



Rick Scott  
Governor

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State Surgeon General

Certified Mail  
# 70051820000318570544

May 3, 2011

Barbara K. Uzenoff, RN, MPH, Manager  
Hillsborough County Trauma Agency  
2410 N. Tampa Street  
Tampa, FL 33602-2199

Dear Ms. Uzenoff:

We have completed our review of the Hillsborough County Trauma Agency Plan Update and are pleased to inform you that your plan update has been approved effective the date of this letter. The updated plan and appendices that you electronically submitted to the Office of Trauma on April 29, 2011 will be the documents that will be used should we have cause to discuss your plan in the future.

Please be advised that pursuant to 395.401(1)(n) Florida Statutes, the trauma agency will be required to submit an updated trauma agency plan five years from the date of this letter. However, you may experience substantial changes in your trauma system prior to the next statutorily required update. With substantial changes to your trauma system, you may need to revise your plan and resubmit it to this office for approval.

We look forward to working with you in the ongoing development and improvement of your trauma system. Please feel free to contact me at (850) 245-4440, extension 2760 or Janet Collins, extension 2775 should you have any questions or need any help.

Sincerely,

A handwritten signature in blue ink that reads "Susan McDevitt".

Susan McDevitt, RN, MS, MBA, FACHCA  
Director, Office of Trauma



The trauma agency five-year plan update shall contain the following information in the following order:

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*Summary of changes occurring within Trauma Service Area 10 since 2005*

Chapter 395, Part II, Florida Statutes (F.S.) and Section 64J-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.

The last plan revision was approved in December 2005. This marks the sixth update for this agency and the second submission since the rule change extended the period between updates to five years. As before, this document updates the differences in the trauma system since the last Plan was accepted by the State Office of Trauma, and HCTA's direction for the future.

The HCTA is a section administratively positioned under the Department of Family and Aging Services. Staffing levels continue with one full-time employee, the Coordinator, and one consultant Medical Director. The organizational structure will be further described in a section dealing specifically with that aspect.

**Non-trauma centers (initial receiving hospitals)**

St. Joseph's Hospital opened a satellite facility in Northern Hillsborough County called St. Joseph's North. Unlike its sister facility, it does not have trauma center status.

**Prehospital providers**

- < Aeromed moved one of its bases and added two more. Their five bases are in the following counties: Hillsborough, Highlands, Sumter, Polk and Hendry.
- < Bayflite also moved its out-of-county bases. Their four bases are in the following counties: Hillsborough, Pasco, Sarasota, and Hernando.
- < Med Evac, Inc. and Med Evac, LLC are no longer in operation.
- < Plant City Fire Rescue initiated ALS service to the residents of Plant City in 2007.

Major highway projects occurring since the last Update of the Plan, include the completion of the reconfiguration of the interchange between Interstate 4 and Interstate 275, the widening of Interstate 275 west of that junction between the downtown exits and Dale Mabry Highway, and the conversion to all-electronic tolling on the Selmon Expressway.



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Notable improvements have occurred within the arena of emergency medical dispatch and communications as follows:

- Hillsborough County’s Emergency Dispatch Center [HCEDC] call-takers, in addition to being Emergency Medical Dispatch-certified, are now also Emergency Fire Dispatch-certified, providing dispatchers with the most current, thorough, and essential fire dispatching protocols available. The curriculum for this latest certification addresses the myriad of situations that a fire department could encounter, including, but not limited to, protocols for structure collapses, entrapment in tunnels, trenches, confined spaces, suspicious packages (suspected contamination) and bombs/potential explosives, and trains/derailments/collisions.
- The HCEDC is now Wireless E911 Phase II Compliant, providing significantly improved accuracy in locating wireless 911 callers with the provision of Latitude/Longitude data associated with the wireless device.
- Using the Florida Interoperability Network [FIN], the HCEDC is now able to simultaneously communicate with multiple dispatch centers, multiple radio talk groups and access radio resources across the network. The FIN supports all radio frequency bands and proprietary systems in a secure environment with encryption throughout the network.

In 2008, the Florida Department of Health awarded a contract to EMSsystem for a statewide communications and patient tracking solution. Although the County was already using this vendor’s web site before the State’s subsidy [EMResource in 2005; EMTrack in 2007] for hospital diversion status and mass casualty patient tracking respectively, the Trauma Agency expanded the online applications to allow hospital and prehospital providers to monitor daily emergency department on-call surgical specialty coverage and in-house bed availability.

The Trauma Agency continues to be a critical liaison between the healthcare providers and County and State emergency and public health planning entities. Its close working relationships with the providers has enabled the HCEDC, Emergency Management, and the Health Department to maximize EMResource’s versatile communications software to issue time-sensitive notifications and alerts to the healthcare community across a variety of paging and email vendor platforms.



*(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. It is bounded on the north by Pasco County, to the south by Manatee County, to the east by Polk County, and to the west by Pinellas 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 covers an area of 1,051 square miles, has 76 miles of coastline, and contains 215 square miles of water area which includes 39 sq. mi. of inland water, 156 sq. mi. of coastal water and 19.8 sq. mi. of territorial water. The Hillsborough River, Tampa's main source of fresh water, passes through downtown Tampa, flowing out into Hillsborough Bay,. The Interbay Peninsula which constitutes the southern half of Tampa's jurisdiction, separates Old Tampa Bay on the west and Hillsborough Bay on the east, both of which combine to form Tampa Bay, which in turn flows into the Gulf of Mexico. Two other major rivers, the Alafia and Little Manatee, also flow into Tampa Bay. Palm River is a smaller river flowing from just east of the city into McKay Bay, a smaller inlet, situated at the northeast end of Hillsborough Bay.

The low lying areas along these bodies of water and certain areas in the northwest, north and southeast inland areas are prone to fresh water flooding. Heavy development has occurred in many of these locations which has greatly increased the human impact after a major storm. Notable environmentally sensitive areas include the mangrove swamp and coastal marshes adjacent to the coastline, riverine wetlands; and inland freshwater wetlands throughout the county. All coastal areas of the county and areas along the rivers are considered hazard areas for a hurricane storm surge. Due to its unique geographical location and configuration, Florida is the most hurricane prone state and these storms pose the greatest natural disaster threat to Hillsborough County. Florida also leads the nation in lightning deaths and injuries, with Hillsborough holding the distinction as the lightning capital of the U.S.

Hillsborough County is linked by more than 3,453 miles of roads. Three interstate highways run through the County. Interstate 4 and Interstate 275 intersect near downtown Tampa, while Interstate 75 runs through the middle of the County for much of its route until it converges with I-275 near the northern county line. Other major thoroughfares include State Road 60, U.S. Highway 41, U.S. Highway 92, U.S. Highway 301, the Selmon Expressway, and the Veterans Expressway with direct connection to the Suncoast Parkway in the northwestern part of the county. Along with these highways, several major surface roads serve as main arteries of the city.



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The County is served by a major international airport, Tampa International, and three smaller airfields. Peter O. Knight Airport is situated on Davis Islands near downtown Tampa, Tampa Executive Airport, located east of Tampa in Hillsborough County, near the interchange of I-4 and I-75, and St. Petersburg-Clearwater International Airport is positioned across the bay from Tampa International Airport in neighboring Pinellas County which functions as a joint civil-military aviation facility, home to Coast Guard Air Station Clearwater, the largest air station in the U.S. Coast Guard.

The railway system is used by CSX Railroad and AmTrak's intercity passenger line. The Hillsborough Area Regional Transit Authority operates a public bus and paratransit service as well as an electric streetcar line providing service along a limited route between downtown Tampa and Ybor City.

Hillsborough County has a subtropical climate with a wet season running from June through November. Average annual rainfall is 43 inches. During the summer months, the temperature fluctuates from the low 70's to the low 90's. Winter months are usually sunny and dry. The temperature range in the winter months from the low 40's to the low 70's.

Hillsborough County is the fourth most populous in the state, exceeded by Palm Beach, Broward and Miami-Dade. Its 2009 mid-year population was estimated at 1,234,010. In terms of absolute change in growth over the past decade, Hillsborough ranks third in the state, behind Orange and Miami-Dade Counties, with an estimated increase of almost 197, 000 in population. Two counties contiguous to Hillsborough, Polk and Pasco, ranked ninth and tenth in absolute growth statewide, with each adding about 97,000 and 95,000 respectively to their populations. A third contiguous county, Pinellas, while the state's sixth most populous, grew by barely 1% [an increase of roughly 8300] over the same time period.

The three incorporated cities in Hillsborough are the City of Tampa, the City of Plant City and the City of Temple Terrace, where population density is the greatest in the County. Between 2004 and 2009, the population growth in these three municipalities and the unincorporated sector increased by 7 to almost 13 per cent. Unincorporated Hillsborough County covers 86 percent of the County's land area and accounts for about 67 percent (824,380) of the County's total population. According to the University of South Florida's Hillsborough Community Atlas, the County has the largest homeless population in the state and one of the largest in the nation with over 9,500 homeless people scattered throughout the County on any given night.



**POPULATION CHARACTERISTICS: GROWTH AND DENSITY/HILLSBOROUGH COUNTY & JURISDICTIONS**

Jurisdiction	Land Area (Square Miles)	2009 Population Estimate	Persons/Sq. Mile of Land Area	Change in population 2004-2009	Per cent change in population 2004-2009
Tampa	117.1	350,150	2990	22,930	7.0%
Plant City	22.9	34,860	1522	2,380	7.3%
Temple Terrace	6.9	24,620	3568	2,790	12.8%
Unincorporated County	923	824,380	893	89,950	12.2%
Hillsborough County	1,069.90	1,234,010	1153	118,050	10.6%

Source: The Bureau of the Census, Hillsborough County City-County Planning Commission, 2009

Hillsborough County is a racially and ethnically diverse community. The Planning Commission estimated Hillsborough’s the demographic distribution of its population in 2009 as follows:

- White persons, percent, 76%
- Black persons, percent, 16%
- Hispanic origin, 22%
- Asian persons, percent, 3%
- Other Race 5%

Hillsborough County experiences significant periodic shifts in population size throughout the year. Several groups contribute to this population variation. Each year thousands of migrant farm workers travel to Hillsborough County to pick citrus and other fruit during the harvest season. (October through April).

Another population fluctuation takes place in Sun City Center where thousands of its residents leave around Easter and return before Thanksgiving. According to the Census Bureau’s 2008 American Community Survey, seasonal residents add approximately 20,000 to the population. Migrant laborers add about 500 people according to these Census figures, but this number is greatly under estimated for harvest season. The Tampa Bay Convention and Visitors Bureau estimate that tourism adds over 16 million visitors annually, plus another 785,000 persons pass through on their way to cruise ships.





Hillsborough County hosts a number of very large public gatherings each year which poses a unique set of challenges for the area's public health and healthcare providers, emergency responders and emergency planners. One of the highly anticipated events is the Gasparilla Pirate Festival, occurring in late January or early February, which has been compared to Mardi Gras, in terms of scope, drawing over 400,000 attendees. Several related theme events occur around that time including parades, a marathon, plus art and film festivals. In February, the Florida State Fair attracts residents and visitors from all over the state. During March over an 11 day period, Plant City hosts the Strawberry Festival which can bring 500,000 or more people to see the plant and livestock competitions, world-renowned entertainers and one of the largest midways in the Southeast. In April each year, the MacDill Air Force Base entertains up to as many as 200,000 spectators to watch their spectacular Air Fest. Guavaween is another big street celebration held during Halloween in Ybor City. Other local attractions drawing large crowds but occurring sporadically include the Super Bowl, held here four times, twice since 2001, easily pulls in over a half million fans and the upcoming Republican National Convention, are but two examples. These temporal shifts in population predictably impact area hospitals' in-patient and emergency departments censuses countywide, particularly taxing available resources during the mild winter months.

The community is supported by a large base of working-age citizens: sixty three per cent of the population is between 18 and 64 years old. About twelve per cent of the residents are of Medicare age. The median age is 36 years. The Bureau of Economic Business Research at the University of Florida estimates that for 2009, females (51%) still slightly out number males (49%). For adults aged 25 years and older: 29% of the population has a high school diploma; 20% has a bachelor's degree and just 10% has a graduate or professional degree [2007 American Communication Survey].

According to the 2007 American Community Survey, the top industries in the County are: health care, and social assistance; administrative support, waste management, remediation services, accommodation/food services, biomedical research, science and technology, tourism/recreation, wholesale and retail trade.

Agribusiness is an important part of the County's economy. Hillsborough's principal agricultural products are strawberries, ornamental plants, vegetables, citrus and aquaculture. These five commodities generate 87% of agricultural sales using just 17% of the land. [Hillsborough County Economic Development Agricultural Industry Department]

The Port of Tampa is Florida's largest cargo tonnage port [37 million tons of total bulk and general cargo handled in 2009], and one of the nation's largest, at 5,000 acres. It is also one of the nation's most diversified ports as an expanding container gateway to Florida and the Southeast, a petroleum and energy gateway for West/Central Florida, one of the world's premier





fertilizer ports, one of the top shipbuilding and repair centers in the Southeast U.S, and a major cruise home port with three cruise lines and an anticipated fourth to come in 2011. It serves a huge local market - 8 million people within 100 miles and its economic impact is estimated at \$8 billion and 100 thousand jobs

According to the Hillsborough County's City-County Planning Commission, the major private employers are Verizon, Publix, Bank of America, St. Joseph's Hospital and Busch Entertainment. The major public employers are Hillsborough County, the University of South Florida, Tampa International Airport and MacDill Air Force Base.

Another large contributor to the County's economy, and important partner in local emergency preparedness and response activities is MacDill Air Force Base, occupying the southernmost portion of the Interbay peninsula in South Tampa. This base/wing is an installation of Air Mobility Command, a major command of the U.S. Air Force. In addition to the 6th Air Mobility Wing, MacDill Air Force Base is also home to 53 Mission Partners, including United States Central Command and United States Special Operations Command. The presence of these two unified commands and other Mission Partners creates a unique multi-service community at MacDill, with all branches of service represented.

**The mission of 6th Air Mobility Wing includes:**

- 6th Maintenance Group-provides logistics management for worldwide aerial refueling, airlift and special assignment missions.
- 6th Operations Group- plans and executes global aerial refueling, combatant commander airlift, and specialized missions for US and allied combat and support aircraft.
- 6th Mission Support Group- provides civil engineering, communications, contracting, logistics readiness, mission support, security forces and services
- 6th Medical Group- provides prevention and healthcare services to active duty, veterans, and families



The main mission partners are:

927 <sup>th</sup> Air Refueling Wing	Organizes, trains, equips and readies personnel/equipment and provides these forces to combatant commanders supporting contingencies and humanitarian operations around the world; to include in-flight air refueling, cargo and passenger airlift, aeromedical evacuation.
U.S. Central Command [USCENTCOM]	promotes cooperation among nations, responds to crises, deters or defeats state and nonstate aggression, supports development and, when necessary, reconstruction in order to establish the conditions for regional security, stability, and prosperity in conjunction with with national and international partners,
U.S. Special Operations Command [USSOCOM]	provides fully capable Special Operations Forces from all branches of service to defend the United States and its interests, synchronizes planning of global operations against terrorist networks.
Aircraft Operations Center of the National Oceanic and Atmospheric Administration [NOAA]	provides capable, mission-ready aircraft and professional crews to the scientific community wherever /whenever required to study global climate change, acid rain, assess marine mammal populations, survey coastal erosion, investigate oil spills, flight check aeronautical charts, or improve hurricane prediction models
Joint Communications Support Element [JCSE]	highly specialized and rapidly deployable tactical communications unit from all branches of service to provide communications support for contingency military operations, disaster relief and evacuation activities, provides worldwide immediate and scalable C4 capability.
American Red Cross	humanitarian organization led by volunteers and guided by its Congressional Charter and the Fundamental Principles of the International Red Cross Movement, will provide relief to victims of disaster and help people prevent, prepare for, and respond to emergencies.

While 2008 Hillsborough’s per capita income [\$45,304] lags Florida's, in terms of average annual wage and salary per job, it leads the state by about \$3,500. Hillsborough's average wages are higher than many rural and agricultural counties in Florida. Hillsborough has a more diversified economy, with high paying finance, computer and manufacturing jobs among others, and proportionally fewer people of retirement age. Hillsborough's average annual wages lag the national average of \$45,716; however, Hillsborough's cost of living is also marginally lower than the national average. [Bureau of Economic Analysis, Regional Economic Information System].



*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.*

The geographic area served by the HCTA, Trauma Service Area #10, is formally bounded by the Hillsborough County line. 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 Selmon Crosstown Expressway, running northeast-southwest extending from Old Tampa Bay to downtown before turning east-west out to connect to I-75.

Three causeways link Hillsborough County with the Pinellas County peninsula across Old Tampa Bay to the west: The Howard Frankland Bridge with separate east and west bound spans with wide emergency lanes in both directions, the Courtney Campbell Causeway with wide emergency lanes in both directions and access roads for pedestrian and beach traffic and the Gandy Bridge, also with separate east and west bound spans. The west-bound leg is taller and has a wide emergency lane.

Hillsborough County has seven drawbridges, all of which are located 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). Under a hurricane evacuation or other disaster, it may become necessary to close one or more drawbridges in the county, in which case the U.S. Coast Guard would determine these bridges' status.

The predisposition to flooding in areas within Hillsborough County carries implications for access by ground to or flooding within 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 and so on. In 2010, evacuation zones were modified, changing more than 15,000 parcels to lower zones while almost 50,000 moved to more vulnerable zones. Hurricane guides are, published annually, providing color-coded representation of the five evacuation levels. An updated map is included 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 C.

Four of the hospitals in Hillsborough County with a combined 1,500 bed capacity are located in evacuation zones. One of these facilities is the area's only level I trauma center on an island off downtown Tampa. These facilities must have plans for evacuating patients during hurricanes



and other disasters. Likewise, the non-evacuating hospitals must have plans for receiving patients from these facilities including priority discharge procedures to ensure available space for incoming transfers and emergency cases.

Four nursing homes with a combined 475 bed capacity are in hurricane evacuation zones. These facilities are also required to have to prior arrangements in place with other nursing homes to accommodate their evacuated patients for weather or other hazards.

Hillsborough County’s Emergency Management Department follows the National Incident Management System (NIMS) for disaster management in coordination of response, recovery, and mitigation activities of natural or man-made disasters which might affect the health, safety or general welfare of individuals residing in Hillsborough County. The NIMS framework uses a systems approach for incident management and forms the basis for interoperability and compatibility which enables a diverse set of public and private organizations to conduct well integrated and effective incident management operations.

Maps of the prehospital ground/air and medical facilities are included in the Appendices A, B and C. The locations for these agencies and the medical facilities follow this section as well as a summary of the public EMS’ infrastructure (stations and specialized equipment).

Location	Emphasis
Appendix A	Hillsborough County locations of the public EMS providers base stations and their helipads, the base stations of the private EMS providers, and the base sites of the air medical ambulances Aeromed I and Bayflite 3 which are stationed at the trauma centers, Tampa General Hospital and St. Joseph ’ s Hospital respectively.
Appendix B	Hillsborough County locations of all hospitals and hospital-based helipads
Appendix C	Hillsborough County showing the hurricane evacuation levels A through E for the entire County (flood prone areas) and the four hospitals which could potentially be evacuated because of a hurricane.

All four 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 who are increasingly also licensed as paramedics to be able to provide a higher level of prehospital care even before the rescue car (transport vehicle) arrives. Rescue cars are always staffed by paramedics. All engine personnel are authorized to call a trauma alert and any recognized public safety responder on-scene can summon a helicopter even before a rescue vehicle arrives.



Public EMS service	Total # stations	Fire stations only	Rescue stations only	Combo stations	ALS Engines	ALS Transport	ARFF	BLS Engine
HCFR	43	18	1	24	38	25	0	5
PCFR	2	0	2	0	0	0	0	0
TFR	21	6	0	15	21	15	6	0
TTFD	2	0	0	2	2	0	0	0
Total	68	24	3	41	61	40	6	5

Public EMS service	Brush Truck	Foam Transport	HAZMAT	Heavy Rescue	Ladder Truck	Tanker Truck	Boat
HCFR	17	1	1	1	4	9	1
PCFR	1	0	0	0	2	0	0
TFR	3	4	1	1	5	0	1
TTFD	1	0	0	0	1	0	0
Total	22	5	2	2	12	9	2

Definitions for the summary matrix of all stations/specialized equipment and map legends in the appendix is provided below.

Fire station – station housing non-transport units

Rescue station – station housing transport units

Combo station – station housing both non-transport and transport units

ALS Engine - engine (fire suppression) non-transport unit staffed with ALS level personnel

ALS Transport - rescue car/unit (transport ambulance) staffed with paramedics

ARFF - Airport rescue fire suppression vehicle especially equipped to fight fires from inside

BLS Engine - engine (fire suppression) non-transport unit staffed with BLS level personnel

Brush Truck - light utility vehicle used for fire suppression

Foam Transport – especially equipped vehicle used to disperse foam

HAZMAT – especially equipped vehicle staffed by personnel to deal with hazardous materials

Heavy Rescue - specially equipped vehicle used for extrication

Ladder Truck - specially equipped vehicle utilized for elevated operations

Tanker Truck - specially equipped vehicle used to transport water for fire suppression

Boat – apparatus used for both suppression and rescue



City of Tampa Fire and Rescue Stations: PE=Paramedic Engine; PT= Paramedic Truck [ladder]; TK=Ladder Truck (BLS); R=Rescue Unit (ALS)		
Station #	Personnel / Equipment	Address
1	PE-1 / R-1 / TK-1	808 Zack Street
2	ARFF-1 / ARFF-2 / ARFF-3 / ARFF-4 / ARFF-5 / P-ARFF-6	5405 W. Spruce Street
3	PE-3 / R-3 (Interfacility)	103 S. Newport Avenue
4	PE-4 / R-4	2100 11th Avenue
5	PE-5 / R-5	3900 N. Central Avenue
6	PE-6 (HAZ MAT)	311 S. 22nd Street
7	PE-7 / R-7	6129 Nebraska Avenue
8	PE-8 / R-8	2050 N. Manhattan Avenue
9	PE-9 / R-9 / TK-9	2525 Chestnut Street
10	PE-10 / R-10	3108 34th Street
11	PE-11 / R-11	710 E. Fairbanks Street
12	PE-12	3073 W. Hillsborough Avenue
13	PE-13 / R-13 / TK-13	2713 E. Annie St.
14	PE-14 / R-14 / TK-14	1325 S. Church Avenue
15	PE-15 / R-15	4919 S. Himes Avenue
16	PE-16	5126 10th Avenue
17	PE-17	601 E. Davis Boulevard
18	PE-18 / R-18	5706 N. 30th Street
19	PE-19	4916 Ingraham Street
20	PE-20 / R-20	16200 Bruce B. Downs Boulevard
21	PE-21 / R-21 / PT-21	18902 Green Pine Lane

City of Temple Terrace Fire Department Stations: PE=Paramedic Engine; R=Rescue Unit (ALS)		
Station #	Personnel / Equipment	Address
1	PE-11 / R-11	124 Bullard Parkway (Headquarters)
2	PE-21 / R-21	2 E. Telecom Parkway

City of Plant City Fire Rescue Stations: PE=Paramedic Engine; R=Rescue Unit (ALS), L=Ladder Truck (ALS)		
Station #	Personnel / Equipment	Address
1	L-1 / R-1	604 E. Alexander Street, Plant City (HQ)
2	PE-2 / R-2, L-2	809 N. Alexander Street, Plant City



Hillsborough County Fire Rescue Stations: PE=Paramedic Engine; E=BLS Engine; R=Rescue Unit (ALS); Vol =Volunteer fire station			
Personnel / Equipment	Station Name	Address	City
	Fire Marshall	3210 S. 78th Street	Tampa
PE-1	Progress Village	3302 S. 78th Street	Tampa
R-1	Progress Village	3302 S. 78th Street	Tampa
PE-2	Lithia	6726 Lithia-Pinecrest Road	Lithia
PE-3	Summerfield	11101 Big Bend Road	Gibsonton
R-3	Summerfield	11101 Big Bend Road	Gibsonton
PE-4	Armwood	11826 SR 92	Seffner
R-4	Armwood	11826 SR 92	Seffner
PE-6	Henderson	10100 Henderson Road	Tampa
PE-7	South Brandon	122 W. Bloomingdale Avenue	Brandon
Vol E-8	Sundance	602 Lightfoot Road	Wimauma
PE-9	Sabal Park	3225 Falkenburg Road	Tampa
PE-10	Armdale	8430 N. Grady Avenue	Tampa
R-10	Armdale	8430 N. Grady Avenue	Tampa
PE-11	Brandon	117 Ridgewood Avenue	Brandon
R-11	Brandon	117 Ridgewood Avenue	Brandon
PE-12	Gibsonton	8612 Gibsonton Drive	Gibsonton
R-12	Gibsonton	8612 Gibsonton Drive	Gibsonton
R-13	Gunn Highway	7502 Gunn Highway	Tampa
PE-13	Gunn Highway	7502 Gunn Highway	Tampa
PE-14	N. Hillsborough	1404 E. 131st Avenue	Tampa
PE-14A	N. Hillsborough	1404 E. 131st Avenue	Tampa
R-14	N. Hillsborough	1404 E. 131st Avenue	Tampa
E-15	Palm River	715 S. 58th Street	Tampa
PE-16	Riverview	9205 Kevin Drive	Riverview
PE-17	Ruskin	101 First Avenue NE	Ruskin
R-17	Ruskin	101 First Avenue NE	Ruskin
Vol E-18	Seffner-Mango	105 E. Cactus Road	Seffner
PE-19	Carrollwood	13210 N. Dale Mabry Highway	Tampa
R-19	Carrollwood	13201 N. Dale Mabry Highway	Tampa
PE-20	W. Hillsborough I	7020 W. Hillsborough Avenue	Tampa
R-20	W. Hillsborough I	7020 W. Hillsborough Avenue	Tampa
PE-21	Thonotosassa	11641 Flint Avenue	Thonotosassa
R-21	Thonotosassa	11641 Flint Avenue	Thonotosassa





Hillsborough County Fire Rescue Stations: PE=Paramedic Engine; E=BLS Engine; R=Rescue Unit (ALS); Vol =Volunteer fire station			
PE-22	Wimauma	1120 7th Street	Wimauma
Vol E-23	Dover	3138 Sydney-Dover Road	Dover
R-23	Dover	3138 Sydney-Dover Road	Dover
Vol PE-24	Lutz	129 Lutz-Lake Fern Road	Lutz
R-24	Lutz	129 Lutz-Lake Fern Road	Lutz
PE-25	Springhead	4503 Coronet Road	Plant City
R-25	Springhead	4503 Coronet Road	Plant City
Vol PE-26	Cork Knights	5302 W. Thonotosassa Road	Plant City
Vol E-27	Bloomingtondale	4705 E. Bloomingtondale	Brandon
R-27	Bloomingtondale	4705 E. Bloomingtondale	Brandon
PE-28	Sun City/Ed Powers	4551 Sun City Center Blvd.	Sun City Ctr.
R-28	Sun City/Ed Powers	4551 Sun City Center Blvd.	Sun City Ctr.
PE-29	Apollo Beach	626 Gulf & Sea Blvd.	Apollo Beach
PE-30	Midway	2526 Charlie Taylor Road	Plant City
PE-31	W. Hillsborough II	8901 Memorial Highway	Tampa
R-31	W. Hillsborough II	8901 Memorial Highway	Tampa
PE-32	East Lake	5808 Harney Road	Tampa
R-32	East Lake	5808 Harney Road	Tampa
PE-33	Falkenburg	850 S. Falkenburg	Tampa
R-33	Falkenburg	850 S. Falkenburg	Tampa
PE-34	Van Dyke	6415 Van Dyke Road	Lutz
PE-35	Westchase	10401 Countryway Blvd.	Tampa
PE-36	Valrico	116 N. Dover Road	Dover
R-36	Valrico	116 N. Dover Road	Dover
PE-37	Providence Rd.	5602 Providence Road	Brandon
R-37	Providence Rd.	5602 Providence Road	Brandon
PE-38	River Oaks	9805 Sheldon Road	Tampa
R-38	River Oaks	9805 Sheldon Road	Tampa
PE-39	Tampa Shores	7371 Montague Street	Tampa
PE-40	Chapman	16304 N. Nebraska Avenue	Lutz
R-40	Chapman	16304 N. Nebraska Avenue	Lutz
PE-41	Northdale	15905 Mapledale Blvd.	Tampa
R-41	Northdale	15905 Mapledale Blvd.	Tampa
PE-42	Country Place	5209 Ehrlich Road	Tampa
R-74	UCH Fletcher	3100 E. Fletcher Ave.	Tampa

## Medical Facilities



Licensed beds	Two trauma centers, each having separate state designations for adult and children (patients less than 15 years of age)
988	1) Tampa General Hospital (TGH), a Level I adult and pediatric trauma center Davis Islands Tampa FL 33601
807	2) St. Joseph's Hospital (SJH), a Level II adult and pediatric trauma center 3001 W. Martin Luther King, Jr. Boulevard Tampa FL 33677

Licensed beds	Eight non-trauma center hospitals meet criteria to be an initial receiving hospital to stabilize trauma alerts under extraordinary circumstances
407	1) Brandon Regional Hospital 119 Oakfield Drive Brandon FL 33511
112	2) South Bay Hospital 4016 State Road 674 Sun City Center FL 33573
180	3) Memorial Hospital of Tampa 2901 Swann Avenue Tampa FL 33609
76	4) St. Joseph's Hospital-North 4211 Van Dyke Road Lutz FL 33558
147	5) South Florida Baptist Hospital 301 N. Alexander Street Plant City FL 33566
201	6) Town and Country Hospital 6001 Webb Road Tampa FL 33615
120	7) University Community Hospital (Carrollwood) 7171 N. Dale Mabry Highway Tampa FL 33614
475	8) University Community Hospital (Fletcher) 3100 E. Fletcher Avenue Tampa FL 33613



Other Hospital Providers

Licensed beds	Five other hospitals within the County offer specialty services or provide care to a particular population but do not meet the State criteria as an initial receiving center for emergency stabilization of trauma alert patients.
568	1) James A. Haley Veteran's Administration Medical Center 13000 N. Bruce B. Downs Boulevard Tampa FL 33612
162	2) H. Lee Moffitt Cancer Center and Research Institute at USF 12902 Magnolia Drive Tampa FL 33612
60	3 Shriners Hospital for Children Tampa 12502 N. Pine Drive Tampa FL 33612
102	4) Kindred Hospital Central Tampa 4801 N. Howard Avenue Tampa FL 33603
73	5) Kindred Hospital Bay Area Tampa 4555 S. Manhattan Avenue Tampa FL 33611

Evacuating Hospitals

Facility	Category Hurricane	Evacuation Levels
1 Memorial Hospital of Tampa	4,5	D,E
2 Tampa General Hospital	1,2,3,4,5	A,B,C,D,E
3 Town and Country Hospital	2,3,4,5	B,C,D,E
4 Kindred Hospital Bay Area Tampa	2,3,4,5	B,C,D,E



*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) shares borders with three multi-county trauma service areas encompassing seven counties: Pasco and Pinellas in TSA #9, Polk in TSA #11 which also includes Hardee, and 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 trauma center/pediatric trauma center and a level II trauma center) within their regions respectively. The second of these, Lakeland Regional Medical Center (LRMC), is an alternative nearby destination to transport critically injured adult patients by ground from easternmost Hillsborough when air transport is neither possible because of inclement weather, nor prudent because of increased time required to reach a more distant in-county trauma center. Aeromedical bases in West Central Florida enable access to Hillsborough's two trauma centers for these aforementioned contiguous TSAs and surrounding West Central Florida counties..

Within the County, patient flow for trauma alerts is partitioned between the two state-approved trauma centers. Since 1992, Interstate 275 remains the boundary demarcating the County into its two trauma center receiving zones for trauma alert patients as follows: 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 regions are observed for determining the destination of trauma alert patients to be transported by ground as by air. Each trauma center is served by an air medical program and serves as the other's back up. The implication of this arrangement is that for these severely 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. The map LOCATION OF TRAUMA CENTERS, HOSPITALS AND THEIR HELIPADS IN HILLSBOROUGH COUNTY is located in Appendix B.

The response to incidents occurring on the causeways connecting Pinellas County with Hillsborough is determined by the direction of traffic. Pinellas County ambulances will respond to the east bound lanes of the Courtney Campbell, Howard Frankland and Gandy bridges. Hillsborough Fire and Tampa Fire Rescue will answer calls on the west bound lanes of traffic. Patients are usually transported to hospitals in the opposing county of ambulance origin.



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Exceptions to the trauma center receiving zone scheme for trauma alert destination decisions  
The HCTA supports 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. Any exceptions to the previously described trauma center receiving zone scheme for trauma alert patients are to be addressed in Hillsborough County's Uniform Trauma Transport Protocol. All non-trauma center hospitals have transfer agreements with at least one trauma center in the County



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*(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 Department of Family and Aging Services [FAS]. The Trauma Coordinator reports to the Director of [FAS] and is advised by the consultant Medical Director. The Director reports directly to the County Administrator. Policy decisions are made by the Board of County Commissioners.

Due to a countywide reorganization in 2010, many job descriptions are due to be revised but the existing job descriptions for the Director, Medical Director and Coordinator can be found in Appendix F. An organizational chart showing the HCTA's position in the current County government structure is included in Appendix D. As indicated in the footnotes under that table, the position of the Trauma Agency may change as the County undergoes further restructuring.

*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;*

#### Composition of the Trauma Audit Committee

The Trauma Agency assembles a county-wide committee for advisory input to assist with its work. The Trauma Audit Committee (TAC) convenes monthly for the purpose of addressing hospital and prehospital provider quality of care issues concerning trauma, including the overall performance and coordination of the trauma care system. The scope of interest 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, preventable trauma deaths at institutions, 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 members who may advise the HCTA Coordinator and Medical Director include all in-county emergency medical service providers, public emergency medical dispatch centers, trauma centers, nontrauma centers, and EMS providers from counties in West Central Florida because of patient flow patterns. The EMS medical directors and trauma surgeons play a lead role in the performance improvement and education process.



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Representation from the trauma community may include:

1. The Chief of Trauma from each designated Trauma Center
2. The Medical Director of the Regional Burn Center
3. The Trauma Program Manager from each designated Trauma Center
4. The Medical Director of each EMS ground and air transport service based in Hillsborough; outside counties which refer patients to Hillsborough County may also participate
5. The Quality Improvement Officer from each EMS ground and air transport service based in Hillsborough; outside counties which refer patients to Hillsborough County may also participate
6. A representative from each emergency medical dispatch center
7. An Emergency Physician from each non-trauma center
8. Emergency Nurse from each non-trauma center
9. General Surgeon (not affiliated with a trauma center)
10. Neurosurgeon
11. Orthopedic Surgeon
12. Anesthesiologist
13. Pediatrician
14. Medical Examiner
15. Transfer Center Personnel

*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; and*

The Trauma Coordinator, a registered nurse, is responsible for the day-to-day operations of the Trauma Agency. This individual also confers with trauma surgeons, trauma center physicians, representatives from the constituent services, other governmental offices and agencies and the County attorneys as needed while carrying out the duties and responsibilities of the position.

The HCTA contracts with a part-time physician consultant from a trauma center with expertise in trauma care systems for its medical director services. The Medical Director's responsibilities to the Coordinator are to set goals and objectives for the Trauma Agency, assist with performance improvement activities and areas relating to system function and evaluation. The Medical Director's Contract, included in Appendix E, is managed by the Director of FAS, and cancelable by either party on a 60-day notice. In August 2007, the incumbent vacated that position to assume the position of the County's Mass Casualty Medical Director. Her



replacement occupied the position until September 2010, whereupon the current Medical Director was appointed.

The Director of Family and Aging Services now oversees the divisions of Health and Social Services, Aging Services, Children's Services, Head Start, Veterans Affairs and the Sunshine Line. With regard to the Trauma Agency, this individual's responsibility entails 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 three broad categories: performance improvement, provider education and system planning/evaluation. 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, interhospital trauma transfers, and all hospital trauma deaths countywide. The HCTA reviews the reports of autopsies of all accidental deaths occurring in hospitals that were performed by the Medical Examiner.

#### Performance Improvement Activities

The Trauma Coordinator investigates quality of care inquiries initiated either internally or by outside parties. The Coordinator is empowered to collect patient care data from emergency medical dispatchers, prehospital and hospital providers regarding assessment, treatment or transport of any trauma patient or group of patients meeting specific criteria or request an aggregate report from which to draw a patient population for further evaluation.

The Trauma Agency will consider verbal or written quality of care inquiries from any system source, e.g. a prehospital or hospital provider or a public safety answering point. Concerns may be initiated 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, or change in operating procedure, transport or medical protocols. The Trauma Agency encourages hospitals to concurrently copy the HCTA on any inquiries and responses sent to/received from prehospital providers to facilitate over all tracking of system compliance.



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All information gained from investigations into quality of care inquiries directed through the Trauma Agency will be treated confidentially.

Disagreements between providers about patient care issues that can be resolved between providers will be returned to the initiating provider to pursue through its 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 each conduct their own trauma quality improvement programs in accordance with the requirements set by the Office of Trauma's Level I and II Trauma Center's Approval Standards. The Trauma Agency participates in their processes by assisting with case follow-up and providing input at meetings.

Since 1997, the HCTA has maintained a uniform trauma transport protocol (UTTP) to identify and direct the most severely injured trauma patients to the appropriate trauma center. The Trauma Agency is able to monitor provider compliance countywide with trauma scorecard methodology and adherence to the UTTP through the trauma centers' trauma registries and the non-trauma centers' trauma admissions discharge extract file. Each initial receiving hospital is required to submit, at specified intervals, an electronic data file of specific fields on all patients admitted having an ICD9 CM diagnosis code in any position in the range between 800-959.9. Additional filter criteria can be applied to gauge the extent of possible field and hospital undertriage.

#### Provider education

The HCTA now collaborates with the rich pool of local subject matter experts to provide educational presentations during the monthly Trauma Audit Committee meetings to help members keep abreast of the ever changing medical, technological, legislative and political arenas affecting trauma care.

#### 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

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on the overall system. Moreover, the proposed quality indicators must be acceptable to the HCTA.

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

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 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 be presented in a public hearing and then approved by the Board of County Commissioners (BOCC) before submission to the Office of Trauma for approval. A Notice of Public Hearing will be advertised in the Tampa at least thirty days prior. The Trauma Agency shall submit the Plan Update to the Office of Trauma, for formal consideration no sooner than sixty days following the public hearing to allow public comment. The Trauma Agency may present (an) interim draft(s) of the update to the Office of Trauma for review and comment, before the final official version is submitted.



*(d) Trauma System Structure:*

*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 trauma centers, hospitals, and prehospital EMS providers; and*

## The Trauma System

Injury is a public health problem, as evidenced by the incidence, geographic dispersion and resultant impact to society in terms of productive-years-of-life-lost of its victims. A trauma system is an arrangement of available resources that are coordinated for the effective delivery of emergency health care services in geographical regions consistent with planning and management standards. A regionalized approach to the system of trauma care is pivotal to optimization of scarce resources. In 1990, Hillsborough County established its Trauma Agency 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 within its trauma service area #10. The continuum of trauma system resources extends from system access (9-1-1 operators and emergency medical dispatchers) through prehospital care (ALS and BLS air and ground ambulance providers) to 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 compromise patient care and outcomes.

## Emergency Medical Dispatchers

In Hillsborough County, all emergency medical dispatch PSAPs use the nationally recognized Advanced Medical Priority Dispatch system (a.k.a. Clawson standards) 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 are uniform across agencies, the actual vehicle(s) deployed depends on medical necessity and resource availability. 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

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are specifically tailored to the emergency. This service has been demonstrated to positively impact patient outcomes.

### Prehospital EMS Providers

In the prehospital setting, the Uniform Trauma Transport Protocol (UTTP) 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 legal 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, determination of the most appropriate treatment destination and exceptions for same. A patient who is determined to be severely injured according to state-approved criteria (trauma alert) will be transported to a trauma center. A trauma patient with less severe injuries may be taken to the hospital of his or her preference.

Over the years, the skills of the engine crews (non-transport vehicles) have been upgraded 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. Indications for the transport of trauma alert patients by BLS agencies and air medical transport services are covered in the UTTP.

### 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 in the emergency department 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 determine whether surgery is indicated.

At minimum, the trauma team response consists of a trauma surgeon as team leader, an emergency department physician, and two trauma resuscitation area registered nurses. Additional personnel from other disciplines may also be involved in providing life-sustaining measures while the patient is being evaluated for his injuries and the need/timing for surgery. The patient is constantly reassessed during this resuscitative phase, changes in condition are noted and treatment instituted appropriately. The patient is transferred to the most suitable care



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unit to carry on definitive care necessary for optimal recovery. The patient's condition is continuously monitored throughout the hospital stay for changes 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 qualified non-trauma center that is closer to the scene than a trauma center is in the best medical interest of the patient. The emergency circumstances and initial receiving centers qualified to stabilize such cases are covered in the Uniform Trauma Transport Protocol (UTTP).

Emergency interhospital transfer policies and procedures governing the process of moving trauma patients with life-threatening injuries between hospitals are covered in the UTTP. Also included in this protocol are locally developed and consensus-derived Hillsborough County Interfacility Trauma Transfer Guidelines for determining when a trauma patient should be referred to a trauma center to improve access of severely injured trauma patients to definitive trauma care at trauma centers where the care is more effective and efficient than at non-trauma centers. To increase recognition of and improve adherence to the criteria, the HCTA printed posters and pocket guides of same for the emergency departments. The guidelines are also reproduced in the Uniform Trauma Transport Protocol and are on line at the HCTA web site at <http://www.hillsboroughcounty.org/traumaagency/>.



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## Regulatory and Quality Assurance Activities of the System Components

### Emergency Medical Dispatch

All five emergency medical dispatch PSAPs in Tampa, the County, Temple Terrace, Plant City, and MacDill Air Force Base participate in an ongoing quality improvement process. Hillsborough 9-1-1 Administration draws at random a monthly sampling of calls from these centers to evaluate for accuracy and adherence to protocol.

### Prehospital Providers

The emergency medical service providers must adhere to specific standards set forth by the State and County for operation. The State issues and regulates licenses for each service. At the local level, the County grants certificates of public convenience and necessity (COPCN) for the ALS services based within its jurisdiction which include both ground and air ambulances. 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. The Board of County Commissioners must approve all COPCNs. Licenses and certificates are renewable every two years, pending satisfactory fulfillment of the requirements.

The Public Transportation Commission (PTC) is a County regulatory agency which licenses the BLS providers. Their jurisdiction covers all vehicles for hire including taxis, limos, buses and wheelchair-stretcher vans. Their purview includes onboard equipment, drivers' licenses, driving record and criminal background checks. The agency conducts annual and ad hoc inspections of the services it regulates.

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 must have an ongoing quality improvement program for all EMTs and EMT-Ps operating under his/her supervision.

The HCTA has enjoyed a good working relationship with contiguous and outlying counties from which it receives many of its out-of-county referrals. Two of these counties, Pasco and Polk, are members of HCTA's Trauma Audit Committee. Other counties' EMS providers forward their patient care records to HCTA on request to conduct performance improvement activities.



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## 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 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 similar organizational structures: a Medical Director, adult and pediatric trauma surgeons, other surgical specialists, anesthesiologists, neurosurgeons, a trauma program manager, clinical nurse specialists, a trauma registrar, and other clinical, technical and 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 a trauma patient dies in the hospital, this must be reported to the local medical examiner's office to determine its jurisdiction for that case, and to perform whatever inspection, investigation, and/or autopsy is deemed necessary: Accordingly, deaths resulting from trauma are often autopsied by the County Medical Examiner. Selected information from this trauma registry is 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 trauma service areas; cooperation is voluntary. Problems identified in patient care rendered by out-of-county providers have been handled on a case-by-case basis.

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.

Using the discharge data collected from the non-trauma centers, the trauma centers' registries, and autopsy reports, the Trauma Agency thus has the capacity to evaluate the trauma system. Through the review of patient care reports, medical records and autopsy reports, the HCTA can determine if appropriate triage and the standard of care had been performed and assess hospital trauma deaths for the probability of survival.

*2. Include a list of all participating and non-participating trauma care resources within the defined geographical area of the 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, trauma centers, EMS providers, training centers, emergency medical dispatch, and planning entities; and*

The following trauma care resources in Hillsborough County provide services to the Hillsborough trauma patient accessing the trauma system and participate in performance improvement activities with the Trauma Agency. All of these entities are members of the Trauma Audit Committee meetings, share their patient care data on request and initiate opportunities to improve trauma care and coordination of services in the community.

Emergency medical dispatch centers:

1. Hillsborough County Emergency Dispatch Center (HCEDC)
2. Plant City Police and Fire Departments (PCPD)
3. Tampa Fire Rescue (TFR)
4. Temple Terrace Police and Fire Departments (TTPD)



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Prehospital Providers

Public ground ambulance providers:

1. Hillsborough County Fire Rescue (ALS)
2. Plant City Fire Rescue (ALS)
3. Tampa Fire Rescue (ALS)
4. Temple Terrace Fire Department (ALS)

Air medical providers associated with each trauma center:

1. Aeromed (Tampa General Hospital) (ALS)
2. Bayflite (Bayfront Medical Center-dispatch; St. Joseph's Hospital-base site)(ALS)

Private ground ambulance providers:

1. Americare (BLS with COPCN limited to certain ALS activities)
2. American Medical Response (BLS with COPCN limited to certain ALS activities)
3. Sun City Center Emergency Squad (BLS volunteer)
4. TransCare (BLS)

Hospital providers:

1. Brandon Regional Hospital
2. Memorial Hospital of Tampa
3. St. Joseph's Hospital *Trauma center*
4. St. Joseph's Hospital-North
5. South Bay Hospital
6. South Florida Baptist Hospital
7. Tampa General Hospital *Trauma center*
8. Town and Country Hospital
9. University Community Hospital-Carrollwood
10. University Community Hospital-Fletcher

Although the 400 plus bed James A. Haley Tampa Veterans' Administration Hospital provides comprehensive health care with a full range of medical and surgical specialties, spinal cord injury, physical medicine and rehabilitation services, it is the only such facility within the County that is a non-participating trauma care resource. Its emergency department does not meet all five criteria specified in 64J-2.002(3)(a), F.A.C.

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

The Florida Statutes define a "trauma victim" as any person who has incurred a single or multisystem injury due to blunt or penetrating means or burns and who requires immediate medical intervention or treatment. A "trauma alert victim" means a person who has incurred a single or multisystem injury due to blunt or penetrating means or burns, who requires immediate medical intervention or treatment, and who meets one or more of the adult or pediatric scorecard criteria established by the department by rule.

These definitions serve as the basis for the Legislature's recommendations for the quantity and type of trauma centers to be established state wide. 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. These estimates factor together statistics about the historical distribution of injuries and hospital treatment patterns across the population and political jurisdictions.

Section 64J-2.010, F.A.C., further proscribes the apportionment of trauma centers within a trauma service area. The number for Hillsborough County is set at two. St. Joseph's Hospital and Tampa General Hospital have remained the County's trauma centers since the early 1990's. Although both are situated farther west in a more densely populated area of the county which could conceivably result in ground transport times from outlying regions to a trauma center approaching an hour in some instances, because of the ready availability of air medical transport, this Agency's position is that geography is not a sufficient basis on which to determine the allocation or distribution of trauma centers.

Depending on a variety of circumstances, on average, 600 adult trauma alerts are transported annually by ground due to time considerations from eastern Hillsborough County to Lakeland Regional's Trauma Center in adjacent Polk County.

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. In counties with populations exceeding 500,000 which Hillsborough now does, both types of facilities should be capable of providing care annually to a minimum of 1000 trauma victims. It should be noted that this planning estimate only refers to capabilities for management of adult trauma victims (ages 16 and greater). While both of Hillsborough's trauma centers are also 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

Trauma care demands on trauma centers in Hillsborough County for adult patients haven't yet exhausted local capabilities of 1000 trauma victims per trauma center. As depicted in the table "All TAs treated at Hillsborough's trauma centers 2005-2009", St. Joseph's and Tampa General Hospitals each consistently met or approximated this target threshold of trauma alerts over the past five years.

<b>All TAs treated at Hillsborough's trauma centers 2005-2009</b>						
	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>5-Yr Average</b>
<b>SJH</b>	891	976	979	927	781	911
<b>TGH</b>	1176	1149	1288	1166	976	1151
<b>Overall</b>	2067	2125	2267	2093	1757	2062

The source of these admissions includes private vehicle as well as prehospital transports, transfers-in from other facilities and non-residents. It will also be noted that trauma alerts declined by approximately 16% from 2008 to 2009, a trend also mirrored nationally, with significant reductions seen in both traffic fatalities and motor vehicle crashes, which historically comprise about half of all trauma. The U.S. Department of Transportation attributed increased use of anti-rollover technology and seat belt restraint, side air bags, DUI crackdowns and the economy as possible contributing factors. Florida led the nation in the drop of absolute number of highway deaths. The last formal analysis of trauma center resources, as reported in the 2005 Comprehensive Assessment of the Florida Trauma System, found that the Tampa Bay area has adequate adult trauma center access, which takes into account Citrus and Hernando counties' trauma patients.



Pediatric trauma

There have never been legislated guidelines or formulas to estimate the number of pediatric trauma facilities needed. The State has empowered the trauma agencies to establish local requirements. Historically, the HCTA has based its decision on the consideration of past patient volume which has remained relatively stable over the years. The number of pediatric trauma alert admissions has steadily declined for both centers over the last five years. See table below “All pediatric trauma alert admissions at Hillsborough's trauma centers 2005-2009.” Further, the 2005 Comprehensive Assessment of the Florida Trauma System Report found that most of Florida’s injured children typically admitted for treatment of at least one injury diagnosis suffered relatively minor injuries with minimal potential for mortality. It is the HCTA’s opinion that there is no necessity for additional pediatric trauma center facilities within Hillsborough County at this time.

<b>Pedi TA admissions 2005-2009</b>						
	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>5-Yr Average</b>
<b>SJH</b>	104	107	92	57	52	82
<b>TGH</b>	178	146	150	157	121	150



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*(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*

- I. To continue to have sustainable funding for the HCTA.
  
- II. Performance analysis: Develop a dashboard analysis of our trauma system utilizing metrics that reflect system efficiency and quality parameters.
  
- III. Develop a unique patient identifier [UPI] concept to track every patient from field to hospital to facilitate hospital and prehospital exchange of patient outcome information, provide data for injury prevention initiatives.





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OBJECTIVE I.

To continue to have sustainable funding for the Hillsborough County Trauma Agency [HCTA].

**RATIONALE:** The HCTA budget has always been entirely supported by general revenue funds (property taxes). Due to a shrinking tax base and depressed economy, supplemental sustainable sources of revenue will need to be developed to support continuation of the Trauma Agency's valued service to local healthcare providers. Despite the existence of Statute and Rule granting a local or regional trauma agency the authority to plan, implement, and evaluate its local trauma system, there is lack of external funding for regionalized trauma systems due to lack of support at both the State and Federal levels.

**ACTION PLAN:**

The HCTA will work with the Director of Family and Aging Services and the Trauma Agency Medical Director to develop strategies to accomplish this aim.

**IMPLEMENTATION:**

Ongoing



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**OBJECTIVE II.**

Performance analysis: Develop a dashboard analysis of our trauma system utilizing metrics that reflect system efficiency and quality parameters.

**RATIONALE:**

Currently the trauma agency receives and reviews large amounts of prehospital, in-hospital and post mortem patient encounters. This data needs to be accumulated in a quick non agency specific matter overview format for review to identify trends and problem areas for performance activities. The dashboard would present an opportunity for the trauma agency to have concise presentation of our system to multiple agencies. This data can be used to guide the agencies oversight of the trauma system by indentifying strengths and weakness of our system on an ongoing basis.

**ACTION PLAN:**

1. The HCTA will work with administrators and clinical providers of trauma care to determine metrics that would reflect quality in the system.
2. Present the dashboard quarterly during TAC meetings for discussion.
3. Continue to improve/automate data management process by requiring greater standardization across the hospitals.
4. Solicit/evaluate trauma admission data at non-trauma centers abstract reports on quarterly basis.

**IMPLEMENTATION:**

Ongoing

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OBJECTIVE III.

Develop a unique patient identifier [UPI] concept to track every patient from field to hospital to facilitate hospital and prehospital exchange of patient outcome information, provide data for injury prevention initiatives.

RATIONALE:

Despite increased automobile and highway safety measures, motor vehicle crashes remain a major public health problem. Both the National Highway Traffic Safety Administration and Centers for Disease Control recognize the need for collecting/analyzing comprehensive crash data, to better understand the incidence/impact of motor vehicle crashes, and translating knowledge about motor vehicle crashes into public policy to improve highway safety. A single patient ID number to follow the patient from the roadside to bedside would enable linkages from EMS reports to multiple data sources such as computer-aided dispatch, traffic reports, Medical Examiner data, EMTrack and other resources in a virtual data warehouse. Hillsborough County would work with the University of Florida's Traffic Injury Prevention Program (TRIP) to become the second Data Sharing District in the State.

ACTION PLAN:

Identify participants and obtain key contact information  
Work with the TRIP team to understand workflow and dataflow  
Ongoing parallel effort to familiarize providers with scanning patient bar codes into EMTrack  
Identify hardware and software needs to implement the UPI  
Develop data sharing agreements  
Prepare providers to create placeholder fields in their information systems for the UPI  
Obtain needed hardware and software  
Begin use of UPI (banding and recording)  
Work with TRIP team to decide on data transfer protocol (e.g. push/pull, excel/access/FTP site)  
TRIP team develops and tests data transfer mechanisms  
Begin regular data transfer

IMPLEMENTATION:

Multi-year - ongoing



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*Describe the (f) Source of income and anticipated expenses by category for the trauma agency  
Describe the (g) Trauma agency's fiscal impact on the trauma system which includes a  
description of any increased costs related to providing trauma care.*

Currently, the HCTA's budget of \$131,593 is drawn entirely from general revenue funds (property taxes). Due to a shrinking tax base and depressed economy, supplemental sustainable sources of revenue will need to be developed to support continuation of the Trauma Agency's valued service to local healthcare providers. Securing sustainable funding will become this Agency's number one challenge and priority.

The Trauma Agency's mission indirectly impacts the cost of patient care for prehospital and hospital providers alike. While each component must perform its own quality improvement activities, the provision of copies of patient care records and hospital charts, the personnel costs to process patient lookup lists, or program electronic data reports are all examples of additional costs borne by the system components in the conduct of quality improvement activities for the HCTA.

However, the HCTA's authority to collect patient data across the system to determine outcomes and assemble providers together in the trauma community for performance improvement activities and system evaluation with protection from discovery, is an invaluable asset and gives an unparalleled advantage over trauma service areas without trauma agencies.

While it difficult to specifically measure, it is clear to the TAC that the incremental costs for system performance improvement activities are outweighed by the lives saved, complications prevented and injuries averted that are a direct result of the feedback, education and training processes initiated under its auspices. This is undeniably the most important benefit of a trauma agency.



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*(h) Transportation System Design:*

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

### Ground Transport

Four ALS public ground services provide first response assist and emergency medical care within their jurisdictions: Hillsborough County Fire Rescue, Tampa Fire Rescue, Temple Terrace Fire Department, and Plant City Fire Rescue. Four private BLS ground services are dispatched by emergency medical dispatch centers according to location of incident, availability and in a predetermined order depending on jurisdiction.

### Air Transport

All trauma alert patients must be transported to a trauma center (for adults) or pediatric trauma center (for children) nearest the location of the incident if it occurred within 30 minutes by ground or air transport, or within 50 miles by air transport. There are two aeromedical programs that have COPCNs to operate within the County, Bayflite, operated by Bayfront Medical Center and Aeromed, operated by Tampa General Hospital. Both med evac services have either COPCNs or mutual aid agreements with all counties contiguous to Hillsborough, and many other counties within a 100-mile radius of their base of operations. Tampa General stations satellite helicopters, north and south of Hillsborough County in Citrus and Highlands Counties respectively, for scene and interfacility responses. Bayfront has satellite bases in Pasco, Manatee, and Hernando Counties. .

### 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 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.



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The IBA could be launched by a police helicopter or pulled by a small boat with a 100 ft. lanyard. TFR also has access to 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. Personal water craft (water scooters) are on continuous loan from a private vendor for emergency response missions. TFR also has large fire boats with water hoses docked on Davis Islands.

HCFR has also acquired a boat for fire suppression and medical rescue operations in bay and gulf waters. It is stationed in a marina in Ruskin, co-located with a fire station.

Other agencies which can muster water rescue resources include:

Hillsborough County Sheriff's Office, United States Coast Guard, U.S. Coast Guard, Tampa Police Aviation and Marine Division, Marine Corps Reserve, U.S. Naval Reserve, Fresh Water Fish & Game Commission.

*2. Include trauma patient flow patterns, emergency inter-hospital transfer agreements and procedures, and the number, type, and level of service of the 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 (gray area) 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. Discrete criteria have also been developed to help assess the older patient, especially over 65 and over. In these instances, 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.



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#### Trauma alert patients

A trauma alert patient should only be transported to a trauma center that can continue the appropriate level of definitive care. The transport destination dictated by the receiving zone scheme (catchment area) 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.

#### TRAUMA CENTER TO TRAUMA CENTER

Once a trauma alert patient has been brought to an adult or pediatric trauma center, that patient may not be moved to a facility that is not an adult or pediatric trauma center 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 senior care giver on scene or en route who encounters emergency circumstances which will immediately lead to 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. Such situations could include a traumatic arrest in transit (with on-line physician consultation when possible), a compromised airway which cannot be managed in the field or a mass casualty incident or natural disaster (according to incident command/ management procedure)





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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 64J-2.002 (3)(a), F.A.C. Biennially, coinciding with the UTTP renewal, the chief executive officer of each facility must provide to the HCTA a signed attestation affirming his/her facility's fulfillment of these criteria in the event that prehospital providers would need to transport a trauma patient requiring emergency stabilization to that non-trauma center. The State's five criteria required to stabilize critical trauma patients and the list of certified facilities are maintained up-to-date in the Uniform Trauma Transport Protocol

## 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 adult or pediatric trauma center. 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 an adult or pediatric trauma center.

### High risk non-trauma alert patients

Referral to a designated adult or pediatric trauma center 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 Hillsborough County Interfacility Transfer Guidelines suggests candidates who would benefit from an early transfer to a trauma center. These guidelines, as well as the process for requesting interfacility transfer services, is addressed 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 receiving physician must agree with these arrangements. The responsibility of selection of an appropriate mode of transportation, and the organization of patient management during the transfer rests with the referring physician. Transportation scheduling procedures are specific to the desired mode of transport.



(i) *TTPs*

1. *Provide confirmation that existing department-approved TTPs for each EMS provider, within the defined geographical area of the trauma agency, are accurate and shall be adopted by the trauma agency, pending department approval of the plan;*
2. *A trauma agency may develop uniform TTPs for department approval that shall be adhered to by all EMS providers that serve the geographical area of the 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 trauma agency shall be processed in accordance with Rule 64J-2.003, F.A.C.; and*
3. *The trauma agency shall provide a copy of any county ordinance governing the transport of trauma patients within the defined geographic area of the trauma agency.*

The Trauma Agency influences the flow patterns of trauma cases in two important ways to improve the outcomes of trauma care: through its Uniform Trauma Transport Protocol [UTTP] and the Hillsborough County Interfacility Trauma Transfer Guidelines.

Prehospital providers based in Hillsborough County follow Hillsborough's UTTP to triage the most severely injured trauma patients to the closest and most appropriate trauma center. The UTTP supercedes a provider's individual TTP. This legal document, originally developed in 1997 through a consensus-building process with the trauma system constituents, describes the procedures to be followed by the trauma system components 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. The Office of Trauma must approve each protocol revision. The UTTP was updated four times during the first four years after implementation; thereafter, as the system further matured, providers only sought modifications coinciding with the biennial renewal cycle.

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. After any revision, the document will be distributed to every prehospital and hospital provider so that each always maintains an up-to-date protocol.



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### Interfacility trauma transfer guidelines

The fundamental tenet of a trauma system is to get the right patient to the right hospital in the right amount of time. This principle hinges on well-defined prehospital destination criteria, interfacility transfer protocols, and education of caregivers. Patients arriving at local community hospitals benefit from stabilization and transfer to trauma centers for definitive care.

The Trauma Agency played a lead role in guiding the trauma system constituents through a consensus-building process to develop community criteria describing the conditions, expectations of workup and timing of transfers. Since 2002, hospital providers based in Hillsborough County follow Hillsborough's Interfacility Trauma Transfer Guidelines to improve access of severely injured trauma patients to definitive trauma care at trauma centers where the care is more effective and efficient than at community hospitals. These guidelines were last updated in 2008.

### Hillsborough County Emergency Medical Services Transportation Ordinance

Hillsborough County's Board of County Commissioners [BOCC] does regulate emergency medical transportation services through Ordinance 06-9, which can be found in Appendix G. This Ordinance is applicable to both the incorporated and unincorporated areas of Hillsborough County, except as otherwise specified in the Ordinance. Under Ordinance 06-9, the BOCC is responsible for all aspects of issuance of Certificates of Public Convenience and Necessity for advanced life support services, medical stand-by services, basic life support services, by municipalities within Hillsborough County, and rotary wing air ambulance services as follows:

- providing for requirements
- issuance of certificates
- setting standards for review
- providing for revocation, modification or suspension
- providing for transfer or assignment
- providing for waivers and variances
- requiring insurance
- providing for rates and regulations
- providing for exemptions
- providing penalties
- providing for severability of provision
- providing for liberal construction

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*(j) Medical Control and Accountability. 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 EMS providers operating under the purview of the trauma agency*

#### Prehospital providers

All EMS providers within Hillsborough County contract with a qualified physician to satisfy the medical direction requirements as described in Section 401.265, Part III, F. S. 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, and 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 agencies contract with emergency physicians for their 24 hour on-line medical control services.

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 has a medical protocol to address the situation of an on-scene physician who wants to give orders.

#### Hospitals

The physicians employed at emergency departments (ED) throughout the County are contract employees of corporations, hired by the hospitals they work for. Some groups provide coverage to more than one hospital in the area. A Medical Director over each group may have clinical as well as administrative responsibilities. Many of the local ED physicians take call as the on-line medical control physician for the fire rescue providers.

#### HCTA's Trauma Audit Committee (TAC)

The EMS medical directors and trauma surgeons play an active role in the performance improvement and education process of this countywide forum composed of representatives from prehospital, hospital and emergency medical dispatch providers.



(k) *Emergency Medical Communications:*

1. *Describe the EMS communication system within the trauma agency's trauma service area; and*

2. *Verify that the existing communications within the trauma agency's trauma service area meet all the requirements for compliance with the Florida Emergency Medical Services Communications Plan, Volume I – March 2004 and Volume II – July 2008, to include all hospitals with emergency departments. The Florida Emergency Medical Services Communications Plan (Volumes I and II) is incorporated by reference and a copy of the document can be obtained by mail from the Department of Management Services, Division of Telecommunications, 4030 Esplanade Way, Suite 180, Tallahassee, Florida 32399; or electronically through the following web link:*

*[http://dms.myflorida.com/suncom/public\\_safety/radio\\_communications/radio\\_communication\\_plans](http://dms.myflorida.com/suncom/public_safety/radio_communications/radio_communication_plans).*

The Emergency Medical Communications System within Hillsborough County

#### REQUESTS FOR EMERGENCY RESPONSE

Requests for emergency services are relayed 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. Staffing for the primary PSAPs is provided by either law enforcement agencies (Tampa Police Department, Hillsborough County Sheriff's Office and three special jurisdictions, Tampa International Airport, University of South Florida, MacDill Air Force Base Alarm Center) or shared between police and fire department entities in two municipalities (City of Temple Terrace Police and Fire Departments and Plant City Police and Fire Departments).

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. Wireless phone calls provide the 9-1-1 system with the caller's phone number and longitude and latitude coordinates, but the call taker must still obtain location and call back numbers from all cellular callers. 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. A special needs registry is maintained in conjunction with Verizon to identify locations where callers might be unable to speak over the phone. Each PSAP is



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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.

### Emergency Medical Dispatch Centers

As previously described, requests for emergency medical assistance are routed through the primary enhanced 9-1-1 Public Safety Answering Point (PSAP) to the secondary emergency medical dispatch centers for Hillsborough County and for the City of Tampa. In the City of Temple Terrace and Plant City, there are shared PSAPs for law enforcement and fire-rescue dispatches. These dispatch centers have access to notify emergency resources through radio communications if available or by telephone if necessary, requesting their assistance. Dispatch radios operated by the air medical services, private or volunteer BLS ambulances are not considered emergency dispatch operations, rather a first response backup to ALS, or non-emergency runs.

### 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. 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. The units are also equipped with either portable or transportable (depending on geographic location) cellular phones through which they can talk directly either with their respective dispatch center, or to other locations via request for a recorded patch line to their respective dispatch center. Communications from the paramedic to the dispatch center 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.

Both the City of Tampa and County Fire/Medical PSAPS communicate directly with a specific number of private BLS units intended as dedicated resources for the City and County to exercise



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complete discretion in dispatching to specific calls and placement of these units for purposes of areas of coverage. Only after the dedicated resources have been exhausted will the jurisdictional PSAP contact the private providers' communication center via telephone/radio and transmit a call printout to a dedicated printer located in the private provider's communication center, on the Fire Printer Network (FPN) which is similar to the printers used in the fire rescue stations to receive 9-1-1 call information in addition to the same information sent simultaneously on a text pager. 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 a variety of outside resources, county or city, by using a telephone at the scene, by patch or a direct line by using a cellular phone.

#### Hospital Communications

Hospitals talk with city and county dispatch centers by phone or radio. 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

A paramedic requesting to speak to the medical control physician notifies the relevant emergency medical dispatch center either by radio or cellular phone. The dispatcher initiates the call to the appropriate doctor on-call. When communications is established between the two parties, the two lines are patched together, permitting two-way communications and tape recording of the conversation.



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## Emergency Operations Center

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 EOC 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. Verizon is responsible for maintaining and restoring telephone service within the County.

### Wireless Telephones

Wireless telephones provide an alternate means of communications. Wireless companies that have contracts with local government provided enhanced wireless phone support. If possible, these wireless companies will provide priority access to wireless 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.



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## 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 (e.g., Sheriff and Fire Rescue) and the Radio Amateur Civil Emergency Services (RACES) group.

The County has two mobile communications command posts: one owned by the Sheriff's Office and one shared by the County Fire Department and Emergency Management. Systems are available for communications outside the county such as statewide satellite communications, RACES backup through VHF and HF radio systems, and the Emergency Alert System.

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 Fairgrounds. These assets may 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 this 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.

## Compliance with the State of Florida Communications Plan

Hillsborough County's trauma system participants are in full compliance with Florida's Emergency Medical Services Communications Plan. The requirements for normal operating conditions are specified in the Florida Emergency Medical Services Communications Plan, Volume I – March 2004 and Volume II – July 2008. All EMS communication frequencies used by Hillsborough County emergency medical dispatch centers, hospitals and prehospital providers are listed in Florida's Emergency Medical Services Communications Plan.

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

#### Trauma Center Data Collection

Both trauma centers have established trauma registries using proprietary software packages. All trauma centers have been working together with the State Office of Trauma to establish a standardized trauma registry. Tampa General Hospital and St. Joseph's Hospital report their trauma registry data quarterly to the Office of Trauma as well as their performance on ten quality indicators, as required of all trauma centers. Selected patient data is regularly forwarded to the Trauma Agency for system evaluation.

#### Prehospital Data Collection

All prehospital providers are required to submit incident data quarterly to the Bureau of EMS. All four public ALS services, two of the private BLS services and both air medical programs have converted their patient care report documentation to an electronic platform and are EMSTARS compliant. The Trauma Agency frequently requests patient care records (PCRs) on trauma call activity from prehospital providers for quality of care inquiries, or for over/undertriage determination. The HCTA also has developed relationships with many out-of-county EMS providers that regularly send their trauma patients to Hillsborough County and which also provide their PCRs on request. The Agency makes extensive use of the County's secure web to exchange patient-specific data with both in and out-of-county providers for performance improvement activities.

#### Non-trauma Center Data Collection

Each of the seven non trauma centers which function as initial receiving center for trauma patients provide the HCTA on a regular basis an electronic discharge diagnosis file of all potential trauma admissions (any stay with an ICD-9CM diagnosis between 800-959.9). Specialized software can score for injury severity and allow the data to be filtered through other algorithms to screen for potential undertriage.

#### Medical Examiner Database

Reports of all autopsies and external exams performed by the Medical Examiner on deaths from trauma that occurred in hospitals are sent to the Trauma Agency for review.

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*(m) Trauma System Evaluation. Describe the methodology by which the 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. The autopsies are also used as teaching tools, for case scenarios and distributed to EMS for training.

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.



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*(n) Mass Casualty and Disaster Plan Coordination. Describe the trauma agency's role with local and/or regional emergency management entities in the coordination of the prehospital and hospital component's mass casualty and disaster plans for the defined geographic area it represents.*

The countywide trauma system is designed to efficiently accomplish the day-to-day management of Hillsborough County trauma patients. 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 HCTA is in an optimal position to provide oversight of the trauma system infrastructure through ongoing quality performance monitoring and participation in county wide exercises. Its participation in these activities can assist others to gauge surge capacity of the system in the event of a mass casualty event.

Hillsborough County Mass Casualty Operations Procedures are used to mobilize and coordinate the extraordinary resources necessary, and to manage any number of victims that would overload the normal trauma system in case of mass casualties. The primary method for hospitals to communicate bed availability states will be through EMResource, enabling the Medical Director of Mass Casualty Planning to triage disaster victims to appropriate facilities. The Trauma Agency will provide back up support to Emergency Management / Emergency Dispatch Center for web based communications during mass casualty situations.

Hillsborough County's Comprehensive Emergency Management Plan [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. The CEMP is the guiding plan for response to mass casualties and disasters in the County. 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.

*(o) Public Information and Education*

*Describe the 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.*

Due to resource limitations, the Trauma Coordinator does not independently coordinate formal programs in injury prevention/safety promotion/educational activities. However, the Trauma Coordinator maintains active working relationships with public health and safety, disaster and emergency planning entities in the County, the region, and at the State level. The Trauma Coordinator is a member of numerous professional associations and organizations with missions to improve coordination/delivery of and access to trauma care. Also, the Coordinator participates in various city and County groups organized to maintain readiness for mass casualty events and local/regional disasters, such as Hillsborough's MMRS Committee, the Hospital Disaster Committee, and the Emergency Medical Planning Council.

Other involvements include:

Community Traffic Safety Alliance. Coalition of 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 transportation safety issues.

EMSTARS Data Committee. An EMS Advisory Council body charged with oversight of the Data Dictionary for Florida's EMS Tracking and Reporting System which provides for the collection of incident level data from EMS agencies and subsequent analysis for benchmarking and identifying quality improvement initiatives.

Trauma Triage Work Group. An Office of Trauma advisory body formed to evaluate and make recommendations regarding revisions to trauma triage methodology for the State of Florida.

Tampa Bay Domestic Security Task Force (RDSTF-4) Health & Medical Group. Collaboration among law enforcement, public health, hospital and prehospital providers, among others, to ensure that health & medical issues are addressed at the regional level; to keep abreast of activities and preparedness planning strategies impacting local organizations.

Florida Trauma System Plan Committee. The purpose of this ad hoc advisory body to the Florida Office of Trauma is to provide advice and expertise to the department in the preparation, implementation, review and revision of the Florida Trauma System Plan and annual action plans to address issues and problems relating to the trauma system.

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,



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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, to coordinate public and private entities concerned with provision of trauma care using a systems approach, to advise the State or other organizations regarding trauma care.

Association of Florida Trauma Coordinators. This constituency group consists of trauma program managers and trauma registrars from Florida's trauma centers which as part of their mission, collaborate to advocate for the improvement and availability of trauma care services for all people in the State of Florida, advise the State's Office of Trauma regarding issues of standards of care, trauma legislation, serve as a consumer; patient advocate through public education and injury prevention programs and which promote continuing professional development of nurses who practice in the trauma arena.

Florida Committee on Trauma. A group of trauma care providers organized under the American College of Surgeons, committed to improve all phases of the management of the injured patient including prehospital care and transportation, hospital care, and rehabilitation; to prevent injuries in the home, in industry, on the highway, and during participation in sports; to establish and implement institutional and systems standards for care of the injured; to provide education to improve trauma care; and to cooperate with other national organizations with similar objectives.

Emergency Nurses Association. The mission of this national association of ED nurses is to advocate for patient safety and excellence in emergency nursing practice, shape and advance emergency nursing and emergency care through education, research promotion, translation, and utilization, provide leadership in representing emergency nursing practice and healthcare policy, and generate greater involvement in the emergency nursing community.

The Trauma Agency also interfaces with other state-wide constituency group meetings such as the Florida Association of Medical Directors, Access to Care Committee, Medical Care Committee, Florida Association of EMS Educators, Quality Managers Association, Florida Association of Rural EMS Providers, Florida Aeromedical Association, and EMS Strategic Vision Committee to network and keep abreast of other trauma care provider issues. These contacts enable opportunities to solve problems, share ideas, and achieve common goals while advancing the practice of trauma care.

A rich pool of local subject matter experts provide educational presentations during the monthly Trauma Audit Committee meetings to help members keep abreast of the ever changing medical, technological, legislative and political arenas affecting trauma care.





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## Policy for Revision of the Trauma System within Hillsborough County

Chapter 395, F.S. grants department-approved trauma agencies the authority to develop a plan for the delivery of trauma care to the citizens serviced by that agency. Further, it allows those entities to implement 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.



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*(p) Attachments. Include the following:*

- 1. A sample of each type of contract and agreement entered into by the trauma agency for the benefit and operation of the trauma system. A description of these agreements may be substituted.*
- 2. Documentation showing that the county commission of the county or counties in the geographic area to be served by the trauma agency have endorsed the initial plan or five-year plan update, pending department approval of the same; and*
- 3. A copy of the public hearing notice and minutes of the hearing for the initial plan or five-year plan update.*

## Appendices

Appendix A. Map of base stations of public & private EMS providers and base sites of air medical ambulances and all helipads

Appendix B. Map of trauma centers, hospitals and their helipads

Appendix C. Map of hospitals in evacuation zones

Appendix D. HCTA organizational chart

Appendix E. Medical Director's contract

Appendix F. Job descriptions of Trauma Coordinator, Director Family and Aging Services and HCTA Medical Director

Appendix G. Hillsborough County Emergency Medical Services Transportation Ordinance 06-9

Appendix H. Documentation of Trauma Plan public hearing and BOCC approval