Hillsborough County
Florida

2015 Five Year
Trauma Plan Update

Table of Contents

64J-2.007 (b) (3), Florida Administrative Code

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

(a) Table of Contents

Introduction
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 April 2011. As with previous plan updates, this document updates the differences in the trauma system since the last Plan was accepted by the Florida Department of Health's Trauma Program, and HCTA's direction for the future.

SIGNIFICANT INFRASTRUCTURE CHANGES OCCURRING IN TRAUMA SERVICE AREA 10 SINCE 2010

County government restructuring
After a countywide departmental reorganization in 2014, the HCTA is now administratively positioned under the Division of Human 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 with EDs)
St. Joseph's Hospital opened its second full service satellite facility in south Hillsborough County, St. Joseph's Hospital-South in 2015. Unlike the main St. Joseph's Hospital campus in Tampa, neither this Riverview facility nor the Lutz location where St. Joseph's Hospital-North opened in 2010, are verified trauma centers.

Hospital acquisitions/alliances
The Hospital Corporation of America [HCA] hospital chain bought Memorial Hospital of Tampa and Town & Country Hospital from IASIS Healthcare in 2013. In 2014, Town & Country was renamed Tampa Community Hospital. The Adventist Health System acquired University Community Hospital-Fletcher and University Community Hospital-Carrollwood in 2010 and renamed these facilities Florida Hospital Tampa and Florida Hospital Carrollwood respectively. In 2012, Florida Hospital formed a strategic alliance with USF Health to enable it to provide personalized and state-of-the-art medicine in the specialties where affiliations were established: cardiology, breast health, neuroscience and surgical oncology.

Joint ventures
Tampa General Hospital and Florida Hospital formed a not-for-profit health care company in a 50-50 joint venture, West Florida Health, to focus on wellness and outpatient services. An outpatient medical center to include primary care, specialty care, a freestanding emergency room and ambulatory surgery center, a home care agency and a hospice operation are planned initially.

Freestanding emergency departments
Since 2011, two independent freestanding emergency departments were established by two different healthcare corporations in the county. HCA's Emergency Center at Plant City opened in October 2012 and Trinity Health's Citrus Park Emergency Room opened in unincorporated Hillsborough County in June 2015.

Air ambulance services
Aeromed closed one of its bases and moved a base. Its four remaining bases are situated in the following counties: Hillsborough, Highlands, Polk and Charlotte. Bayflite also closed a base site. The service now dispatches from the parent company, Air Methods, in Omaha, Nebraska. Its three remaining bases are located in the following counties: Hillsborough, Sarasota, and Hernando.

Interstate construction
In 2012, the Florida Department of Transportation embarked on a new interstate project to rebuild and widen Interstate 275 from east of State Road 60 to the Hillsborough River in downtown Tampa. The project consisted of reconstruction of the entire southbound interstate in that section, as well as northbound I-275 from east of State Road 60 to Himes Avenue. When the I-275 work is completed, there will be four through-lanes in each direction, a flatter roadway to improve sight distance and decrease the chances of accidents, improved interchanges to help move traffic on and off I-275, and a wide median to decrease cost and public impact when future improvements are built.

Veterans Expressway construction
An expansion project begun in 2013 on this thoroughfare, part of the Florida Turnpike System, is well underway. With the removal of the toll plazas, the expressway has been converted to an all-electronic toll collection system enabling payment without stopping. In addition, express lanes are being added adjacent to the median, employing higher toll levels in the peak period to keep traffic moving and reduce congestion. Staged widening of particular stretches of the highway are still ongoing, with expected completion by late 2017.

Communication and interoperability
All Hillsborough County's Emergency Dispatch Center call-takers are public safety telecommunicator-certified, as is now required by state statute. The County's Dispatch Center is also working towards accreditation through the International Academy of Emergency Dispatch. During 2016, the County's Emergency Dispatch Center will be moving to the new state-of-the-art Public Safety Operations Complex [PSOC]. There they will have a new computer-aided dispatch system, a new 911 phone system, plus new mapping capabilities. Hillsborough County Fire Rescue is now on the Hillsborough County Sheriff's Office's 800 MHz radio system which allows for interoperability within the county with other public safety agencies.

In 2014, in collaboration with the Florida Department of Health [FDOH], the Agency for Health Care Administration moved all of their regulated healthcare providers from the Emergency Status System [ESS] to the web-based EMResource Public Health & Safety Communication System. This transition was spurred by recognition of the need to consolidate the silos of information containing critical capabilities and capacities of Florida's healthcare resources to improve communication and collaboration among facilities and health/medical and emergency management entities. The Trauma Coordinator continues to serve as the regional administrator for the sixteen county hospitals and their liaison among the State and regional public health and emergency preparedness entities.

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. Due to its unique geographical location and configuration, all coastal areas of the county and areas along the rivers are considered hazard areas for a hurricane storm surge.

Certain areas of the county are subject to severe ground settlement because of groundwater fluctuation and various other geologically and meteorologically related phenomena. These conditions can cause sinkholes and karst, resulting in property destruction and, rarely, loss of life.

Florida is one of the most thunderstorm prone states and Tampa has been called the "thunderstorm capital of the nation". Hazardous conditions associated with thunderstorms include tornadoes, lightning, hailstorms, winds, and flooding. Thunderstorms provide rainfall that is generally beneficial; however, there is often the associated damage from lightning, wind, hail, and flooding. High winds from thunderstorms can cause damage to structures and lightning can cause fires and disable electrical power equipment.

Florida is also the leading state in the nation in lightning deaths and injuries. Lightning killed 473 people and injured 1,831 people in Florida during the period 1950 - 2013. During the same period, lightning caused 33 deaths and 123 injuries in Hillsborough County. Lightning has often been called the underrated killer, since during an average year, more people die from lightning nationwide than

from all hurricanes and tornadoes combined. Lightning may strike people directly or it can cause death and injury from fires it initiates.

Hillsborough County is linked by more than 3,453 miles of roads which includes three interstates (I-4, I-75 and I-275) and several major state roads. 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.

There are two major airports (Tampa International and MacDill Air Force Base) and three intermediate sized airports (Peter O Knight, Plant City and Tampa Executive Airport). Tampa International Airport (TIA) handles approximately 16.9 million passengers and 187 million pounds of cargo a year (2013 data). Over 33 passenger and cargo airlines serve the airport. The possibility exists for the crash of a large commercial aircraft resulting in mass casualties. Military aircraft utilizing MacDill Air Force Base (AFB) are also a potential hazard. 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. Port Tampa Bay transports cargo and passengers by rail, truck and ship.

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.

Population Characteristics: Growth and Density/Hillsborough County & Jurisdictions
As of the end of 2013, Florida was recognized with the distinction as having overtaken New York as the third most populous state in the union. By the end of 2015, it is estimated that Florida will have more than 20 million residents]. The characteristics of its population increase during the 2010 to 2014 period reflect that the influx of new residents [in-migration] outpaced the net gain of births over deaths [natural increase]. According to the American Community Survey's estimate for the period 2011 to 2013, New York was the primary sending state for domestic in-migration to Florida, at over 60,000 migrants. The dominant state for inflow to Hillsborough County in particular was also New York.

Components of population change for Hillsborough County, 2010-2014

Total Change	Births	Deaths	Components of Change		Percent of Change Due to	
			Natural Increase	Net Migration	Natural Increase	Net Migration
72,661	65,886	37,304	28,582	44,079	39.3	60.7

Source: The Bureau of Economic and Business Research at the University of Florida [BEBR]

The per cent change growth in population in Hillsborough County has slowed considerably over the past four years. During the first decade of the millennium, the pace of growth countywide exceeded 23%. During the years of the economic downturn and the start of the slow recovery, between 2010 to 2014, growth had slowed to 5.9%.

Despite the slowdown, Hillsborough continues to rank as the fourth most populous county in the state, exceeded by Palm Beach, Broward and Miami-Dade counties. Its 2014 population makes up almost 15 per cent of the state's population, estimated at 1,301,887. The Tampa-St. Petersburg-Clearwater metropolitan statistical area [MSA] ranks second in population in the state, surpassed by the Miami-Ft. Lauderdale-West Palm Beach MSA with twice the population.

Demographers at the University of Florida predict that between 2010 and 2050, the effect of a surge in the number of people reaching their 50s, 60s, and 70s nationally is expected to lead to substantial increases in the number of older persons moving to Florida. Statewide, the population aged 65+ is projected to grow from 3.3 million in 2010 to 6.1 million in 2030. By 2040, an estimated one in four Floridians will be of Medicare age. In Hillsborough County, this will translate to the doubling of the 65 and older age group over the next 25 years. The implications on demand for healthcare needs of a growing older population will be significant.

Per cent of age distribution by category, within Hillsborough County, Projections

Age range	2014	2020	2030	2040
0-17	24%	23%	23%	23%
18-44	63%	62%	60%	60%
45-64	10%	11%	13%	12%
65+	3%	3%	5%	6%
OVERALL	1,301,887	1,463,205	1,697,593	1,883,123

Source: BEBR

There are three incorporated cities in Hillsborough County: the City of Tampa, the City of Plant City and the City of Temple Terrace. The greatest population density is found in Tampa and Temple Terrace. However, the greatest absolute population growth continues to occur in the unincorporated sector which covers 86 percent of the County's land area and accounts for about 68 percent of the County's total population.

Jurisdiction	Land Area (Square Miles)	2014 Population Estimate	Persons per Sq. Mile of Land Area	Change in population2 010-2014	Per cent change in population 2010-2014
Tampa	117	352,741	3,012	17,032	5%
Plant City	23	35,956	1,570	1235	4%
Temple Terrace	7	25,308	3,668	767	3%
Unincorporated	923	887,882	962	53,627	6%
Hillsborough County	1,070	1,301,887	1,217	72,661	6%

Source: BEBR

In keeping with the revised federal data collection and presentation requirements, the Census Bureau reclassified census counts to produce data that would be consistent over time, prevent double-counting of people who identified themselves belonging to more than one race, and provide a racial classification for Hispanics who identified themselves as belonging to one or more of several racial groups. These standardization resulted in three groups: non-Hispanic whites, non-Hispanic blacks, and Hispanics. These three racial/ethnic groups also represent the three largest racial/ethnic groups in Florida, estimated to account for 96 percent of Florida's population in 2014. Projections for these groups do not sum exactly to projections of the total population because they do not include the non-Hispanic population that is neither white nor black.

Population Projections by Age, Sex, Race, and Hispanic Origin for Hillsborough in 2014

All Races	Count	% of population
Non-Hispanic White	689,133	53%
Non-Hispanic Black	213,207	16%
Hispanic	345,533	27%
TOTAL	1,301,887	96%

Source: BEBR

Hillsborough County experiences significant periodic shifts in population size throughout the year. Several groups contribute to this population variation. Each year thousands of migrant / seasonal farm workers travel to Hillsborough County to pick citrus and other fruit during the harvest season. (October through April). There are 76 different migrant labor camps in the county which are on the Florida Department of Health's inspection schedule for sanitation and safety conditions. According to the Migrant Clinician's Network, these workers suffer greater mortality and morbidity than the general population because of their limited access to health care, poverty, and hazardous working conditions. Agriculture has long been one of the most hazardous industries in the U.S., and the fatality rate is higher than the overall industry fatality rate.

The county's homeless population was estimated to be 2,243 during the Hillsborough Homeless Coalition's Homeless Count of 2014. There are homeless people throughout the county, but most are concentrated within the City of Tampa.

Another population fluctuation takes place in Sun City Center, an age-restricted 55+ community where thousands of its residents leave around Easter and return before Thanksgiving. According to the Planning Commission, seasonal residents add approximately 37,326 to the population, according to the 2008-2012 average.

The Tampa Bay Convention and Visitors Bureau estimated that 20.8 million people visited Hillsborough County in 2014. This includes 20.3 million domestic visitors and 514,000 international visitors. Over 5.5 million hotels room-nights were booked in Hillsborough County that year.

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. When the MacDill Air Force Base holds their spectacular Air Fest, they can draw crowds up to as many as 200,000 spectators. 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 in the county four times, twice since 2001, easily pulls in over a half million fans. In 2012, Tampa hosted the Republican National Convention. 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 U.S. Census Bureau, American Community Survey 1-year estimated that in 2014, females (51%) slightly out number males (49%). For adults aged 25 years and older: 87% of the population has a high school diploma; 31% has a bachelor's degree or higher.

Employment statistics compiled by the Hillsborough County City-County Planning Commission from the Florida Department of Economic Opportunity, Labor Market Statistics Center lists Hillsborough area employment in the following industries in descending order of magnitude as: Education & health services, Trade, transportation & utilities, Professional & business services, Leisure & hospitality, Financial activities, Construction, Public administration, Manufacturing, "Other" services, Information, Natural resources and mining, and Unclassified.

Agribusiness is an important part of the County's economy. Hillsborough County has 2,843 farms, utilizing 243,388 acres. The County ranks 4th in the State and 59th nationally in value of farm products. Hillsborough's principal agricultural products are strawberries, ornamental plants, vegetables, citrus and aquaculture. These commodities generate 87% of agricultural sales using just 17% of the land. [Hillsborough County Economic Development Agricultural Industry Department].

According to the Tampa Port Authority, the Port of Tampa is Florida's largest, most diversified port, as well as its largest port in tonnage and size and the largest economic engine in the region. It handles a full array of cargoes, including dry and liquid bulk, break bulk, heavy lift, and containers. Additionally, the port is the energy products conduit for the West and Central Florida, as well as a global supplier of Florida fertilizer products, and further encompasses a wide spectrum of businesses on its 5,000-acre footprint. It is also considered one of the top shipbuilding and repair centers in the Southeast U.S. Finally, it homeports five vessels from four cruise lines offering a variety of cruise itineraries with close to a million passengers passing through the cruise terminal in 2014.

According to the Hillsborough County City-County Planning Commission, the major employers are [in descending order of magnitude] are: Hillsborough County School District, MacDill Air Force Base, Hillsborough County Government, University of South Florida, St. Joseph's Hospital, Publix Super Markets, Inc., Tampa General Hospital, City of Tampa, HCA West Florida, U.S. Postal Service, and Tampa Electric Company.

Hillsborough County's median and mean household income is estimated at $49,597 and $69,711 [U.S. $52,250 and $73,767] respectively. The percentage of the population below the poverty level or without health insurance coverage is approximately 17% [the U.S. estimates run slightly lower at 16 and 15 percent respectively]. 2013 American Community Survey

A large contributor to the County's economy and important partner in local emergency preparedness and response activities is MacDill Air Force Base. Activated in 1941 on the tip of the peninsula that divides Old Tampa Bay/Tampa Bay from Hillsborough Bay, Mac Dill AFB is the second largest employer in Tampa, says the city's 2013 Comprehensive Financial Report. It hosts both the U.S. Central Command, responsible for U.S. security in 25 nations, the U.S. Special Operations Command whose charge is the global war on terrorism, and the 6th Air Mobility Wing, which refuels U.S. military aircraft worldwide. The nation's Hurricane Hunters also are based here. MacDill's annual economic impact is nearly $5 billion and it has approximately 18,000 personnel, 16,634 dependents, and more than 46,000 retirees in the Tampa Bay area. It also encompasses $2.8 billion in base property and capital assets with an annual budget of more than $249 million. Approximately 14,500 people, including contractors and military personnel, work on the base.

Tampa Bay is readily recognized as one of the most Veteran friendly areas to reside in the state of Florida. In 2015 Hillsborough County placed first in the state in terms of the economic impact Veterans have on the community. In a report issued by the Florida department of Veteran Affairs, Veteran's residing in Hillsborough County received $466 million dollars in Veterans Administration monetary benefits in 2015. Close proximity to Mac Dill AFB and Tampa VA Medical center are significant factors for Veterans deciding to call Hillsborough County home when leaving or retiring from the service. Activated in 1972, the James A. Haley Veterans' Hospital is a tertiary care facility classified as a Clinical Referral Level 1 Facility. JAHVH is a teaching hospital, providing a full range of patient care services, with state-of-the-art technology as well as education and research. Comprehensive health care is provided through primary care, tertiary care, and long-term care in areas of medicine, surgery, psychiatry, physical medicine and rehabilitation, spinal cord injury, neurology, oncology, dentistry, geriatrics, and extended care.

Hillsborough County is home to approximately 94,000 Veterans, placing second in population for the state of Florida. The combination of active duty personnel, retirees, dependents, and Veterans makes Hillsborough County creates an economic environment of stability and value that inhibits community engagement and longevity.

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:

927th 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 non-state aggression, supports development and, when necessary, reconstruction in order to establish the conditions for regional security, stability, and prosperity in conjunction 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.

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; and

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. About 400,000 people would be considered at risk under a worst case Category 5 hurricane, (Tampa Bay Regional Planning Council Statewide Regional Evacuation Study, 2010). 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.

The county has 16 hospitals with an approximate 4,500 bed capacity, and 29 nursing homes with an approximate 4,300 bed capacity. Four of the hospitals and four of the nursing homes are located in hurricane evacuation zones and have an estimated 1,500 and 475 bed capacity respectively. 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. Similarly, the nursing homes 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 have combined fire and rescue providers. In general, there are more fire engines than rescue cars. Fire engines are staffed by firefighters who are 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	Engines	Rescue Units	ARFF
HCFR	43	16	1	27	42	25	0
PCFR	2	0	0	2	3	4	0
TFR	21	6	0	15	21	15	6
TTFD	2	0	0	2	3	4	0
Total	68	22	1	46	69	48	6

Public EMS service	Brush Truck	Foam	HAZ MAT	Heavy Rescue	Ladder Truck	Tanker Truck	Boat
HCFR	18	1	1	1	6	10	2
PCFR	1	0	0	0	1	0	0
TFR	3	4	1	1	5	0	2
TTFD	1	0	0	0	1	0	0
Total	23	5	2	2	13	10	4

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

ARFF - Airport rescue fire suppression vehicle especially equipped to fight fires from inside
Boat – apparatus used for both
Brush Truck - light utility vehicle used for used in fighting uncontrolled outdoor fires [vegetation or wildland]
Combo station – station housing both non-transport and transport units
Engine - engine (fire suppression) non-transport unit staffed with ALS level personnel
Fire station – station housing non-transport units
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
Rescue station – station housing transport units
Rescue Unit - rescue car/unit (transport ambulance) staffed with paramedics
Tanker Truck - specially equipped vehicle used to transport water for fire suppression for those areas of the county without sufficient access to water sources

City of Tampa Fire and Rescue Stations		
With the exception of the truck companies and ARFF (airport), all apparatus are staffed with paramedics		
E=Engine; R=Rescue unit/car; L=Ladder Truck		
1	E1/L1/R1	808 E Zack Street 33602
2	ARFF1,2,3,4,6	3911 Bessie Coleman Blvd 33607
3	E3/R3	103 S Newport Ave 33606
4	E4/R4	2100 E 11TH Ave 33605
5	E5/R5	3900 N Central Ave 33603
6	E6/Hazmat6	311 S 22ND St 33605
7	E7/R7	6129 N Nebraska Ave 33604
8	E8/R8	2015 N Manhattan Ave 33607
9	E9/L9/R9	2525 W Chestnut St 33607
10	E10	3108 N 34TH St 33605
11	E11/R11	1500 W. Waters Ave 33604
12	E12	3073 W Hillsborough Ave 33614
13	E13/L13/R13	2713 E Annie St 33612
14	E14/L14/R14	1325 S Church Ave 33629
15	E15/R15	4919 S Himes Ave 33611
16	E16	5126 E 10TH Ave 33619
17	E17/Fire boat1	601 E Davis Blvd 33606
18	E18/R18	5706 N 30TH St 33610
19	E19/Fire boat19	7910 Interbay Blvd 33616
20	E20/R20	16200 Bruce B Downs Blvd 33647
21	E21/L21/R21	18902 Green Pine Ln 33647
22	E22/R22	10871 Cross Creek Blvd 33647

City of Temple Terrace Fire Department Stations: E= Engine; R=Rescue Unit; , L=Ladder Truck		
Station #	Personnel / Equipment	Address
1	E11/R111 Reserve ALS Engine1 Reserve ALS Rescue	124 Bullard Parkway Temple Terrace, Florida 33617
2	E21/L21/R21	7772 East Telecom Parkway Temple Terrace, Florida 33617

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

Hillsborough County Fire Rescue Stations: E=Engine; R=Rescue Unit, L=Ladder Truck, T= Tanker, B=Brush, Bt=Boat			
HQ	HQ		2709 E. Hanna Avenue, Tampa 3610
	Training Office		3210 S. 78th Street, Tampa 33619
1	Progress Village	R, E	3302 S. 78th Street, Tampa 33619
2	Lithia	R, E, T, B	6726 Lithia-Pinecrest Road, Lithia 33547
3	Summerfield	R, E	10817 Big Bend Road, Riverview 33569
4	Armwood	R, E	11826 SR 92, Seffner3 3584
5	University	R, L	1113 E. 139th Avenue, Tampa 33612
6	Henderson	L	10100 Henderson Road, Tampa 33624
7	South Brandon	E, Air	1292 E. Bloomingdale Avenue, Brandon 33596
8	Sundance	E, Air, B	602 Lightfoot Road, Wimauma 33598
9	Sabal Park	Hazmat, Foam	3225 Falkenburg Road-, Tampa 33619
10	Armdale	R, E	8430 N. Grady Avenue, Tampa 33614
11	Brandon	R, Heavy R, Bt, L	117 Ridgewood Avenue, Brandon 33511
12	Gibsonton	R, E	8612 Gibsonton Drive, Gibsonton 3 3534
13	Gunn Highway	R, E, B	7502 Gunn Highway, Tampa 33625
14	N. Hillsborough	R, L	1404 E. 131st Avenue, Tampa 33612
15	Palm River	E	715 S. 58th Street, Tampa 33619
16	Riverview	B	9205 Kevin Drive, Riverview 33569
17	Ruskin	R, E, Bt, T, B	410 E. College Avenue, Ruskin 33570
18	Seffner-N. Brandon	E, B	3096 S Kingsway Rd., Seffner 33584
19	Carrollwood	R, E	13210 N. Dale Mabry Highway 33618
20	W. Hillsborough	R, E	7020 W. Hillsborough Avenue, Tampa 33634
21	Thonotosassa	R, E, B	11641 Flint Avenue, Thonotosassa 33592
22	Wimauma	E, T, B	1120 7th Street, Wimauma 33598
23	Dover	E, T, B	3138 Sydney-Dover Road, Dover 33527
24	Lutz	E, T, B	129 Lutz-Lake Fern Road, Lutz 33549
25	Springhead	R, E, T, B	2606 E. Trapnell Road, Plant City 33566
26	Cork Knights	R, E, T, B	5302 W. Thonotosassa Road, Plant City 33566
27	Bloomingdale	R, E, B	4705 E. Bloomingdale, Brandon 33594
28	Sun City/Ed Powers	2 R's, L	4551 Sun City Center Blvd, Sun City Ctr 33573

29	Apollo Beach	E, B	626 Golf & Sea Blvd., Apollo Beach 33570
30	Midway	E, B	2526 Charlie Taylor Road, Plant City 33566
31	W. Hills. II	R, E	8901 Memorial Highway, Tampa 33615
32	East Lake	R, E	5808 Harney Road, Tampa 33610
33	Falkenburg	R, E	850 S. Falkenburg, Tampa 33619
34	Van Dyke	E, T, B	6415 Van Dyke Road, Lutz 33549
35	Westchase	E, B	10401 Countryway Blvd., Tampa 33626
36	Valrico	R, E	116 N. Dover Road, Dover 33527
37	Providence Rd.	R, E	5602 Providence Road, Brandon 33511
38	River Oaks	R, E	9755 Sheldon Road, Tampa 33635
39	Tampa Shores	E	7371 Montague Street, Tampa 33635
40	Chapman	R, E	16304 N. Nebraska Avenue, Lutz 33549
41	Northdale	R, E	15905 Mapledale Blvd., Tampa 33624
42	Country Place	E	5209 Ehrlich Road, Tampa 33624
43	FL Hospital-Tampa	R	3100 E. Fletcher Ave., Tampa 33613

Medical Facilities

Licensed beds	Two trauma centers, each having separate state designations for adult and children (patients less than 15 years of age)
1011	Tampa General Hospital (TGH), a Level I adult and pediatric trauma center Davis Islands Tampa FL 33601
780	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	Nine non-trauma center hospitals meet criteria to be an initial receiving hospital to stabilize trauma alerts under extraordinary circumstances
438	Brandon Regional Hospital 119 Oakfield Drive Brandon FL 33511
120	Florida Hospital Carrollwood 7171 N. Dale Mabry Highway Tampa FL 33614
493	Florida Hospital Tampa 3100 E. Fletcher Avenue Tampa FL 33613
183	Memorial Hospital of Tampa 2901 Swann Avenue Tampa FL 33609
112	South Bay Hospital 4016 State Road 674 Sun City Center FL 33573
147	South Florida Baptist Hospital 301 N. Alexander Street Plant City FL 33566
76	St. Joseph's Hospital-North 4211 Van Dyke Road Lutz FL 33558
90	St. Joseph's Hospital-South 6901 Simmons Loop Riverview, FL 33578
201	Tampa Community Hospital 6001 Webb Road Tampa FL 33615

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.
415	James A. Haley Veteran's Administration Medical Center 13000 N. Bruce B. Downs Boulevard Tampa FL 33612
206	H. Lee Moffitt Cancer Center and Research Institute at USF 12902 Magnolia Drive Tampa FL 33612
60	Shriner's Hospital for Children Tampa 12502 N. Pine Drive Tampa FL 33612
102	Kindred Hospital Central Tampa 4801 N. Howard Avenue Tampa FL 33603
73	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	Tampa Community 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.

In the twenty-five year history of the development and evolution of Florida's trauma system, the location of Hillsborough trauma centers' in west central part of the state determined its prominence as a regional EMS transport destination decision for critically injured trauma victims. In the five years since the 2010 Trauma Plan Update, several new trauma centers have come online in nearby counties, causing some shifts in the traditional scene and interfacility referral patterns. To the north, Regional Medical Center at Bayonet Point in Pasco County, and to the south, Blake Medical Center in Manatee County, both became verified level II trauma centers. Accordingly, the EMS agencies in Pasco and Pinellas Counties divided their catchment areas and reassigned their transport destination protocols which consequently impacted Hillsborough trauma centers. A third hospital, Sarasota Memorial is expected to complete its provisional trial period to become fully verified as a level II trauma center in the near future.

Despite these additions to the system, and even factoring in the recent verification of additional centers in central Florida, there will be a continued need for transfer agreements with Tampa General and St. Joseph's for specific services that those facilities do not provide, such as pediatric trauma, burn care, brain and spinal cord injuries, and certain amputations. For incidents occurring in the easternmost part of the county, the Lakeland Regional Medical Center in Polk County continues to serve as the alternate destination to transport Hillsborough's adult trauma alerts by ground from easternmost Hillsborough when air transport is not feasible to an in-county trauma center because of inclement weather. In response to the changing landscape of new trauma centers and referral patterns, the aeromedical services supporting Hillsborough's trauma centers repositioned their satellite bases accordingly.

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.

Exceptions to the Hillsborough's trauma center receiving zone scheme for trauma alert destination decisions are addressed in Hillsborough's Uniform Trauma Transport Protocol. 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. All non-trauma center hospitals have transfer agreements with at least one trauma center in the County.

(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 Division of Human Services. The Trauma Coordinator reports to the Chief Administrator of Human Services and is advised by the consultant Medical Director. The Chief Administrator reports directly to the County Administrator. Policy decisions are made by the Board of County Commissioners.

The existing job descriptions for the Chief Administrator, Medical Director and the Trauma 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.

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 most months 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 membership includes representatives from all Hillsborough's EMS providers, their medical directors, public emergency medical dispatch centers, trauma surgeons and trauma nurses from the trauma centers, plus physicians and nurses from community hospitals' emergency departments. Analogous representatives from Pinellas, Pasco and Polk counties, the latter of which also regularly receives trauma patients from eastern Hillsborough County, also participate in this confidential forum.

Representation from the trauma community may include:

1. The Adult Trauma Medical Director from each designated Trauma Center
2. The Pediatric Trauma Medical Director from each designated Trauma Center
3. The Medical Director of the Regional Burn Center
4. The Trauma Program Manager from each designated Trauma Center
5. 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
6. 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
7. A representative from each emergency medical dispatch center
8. An Emergency Physician from each non-trauma center
9. Emergency Nurse from each non-trauma center
10. General Surgeon (not affiliated with a trauma center)
11. Neurosurgeon
12. Orthopedic Surgeon
13. Anesthesiologist
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 Chief Administrator of Human Services, and cancelable by either party on a 60-day notice. With regard to the Trauma Agency, the Chief Administrator'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. Florida Statutes empower a trauma agency 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. All information gained from investigations into quality of care inquiries directed through the Trauma Agency will be treated confidentially.

Disagreement between providers about patient care issues that can be resolved by the involved agencies will be returned to the initiators to pursue through internal chains 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 activities in accordance with the requirements set by the Department of Health's Trauma Program'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.

In 2014, the FDOH promulgated the rule, 64J-2.020, F.A.C., requiring acute care hospitals [non trauma centers] to submit trauma patient care data as an extension to the Florida Trauma Registry. Analysis of outcomes from this heretofore untapped sector is expected to provide the State with the necessary data to evaluate system-wide EMS adherence to/and efficacy of trauma scorecard methodology. Compliance with and full implementation of this initiative is still ongoing. If access to such data sources were made available, a trauma agency would be able to evaluate their providers' conformance to application of triage criteria and trauma transport protocol provisions but limited resources preclude such implementation. The Trauma Agency has independently collected data on non-trauma centers' trauma admissions to gauge trauma care provider performance. Unfortunately, formatting inconsistency across facilities makes utilization impractical. Under current circumstances, only mortality reviews are possible.

Provider education
The monthly TAC meetings provide a forum to help members keep abreast of the ever changing medical, technological, legislative and political arenas affecting the delivery of trauma care. The TAC Medical Director usually presents recent incident-based examples of trauma care to illustrate one or more themes that offer possible opportunities for system improvement. The physician members from the emergency medicine or trauma disciplines play a significant role in provider education during the discussions. At the invitation of the HCTA, a TAC member or guest speaker may also present material on trauma-related subjects in a variety of interesting formats such as evolving standards of care, case studies/series, original research, novel therapies and devices, literature reviews, mass casualty preparation, and reports and recommendations from meetings of state and national organizations concerned with emergency medical services and trauma care. The State EMS Medical Director regularly attends the TAC meetings and advises the membership of statewide news and developments affecting the trauma system.

System Planning and Evaluation
The TAC may initiate a request for a modification to the system (and concomitant Trauma Plan modification, if applicable). The HCTA will gauge such requests on the basis of quality improvement potential for the entire trauma system. Assertions of system deficiencies must be substantiated with evidence-based data that can be corroborated by the HCTA. A request for system change must be stated in terms of measurable improvement in the quality of patient care to be delivered, accompanied by an assessment of its potential impact on the overall system. Moreover, the proposed quality indicators must be acceptable to the 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 changes in the trauma system, as needed. Plan Updates will be promulgated according to Florida Statutes and Florida Administrative Code.

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

Prehospital EMS Providers
In the prehospital setting, Hillsborough's 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 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 outpatient 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 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/

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, 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 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. Pinellas, Pasco and Polk services 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.

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: an adult and a pediatric 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, either autopsies or external exams are performed by the County Medical Examiner on referred trauma victims. 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 performance improvement 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 Statutes Chapter 395.50 and 395.51. Discussions at the county wide 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)
5.	MacDill AFB Emergency Dispatch Center

PREHOSPITAL PROVIDERS

Public ground ambulance providers (ALS):
1.	Hillsborough County Fire Rescue
2.	Plant City Fire Rescue
3.	Tampa Fire Rescue
4.	Temple Terrace Fire Department

Air medical providers (ALS):
1.	Aeromed
2.	Bayflite-Lifenet

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 COPCN, volunteer)
4.	TransCare (BLS COPCN)

Hospital providers with emergency departments:

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

Although the 400 plus bed James A. Haley Tampa Veterans' Administration Hospital has an emergency department and 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 does not meet all five criteria specified in 64J-2.002(3)(a), F.A.C.

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

Following a lengthy series of rule development workshops held around the state in 2012 and 2013, the FDOH promulgated a new trauma center allocation scheme in 2014 to replace the longstanding static maximum numbers of trauma centers allowed for each of the 19 trauma service areas [TSAs]. The revised rule, 64J-2.10, provides a formula for calculation of new quotas for trauma center allotments across the TSAs based on the sum total score of six criteria: population, median transport times, letters of community support, the number of severely injured patients discharged from acute care/non trauma center hospitals, the existence of a Level I trauma center, and the annual number of severely injured patients treated at trauma centers as compared to a statutory trauma center patient volume benchmark as identified in Section 395.402(1), F.S. Under the new allocation process, four TSAs each saw their quota of trauma centers reduced by one less slot than their existing number of facilities. Among these affected jurisdictions are three single-county TSAs with trauma agencies; Hillsborough County being one of them. Going forward, the FDOH must conduct an annual assessment and scoring of these factors to determine the total score for each TSA.

The volume of trauma alert patients treated as well as total trauma patients admitted fluctuated as additional trauma centers in adjacent counties came on line and transitioned from provisional to full verification status between 2011 and 2013. By 2014, there was evidence that this trend is beginning to reverse.

All trauma alerts treated at Hillsborough's trauma centers (% change from prior year)						
Trauma center	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**
SJH	781	638 (-18%)	657 (+3%)	585 (-11%)	602 (+3%)	606 (+0.2%)
TGH	976	974 (-0.2%)	940 (-3%)	904 (-4%)	844 (-7%)	951 (+13%)

While the statutory statewide limit of trauma centers is still set at 44, the current allocation rule now effectively limits a local or regional trauma agency's discretion in the determination of the number of trauma centers needed for each trauma service area. The long term consequences of this new allocation process are unknown. Among the six elements used in the calculation of the allocation score, earning additional points for a trauma center are possible when the FDOH receives letters of support from the city and county commissions located within the TSA. An opportunity to petition the FDOH adjustments to trauma center allocations by this latter method would be an option, if filed, on or before August 30 of each year.

As depicted in the table below, each Hillsborough trauma center continues to demonstrate its capacity to treat a minimum of 1000 trauma patients annually as per 395.402(1), F.S. It is the opinion of the Hillsborough County Trauma Agency that Hillsborough's two trauma centers can sufficiently accommodate its trauma care demands now and for the foreseeable future.

All trauma admissions at Hillsborough's trauma centers 2010-2014					
Trauma center	**2010**	**2011**	**2012**	**2013**	**2014**
SJH	2602	2470	2550	2467	2583
TGH	2854	3079	2499	2388	2633

(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

OBJECTIVE
To develop a regional trauma agency as proposed in the Florida Department of Health's 2014
State Trauma System Plan.

RATIONALE
Three single county trauma service area-based local trauma agencies [Hillsborough, Broward,
Palm Beach], and one multi-county [North Central Florida] regional trauma agency have been in
operation in the state of Florida since the early 1990's. Development of additional agencies has
been hampered most likely due to lack of reliable funding for same. This lack of coverage of
trauma agencies leaves a majority of counties without representation and the attendant, major
advantage afforded to these entities; that of robust system quality improvement along the entire
spectrum of care.

This trauma agency foresees its single biggest responsibility and challenge for the future as
planning for continuity of its services for the long term with a succession plan. The
establishment of a regional trauma agency in the Tampa area would further the local and state
efforts to build an inclusive state trauma system and possibly provide a model for emulation
elsewhere.

ACTION PLAN
A regional trauma agency based on the Regional Domestic Security Taskforce would include the
nine counties in RDSTF 4 which are Citrus, Sumter, Hernando, Pasco, Pinellas, Polk, Hardee,
Hillsborough and Manatee counties. A key component of the initial strategy could involve the
Trauma Coordinator and the Medical Director entering into discussions with EMS agencies from
the surrounding counties in RDSTF 4 to develop an emergency medical review committee
structure under the statutory provisions of Chapter 401 to accomplish this aim.

IMPLEMENTATION:
Ongoing

Describe the (f) Source of income and anticipated expenses by category for the trauma agency.

Currently, the HCTA's budget of $132,369 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.

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

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.

(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-Lifenet, operated by Bayfront Medical Center, and Aeromed, operated by Tampa General Hospital. Both medevac 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 has additional helicopters based in Polk, Charlotte and Highlands Counties for scene and interfacility responses. Bayfront has satellite bases in Sarasota 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. 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.

Prehospital to Trauma Center/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.

Prehospital to Initial Receiving Center/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)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.

Initial Receiving Center to 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

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.

<u>The Uniform Trauma Transport Protocol</u>
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 supersedes 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.

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.

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.

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

(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.

Trauma Audit Committee
The emergency medical physicians 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.

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. Each PSAP is equipped with telecommunications devices for the deaf (TDDs). Every PSAP can also refer callers to any of three over the phone interpretation services 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 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.

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. All communication centers participating in the 9-1-1 system are required to have emergency back-up power.

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

Radio networks
An 800 MHZ radio system used by county and city public safety agencies (Sheriff, Fire Rescue and Police) is available to coordinate emergency response operations during disasters. County and municipal radio networks are also available to the EOC for communications within the county along with the radio networks of the U.S. Coast Guard and the Marine VHF Calling & Distress network.

RACES/ARES
The Radio Amateur Civil Emergency Services (RACES), an auxiliary of Hillsborough County Emergency Management, and the American Radio Relay League's Amateur Radio Emergency Service (ARES), operates as a combined organization called Hillsborough County ARES/RACES. This volunteer group provides a valuable source of backup/auxiliary communications support during an emergency situation. They bring both long range and intra-county radio communications capabilities by using ARES/RACES amateur radio, REACT Citizen's Band (CB) radio, aviation and marine radio, Military Affiliate Radio System (MARS), Civil Air Patrol (CAP) communications, the federal government's Shared Resources (SHARES) radio program, and the FEMA National Radio System (FNARS) using both voice and digital methods.

County ARES/RACES also provides interoperable communications support using VHF, UHF, and 800 MHz public safety radio frequencies between local, state, federal, and military agencies. The group can support communication operations between hurricane evacuation shelter/mass care facilities, the EOC, the American Red Cross Disaster Operations Centers (DOC), the Fairgrounds, county staging areas, Disaster Recovery Centers, Hillsborough Sheriff's Office, Tampa Police Department, City of Tampa EOC, county and municipal fire rescue stations, and other locations as tasked by the Director of Emergency Management, as resources allow.

County ARES/RACES has deployable communications teams able to provide interoperable communications support to the state and other counties requesting mutual aid support. They maintains a pool of technically trained individuals that are resources to deploy the State Fire Marshal's Mutual Aid Radio Communications (MARC) Unit and the Regional Domestic Security Task Force's Emergency Deployable Interoperable Communications System (EDICS)

as well as portable VHF, UHF, HF, satellite, 800 MHz public safety, governmental, and amateur radio communications systems. County ARES/RACES trains with deployable elements of Urban Search and Rescue Teams in Florida Task Force 3.

The County has three mobile communications command centers: the Sheriff's Office has two and the County Fire Rescue has one. Tampa Police Department also possesses a mobile communications command post.

The County's Emergency Medical Dispatch Center uses the state-subsidized web based system, called EMResource, for communications with hospitals during disaster situations. Hillsborough hospitals typically update their bed count statuses on a daily basis. In the event of a disaster, dispatchers will use EMResource to contact the hospitals by pager and email to update their bed status. Military Communications.

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.

Various types of additional 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
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.

Hillsborough County's trauma system participants are in full compliance with Florida's Emergency Medical Services Communications Plan. Each hospital's emergency department monitors a Med 8 channel and has 800 MHz system operability. However, increasingly, the EMS agencies have found that call phone communications have become the most common method by which they are able to establish contact with the emergency departments.

(l) 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 specific 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, all four 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 (ePCRs) 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.

Medical Examiner Database

The Trauma Coordinator reviews the reports of all autopsies and externals exams performed by the Medical Examiner on deaths from trauma that occurred in hospitals to identify potential care and system issues which may need to be addressed by the TAC.

(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 multidisciplinary 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.

(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 groups organized to maintain readiness for mass casualty events and local/regional disasters, such as Hillsborough's RDSTF 4 Health Care Coalition, Hillsborough's Emergency Management Operations Group, the EMResource Change Action Board, 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.

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.

Association of Florida Trauma Agencies. The goals and objectives of this body are: to foster the development and support of trauma agencies through legislative and programmatic activities, to address present and future trauma care needs of communities and the State, to establish administrative and medical policies and protocols to improve the quality of trauma care, 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.

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.

(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 F1. Job description of Trauma Coordinator
Appendix F2. Job description of Chief Administrator, Human Services
Appendix G. Hillsborough County Emergency Medical Services Transportation Ordinance 06-9
Appendix H. Documentation of Trauma Plan public hearing
Appendix I. Documentation of Hillsborough County Board of County Commissioners approval