

DISASTER PREPAREDNESS GUIDE



CITY OF HOUSTON

MAYOR'S OFFICE

OFFICE OF EMERGENCY MANAGEMENT

(713) 884-4500

www.houstontx.gov/oem

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MISSION STATEMENT

We conduct programs and activities designed to provide our customers, internal and external, with the ability to prepare for, cope with, and recover from the effects of disasters. This is achieved through information and resource exchange, working with the public and private sectors, and all levels of government through the utilization of modern technology.

EMERGENCY PREPAREDNESS

The routine of our daily lives can easily be disrupted by emergencies and/or disasters and each event can have immediate and lasting effects. People can be seriously injured, or sometimes killed and property damages can run into millions of dollars. The goal of the City of Houston's Office of Emergency Management is to prepare the City to respond to and recover from the effect of disasters and emergencies. This preparedness process includes providing assistance to those citizens who have been affected by the disaster. Our goal will be accomplished, in part, by the utilization of the City's resources as well as the resources of the county, state and federal governments.

As the need arises, additional support and assistance will be provided by agencies such as the Texas Division of Emergency Management, Federal Emergency Management Agency, Greater Houston American Red Cross and the Salvation Army. Along with these service agencies are other dedicated volunteers who extend themselves to assist the City when called upon. These resources are vital to the complete recovery effort of the City of Houston.

When emergencies occur, emergency management departments (Police, Fire, EMS, Public Works and Health) are trained to respond to the areas affected by the event. It is the responsibility of all of us to be personally prepared to respond and manage the effects of a disaster. Houston's Office of Emergency Management has prepared self-help booklets and pamphlets to assist you in developing your personal emergency preparedness program for your family's protection. Emergency Management staff members are also available for emergency preparedness presentations to civic groups and other organizations.

PREPAREDNESS CHECKLIST
KNOWING WHAT TO DO
PROTECTS YOU AND YOUR FAMILY

LEARN about potential hazards and how to deal with them

DEVELOP an Emergency Plan

PRACTICE and maintain your emergency plan

FIND OUT WHAT KIND OF DISASTERS
COULD AFFECT YOU:

Contact the City of Houston's Office of Emergency Management
at (713) 884-4500

- { Ask about the types of natural or technological (hazardous materials, major transportation accidents, etc.) disasters most likely to occur in the greater Houston/ Galveston area. Request information on how to prepare for each occurrence.
- { Ask about the Emergency Alert System (EAS). EAS broadcasts are activated by local authorities when there is an emergency. (KTRH 740 AM)
- { Pay close attention to these messages.
- { Ask about animal care after a disaster. Animals may not be allowed inside emergency shelters. Only working dogs will be allowed to accompany a disabled person.
- { Ask about special assistance for the elderly and disabled, if needed.
- { Ask about evacuation and safe inland traffic routes.

Find out about the disaster plan at your place of employment, your children's school, day care center and other places where families spend time.

DEVELOP A FAMILY EMERGENCY PLAN

Discuss what your family should do for each type of disaster.

- { Find the safe areas in your home to take shelter.
 - { Determine the best escape routes from your home and find two ways out of each room.

- { Pick places to meet--choose a location outside your house in case of a household emergency, such as a fire, and one outside your neighborhood in case you can not return to your house.
- { Pick local and out-of-town family check-in points for everyone to call if your family gets separated.
- { Make sure everyone knows the phone numbers.
- { Discuss what to do in an emergency.

Stock emergency supplies.

You should assemble enough supplies to support your needs for three days.

Assemble a Disaster Supplies Kit in case of evacuation.

- Bottled water,
- packaged or canned food, can opener,
- change of clothes/footwear,
- blankets/sleeping bags,
- first aid kit,
- prescription medicines,
- an extra pair of glasses,
- a battery powered radio,
- flashlight and extra batteries,
- an extra set of car keys, and
- cash/credit cards.

Prepare an Emergency Car Kit.

Include a flashlight, extra batteries, booster cables, tire repair kit/pump, fire extinguisher, blanket, first aid kit, bottled water and nonperishable high-energy foods and maps.

Install safety features such as smoke detectors and fire extinguishers in your home.

Learn basic safety measures such as CPR, first aid and use of the fire extinguishers, how and when to turn off water, gas and electricity at the main switches.

Post emergency phone numbers by the telephone. Teach children how and when to call 911, Fire/Police/EMS.

TIPS FOR PERSONS WITH SPECIAL MEDICAL NEEDS

Develop a support system

Members of your support system, or “buddies”, can be roommates, relatives, neighbors, friends and co-workers. They should be people you trust to determine if you need assistance. Your support system members should know your capabilities and needs, and be able to help in a matter of minutes.

Conduct a personal assessment

PERSONAL CARE:

Do you need assistance with activities of daily living, such as bathing and grooming?

Do you use adaptive equipment to help you get dressed?

PERSONAL CARE EQUIPMENT:

Do you use a shower chair, tub-transfer bench or other similar equipment?

ADAPTIVE FEEDING DEVICES:

Do you use special utensils that help you prepare or eat food independently?

ELECTRICITY DEPENDENT EQUIPMENT:

What equipment do you have that runs on electricity and how will you operate it if electrical service is disrupted?

TRANSPORTATION:

Do you need a specially equipped vehicle or accessible transportation?

EVACUATING:

Do you need assistance if you are requested to evacuate?

MAKE A MEDICAL INFORMATION LIST

- Medical providers
- Medications you use
- Adaptive equipment, body support equipment
- Allergies and sensitivities
- Communications or cognitive difficulties
- Attach copies of health insurance cards
- Have an additional 14-day supply of medication available
- Have extra copies of prescriptions

Additional information is available at www.houstontx.gov/oem or by contacting our office.

PET DISASTER SUPPLIES KIT

In the event of a disaster, if you must evacuate, then the most effective thing you can do to protect your pets is to evacuate them too. Leaving your pets behind may result in them being lost, injured, or even worse. Identify locations for your pets. Consider boarding facilities, veterinarians, or animal shelters.

Prepare a disaster supply kit for your pets that should include:

- Medications
- First aid kit
- Sturdy leashes and collar/ harnesses
- Carriers to transport pets safely
- Current photos
- Food
- Potable water
- Bowls
- Litter/pan
- A muzzle
- Can opener

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- Toys

Keep current information on:

- Feeding schedules
- Medical conditions and medical records
- Behavior problems
- Name and number of your vet

PRACTICE AND MAINTAIN YOUR PLAN

- { Conduct fire and emergency evacuations drills annually.
- { Replace stored water every three months and food every six months.
- { Test and recharge your fire extinguisher (s) according to manufacturer's instructions.
- { Test your smoke detector once a month and replace the batteries twice a year. It is suggested that the batteries be replaced in the fall and the spring with the time change.
- { During emergencies, listen to KTRH 740 AM, Houston's designated Emergency Alert System Station, for emergency information from local public officials. Follow instructions and recommendations.

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THUNDERSTORMS AND LIGHTNING

WHAT IS A THUNDERSTORM?

A thunderstorm is a storm containing lightning caused by unstable atmospheric conditions. When cold upper air sinks and warm, moist air rises, storm clouds or “thunderheads” develop. Thunderstorms may occur singly, in clusters, or in lines. Thus, it is possible for several thunderstorms to affect one location in the course of a few hours. Some of the most severe weather occurs when a single thunderstorm affects one location for an extended period of time.

Severe thunderstorms can bring heavy rains (which can cause flash flooding), strong winds, hail, lightning, and tornadoes. To protect yourself in a severe thunderstorm, get inside a sturdy building and stay tuned to a battery-operated radio for weather information.

WHAT IS LIGHTNING?

Lightning is an electrical discharge that results from the buildup of static electricity within clouds, or between clouds and the ground. It always accompanies a thunderstorm. When the buildup is strong enough to overcome the insulating effect of the air, lightning appears as a “bolt”. This flash of light can remain within the clouds, occur between clouds, or strike toward the ground several miles from the parent cloud.

Lightning is a major threat during a thunderstorm. In the United States, between 75 and 100 Americans are hit and killed each year by lightning. If you are caught outdoors, avoid natural lightning rods such as tall, isolated trees in an open area and metal objects such as wire fences, golf clubs and metal tools.

It is a myth that lightning never strikes twice in the same place. In fact, lightning has favorite sites that it will strike several times in the course of one storm.

HURRICANE PREPAREDNESS



Before a Hurricane

A hurricane **WATCH** is issued by the National Weather Service about 36 hours prior to hurricane conditions threatening the coastal area, you should do the following:

- { Continue to monitor local TV or radio stations for instructions.
- { Check supplies, especially water (at least 5 gallons per person).
- { Fuel vehicles and generators.
- { Cover windows with plywood.
- { Bring in **ALL** outdoor furniture, toys and tools.
- { Moor any boats securely or move boats to a safe place.

A hurricane **WARNING** is issued when hurricane winds of 74 miles per hour or higher or dangerously high water and rough seas are expected within 24 hours of your area, you should:

- { Continue to monitor local TV and radio stations for instructions.
- { Move out of low-lying areas or from the coast early at the request of officials.
- { Check tie-downs if living in a mobile home.
- { **Leave immediately.**
- { Fill bathtubs and all available containers with extra water.
- { Turn off utilities, if requested.
- { Stay away from windows, door and openings.

During a Hurricane you should:

- { Remain indoors in an interior hallway, bathroom or closet on the lowest level of your house well away from windows.
- { Cover yourself and family members with a mattress or seek shelter under something sturdy, such as a well-constructed dining room table which could protect you from possible debris.

After a Hurricane

- { Beware of unsafe food and/or water. Boil tap water before drinking unless you are told it is unnecessary.
- { Utilities could be off. Treat all downed lines as live wires and don't approach. If you smell gas, leave the area immediately and notify the proper authorities.
- { Make temporary repairs, without taking unnecessary risk to protect your property from further damage.
- { Inform your insurance agent of any damage, and leave word where you can be reached. Take pictures of damages.

EVACUATION ZONES

The Saffir-Simpson scale divides hurricanes into five categories. They are: Category

<u>Windspeed (MPH)</u>	<u>Damage</u>	
1	74-95	Minimal
2	96-110	Moderate
3	111-130	Extensive
4	131-155	Extreme
5	greater than 155	Catastrophic

Evacuation zones A through C have been identified for Houston/Harris County and assigned letters that correspond to hurricane categories. Zone A includes categories 1-2 hurricanes, Zone B includes a category 3 hurricane and Zone C includes categories 4-5 hurricanes. These areas reflect how far inland the storm surge is expected, depending on the hurricane category.

If you are unable to determine which risk area you live in, it is best to err on the side of caution and assume you live in the area nearest the coast.

The map on the following page depicts, in color, the three evacuation zones within Houston/Harris County. Major state and federal highways are identified on the map. The map shows recommended evacuation routes using red lines. Recommended evacuation routes are:

EVACUATION ROUTES

I-45N

TX 225

TX 288

US 290

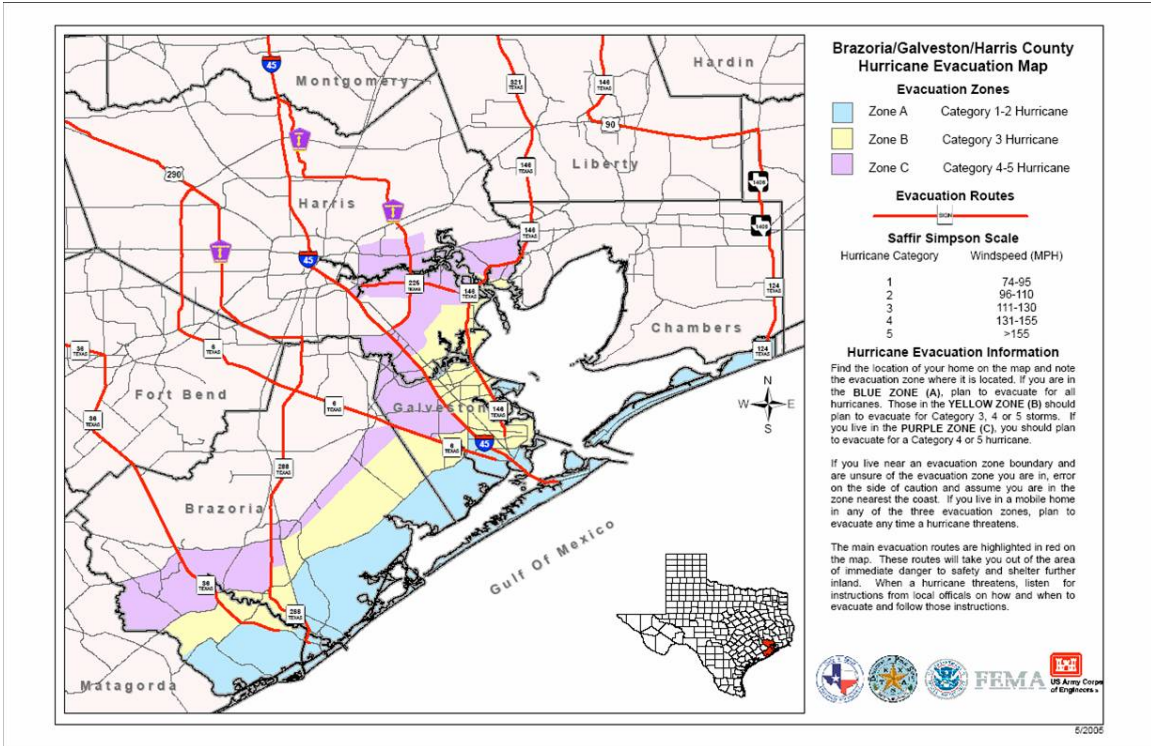
Hardy Toll Road

Beltway 8

TX 6

TX 146

Should an evacuation be recommended, electronic media, Highway Alert Radio and freeway changeable message signs would be used to provide motorists with important evacuation information. This will be coordinated by the Emergency Operations Center through Houston TranStar.



After a Flood

- { Stay away from flood waters.
- { Be aware of areas where flood waters have receded.
- { Keep away from areas where power poles are down or where destruction of properties has occurred.
- { Be alert to personal health and safety issues regarding your family's welfare.
- { Continue monitoring your radio for the latest information.
- { Contact your insurance agent as soon as possible.

TORNADOES



Tornadoes strike with little or no warning. Each family should develop a tornado plan and designate a safety shelter. Practice the plan you and your family developed.

How To Prepare For Tornadoes

Know meaning of terms used to describe tornado threats:

- { **Tornado Watch** - tornadoes are possible
- { **Tornado Warning** - take shelter, tornado sighted
- { **Severe Thunderstorm Watch** - severe thunderstorms are possible
- { **Severe Thunderstorm Warning** - severe thunderstorms are occurring

Purchase a NOAA Weather Radio, a battery-powered commercial radio and extra batteries for each.

Have emergency supplies on hand.

Inventory your possessions. Keep important papers in a safe deposit box.

What To Do During A Tornado

When a tornado is sighted, go to your shelter immediately; stay away from windows, doors and outside walls:

- { In a **house** or **small building**, go to basement or an interior room on lower level.
- { In a **school, nursing home, hospital, factory** or **shopping center**, go to pre-designated shelter areas or interior halls on lowest level.
- { In a **high-rise building**, go to small, interior room or hallway on lowest floor possible.
- { Get under a sturdy piece of furniture--a table or desk.
- { Use your arms to protect head and neck.
- { In a **mobile home, trailer** or **vehicle**, get out immediately and go to a substantial structure. A ditch, ravine or culvert could be used if no structure is available. Do not attempt to out-drive a tornado.

Tornado shelters should be stocked with the following supplies:

- { flashlight and extra batteries
- { first-aid kit
- { emergency food and water
- { manual can opener
- { essential medicines
- { cash and credit cards
- { sturdy shoes

What To Do After A Tornado

Be aware of broken glass and downed power lines.

Check for injuries. Move seriously injured persons only if in immediate danger or life is threatened.

Use caution entering a damaged building.

SUMMER HEAT

People living in southeast Texas are not strangers to high temperatures and high humidity during the summer. Residents should be aware of how to cope with these adverse conditions.

Humans have a line of defense in dealing with summer heat--sweating and evaporative cooling. As air becomes moist (high relative humidity), evaporation is inhibited and cooling of the body becomes a problem. When our bodies are not able to maintain proper body temperature, heat cramps, heat exhaustion and heat stroke manifest themselves. To help the general populous quantify values for identifying this problem, the term Heat Index was developed. The Heat Index is a combination of temperature and humidity and is used to describe "how hot it feels". The Heat Index value is calculated as if standing in a ventilated, shady place. Prolonged exposure to Heat Indices ranging from:

80 to 90 degrees F could lead to possible fatigue

90 to 105 degrees F represents the possibility of heat cramps and heat exhaustion occurring

105 to 130 degrees F heat cramps and heat exhaustion are likely and a heat stroke is possible

greater than 130 degrees F is when dangerously fatal conditions exist

Some tips to help you cope with reducing potential health related problems are:

- reduce strenuous physical activities to early morning or late afternoon
- wear loose fitting and light colored clothes
- drink plenty of water
- spend as much time as possible in air conditioning

Remember children, the elderly and people with chronic ailments are most at risk during periods of extreme heat. Also, don't forget your pets can succumb to the effects of excessive heat. Ensure they have plenty of drinking water and a shady place to rest.

WINTER WEATHER

Houston is generally spared from dealing with severe winter weather. Occasionally, we are subjected to freezing or below freezing temperatures. Being prepared is the best way to cope with winter weather conditions when they impact our area. Some of the conditions that the public may have to deal with are:

- **ice storms**--may cause a disruption of communications and electrical services, and contribute to unsafe driving conditions. Bridges, overpasses and some highways may be closed due to icing.
- **below freezing temperatures**--coupled with the wind chill factor (rate of heat loss from exposed skin caused by combined effects of wind and cold) people should protect themselves by wearing sufficient clothing, including a cap and gloves when outside, to help retain body heat. **Do not forget the 4 Ps: protect exposed Pipes, People, Pets and Plants.**
- **home heating system**--loss of lives and damage to houses caused by fire tends to increase during the winter due to the unsafe use or operating condition of home heating systems (especially space heaters). If possible, have your home heating system checked to be sure it is in proper working order prior to winter beginning. Installing smoke and carbon monoxide alarms in your house would be advisable.
- **personal vehicle**--do not forget to have your vehicle's antifreeze level checked.

Below are some terms that you should become familiar with:

- **Winter Storm Watch**--severe winter conditions are possible within the next day or two
- **Winter Storm Warning**--severe winter conditions have begun or about to begin
- **Winter Weather Advisory**--winter weather conditions are expected to cause major inconveniences.

HAZARDOUS MATERIALS INCIDENTS



Hazardous materials are substances which, because of their chemical, physical or biological nature, pose a potential risk to life, health and property if they are released. Hazards can exist during production, storage, transportation, use or disposal.

What To Do In A Hazardous Materials Incident

- 4 If you witness a hazardous materials incident, call 911.
 - 4 Avoid incident site to minimize risk of contamination.
 - 4 If you are caught outside during an incident, try to stay up-stream, uphill and upwind.
 - 4 If you are in a car, close windows and shut off ventilation.
 - 4 **Shelter in Place tips (Stay Indoors)**
 - { Follow instructions given by emergency authorities.
 - { Reduce toxic vapors from entering your home by sealing entry routes and closing doors and windows
 - { Turn off all ventilation systems.
 - { Close all fireplace dampers.
 - { Seal gaps around window air conditioning units kitchen exhaust fan grills, stove and dryer vents with duct tape.
 - { Close as many internal doors as possible.
 - { If warned of potential outdoor explosion, close drapes, curtains and shades and stay away from windows to prevent injury from breaking glass.
 - { Stay in protected, interior areas of building where toxic vapors are reduced.
- Listen to news media for instructions.

If evacuation recommended, do so immediately

- { Listen to battery-powered radio for instructions.
- { If time permits, close all windows, turn off ventilation system to minimize contamination.
- { Use recommended travel routes recommended by local authorities.

Avoid contact with spilled liquid materials, airborne mist or condensed solid chemical deposit.

Do not eat or drink food or water that may have been contaminated.

What To Do After An Incident

Do not return home until authorities say it is safe.

Upon returning home, open windows, doors and turn on fans to provide ventilation.

If a person or item has been exposed to hazardous chemicals, follow the procedures below:

- { Follow decontamination instructions from local authorities.
- { Seek medical treatment for symptoms that may be related to hazardous materials release.
- { If medical help is not immediately available and you might be contaminated, remove your clothes, shower and put on clean clothes. Seek medical help as soon as possible.
- { Place exposed clothing in a sealed container and find out proper disposal procedure.

Find out from local authorities on how to clean up your land and property.



Biological Threats

A biological attack is the deliberate release of germs or other biological substances that can make you sick. Many agents must be inhaled, enter through a cut in the skin or be eaten to make you sick. Some biological agents, such as anthrax, do not cause contagious diseases. Others, like the smallpox virus, can result in diseases you can catch from other people.

If There is a Biological Threat

Unlike an explosion, a biological attack may or may not be immediately obvious. While it is possible that you will see signs of a biological attack, as was sometimes the case with the anthrax mailings, it is perhaps more likely that local health care workers will report a pattern of unusual illness or there will be a wave of sick people seeking emergency medical attention. You will probably learn of the danger through an emergency radio or TV broadcast, or some other signal used in your community. You might get a telephone call or emergency response workers may come to your door. In the event of a biological attack, public health officials may not immediately be able to provide information on what you should do. It will take time to determine exactly what the illness is, how it should be treated, and who is in danger. However, you should watch TV, listen to the radio, or check the Internet for official news including the following:

- Are you in the group or area authorities consider in danger?
- What are the signs and symptoms of the disease?
- Are medications or vaccines being distributed?
- Where? Who should get them?

Where should you seek emergency medical care if you become sick?



Chemical Threats

A chemical attack is the deliberate release of a toxic gas, liquid or solid that can poison people and the environment.

Possible Signs of Chemical Threat

- Many people suffering from watery eyes, twitching, choking, having trouble breathing or losing coordination.
- Many sick or dead birds, fish or small animals are also cause for suspicion.

If You See Signs of Chemical Attack: Find Clean Air Quickly

- Quickly try to **define the impacted area** or where the chemical is coming from, if possible.
- Take immediate action to **get away**.
- If the chemical is inside a building where you are, get out of the building without passing through the contaminated area, if possible.
- If you can't get out of the building or find clean air without passing through the area where you see signs of a chemical attack, it may be better to move as far away as possible and "[shelter-in-place](#)."
- If you are outside, quickly decide what is the fastest way to find clean air. Consider if you can get out of the area or if you should go inside the closest building and "shelter-in-place."

If You Think You Have Been Exposed to a Chemical

If your eyes are watering, your skin is stinging, and you are having trouble breathing, you may have been exposed to a chemical.

- If you think you may have been **exposed to a chemical, strip immediately and wash**.

Look for a hose, fountain, or any source of **water**, and wash with **soap** if possible.



Nuclear Blast

A nuclear blast is an explosion with intense light and heat, a damaging pressure wave and widespread radioactive material that can contaminate the air, water and ground surfaces for miles around. **During a nuclear incident, it is important to avoid radioactive material, if possible.** While experts may predict at this time that a nuclear attack is less likely than other types, terrorism by its nature is unpredictable.



Radiation

A radiation threat, commonly referred to as a "dirty bomb" or "radiological dispersion device (RDD)", is the use of common explosives to spread radioactive materials over a targeted area. It is not a nuclear blast. While the blast will be immediately obvious, the presence of radiation will not be clearly defined until trained personnel with specialized equipment are on the scene. As with any radiation, you want to try to **limit exposure**. It is important to avoid breathing radiological dust that may be released in the air.



Radioactive Materials

Radioactive materials are in daily use in the medical and manufacturing industries and are transported on a regular basis by car and truck through the city.

HELPFUL TELEPHONE NUMBERS

City of Houston	(713) 247-1000
Office of Emergency Management	(713) 884-4500
Fax	(713) 884-4545
Telecommunication Device for the Deaf (TDD)	(713) 884-4518
Non-Emergency Response	311
Mayor's Citizens Assistance Office	(713) 247-2907
Police Department	(713) 884-3131
Fire Department	(713) 247-5000
Harris County	
Emergency Management Office	(713) 881-3100
Metropolitan Transit Authority	(713) 739-4000
METRO Police (224-COPS)	(713) 224-2677
METRO Lift	(713) 225-0119
METRO Assistance Center	(713) 658-0180
Customer Service/Motorist Assistance (Call MAP)	(713) 225-5627
State of Texas	
Texas Department of Public Safety	(281) 517-1300
Texas Department of Transportation	(713) 802-5000
Local Road Conditions & Closures	(713) 802-5074
Texas Commission on Environmental Quality (TCEQ)	(713) 767-3500
Service Agencies	
American Red Cross, Greater Houston Area	(713) 526-8300
Night and Weekend Number	(713) 526-8300
Salvation Army	(713) 752-0677
United Way	(713) 685-2300
Information Referral	211
Federal Agencies	
National Weather Service (NWS)	(281) 337-5074
Marine Information Recording	(281) 337-7895
US Coast Guard-Marine Safety Office	(713) 671-5100