



SECTION 21. Hazard Mitigation Actions

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Introduction

This Hazard Mitigation Action Plan identifies ten high and medium risk natural hazards that could affect the City of Plano. This section of the Plan sets forth fifteen mitigation action plans to reduce the risks from ten high and medium risk natural hazards. Each action relates to one of the six goals set forth in Section 3 of the Plan. The actions in this section are directed at reducing the risk from a specific hazard, such as flooding or tornadoes. These ten hazards differ in important ways, such as in their predictability, length of warning time, speed of onset, magnitude, scope, duration of impact, and the possibilities of secondary impacts. Many of the demands on the emergency management infrastructure they generate, however, arise not from their differences but from their commonalities.

The City of Plano mitigation actions are identified below. They are organized in order of the hazard to which they relate. They present the hazard to which the action relates, the estimated costs and benefits of each action, the responsible organization for implementing the action, an implementation schedule, and potential sources of funding. Appendix F contains detailed information about grant funds that may be available to support implementation of the mitigation actions. An overall priority is assigned to each action based on its affect on overall risk to life and property, costs and benefits, ease of implementation, political and community support, and potential funding.





Plano Mitigation Actions

Tornadoes

ACTION: Modify community recreational centers to serve as shelters with tornado safe rooms.	
Hazard:	Tornadoes
Benefit:	Retrofitting community recreational shelters to be resistant to tornadoes of substantial size and strength would allow the City of Plano to shelter citizens and persons in vehicles. In addition, persons more vulnerable to tornadoes and severe weather, such as persons living in manufactured homes will be able to find shelter at these locations.
Priority:	High
Estimated Cost:	\$1,250,000
Responsible Organization:	Plano Parks and Recreation Department and the Office of Homeland Security
Target Completion Date:	Dependent upon when funds become available.
Funding Sources:	Pre-Disaster Mitigation Grant Funds and Hazard Mitigation Grant Program Funds (This action is dependent upon availability of grant funds)

ACTION: Undertake a preparedness campaign for severe weather events. This will include a website and other activities.	
Hazard:	Tornadoes
Benefit:	Educating and informing the public will lead to a better informed and well prepared citizenry and business community.
Priority:	High
Estimated Cost:	\$8900 for 100k 4 color, 11" x 17" pamphlet (folder over) \$3000 for development of plates and photos for pamphlet \$3000 for 100k business cards for homes
Responsible Organization:	Plano Public Information Office and the Office of Homeland Security
Target Completion Date:	May, 2006, dependent on funding
Funding Sources:	General Revenues or Grants





High Winds

ACTION: Encourage severe weather drills each semester in all Plano schools.	
Hazard:	High winds
Benefit:	Severe weather drills will train faculty and students about risks of high winds and where they can go for shelter during these severe weather events.
Priority:	High
Estimated Cost:	\$0
Responsible Organization:	Plano Independent School District (PISD) and Plano Office of Homeland Security
Target Completion Date:	Dependent upon PISD approval and implementation
Funding Sources:	General Revenues or grant funds identified by PISD

Severe Winter/Ice Storms and Hail

ACTION: Continue distribution of the Plano Residential Emergency Disaster Initiative (REDI) guide to businesses and citizens in Plano. (Over 90,000 guides have been distributed so far).	
Hazard:	High winds/ice storms/hail
Benefit:	The REDI Guide is a helpful and educational guide for citizens and businesses. It identifies certain hazards and risks faced by everyone in the City of Plano. Education is the first defense against these threats and we feel that this guide will lead people to take actions to become better prepared for emergencies and disaster.
Priority:	High
Estimated Cost:	\$1,000 - \$20,000
Responsible Organization:	Plano Office of Homeland Security
Target Completion Date:	Ongoing
Funding Sources:	General Revenues and/or grant funds





ACTION: Develop and implement, as necessary, a Debris Management Plan. Send additional personnel to obtain their certification in Debris Management.	
Hazard:	Severe winter/ice storms
Benefit:	There will be a succession of command and knowledge that will enable those involved in this effort to better function as a team with maximum efficiency.
Priority:	High
Estimated Cost:	Minimal cost
Responsible Organization:	Plano Public Works Department
Target Completion Date:	September 30, 2008
Funding Sources:	General revenues

ACTION: Explore the possible installation in Plano of sensors to detect freezing potential on overpasses and bridges. This would provide for additional advance warning and more accurate warning capabilities for winter storms.	
Hazard:	Severe winter/ice storms
Benefit:	The Department can prioritize its responses and more efficiently make the roads available for safe passage.
Priority:	High
Estimated Cost:	
Responsible Organization:	Plano Public Works Department
Target Completion Date:	September 30, 2008
Funding Sources:	General Fund





Poor Air Quality

ACTION: Continue to purchase City vehicles and equipment that are rated LEV or better, or run on an alternative fuel, to help improve air quality.	
Hazard:	Poor Air Quality
Benefit:	<ul style="list-style-type: none"> ➤ Maintains the City of Plano's compliance with Federal and State mandates for internal combustion engine emissions and clean air. ➤ Hybrid vehicles provide superior fuel economy.
Priority:	Medium
Estimated Cost:	\$40,000
Responsible Organization:	City of Plano Fleet and Equipment Services
Target Completion Date:	Ongoing
Funding Sources:	General Revenues

ACTION: Work with Federal, State and Regional entities such as Dallas Area Rapid Transit (DART), the North Central Texas Council of Governments (NCTCOG) and the North Texas Clean Air Coalition to improve air quality. Implement the Texas Commission on Environmental Quality (TCEQ) and U.S. Environmental Protection Agency (EPA) approved State Implementation Plan to achieve air quality attainment standards.	
Hazard:	Poor Air Quality
Benefit:	Reducing ozone levels means cleaner air for citizens, reduced health risks for asthmatics, elderly or other individuals with compromised respiratory systems.
Priority:	Medium
Estimated Cost:	\$10,000
Responsible Organization:	Plano Environmental Health Department
Target Completion Date:	July 2006
Funding Sources:	General fund, grants through North Texas Clean Air Coalition and other organizations.





Expansive Soil

ACTION: Continue requirements by the Building Inspections Department of an engineering design for each foundation permitted. The design must be based on the specific soil conditions for the site.	
Hazard:	Expansive Soils
Benefit:	The specific design takes into account the varying soil conditions and mitigates the expansive soil conditions.
Priority:	Medium
Estimated Cost:	None
Responsible Organization:	Plano Engineering Department/Building Inspections
Target Completion Date:	Ongoing
Funding Sources:	Private

Lightning

ACTION: Promote the use of NOAA "All Hazards" radios for early warning and post event information.	
Hazard:	Lightning
Benefit:	NOAA "All Hazards" radios are a direct conduit to the National Weather Service and serve as a great warning point during emergency and disaster events. Having one of these devices in your place of business or your home will provide persons with ample warning time to seek shelter or take evasive action from an impending threat.
Priority:	Medium
Estimated Cost:	\$1,000 - \$30,000
Responsible Organization:	Plano Office of Homeland Security
Target Completion Date:	September 30, 2008
Funding Sources:	Pre-Disaster Mitigation Grant Funds or Hazard Mitigation Grant Program Funds



Flooding

ACTION: Evaluate and improve capabilities for back-up power generation at sanitary sewer lift stations. Back-up power is needed to protect water quality in flooding situations and ensure public health safety.

Hazard:	Flooding
Benefit:	This back-up power generation would protect the City's drainage channels and streams and would promote the preservation of an acceptable quality of life for the citizens of Plano and also protect the flora and fauna of the stream environment.
Priority:	Medium
Estimated Cost:	\$40,000 each
Responsible Organization:	Plano Public Works Department
Target Completion Date:	September 30, 2006
Funding Sources:	Pre-Disaster Mitigation Grant Funds and/or other grants

ACTION: Undertake a 5-year Capital Improvement Program for localized flooding (attached list of Capital Improvement Projects on page 21-10).

Hazard:	Flooding
Benefit:	Relieve flooding problems provides safer roadways and in some cases reduces potential of structure flooding.
Priority:	Medium
Estimated Cost:	\$500,000 Annually for 3 years \$1.5 Million Annually (Ongoing)
Responsible Organization:	Plano Engineering Department
Target Completion Date:	Ongoing
Funding Sources:	CIP drainage funds/ Pre-Disaster Mmitigation Grant Funds and/or other grants





ACTION: Continue to mitigate repetitive loss properties. Mitigate Pittman Creek up to 100 year flood plain criteria. (Note: most frequent, localized flooding has already been addressed through on-going efforts.)	
Hazard:	Flooding
Benefit:	Significant flooding reductions
Priority:	Medium
Estimated Cost:	\$1,800,000 to date
Responsible Organization:	Plano Engineering Department
Target Completion Date:	1988 for first measures Future Measures: Ongoing
Funding Sources:	CIP funds/ Pre-Disaster Mitigation Grant Funds and/or other funding methods

Drought

ACTION: Update Drought Contingency Plan for the City of Plano, Texas.	
Hazard:	Drought
Benefit:	Water uses regulated or prohibited under this drought contingency plan are considered to be non-essential and continuation of such uses during times of water shortage or other emergency water supply condition are deemed to constitute a waste of water.
Priority:	Medium
Estimated Cost:	No cost
Responsible Organization:	Plano Public Works Department
Target Completion Date:	September 30, 2006
Funding Sources:	Water & sewer fund, if needed





Summer Heat

<p>ACTION: Initiate an extreme summer heat public awareness and educational campaign and continue outreach through fan drive. Topics to be addressed in public awareness campaign, which will include a link on the City of Plano's website, include:</p> <ul style="list-style-type: none"> ➤ Awareness of the dangers of excessive heat. ➤ Steps to keep heat outside and cool air inside, such as closing floor heat registers, improving insulation, installing weather-stripping and temporary reflectors, and using fans to spread cool air. ➤ Steps to take during excessive heat waves, including drinking plenty of water, limiting intake of alcoholic beverages, dressing in light, loose-fitting clothing, wearing hats, avoiding sunshine and extreme temperature changes, and avoiding strenuous activities. ➤ Symptoms of heat disorders and what to do in cases of emergency. ➤ Ways to reduce energy consumption during periods of excessive heat. ➤ How to help others during excessive heat waves, especially those at highest risk of death such as the elderly, the poor, those who live alone, and who lack access to transportation and air-conditioning. ➤ How to obtain fans. 	
Hazard:	Summer Heat
Benefit:	This program will provide for a public awareness campaign as well as certain mitigation steps to (1) make the general public aware of the dangers of high temperature, (2) make targeted populations aware of the specific hazards for their age groups, and (3) provide minimal mitigation opportunities for targeted groups through the provision of fans, etc.
Priority:	Medium
Estimated Cost:	Educational Components (\$5,000-10,000) for materials and training. Fan components (\$10-15,000 per year for giveaway fans, supplies. Note: We will try to get fans donated if possible.
Responsible Organization:	Plano Fire Department
Target Completion Date:	June 1, 2007
Funding Sources:	Grants, fan donations, city budget allocation





Highest Priority Disaster-Related Capital Improvement Projects

PROJECT NAME	MISSION	PROJECT DESCRIPTION	PRIORITY	WATER-SHED	Estimated Total Project Cost
Creek erosion control	Reduce the effect of creek erosion, loss of property and sedimentation in Park areas	Projects are identified on an annual basis based on field inspections	High	all	\$500,000 per year
Erosion control	Reduce the effect of creek erosion, loss of property and sedimentation	Projects are identified on an annual basis based on field inspections	High	all	\$500,000 per year
Miscellaneous Drainage Improvements	Relieve localized flooding and drainage problems	Projects are identified and evaluated on an annual basis	High	all	\$500,000 per year
Riverbend Lakes	Remove sedimentation and restore bank protection	Development of a program for the removal of sedimentation in several lakes	Medium	Prairie Creek	\$487,000 over the next 3 years