merging of data from the trauma centers' trauma registries. This will enable evaluation of patient outcomes from system access to final disposition which includes EMS performance which is other difficult to quantify.

4. Refine the data point elements and definitions of terms on an ongoing basis to improve consistency and increase accuracy of data collection efforts.

OBJECTIVE III.

Increase involvement in injury prevention projects locally.

RATIONALE: The local providers of trauma care services have demonstrated an ability to work together, and continuously improve the quality of trauma care delivered to victims. There has been a marked decrease in preventable deaths since the institution of the Hillsborough County Trauma Agency in 1990. Further decreases in the trauma mortality and morbidity can be attained through continued surveillance of the system for opportunities for improvement (see objective #1). However, prevention is always preferable to treatment. Trauma has been shown in many studies to be very responsive to efforts in prevention.

The resources of the HCTA do not allow for initiation of large scale prevention projects. However, various opportunities exist to positively impact trauma through prevention.

ACTION PLAN:

1. Investigate local, regional and state projects in prevention, for opportunities for participation. Pursue alliances with area chapters of such agencies.

2. Investigate and maintain a data base on available grants and funding opportunities for trauma care and for prevention projects, making these available to all participants in the local trauma system.

3. Evaluate NHTSA publications reviewing projects in accident prevention, for opportunities applicable in our area of service.

OBJECTIVE IV.

Develop a method for identifying and evaluating trauma at non-trauma centers.

RATIONALE: In the future, the HCTA hopes to be able to access to the Agency for Health Care Administration hospital discharge data files to inventory non-trauma hospitals for compliance with the Uniform Trauma Transport Protocol by profiling ICD9-CM trauma diagnoses. Previously these hospitals were requested to report on a voluntary basis those cases where prehospital providers transported patients meeting trauma alert criteria to them but compliance was poor. Previously, the only reliable method available to the HCTA was the review of deaths at non-trauma centers through autopsy reports. It is not certain that all trauma patients are appropriately transported to trauma centers, nor that they are transferred to trauma centers from non-trauma facilities when appropriate. Voluntary compliance with the HCTA is still encouraged because of the need to pursue these cases in a more concurrent fashion. The Agency for Health Care Administration data is always six to nine months behind.

ACTION PLAN:

1. Pursue access to AHCA hospital discharge data bases for monitoring compliance to mandatory State trauma criteria by area hospitals and establish a mechanism of generating that information.

2. Continue to encourage voluntary reporting by all hospitals in Hillsborough County.

OBJECTIVE V.

Develop a discrete method for follow up of problems identified in the care of trauma alert patients who originate out-of-county.

RATIONALE: Arguably, those transfers from out-of-county to our in county trauma centers are the most problematic of cases reviewed. There are instances of inappropriate care, delay in transport, and misdiagnosis. While the HCTA has no official jurisdiction outside county boundaries, it could probably have the greatest positive influence on trauma care through intervention and feedback on these transferred cases.

ACTION PLAN:

1. Working with other state approved trauma agencies, develop a method for integrating other non-system participants into the activities of the agency.

2. Locally, pursue opportunities to work with out-of-county hospitals that regularly transfer into Hillsborough County trauma centers. These would primarily involve educational offerings, and regular performance feedback.

3. Generate specific policies and procedures defining the steps to take when communication is necessary, on a case by case basis, as poor patient outcomes are identified which relate directly to actions taken prior to transfer of the patient to Hillsborough County trauma hospitals.

OBJECTIVE VI.

Develop a quarterly HCTA newsletter, to disseminate information about local and state wide emergency medical services practice.

RATIONALE: Meetings of the HCTA Trauma Audit Committee, various EMS constituency groups and the EMS Advisory Council are held regularly throughout the year. Important work and decisions which have a great impact on EMS practice are carried out at these various venues. This information is timely and newsworthy, and should be regularly promulgated to prehospital providers in the Hillsborough County trauma system.

ACTION PLAN:

1. Publish a HCTA Newsletter on a quarterly basis that would disseminate recommendations for improvement in trauma care resulting from TAC findings.

2. Include information in the quarterly newsletter about activities concerning EMS practice at the local and state levels. Input from local providers that is of interest to the entire system will be considered for content.

OBJECTIVE VII.

Promote or provide forums to educate care givers on changes such as those involving State triage or transport requirements, or medical protocols which have been endorsed by the EMS medical directors in the trauma community.

RATIONALE: Changes in practice parameters necessitate upgrading of provider information and skills. The HCTA plays an important role in galvanizing support and coordinating the efforts for these changes as an intermediary between Tallahassee and the system participants, and across community providers. These activities carry a significant potential for system impact and require careful planning and organization for successful execution.

ACTION PLAN:

1. Organize the implementation of the new trauma triage criteria for adult and pediatric patients.

    a. Coordinate field testing of the new protocol before implementation is realized, enlisting cooperation of the prehospital and hospital community.

    b. Oversee the evaluation process of the new criteria against current practice.

2. Tailor outcomes of EMS performance from TAC findings to target appropriate and desired changes in practice.

3. Develop a Web site to inform both the lay and trauma communities about themes of different aspects of trauma care, education and prevention.

4. Coordinate one to two educational forums annually targeted to constituent providers' interests and needs.

Part F/G

Trauma Agency Budgetary Information and Fiscal Impact

(f) Describe the proposed source of income for the trauma agency;

The HCTA's principal revenue comes from the General Fund (ad valorem countywide taxes) of Hillsborough County. For fiscal year 1999, its budget was $104,648.

The break down by expenditure category is as follows:

Character 10 funds: $74, 094
Personnel costs: salary and benefits for the Trauma Coordinator and secretarial support

Character 30 funds: $30,173
Operating costs: Medical Director salary and all other operating expenses

Character 60 funds: None appropriated
Capital outlay

In fiscal year 1996, it received an EMS Grant for $10,000. That year, those funds enabled the purchase of a new computer, monitor and modem anticipating the future data exchange and processing needs.

In fiscal year 1997, the grant funds purchased TraumaBase software, the trauma registry database program used by both trauma centers for the collection of selected clinical information on admitted trauma patients. This database application allows sophisticated manipulations and analysis of trauma care outcomes, encompassing the spectrum of care from the prehospital scene through hospital discharge. Also purchased was a printer.

In fiscal year 1998, $3,176.59 of which was carried over to purchase a new lap top computer to better enable the agency's operations off-site.

Part H

Transportation System Design

(h) Transportation System Design:

1. Describe the EMS ground, water, and air transportation system design of the trauma system

Ground Transport

Three ALS ground services provide first response assist and emergency medical care within their jurisdictions: Hillsborough County Fire Rescue, Tampa Fire Rescue and Temple Terrace Fire Department. Hillsborough County Fire Rescue continues to provide emergency medical care in coordination with Plant City Fire Department through an interlocal agreement.

Air Transport

St. Joseph's One and Aeromed I's air medical programs service the County. Tampa General stations a satellite helicopter, Aeromed II, southeast of Hillsborough County in Highlands County for scene and interfacility responses outside Hillsborough County. Trauma patients from that area are transported to the closest trauma center whether that is Lee Memorial Hospital in Lee County; Orlando Regional Medical Center in Orange County; St. Mary's Medical Center in Palm Beach County, Tampa General Healthcare or others. Both medevac services have either COPCN or mutual aid agreements with all counties contiguous to Hillsborough, and many other counties within a 100-mile radius of their base of operations.

Water Transport

Tampa has roughly seventy-five miles of coastline, so resources for the task of water rescue are important. Numerous players contribute manpower and supplies during such a venture. Since the City of Tampa and the airport are closest to the larger bodies of open water, TFR is the principal first responder for water-related incidents. Their predominant approach to such endeavors is by land. They have a variety of dedicated seaworthy equipment at strategic locations. Placement of these apparatus at their different stations enhances their response and deployment capabilities depending on the location of the incident or the nature of the weather.

Tampa International Airport provides TFR four inflatable buoyant apparatuses (IBA) for their use. Each boat is capable of carrying 25 people onboard and allowing another 25 to hang off the side. The IBA could be launched by a police helicopter or pulled by a small boat with a 100 ft. lanyard. TFR also has two 18-20 ft. tow boats. One of these could upright a small overturned

craft or deploy an IBA during inclement weather when an air launch is precluded. Two personal watercraft (water scooters) are on continuous loan from a private vendor for emergency response missions.

TFR also has two large fire boats with water hoses (one with 1250 g.p.m. and one with 3000 g.p.m.) docked on Davis Island, one at Marjorie Park, and the other one at station #17, 601 E. Davis Blvd.

Additional TFR Inventory:
One - 17 ft. Boat
Two - 8-man Boats
One - 32 ft. Fire Boat
Four -20-Man Flotation Platforms
Three - Engine Companies
Two - Aerial Companies
Three - Rescue Cars (ALS)
One - ARFF Vehicle
One - Command Post
One- Emergency Response Trailer

Other possible participants during a water-based rescue can include the following: Hillsborough County Sheriff's Office, United States Coast Guard, United States Coast Guard Air Station, Tampa Police Aviation and Marine, United States Naval Reserve Center, United States Marine Corps Reserve Station, and the Fresh Water Fish & Game Commission.

The inventory of water rescue resources which can be mustered, by agency, are as follows:

Hillsborough County Sheriff's Office Inventory:
One - 14 ft. Achilles inflatable boat with 25 HP engine.
One - 19 ft. Chris Craft boat with 1 35 HP engine.
Three - helicopters, two Hughs 300C (one with flotation devices) and one Bell 206B Ranger (not floatation equipped).
Thirty - Life Vests
Two - Ring Buoys
Two - Heaving Lines
One - Inflatable Boat
One - 25 ft. Mako boat with twin 200 HP engines
One - 16' Lows Aluminum 50 HP engine

Two - Yamaha wave runners
One - Bombadier Personal Hydro-Craft

United States Coast Guard Inventory:
Two - Small Boats
One - 82 ft. WPB Boat
Fifty - Lift Vests

United States Coast Guard Air Station Inventory:
Three - HH3F Helicopters
Six - 15 Man Rafts
Three - 20 Man Rafts

The U.S. Coast Guard at St. Pete can respond by boat to certain request for water rescues. Since these cutters are deep water vessels, their use is practically limited to open water, e.g., the Gulf or the shipping channels of Tampa Bay.

The U.S. Coast Guard Air Station has the only helicopter with lift capabilities, and is based at an air station in Clearwater. The Coast Guard Marine Safety Office on Davis Island handles incidents occurring at the Port of Tampa, check into their specific operations.

The Tampa Police Department has a dive team always on call that keeps scuba equipment close by. For practical purposes, their scope of activities is usually body recovery operations. Without adequate numbers of qualified divers and equipment prepositioned, any other kind of response is really not feasible.

Tampa Police Aviation and Marine Division Inventory:
One - MD 500 E Helicopter
Two - Hughs 300C Helicopters
Two - Airplanes (one Cessna 1 72 and one Cessna 210)
One - 20 ft. Patrol Boat
One - 23 ft. Patrol Boat
One - 2 Man Rescue Lift Net

U.S. Marine Corps Inventory:
Two - AAV PLT Vehicle
One - AAV C7 Communication Vehicle
Fifty - Life Vests
Three - HF Radios
One - UHF Radio
One - Generator (10 kW)
One - Machine Shop Van

Note: The Marine Corps Reserve Station based just off the east end of the Gandy Bridge, provides facilities for an operations/staging area. They have some amphibious vehicles for rescue purposes.

The U.S. Naval Reserve Center located in the Garrison Seaport District has large floating platforms better for long term operations and setting up command posts.

U.S. Naval Rescue Center Inventory:
One - Landing Craft Utility (I 35 ft x 35 ft)
Two - 15 Man Life Rafts
Eighty - Life Vests

While the Fresh Water Fish & Game Commission mainly issues fishing licenses and enforces compliance to state regulations, it does have limited resources to assist other agencies in water rescue ventures.

(h) 2. Include trauma patient flow patterns, emergency inter-hospital transfer agreements, and the number, type, and level of service of prehospital EMS providers within the trauma system.

Transports to and from trauma centers

PREHOSPITAL TO TRAUMA CENTER

Non-trauma alert patients

The senior care giver may have a strong suspicion of serious injury in a trauma patient based on the presence of a borderline condition of one of the state-mandated trauma alert criteria (severity or anatomy/mechanism of injury), either upon initial assessment/reassessment at the scene or en route. Even though the patient does not meet trauma alert criteria and a trauma alert has not been called, the unit may elect to transport or cause to be transported that patient to the nearest trauma center.

Trauma alert patients

A trauma alert patient should only be transported to a designated SATC or SAPTRC facility that can continue the appropriate level of definitive care. The trauma centers' receiving zones are described in Section B under Historical Patient Flow, Patient Referral and Transfer Patterns. The transport destination dictated by the receiving zone scheme shall be overridden only under specific circumstances for the purpose of redirecting trauma patients with certain traumatic injuries recognized in the field to the most appropriate trauma center which has the specialized capabilities to handle specific conditions.

The HCTA recognizes the following three circumstances under which an alternative trauma center transport destination shall be overridden if the patient meets particular criteria:

1. Suspected spinal cord injury with evidence of significant motor or sensory involvement

   Any patient that the prehospital provider suspects has suffered an insult to the spinal cord and has either a motor or sensory deficit shall be considered to have experienced spinal cord injury for the purpose of determining the most appropriate trauma center. Currently Tampa General Healthcare is the only State Department of Vocational Rehabilitation designated facility in the County for the State Brain and Spinal Cord Injury Program (BSCIP). This trauma center is certified in both the acute and rehabilitation phases of care for these specific injuries.

2. Trauma alert burn criteria (2° or 3° burn involving 15% or greater body surface area) and/or a circumferential burn

Currently Tampa General Healthcare has the only burn center in the County.

3. Amputations with the potential for reimplantation

Currently Tampa General Healthcare is the only trauma center with a transplant team on call 24 hours a day.

TRAUMA CENTER TO TRAUMA CENTER

Once a trauma alert patient has been brought to an SATC or SAPTRC facility, that patient may not be moved to a facility that is not SATC or SAPTRC approved until his life-threatening injuries have been stabilized by the necessary operative or nonoperative measures. The attending trauma center physician will decide when the patient may be safely transferred to another facility without compromise of physiological status.

Mutual aid agreements may be pursued between the trauma centers in the county and/or between each of these facilities with out-of-county trauma centers to appropriately triage and transfer certain trauma cases between facilities on an ad hoc basis.

Transports to and from initial receiving facilities

PREHOSPITAL TO INITIAL RECEIVING CENTER

Non-trauma alert patients

If the senior care giver at the scene determines that the trauma patient does not meet trauma alert criteria nor need trauma center level care, the patient may choose his/her hospital destination.

Trauma alert patients

The EMS provider shall only transport a trauma alert to an initial receiving hospital (non-trauma center) within Hillsborough County which has previously certified to the Trauma Agency that it meets the state's five prehospital trauma alert hospital transport requirements specified in 64E-2.015 (3)(a), F.A.C. Biennially, each facility must provide a written attestation signed by the chief executive officer affirming its fulfillment of these criteria in order that prehospital providers may bring trauma patients requiring emergency stabilization to them. This information about hospitals' self-certification is maintained up-to-date in the Uniform Trauma Transport Protocol at all times. The certified facilities as well as the State's five criteria required of initial receiving

centers to stabilize critical trauma patient stabilization are listed in Section D under Trauma System Structure.

The senior care giver on scene or en route who encounters a traumatic cardio/respiratory arrest may decide that transporting a trauma alert to a non-trauma center that is closer than a trauma center is in the best medical interest of the patient. Examples of such emergency circumstances include a traumatic arrest in transit, complete compromised airway which cannot be managed in the field, or a mass casualty incident or natural disaster (according to incident command/ management procedure).

INITIAL RECEIVING CENTER TO TRAUMA CENTER

Trauma alert patients

There will be occasions when a non-trauma center hospital in Hillsborough County should refer a trauma patient to a designated SATC or SAPTRC facility. The transfer process should be initiated immediately upon the recognition that a patient meets trauma alert criteria, even while resuscitative efforts are underway. This hospital should initiate procedures within 30 minutes of the patient's arrival to transfer the trauma alert patient to a SATC or SAPTRC.

High risk non-trauma alert patients

Referral to a designated SATC or SAPTRC facility should also be strongly considered for any trauma patient with specific injuries, combinations of injuries (particularly brain) or who suffered a mechanism of injury consistent with a high-energy transfer. The Advanced Trauma Life Support (ATLS) core curriculum suggests candidates who would benefit from an early transfer to a trauma center according to the type of injury or impact sustained.

The referring (non-trauma center emergency department) physician is responsible for initiating the transfer process and communicating directly with the receiving (trauma center) physician about the incoming patient. Transfer procedures are specific to each trauma center. These are addressed in the Uniform Trauma Transport Protocol.

The responsibility of selection of an appropriate mode of transportation, and the organization of patient management during the transfer rests with the referring physician. The receiving physician must agree with these arrangements. Transportation scheduling procedures are specific to the desired mode of transport. The process for requesting interfacility transfer services is also referenced in the Uniform Trauma Transport Protocol.

An emergency interhospital trauma patient transport may be handled by an ALS service licensed to operate in Hillsborough County or pursuant to the exemptions in the Hillsborough County Emergency Medical Transportation Ordinance, 86-3, as amended.

The number, type, and level of service of prehospital EMS providers within the trauma system are covered under Section D on Trauma System Structure.

Part I

TTPs

(i) Trauma Transport Protocols (TTPs): 2. A trauma agency may develop a uniform trauma transport protocol for department approval that shall be followed by all EMS providers that serve the geographic area of the proposed trauma agency. If uniform TTPs are submitted to the department for approval, the TTPs shall include the name of each EMS provider that shall operate according to the uniform TTPs, and proof of consultation with each EMS provider's medical director. TTPs developed and submitted by a proposed trauma agency shall be processed in accordance with section 64E-2.016, F.A.C.; and

Exercising its authority under Chapter 395, F.S., and 64E-2, F.A.C. the HCTA developed a Uniform Trauma Transport Protocol (UTTP) through a consensus building process with system constituents, first effective on April 1, 1997. This legal document describes the procedures to be followed by all County EMS prehospital providers for dispatch of vehicles, assessment of the extent and severity of injuries of trauma patients and determination of the destination (facility) to which trauma patients are transported. It identifies the initial receiving hospitals, non-designated trauma receiving hospitals, trauma centers, and other specialty services. It also lists the prehospital transporting agencies. Specific operational guidelines about the structure and coordination of prehospital emergency medical services are included within this document, and will not be duplicated here. The State Bureau of EMS approved the protocol and it is renewable every two years. The UTTP applies to all nine EMS prehospital providers operating within the Hillsborough County, and supersedes each provider's individual trauma transport protocol (TTP). Previously the HCTA participated in the review process when any prehospital provider's TTP was under consideration for approval at the Department of Health, Bureau of EMS.

It should be emphasized that the UTTP is a living document, amenable to change anytime and is not subject to prior approval by the Board of County Commissioners (BOCC). Certain changes occurring in the trauma system during the approval period may require that the UTTP be amended. Such occasions include whenever there has been an addition or deletion of a hospital, an EMS provider, any modification to an EMS provider's procedures for dispatch of vehicles, triage of trauma alerts, transport of trauma alerts, addition of service area by an EMS provider, or change in the laws or rules which regulate TTPs. Any modifications made to the document must first be approved by the State. Once revisions have been approved, they will be distributed to every prehospital and hospital provider so that each always maintains an up-to-date protocol.

The UTTP was approved for a second biennial period, April 1, 1999 through March 31, 2001. As of April 1999, the document has been amended three times to reflect numerous changes in the trauma system.

3. The proposed trauma agency shall provide a copy of any county ordinance governing the transport of trauma patients within the defined geographic area of the proposed trauma agency.

A copy of Hillsborough County Emergency Medical Services Transportation Ordinance, 86-3, as amended, is included in Appendix L.

Part J

Medical Control and Accountability

(j) Medical Control and Accountability.

Identify and describe the qualifications, responsibilities and authority of individuals and institutions providing system medical direction and direct medical control of all hospitals and prehospital EMS providers operating under the purview of the trauma agency.

Section 401.265, Part II, F. S., describes medical direction requirements for all ALS and BLS providers. All providers within Hillsborough County contract with a qualified physician to provide these services, consistent with these requirements.

Each medical director handles off-line medical control issues for their respective services. Off-line services include, but are not limited to, medical protocol development, continuing education, remedial education, quality assurance activities, participation in hiring/orienting new health care providers.

On-line medical control is a 24-hour availability for quick patient specific consults in circumstances defined in medical protocol (such as use of a controlled drug), or in unusual instance, not covered by protocol, where the health care provider wishes to have immediate input into the care of the patient that is currently being transported. The on-line medical control physicians are chosen by the service's primary medical director. The air and ground ALS services contract with emergency physicians for 24 hour on-line medical control activities.

Additional protocols may be in place for the ALS services to cover the situation of a physician who happens to be at the scene of a trauma and wishes to become involved. Each service's protocol regarding following the orders of an on-scene physician are defined in their own medical protocols.

Part K

Emergency Medical Communications

The Emergency Medical Communications System within Hillsborough County

REQUESTS FOR EMERGENCY RESPONSE

Requests for emergency services are dispositioned through an enhanced 9-1-1 system. The enhancements allow the location and telephone number of the caller to be instantaneously displayed on the 9-1-1 call taker's computer screen at one of seven primary Public Safety Answering Points (PSAPs). The caller's location (or cell site for cellular calls) determines which emergency answering point receives that particular request for emergency assistance. If the normally designated PSAP for that locale is busy, the call is automatically routed to an alternate answering point. The staffing for the primary PSAPs is provided by law enforcement agencies.

The primary PSAPs and their area of responsibility are:

- Tampa Police Department (TPD): City of Tampa
- Hillsborough County Sheriff's Office (HCSO): Unincorporated Hillsborough County
- Temple Terrace Police Department (TTPD): City of Temple Terrace
- Plant City Police Department (PCPD): Plant City
- Tampa International Airport Police Department (TIA PD): TIA
- University of South Florida Police Department (USF PD): USF campus
- MacDill Air Force Base Alarm Center: MacDill AFB

The 9-1-1 call taker relies on the address information provided by the caller as primary dispatch information, using the screen display only as secondary or backup information. The public safety call taker may also require a call back number. Currently, cellular phone calls do not provide the 9-1-1 system with any identifying information, so call taker must obtain location and call back numbers from all cellular callers.

A special needs registry is maintained in conjunction with GTE to identify locations where callers might be unable to speak over the phone. Each PSAP is equipped with telecommunications devices for the deaf (TDDs). Every PSAP can also refer callers to AT&T's language line if in-house interpreters are not available.

Once the 9-1-1 call taker determines the nature of the call is medical, the request for emergency assistance can be then transferred to the appropriate secondary PSAP for rescue, fire, highway emergency, or poisoning information by pressing one button.

The secondary PSAPs and their areas of responsibility are:

- Hillsborough County Emergency Dispatch Operations (HCEDO): unincorporated County and Plant City (rescue only)
- Tampa Fire Rescue (TFR) Signal Division: City of Tampa
- Florida Highway Patrol (FHP): all Florida state road emergencies
- Florida Poison Information Center: poison information for entire region

Emergency Medical Dispatch Centers

As previously described, emergency medical communications in Hillsborough County are routed through the primary enhanced 9-1-1 dispatch centers to the secondary dispatch centers at HCEDO for the County and Tampa Fire Rescue Signal Division for the City of Tampa. In the City of Temple Terrace, there is a shared PSAP for law enforcement and fire-rescue dispatches. In Plant City, the PCPD dispatches fire responses to Plant City Fire Department and transfers requests for medical responses to HCEDO. Dispatch radios operated by the air medical services, private or volunteer BLS ambulances and are not considered emergency dispatch operations, rather a first response backup to ALS, or non-emergency runs. Specific minimum State requirements for dispatch frequencies to be used are described later in this section.

Different geographic reference systems are employed for the dispatching of fire-rescue vehicles. The HCEDO uses the square mile box framework that is used to partition Hillsborough County for the section/township/range survey system. The streets and address GeoFile displays these box numbers along with the street and cross street names in their computer-aided-dispatch system. This method significantly reduces the time required for an ambulance to find its objective. A County ordinance also requires each residence to display its address so that it is visible day or night from the street plus elimination of duplicate street names.

The TFR Signal Division utilizes a geographic reference scheme called a grid system to dispatch its fire-medical vehicles.

The TTPD uses a north-south boundary reference system to dispatch both police and fire-medical vehicles.

These dispatch centers have access to notify emergency resources through radio communications if available or by telephone if necessary, requesting their assistance. These services include but are not limited to the following:

- law enforcement agencies: the Police Departments of the Cities of Tampa, Temple Terrace, Plant City, Tampa Airport, the University of South Florida; the Hillsborough County Sheriff's Office, and the Florida Highway Patrol.
- hazardous materials' exposure teams (HAZMAT): City of Tampa and Hillsborough County Fire Departments;
  structural collapse and technical rescue specialists: Tampa Bay Task Force Urban Search and Rescue (USAR) through the City of Tampa and Hillsborough County Fire Departments;
- water rescue teams: Florida Marine Patrol and U.S. Coast Guard;
- utility emergency teams: Tampa Electric and Peoples Gas Company;

Prehospital Providers

Each local prehospital provider utilizes specific radio systems to communicate with hospitals in the County on a routine basis in addition to the state required frequencies and are summarized later in this section. All paramedic ambulances are equipped with two-way mobile VHF and UHF radios. All paramedics have two-way hand held radios (walkie-talkie types) for communication with their respective dispatch centers.

Hillsborough County Fire Rescue units are also equipped with either portable or transportable (depending on geographic location) cellular phones through which they can talk directly either with HCEDO, or to other locations via request for a recorded patch line through HCEDO. Communications from the paramedic to HCEDO are primarily via radio, with cellular phones as a backup/alternative.

Any recognized medical or emergency service entity can request helicopter services for on-scene trauma. Authorized individuals include but are not limited to employees of public agencies such as police and highway patrol, fire departments, ambulance services, and safety officials of commercial and industrial enterprises. EMS services typically notify their respective dispatch center of the need for air medical evacuation. That dispatch center then alerts the appropriate Communications Center of the air medical service of the location and nature of the call. Radio communications between the helicopters and the field units then relay patient information en route.

All communications with private BLS services are carried out by telephone. Their dispatchers are requested to send the appropriate unit(s) and may be asked for their estimated time of arrival if ALS units are awaiting their arrival. They do not share a radio channel.

Field Units to Other Resources

Paramedics may speak directly to the Regional Poison Control Center by using a telephone at the scene, by patch or direct line using the cellular phone. These routes are also available for contacting the county or city HazMat units, the Regional Hazardous Materials Information Center, the Diving Accident Network, etc.

Hospital Communications

Communications between hospitals and paramedic units have been previously described. Hospitals talk with city and county dispatch centers by phone or radio. Routine interhospital communications are accomplished by phone. In disasters, the hospitals feed information into the central communications center (the incident command center) and it is shared with other hospitals as appropriate. The State required radio communication frequencies for hospitals are described later in this section.

Other Communications

On scene and en route "on-line" medical control communications

HCFR: Paramedics requesting to speak to the medical control physician (Medic I for adult patients, Medic II for pediatric patients) notifies HCEDO by cellular phone. The dispatcher initiates the call to the appropriate doctor on-call. The cellular phones are programmed with the number of a dedicated phone line at HCEDO, requiring two push buttons. When communications is established between the two parties, the two lines are patched together, permitting two-way communications and tape recording of the conversation. If the cellular phone system should be inoperative, a similar set-up can be accomplished via MED-7 or DVR radio channels.

TTFD: The procedure is the same except that the paramedics initiate the request through their own dispatch center, TTPD, which in turn, contacts HCEDO to accomplish the contact, patch-through and recording.

TFR: Paramedics requesting to speak to medical control ("519" physician), speak directly to a physician at either Tampa General or St. Joseph's depending on the transport destination. If the patient is being taken to a facility other than a trauma center, the physician to be reached is determined by day of the month, with St. Joseph's Hospital's physicians being contacted on even days and Tampa General Hospital's physicians contacted on odd days. Communications are processed through either the MED-7 radio, Signal Division or via cellular phone.

Military liaison

All coordination with these agencies is accomplished by telephone. They do not share a radio channel.

Compliance with the State of Florida Communications Plan

Adherence to the State EMS Communications Plan involves certain minimum capabilities as listed below. It shall be noted that not all trauma system participants are in full compliance with Florida's Emergency Medical Services Communications Plan, Second Edition, 1996. The requirements for normal operating conditions are as follows:

DISPATCH FACILITIES

Each EMS dispatch facility will have:

1. Two-way communications capability on its assigned Dispatch Vehicle Response (DVR) channel

2. The ability to receive continuously the statewide medical resources coordination channel (463.175 MHz, 167.9 Hz tone)

HOSPITALS

Each participating hospital that maintains an active emergency department receiving patients from either ALS or BLS ambulances will have:

1. Two-way communications capability on the assigned Local Medical Coordination (LMC) channels:

   MED 6 (receive 468.125 MHz, transmit 463.125 MHz, 127.3 Hz tone)
   MED 7 (receive 468.150 MHz, transmit 463.150 MHz, 127.3 Hz tone)

2. Two-way communications capability on the Statewide Medical Coordination channel (SMC)

   MED 8 (receive 468.175 MHz, transmit 463.175, 167.9 Hz tone

3. The ability to receive continuously the statewide medical resource coordination channel:

   463.175, 167.9 Hz tone

ALS AND BLS AMBULANCES

All ALS and all BLS ambulances will have:

1. Two-way communications capability on their assigned Dispatch Vehicle Response channel(s)

2. Two-way communications capability on the assigned Local Medical Coordination (LMC) channels:

   MED 6 (receive 468.125 MHz, transmit 463.125 MHz, 127.3 Hz tone)
   MED 7 (receive 468.150 MHz, transmit 463.150 MHz, 127.3 Hz tone)

3. Two-way communications capability on the Statewide Medical Coordination channel (SMC)

   MED 8 (receive 468.175 MHz, transmit 463.175, 167.9 Hz tone

4. Two-way communication capability on the statewide medical resource coordination channel:

   (receive/transmit 463.175, 167.9 Hz tone)

An listing of all EMS communication frequencies used by the emergency medical dispatch centers, hospitals and prehospital provides within Hillsborough County is provided in Appendix M.

Mass Casualty and Disaster Situations

Effective communications are an essential element of a successful disaster response. An integrated blend of all communications systems (radio and telephone) is mandatory during a major emergency. The Hillsborough County Emergency Operations Center (EOC) has overall responsibility for providing direction and control and coordinating resources and services during disaster situations. The EOC has access to numerous radio communications networks in the county (as listed in the Comprehensive Emergency Management Plan) to ensure direction and control of the community's response to any emergency. All communication centers participating in the 9-1-1 system are required to have emergency back-up power.

The new EOC was occupied in February 1993, since the writing of the earlier Plan. This new structure and tower were built to withstand 175 m.p.h. wind forces. It has a 300-KVA generator which can provide electrical power for extended periods. A 320-foot transmission tower provides excellent two-way radio capability with full county coverage for emergency operations. The facility is also equipped with a cellular phone antenna system which will provide enhanced cellular capability for the EOC during disasters.

The basic elements of communications systems used in Hillsborough County to facilitate operational and administrative control during a disaster can be summarized as follows:

Land Line Telephones

> The primary communications system during emergencies is land line telephone. The General Telephone Company (GTE) is responsible for maintaining and restoring telephone service within the County.

Cellular Phones

> Cellular phones provide an alternate means of communications. There are two cellular telephone companies serving the county: GTE Mobilnet and ATT Wireless.

GTE Mobilnet provides priority access to cellular phones of primary emergency response agencies during disaster operations.

Two Way Radio

Two way radio systems provide a valuable means of communications during disaster and emergency operations. There are two primary agencies within the county that are responsible for maintaining and restoring two way radio communications systems: Sheriff's Office and City of Tampa Radio Communications Section.

Radio networks

County and municipal radio networks are also available to the EOC for communications within the county. Also available are the radio networks of the U.S. Coast Guard, the Marine VHF Calling & Distress network, the 800 MHZ radio system used by county public safety agencies (Sheriff and Fire Rescue) and the Radio Amateur Civil Emergency Services (RACES) group.

There are two mobile communications command posts within county resources, one possessed by the Sheriff's Office and one by the County Fire Department.

Systems are available for communications outside the county such as statewide satellite communications, local government radio, RACES backup through VHF and HF radio systems, and the Emergency Alert System.

Military support is also obtainable. The 290th Joint Communications Support Squadron (JCSS) (Florida Air National Guard) which is located at MacDill Air Force Base is a potential source of additional communications. In the event of a major disaster, if the National Guard is activated, the 290th JCSS may be able to provide extensive communications support to the county. Mobile communications assets from the 290th JCSS, as well as active duty military assets from MacDill AFB evacuate to the County Recovery Center at the Fairgrounds. These assets should be available to support county hurricane response operations.

Various types of communications resources are procurable depending on the circumstances of the mass casualty or disaster but is beyond the scope of this document. Further information may be obtained regarding communication operations (Emergency Support Function #2) from the Hillsborough County's Comprehensive Emergency Management Plan.

Part L

Data Collection

(l) Data Collection. Describe the trauma data management system developed for the purpose of documenting and evaluating the trauma systems operation.

Both trauma centers have had established trauma registries for a number of years. The HCTA has acquired software from the same vendor, Clinical Data Management, Inc., Conifer, Colorado. It is working with both hospitals to establish protocols and programs between the trauma centers and itself to transfer electronically selected variables of patient treatment and outcome data of admitted trauma patients. Once the infrastructure is in place, patient data will be regularly forwarded to the Trauma Agency. Standard programs will be developed for interval system evaluations. The Trauma Advisory Board will approve applications of the database.

The Trauma Agency requests all prehospital providers to report selected information on trauma call activity at regular intervals. The scope and nature of the data collected is covered in the section under Trauma System Evaluation. Most of the services are moving toward computerizing run report documentation or have already made the transition.

Both air medical transport services use the software, Aeromed, by Innovative Engineering, to generate their run reports as does one of the ALS ground services (Temple Terrace Fire Department). Notwithstanding, these agencies are exploring more flexible and user-friendly software options as the application does not readily lend itself to generating statistics or summary reports.

The other ALS ground services are moving towards computer-generated records of patient encounters. TFR will be implementing a computer-based software system written by locally based company, Cisco Systems, this fall. The run report will be entered into its own hospital-based computers by paramedic at the time of patient delivery. While HCFR plans to computerize their documentation, it currently relies on handwritten run reports, only entering specific trauma call data in Microsoft Access and other programs for statistics and quality assurance.

The commercial BLS services employ software at varying levels to record patient encounters. AmeriCare and TransCare both generate handwritten run reports and reenter the record in Ambulance 2000 software to chart patient treatment data. American Medical Response uses a enters a sample of patient encounter records for internal quality assurance purposes.

A summary of the EMS providers' current mode of documentation of patient care is as follows.

Provider	Mode/status of data collection
Aeromed	Computer-generated run report
AmeriCare	Handwritten run report Select data computerized for CQI activities
Hillsborough County Fire Rescue	Handwritten run report Select data computerized for CQI activities
American Medical Response	Handwritten run report Select data computerized for CQI activities
St. Joseph's One	Computer-generated run report
Tampa Fire Rescue	Computer-generated run report
Temple Terrace Fire Department	Handwritten and computer-generated
TransCare	Handwritten and computer-generated Select data computerized for CQI activities
Sun City Center Emergency Squad	Handwritten run report Select data computerized for CQI activities

Part M

Trauma System Evaluation

(m) Trauma System Evaluation. Describe the methodology by which the proposed trauma agency shall evaluate the trauma system.

Trauma system evaluation is accomplished by several activities:

All trauma death autopsy reports are evaluated according to defined criteria for classification as preventable, possibly preventable, and not preventable. Preventable deaths are further evaluated for patterns amendable to system intervention and improvement. Trauma deaths at the trauma centers are extensively reviewed at their internal monthly multi disciplinary meetings. While non-trauma centers do not have a systematic process to review their trauma deaths, these autopsies are evaluated by the HCTA.

Quality of care issues may be advanced from any member of the system concerning care rendered along the continuum of trauma patient care. For example, a trauma center may wish to ascertain more specifics concerning the prehospital treatment and transport of a patient. Communication with the health care providers, with education concerning the trauma system, is initiated where possible. The HCTA, will investigate the circumstances and report in the closed format of the HCTA Trauma Audit Committee, with all participants present for the discussion. Specific details of patient care can be shared between providers with confidentiality and non-discoverability assured by State Statute according to Chapter 395.51 and 401.30 and 401.425. However, for incidents originating out-of-county, the historical difficulties in accessing patient care records outside of the HCTA jurisdiction continue.

The development of the trauma centers' trauma registry data import program to the Trauma Agency is close to completion. Once implemented, the HCTA will have to ability to merge and manipulate selected mutually agreed-upon data fields from all trauma inpatient records from these two hospitals. This will allow a more expanded profiling of trauma patient care by incorporating outcomes in the data analysis. These hospital administration agreements and the variables to be shared are listed in Appendix N.

The HCTA has recently organized a Trauma Advisory Board to develop ground rules, policies and procedures governing use of the combined databases. A Trauma Research Work Group has been appointed which will adhere to the rules established by the Trauma Advisory body while formulating the questions to be answered by the merged county wide trauma registry.

As more prehospital providers become computerized, the HCTA will be involved in combining data bases for all providers for more detailed evaluation. Both air medical providers and Temple Terrace Fire Rescue are currently computerized. Tampa Fire Rescue already implemented an electronic run report documentation system. Hillsborough Fire Rescue has similar plans currently in the development stages.

With the capabilities of a centralized registry, monthly meetings of the TAC will begin to revolve around the evaluation of all patients for a previous quarter, according to standard benchmarks of performance as outlined in the Major Trauma Outcome Study. The intent will be to trend unusual successes and also unpredicted failures in patient outcomes.

Each prehospital provider is required to report specific information on trauma patients that they transported, caused to be transported by air or were transferred to another service. The fields that are currently abstracted from the run report are listed in Appendix O.

Part N

Mass Casualty and Disaster Plan Coordination

(n) Mass Casualty and Disaster Plan Coordination. Describe the proposed trauma agency's coordination of the prehospital and hospital component's mass casualty and disaster plans for the defined geographic area it represents.

Depending on the severity and extent of an incident, a tiered approach for soliciting additional assistance is followed when local emergency medical response needs exceed the capacity of the requested ground emergency medical transport services. The HCTA has a subordinate role in the coordination of mass casualty or disaster events, scenarios which exceed the capacity of the normal operations of the trauma system. Although it is a entity under Hillsborough County's Department of Public Safety such as is the section of Emergency Management which is tasked with that mission, the HCTA staff have no official responsibilities in this regard.

The basic concept of emergency operations in Hillsborough County calls for a coordinated effort and graduated response by personnel and equipment from municipal, county and other disaster support agencies in preparation for, and in response to, local disasters. The municipal governments of the cities of Tampa, Plant City and Temple Terrace bear the initial responsibility for disaster response and recovery operations within their jurisdiction. When local resources are inadequate, assistance will be requested from the county. If the requested assistance is beyond the county's capability, it may request state and federal assistance from the State Emergency Operations Center (SEOC). To ensure an adequate and timely response by emergency personnel and the maximum protection and relief to citizens of Hillsborough County prior to, during and after a disaster, the concept also provides for:

- Preparation for and mitigation of natural and manmade disasters
- Early warning and alert of citizens and officials
- Reporting of all natural disasters between levels of government
- Establishment of the Emergency Operations Center (EOC) and the organization for command and control of emergency response forces
- Movement of citizens from natural disaster danger areas to shelters or safe areas
- Use of increased readiness conditions and response checklists for hurricanes
- Shelter and care of evacuees
- Damage assessment reports and procedures
- Return of evacuees when authorized by the appropriate authorities after the disaster danger has passed
- Recovery operations

The Emergency Operations Center (EOC) is activated for all incidents requiring a significant dedication of resources and/or extraordinary inter-agency coordination outside the realm of

normal, day to day emergency situations responded to by law enforcement, fire and EMS agencies. The EOC Operations Group, under the leadership of the Manager, Section of Emergency Management, manages the county's response to emergencies or disasters.

The county and all three municipalities are signatories to the Statewide Mutual Aid Agreement For Catastrophic Disaster Response And Recovery. If resources within the county are insufficient for disaster response and recovery operations, mutual aid will be requested from the State EOC.

During disaster operations, numerous private sector and private nonprofit organizations provide resources upon request of the Manager of Emergency Management and the EOC Operations Group. Included among these are the American Red Cross, Salvation Army, various church-related groups, United Way and Volunteer Center of Hillsborough County, Chamber of Commerce, etc. Many of these groups participate in relief supply activities conducted at the Regional/County Relief Center at the State Fairgrounds.

Local emergency medical response needs exceeds capacity of requested service

For the efficient day-to-day operation of the Hillsborough County trauma system, formal and informal mutual aid agreements exist among the emergency medical transport services within Hillsborough County and between specific outlying counties to supplement equipment and personnel on an ad hoc basis. The majority of the written agreements have been in existence for over a decade.

A cross-listing of written mutual aid agreements currently in existence that have been signed by a political subdivision within Hillsborough County is provided below. The HCTA notes that an agreement has never been signed with Polk, Hillsborough's neighbor to the east (denoted by a dashed line), and recommends that the prehospital providers work towards establishing such an agreement in the future. The nature of the specific arrangements signed are listed in chronologic order in Appendix P.

Mutual aid agreements in effect				
	City of Tampa	Hillsborough County	City of Temple Terrace	Plant City
City of Tampa		X	X	X
Hillsborough County	X		X	X
City of Temple Terrace	X	X		X
Plant City	X	X	X	
MacDill Air Force Base	X	X		
City of Clearwater	X			
City of St. Petersburg	X			
Manatee County		X		
Pasco County	X	X		
Pinellas County	X	X		
Polk County	--	--	--	--
Coast Guard	X			
State of Florida Division of Forestry	X	X	X	X

A mass casualty event

Any incident, or combination of incidents involving either fifteen (15) or more trauma victims, each with unstable vital signs, and requiring emergency ALS, or for large number of lesser injured victims with unstable vital signs or injuries requiring examination/treatment at more than two hospital facilities, is considered a mass casualty event. Such an event requires activation of Hillsborough County Mass Casualty Operations Procedures. These processes are used to mobilize and coordinate the extraordinary resources necessary within the County and to manage any number of victims that would overload the normal trauma system in case of mass casualties. These activities are organized through the Section of Emergency Management, Department of Public Safety.

The county contracts with a Medical Director for Mass Casualty Planning (MDMCP). This medical consultant's duties include coordination of hospital related mass casualty activity; preparation for and conduct of at least one disaster exercise per year, and providing a written critique of the exercise with recommendations for improvement; participation as a member of the disaster executive support group; recommendation and approval of all planning and operational elements relating to mass casualty coordination in Hillsborough County; and recommendation to

the BOCC of appropriate action or funding requirements for support of a comprehensive and effective plan for the handling of mass casualties.

When a verified or potential mass casualty situation occurs (e.g. plane crash, act of terrorism, approaching hurricane), Hillsborough County Emergency Dispatch Operations will immediately notify the MDMCP, the Director of Public Safety, and the Manager of the Emergency Management Section. Upon ascertaining that a mass casualty situation does exist, the MDMCP will initiate Hillsborough County Mass Casualty Operations Procedures and advise hospitals through Hillsborough County Emergency Dispatch Operations that a Code D (David) is in effect. In most cases, sufficient medical/hospital resources exist within the county to take care of disaster victims. In the event disaster victims have to be transported to medical facilities outside the area, the MDMCP will coordinate the necessary details.

The mass casualty planning system and standard operating procedures for mass casualty events are described in the County's Comprehensive Emergency Management Plan (CEMP) formerly known as the Peacetime Emergency Plan (PEP). More detailed discussion about the concepts of these operations are beyond the scope of this document and will not be covered here.

A state-declared disaster

Disasters can cause conditions that threaten the general health and safety of the citizens of Hillsborough County. A variety of public health hazards may also exist following a disaster including contaminated water and food supplies, epidemics, failure of sanitation facilities, etc. Medical care must be readily available for the injured and sick.

During a county wide disaster, like a hurricane, the public health situation can be complicated by damage or reduced capability of hospitals and other medical facilities. In the aftermath of a major disaster, public health capabilities must be effectively mobilized.

For catastrophic disaster response and recovery, Chapter 252, F.S. (State Emergency Management Act, as amended) authorizes the State and its political subdivisions to develop and enter into mutual aid agreements for reciprocal mutual aid and assistance in case of emergencies too extensive to manage unassisted. The State of Florida, Division of Emergency Management developed the Statewide Mutual Aid Agreement to facilitate rapid assistance to all political subdivisions that participate in the mutual aid program and which are affected by a major disaster. Hillsborough County is a signatory to this agreement. Hillsborough County ordinances further authorize the specific organizational and operational procedures related to declarations of a state of local emergency and coordination of emergency response with other levels of

government and private agencies.

During disaster operations, the entire county's medical infrastructure can be brought to bear to provide medical support. The focal point of county emergency medical response during a disaster is the Mass Casualty Planning System described in the CEMP. The primary coordinator for health and medical activities during disasters is the MDMCP. Agencies supporting this function include Aging Services, American Red Cross, Health & Social Services, County Fire Rescue Department, State Health Department, Medical Examiner, Water Department, Roadway Maintenance Division and the Solid Waste Department.

The primary receiving facilities for disaster victims with serious injuries are the county's 16 hospitals. Secondary facilities are ambulatory surgical centers, walk in emergency care units, Health Department clinics and functioning private clinics. Also, county/municipal fire stations have first aid capability if required. All medical facilities must be prepared on a 24 hour basis to not only receive those injured who are dispatched through the Mass Casualty System, but also the casualties who will arrive on their own. Medical facilities must keep the EOC informed of their status with regard to disaster victims and bed availability during the emergency situation. The chief executive officer of a hospital which requires evacuation for whatever reason (hurricane, loss of water supply, hazardous materials exposure, internal disaster such as fire, bomb, etc.) will coordinate the evacuation with the MDMCP and the Manager of Emergency Management.

There are six hospitals in Hillsborough County that may be affected by storm surge causing evacuation of these facilities at various categories of hurricanes. All of these facilities must include hurricane evacuation procedures in their disaster plans. Those hospitals which are subject to evacuation for hurricanes are listed by level of threat in the table below. The numeric storm category rating directly corresponds to the letter classification of evacuation level (low to high number/letter represents the least threat to the greatest threat). The location of these hospitals and the evacuation levels has been graphically depicted on a map in Appendix D.

Evacuating Hospitals		Category Hurricane	Evacuation Levels
1	Charter Hospital of Tampa Bay	1,2,3,4,5	A.B,C,D,E
2	MacDill Air Force Base Hospital	1,2,3,4,5	A.B,C,D,E
3	Memorial Hospital	4,5	D,E
4	Tampa General Hospital	1,2,3,4,5	A.B,C,D,E
5	Town & Country Hospital	2,3,4,5	B,C,D,E
6	Vencor Hospital	2,3,4,5	B,C,D,E

The remaining (non-evacuating) hospitals must include procedures for receiving patients during hurricanes from evacuating hospitals in their individual CEMPs.

Non-Evacuating Hospitals	
1	Columbia Brandon Regional Medical Center
2	Columbia South Bay Hospital
3	H. Lee Moffitt Cancer Center
4	James A. Haley Veteran's Hospital
5	St. Joseph's Hospital
6	Shriner's Hospital for Crippled Children
7	South Florida Baptist Hospital
8	Transitional Hospital
9	University Community Hospital
10	UCH - Carrollwood Hospital

If there is a localized or large scale disaster, local government officials are charged with the responsibility of declaring a State of Local Emergency and issuing evacuation orders. Evacuation of citizens of Hillsborough County calls for a coordinated effort by county, municipal and the various emergency response agencies in the preparation and movement of evacuees from threatened areas into safe areas. Many evacuations will be localized and require only selected assistance from county resources. However, during a hurricane evacuation, not only Hillsborough County, but the entire Tampa Bay Region will be involved and will require the use of all pertinent municipal and county resources and also the coordinated efforts of surrounding counties and state agencies. Those in areas directed to evacuate should depart to a safe location at homes of friends or relatives, hotels/motels, out of the county entirely or to a designated public shelter. All mobile home residents must evacuate for any level hurricane.

Hurricane evacuations require a comprehensive decision making process. The Hillsborough County Hurricane Evacuation Implementation Guide provides detailed information on this process. The 1992 Tampa Bay Region Hurricane Evacuation Study update provides estimates for county clearance times derived through a transportation modeling process including accepted traffic engineering and transportation planning techniques.

The main evacuation routes are the major highways in the county. These include the interstate systems (I-4, I-275 and I-75), U.S. highways (U.S. 41, U.S. 92 and U.S. 301), state roads (S.R. 60, S.R. 580, S.R. 581, S.R. 582, S.R. 597, S.R. 672, S.R. 674 and S.R. 676) and the Crosstown and Veterans Expressways. Individuals evacuating out of the area will use these routes as their primary means of egress. Individuals evacuating to shelters will use the most direct route from their area to their shelter.

To maintain a continuous flow of traffic, both internally and on the evacuation routes leading out of the county, a traffic control plan has been established by the various law enforcement agencies and the county traffic engineers. County, municipal and state law enforcement personnel will provide security along traffic routes. County and municipal law enforcement will also coordinate emergency vehicles for evacuation routes to help evacuees with vehicle problems or, if necessary, to move them to a safe area. Intersections or points along evacuation routes that may flood will be identified and plans made for the rerouting of traffic.

Hillsborough County's CEMP provides uniform policies and procedures for the effective coordination of actions necessary to prepare for, respond to, recover from, and mitigate natural or man-made disasters which might affect the health, safety or general welfare of individuals residing in its jurisdiction. It should be noted that the CEMP is the guiding plan for response to mass casualties and disasters in the County. In addition to replacing the Peacetime Emergency Plan, this document replaces the Response Plan for Releases of Extremely Hazardous Substances

Plan, Part 1 and the Nuclear Civil Protection Plan. Information on specific authorities, coordination of actions and description of emergency support functions for mass casualty and disaster situations are described in detail in the CEMP and are outside the scope of the Trauma Plan.

Part O

Public Information and Education

(o) Public Information and Education.
Describe the proposed trauma agency's programs designed to increase public awareness of the trauma system and public education programs designed to, prevent, reduce the incidence of, and care for traumatic injuries within the defined geographic area it represents.

At the present, the HCTA has neither instituted formal programs relating to injury prevention nor coordinated in public injury awareness campaigns due to the limitations of staffing.

However, the HCTA has established a precedent of offering a free educational seminar annually to benefit the hospital and prehospital providers. In the past, the curriculum has revolved around opportunities for improvement identified from Trauma Audit Committee activities or special interest requests from individuals. Faculty for such courses are drawn from practitioners in the trauma community.

Additionally, the Trauma Coordinator participates in community activities in injury prevention/safety promotion educational activities through involvement with local coalitions, political entities and other agencies. The Trauma Coordinator maintains active professional working relationships with directors and employees of other emergency support and planning providers in the County. The Coordinator may attend meetings of the following organizations to maintain contacts, keep informed, and maintain Agency visibility. Examples of these agencies include:

Community Traffic Safety Alliance. Members include local city, county, and state agencies, private industries and citizens using the team approach to combine law enforcement, emergency medical services, public education, and engineering efforts to address community safety issues.

Drive Smart Tampa Bay. Members constitute a traffic safety alliance of about 60 members from law enforcement, government, military, big business, acting as a public clearinghouse of information on traffic safety, taking a stand on some issues, promoting comradery and networking.

Greater Tampa Area Safe Kids Coalition. This group is a local chapter of the only long-term effort dedicated solely to preventing unintentional injury among children ages 14 and under, with more than 80 national organizations and 164 coalitions in 46 states (8 in Florida) and D.C.

Hillsborough County Freeway Management Team. Membership consists of transportation engineering professionals, state and local officials such as FL DOT, law enforcement, public information and education spokesmen, fire and emergency medical services. The team considers issues such as anticipated and evaluated impact of activities related to specific segments under construction, project updates, emergency incidents and procedures, public information releases, and communications

Other professional associations and affiliations with which the Trauma Coordinator interacts and can influence trauma care and public awareness are:

Association of Florida Trauma Agencies. The goals and objectives of this body are: to foster the development and support of trauma agencies through legislative and programmatic activities, to address present and future trauma care needs of communities and the State, to establish administrative and medical policies and protocols to improve the quality of trauma care, oversee the development of the State EMS Plan, to coordinate public and private entities concerned with provision of trauma care, to advise the State or other organizations regarding trauma care, and to apply or administer grants for research and development purposes.

Florida Committee on Trauma. One of 66 state/provincial, 8 international and 5 military committees under the American College of Surgeons. Membership composed of physicians, and allied health professionals or students with interests in many aspects of trauma, including education, professional development, standards of care, assessment of outcome, and financial accountability. Liaison relationships also exist with numerous safety and EMS professional organizations.

Emergency Nurses Association (West Coast Chapter). Local arm of the national association of ED nurses educates and advocates for the practice of emergency department nursing and patient care on both the clinical and professional levels

Controversies in Local Trauma Care

There have been several unresolved differences between the trauma centers: St. Joseph's Hospital and Tampa General Healthcare. These differences do not relate directly to improving the quality of patient care, but deal with market share and business plans. Three such issues are outlined below. As managed care takes a stronger foothold in Hillsborough County, there will inevitably be more of these differences in the future. Being forced to participate in the resolution of these differences placed tremendous strain on the resources of the HCTA. Litigation resulted between these two providers and caused delays at the State level carrying out the 1996 legislative session's rule reduction mandate.

Thus, it is the intent of the HCTA to position itself outside the business decisions of these two providers, and all other providers, as much as possible. By concentrating on the quality of patient care services provided, it may be possible to limit the involvement of HCTA in these other business and marketing issues. The attached "Policy for Revision of the Trauma System within Hillsborough County by the HCTA" attempts to refocus all providers on quality of care issues when requesting these revisions.

Policy for Revision of the Trauma System within Hillsborough County

Chapter 395, F.S., grants the authority to State Approved Trauma Agencies to develop a plan for the delivery of trauma care to the citizens serviced by that Agency. In addition, it grants authority to the State Approved Trauma Agency to develop and institute uniform trauma transport protocols, further defining the components of the system and their interactions.

It is the policy of the Hillsborough County Trauma Agency (HCTA) to support the current service provider relationships, and to develop any necessary changes based on need for additional resources or on identified deficiencies within the system which negatively impact patient care.

It is implicit in the Plan and explicit in this policy that any needed change in the system will be clearly identified in the Plan. Any component of the system where change is necessary will be clearly defined; lack of discussion implies lack of need. Any request for change will be considered on merit of quality improvement for the entire system. Requests for change must be made in terms of improvement in quality of patient care delivered. Where possible, the particular problem identified and suggested resolution must be discretely presented.

The HCTA will not support any participant's application for change in system status without prior detailed discussion of potential improvement in the quality of care to be delivered to the citizens of Hillsborough County.

Issue #1

St. Joseph's application for status as a Level II State Approved Pediatric Trauma Center

In 1994 St. Joseph's Hospital submitted an application to the State for consideration as a State Approved Pediatric Trauma Center (SAPTC). Tampa General Healthcare is already required to be certified as such as are all Level I trauma centers.

The submission of a completed St. Joseph's Hospital application was not anticipated by the HCTA. While a letter of intent had been filed with the State Office during the preceding fall, prospective candidate hospitals are under no obligation to follow through with the process. Indeed, the Agency understood that the applicant could not meet all criteria, and therefore did not expect an application. Moreover, the Trauma Agency had not been consulted about a need for additional pediatric resources within the trauma system.

In trauma service areas with a local or regional trauma agency, Florida Statutes allows that body a 7-day period to review any trauma center applications prior to consideration by the State Office. In this case, because the Agency did not anticipate the application, it requested and was granted a 30-day extension for review of this matter.

The state interpreted St. Joseph's Hospital's candidacy as pediatric trauma center consistent with the Trauma Plan noting the reference to their prior request for an SAPTRC application. The Trauma Agency polled the TAC, its advisory body about this proposed system change. The committee considered St. Joseph's Hospital current provision of critical care pediatric services and available resources to expand into this service area. Members worried about the hospital provider's ability to assure and maintain competency given this small caseload of acutely injured pediatric patients. Projections of 2-4 pediatric patients would be transported to St. Joseph's by prehospital providers monthly with this change in place. Also of concern to some constituents was the effect of the corresponding decrease in such patients at the Level I center available for training. The group could not identify a system deficiency or issues in quality improvement of patient care.

The State subsequently decided the issue in favor of St. Joseph's Hospital. However, Tampa General Healthcare filed an injunction to stop the process. Ultimately the ruling was overturned and consideration for St. Joseph's Hospital candidacy proceeded unimpeded. In 1997, the State awarded full SAPTC designation.

Issue #2

Trauma center receiving zones for Trauma Alerts

St. Joseph's Hospital opposes the current trauma center receiving zones scheme previously described. Historically, the trauma center receiving zones for ground transport of trauma were initially developed to include Brandon Hospital. When Brandon Hospital withdrew as a trauma center, Tampa General absorbed most of that hospital's trauma center receiving zone.

The trauma center receiving zones were originally decided upon by the CEOs of the involved trauma centers; they were revised by the CEOs of Tampa General Healthcare and St. Joseph's Hospital when Brandon dropped out. The agreements were made by these two executives, based primarily on business decisions.

The HCTA spent six months researching the issue. It was a laborious effort, consuming tremendous resources for such a small office. The argument advanced by St. Joseph's compelling this evaluation is that trauma center receiving zones are not legal; the opposite argument is put forth by Tampa General Healthcare. The HCTA again finds itself embroiled in business and marketing issues involving these two competing hospitals.

There have been no instances identified in the history of the HCTA where a poor outcome was related to the additional incremental transport time getting to Tampa General Healthcare as opposed to St. Joseph's Hospital. In addition, no other need has been determined. The total numbers of trauma alert patients has steadily fallen over the past several years. In addition, any further decrease in the total number of patients seen at Tampa General may negatively impact the mandatory teaching and research functions required to maintain Level I Trauma Center Status. A negative impact on the teaching program will directly result in poor service provision for Hillsborough County in the future; most of the current trauma surgeons at both hospitals were trained at Tampa General Healthcare.

The HCTA cannot recommend any change to the existing trauma center receiving zones scheme. In December 1996, the Agency's Medical Director sponsored an informal gathering of medical community physicians to brainstorm this issue. The group was told that the county attorneys do not want to defend these boundaries. Ultimately it was decided that the medical directors of the two largest ground ALS providers will decide the trauma center receiving zones for their services. This will remove the burden of decision making from field personnel, avoid influence by trauma centers on these public servants and ensure that paramedics have adequate guidance to make clear-cut transport destination decisions.

The HCTA seeks to protect itself in the future from embroilment in business competition between these two providers, by developing a policy for requests for system change that considers only improved quality in patient care as an argument, and refers business and legal disputes appropriately.

Issue #3

St. Joseph's Hospital as initial receiving center for acute spinal cord injuries

St. Joseph's Hospital has requested that the Trauma Agency recognize it as an initial receiving facility for acute spinal cord injury patients. According to the State Plan for the Brain and Spinal Cord Injury Program (BSCIP), the definition for acute care is the time period beginning with the arrival of a new patient with a brain injury (BI) or spinal cord injury (SCI) to an emergency department or acute center until discharge from acute hospitalization. St. Joseph's Hospital has not applied for Acute Brain and Spinal Cord Injury Program (BSCIP) designation by the State. Tampa General Healthcare has been a State Brain and Spinal Cord Injury Program designated facility for the acute and rehabilitative phases for many years.

The State-approved adult and pediatric trauma center standards do not confer BSCIP status upon a trauma center. This rating is only awarded by the Department of Labor and Employment Security, Division of Vocational Rehabilitation (DVR) to an institution and entails a separate site survey conducted by outside specialists in the field. BSCIP designation requirements do not require a facility to be a trauma center. The criteria stipulate that in order for an institution to be designated as a BSCIP facility, it must comply with the standards and criteria established in the State Plan. Section 2.0 from the State Plan on BSCIP acute care centers further specifies that:

> *Brain and spinal cord injury research has identified the first hours after trauma as being the most critical in terms of preserving and possibly restoring neurological function by minimizing those changes which occur on a subcerebellar and tissue level. These changes involve alterations of cerebral flow, cell membrane permeability, the release of chemicals which can furnish damage to already compromised tissue and derangements in the electrical activity of brain tissue. It has been shown that the damaged brain is highly susceptible to variations in blood pressure, oxygenation and other extracranial parameters.*
>
> *Indeed, these parameters may play as significant a role in determining the eventual outcome as do the nature and extent of the initial brain or spinal cord injury, In addition, the brain or spinal cord injured patient, because of alterations in neurological status, is at significantly high risk for the development of systemic complications which may, in turn, add further insult to the nervous system. These complications most frequently arise during the acute care phase of treatment. Experience has shown that the adoption of a multi disciplinary approach results in a reduction of morbidity and mortality.*

Section 2.0 from the State Plan on BSCIP acute care centers *continued*

> *These findings lend significant support to the need for treating persons with brain or spinal cord injuries in centers which can provide the necessary personnel and material to treat these injuries both promptly and comprehensively. Pathophysiological studies investigating blood flow, hemorrhage, swelling, histomorphology, and electrophysiology in acute brain or spinal cord injury have identified the first minutes and hours following trauma as the most critical interval requiring prompt, definitive, diagnostic and therapeutic intervention. Experienced investigators believe that significant brain or spinal cord damage ensues within the first few hours following injury. Clinical experience points to the first two weeks following injury as the interval related to the highest incidence of mortality and morbidity and the potential starting time for numerous systemic complications. Therefore, the care afforded the patient with a brain or spinal cord injury during this period must be of the highest standards and must address pertinent aspects of care.*

The HCTA will not endorse a change in the trauma system which would potentially allow provision of care below the accepted State standard of care. Although special credentialing such as this State designation can never guarantee the level of care provided, just as in trauma center approval ratings, it signifies that a provider has made a commitment and put in place the necessary infrastructure deemed essential to ensure optimal outcomes. While St. Joseph's Hospital may be capable of providing this care, the HCTA has neither the inclination nor the resources to supplant the State approval process with its own quality of care monitoring activities.

To put this issue in the proper perspective requires an appreciation of the incidence of brain and/or spinal cord injuries and the existing statewide infrastructure of designated facilities in place to care for these patients. The occurrence of such injuries is categorized according to anatomic site in the table below. During two of three recent fiscal years, the total number of patients with new brain and/or spinal injuries reported to the DVR remained the same, with the same frequency of combination injuries but variation between the number of spinal cord and brain injuries.

Incidence of brain & spinal cord injuries reported to Florida's BSCIP Registry				
Fiscal Year Period	Spinal cord injuries	Brain injuries	Total individuals with both a brain and spinal cord injury	Total individuals with brain and/or spinal cord injuries
1994-95	403	1829	35	2267
1995-96	447	1784	35	2266
1996-97	441	2013	44	2498

In 1997, there were eight districts with eight designated acute care centers for spinal cord injuries statewide. Tampa General Healthcare is the only such designated facility in its district (VI) which includes the counties of Hillsborough, Pasco and Pinellas. The other locations are in Daytona Beach, Gainesville, Jacksonville, Miami, Pensacola, Tallahassee, and West Palm Beach.

To establish and maintain BSCIP designation, Florida's DVR requires that an institution maintain the standard of handling a minimum of 24 new patients with spinal cord injury in a 24-month period. In two of three recent fiscal years, St. Joseph's Hospital does meet the minimum threshold of patients. In FY 1994-95, it reported 14 SCIs (10 with origin of injury in Hillsborough County); 17 SCIs in FY 1995-96 (12 with origin of injury in Hillsborough County). In FY 96-97 however, 6 SCIs (2 with origin of injury in Hillsborough County) were treated. If considering that there are seven neurosurgeons on staff at SJH and assuming that each sees on average an equivalent number of such injuries, the case load per surgeon would be infrequent at best.

During the analogous time periods, Tampa General Healthcare reported 39 cases (22 with origin of injury in Hillsborough County); 47 cases (25 with origin of injury in Hillsborough County) for FY 1995-96; and 37 SCIs (24 with origin of injury in Hillsborough County) for FY 1996-97.

Other spinal cord injury cases reported to the State's Registry by a hospital in Hillsborough County during parallel time periods were from the James A. Haley Veteran's Administration Hospital in Tampa, which reported 9, 15 and 5 patients respectively. This institution is already recognized within the VA system as a regional referral center for more than a dozen states but is currently pursuing the State DVR designation for acute spinal cord injury care.

The State designation process emphasizes the issue of repetition and patient volume as essential factors by which to gauge competency in the treatment of these injuries. Thus it is important to consider the origins of historical patient referral patterns and changes in the outside infrastructure as a gauge to predict future patient load. Again, from the BSCIP State Plan:

> *Designated facilities are required to maintain the highest level of expertise and experience to address the medical, rehabilitation, and psychosocial needs of individuals who sustain traumatic brain and spinal cord injuries. These regional facilities are strategically located throughout the state to ensure accessibility and volume of new admissions. A minimum number of new admissions is required to maintain the level of professional staff and comprehensive programs required. The need for new facilities is based on several factors including geographical location, incidence of traumatic brain and spinal cord injuries in a region, and preponderance of need in a specific region.*

Conceivably there might be an impact on the number of spinal cord injuries transferred to Hillsborough County now that Lakeland Regional Medical Center is practicing as a trauma center in neighboring Polk County and other hospitals establish transfer agreements for the care of their spinal cord injured patients with that facility. Also, Orlando Regional Medical Center has recently applied for acute care BSCIP designation. While it is too early to know whether out-of county spinal cord injury referrals and historical transfer patterns will be affected, it is still arguable whether a second BSCIP designated facility in this County would be necessary.

The table of origin of injury for SCI patients treated at SJH and TGH by fiscal year at the end of this section illustrates the fact that without out-of-county transfers of SCIs to SJH, this hospital would probably not meet the minimum threshold number of such injuries to either obtain or sustain BSCIP certification. TGH is not dependent on out-of-county transfers for this designation but it is obvious that a large share of those cases do come from outside Hillsborough County.

In summary, the Trauma Agency does not support the transport of any patient recognized to have an acute spinal cord injury from the field to other than a Florida DVR BSCIP designated facility. Currently Tampa General Healthcare alone holds that credentialing.

Secondly, the HCTA herein amends the definition of "spinal cord injury" from the previous Trauma Plan, recognizing the inadequacy of the previous definition used to qualify such an injury in the field:

> 'isolated spinal injuries with paralysis'

Conversely, the State DVR definition may be too specific for a field definition:

> 'a lesion to the spinal cord or cauda equina with evidence of significant involvement of two of the following: 1) Motor deficit, 2) Sensory deficit, 3) Bowel and bladder dysfunction'

The new definition of "spinal cord injury" to be used for identification of a spinal cord injury in the field and to determine the transport destination to a designated acute-care BSCIP facility in Hillsborough County (currently Tampa General Healthcare) will be:

> 'Suspected spinal cord injury with evidence of significant motor or sensory involvement'

Fiscal Year Period	Origin of injury by county for SCI reported by SJH		Origin of injury by county for SCI reported by TGH + TGH Rehab*	
1994-95	Hillsborough	10	Charlotte	1
	Pasco	2	DeSoto	1
	Polk	2	Hernando	1
			Hillsborough* (includes 1 TGH	22
			Rehab)	2
			Manatee	1
			Martin	1
			Okeechobee	2
			Pasco	2
			Pinellas	3
			Polk	1
			Sarasota	2
	Total	14	Out-of-state	0
			Total	39
1995-96	Citrus	1	DeSoto	1
	Hillsborough	12	Hardee	2
	Pasco	4	Hernando	1
			Highlands	4
			Hillsborough	25
			Manatee	1
			Okeechobee	1
			Pasco	1
			Pinellas	2
			Polk	6
			Sarasota	1
			Out-of-state	2
	Total	17	Total	47
1996-97	Brevard	1	Charlotte	1
	Dade	1	Hernando	3
	Hillsborough	2	Highlands	1
	Pasco	2	Hillsborough	24
			Manatee	1
			Okeechobee	1
			Pasco	1
			Polk	4
			Out-of-state	1
	Total	6	Total (*includes 2 TGH Rehab, origin unknown)	39

Part P

Attachments

Appendices to 1999 Trauma Plan

Appendices to 1999 Trauma Plan

A. Materials, methods and results of the Hillsborough County trauma center catchment project and the FSUTMS computer program

B. Map of the location of trauma centers, hospitals and their helipads in Hillsborough County

C. Map of the location of fire and rescue stations, air ambulances and their helipads in Hillsborough County

D. Map of Hillsborough County Hospitals in Evacuation Zones

E. Map of transport time differences between trauma centers: Tampa General Healthcare and St. Joseph's Hospital.

F. The EMS medical directors' letters affirmations of the current trauma center receiving zones

G. The Trauma Agency's Medical Director contract

H. A diagrammatic representation of the current County Government structure

I. The job descriptions and curriculum vitae of the individuals responsible for managing and operating the Trauma Agency

J. List of county hospitals granting blanket authorization (or the terms of their agreement) to photocopy medical records previously provided to the Medical Examiner's Office for its death investigations and a template of the letter sent to the above facilities

K. Table of services provided by Hillsborough County hospitals (adapted from the Tampa Bay Hospital Association, Inc. publication, Hospitals of the Tampa Bay Region)

L. A copy of Hillsborough County Emergency Medical Services Transportation Ordinance, 86-3, as amended

M. EMS Communication System Frequencies Inventory

N. The trauma centers' hospital administration agreements and the commonly collected data fields from their trauma registries to be shared with the HCTA

O. Data fields entered from the state wide run report by EMS providers for the HCTA's prehospital database

Appendices to 1999 Trauma Plan

P. Chronological listing of existing formal and informal mutual aid agreements among the emergency medical transport services within Hillsborough County and between specific outlying counties to supplement equipment and personnel on an ad hoc basis

Q. Copy of the public notice re: the public hearing on the Trauma Plan and the minutes of the same

Trauma Plan Appendix A

Trauma Center Receiving Zones Project - Materials and Methods

The HCTA gratefully acknowledges the assistance of Hillsborough County's Metropolitan Planning Organization (MPO) without which this effort could not have been accomplished. That agency used SAS statistical software, the Florida Standard Urban Transportation Modeling Structure (FSUTMS) developed by the Florida Department of Transportation (FDOT), adapted specifically for Hillsborough County, and their graphical information systems (GIS) software to calculate and compare computer model estimates with historical prehospital ground transport time differences between the two trauma centers from each of 700 traffic analysis zones (TAZs). Finally, the synthesized travel time differences from points all over the County were graphically depicted to each of the trauma centers. The project was conducted in two phases: analysis and mapping. Briefly, these stages consisted of the following aspects:

Analysis

- generating computer simulated times from all County TAZs to the two trauma centers using the FDOT travel demand model;
- obtaining all of the historical ground transport times from the first six months of 1995 trauma alert activity (235 combined calls) for Hillsborough County Fire Rescue, Tampa Fire Rescue, and Temple Terrace Fire Department and assigning TAZs to each origin of incident;
- statistically correlating the run report times to the corresponding simulated estimates to learn how well the computer model approximates real life circumstances.

Mapping

- plotting computer simulated transport times for all TAZs in predefined color-coded time intervals;
- plotting the differences between the simulated and corresponding run report transport times for available TAZs in analogous time intervals.

Trauma Center Receiving Zones Project - Results

Computer model transport times

Using every TAZ as a point of origin, the travel time in minutes to each trauma center, TGH and SJH, was calculated and tabulated. The transit times between each TAZ to TGH and SJH respectively are similar as illustrated by standard statistical measurements in the table below. For example, the average travel time to each trauma center differed by just over a half minute. The longest time to traverse from any point in the County to TGH was about an hour and 23 minutes; to SJH almost an hour and 16 minutes. These times are used in the next step to figure the time differences to each trauma center from every zone.

Statistic	Travel time estimates from TAZ-1 to TAZ-700	
	To TGH (TAZ #206)	To SJH (TAZ #138)
Mean	23.4	22.8
Median	19.7	21.1
Standard deviation	14.1	13.0
Maximum	82.55	75.82

DIFFERENCES BETWEEN COMPUTER MODEL TRANSPORT TIMES

The average computed trip time difference between every TAZ to each trauma center is also roughly equal to the midpoint, i.e., 50% of the time differences values are less than 4 minutes. Three-fourths of the differences in travel time values between a TAZ and either trauma center was less than or equal to 6 ¾ minutes. There was no instance in which a transport time difference between a TAZ anywhere in the County to the trauma centers exceeded 12 minutes. The most extreme values, i.e., the largest time differences between a given TAZ and the hospitals came from travel between the trauma centers and TAZs located in the farthest reaches of the County, areas not usually considered for ground transport anyway.

Statistic	Differences between travel estimates from every TAZ to both trauma centers
	|Absolute value of| time from (TAZ-1 to TGH) minus time from (TAZ-1 to SJH) ... etc., ... to time from (TAZ-700 to TGH) minus time from (TAZ-700 to SJH)
Mean	4.5
Median	4
75th percentile	6.75
Maximum	12

HISTORICAL TRANSPORT TIMES

Not all TAZs were represented and some TAZs were included more than once in this retrospective collection of transport times from 235 EMS run reports. Generally, trauma alerts are sent by air rather than ground if the paramedic judges the travel time to the trauma center will exceed 20 minutes. Logically, the trauma run times available for correlation to the computer times largely came from areas within the 20 minute range of either hospital. The study sample of first half of 1995 run reports represents about a quarter of all TAZs. All values were retained and analyzed as independent observations. Comparisons of statistical measures of frequency and dispersion between run report times and computer generated times to one or the other trauma center for the relevant TAZ are displayed in the table below. Concordance between these values is strong. The maximum correlation possible is 1, meaning perfect one to one correspondence between an historically measured time interval and its estimate (computer generated).

Comparison of run report data to computer model data

Trauma Center	Historical times abstracted from providers' run reports for a six-month period	Computer generated times for those TAZs in which historical data was available	Correlation of historical to computer generated times
TGH	118 unique TAZs with 156 corresponding values range: 1-52 min mean: 13.6 min	156 values range: 3.27-49.76 min mean: 15.7 min	0.78
SJH	59 unique TAZs with 79 corresponding values: range: 2-26 min mean: 9.47 min	79 predicted values range: 2.02-32.65 min mean: 11.66 min	0.80

DISCUSSION

The simulated transport times agree with what we know intuitively about relative travel times from points around the county to the two trauma centers. Additionally, the 20 minute radius around each trauma center beyond which air transport is suggested mirrors the present yeoman determination of that zone. This FDOT model which averages travel times throughout a 24-hour period appears to be a reasonable and realistic depiction of road and travel circumstances. The correlation between computer simulated times and historical run report times is strong. If one accepts the travel demand model as a satisfactory predictor of actual travel times, it follows that the relative time differences between these zones to the two hospitals are also acceptable estimates of real life conditions.

It should be remembered that transport time represents but a portion of the total out-of-hospital time interval, which includes initial response time, on-scene time and transport time. While an optimal time interval for EMS personnel has not been defined for major trauma, it has been recommended that the least amount of time spent in the prehospital arena the better. There are many unanswered questions about the advisability of providing certain kinds of treatment at the scene versus the delay involved before transport to more definitive treatment. This has lead to the 'load and go' versus 'stay and stabilize' controversy in trauma literature.

While it is unclear that scene time or transport time may be directly related to the probability of survival, evidence supports the concept that the nature of treatment received in the hospital does make a difference. The development of trauma centers largely evolved from this recognition. Available data also suggests that emergency interfacility trauma transfers have longer lengths of stay and greater costs than those brought directly to the trauma center.

Many competing concerns should be considered in transport destination decisions of trauma alerts, including geography and the transportation system infrastructure. A judicious balance must be reached between these factors. The major purpose of trauma center receiving zones are to expediently direct the trauma patients to the most appropriate definitive care. It follows that ease of identification of that destination should be the objective of any policy, using well-recognized landmarks. Simple and unambiguous directions should be the guiding principle in the coordination of any prehospital activity. Moreover, the effect of changing any one system component should never be underestimated.

Again, the HCTA submits that the application of the FSUTMS and GIS to forecast and depict transit time differences as a decision tool for defining trauma center receiving zones embodies the best strategy yet advanced to objectively address this controversial matter.

A description of the features of the FSUTMS computer program, the map of transport time differences between trauma centers and the medical directors' letters affirmations of the current trauma center receiving zones are also included in the appendices of this document.

Tampa Bay Regional Planning Model

Myung-Hak Sung, *Director of Transportation Planning, Gannett Fleming, Inc.*

Daniel R. Lamb, *Systems Planning Administrator, Flordia Department of Transportation*

The Tampa Bay Region consist of four rapidly growing and highly interdependent counties. Changes in the transportation systems, travel conditions or patterns of growth and development in one county have an immediate and direct impact on travel conditions in each of the other counties. Because of this high interdependence, the Florida Department of Transportation and the area's four MPOs have been seeking ways for greater coordination and cooperation in planning for the area's regional transportation needs.

To help facilitate this effort, the Florida Department of Transportation initiated a project to develop a Tampa Bay Regional Planning model to be used both for regional planning and for the development of the MPOs' individual local area transportation plans. The development of the model also afforded an opportunity to restructure travel demand forecasting methodologies used in the Tampa Bay Region in order to better address the requirements of ISTEA. This presentation highlights the concepts used in the Tampa Bay Regional Planning Model to meet both the regional and local area needs and to address the ISTEA's major planning issues.

To more accurately forecast the travel patterns of a varied and changing population, a new trip generation model was developed based on lifestyles – Retirees, Working Adults with Children, Working Adults with No Children - with special treatments for seasonal residents and hotel\motel guests. Routine daily trips from surrounding areas, categorized by purpose, are separated from longer distance external trips and incorporated with internal trip productions and attractions. This enables a more accurate modeling of their true distribution patterns and their likelihood of ridesharing or using intercity transit.

The trip distribution, modal split and trip assignment models were all restructured to more accurately reflect the characteristics and usage of all travel modes. The trip distribution model utilizes Composite Impedances instead of highway travel times to accommodate the attributes of all modes and to better reflect the impacts of transit on trip distribution. A new Nested Logit modal split model incorporates unique nesting of modes to distinguishing among various transit modes as well as among various forms of access to transit. The model more accurately projects ridesharing, the use of HOV lanes and the impacts of a variety of transportation management strategies. A special-use lane assignment technique is incorporated in the highway assignment step to provide the ability to examine HOV lanes, truck lanes, and other special use facilities.

To better assess the needs of goods movement in the region, light trucks and heavy trucks are given special treatment in the trip generation, trip distribution, and assignment steps.

A land use allocation model was also developed as part of the model chain to simulate the interrelationships between transportation and land use. The model is capable of demonstrating both the impacts on travel patterns resulting from changes in land use policies and the impacts on the future distribution of growth resulting from changes in the transportation system and travel conditions.

The model chain also includes a variety of evaluation methodologies to examine the impacts of alternatives on accessibility, air quality, fuel consumption, development patterns, travel costs, and operating conditions.

Source: Transportation Planning Methods Applications, 5th Conference, Seattle, April, 1995

Appendix B.1

Socioeconomic Data Development and Application of The Florida Standard Urban Transportation Modeling Structure

ABSTRACT: The Florida Standard Urban Transportation Modeling Structure (FSUTMS) is a set of long range travel demand forecasting programs. FSUTMS was developed by the Florida Department of Transportation (FDOT) to ensure that all urbanized areas in Florida use the same model structure for travel demand forecasting. This model is used by the Tampa Urban Area MPO for long range transportation planning in Hillsborough County, Florida. These programs have been typically used in a mainframe environment for over ten years to produce long range transportation plans. In October of 1987 FDOT released a microcomputer version of FSUTMS, which was designed to replace the mainframe version. The microcomputer models allowed local governments more flexibility in developing and evaluating proposed changes to there long range transportation plans.

Since it's initial development Micro-FSUTMS has been revised several times. For conducting this analysis version 4.03 was used.

This paper discusses the FSUTMS model structure, the application of the model and the development of the socioeconomic data projections such as population, housing, employment, and school enrollment which are needed for travel demand forecasting.

Introduction

Typical of the experience in other states, by the mid-1970's Florida's urban areas had independently developed a variety of data set specifications and transportation modeling techniques (4). To solve this problem FDOT developed FSUTMS which consists of standardized computer software, urban area data set standards and standard operating procedures (4). The Florida model structure operating procedures and standard data sets reduces the amount of time involved in producing travel demand forecasts. Within this framework, FDOT can easily provide microcomputer software updates, FSUTMS procedural manuals, and technical support to the 21 MPOs in Florida.

Data set standardization employed within FSUTMS consist of socioeconomic data specific to each study area and control files needed to execute the specific travel demand modeling steps. Separate standardized data files are maintained for each transportation area and year being analyzed.

Hillsborough County, Florida, contains over 1,000 square miles of land. The County consists of four jurisdictions, Hillsborough County, City of Tampa, Plant City and Temple Terrace. These jurisdictions are divided into 168 census tracts which are further subdivided into 678 Traffic Analysis Zones (TAZ's), the smallest geographic analysis area used in transportation planning.

Development of the Socioeconomic Data

Introduction

Socioeconomic data can generally be divided into two categories, production variables and attraction variables. Production variables are the home-based trips that are produced in each TAZ. The attraction variables attract the trips that are produced. In theory, when all of the trips are balanced, there is an attraction for every production.

As part of this 2015 update, 1992 has been designated as the base year with the year 2000 as an interim projection year and 2015 as the final projection year.

Methodologies have been prepared for each of the production and attraction variables and are available from The Planning Commission.

Production Variables

The information required to generate production variables in the FSUTMS modeling structure includes, single family population and dwelling units, multi-family population and dwelling units, automobile ownership rates and hotel rooms and occupancy rates.

Attraction Variables

The attraction variable used in FSUTMS consists of employment and school enrollment. Employment was assigned to industrial, commercial and service classifications using the Standard Industrial Codes found in the Standard Industrial Classification Manual, 1972. School enrollment included both private and public schools.

FSUTMS Environments

Since the original FSUTMS concept was developed, many changes have taken place in the way urban transportation planning is done in Florida. Originally, the system was designed to operate on the mainframe computer. With the decentralization of urban transportation planning functions by FDOT and the advances made over the past few years in microcomputer, mini-computer, and workstation technology, FSUTMS has been adapted to run on the IBM PC (and compatibles), DEC/VAX systems(with VMS operating systems), and workstations under UNIX. Each version of FSUTMS utilizes compatible input data sets with comparable results.

In recent years, however, FDOT has decided to drop support for the mainframe version of FSUTMS leaving local governments and consultants with the option of using the micro, mini(UNIX) or DEC/VAX versions.

Because of the diversity in the size and complexity of the transportation studies in Florida, FSUTMS operates in four separate modes. The four modes are Non-Transit, Single Path Transit, Multi-Path/Single-Period Transit and Multi-Path/Multi-Period Transit.

The Hillsborough County transportation analysis was conducted using the fourth mode, Multi-Path/Multi-Period. This option provides the best results for this urbanized area because of the complexity of the transit system which has both local and express service with headways adjusted for both the AM and Midday periods.

All of the programs are menu-driven for ease of operation.

FSUTMS Modeling Chain

The FSUTMS modeling chain is a series of software programs, executed in either environment, that build upon each other to produce travel demand forecasts. The programs are run sequentially with the output from the previous program used as input for the following program. A brief description of the program components follows.

External

The external trip step begins the FSUTMS modeling chain. The purpose of this step is to simulate traffic coming into and out of the study area. There are two types of trips. External-external trips which just pass through the study area without stopping and internal-external trips that have an origination or destination that is outside the study area. The external trip table is utilized in all the modeling steps.

Trip Generation

The trip generation step computes the number of daily person trips produced and attracted in each TAZ by trip purpose. There are seven different trip purposes in FSUTMS. They are home-based work; home-based shopping; home-based social-recreation; home-based other; non-home based; truck-taxi; and internal-external. Productions and attractions are treated separately for trip generation. For productions, a cross classification matrix is produced that selects the appropriate trip production rates according to variations in housing unit type, persons per housing unit, and autos per housing unit. Attractions use standardized trip rate equations to calculate the number of trips for each TAZ.

Network Development

An abstract highway network of the study area is required at this step of the FSUTMS modeling chain. This network consists of roadway links and nodes which describe the characteristics of the highway system being analyzed. If transit is to be analyzed as part of the study area, then a network for each mode of transit (local bus, express bus, rail, etc.) must be developed based on the highway network.

Trip Distribution

The trip distribution step allocates the trip table produced within the trip generation component of FSUTMS by TAZ and trip purpose. This distribution of trips is accomplished by using a gravity model. The gravity model allocates trips to TAZ's according to the socioeconomic data in each TAZ and the distance between each TAZ. Trip length frequency distributions for each trip purpose are produced in the trip distribution component of FSUTMS. Base year output is calibrated against the trip lengths from the origin-destination study and used in the future year projections.

Mode Choice

Mode choice is the next step in the FSUTMS modeling chain. This process determines the amount of travel that will be made by using each available mode of transportation in the study area. Three important factors that are used in determining mode choice are 1.) characteristics of the trip maker; 2.) characteristics of the trip and 3.) characteristics of the transportation system.

Trip Assignment

The final simulation component of FSUTMS is trip assignment. In trip assignment the model estimates the volume of travel on each individual component of the transportation system., The volumes can be the number of cars on a particular roadway, the number of passengers on a transit or the number of passengers on a rail line.

Application of FSUTMS

Long Range Transportation Plan

The MPO's *2010 Long Range Transportation Plan* was developed using FSUTMS in both the mainframe and microcomputer environment. Any changes to the highway or transit system can be analyzed using the microcomputer version of FSUTMS.

Development Impact Analysis

Transportation impacts associated with proposed large scale developments can be analyzed using Micro-FSUTMS. Because this software program is available to

all local governments, reviews can be conducted in a more reliable and consistent manner.

Land Use Conformance

Future land use plans and future transportation plans should evolve together. The socioeconomic data projections used in the FSUTMS were based on the future land use plan. If after running FSUTMS an area does not have the roadway capacity to handle the projected travel demand, either the land use plan or the transportation plan can be revised. This process should be reiterated until the land use plan and transportation plan are consistent with each other.

Other Applications

FSUTMS is also used to conduct PD&E Studies, Corridor studies, High occupancy vehicle land studies and Transit studies.

Conclusion

Standardization of the travel demand forecasting process throughout Florida was FDOT's goal more than ten years ago when the development of FSUTMS began. In many ways, this goal has been achieved. All long range transportation plans produced by the 21 MPO's in Florida are generated using FSUTMS and private transportation consulting firms are required to use the FSUTMS modeling structure when developing forecasts funded by the state.

FDOT has made Micro-FSUTMS available to MPO's regional planning councils and other government agencies at no cost. FDOT provides technical support, documentation and training sessions for the users.

References

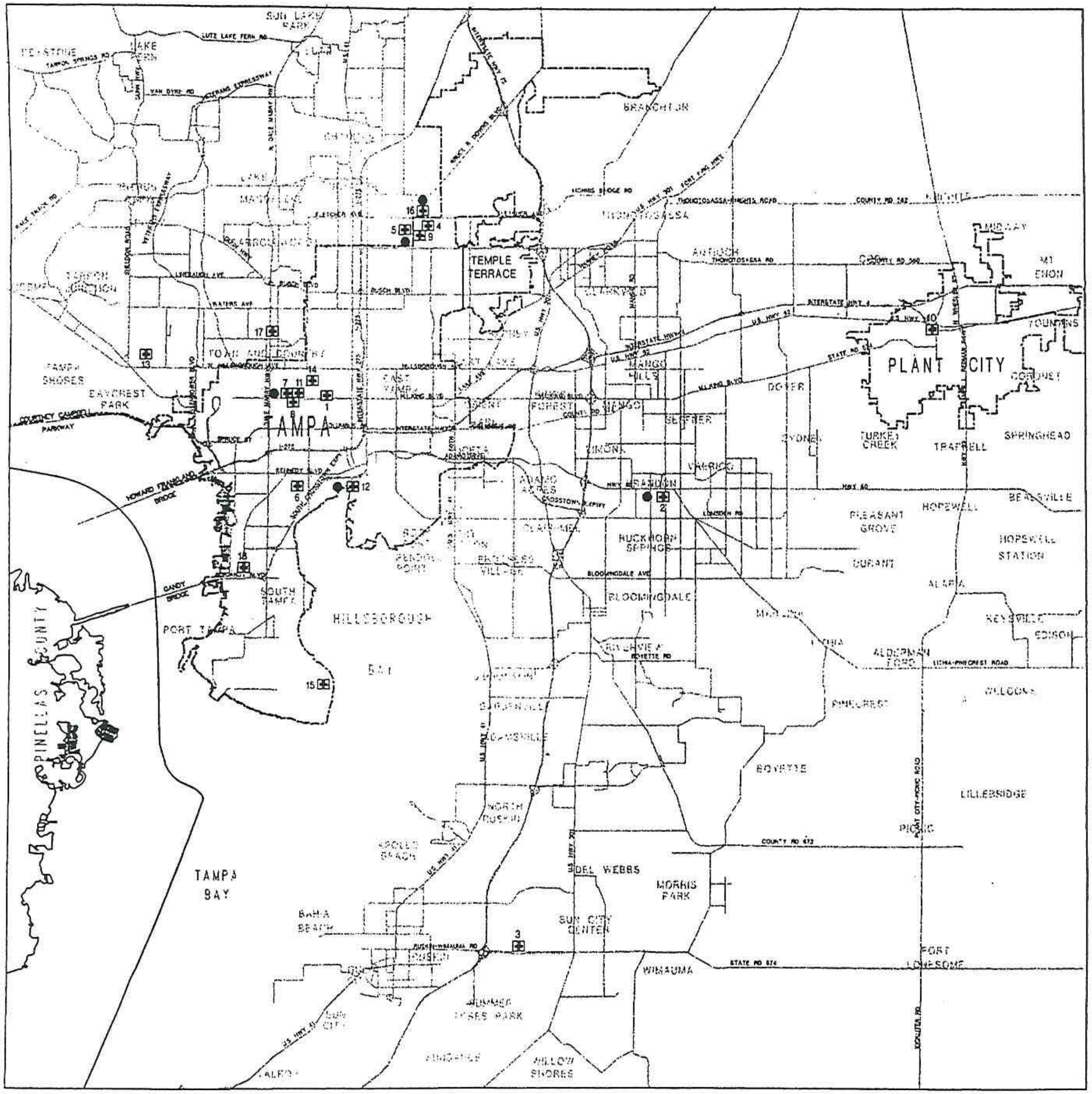
1. Executive Office of the President. Office of Management and Budget. *Standard Industrial Classification Manual (1972)*, U.S. Government Printing Office, Washington, D.C. 20402.

2. Florida Department of Transportation. "Methodology for Using Data in Standard Models," *Data Update Phase I, Task D.* Prepared by COMSIS Corporation and Barr Dunlop & Associates, October 30, 1987.

3. Florida Department of Transportation. Micro-FSUTMS User Manual. Prepared by DKS Associates and the Urban Analysis Group, October, 1987.

Trauma Plan Appendix B

The black and white draft version of this map will be replaced with an 11 x 17 fold-out color reproduction upon distribution of the final Plan copy.



LOCATION OF TRAUMA CENTERS, HOSPITALS AND THEIR HELIPADS IN HILLSBOROUGH COUNTY

Hospital

Approved Trauma Center

Helipad

#1 Charter Behavior Health System
4004 N. Riverside Drive, Tampa

#2 Columbia Brandon Hospital Regional Medical Ctr
119 Oakfield Drive, Brandon

#3 Columbia South Bay Hospital
4016 State Road 674, Sun City Center

#4 H. Lee Moffitt Cancer Center
12902 Magnolia Drive @ USF, Tampa

#5 James A. Haley Veterans' Hospital
13000 Bruce B. Downs Boulevard, Tampa

#6 Memorial Hospital – Tampa
2901 Swann Avenue, Tampa

#7 St. Joseph's Hospital
3001 W. Dr. MLK Jr. Boulevard, Tampa

#8 St. Joseph's Women's Hospital
3030 W. MLK Boulevard, Tampa

#9 Shriners Children's Hospital
12502 N. Pine Drive @ USF, Tampa

#10 South Florida Baptist Hospital
301 N. Alexander Street, Plant City

#11 Tampa Children's Hospital at St. Joseph's
3001 W. Dr. MLK Jr. Boulevard, Tampa

#12 Tampa General Hospital
Columbia Drive, Davis Island

#13 Town and Country Hospital
6001 Webb Road, Tampa

#14 Vencor Central Hospital – Tampa
4801 N. Howard Avenue, Tampa

#15 USAF 6th Medical Group
8415 Bayshore Boulevard, Tampa

#16 University Community Hospital
3100 E. Fletcher Avenue, Tampa

#17 University Community Hospital – Carrollwood
7171 N. Dale Mabry Highway, Tampa

#18 Vencor Hospital – Tampa
4555 S. Manhattan Avenue, Tampa

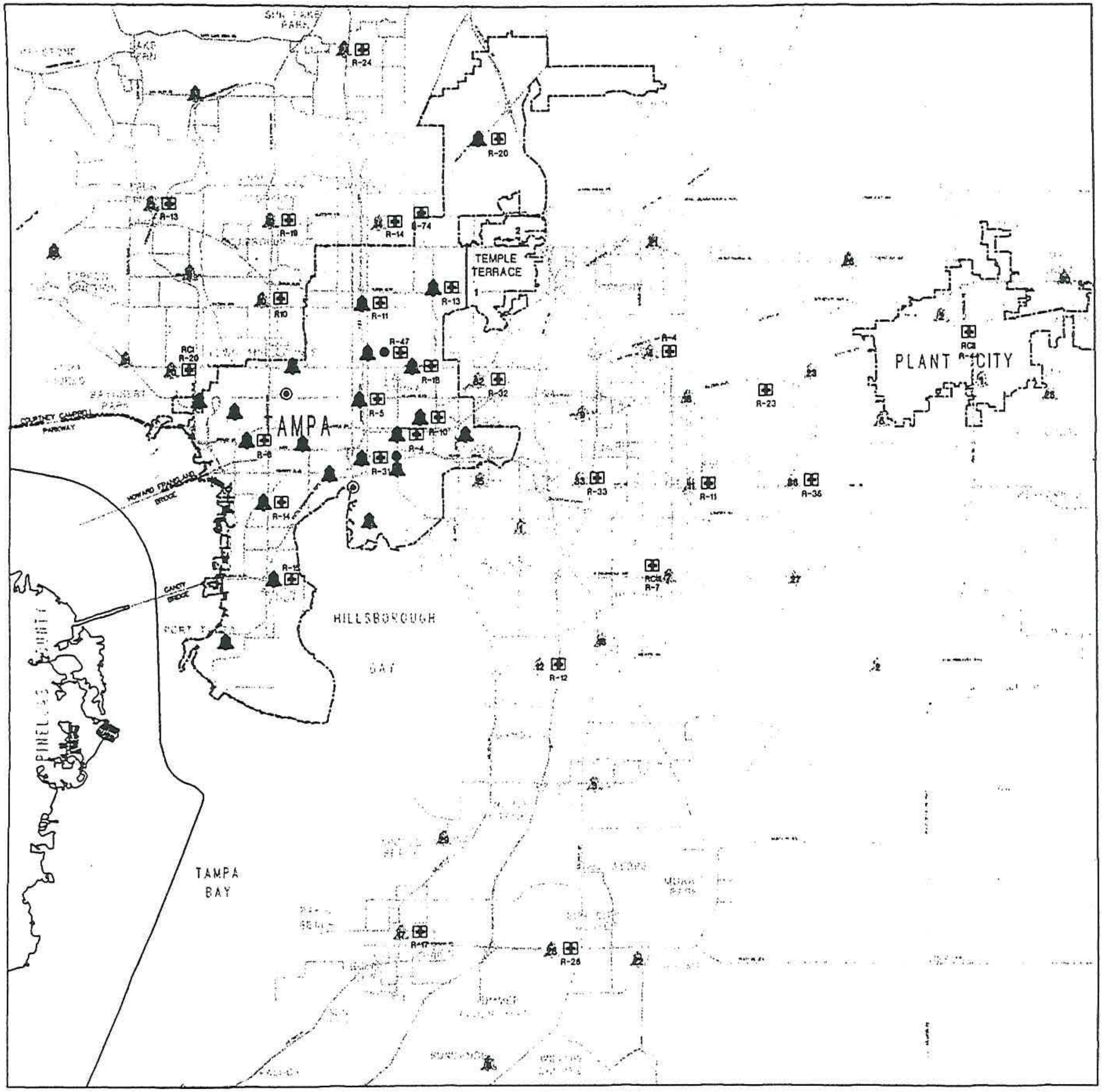
SCALE: Feet
0 6800 13600 20400 27200

Map printed: Mar 26, 1996
Script: vportacr. Author: catanlac
SRF file: hosSRFtmo

NORTH

Trauma Plan
Appendix C

The black and white draft version of this map will be replaced with an 11 x 17 fold-out color reproduction upon distribution of the final Plan copy.



LOCATION OF FIRE AND RESCUE STATIONS, AIR AMBULANCES AND THEIR HELIPADS IN HILLSBOROUGH COUNTY

- Tampa Fire Station
- Unincorporated County Fire Station
- Temple Terrace Fire Station
- Plant City Fire Station
- City of Tampa Fire Rescue
- Hillsborough County Fire Rescue
- Helipad
- Air Ambulance at Approved Trauma Center

DATA SOURCES: Boundaries, roads, water from Hillsborough County Engineering Services. Parcel lines and data from Hillsborough County Property Appraiser. Wetlands from SWFWMD. Significant wildlife habitat from Planning and Development Management based on satellite imagery. Only wetlands greater than 40 acres depicted.
REPRODUCTION: This sheet may not be reproduced in part or full for sale to anyone without specific approval of the Hillsborough County City-County Planning Commission.
ACCURACY: It is intended that the accuracy of the base map comply with U.S. national map accuracy standards. However, such accuracy is not guaranteed by the Hillsborough County City-County Planning Commission. This map is for illustrative purposes only for the cities of Tampa, Temple Terrace and Plant City.
NOTE: This map contains existing and proposed roadways.

SCALE: Feet
0 6800 13600 20400 27200

Map printed: Mar 24, 1998
Script: vporteer. Author: catonloc
SRF file: emsSRFt.mna

NORTH

Trauma Plan
Appendix D

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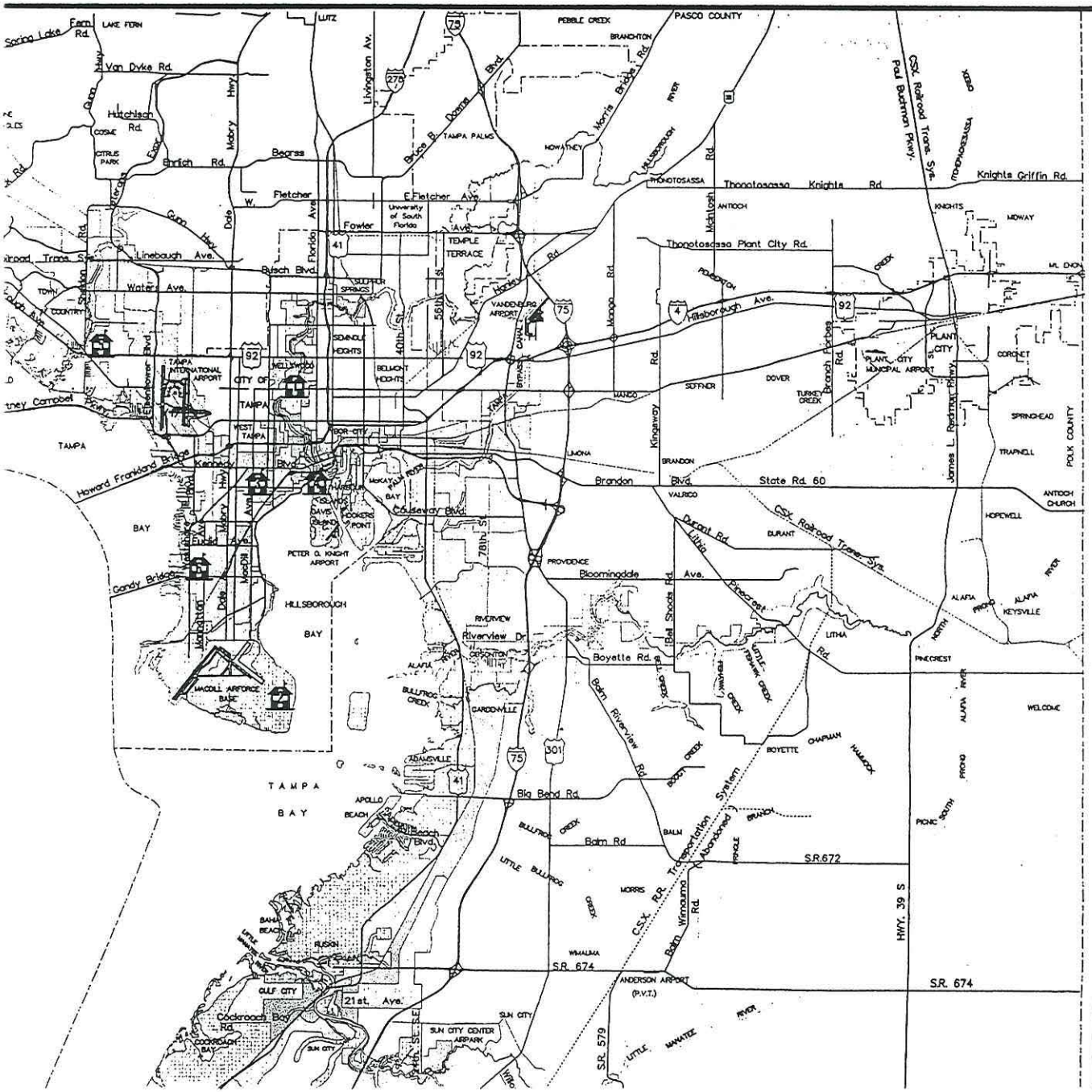


Hillsborough County Hospitals In Evacuation Zones

NORTH

LEGEND

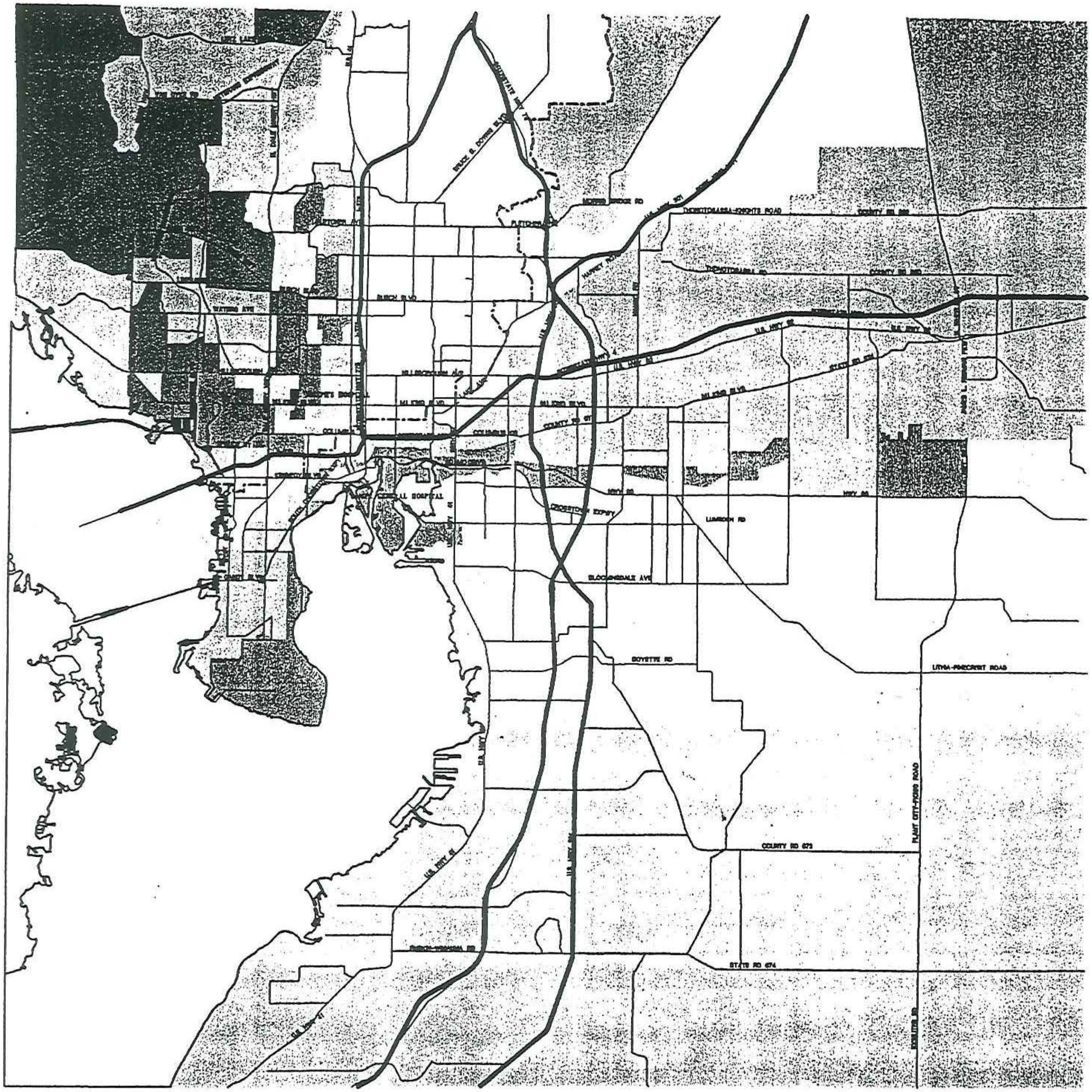
	Evacuation Hospitals	Category Hurricane	Evacuation Levels
1	Charter Hospital of Tampa Bay	1, 2, 3, 4, 5	A, B, C, D, E
2	MacDill Air Force Base Hospital	1, 2, 3, 4, 5	A, B, C, D, E
3	Memorial Hospital	4, 5	D, E
4	Tampa General Hospital	1, 2, 3, 4, 5	A, B, C, D, E
5	Town & Country Hospital	2, 3, 4, 5	B, C, D, E
6	Vencor South Hospital	2, 3, 4, 5	B, C, D, E

EVACUATION LEVEL	WIND VELOCITY (MPH)	POTENTIAL TIDE HEIGHTS (FT)	AREAS TO BE EVACUATED
Evacuation A	74 To 95	To 7'	Cross hatching areas at mobile home residents.
Evacuation B	96 To 110	To 13'	Cross and angle hatching areas plus at mobile home residents.
Evacuation C	111 To 130	To 18'	Cross and angle hatching and gray areas plus at mobile home residents.
Evacuation D	131 To 155	To 22'	Cross and angle hatching, gray, and vertical dash line areas plus at mobile home residents.
Evacuation E	156 and over	To 28'	Cross and angle hatching, gray, vertical dash and horizontal lines areas plus at mobile home residents.

MAP PREPARED BY:
REAL ESTATE DEPARTMENT
Survey & Mapping/GIS
COMPILED BY: PEPE' MARNOTES - APRIL 1998

FILE NAMES: evctemap,evctccor,evctcout

Trauma Plan
Appendix E



TRANSPORT TIME DIFFERENCES BETWEEN TRAUMA CENTERS:

TAMPA GENERAL HEALTHCARE AND ST. JOSEPHS HOSPITAL

- >0 and <=2 Minutes
- >2 and <=4 Minutes
- >4 and <=6 Minutes
- >6 and <=8 Minutes
- >8 and <=10 Minutes
- >10 and <= 12 Minutes

SCALE: Feet

0 6300 12600 18900 25200

NORTH

Map printed: Feb 26, 1996
Script: vportsor. Author: steinbac
SRF file: tazSRFheap

THE PLANNING COMMISSION

Trauma Plan Appendix F

CITY OF TAMPA

Fire Department

Pete Botto
Fire Chief

September 15, 1997

Barbara Uzenoff, Coordinator
Hillsborough County Trauma Agency
Emergency Operations Center
Hanna Street, Tampa FL

Dear Ms. Uzenoff:

I have reviewed the modeling study that was performed at the HCTA to evaluate catchment areas. I find it to be statistically accurate, and very enlightening.

As the medical director of Tampa Fire Rescue, I see no reason to change catchment areas for Trauma at this time. There is no gain for the patient in time of transport to a trauma center.

Sincerely yours,
C. Carrubba, MD

Catherine Carrubba, MD
Medical Director, TFR

808 Zack Street • Tampa, Florida 33602 • 813/274-7011 • Fax: 274-7026

Straub & Martin, M D's, P. A.
CARDIOLOGY AND INTERNAL MEDICINE

2919 SWANN AVENUE, SUITE 400
TAMPA, FLORIDA 33609-1091
TELEPHONE 877-9483
FAX 876-1671

EDWARD J. STRAUB, M.D.

HUGH M. MARTIN, JR., M.D.

September 3, 1997

Ms. Barbara K. Uzenoff, Trauma Coordinator
Hillsborough County Trauma Agency
Emergency OP Center
2711 East Hanna Avenue
Tampa, Florida 33610

Dear Barbara:

Thank you for your letter of information dated August 15, 1997. I am aware that there is a question about catchment areas and that ultimately the medical directors "have the authority" to change or to modify same.

This "authority" was apparently given to us as medical directors by the committee at a special meeting concerning this issue. This is an issue which I feel is more administrative than medical and I am somewhat uncomfortable in this capacity.

At this point your illustrative letter seems to show a fair arrangement. This apparently has been working for the past several years without any particular difficulty to my knowledge. I am also aware that Dr. Cathy Carrubba, Medical Director, Tampa Fire Department, feels similarly. Accordingly, at this point, I have no reason to suggest any change or modify the catchment areas as they exist.

Warmest and personal regards.

Sincerely,

Edward J. Straub, Medical Director
HCFR/TTFD

EJS:EMT:ejr
D: 9-02-97
T: 9-02-97

Trauma Plan Appendix G

Richard Ake
Clerk of the Circuit Court
Hillsborough County, Florida

Clerk to Board of
County Commissioners
Room # 214-F
P.O. Box 1110
Tampa, Florida 33601
Telephone 272-5845

October 9, 1992

Dr. Catherine L. Carrubba, M.D.
4 Columbia Drive
Suite 810
Tampa, FL 33606

Re: Professional Services Agreement Between Hillsborough County and Catherine L. Carrubba, M.D. - Consulting Services to the Hillsborough County Trauma Agency
H.C. Document No. 92-1597

Dear Dr. Carrubba:

Attached is an executed copy of referenced agreement, approved by the Hillsborough County Board of County Commissioners on October 6, 1992.

We are providing the copy for your files.

Sincerely,

RICHARD AKE
CLERK OF CIRCUIT COURT

By: Gary J. Klunk
Gary J. Klunk
Clerk III, BOCC Records

GJK:ADF
Attachment
cc: Board files (1 orig.)
Dr. Vernard Adams, Medical Examiner
Jan Jardieu, Manager, Purchasing and Contracts
Jim Jennings, Director, BOCC Accounting

PROFESSIONAL SERVICES AGREEMENT
FOR MEDICAL DIRECTOR OF TRAUMA AGENCY

This Professional Services Agreement for Medical Director of the Trauma Agency, dated this 6th day of October, 19 92, is made and entered into by and between **HILLSBOROUGH COUNTY BOARD OF COUNTY COMMISSIONERS**, a political subdivision of the State of Florida, hereinafter referred to as **COUNTY** and CATHERINE . CARRUBBA, M. D., hereinafter referred to as **DIRECTOR**.

BACKGROUND

The Hillsborough County Trauma Agency ("Trauma Agency") is responsible for local implementation of the State Trauma Care Act, and for planning, coordinating, and evaluating trauma services on a Countywide basis. These activities require direction and consultation by a physician with a demonstrated professional interest in the delivery of emergency treatment to victims of trauma. The activities include, but are not limited to: transportation protocols, treatment protocols, trauma services rendered by municipal and County paramedics, retrospective evaluation of trauma care, quality assurance, training of paramedics in trauma care, and a number of other similar activities.

WITNESSETH

WHEREAS, the **COUNTY** has created a Trauma Agency to implement and coordinate a system of medical treatment of victims of traumatic injuries in Hillsborough County;

WHEREAS, the **COUNTY'S** budget includes funds for the implementation and coordination of such services by the Trauma Agency;

WHEREAS, the implementation of such services requires extensive planning and coordination; and

WHEREAS, professional consulting services by a physician with an interest in the treatment of trauma victims is essential to the achievement and maintenance of high standards of care in Hillsborough County;

NOW, THEREFORE, in consideration of the mutual covenants and provisions contained herein, additional to those heretofore made, the parties agree as follows:

I. The **COUNTY** agrees

A. To provide, to extent possible and within the funding allocations of the Trauma Agency, such administrative support and assistance as may be required to carry out the terms of this contract in accordance with all laws and regulations governing the activities of the **DIRECTOR**.

II. The **DIRECTOR** agrees

A. To maintain a valid and unlimited license to practice medicine in Florida.

B. To provide medical direction for the services to be provided by the Hillsborough County Trauma Agency.

C. To coordinate and supervise the activities of such personnel as may be hired by the **COUNTY** to staff the Trauma Agency.

D. To serve as medical liaison for the Trauma Agency to community hospitals, trauma centers, pediatric trauma referral centers, pre-hospital care providers, the Hillsborough County Emergency Medical Planning Council, and other planning, training, regulatory, investigatory and research organizations concerned with trauma.

E. To maintain professional liability insurance, at his or her own expense, as required in Exhibit III of Hillsborough County Request for Qualifications (RFQ) C-589-92, "Request for Qualifications for Consulting Services to the Hillsborough County Trauma Agency for Medical Examiner Department."

III. **TERM OF AGREEMENT**--This Agreement shall be effective upon execution by the parties and shall continue until terminated by either party as provided herein.

IV. **TERMINATION**--Either party, upon giving 60 days prior written notice as provided in Section IX, may terminate this agreement.

V. **COMPENSATION**--The **COUNTY** will pay **DIRECTOR** the yearly sum of Fifteen Thousand Dollars ($15,000), payable in monthly installments of One Thousand Two Hundred Fifty Dollars ($1,250.00). The **DIRECTOR** will provide monthly invoices to the **COUNTY**, by the 10th of each month, for payment of services provided in the preceding month. The **COUNTY** then has 10 days to request further documentation or notify the **DIRECTOR** of errors or omissions. Upon receipt of completed invoice, the **COUNTY** has 15 days to pay **DIRECTOR**.

VI. **TRAVEL**--The **DIRECTOR** will draw funds for such travel as is necessary from the compensation referred to in Sections I and V above.

VII. **INDEMNIFICATION**--**DIRECTOR** agrees to be liable for, indemnify and hold harmless **COUNTY** for all claims, suits, judgments, and damages, including court costs and attorney's fees, arising out of his or her negligent or intentional acts or omissions or the negligent or intentional acts or omissions of his or her agents, subcontractors, and employees, in the course of

operation of this Agreement. Where the DIRECTOR and COUNTY commit joint negligent acts, the DIRECTOR shall not be liable for or have any obligation to defend the COUNTY with respect to that part of the joint negligent act committed by the COUNTY. In no event shall the DIRECTOR be liable for or have any obligation to defend the COUNTY against such claims, suits, judgments, and damages, including court costs and attorney's fees, arising out of the sole negligent acts of the COUNTY.

VIII. ASSIGNMENTS AND SUBCONTRACTS--The DIRECTOR shall not sell, assign, or transfer any interest in this agreement or subcontract any of its rights or duties hereunder without obtaining the prior written consent of COUNTY. Any attempt by the DIRECTOR to make such assignment or delegation without COUNTY approval shall be void and shall not relieve the DIRECTOR of his or her liabilities and obligations hereunder.

IX. NOTICES--Notice pursuant to this agreement shall be given in writing and sent by certified mail, return receipt requested, to applicable person identified below:

COUNTY:	DIRECTOR:
Dr. Vernard Adams Medical Examiner P.O. Box 1110 Tampa, FL 33601	Dr. Catherine L. Carrubba, M. D. 4 Columbia Drive Suite 810 Tampa, Florida 33606

Notice shall be effective upon delivery thereof.

X. RFQ C-589-92--Hillsborough County Request for Qualifications 1(RFQ) C-589-92, "Request for Qualifications for Consulting Services to the Hillsborough County Trauma Agency for Medical Examiner Department and DIRECTOR's response attached hereto as Attachment "A" are incorporated by reference into this Agreement.

XI. MODIFICATION--This Agreement may be modified only by a written document signed by the parties hereto.

XII. SEVERABILITY--Should any provision of this contract be found invalid the remainder of the contract shall not be affected thereby.

XIII. GOVERNING LAW--This agreement is governed by Florida law and venue is in Hillsborough County, Florida.

XIV. ENTIRE AGREEMENT--This Agreement, including any attachments, contains the complete and exclusive statement of the agreement between COUNTY and DIRECTOR.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the date first written above.

ATTEST RICHARD AKE
CLERK OF CIRCUIT COURT

BY: _____
DEPUTY CLERK

COUNTY: HILLSBOROUGH COUNTY
FLORIDA

BY: _____
VICECHAIRMAN, BOARD OF
COUNTY COMMISSIONERS

ATTEST:

_____
WITNESS

_____
WITNESS

DIRECTOR: CATHERINE L. CARRUBBA

BY: _____ (SEAL)
AUTHORIZED CORPORATE
OFFICER - OR INDIVIDUAL
(SIGN BEFORE NOTARY PUBLIC)

Catherine L. Carrubba
(Printed Name of Signer)

M.D.
(Title)

251-6911
(Phone)

8/27/92
(Date)

BOCC STAFF	APPROVAL - DATE
A.C.A.	9/3/92
ATTORNEY	8/31/92
FISCAL/BUDGET	8/28/92
PURCH/CONTRACTS	9/18/92

rrw5063.082

BOARD OF COUNTY COMMISSIONERS
HILLSBOROUGH COUNTY FLORIDA
DOCUMENT NO. 92-1597

ATTACHMENT A

GOALS FOR THE HILLSBOROUGH COUNTY TRAUMA AGENCY

June, 1992

submitted by Catherine Carrubba, MD, FACEP

I. The mission of the HCH Trauma Agency is to improve the trauma care delivered to the citizens of Hillsborough County. There are several components to this:

A. Interaction with system components to help improve the system.
B. Public education.
C. Participating in research endeavors to improve trauma care.

II. Interaction with the system components to help improve the system.

A. Reliable communications is a mandatory component of any successful system. The trauma care system for Hillsborough County includes prehospital EMS, several air medical systems, hospital emergency centers and trauma services, and out-of-county entities. The Trauma Agency should offer a consistent convenient communication network between all entities, through regularly scheduled meetings and a newsletter.

B. The Medical Audit Committee (MAC) of the EMPC is empowered to assess and make recommendations concerning the quality of care given to trauma patients within the system. The HCH Trauma Agency should assist in this process by tailoring the information gathering to be more efficient and consistent. Part of the problem is lack of data. By identifying problems and assisting in such discrete tasks as computerization, development of forms, and consistent feedback mechanisms, the data could be gathered more efficiently and be more effective. The HCH Trauma Agency could help in the assessment of the system, identifying areas of weakness, identifying funding sources to aid in improvement, assisting in the application process for funding of the needed improvements, and implementation of the system. The Trauma Agency has already begun work in this area. It should be a priority.

C. Another important aspect of trauma care in Hillsborough County is the influx of out-of-county trauma victims to the system. The impact of this influx on the County system is not well understood. Some facilities involved have information on the impact to that specific entity, and some do not. This information needs to be gathered and analyzed; there may be considerable hidden cost to Hillsborough County occurring in

in this area in terms of use of limited resources. A study of the medical appropriateness of these transfers should also be undertaken, with on-going monitoring by the MAC.

D. There is considerable variation in the prehospital patient care protocols of all prehospital entities within the system as well as in bordering communities. Although these protocols are the domain of each system's medical director, there is emerging a body of knowledge in the prehospital literature which is attempting to define standard of care. In order to encourage more consistency in the prehospital setting, the HCH Trauma Agency could review and disseminate this information in the newsletter to all interested persons. The Agency could also work with the National Trauma Society on joint educational ventures.

E. Conflicts between components of the Emergency Medical systems arise at times. The Trauma Agency should be a means for resolution of these conflicts. A well-defined plan for equitable unbiased conflict resolution must be generated. This should involve the Agency's Medical Director in a very active role. The plan for resolution must be well defined in a clearly stated document.

III. Public education.

A. The HCH Trauma Agency now takes an active role in educating the public during EMS week, and on Trauma Day. This should be extended to include a speakers bureau consisting of members of our system, which could be distributed to public organizations, schools, and other special interest groups.

B. The HCH Trauma Agency should have reporting requirements to the EMPC. A regular summary of activities should be part of the presentation given quarterly at the EMPC meetings. Any recommendations requiring change to the system could be presented at this time. Any action needed could then be initiated by the EMPC.

IV. Participation in Research.

Trauma care systems and prehospital care are relatively new concepts in the history of mankind. This vital area is constantly being examined critically, which is appropriate. To justify the cost, in dollars and resources, devoted to this area of medical care, one must ask the right questions and search diligently for the answers. As a large trauma network the HCH Trauma Agency has an obligation to help justify the

existence of this system by participating in this search for valid, useful information, and help tailor trauma care to be more appropriate and cost-effective. Several projects have already been initiated, and several more completed, by the Agency. This effort needs to be developed further. Also, the results of these efforts to date has not received much public awareness. This information needs to be made more public, both through formerly established reporting mechanisms to the EMPC, but also through local media, and a much needed newsletter.

SUMMARY OF RECOMMENDED CHANGES:

I. A regularly scheduled meeting of all participants in the system.

II. An HCH Trauma Agency Newsletter.

III. Clear accountability in reporting to the EMPC.

IV. A mandate to improve information collection within the system.

V. Redoubled efforts in research endeavors.

VI. Increase and improve educational outreach programs to the public.

VII. Evaluation of the impact of out-of-county residents on the County system.

VIII. Design a specific system to resolve conflicts between the various components of the Hillsborough County trauma network.

ATTACHMENT A

RFQ - MEDICAL DIRECTOR FOR HILLSBOROUGH COUNTY TRAUMA AGENCY

submitted by Catherine L. Carrubba, MD, FACEP

As Medical Director to the Hillsborough County Trauma Agency, my role would be to facilitate continuous improvement in the trauma care delivered to the citizens of Hillsborough County. There are two broad responsibilities inherent in this position:

(1) Constant and concurrent review of the system components, with recommendations for continuous quality improvement, and

(2) Communication with all components of the system, to foster cooperation between all health care providers and agencies involved.

BACKGROUND AND EXPERIENCE

As an attending physician in the Emergency Care Centers of The Tampa General Hospital, I am intimately familiar with all aspects of trauma care. I am Medic One for Hillsborough County EMS, and the Medical Director for Aeromed I, the hospital based helicopter program at The Tampa General Hospital, which affords me detailed insight into pre-hospital aspects of trauma care.

As the Vice President of the Florida EMS Medical Directors Association, I have been very active in state matters concerning trauma and prehospital care. My activities have included lobbying in Tallahassee for Trauma Care and Trauma Funding legislation, as well as for Access to Care issues. In addition, I have been an active member on the Subcommittee for Aeromedical Transport Rules and Regulations revisions for the State of Florida.

Recently I have been made the Chairman of the Subcommittee for BLS Issues of the Emergency Medical Planning Council of Hillsborough County. This particular affiliation I believe has afforded me closer working relationships with the providers involved in trauma care in this area.

I believe that I have been a successful participant in all of the above activities because of the training and experience that I have gained in the workplace, and because EMS and trauma care have been a personal interest since my days as an ER Resident in training at St. Vincent's Medical Center. I believe that there is much value in networking with all involved experienced providers in order to effect a positive outcome. The role of the Medical Director of any operation is to strive for clinical excellence within the system. This translates into many activities, including QA/QI, training, research, strategic planning, and above all, communicating. No agency nor entity can evolve without informed participation by all

involved, including the general population that you are serving.

Other activities include founding organizer of the Air Medical Physicians Association; Co-developer of a 48 hour Core Curriculum Course for Air Medical Crew; Co-developer of a 12 hour course for Air Medical Service Medical Directors; frequent lecturer to EMS personnel, residents and nurses. My research interests have included a comparative review of the rules and regulations of all states in the US concerning general EMS issues, and in particular those dealing with licensing of air ambulance services (publication pending).

Analogous Contracts: Currently the Medical Director of Aeromedical Transport Services at the Tampa General Hospital.

References:

(1) James V. Hillman, MD, FACEP
Director, Department of Emergency Medicine
The Tampa General Hospital
4 Columbia Drive, Suite #810
Tampa, FL 33606
(813) 251-6911

(2) Toni Mitchell, MD, FACEP
Director, Adult Emergency Care Center
The Tampa General Hospital
4 Columbia Drive, Suite #810
Tampa, FL 33606
(813) 251-6911

(3) Donald Mellman, MD
Chairman, EMPC of Hillsborough County
2509 W. Crest Avenue
Tampa FL 33614
(813) 879-8028

Submitted May 1, 1992
by Catherine F Counts, MD

ORIGINAL

CATHERINE L. CARRUBBA, M.D. December 3, 1991
Curriculum Vitae

EDUCATION

April, 1988	Fellow, American College of Emergency Physicians
June, 1988	Diplomat, American Board of Emergency Medicine (Emergency Medicine specialty board) Board Eligible, Pediatric Emergency Medicine
1983 - August 1986	St. Vincent's Hospital and Medical Center/ The Toledo Hospital, Toledo, Ohio. Residency training in Emergency Medicine. Duties include: **EMS/Resident Coordinator** - responsible for organization of continuing medical education for paramedics, as well as resident training concerning pre-hospital care; **Life Flight Physician** - stabilization and transport of traumatized and critically ill patients, both pre-hospital and inter-hospital transport; **Research Interests** - CPR, pre-hospital and hospital settings. Publications upon request.
1979 - 1983	Temple University School of Medicine, Philadelphia, PA. M.D. degree.
1971 - 1979	University of Pittsburgh, PA. BS degree. Worked full-time and attended night school part-time.

CURRENT POSITION

1986 - Present	Attending Physician, Adult and Pediatric Emergency Care Centers, Tampa General Hospital.
1986 - Present	Clinical Assistant Professor, Department of Internal Medicine, University of South Florida.
1988 - Present	Medical Director, The Tampa General Hospital Aeromedical Transport Program
1990 - Present	Medic One, Hillsborough County EMS On-line Medical Advisor.

1990 - 1991	Secretary/Treasurer, Florida Association of EMS Medical Directors
1991 - Present	Vice President, Florida Association of EMS Medical Directors
1990 - Present	State of Florida Subcommittee on Airmedical Transport
1991 - Present	Chairman, Hospital Disaster Committee
1992 - Present	Chairman, AdHoc Subcommittee of Hillsborough County EMPC, on BLS Affairs
1992 - Present	Organizing Committee, Air Medical Physicians Association

ADDITIONAL INFORMATION

ACLS Instructor
ATLS Instructor
Medical Directors Course for Airmedical Physicians
Co-developer and Course Instructor
Airmedical Crew Core Curriculum Course
Co-developer and Instructor
Gasparilla Long Distance Classic Race, Medical Director,
On-Site Medical Tent 1991
Gasparilla Long Distance Classic Race, Medical Director,
On-Site Medical Tent 1992

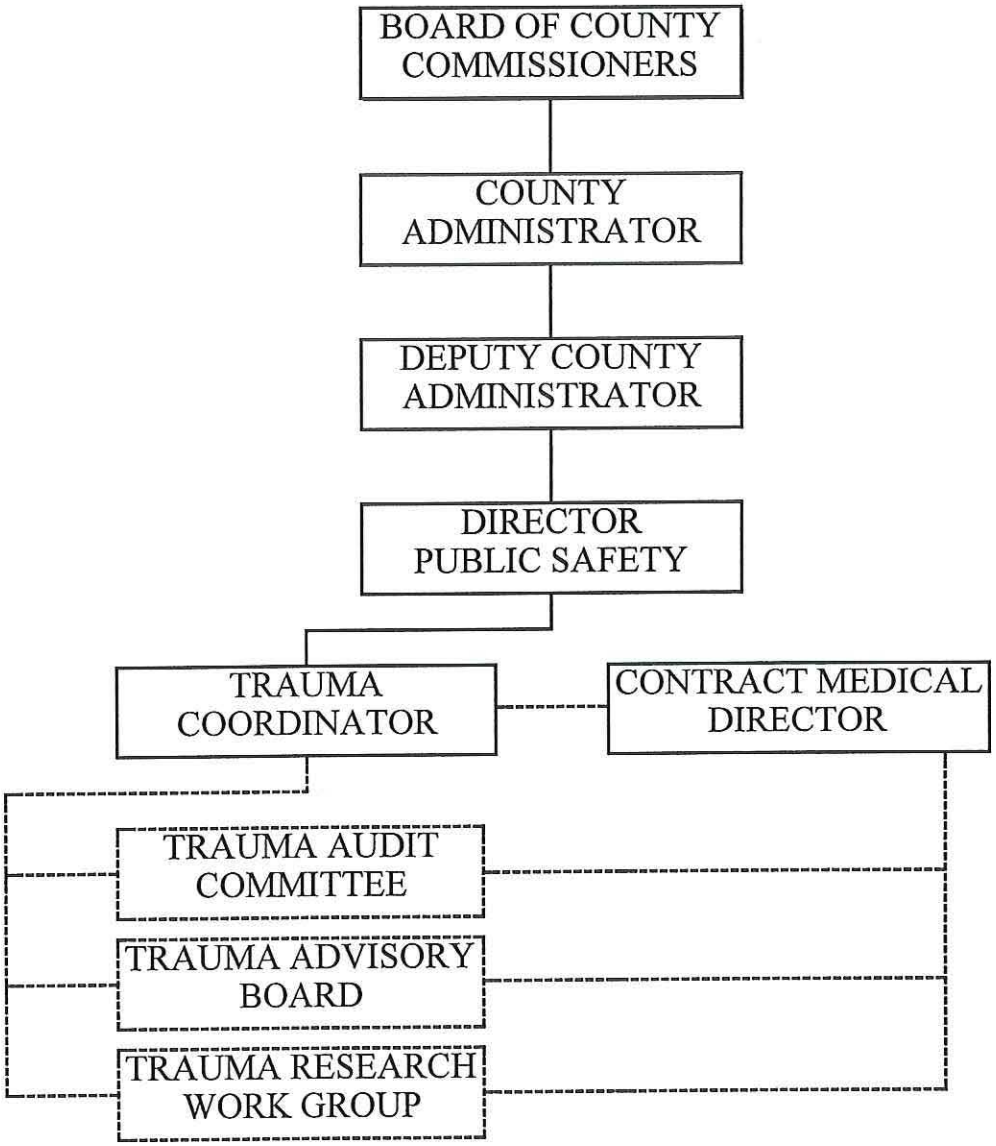
Professional Affiliations: ACEP, FCEP, Florida EMS Medical Directors Association, National Association of EMS Physicians, Air Medical Physicians Association

Birth date: 2/27/52

Married, two children

Trauma Plan
Appendix H

HILLSBOROUGH COUNTY
TRAUMA AGENCY
Organizational Chart



Trauma Plan
Appendix I

DIRECTOR, DEPARTMENT OF PUBLIC SAFETY

Major Function:

To perform administrative and managerial duties inherent in assuming responsibility for and directing the overall activities of the Department of Public Safety. Primary duties involve responsibility for providing senior level administrative direction and coordination to vital components of emergency response and public safety functions. The Department is responsible for providing public safety support by administering the 9-1-1 Emergency Telephone System; Emergency Management; Emergency Dispatch Services for Hillsborough County fire and medical functions; Security Services Operations; and the Trauma Agency.

Examples of Work:

Provides administrative direction and support to department section managers.

Coordinates and personally conducts special studies as required.

Prepares the department budget, as well as various administrative reports and associated publications.

Directs administrative, technical, and support personnel.

Functions in a liaison capacity with other governmental jurisdictions in matters relating to public safety and emergency preparedness.

Represents Hillsborough County in various conferences, conventions, seminars, meetings, etc., as appropriate or as required.

Performs related duties as required.

Knowledge, Skills, and Abilities:

Knowledge of policies and guidelines relating to the operations of the County.

Knowledge of management principles and practices.

Ability to plan and coordinate complex activities, to include the subsequent evaluation of their effectiveness.

Ability to interface effectively with elected officials, representatives, and general public.

Ability to communicate effectively both orally and in writing.

Minimum Qualifications:

Graduation from an accredited four-year degree granting college or university with major course work in Public Administration, Management, Business, or an acceptable related area supplemented by five years of responsible management and administrative experience.

Acceptable related professional level management and administrative experience may

Desirable Qualifications:

Experience in public safety, emergency management, or senior planning positions at the county, state, or federal level.

A Masters Degree in Public Administration, Management, Business, or an acceptable related area.

Experience in dealing with personnel issues related to collective bargaining units (Union).

TRAUMA COORDINATOR

Major Function:

Develops plans, procedures, practices, and controls for the Trauma Agency. Organizes, coordinates, and executes appropriate resources and logistics to ensure quality and compliance with local, state, and federal regulations. Performs complex and advanced professional activities involved in interagency coordination and planning, trauma registry, data collection and analysis, and educational activities, pursuant to Chapter 395 F.S. and Chapter 64E-2, FAC.

Examples of Work:

Participates in quality assurance programs of pre-hospital care providers and trauma hospitals.

Monitors regulatory compliance of trauma care providers in Hillsborough County, pursuant to Chapter 395 F.S. and Chapter 64-2, FAC, and standards of Hillsborough County computerized trauma registry.

Coordinates and participates in special projects involving the care of injured patients in Hillsborough County.

Plans agenda for quality assurance meetings. Participates in promoting Medical Audit Committee meetings.

Coordinates educational activities related to trauma for the medical community and the public.

Performs special assignments as requested, to include researching and preparing reports and projects, developing and implementing programs, administering state and federal grants and presenting technical data to management, elected officials, and others.

Provides information, advice, feedback, or assistance to others within the division to refine work outputs or resolve problems.

Knowledge, Skills and Abilities:

Analytical abilities necessary to make sound, logical interpretations of codes and regulations. Many interpretations and decisions must be made quickly; sound judgement required to act in best interest of jurisdiction.

Interpersonal skills necessary to effectively interact with internal staff, citizens, contractors, and/or government agencies in such areas as supervising project work, responding to citizens' questions, and consulting with others.

Minimum Qualifications:

Advanced knowledge of the principles, practice, and administration of trauma care providers in order to perform highly complex and technical duties at a level generally acquired through completion of a Bachelor's degree Registered Nursing.

Three or more years of progressively complex and responsible related work experience to gain sufficient knowledge and familiarity with theories and principals for application to practical problems and solutions.

Licensure in Florida as a registered nurse.

Desirable Qualifications:

The ability to understand and apply medical statistical information to either confirm, alter, or modify trauma treatment protocols.

The ability to organize and write standard operating procedures, position papers, and long range planning documents.

The ability to facilitate group meetings.

The ability to effectively speak in public.

An understanding of the State of Florida legislative process and rule making procedures.

HILLSBOROUGH COUNTY TRAUMA AGENCY

MEDICAL DIRECTOR

This is a professional consultant position for a qualified physician, with experience and training in trauma care. The overall responsibility of this position is to ensure that trauma care in all parts of the Hillsborough County trauma system meets accepted medical standards, and to advocate for system improvements at all levels.

The Medical Director will advise the Trauma Agency Systems Coordinator on matters related to trauma patient prehospital care, hospital emergency department care, surgical procedures, in-hospital specialized and general care, Trauma Center operation, and Medical Examiner's reports. The Medical Director will maintain communication with the general medical community, components of the trauma system, legislators, and hospital administrators.

The Medical Director is responsible for ensuring that:

Emergency Medical Services are monitored, with physicians ultimately responsible.

Trauma victims reach definitive care in the shortest possible time.

Appropriate care is provided to all trauma victims regardless of location or ability to pay.

The trauma protocols under which all providers operate are appropriate and in accordance with American College of Surgeons standards.

Patient triage is medically appropriate.

Trauma Centers fulfill their responsibilities and meet Trauma Center standards.

Prehospital personnel (first responders, basic and advanced life support) are competent in trauma care, by working with service medical directors.

The system is evaluated in meeting its medical care goals, by means of case reviews and preparation of statistics showing system impact on trauma death and disability.

Other functions of the Medical Director are to:

Endorse medical policy and system implementation plans.

Advocate for the Agency at local, state and national levels, for legislation and funding.

Develop testimony for legislation at various levels affecting trauma care.

Assist with and advise on the development of system-wide research projects.

Co-sponsor and provide medical input into educational programs on trauma prevention and care, for the general public and the medical community.

Perform additional functions as necessary and appropriate.

Barbara K. Uzenoff

Curriculum Vitae
2711 East Hanna Avenue
Tampa, Florida 33610

Education

M.P.H., Epidemiology and Biostatistics, University of South Florida, Tampa, Florida, 1990
B.A., International Relations, Florida International University, Miami, Florida, 1984
B.S., Nursing, Cornell University, New York, New York, 1975

Professional Experience

Trauma Coordinator, Hillsborough County Trauma Agency, 1995 to present.

Project Leader, Action Department, Florida Medical Quality Assurance Incorporated, Tampa, Florida. Supervise and coordinate the activities of multiple simultaneous cooperative quality improvement projects between the state peer review organization and hospital providers/ practitioners. Collaborate with physician coordinators and the statistical team in development of the project proposal, study design, abstraction tool and coding manual; implementation of data collection and quality control; and in analysis for studies of problems affecting the delivery of health care to Florida Medicare beneficiaries, 1994 to present.

Clinical Research Associate, Department of Regulatory Affairs, Linvatec Corporation, Largo, Florida. Assisted in the design, management and evaluation of multiple concurrent surgical clinical trials for experimental medical devices. Wrote the clinical and statistical portions of IDE and 510(k) submissions in application for new product approvals, and periodic progress reports to the FDA, 1991 to 1994.

Data analyst, College of Public Health, University of South Florida, Tampa, Florida. Performed all database operations and data analysis in SAS for a state grant, including coding manual development, 1990 to 1991.

Intern, ASPH/CDC/ATSDR cooperative agreement, National Center for Health Statistics, Hyattsville, Maryland. Designed own analytic project utilizing large, national, longitudinal data files. Gained experience with file construction, data manipulation, screening, and statistical analysis with SAS in a mainframe environment, 1990.

Nurse consultant, Cost Containment Unit, Aetna Life and Casualty, Tampa, Florida. Performed hospital precertification, concurrent and retrospective utilization review, 1987 to 1988.

Staff nurse, Assistant Head Nurse, Operating Room, Emergency Department, Baptist Hospital of Miami, Miami, Florida. Completed surgical training program, worked in both scrub and circulating role in the operating room. In the emergency department, provided direct care of critically ill and injured patients, oriented new employees, served as preceptor for nursing students, supervised, scheduled and evaluated a staff of fifteen registered nurses and technicians, 1978 to 1987.

Staff nurse, Operating Room, St. Paul Hospital, Dallas, Texas, 1977.

Staff nurse, Medical Intensive Care/Coronary Care Unit, Parkland Memorial Hospital, Dallas, Texas, 1977 .

Staff nurse, Medical Nurse Internship program and Emergency Department, Jackson Memorial Hospital, Miami, Florida, 1975 to 1977.

Special Skills

Expertise in technical writing
Background in medical quality improvement processes
Database design, creation, and maintenance
Experience in questionnaire and coding manual development
Statistical programming and data analysis
Writing of clinical protocols and informed consents
Development of standard operating procedures
Proficiency in computerized literature searches

Computer Experience

Hardware
IBM/compatible PC, IBM mainframe, Sun Workstation, HP minicomputer
Operating systems
Windows 95, DOS, UNIX
Software
WordPerfect, MS Access, Lotus, Report Writer, PC Anywhere, SAS, dBase IV, Epi Info

Languages

Spanish fluency, both spoken and written
French speaking, reading, and writing ability

Professional Licensure

Licensed to practice as registered professional nurse in Florida and New York

Professional and Civic Affiliations

Association of Florida Trauma Agencies, Florida Committee on Trauma, Association of Florida Trauma Coordinators, Emergency Medical Planning Council, Hillsborough County Hospital Bypass Committee, Florida EMS State Plan Team, Florida West Coast Emergency Nurses Association, Drive Smart Tampa Bay, Greater Tampa Area Safe Kids Coalition, Community Traffic Safety Alliance, Hillsborough County Freeway Management Team

CATHERINE L. CARRUBBA, M.D.
Curriculum Vitae
4 Columbia Drive, Suite 815
Tampa, FL 33606

EDUCATION

1971 - 1979	University of Pittsburgh, PA. BS degree. Worked full-time and attended night school part-time.
1979 - 1983	Temple University School of Medicine, Philadelphia, PA. M.D. degree.
1983 - 1986	St. Vincent's Hospital and Medical Center/The Toledo Hospital, Toledo, Ohio. Residency training in Emergency Medicine. Duties include: EMS/Resident Coordinator - responsible for organization of continuing medical education for paramedics, as well as resident training concerning pre-hospital care; Life Flight Physician - stabilization and transport of traumatized and critically ill patients, both pre-hospital and inter-hospital transport; Research Interests - CPR, pre-hospital and hospital settings.

BOARD CERTIFICATION / ELIGIBILITY

1988	Diplomat, American Board of Emergency Medicine (Emergency Medicine specialty board)
Jan. 1997	Diplomat, American Board of Pediatric Emergency Medicine
May 1998	Masters Degree in Public Health, Dept. of Epidemiology & Biostatistics

CURRENT POSITION

1986 - Present	Senior Attending Physician, Adult and Pediatric Emergency Care Centers, Tampa General Hospital
1986 - Present	Clinical Assistant Professor, Department of Internal Medicine, University of South Florida
1988 - Present	Medical Director, Tampa General Hospital Aeromedical Transport Program
1989 - Present	Chairman of Medical Records Committee, Tampa General Hospital

CURRENT POSITION (Continued)

1990 - Present	Medic One, Hillsborough County EMS On-line Medical Advisor
1990 - 1991	Secretary/Treasurer, Florida Association of EMS Medical Directors
1990 - Present	State of Florida Subcommittee on Air Medical Transport
1991 - 1992	Vice President, Florida Association of EMS Medical Directors
1991 - 1994	Co-Chairman, Tampa General Hospital Disaster Committee
1992 - Present	Member of Emergency Medical Planning Council (EMPC) of Hillsborough County
1992 - Present	Chairman, Ad Hoc Subcommittee of Hillsborough County EMPC, on BLS Affairs
1992 - 1993	Organizing Committee, Air Medical Physicians Association (AMPA)
1992 - 1994	President, State of Florida EMS Medical Director's Association
1992 - Present	Medical Director, Hillsborough County Trauma Agency
Nov. 1993 -Present	Medical Director, Tampa Fire Department, City of Tampa
1994 - Present	President, Air Medical Physician Association (AMPA)
1994 - Present	Member, Medical Director Advisory Panel, State of Florida, Office of EMS/HRS
1994 - Present	Chairman, EMS Alliance, Florida
1995 - Present	Chairman, EMS/Trauma Committee, FCEP
1995 - Present	FCEP Board Member

ASSOCIATION MEMBERSHIP

Fellow, American College of Emergency Physicians

Florida EMS Medical Directors Association

National Association of EMS Physicians

Air Medical Physician Association

OTHER CERTIFICATES

ACLS Instructor/Provider

ATLS Instructor/Provider

Medical Directors Course for Air Medical Physicians Co-developer and Course Instructor

Air Medical Crew Core Curriculum Course Co-Developer and Instructor

COMMUNITY INVOLVEMENT

Gasparilla Long Distance Classic Race, Medical Director, On-Site Medical Tent 1991, 1992, 1993, 1994, 1995, 1996

Medical Director, CLINCON 1994, National EMS Clinical Conference

PUBLISHING/EDITORIAL

Algora, P., M.D., Altus, P., M.D., Carrubba, C., M.D., et al, Prehospital Actions by Health Care Providers and Physicians, Special issue: Early Management of Acute Myocardial Ischemia; The Journal of the Florida Medical Association, Feb. 1995, Vol. 82, No. 2.

Chief Editor and Contributing Author, Standard BLS Medical Protocols, State of Florida, 1995

Chief Editor and Contributing Author, Standard ALS Medical Protocols, State of Florida, 1995

PUBLISHING/EDITORIAL (Continued)

Contributing Author, Handbook for Air Medical Services Medical Directors, AMPA, 1994

Carrubba, Catherine L. "Interposed abdominal compression - CPR: Its effects on parameters of coronary profusion in human subjects" Annals of Emergency Medicine, March 1987: Vol. 16, No. 3.

Carrubba, Catherine L. et al, Criteria for Prehospital Air Medical Transport: Non-trauma and Pediatric Considerations in Prehospital and Disaster Medicine, April 1994, Vol. 9, No. 2.

Chief Editor and Contributing Author, The Role of the Medical Director in Air Medical Transport, Publication Pending.

CONFERENCE MEDICAL DIRECTION

1991	Medical Directors Workshop, Air Medical Transport, Tampa, offered for medical directors of air medical transport services.
1992	Advanced Medical Directors Workshop, Air Medical Transport, Salt Lake City, offered for medical directors of air medical transport services.
1993	Congress of Air Medical Transport, Salt Lake City. Offered for medical directors or air medical transport services.
1992,1993	Air Medical Crew Core Curriculum, offered multiple times, in Tampa and in locations around the state of Florida. For flight physicians, nurses, and paramedics.
1994	Medical Director of CLINCON, national EMS conference, July, 1994, Orlando
1995	Rural Trauma Care Conference, September, 1995, Sarasota.
1994,1995	Air Medical Crew Essentials, offered multiple times in Tampa for flight physicians, nurses, and paramedics.

Multiple and frequent lectures to emergency medical care providers (physicians, nurses, and paramedics).

GRANT AWARDS, EMS

1996	State Matching Grant Award, Tampa Fire Department, $37,000.
1995	State Matching Grant Award, Tampa Fire Department, $11,000.
1994	State Matching Grant Awards, Aeromed, TGH; $12,000 and $5,000.
1995	Chief Investigator, Federal Public Health Grant Recipient for Rural Trauma Care, $580,000.

Trauma Plan
Appendix J

The HCTA requested re-disclosure of medical records in the possession of the Medical Examiner's Office from the hospitals in the County pursuant to the provisions listed in Section 395.3025), F.S. A template of the letter sent to the above facilities is included behind this exhibit.

> Institutional reponses to the Hillsborough County Trauma Agency request for blanket authorization to re-release medical information (i.e., photocopy the Hillsborough County Medical Examiner's copy of hospital records of trauma decendents) for use in its quality assurance activities are as follows:

CONSENTING FACILITIES:

St. Joseph's Hospital

Tampa General Healthcare

Columbia Brandon Regional Medical Center

Columbia South Bay Hospital

Town and Country Hospital

Memorial Hospital

University Community Hospital - Fletcher

University Community Hospital - Carrollwood

H. Lee Moffitt Cancer Center

Vencor Central Hospital

DISSENTING FACILITIES / RESPONSE:

James A. Haley V.A. Hospital: Must obtain the patient's or next of kin's consent

South Florida Baptist Hospital: Must obtain medical records thru their Medical Records Department

Vencor Hospital - Tampa: Must obtain prior permission for every record photocopied from Medical Examiner's files

HILLSBOROUGH COUNTY

Florida

Office of the County Administrator
Daniel A. Kleman

Trauma Agency

Date

TEMPLATE FOR LETTER

Hospital Administrator
Title
Hospital Name
Hospital Address
City, State, Zip

Dear Hospital Administrator:

The Hillsborough County Trauma Agency (HCTA) attempts to reduce the morbidity, mortality and disability from injuries by planning, coordinating, and evaluating the trauma system. The Trauma Agency's authority for operation derives from Florida Statutes, Part II, chapter 395. Much of the Agency's work revolves around quality assurance activities of prehospital and hospital trauma patient care. All information obtained by the Agency under F.S. 395.50 which is confidential by operation of law retains its confidential status.

The evaluation of trauma care necessarily entails a review of all institutional trauma deaths occurring in Hillsborough County. The HCTA requests a blanket authorization from your institution to permit its employee(s) to photocopy hospital medical records of trauma patients from the Hillsborough County Medical Examiner's files for use in its quality assurance actions. While the Agency is empowered to collect this information directly from any Hillsborough County hospital provider, having your prior consent on file can greatly simplify the process. The Medical Examiner can then allow the Trauma Agency access to hospital records it has already received. This will eliminate redundant effort for the hospital and the HCTA's need to solicit medical records individually, saving everyone time and work.

If this proposal is agreeable to your administration, please be so kind as to have the appropriate authority sign below and return this letter to the Trauma Agency at your earliest convenience. Thank you very much.

Sincerely,

Barbara K. Uzenoff
Trauma Coordinator

_____
(Facility Name)

authorizes the Hillsborough County Trauma Agency to photocopy our medical records on file at the Medical Examiner's Office as described above.

_____
(Signature) (Date)

_____
(Title)

Emergency Operations Center
2711 East Hanna Avenue • Tampa, Florida 33610
(Phone) 813-276-2051 • (Fax) 813-272-5346

Trauma Plan
Appendix K

Type of Service or Resource	Columbia Brandon Regional Medical Center	James A. Haley Veteran's Hospital	Memorial Hospital	Columbia South Bay Hospital	South Florida Baptist Hospital	St. Joseph's Hospital	Tampa General Healthcare	Town & Country Hospital	University Community Hospital - Fletcher	University Community Hospital - Carrollwood	USAF 6th Medical Group	Vencor Hospital
Medical	●	●	●	●	●	●	●	●	●	●	●	●
Surgical	●	●	●	●	●	●	●	●	●	●	●	
Obstetrics	●				●	●	●		●		●	
Pediatrics	●			●	●	●	●	●	●		●	●
Psychiatric		●	●			●	●					
AIDS Support		●	●			●	●					
Alcohol Chemical Dependence		●				●	●	●				
Allzheimer Diagnosis		●		●		●						●
Arthritis Program		●		●		●	●		●			
Burn Unit							●					
Cancer Services	●	●	●	●	●	●	●	●		●		
Cardiac Cath.	●	●	●		●	●	●			●		
Cardiac Rehabilitation	●	●	●	●	●	●	●			●		
Cosmetic Surgery			●	●	●	●	●	●		●		
C.T. Scanner	●	●	●	●	●	●	●	●	●	●	●	●
Adult Day Care												
Child Day Care						●	●					
Diabetes Management		●	●			●	●	●	●	●		●
Eating Disorders		●				●	●			●		
Emergency Room	●	●	●	●	●	●	●	●	●	●	●	
Trauma Center						●	●					
Fitness Center		●				●	●			●		

Type of Service or Resource	Columbia Brandon Regional Medical Center	James A. Haley Veteran's Hospital	Memorial Hospital	Columbia South Bay Hospital	South Florida Baptist Hospital	St. Joseph's Hospital	Tampa General Healthcare	Town & Country Hospital	University Community Hospital - Fletcher	University Community Hospital - Carrollwood	USAF 6th Medical Group	Vencor Hospital
Genetic Counseling						●	●	●				
Geriatric Assessment		●		●			●			●		
Helicopter Services		●				●	●					
Home HealthService	●	●	●	●	●	●	●	●	●	●		
Hospice		●				●						
Hospital Auxillary	●	●	●		●	●	●	●	●	●		
Kidney Dialysis	●	●		●		●	●	●	●	●		
Laser Surgery	●	●		●	●	●	●	●	●	●		
Mammography	●	●	●	●	●	●	●	●	●	●	●	
MRI	●	●	●	●		●	●	●	●	●		
Newborn Nursey	●				●	●	●			●	●	
Neonatal IC	●					●	●			●		
Occupational Health		●		●		●	●		●	●		
Occupational Therapy	●	●	●	●	●	●	●	●	●	●		●
Open Heart		●				●	●			●		
Outpatient Diagnostics	●	●	●	●	●	●	●	●	●	●	●	
Outpatient Surgery	●	●	●	●	●	●	●	●	●	●	●	
Organ Transplant							●					
Orthopedics	●	●	●	●	●	●	●	●	●	●	●	●
Pain Management	●	●	●	●	●	●	●	●				●

Type of Service or Resource	Columbia Brandon Regional Medical Center	James A. Haley Veteran's Hospital	Memorial Hospital	Columbia South Bay Hospital	South Florida Baptist Hospital	St. Joseph's Hospital	Tampa General Healthcare	Town & Country Hospital	University Community Hospital - Fletcher	University Community Hospital - Carrollwood	USAF 6th Medical Group	Vencor Hospital
Physical Therapy	●	●	●	●	●	●	●	●	●	●	●	●
Physician Referral	●	●	●	●	●	●	●	●	●	●	●	●
Psychiatric Adult		●	●			●	●					
Psychiatric Children			●				●					
Psychiatric Geriatric	●	●	●			●	●					
Psychiatric Outpatient		●	●		●	●	●				●	
Pulmonary Rehabilitation	●	●	●	●	●	●	●			●		●
Radiation Therapy		●		●		●	●			●		
Smoking Cessation	●	●			●	●	●				●	
Skilled Nursing		●		●	●	●	●	●		●		
Speech Therapy	●	●	●	●	●	●	●	●		●		●
Sports Medicine					●	●	●	●		●		
Stroke Rehabilitation		●		●	●	●	●		●	●		●
Weight Control		●			●	●	●		●	●		
Wellness Center		●			●	●	●			●		
Women's Health		●	●	●	●	●	●	●		●		

Trauma Plan
Appendix L

AS AMENDED BY ORDINANCE 90-17
AS AMENDED BY ORDINANCE 93-23
AS AMENDED BY ORDINANCE 96-5

ORDINANCE NO. 86-3

HILLSBOROUGH COUNTY EMERGENCY MEDICAL TRANSPORTATION ORDINANCE

AN ORDINANCE AMENDING HILLSBOROUGH COUNTY ORDINANCE 86-3 REGULATING EMERGENCY MEDICAL TRANSPORTATION; PROVIDING FOR DEFINITIONS; REQUIRING THE BOARD OF COUNTY COMMISSIONERS OF HILLSBOROUGH COUNTY, FLORIDA, TO ISSUE A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY; SETTING STANDARDS FOR REVIEW; PROVIDING FOR REVOCATION, MODIFICATION OR SUSPENSION OF CERTIFICATES; REQUIRING INSURANCE; PROVIDING FOR EXEMPTIONS; PROVIDING FOR SEVERABILITY OF PROVISIONS; AND PROVIDING FOR AN EFFECTIVE DATE.

WHEREAS, Hillsborough County Ordinance 86-3, as amended, requires hospitals which want to provide inter-facility Advanced Life Support (ALS) ground transportation services between hospitals which are under common ownership to obtain a Certificate of Public Convenience and Necessity; and

WHEREAS, The County's Emergency Medical Planning Council recommends that an exemption from the requirement to obtain a Certificate of Public Convenience and Necessity be established for the above reference situation to allow inter-facility ground transports between hospitals which are under common ownership.

NOW, THEREFORE, BE IT ORDAINED BY THE BOARD OF COUNTY COMMISSIONERS OF HILLSBOROUGH COUNTY, FLORIDA:

SECTION 1. PURPOSE AND SCOPE.

This Ordinance is enacted pursuant to Section 401.25(6), Florida Statutes, for the purpose of providing standards and necessary regulations for the issuance of Certificates of Public Convenience and Necessity for Advanced Life Support level emergency medical transportation services. This Ordinance shall apply and be in force within the incorporated and unincorporated areas of Hillsborough County except as otherwise specified by Section 13 (Exemptions) of this Ordinance.

SECTION 2. DEFINITIONS.

When used in this Ordinance, the following terms shall mean as follows:

A. AIR MEDICAL TRANSPORTATION SERVICE: Any person, firm, corporation, association or governmental agency that engages in the business of providing aircraft transportation for emergency medical patients.

B. ADVANCED LIFE SUPPORT SERVICES, (ALS): A level of care involving the use of adjunctive equipment and special techniques such as the use of endotracheal intubation or other invasive airways, cardiac monitoring, defibrillation, establishing I.V. lifelines, drug administration or the use of any other supplies, devices, drugs, substances or procedures, determined to constitute advanced life support by a consensus of the ALS Medical Directors in Hillsborough County.

C. AMBULANCE OR EMERGENCY MEDICAL SERVICES VEHICLES: Means any private or publicly owned land, air, or water vehicle that is designed, constructed, reconstructed, maintained, equipped, or operated for, and is used for, or intended to be used for, air, land, or water transportation of sick or injured persons who may need medical attention during transport.

D. BASIC LIFE SUPPORT SERVICE (BLS): "Basic life support" means treatment of medical emergencies by a qualified person through the use of techniques such as patient assessment, cardiopulmonary resuscitation (CPR), splinting, obstetrical assistance, bandaging, administration of oxygen, application of medical anti-shock trousers, and other techniques described in the Emergency Medical Technician Basic Training Course Curriculum of the United States Department of Transportation. "Basic Life support" may also include other techniques approved and performed under conditions specified by rules of the department.

E. BOARD: The Board of County Commissioners of Hillsborough County or any designee which the Board of County Commissioners may authorize.

F. CERTIFICATE: A Certificate of Public Convenience and Necessity issued by the Board of County Commissioners.

G. COUNCIL: The Emergency Medical Planning Council as appointed by the Board of County Commissioners.

H. EMERGENCY MEDICAL SERVICES: Any person, firm, corporation, association, or governmental agency that advertises or engages in the business of responding to basic and advanced life support calls for emergency medical care and transportation in Hillsborough County.

I. EMERGENCY MEDICAL TECHNICIAN (EMT): Any person certified by the State of Florida pursuant to Chapter 401 of the Florida Statutes as an Emergency Medical Technician.

J. AMBULANCE DRIVER: Means any person who meets the requirements of s.401.281, Florida Statutes.

K. MEDICAL DIRECTORS: "Medical director" means a physician licensed under Chapter 458 or Chapter 459, Florida Statutes employed or contracted by a licensed emergency medical services provider, who provides medical supervision, not including administrative and managerial functions, for daily operations and training pursuant to the provisions of this act.

L. PARAMEDIC: "Paramedic means a person certified both by the State of Florida under Chapter 401 of the Florida Statutes as a paramedic, and certified as a paramedic by the medical director under contract to the EMS service.

M. RATES: The fares or charges established pursuant to this Ordinance to be paid by passengers or patients for the transportation and/or treatment provided by a ground advanced life support service or air medical transportation. Such rates are subject to the review and approval of the Board.

N. RULES AND REGULATIONS: Those specific requirements and guidelines which are promulgated and periodically revised by the Board.

O. AIR AMBULANCE SERVICES: Air ambulance services are divided into two categories. The first is transport of patients receiving definitive care within the medical care system; the second is transport of patients receiving emergency care in the pre-hospital setting.

1. INTER-HOSPITAL OR INTER-FACILITY: Air ambulance services are those services which transport patients receiving definitive care within the medical care system and which provide inter-hospital, hospital to other facility, hospital to home or similar transports where the patients involved are transported from definitive care medical setting.

2. PRE-HOSPITAL AIR AMBULANCE SERVICES: Are those services which transport patients in the pre-hospital setting and will be permitted as either an Advanced or Basic Life Support and each pre-hospital service shall be required to meet the Certificate of Public Convenience and Necessity provision of Chapter 401.25, Florida Statutes, or have a current mutual aid agreement with the County(ies) in which it operates. Each such service shall employ a Medical Director whether the services be advanced or basic life support.

P. DEPARTMENT: Means the Florida Department of Health and Rehabilitative Services.

Q. PERMIT: Means any authorization issued pursuant to the provisions of Chapter 401, Florida Statutes, for a vehicle to be operated as a transport or non-transport vehicle providing basic or advanced life support or as a non-emergency medical transportation vehicle.

R. LICENSE: Means any license or transfer of license issued by the Department of Health and Rehabilitative Services pursuant to Chapter 401, Florida Statutes.

S. MUTUAL AID AGREEMENT: Means a written agreement between two or more entities whereby the signing parties agree to lend aid to one another under conditions specified in the agreement and as sanctioned by the governing body of each affected county.

SECTION 3. CERTIFICATES REQUIRED.

A. Every person, firm, corporation, association or governmental entity that advertises or engages in the business of operating an advanced life support ground transportation service, or an air medical transportation service in Hillsborough County must obtain a Certificate of Public Convenience and Necessity from the Board.

B. Every person, firm, corporation, association, or governmental agency that routinely or regularly operates a vehicle in Hillsborough County for the purpose of engaging in the business of providing advanced life support level emergency ambulance service, or air medical transportation service must obtain a Certificate of Public Convenience and Necessity from the Board.

SECTION 4. CLASSIFICATION OF CERTIFICATES.

Services granted certificates shall operate in accordance with the classification of each service category and sub-category as follows:

A. ADVANCED LIFE SUPPORT SERVICE.

1. TRANSPORT - ALS service maintained or operated with the intention of providing emergency transportation on a regular basis as a matter of established operational policy.

2. NON-TRANSPORT - ALS service maintained or operated with the intention of not providing emergency transportation on a regular basis as a matter of established operational policy.

B. EMERGENCY AMBULANCE SERVICE.

Emergency Ambulance Service maintained or operated with the intention of providing ALS level emergency medical care and transportation on a regular basis as a matter of established operational policy.

C. AIR MEDICAL TRANSPORTATION SERVICE.

A non-military service maintained or operated with the intention of providing transportation by aircraft for emergency medical patients as a matter of established operational policy.

SECTION 5. CERTIFICATE APPLICATION REQUIREMENTS.

A. No person, firm, corporation, or partnership shall operate any of the services as described in Section 4 unless a Certificate of Public Convenience and Necessity is first obtained from the Board.

B. Each application for a Certificate shall include the following:

1. The name, address, and telephone number of the general manager, owner, officers, and directors of the applicant.

2. The date of incorporation or formation of the business association.

3. If the applicant is a corporation, the type and number of shares outstanding and the name and addresses of shareholders.

4. The area or areas which the applicant desires to serve.

5. The addresses of the applicant's present and proposed base station location and all sub-stations.

6. The names and certification numbers of all EMT's, paramedics, drivers, or other attendants, employed by the applicant.

7. The year, model, type, Department of Health and Rehabilitative Services permit number, motor vehicle of FAA license number, and mileage of every ambulance, rescue vehicle, aircraft, or other type of transporting or responding vehicles used by the applicant.

8. A description of the applicant's communications system, including its assigned frequency, call numbers, mobiles, portables, range, and hospital communications ability.

9. The name of the municipalities, and description of the geographical area that the applicant has previously been authorized to serve in Hillsborough County, any other county in Florida, or any area outside of the State of Florida.

10. A sworn statement signed by the applicant or his/her authorized representative stating that all the information provided by the applicant in the application is true and correct.

11. A list of equipment and supplies which will be routinely carried on each vehicle.

12. County Occupational License, when applicable.

13. When applicable, Compilation Statement showing assets and liabilities prepared by a Certified Public Accountant.

14. Any other information as may be reasonable required by the Board.

C. Each application for Certificate of Public Convenience and Necessity shall be submitted to the Council for review.

D. For the purpose of review of applications or determination of applicant's compliance, the Board or its designated representative shall be empowered to perform reasonable inspections of any item pertinent to the requirements of this Ordinance.

E. The Council shall hold a public hearing for the purpose of considering all pending applications for a certificate. All applicants and all present certificate holders shall be notified of the date, time, and place of the public hearing. Said notice shall be sent by certified mail, not less than twenty (20) days prior to the public hearing.

F. At such hearing, the Council shall consider all applications and pertinent information and shall make its finding as to each applicant, and shall determine whether the public convenience and necessity of the residents of Hillsborough County would best be served by granting or denying such applications.

G. Upon making such findings and determinations, the Council shall forward a recommendation to the Board for the granting or denial of certificates.

H. The initial certificate granted by the Board to a service shall be valid for a two (2) year period less the number of months left until the established renewal date of September 1st. Subsequent certificates granted shall be valid from the aforesaid period of two (2) years unless otherwise revoked, suspended, or modified.

SECTION 6. APPLICATION REVIEW CRITERIA.

The Council shall review the application in consideration of, but not limited to, the following criteria:

A. The number and type of services and governmental entities currently providing advanced life support emergency medical ground and air transportation services to the area.

1. The basis for determination of need may include a comparison of estimated annual requests for service in the particular certificate category, with the current number of vehicles satisfying requests.

B. The past performance and service record of the applicant obtained from sources such as hospitals, nursing homes, local public safety agencies, and the local Department of Health and Rehabilitative Services EMT representatives.

C. The financial responsibility of the applicant is to maintain safe, comfortable services, maintain or replace equipment, and maintain required liability and medical malpractice insurance upon the request of the Council.

D. The condition of the vehicles and equipment provided by the service.

E. The adequacy of the management plan of the applicant upon the request of this service.

F. Inspection and Examination - In accordance with Florida Statutes Section 401.31, the Department of Health and Rehabilitative Services shall inspect each advanced life support transportation vehicle at reasonable times and whenever such inspection is deemed necessary by the Department, but not less frequently than two times a year.

SECTION 7. CERTIFICATE REVOCATION, MODIFICATION, SUSPENSION OR AFFIRMATION.

A. Every Certificate of Public Convenience and Necessity issued pursuant to this Ordinance is subject to revocation, modification or suspension when it is found that:

1. The certificate holder has failed or neglected to render services as required by the certificate, or the Rules and Regulations promulgated under Chapter 401 of Florida Statutes, or

2. The application by which the certificate was secured contained false representations or omitted material facts, or

3. The certificate holder or its agent has demanded money or other compensation in excess of that established in its schedule of fees or rates filed with the Board, or

4. The certificate holder has been convicted of a felony which renders the certificate holder of such character and conduct which fail to meet standards of conduct considered appropriate in the licensed activity. In determining whether to revoke, suspend or notify a certificate holder's certificate, the Board shall consider the following factors:

a. The nature and seriousness of the offense.

b. The circumstances under which the felony occurred.

c. The amount of time which has passed since the commission of the offense.

d. The age of the person when the offense was committed.

e. Whether the offense was an isolated or repeated violation.

f. Social conditions which may have contributed to this offense.

g. Any evidence of rehabilitation.

h. The type of position or employment in which the certificate holder is involved.

i. Any extenuating or mitigating circumstances which the certificate holder may offer.

B. Complaints about the service of certificate holders or evidence of infractions shall be received and investigated by the Chairman of the Council or its designee. Such investigator may, upon sufficient finding, issue a Deficiency Correction Notice pursuant to provisions of Rules and Regulations. The investigator shall, in any case, make recommendations as to the facts of the infraction or complaint to the Council and shall forward a copy of his recommendations and his findings of facts to the certificate holder by certified mail.

C. If the Council finds that revocation, suspension, modification or affirmation of a certificate is warranted, notice shall be sent to the certificate holder by certified mail of such finding and of the date of public hearing on the matter, not less than twenty (20) days prior to the hearing date.

D. A public hearing shall be held by the Council on the scheduled date, for the purpose of considering revocation, suspension, modification or affirmation of the certificate. The Council shall then forward a recommendation to the Board regarding the status of the certificate in question.

E. The Board shall then either revoke, modify, suspend or affirm the certificate in question.

SECTION 8. PROCESS FOR APPEAL.

Any person who is aggrieved or substantially affected by a decision of the Board may seek relief through appeal to a court of competent jurisdiction.

SECTION 9. RENEWALS OF CERTIFICATES.

A. Applications for renewal of Certificates of Public Convenience and Necessity shall be made on forms provided by the Council and received not later than September 1st of the year in which a certificate expires.

B. All requirements applicable to initial applicants for Certificates of Public Convenience and Necessity shall be applicable to certificate holders seeking to renew their Certificates of Public Convenience and Necessity.

SECTION 10. TRANSFER OF ASSIGNMENT OF CERTIFICATES.

A. No certificate issued pursuant to this Ordinance is assignable or transferable except upon written approval by the Board in the same manner and subject to the same application, investigation, fees, and public hearing as original applications for certificates.

B. Any majority transfer of shares of stock or interest of any person or operator so as to cause a change in the officers or stockholders of more than twenty (20%) percent of the shares of such certified service shall be deemed a transfer or assignment.

SECTION 11. INSURANCE.

A. Every certificated service shall carry bodily injury and property damage insurance or its equivalent, with solvent and responsible insurers authorized to transact business in the State of Florida, or be qualified by the State as a self-insurer, to secure payment for any loss or damage resulting from any occurrence arising out of or caused by the operation or use of any of the service's motor vehicles or aircraft. Each motor vehicle shall be insured for a combined single limit of One Million Dollars ($1,000,000) per occurrence. Each ALS motor vehicle ambulance service shall maintain medical malpractice insurance in the amount not less than One Million Dollars ($1,000,000). Every insurance policy or contract for such insurance shall provide for the payment and satisfaction of any financial judgment entered against the service or any person driving a vehicle of the service. Such insurance shall be obtained and certificates or certified copies of such policies shall be filed with the Board. All such insurance policies shall provide for a thirty (30) day cancellation notice to the Board.

B. Each aircraft shall be insured for a combined single limit of One Million Dollars ($1,000.000). Every insurance policy or contract for such insurance shall provide for the payment and satisfaction of any financial judgment entered against the operator and present insured, or any person flying the insured aircraft. All such insurance policies shall provide for 30 day cancellation notice to the County.

C. Each air ambulance provider shall carry medical liability insurance, listing the licensed air ambulance providers as the insured, with solvent and responsible insurers to do business in Florida, to secure payment for any loss resulting from care and treatment of the patient by the provider. Each ALS air ambulance provider shall be insured for the sum of One Million Dollars ($1,000,000). Every insurance policy or contract for such insurance shall provide for the payment and satisfaction of any financial judgment entered against the service. All such insurance policies shall provide for 30 day cancellation notice to the Board.

D. In lieu of the insurance required by subsection (B) and (C) above, the provider or applicant may furnish a certificate of self-insurance establishing that the provider or applicant has a self-insurance plan to provide coverage identical to what is required in subsections (B) and (C) above and that the plan has been approved by the State of Florida Department of Insurance.

SECTION 12. RATES.

All certificate holders shall file with the application a schedule of proposed rates for transportation or treatment of patients. All initial rates and subsequent rate changes are subject to the review and approval of the Board.

SECTION 13. EXEMPTIONS.

The following are exempt from the provisions of this Ordinance:

A. A privately owned vehicle not ordinarily used in the business of transporting persons who are sick, injured, wounded, incapacitated, or helpless.

B. A vehicle rendering services as an ambulance in the event of a major catastrophe or emergency when ambulances with permits based in the locality of the catastrophe or emergency are incapacitated or insufficient in number to render the services needed.

C. Any ambulance service provider licensed in another state or U.S. territory, except that any such provider receiving a person within this State for transport to a location within this State shall comply with the provisions of this Ordinance.

D. Any ambulance owned and operated by the Federal Government.

E. A vehicle under the direct supervision of a licensed physician and used as an integral part of a private industrial safety or emergency management plan within a privately owned and controlled area, which vehicle may from time to time be used to transport persons in need of medical attention, but which is not available to the general public and which does not routinely transport patients.

F. Any organization or person that provides wheelchair transport services, if:

1. The service is a public bus system.

2. The service is a public or private school bus system the major business of which is that of transporting school children to and from school or school-related activities.

3. Licensed as a non-emergency medical transportation, including stretcher or wheelchair car service.

G. BLS ambulances licensed by the Hillsborough County Public Transportation Commission pursuant to Chapter 83-423, Laws of Florida.

H. Vehicle or apparatus operated by a hospital and used to transport patients to locations within a hospital's property or for inter-facility transports between hospitals which are under common ownership within Hillsborough County, including transports from the hospital helicopter pad to that hospital's buildings provided such transportation is provided at no direct charge to the patient.

For purposes of this exemption, hospital shall mean any establishment that:

1. Offers services more intensive that those required for room, board, personal services, and general nursing care, and offers facilities and beds for use beyond 24 hours by individuals requiring diagnosis, treatment or care for illness, injury, deformity, infirmity, abnormality, disease, or pregnancy; and

2. Regularly makes available at least clinical laboratory services, diagnostic x-ray services, and treatment facilities for surgery or obstetrical care, or other definitive medical treatment of similar extent.

SECTION 14. RULES AND REGULATIONS.

A. The Board or its designee is hereby authorized to prepare such rules and regulations, subject to the Board of County Commissioners' approval, necessary to carry out the purpose of this Ordinance relative to the following subject matter:

1. Design and construction of vehicles.

2. Mechanical and first aid equipment and supplies to be carried on vehicles.

3. Sanitation of vehicles.

4. Minimum training and qualifications of paramedics, EMTs and driver training.

5. Obedience to traffic laws.

6. Central places of business of ambulance services.

7. Communication equipment.

8. Personnel, vehicle and financial record keeping.

9. Level of Service.

10. Personnel manning and riding in vehicles.

11. Response time

12. Procedures for response to call.

13. Record keeping and reporting.

14. Deficiency Correction Notice.

15. Such other matters as are in the interest of the public health, safety, welfare, convenience and necessity of the citizens of Hillsborough County.

16. Optimal use of telemetry by licensees.

B. All regulations promulgated under the preceding paragraph shall be approved by the Board by resolution in regular session.

SECTION 15. PENALTIES.

Any person who violates a provision of this Ordinance shall be subject to punishment as provided by Florida Statute 125.69. Violators shall be prosecuted by the Office of the State Attorney in the same manner as misdemeanors are prosecuted and, upon conviction, shall be punished by a fine not to exceed Five Hundred ($500.00) Dollars or by imprisonment not to exceed sixty (60) days or both such fine and imprisonment.

SECTION 16. SEVERABILITY.

If any section, sentence, clause, part or provision of this Ordinance is held to be invalid by a court of competent jurisdiction, the remainder of this Ordinance shall not be affected thereby, but shall remain in full force and effect.

SECTION 17. CONSTRUCTION OF ORDINANCE.

The provisions of this Ordinance shall be liberally construed in order to effectively carry out the purposes of this Ordinance in the interest of the public health safety and welfare of the citizens and residents of Hillsborough County.

SECTION 18. AMENDMENT TO HILLSBOROUGH COUNTY ORDINANCE 86-3.

Hillsborough County Ordinance 86-3 relating to Emergency Medical Transportation is hereby amended.

SECTION 19. EFFECTIVE DATE.

The provisions of this Ordinance shall become effective upon receipt of official acknowledgement from the Department of State, that this Ordinance has been filed with that Office.

STATE OF FLORIDA)
)
COUNTY OF HILLSBOROUGH)

I, RICHARD AKE, Clerk of the Circuit Court and Ex Officio Clerk of the Board of County Commissioners of Hillsborough County, Florida, do hereby certify that the above and foregoing is a true and correct copy of an Ordinance adopted by the Board at its meeting of February 21, 1996, as the same appears of record in Minute Book 237, of the Public Records of Hillsborough County, Florida.

WITNESS my hand and official seal this 27th day of February, 1996.

RICHARD AKE, CLERK

FLORIDA SEAL

Deputy Clerk /Gary J. Klunk

APPROVED BY COUNTY ATTORNEY

By: _____
Approved as to form and
legal sufficiency

Trauma Plan
Appendix M

HILLSBOROUGH COUNTY
EMS COMMUNICATIONS FREQUENCIES INVENTORY

UNIT	SMC/MED-8	LMC-6/MED-6	LMC-7/MED-7	MRC/MED-8 T/A	DVR
DISPATCH					
HCEDO	Yes	Yes	Yes	No	14
TFR	No	Yes	Yes	No	5
TTPD	Yes	Yes	Yes	Yes	4
AMR	Yes	Yes	Yes	Yes	9, 10
AMERICARE	No	No	No	No	15
SCC SQUAD	No	No	No	No	11, 12, 13
HOSPITALS					
TGH	Yes	Yes	Yes	No	2, 3, 4, 6, 7
SJH	Yes	Yes	Yes	No	7
Brandon	No	No	No	No	7, 14
T&C	No	No	No	No	7, 14, 15
Memorial	No	No	No	No	7, 14
UCH-F	Yes	Yes	Yes	No	7, 14
UCH-C	Yes	No	Yes	No	14
SFBH	No	No	No	No	7, 14
South Bay	Yes	No	No	No	7, 14
VA	No	No	No	No	14
MacDill	No	No	No	No	8
PREHOSPITAL					
HCFR	No	No	No	No	14
TFR	No	Yes	Yes	No	5
TTFD	Yes	Yes	Yes	Yes	1
AMR	Yes	Yes	Yes	Yes	9, 10
AMERICARE	Yes	Yes	Yes	Yes	15
TRANSCARE	Yes	Yes	Yes	No	3, 14
SCC SQUAD	No	No	No	No	11, 12, 13

LEGEND FOR EMS COMMUNICATIONS FREQUENCIES INVENTORY

Statewide and Local Medical Coordination Channels

Channel		Transmit	Receive	Tone
SMC	Statewide Medical Coordination Channel (MED-8)			
	Base	463.175 MHZ	468.175 MHz	167.9 Hz
	Mobile	468.175 MHz	463.175 MHz	167.9 Hz
LMC-6	Local Medical Coordination Channel (MED-6)			
	Base	463.125 MHz	468.125 MHz	127.3 Hz
	Mobile	468.125 MHz	463.125 MHz	127.3 Hz
LMC-7	Local Medical Coordination Channel (MED-7)			
	Base	463.150 MHz	468.150 MHz	127.3 Hz
	Mobile	468.150 MHz	463.150 MHz	127.3 Hz
MRC	Medical Resources Coordination Channel (MED-8 Talk-Around)			
	Base	463.175 MHz	463.175 MHz	167.9 Hz
	Mobile	463.175 MHz	463.175 MHz	167.9 Hz

LEGEND FOR EMS COMMUNICATIONS FREQUENCIES INVENTORY

Dispatch Vehicle Response Channels

DVR # / Provider		DISPATCH VEHICLE	
		Transmit	Tone
1	TTFD	150.775 MHz	186.2 Hz
2	TGH	153.920 MHz	
3	TGH, TransCare	154.220 MHz	
4	TTPD, TGH	154.385 MHz	186.2 Hz
5	TFR	154.430 MHz	88.5 Hz
6	TGH	155.220 MHz	186.2 Hz
7	Brandon, Memorial, SJH, South Bay, SFBH, TGH, T&C, UCH-F	155.325 MHz	186.2 Hz
8	MacDill	409.55 MHz	165 ?
9	AMR	456.650 MHz	127.3
10	AMR	457.100	127.3
11	SCC	461.13750	
12	SCC	462.13750	
13	SCC	466.13750	
14	Brandon, HCEDO, HCFR, Memorial, South Bay, SFBH, T&C, TransCare, UCH-F, UCH-C, VA,	800 MHz trunking	
15	T&C, AMC	900 MHz trunking	

Trauma Plan Appendix N

HILLSBOROUGH COUNTY

Florida

TRAUMA AGENCY

April 25, 1997

Beverly J. Tinnell, CEO
Clinical Data Management, Inc.
10875 Highway 285, #200
Conifer, CO 80433

Dear Beverly:

Please consider this letter as authorization to build the import program that will extract data from the trauma registries at Tampa General Healthcare and St. Joseph's Hospital in order to establish the Hillsborough County Trauma Agency's Trauma Registry. Pattie Brown and Mary Roberts have each corroborated that the fields listed on the attached import data set proposal (dated 4/25/97) are both valid and appropriate. Both trauma registrars attest that they either collect every field currently or will be collecting the field in the near future, and that they agree to share their facility's data in those fields with the Agency.

Please use the attached three page document entitled "Revised* trauma registry import data set proposal for Hillsborough County Trauma Agency (*subsequent to 4/17/97 meeting)" as the foundation from which to create the import program.

5/6/97

Tampa General Healthcare's Representative / Date

St. Joseph's Hospital's Representative / Date

Sincerely,

Barbara K. Uzenoff

Barbara K. Uzenoff, Trauma Coordinator

Emergency Operations Center
2711 East Hanna Avenue • Tampa, Florida 33610
(Phone) 813-276-2051 (Fax) 813-272-5346

HILLSBOROUGH COUNTY

Florida

TRAUMA AGENCY

April 25, 1997

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Clinical Data Management, Inc.
10875 Highway 285, #200
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_____
Tampa General Healthcare's Representative / Date

5/9/97
St. Joseph's Hospital's Representative / Date

Sincerely,

Barbara K. Uzenoff

Barbara K. Uzenoff, Trauma Coordinator

Emergency Operations Center
2711 East Hanna Avenue • Tampa, Florida 33610
(Phone) 813-276-2051 (Fax) 813-272-5346

Comparison of data fields between trauma centers' trauma registries included in Trauma Agency's county wide database

	PATIENT INFORMATION
1	LAST.CHANGE
2	TRAUMA.NO
3	INSTITUTE.NO - SJH=108; TGH=1061
4	NAME
5	ADDRESS
6	RES.CITY - SJH IMPORTS ADDRESSES DIRECTLY FROM ADMISSION REGISTRATION COMPUTER FILES; TGH HAS FINITE LIST
7	RES.COUNTY.STATE - SJH HAS 3 COUNTIES, TGH HAS LIST OF 82 CHOICES
8	DOB
9	SEX - IDENTICAL VALUES
10	RACE - DIFFERENCES BETWEEN THE TWO
11	INJURY.TIME
12	INJURY.DATE
13	OUTCOME - SJH USES ALIVE VS DIED; TGH ALIVE VS. DEAD
	IMPORTANT TIME DATA
14	TRANSPORT.AGENCY.CODE - DIFFERENCES IN ABBREVIATED PREHOSPITAL PROVIDER NAMES BETWEEN HOSPITALS
15	TRANSPORT.RECORD.NO - THE AR# (AMBULANCE RUN NO.) FROM RUN REPORT
16	LIFE.SUPPORT
17	ARRIVAL.TIME - PREHOSPITAL PROVIDER MAKES PATIENT CONTACT
18	DEPARTURE.TIME - PREHOSPITAL PROVIDER LEAVES SCENE WITH PATIENT
19	DESTINATION.ARRIVAL.TIME- PREHOSPITAL PROVIDER ARRIVES AT HOSPITAL
20	HOSPITAL.ARRIVAL.DATE - PATIENT CHECKED INTO ED. USE WITH #30 FOR ASSOCIATED TIME. CDM USES THIS FIELD IN THEIR STOCK REPORTS.

Comparison of data fields between trauma centers' trauma registries included in Trauma Agency's county wide database

	INJURY DATA
21	CAUSE.CODE - DIFFERENT CAUSE OF INJURY CODES BETWEEN HOSPITALS
22	CAUSE.E.CODES - ALL VALID CODES ACCEPTED FROM ICD-9-CM MANUAL
23	TRAUMA.TYPE - IDENTICAL
24	INJURY.DETAILS
25	RISK.TYPE - DIFFERENT BETWEEN HOSPITALS
26	PROTECTIVE.DEVICES - DIFFERENT BETWEEN HOSPITALS
27	LOCALE - SJH SORTS STREETS BY SIZE, PLACES NUMBERS LAST; TGH ENTERS STREET NUMBER THEN STREET NAME
	NURSING STATION DATA
28	TEAM.NOTIFIED - IN ADDITION TO YES / NO RESPONSE, SJH ADDED VALUES TO SPECIFY THE LOCATION WHERE TA IS CALLED, E.G., WHETHER IN FIELD OR ED
29	ADM.SVC
30	N.S. FROM.TIME - PATIENT CLOCKED INTO ED / CORRESPONDS TO DATE #20
31	NS.DISPOSITION.CODE
32	LOS
33	TOTAL.DAYS.ICU
34	DC.DESTINATION.CODE - ONLY DISCHARGE TYPE STATUS AVAILABLE
35	TAIN.HOUSE - TGH'S CREATED THIS TO SPECIFY THE LOCATION WHERE TA IS CALLED - IN FIELD OR ED. MUST BE USED WITH #28 TO ASCERTAIN ALL THEIR TAs

Comparison of data fields between trauma centers' trauma registries included in Trauma Agency's county wide database

	DIAGNOSES DATA
36	ADMITTING.DX
37	ICD9 - ALL VALID CODES ACCEPTED FROM ICD-9-CM CODING MANUAL
38	DIAGNOSES - DIAGNOSES DERIVED FROM CHART
39	DX.KNOWN
40	AIS
41	REGION - DIFFERENT BETWEEN HOSPITALS
42	ISS
	CLINICAL DATA
43	TRAUMA.SCORE.LOCATION.CODE - DIFFERENT BETWEEN HOSPITALS
44	RESP.RATE - IDENTICAL
45	PULSE - IDENTICAL
46	SYS.BP - IDENTICAL
47	DIAS.BP - IDENTICAL
48	EYE.OPENING - IDENTICAL
49	VERBAL.RESPONSE - IDENTICAL
50	MOTOR.RESPONSE - DIFFERENT BETWEEN HOSPITALS
51	GLASCOW
52	INTUBATED - DIFFERENT BETWEEN HOSPITALS
53	ASSISTING
54	OPEN.WOUND - BOTH HOSPITALS WILL COLLECT ONCE NEW PEDIATRIC TRIAGE CRITERIA IS ADOPTED
55	FRACTURES - BOTH HOSPITALS WILL COLLECT ONCE NEW PEDIATRIC TRIAGE CRITERIA IS ADOPTED

Comparison of data fields between trauma centers' trauma registries included in Trauma Agency's county wide database

56	PTS.AIRWAY - BOTH HOSPITALS WILL COLLECT ONCE NEW PEDIATRIC TRIAGE CRITERIA IS ADOPTED
57	PTS.CNS - BOTH HOSPITALS WILL COLLECT ONCE NEW PEDIATRIC TRIAGE CRITERIA IS ADOPTED
58	TEMPS - SJH RECORDS IN FAHRENHEIT; TGH IN CENTIGRADE. THERMOMETER ROUTE NOT COLLECTED BY BOTH HOSPITALS
59	TSC - RANGE DIFFERENT BETWEEN HOSPITALS
60	TS.NUMBER - DIFFERENT BETWEEN HOSPITALS
	PATIENT REFERRAL DATA
61	FROM.HOSPITAL - ABBREVIATED HOSPITAL NAME
62	REFERRING.HOSPITAL - FULL TEXT OF HOSPITAL NAME
	PROCEDURE.DATA
63	PROCEDURES.CODE- SJH ENTERS ONLY CT SCANS, TGH ENTERS ALL PROCS
64	4 (ADDITIONAL DATA)
65	PROCEDURE.ICD9- SJH ENTERS ALL CODES BUT CT SCANS, TGH ENTERS ALL
	LABORATORY DATA
	NO LABORATORY VALUES TO SHARE
	HOSPITAL CHARGE DATA
66	DRG - SJH COLLECTS CONCURRENTLY, TGH DOES NOT
67	MDC - SJH CALCULATES, TGH DOES NOT HAVE DRG GROUPER SOFTWARE
	INTERNAL PATIENT CARE CRITIQUE DATA
	NO CRITIQUE DATA TO SHARE

Comparison of data fields between trauma centers' trauma registries included in Trauma Agency's county wide database

	DEATH DATA
68	DEATH.TIME - SJH WILL COLLECT IN FUTURE
69	DEATH.DATE -SJH WILL COLLECT IN FUTURE
70	CAUSE.DEATH - SJH WILL COLLECT IN FUTURE
71	AUTOPSY.ID - SJH WILL COLLECT IN FUTURE

Trauma Plan
Appendix O

Data fields entered from HRS Form #1895 (statewide run report) on trauma calls into Trauma Agency's prehospital database

Disposition=Transport	Disposition=Transfer Type of Transport=Air	Disposition= Transfer Type of Transport ≠Air
1. Date 2. Disposition 3. Type of Transport 4. Service ID# 5. Hospital ID# 6. Age 7. Sex 8. Call level 9. Arrive Loc 10. Pat Depart 11. Mechanism (1) *Trauma Alert Criteria (≥1)*: 12. None 13. SBP < 90 14. RR < 10 or > 29 15. GCSS ≤ 12 16. 2° or 3° Burn > 15% BSA 17. Paralysis 18. Amputation proximal to wrist or ankle 19. Penetrate head, neck or trunk 20. Eject from motor vehicle 21. Other 22. Peds Alert Criteria Met (Pediatric trauma score ≤ 8) 23. TTP exception 24. Biluminal 25. NTI 26. OTI 27. Cric	1. Date 2. Disposition 3. Type of Transport 4. Service ID# 5. Hospital ID# 6. Age 7. Sex 8. Call level 9. Arrive Loc 10. Pat Depart 11. Mechanism (1) *Trauma Alert Criteria (≥1)*: 12. None 13. SBP < 90 14. RR < 10 or > 29 15. GCSS ≤ 12 16. 2° or 3° Burn > 15% BSA 17. Paralysis 18. Amputation proximal to wrist or ankle 19. Penetrate head, neck or trunk 20. Eject from motor vehicle 21. Other 22. Peds Alert Criteria Met (Pediatric trauma score ≤ 8) 23. TTP exception 24. Biluminal 25. NTI 26. OTI 27. Cric	1. Date 2. Disposition 3. Type of Transport 4. Service ID# 5. Hospital ID#

Data fields entered from HRS Form #1895 (statewide run report) on trauma calls into Trauma Agency's prehospital database

Additional fields for trauma alert, TTP exception or trauma death at scene logs		
For a trauma alert: 28. Patient Name 29. Incident # 30. Arrive Dest 31. Total # of patients at scene 32. Total # of deaths at scene 33. Total # of TAs at scene 34. NA 35. NA 36. NA	For a TTP exception: 28. Patient Name 29. Incident # 30. Arrive Dest 31. NA 32. NA 33. NA 34. NA 35. NA 36. Brief description of circumstances-TTP	For a death at scene: 28. Patient Name 29. Incident # 30. NA 31. Total # of patients at scene 32. Total # of deaths at scene 33. NA 34. Time of death on run report 35. Brief description of circumstances-DOA 36. NA

Trauma Plan
Appendix P

Mutual aid agreements in effect for Hillsborough County system participants

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Mutual Aid Agreement for Fire Protection Between the City of Tampa Fire Department and the City of Clearwater Fire Department, December 9, 1960.

Mutual Aid Agreement for Fire Protection Between the City of Tampa Fire Department and the City of St. Petersburg Fire Department, September 22, 1960.

Mutual Aid Agreement for Fire and Emergency Operations Between the City of Tampa, Hillsborough County Board of County Commissioners, Hillsborough County Volunteer Fire Departments, Plant City, Temple Terrace and the State of Florida Division of Forestry, December 3, 1980.

Mutual Aid Agreement for Emergency Medical or Ambulance Service Between Hillsborough, Manatee, Pasco and Pinellas Counties, December 11, 1980.

Memorandum Acknowledging the Verbal Agreement Covering All Responses by the Tampa Fire Department and the Gandy Volunteer Fire Department to Howard Frankland and Gandy Bridges, July 8, 1982.

Mutual Aid Agreement for Fire Protection Between the City of Tampa Fire Department and the U.S. Coast Guard Captain of the Port, March 4, 1985

Mutual Aid Agreement for Fire Protection Between the City of Tampa Fire Department and the Secretary of the Air Force, October 31, 1987.

Mutual Aid Agreement for Fire Protection Between the City of Tampa, and Hillsborough County Board of County Commissioners, October 1988.

Mutual Aid Agreement for Fire and Emergency Operations Between the City of Tampa Fire Department and Pasco County Emergency Services Department, January 30, 1996.

Trauma Plan
Appendix Q

THE TAMPA TRIBUNE
Published Daily
Tampa, Hillsborough County, Florida

State of Florida }
County of Hillsborough } ss.

Before the undersigned authority personally appeared J. Rosenthal, who on oath says that she is Classified Billing Manager of The Tampa Tribune, a daily newspaper published at Tampa in Hillsborough County, Florida; that the attached copy of advertisement being a

LEGAL NOTICE

in the matter of

NOTICE OF PUBLIC HEARING

was published in said newspaper in the issues of

MAY 28, 1999

Affiant further says that the said The Tampa Tribune is a newspaper published at Tampa in said Hillsborough County, Florida, and that the said newspaper has heretofore been continuously published in said Hillsborough County, Florida, each day and has been entered as second class mail matter at the post office in Tampa, in said Hillsborough County, Florida for a period of one year next preceding the first publication of the attached copy of advertisement; and affiant further says that she has neither paid nor promised any person, this advertisement for publication in the said newspaper.

J Rosenthal

Sworn to and subscribed before me, this 28 day of MAY, A.D. 19 99

Personally Known ____ or Product Identification _____
Type of Identification Produced _____

(SEAL)

Susie Lee Slaton

OFFICIAL NOTARY SEAL
SUSIE LEE SLATON
COMMISSION NUMBER
CC000124
MY COMMISSION EXP.
APRIL 12, 2001

NOTICE OF PUBLIC HEARING
NOTICE IS HEREBY GIVEN THAT A PUBLIC HEARING WILL BE HELD BY THE EMERGENCY MEDICAL PLANNING COUNCIL AT 2:30 P.M., ON TUESDAY, JULY 20, 1999, AT THE HILLSBOROUGH COUNTY EMERGENCY OPERATIONS CENTER LOCATED AT 2711 EAST HANNA AVENUE, TAMPA, FLORIDA, FOR THE PURPOSE OF APPROVING THE 1999 UPDATE TO THE TRAUMA PLAN AS DEVELOPED BY THE HILLSBOROUGH COUNTY TRAUMA AGENCY.
ANY PERSON WHO MIGHT WISH TO APPEAL ANY DECISION MADE BY THE EMERGENCY MEDICAL PLANNING COUNCIL REGARDING ANY MATTER CONSIDERED AT THE FORTHCOMING PUBLIC HEARING ARE HEREBY ADVISED THAT THEY WILL NEED A RECORD OF THE PROCEEDINGS AND, FOR SUCH PURPOSE, THEY MAY NEED TO ENSURE THAT A VERBATIM RECORD OF THE PROCEEDINGS IS MADE WHICH WILL INCLUDE ANY TESTIMONY OR EVIDENCE UPON WHICH SUCH APPEAL IS BASED.
IF YOU HAVE A DISABILITY WHICH MAY REQUIRE SPECIAL ATTENTION OR SERVICES, CONTACT THE HILLSBOROUGH COUNTY PUBLIC SAFETY OFFICE AT 813-272-6408 WITH A GENERAL DESCRIPTION OF YOUR NEEDS.
HILLSBOROUGH COUNTY EMERGENCY MEDICAL PLANNING COUNCIL
By: Forrest C. Haslup, M.D., F.A.C.S., Chairman
2727 5/28/99

THE TIMES

an edition of the St. Petersburg Times
Published Daily
Tampa, Hillsborough, Florida

STATE OF FLORIDA
COUNTY OF HILLSBOROUGH } S.S.

Before the undersigned authority personally appeared Veronica Kozak
who on oath says that he is Legal Clerk
of the The Times, an edition of the St. Petersburg Times
a daily newspaper published at Tampa, in Hillsborough County, Florida: that the attached copy of advertisement, being a Legal Notice
in the matter RE: Notice of Public Hearing

in the Court
was published in said newspaper in the issues of Hillsborough May 28, 1999

Affiant further says the said The Times, an edition of the St. Petersburg Times is a newspaper published at Tampa, in said Hillsborough County, Florida, and that the said newspaper has heretofore been continuously published in said Hillsborough County, Florida, each day and has been entered as second class mail matter at the post office in Tampa, in said Hillsborough County, Florida, for a period of one year next preceding the first publication of the attached copy of advertisement (the current second class permit has been issued to the St. Petersburg Times for all regional editions of Hillsborough, Pinellas, Pasco, Citrus and Hernando Counties), and affiant further says that he has neither paid nor promised any person, firm, or corporation any discount, rebate, commission or refund for the purpose of securing this advertisement for publication in the said newspaper.

Veronica Kozak
Signature of Affiant

Sworn to and subscribed before me this 1 day of June A.D. 19 99

June E. Pfirrman
Notary Public

NOTARY PUBLIC STATE OF FLORIDA
OFFICIAL NOTARY SEAL
JUNE E PFIRRMAN
COMMISSION NUMBER
CC709827
MY COMMISSION EXPIRES
FEB. 14,2002

(SEAL)

Personally known x or produced identification
Type of identification produced

C+S-403

NOTICE OF PUBLIC HEARING

Notice is hereby given that a public hearing will be held by the Emergency Medical Planning Council at 2:30 P.M., on Tuesday, July 20, 1999, at the Hillsborough County Emergency Operations Center located at 2711 East Hanna Ave, Tampa, Florida, for the purpose of approving the 1999 Update to the Trauma Plan as developed by the Hillsborough County Trauma Agency.

Any person who might wish to appeal any decision made by the Emergency Medical Planning Council regarding any matter considered at the forthcoming public hearing are hereby advised that they will need a record of the proceedings and, for such purpose, they may need to ensure that a verbatim record of the proceedings is made which will include any testimony or evidence upon which such appeal is based.

If you have a disability which may require special attention or servies, contact the Hillsborough County Public Safety Office at 813-272-6408 with a general decription of your needs.

EOE
BANQUET SERVERS
Exp Required Flexible Hours

JULY 20, 1999 - EMERGENCY MEDICAL PLANNING COUNCIL MEETING - DRAFT MINUTES

The Emergency Medical Planning Council (EMPC) of Hillsborough County, Florida, met in Public Hearing, on Tuesday, July 20, 1999, at 2:30 p.m., at the Emergency Operations Center, 2711 East Hanna, Tampa, Florida. The Public Hearing was held to consider the 1999 Update to the Hillsborough County Trauma Plan.

The following members and/or alternates were present:

Vernard Adams, M. D.	H/C Medical Examiner's Office
Nancy J. Bickel	St. Joseph's Hospital
William Corso	Community Leader
Walter Richters	Sun City Center Emerg. Squad #1
Gregory B. Cox	H/C Public Transportation Commission
Tom Diaz	American Medical Response
John Donahue	Temple Terrace Fire Dept.
Forrest C. Haslup, M.D.	H/C Medical Association
Daron Diecidue	H/C Sheriff's Office
Jordan Lewis	H/C Health Dept.
Ken Miller	H/C Fire Rescue
Amy Paratore	Tampa General Healthcare
Earl F. Pegram	Tampa Police Department
I. Charles Sand, M.D.	Fla. Chapter of American College of Emergency Physicians
Bruce Savage	Tampa Fire Department
H. Stewart Siddall, M.D.	H/C Mass Casualty Planning Dir.
Sharon Hernandez	James H. Haley Veterans Hosp.
Helen S. Divito	Memorial Hospital of Tampa
Barbara Uzenoff	H/C Trauma Agency
Glenda Wright	West Coast Emergency Nurses Assoc.

The following members were absent:

Lewis M. Flint, M.D. (Excused)	USF College of Medicine
Ruth Hemphill	University Community Hospital
Rex A. Hobbs	MacDill Air Force Base
Silvia P. Pitisci (Excused)	Community Leader
W. Benjamin Reynolds (Excused)	Florida Blood Services
R. Wesley Rounds	Plant City Fire Dept.
Willie Matthiew	H/C Crisis Center, Inc.

Others Present:

Gloria J. Amorelli	Executive Secretary, EMPC
Bill Studer	Dir., Public Safety, Staff
Barbara Twine Thomas	Assistant County Attorney
Catherine Carrubba, M. D.	H/C Trauma Agency Medical Director
Joe Reavy	9-1-1 Emergency Telephone Op.
Dennis LeMonde	9-1-1 Emergency Telephone Op.
John Scott	Tampa General Healthcare
Gil Leon	St. Joseph's Hospital

Vincent Ferlita	Hillsborough County
Rhea Law	Fowler, White
J. C. Costello	Tampa Fire Rescue
George Collins	Americare Ambulances
Jeff Youngblood	Americare Ambulances
J. P. Phillips	Tampa Fire Rescue
Steven Sloniger	Town N' Country Hospital
Laurie Romig, M.D.	Bayfront Medical Center
Ken Grimes	Bayfront Medical Center
Roxanne Sams	Bayfront Medical Center

NOTE: No one from the audience signed up to speak under Public Comments.

Chairman Haslup called the Public Hearing to order at 2:40 p.m. The Executive Secretary called the roll and noted a quorum was present.

Dr. Haslup stated that this was an open public hearing on the 1999 Update to the H/C Trauma Plan, and Dr. Catherine Carrubba would do the presentation.

A Summary of Changes to the H/C Trauma Plan was passed out. A copy of this report is attached and made a part of these minutes.

Dr. Carrubba stated the changes are additions, deletions, or revisions since 1990. Since that time, there have been several updates, and this report includes all updates so they can be incorporated into this open public hearing. Dr. Carrubba stated that she would review the Summary of Changes to the H/C Trauma Plan very briefly.

1990	**1999**
Trauma Centers - 3	Trauma Centers - 2
Initial Receiving Centers - 6	Initial Receiving Centers - 8
Pre-hospital Providers - 9	Pre-hospital Providers - 9
Population - 826,000	Population - 891-680

Summary of system constituent and operations changes, infrastructure enhancements

Geographic descriptions, maps of all medical facilities, all pre-hospital ground and air facilities, evacuation zones, hospital receiving zones

Historical patient flow, patient referral, and transfer patterns

Organizational Structure - County, Agency, and Committees

Trauma System Structure - System components, coordination, integration, and operational functions

Trauma Agency's Recommendation and Justification, number and location of SATCs and SAPTRCs

Objectives, 1999 Actions, and Implementation Schedule

Budget

Transportation System Design

Trauma Patient Flow Patterns, emergency inter-hospital transfer agreements, and the number, type and level of service of pre-hospital EMS providers

Uniform Trauma Transport Protocol

County Ordinances governing the transport of trauma patients

Medical Control and Accountability

Emergency Medical Communications System

Compliance with the State of Florida Communications Plan, normal operating conditions, mass casualty, and disaster situations

Data Collection - Data Management System for documenting and evaluating the trauma system operation

Trauma System Evaluation

Mass Casualty and Disaster plan Coordination

Public Information and Education

Contracts with Trauma Agency

Attachments

Policy for Revision of the Trauma System within Hillsborough County

Controversies in Local Trauma Care (Three Special Issues)

Appendices to 1999 Trauma Plan

There were no comments by hospitals and pre-hospital providers. Therefore, there was no response from the H/C Trauma Agency.

There were no comments from the public.

There was no discussion by Council Members.

Dr. Haslup recognized the work that went into the Update and complimented Dr. Carrubba and Barbara Uzenoff and all agencies who worked on this plan for a job well done.

Dr. Haslup called for a motion regarding the 1999 Update to the H/C Trauma Plan.

Mr. Tom Diaz made a motion to recommend approval of the 1999 Update to the Hillsborough County Trauma Plan to the Board of County Commissioners. Motion was seconded by Mr. William Corso.

A roll call vote was taken and the vote was nineteen (19) to recommend to the BOCC approval of the 1999 Update to the H/C Trauma Plan, with one (1) abstaining.

Barbara Uzenoff abstained as she felt it was a conflict of interest since she is the Trauma Coordinator and principal author of the 1999 Update to the H/C Trauma Plan. Assistant County Attorney Barbara Twine Thomas asked if she had a business or other interest in this. She stated no. Dr. Haslup stated that then she did not need to abstain. Assistant County Attorney Barbara Twine Thomas stated that her understanding is that you would have to have some direct or indirect interest and passed the applicable statutes to read and judge for herself.

Dr. Haslup stated it was an unanimous yes to recommend to the BOCC approval of the 1999 Update to the H/C Trauma Plan. Barbara Uzenoff was reading the materials to decide how she would vote.

Dr. Haslup adjourned the public hearing at 3:00 p.m. for a five minute break.

Dr. Haslup reconvened the Public Hearing at 3:05 p.m., and Assistant County Attorney Barbara Twine Thomas stated to be more clear, she would clarify F.S. 112.3143 - Voting Conflicts which indicates that the opportunity to abstain from voting has to be based on a conflict and it has to be a financial conflict or otherwise, where a person suffers a gain or a loss. It is also a conflict where the person's actions are in conflict with the discharge of their duties. She stated that she would think that her participation on the Council for the implementation of the Trauma Plan is not in conflict with the discharge of her duties. There does not seem to be a basis for her to abstain.

Barbara Uzenoff then voted Yes.

Dr. Haslup adjourned the public hearing at 3:10 p.m.

READ AND APPROVED: Robert C Haslup MD
CHAIRMAN

Min72099.tra

SUMMARY OF CHANGES TO THE HILLSBOROUGH COUNTY TRAUMA PLAN

Summary of system constituent and operational changes, infrastructure enhancements	
1990	1999
Trauma centers - 3 ▸ St. Joseph's Hospital, Level II SATC ▸ Tampa General Healthcare, public nonprofit, Level I SATC ▸ Humana Brandon Hospital, Level II SATC	Trauma centers - 2 ▸ St. Joseph's Hospital, a Level II SATC and SAPTRC ▸ Florida Health Sciences Center (d.b.a. Tampa General Healthcare) now private, Level I SATC, SAPTRC
Initial receiving centers - 6 ▸ Centurion of Carrollwood ▸ Doctors's of Tampa ▸ Memorial ▸ South Bay ▸ Town & Country ▸ University Community Other hospitals with EDs that do not stabilize trauma alerts - 3 ▸ MacDill ▸ James A. Haley VA ▸ South Florida Baptist	Initial receiving centers - 8 (Net gain of 2) ▸ Loss of Doctors' - conversion to LTC Gain of initial receiving centers ▸ Brandon ▸ South Florida Baptist Other hospitals with EDs that do not stabilize trauma alerts - 2 ▸ MacDill ▸ James A. Haley VA
Prehospital providers - 9 Ground ALS - 2 ▸ HCEMS ▸ TFD Air ALS - 2 ▸ Aeromed ▸ Careflight BLS - 5 ▸ Am Stat Ambulance ▸ Apollo Beach Rescue ▸ Medic One Ambulance ▸ Temple Terrace Fire Department ▸ Sun City Center Emergency Squad	Prehospital providers - 9 Ground ALS -4 ▸ HCFR ▸ TFR ▸ TTFD ▸ AMR (restricted COPCN for contracted standbys at Tampa Bay Downs and out-of-county interfacility transfers) Air ALS - 2 (based in County) ▸ Aeromed ▸ Bayflite at St. Joseph's BLS - 4 ▸ AmeriCare ▸ American Medical Response ▸ Sun City Center Emergency Squad ▸ TransCare Enhancements to personnel infrastructure: ▸ Urban Search & Rescue (USAR) Team

Summary of system constituent and operational changes, infrastructure enhancements	
EMD operations for County and City using CAD	Enhancements to EMD infrastructure: ▸Medical Priority Dispatch System (a.k.a. Clawson) ▸EMD QA coordination across PSAPs ▸800 MHZ trunked radio system

Population	
1990	1999
826,000 (1988 estimate)	891,680 (1995 estimate) Growth has been less than projected Other statistics updated Expansion of demographic and economic sections

SUMMARY OF CHANGES TO THE HILLSBOROUGH COUNTY TRAUMA PLAN

Geographic descriptions, maps of all medical facilities, all prehospital ground and air facilities, evacuation zones, hospital receiving zones	
1990	1999
Maps: ▸State EMS map of all trauma centers ▸Western Florida ▸Hillsborough County ▸Hillsborough County hospitals ▸Hillsborough County EMS ground transport stations ▸Hillsborough County EMS air transport bases and helipads ▸Backup air transport and primary water rescue bases ▸Hurricane evacuation zone and hospitals	Update of transportation infrastructure, new road and bridge construction, highway expansions, description of health care facilities affected by flooding; their evacuation procedures and contingency plans Consolidating of maps to three, color: ▸Locations of trauma centers, hospitals and helipads ▸Locations of fire and rescue stations, air ambulances and helipads ▸Hurricane evacuation zone and hospitals

Historical patient flow, patient referral, and transfer patterns	
1990	1999
▸Frequencies of HCEMS trauma transports by hospital destination for 10 month period ▸Frequencies of all trauma transports by hospital destination for 5 month period ▸Frequencies of intra county and intercounty interfacility transfers to trauma centers	Hillsborough County's trauma centers, servicing the region and the state ▸Frequencies of intra county and intercounty interfacility transfers to trauma centers ▸History of the catchment area controversy, results of the trauma center receiving zones mapping study and the Medical Directors of the ground ALS services endorsement of the status quo

Organizational Structure: County, Agency and committees	
1990	1999
▸History of the formation of the Trauma Agency, organizational chart ▸Description of County and City of Tampa government structures ▸Membership of the advisory bodies EMPC, Trauma Agency Steering Committee, and Medical Audit Committee ▸First positioned under Hillsborough County Emergency Medical Services (later the Medical Examiner Department) Job descriptions of the three projected FT positions for Trauma Agency: Systems Coordinator, Administrative Assistant and Registrar (not filled), consultant Medical Director	Under Public Safety Department since 1996 reorganization of Hillsborough County government: ▸Description of the managerial and administrative structure of the Trauma Agency, organizational chart ▸Membership and mission of the advisory bodies, Trauma Audit Committee, Trauma Advisory Board and Trauma Research Work Group ▸Job descriptions of the one FT position: Trauma Coordinator, the Director of Public Safety and consultant Medical Director ▸Description of scope of authority of the Trauma Agency Quality of care activities: ▸Process and flow of quality of care inquiries ▸Terms of re-release of Medical Examiner medical records to Trauma Agency ▸Mediation between providers ▸Trauma center CQI programs ▸UTTP compliance at non-trauma centers (passive surveillance using AHCA data, out-of-county transfers-in) System planning/evaluation activities: ▸Consideration of requests for modification to system must pass needs test ▸Trauma Plan as vehicle for change to the system

Trauma System Structure: system components, coordination, integration and operational functions	
1990	1999
▸Description of trauma system access ▸Trauma scorecard methodology ▸Issuing a trauma alert and determination of transport destination ▸Notification procedures ▸Run report documentation ▸Trauma team concept ▸Initial receiving center role and emergency interfacility transfers ▸Coinciding QA activities ▸Mutual aid ▸Cross-training between services ▸Prehospital-hospital interaction ▸Safety training Enumeration of trauma system resources ▸Response to questionnaire ▸Hospital matrix of in-pt. services	Description of system participant's roles ▸Emergency Medical Dispatch Centers Medical Priority Dispatch System standard, clock synchronization ▸Prehospital providers Essential elements of Uniform Trauma Transport Protocol ▸Trauma center care ▸Non-trauma centers ▸Compliance with State prehospital trauma alert hospital transport requirements and circumstances for diversion of trauma alerts to initial receiving facilities ▸Interfacility transfers of trauma patients to trauma centers, physician and prehospital responsibilities Regulatory and QA activities of the system ▸Emergency medical dispatch ▸Prehospital providers ▸Hospital providers ▸HCTA oversight List of trauma system resources ▸Access/communications ▸Prehospital providers ▸Water transport ▸ALS ground ▸ALS air ▸BLS ▸Psychiatric and other staffing ▸Hospitals ▸Trauma centers ▸Initial receiving facilities ▸Other hospitals ▸Other entities ▸Life Link (organ procurement and tissue bank) ▸Southwest FL Blood Bank ▸Medical Examiner Hospital matrix of in-pt. services in Appendix

Trauma agency's recommendation and justification for the number and location of SATCs and SAPTRCs	
1990	1999
Not addressed	▸Definition of trauma patient affected by law ▸Description of the legislative apportionment for trauma centers locally and state wide ▸Recommended treating capacity of trauma centers by level and population parameters Comparison between adult trauma patient estimates based on AHCA claims data and trauma center registries with justification to deny additional SATC Pooled four year cumulative adult trauma alert census figures for Hillsborough's trauma centers Comparison of pediatric trauma centers' census data and population among the four single county trauma service areas for 1996 concluding no additional SAPTRC required.

Objectives, 1999 Actions, and Implementation Schedule	
1990	1999
▸Various trauma data collection projects ▸Injury prevention educational programs ▸Quality assurance coordination proposals	I. Review and revise current quality assessment measures II. Enhance data collection process, integration and standardization of reports collected by the agency from the participants in the trauma system III. Increase involvement in injury prevention projects locally IV. Develop methods for identifying and evaluating trauma at non-trauma centers V. Develop methods for follow up of problems identified in the care of trauma alert patients who originate out-of-county VI. Develop a quarterly HCTA Newsletter. VII. Promote or provide educational forums for system participants

Budget	
1990	1999
▸Description of initial matching grant funds to establish the Trauma agency ▸Plans for future expenditures	▸Breakdown by expenditure category for current fiscal year ▸History of grant funds purchases for past three fiscal years

Transportation System Design	
1990	1999
▸Staffing requirements of ground ALS and BLS services ▸Availability of other licensed and unlicensed, transport and non-transport first responders ▸Description of air medical transportation and backup ▸Enumeration of water transport capabilities	▸Description of air, ground and water transportation resources response areas ▸Inventory of water rescue resources by agency

Trauma patient flow patterns, emergency inter-hospital transfer agreements, and the number, type, and level of service of prehospital EMS providers	
1990	1999
▸Maps and description of the response and catchment areas for all prehospital providers ▸Estimates of trauma transports (Form 1728 submissions) by hospital and trauma alert transports by ALS for the first quarter of 1989 ▸Some prehospital responses to survey of their activity and equipment ▸Appointment scheme of EMS providers for interfacility transfers to trauma center Four conditions in which the trauma alert catchment area were overridden from the closest trauma center to the most appropriate trauma center ▸ Serious burns (TGH Regional Burn Care Center) ▸ Pregnancy (neonatal ICU at either TGH or Brandon) ▸ Isolated spinal injury with paralysis (TGH because of Regional Spinal Cord Injury Rehabilitation Center) ▸ Children (SJH and TGH because of pediatric ICU)	▸Summary of requirements for trauma patient transports to and from trauma centers and non-trauma centers ▸Responsibilities of initial receiving centers Biennial re-certification of compliance with five State criteria Prompt initiation of transfer arrangements when trauma alert criteria or other serious injuries are recognized Referring physician obligations ▸Prehospital circumstances for diverting trauma alerts to initial receiving centers limited to respiratory or cardiac arrest or mass casualty ▸Providers approved for interfacility transfers Amended definitions to transport destination criteria for trauma alerts: Three conditions under which the trauma center receiving zones (catchment area) should be overridden to determine the most appropriate trauma center: ▸ Suspected spinal cord injury with evidence of significant motor or sensory involvement (TGH) ▸ 2° or 3° burn involving 15% or greater body surface area and/or a circumferential burn (TGH) ▸ Amputation with the potential for reimplantation (TGH)

SUMMARY OF CHANGES TO THE HILLSBOROUGH COUNTY TRAUMA PLAN

Uniform trauma transport protocol	
1990	1999
The HCTA reviewed and recommended input into each provider's individual TTP HRS letters of approval for the individual TTPs of most of the practicing prehospital providers	▸County wide UTTP effective April 1, 1997 ▸Summary overview of contents ▸Description of revision process ▸Three changes made since implementation ▸New biennial period-renewed until 2001

County ordinances governing the transport of trauma patients	
1990	1999
Copy of Hillsborough County Ordinance 86-3	Copy of Hillsborough County Ordinance 86-3 as amended in 1990, 1993 and 1996

Medical Control and Accountability	
1990	1999
▸Description of off-line and on-line medical control ▸History of the founding of the Emergency Medical Planning Council and list of current members ▸History of the founding of the Medical Audit Committee and list of current members ▸General concept of medical direction ▸General responsibilities of the trauma agency medical director ▸General responsibilities of the trauma surgeons at the trauma centers ▸General responsibilities of the emergency department physicians at all hospitals ▸General responsibilities of EMS medical directors ▸List of radio control physicians taking call ▸Medical Director's contracts for Hillsborough County Emergency Medical Services and Tampa Fire Departments	▸Florida Statutes requirements for prehospital medical direction ▸Summary of off-line and on-line medical direction duties ▸Handling of on-scene physicians

SUMMARY OF CHANGES TO THE HILLSBOROUGH COUNTY TRAUMA PLAN

Emergency Medical Communication System	
1990	1999
▸Routing of requests for emergency response ▸Dispatch centers' operations ▸Description of trauma alert notification procedures ▸Description of prehospital's on-line medical control communications ▸Description of prehospital communications with receiving hospital ▸Description of prehospital communications to aeromedical and other resources	▸Routing of requests for emergency response ▸Updated concept of operations for emergency medical dispatch centers ▸Description of prehospital's on-line medical control communications ▸Description of prehospital communications with receiving hospital ▸Description of prehospital communications to aeromedical and other resources

Compliance with the State of Florida Communications Plan, normal operating conditions, mass casualty and disaster situations	
1990	1999
▸Statement of compliance with State EMS communications Plan and minimum State requirements for dispatch facilities, hospitals, and ambulances ▸Matrix/legend of EMS communications inventory	▸Revised statement of compliance with State EMS communications Plan and minimum State requirements for dispatch facilities, hospitals, and ambulances ▸Expanded concept of communications during mass casualty and disaster situations ▸Updated matrix/legend of EMS communications inventory

Data Collection: Data management system for documenting and evaluating the trauma systems operation	
1990	1999
▸Description of State required form 1728 and 1729 ▸Description of run report documentation across prehospital providers ▸Sample provider run report forms ▸Access to and confidentiality of medical examiners records ▸Limitations of dispatch centers as data sources ▸Proposal for computerization of trauma registries for all trauma centers and centralized reporting to State once Trauma Agency has HRS agent status	▸Description of data collection and patient documentation methods practiced by trauma system constituents Proposal for Trauma Agency centralized trauma registry

SUMMARY OF CHANGES TO THE HILLSBOROUGH COUNTY TRAUMA PLAN

Trauma System Evaluation	
1990	1999
▸Proposal for a two-tiered system of review, at the individual and system levels, audits to be carried out by a subcommittee and full Medical Audit Committee review ▸Proposal for statistics reporting, by constituents and by the Trauma agency as HRS agent ▸Discussion of self-auditing performed by prehospital and hospital providers ▸List of proposed revised trauma center standards' audit filters ▸Proposed system audit filters	▸Review of trauma deaths ▸Handling of quality of care inquiries and presentation at Trauma Audit Committee meetings ▸Future capabilities of the merged trauma centers registry ▸Role of the Trauma Advisory Board as overseer of the county wide registry ▸Current provider reporting requirements for trauma transports

Mass Casualty and Disaster Plan Coordination	
1990	1999
Not addressed	▸Handled by Emergency Management, the HCTA has no official responsibilities here ▸Outline of basic concept of emergency operations for coordination of preparation and response to local disasters among agencies and government ▸Description of mutual aid coverage for Hillsborough County ▸Matrix of all mutual aid agreements in effect among providers ▸Responsibilities for/during activation of a mass casualty event and state-declared disaster ▸Hospitals affected by evacuation orders ▸References to related material that is covered in the County Emergency Management Plan ▸Map of evacuation levels and affected hospitals

Public Information and Education	
1990	1999
▸Statement of intent to heighten public awareness of certain basic trauma issues pending adequate staffing ▸Proposal to encourage the general public through established programs ▸Statement of commitment to support continuing medical education for health care professionals and encourage constituent activities ▸Timetable of ongoing hospital and prehospital courses	▸No formal injury prevention or public awareness programs in place due to staffing limitations ▸Statement of annual provider continuing medical education seminar offering ▸Enumeration of HCTA involvement with local coalitions and safety alliances

Contracts with trauma agency	
1990	1999
None established to-date Medical Director serving in acting capacity	Medical Director's contract enclosed

Attachments	
1990	1999
Evidence of public notice Required documentation for public hearing (executive summary and background) Verbatim transcript of the hearing	To be included in final version

Policy for Revision of the Trauma System within Hillsborough County	
1990	1999
Not addressed	Several unresolved differences between the trauma centers ▸Differences do not relate to improving the quality of patient care, but deal with market share and business plans ▸Being forced to participate in the resolution of these differences strained the resources of the HCTA ▸HCTA intends to position itself outside the business decisions of all providers "Policy for Revision of the Trauma System within Hillsborough County by the HCTA" attempts to refocus all providers on quality of care issues when requesting these revisions

Policy for Revision of the Trauma System within Hillsborough County continued	
1990	1999
Not addressed	It is the policy of the Hillsborough County Trauma Agency (HCTA) to support the current service provider relationships, and to develop any necessary changes based on need for additional resources or on identified deficiencies within the system which negatively impact patient care. ▸It is implicit in the Plan and explicit in this policy that any needed change in the system will be clearly identified in the Plan. ▸Any component of the system where change is necessary will be clearly defined; lack of discussion implies lack of need. ▸Any request for change will be considered on merit of quality improvement for the entire system. Requests for change must be made in terms of improvement in quality of patient care delivered. Where possible, the particular problem identified and suggested resolution must be discretely presented. ▸The HCTA will not support any participant's application for change in system status without prior detailed discussion of potential improvement in the quality of care to be delivered to the citizens of Hillsborough County.

Controversies in Local Trauma Care (Three special issues)	
1990	1999
Not addressed	#1 St. Joseph's application for status as a Level II State Approved Pediatric Trauma Center #2 Trauma center receiving zones for Trauma Alerts #3 St. Joseph's Hospital as initial receiving center for acute spinal cord injuries

SUMMARY OF CHANGES TO THE HILLSBOROUGH COUNTY TRAUMA PLAN

Appendices to 1999 Trauma Plan	
1990	1999
Not addressed	A. Materials, methods and results of the Hillsborough County trauma center catchment project and the FSUTMS computer program
Updated	B. Map of the location of trauma centers, hospitals and their helipads in Hillsborough County
Updated	C. Map of the location of fire and rescue stations, air ambulances and their helipads in Hillsborough County
Not addressed	D. Map of Hillsborough County Hospitals in Evacuation Zones
Not addressed	E. Map of transport time differences between trauma centers: Tampa General Healthcare and St. Joseph's Hospital.
Not addressed	F. The EMS medical directors' letters affirmations of the current trauma center receiving zones
Not addressed	G. The Trauma Agency's Medical Director contract
Updated	H. A diagrammatic representation of the current County Government structure
Updated	I. The job descriptions and curriculum vitae of the individuals responsible for managing and operating the Trauma Agency
Not addressed	J. List of county hospitals granting blanket authorization (or the terms of their agreement) to photocopy medical records previously provided to the Medical Examiner's Office for its death investigations and a template of the letter sent to the above facilities
Updated	K. Table of services provided by Hillsborough County hospitals (adapted from the Tampa Bay Hospital Association, Inc. publication, Hospitals of the Tampa Bay Region)
Not addressed	L. A copy of Hillsborough County Emergency Medical Services Transportation Ordinance, 86-3, as amended
Updated	M. EMS Communication System Frequencies Inventory
Not addressed	N. The trauma centers' hospital administration agreements and the commonly collected data fields from their trauma registries to be shared with the HCTA
Not addressed	O. Data fields entered from the state wide run report by EMS providers for the HCTA's prehospital database
Not addressed	P. Chronological listing of existing formal and informal mutual aid agreements among the emergency medical transport services within Hillsborough County and between specific outlying counties to supplement equipment and personnel on an ad hoc basis
To be addressed	Q. Copy of the public notice re: the public hearing on the Trauma Plan and the minutes of the same