



5 MITIGATION STRATEGY

Requirement §201.6(c)(3): [The plan shall include] a mitigation strategy that provides the jurisdiction's blueprint for reducing the potential losses identified in the risk assessment, based on existing authorities, policies, programs and resources, and its ability to expand on and improve these existing tools.

This section describes the mitigation strategy process and mitigation action plan for the City of Fullerton Hazard Mitigation Plan. It describes how the City met the requirements for the following from the 10-step planning process:

- Planning Step 6: Set Goals
- Planning Step 7: Review Possible Activities
- Planning Step 8: Draft an Action Plan

5.1 Mitigation Strategy: Overview

The results of the planning process, the risk assessment, the goal setting, the identification of mitigation actions, and the hard work of the HMPC led to the action plan in Section 5.4 Mitigation Action Plan. Taking all of the above into consideration, the HMPC developed the following overall mitigation strategy:

- **Communicate** the hazard information collected and analyzed through this planning process as well as HMPC success stories so that the community better understands what can happen where and what they themselves can do to be better prepared.
- **Implement** the action plan recommendations of this plan.
- **Use** existing rules, regulations, policies, and procedures already in existence. Given the flood hazard in the planning area, an emphasis should be placed on continued compliance with the National Flood Insurance Program.
- **Monitor** multi-objective management opportunities so that funding opportunities may be shared and packaged and broader constituent support may be garnered.

5.1.1 Continued Compliance with NFIP

Given the flood hazard in the planning area, an emphasis will be place on continued compliance with the National Flood Insurance Program (NFIP). Detailed below is a summary description of the City of Fullerton's flood management program to ensure continued compliance with the NFIP.

City of Fullerton's Flood Management Program

The City of Fullerton has participated in the Regular Phase of the NFIP since 1977. Since then, the City has administered floodplain management regulations that meet the minimum requirements of the NFIP. Under that arrangement, residents and businesses paid the same flood insurance premium rates as most other communities in the country. The City most recently updated their flood zone development ordinance in 2009 to reflect the current status of Special Flood Hazard Areas (SFHA) that exist within the community.

The Community Rating System (CRS) was created in 1990. It is designed to recognize floodplain management activities that are above and beyond the NFIP's minimum requirements. If a community implements public information, mapping, regulatory, loss reduction and/or flood preparedness activities and submits the appropriate documentation to the FEMA, then its residents can qualify for a flood insurance premium rate reduction. The City of Fullerton will evaluate the overall value of joining CRS in the future during the implementation phase of this LHMP.

Presently, the City of Fullerton manages its floodplains in compliance with NFIP requirements and implements a floodplain management program designed to protect the people and property of the City. These floodplain management activities implemented by the City include:

Public Information Activities

The City of Fullerton conducts a variety of public information and outreach activities which include providing map information services, public outreach programs, hazard disclosure, and flood protection information and assistance.

Mapping and Regulatory Activities

The City of Fullerton implements a variety of mapping and regulatory activities that apply to both existing and new development. These activities include maintaining current flood maps and data for the City and implementing a Citywide stormwater management program.

Flood Damage Reduction Activities

The City takes a proactive approach to flood damage reduction on the existing built environment. Flood damage reduction activities undertaken by the City include, development of a comprehensive floodplain management plan, as part of this LHMP and their Stormwater Management Plan: implementing flood protection measures for existing structures, and maintaining drainage systems.

As a result of implementing the floodplain management activities described above, the City's current floodplain management program provides multiple benefits to the community:

- Enhanced public safety;
- A reduction in damage to property and public infrastructure;

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- Avoidance of economic disruption and losses;
 - Reduction of impacts and losses; and
 - Protection of the environment.

5.2 Goals and Objectives

Requirement §201.6(c)(3)(i): [The hazard mitigation strategy shall include a] description of mitigation goals to reduce or avoid long-term vulnerabilities to the identified hazards.

Up to this point in the planning process, the HMPC has organized resources, assessed hazards and risks, and documented mitigation capabilities. The resulting goals, objectives, and mitigation actions were developed based on these tasks. The HMPC held a series of meetings and exercises designed to achieve a collaborative mitigation strategy as described further throughout this section.

During the initial goal-setting meeting, the HMPC reviewed the results of the hazard identification, vulnerability assessment, and capability assessment with the HMPC. This analysis of the risk assessment identified areas where improvements could be made and provided the framework for the HMPC to formulate planning goals and objectives and the ultimate mitigation strategy for the City of Fullerton planning area.

Goals were defined for the purpose of this mitigation plan as broad-based public policy statements that:

- Represent basic desires of the community;
- Encompass all aspects of community, public and private;
- Are nonspecific, in that they refer to the quality (not the quantity) of the outcome;
- Are future-oriented, in that they are achievable in the future; and
- Are time-independent, in that they are not scheduled events.

Goals are stated without regard to implementation. Implementation cost, schedule, and means are not considered. Goals are defined before considering how to accomplish them so that they are not dependent on the means of achievement. Goal statements form the basis for objectives and actions that will be used as means to achieve the goals. Objectives (policies) define strategies to attain the goals and are more specific and measurable.

HMPC members were given a list of sample goals to consider. They were told that they could use, combine, or revise the statements provided or develop new ones, keeping the risk assessment in mind. Each member was each given three index cards and asked to write a goal statement on each card. Goal statements were collected and grouped into similar themes and pasted onto the wall of the meeting room. The goal statements were then grouped into similar topics. New goals from the HMPC were discussed until the team came to consensus. Some of the statements were determined to be better suited as objectives or actual mitigation actions and were

set aside for later use. Next, the HMPC developed objectives that summarized strategies to achieve each goal.

Based on the risk assessment review and goal setting process, the HMPC identified the following goals and policies, which provide the direction for reducing future hazard-related losses within the City of Fullerton planning area.

GOAL 1: Protection of People, Natural and Built Environments and Economy from Natural Hazards

- Policies:
 - General: Identify the natural hazards to which people, natural and built environments and the economy are at risk; assess the potential impacts of those hazards; develop goals and strategies to reduce impacts; and prioritize and implement those mitigation strategies.
 - Regional: Coordinate with other jurisdictions and agencies with shared hazards and/or mitigation responsibility.
 - City Wide: Provide protection to public and other critical facilities, including infrastructure.
 - Area/District: Increase community awareness of, vulnerability to, and mitigation available for priority hazards.
 - Project: Build consideration of hazard risk and mitigation into decision making process.

5.3 Identification and Analysis of Mitigation Actions

Requirement §201.6(c)(3)(ii): [The mitigation strategy shall include a] section that identifies and analyzes a comprehensive range of specific mitigation actions and projects being considered to reduce the effects of each hazard, with particular emphasis on new and existing buildings and infrastructure.

In order to identify and select mitigation actions to support the mitigation goals, each hazard in Section 4.1 Identifying Hazards: Natural Hazards was evaluated. Only those hazards that were determined to be a priority hazard at the completion of the Vulnerability Assessment were considered further in the development of hazard-specific mitigation actions. These priority hazards are:

- Dam Failure
- Drought
- Seismic and Geologic Hazards
 - Earthquake
 - Liquefaction
- Flood
 - 100 year flood
 - 500-year flood

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- Severe Weather
 - Heavy Rain/Thunderstorm/Hail/Lightning/Wind
 - Wildfire

The HMPC eliminated the hazards identified below from further consideration in the development of mitigation actions because the risk of a hazard event in the City is unlikely or nonexistent, the vulnerability of the City is low, or capabilities are already in place to mitigate negative impacts. The eliminated hazards are:

- Seismic and Geologic Hazard
 - Landslide
 - Lateral Spreading
 - Subsidence
 - Settlement
- Human Health Hazards
 - Epidemic/Pandemic
 - West Nile Virus
- Landslide (non-seismic)
- Severe Weather
 - Extreme Temperatures
 - Fog
 - Tornado
 - Wind
- Soil Hazards
 - Erosion
 - Subsidence (non-seismic)
- Volcano

It is important to note, however, that all the hazards addressed in this plan are included in the City's multi-hazard public awareness mitigation action as well as in other multi-hazard actions.

Once it was determined which hazards warranted the development of specific mitigation actions, the HMPC analyzed viable mitigation options that supported the identified goals and policies. The HMPC was provided with the following list of categories of mitigation actions, which originate from the Community Rating System:

- Prevention
- Property protection
- Structural projects
- Natural resource protection
- Emergency services
- Public information

The HMPC was also provided with examples of potential mitigation actions for each of the above categories. The HMPC was also instructed to consider both future and existing buildings in considering possible mitigation actions. A facilitated discussion then took place to examine and analyze the options. This was followed by a brainstorming session that generated a list of preferred mitigation actions by hazard.

5.3.1 Prioritization Process

Once the mitigation actions were identified, the HMPC was provided with several decision-making tools, including FEMA's recommended prioritization criteria, STAPLEE sustainable disaster recovery criteria; Smart Growth principles; and others, to assist in deciding why one recommended action might be more important, more effective, or more likely to be implemented than another. STAPLEE stands for the following:

- Social: Does the measure treat people fairly? (e.g., different groups, different generations)
- Technical: Is the action technically feasible? Does it solve the problem?
- Administrative: Are there adequate staffing, funding, and other capabilities to implement the project?
- Political: Who are the stakeholders? Will there be adequate political and public support for the project?
- Legal: Does the jurisdiction have the legal authority to implement the action? Is it legal?
- Economic: Is the action cost-beneficial? Is there funding available? Will the action contribute to the local economy?
- Environmental: Does the action comply with environmental regulations? Will there be negative environmental consequences from the action?

In accordance with the DMA requirements, an emphasis was placed on the importance of a benefit-cost analysis in determining action priority. Other criteria used to assist in evaluating the benefit-cost of a mitigation action includes:

- Does the action address hazards or areas with the highest risk?
- Does the action protect lives?
- Does the action protect infrastructure, community assets or critical facilities?
- Does the action meet multiple objectives (Multiple Objective Management)?
- What will the action cost?
- What is the timing of available funding?

The mitigation categories, multi-hazard actions, and criteria are included in Appendix C: Mitigation Categories, Alternatives, and Selection Criteria.

With these criteria in mind, HMPC members were each given a set of eighteen colored dots, six each of red, blue, and yellow. The dots were assigned red for high priority (worth five points), blue for medium priority (worth three points), and yellow for low priority (worth one point). The

team was asked to use the dots to prioritize actions with the above criteria in mind. The point score for each action was totaled. Appendix C contains the total score given to each identified mitigation action.

The process of identification and analysis of mitigation alternatives allowed the HMPC to come to consensus and to collectively prioritize recommended mitigation actions. During the voting process, emphasis was placed on the importance of a benefit-cost review in determining project priority; however, this was not a quantitative analysis. After completing the prioritization exercise, some team members expressed concern that prioritizing all the actions as a group is not very effective, since many of the actions are department-specific. However, the team agreed that prioritizing the actions collectively enabled the actions to be ranked in order of relative importance and helped steer the development of additional actions that meet the more important objectives while eliminating some of the actions which did not garner much support.

Benefit-cost was also considered in greater detail in the development of the Mitigation Action Plan detailed below in Section 5.4. Specifically, each action developed for this plan contains a description of the problem and proposed project, the entity with primary responsibility for implementation, any other alternatives considered, a cost estimate, expected project benefits, potential funding sources, and a schedule for implementation. Development of these project details for each action led to the determination of a High, Medium, or Low priority for each.

Recognizing the limitations in prioritizing actions from multiple departments and the regulatory requirement to prioritize by benefit-cost to ensure cost-effectiveness, the HMPC decided to pursue:

- Mitigation action strategy development and implementation according to the nature and extent of damages;
- The level of protection and benefits each action provides;
- Political support;
- Project cost;
- Available funding; and
- Individual department priority

The process drove the development of a prioritized action plan for the City of Fullerton planning area. Cost-effectiveness will be considered in greater detail through a formal benefit-cost analysis when seeking FEMA mitigation grant funding for eligible actions associated with this plan.

5.4 Mitigation Action Plan

Requirement §201.6(c)(3)(iii): [The mitigation strategy section shall include] an action plan describing how the actions identified in section (c)(3)(ii) will be prioritized, implemented, and administered by the local jurisdiction. Prioritization shall include a special emphasis on the extent to which benefits are maximized according to a cost benefit review of the proposed projects and their associated costs.

This action plan was developed to present the recommendations developed by the HMPC for how the City of Fullerton planning area can reduce the vulnerability of people, property, infrastructure, and natural and cultural resources to future disaster losses. Emphasis was placed on both future and existing development. The action plan summarizes who is responsible for implementing each of the prioritized actions as well as when and how the actions will be implemented. Each action summary also includes a discussion of the benefit-cost review conducted to meet the regulatory requirements of the Disaster Mitigation Act. This can be found in the Benefits (losses avoided) section of each action summary. Table 5.1 identifies the mitigation actions and lead department for each action.

It is important to note that the City of Fullerton has numerous existing, detailed action descriptions, which include benefit-cost estimates, in other planning documents, such as their Master Drainage Plan and capital improvement budgets and reports. These actions are considered to be part of this plan, and the details, to avoid duplication, should be referenced in their original source document. The City of Fullerton planning area also realizes that new needs and priorities may arise as a result of a disaster or other circumstances and reserves the right to support new actions, as necessary, as long as they conform to the overall goals of this plan.

Table 5.1. City of Fullerton Mitigation Actions

| Mitigation Action Title | Priority | Cost Estimate | Schedule | Responsible Party | Addresses Current Development | Addresses Future Development | Continued Compliance with NFIP |
|---|----------------|------------------|---|---|-------------------------------|------------------------------|--------------------------------|
| Multi-Hazard | | | | | | | |
| Integrate Local Hazard Mitigation Plan into Safety Element of General Plan | High | Staff time | As soon as possible | City of Fullerton Planning Division | X | X | X |
| Tree Master Plan Update | Medium | Unknown | summer/fall 2010 | Maintenance Services, Landscape Division | X | X | |
| Community Forest Master Plan Update | High | Unknown | summer/fall 2010 | Maintenance Service, Landscape Division | X | X | |
| Develop and Conduct a Multi-Hazard Seasonal Public Awareness Program | High | \$5,000-\$20,000 | Part of seasonal multi-hazard public awareness campaign | City of Fullerton Community Development Department, Fullerton Public Information Office, Fullerton Chamber of Commerce, and the American Red Cross. | X | X | X |
| Hazardous Materials GIS improvements | Medium to High | Staff time | Unknown at this time | Fire Department and GIS staff | X | X | X |
| Acacia Grade Separation | High | Unknown | Upon funding availability | Engineering Department/Design Division | X | X | |
| State College Grade Separation | High | \$62,083,000 | June 2012 | Engineering Department/Design Division | X | X | |
| Raymond Grade Separation | High | \$64,539,000 | June 2012 | Engineering Department/Design Division | X | X | |
| Data Gathering and GIS Tracking of Police and Fire Calls for Service in Response to Natural Hazard Events | Low | Staff time | Unknown at this time | Community Development Department to coordinate with Police and Fire representatives | X | X | |
| GIS Integration | Medium | Staff time | Unknown at this time | Community Development Department with City Manager's Office | X | X | |

| Mitigation Action Title | Priority | Cost Estimate | Schedule | Responsible Party | Addresses Current Development | Addresses Future Development | Continued Compliance with NFIP |
|--|----------|---------------------------|---|---|-------------------------------|------------------------------|--------------------------------|
| GIS tracking of Historic, Cultural, and Natural Resources | Low | Staff time | As soon as possible | GIS staff | X | X | |
| Multi-hazard: flood, liquefaction | | | | | | | |
| Structure Buy Out Program and Conversion (Southwest Fullerton) to Open Space | Low | Less than \$50,000 | Phase 1: Develop understanding of Community Land Trusts (CLT) and the steps required to establish and operate a 501(c)3. Phase 2: Identity potential organizers and partners for establishing the CLT. Phase 3: Prepare a feasibility analysis for establishing and operating the CLT. Phase 4: Prepare the case statement for the CLT and its mission. Phase 5: Establish the 501(c)3 and begin pursuit of mission | Planning Division, in coordination with other divisions and departments | X | X | X |
| Dam Failure | | | | | | | |
| Brea Dam Safety and Maintenance Plan | Medium | Staff time | As soon as possible | Parks and Recreation | X | X | X |
| Drought | | | | | | | |
| Convert Lions Field/Richmond Park to Artificial Turf | Medium | \$1,100,000 – \$2,475,000 | Lions Field – Sept. 2010, Richman Park – August 2010 | Parks and Recreation Department | X | | |
| Water Main Replacement | High | \$1,600,000 | June 2010 for Lois Lane area and November 2010 for Coronado area | Engineering Department/Water Division | X | X | |
| Water Allocation Study | High | \$2,000,000 | Unknown due to lack of funding | Water Engineering | X | X | |
| Water Meter Replacement | High | \$6,000,000 | Unknown due to lack of funding | Water Engineering | X | | |
| Park and Recreation Master Plan | Medium | \$25,000 to \$250,000 | FY 2011-12 | Parks and Recreation Department | X | X | |

| Mitigation Action Title | Priority | Cost Estimate | Schedule | Responsible Party | Addresses Current Development | Addresses Future Development | Continued Compliance with NFIP |
|---|----------|---------------|---|--|-------------------------------|------------------------------|--------------------------------|
| Drought and Earthquake | | | | | | | |
| Reservoir Rehabilitation | High | \$2,200,000 | February 2010 for Las Palmas and July 2010 for Tank Farm #5 | Engineering Department/Water Division | X | X | |
| Earthquake | | | | | | | |
| Seismic Compliance/Retro Fit for Existing Structures – Public and Critical Facilities | Medium | Unknown | Phase 1: Develop an inventory of qualifying structures. Phase 2: Develop a cost estimate to complete upgrades/retro fits. Phase 3: Examine the feasibility of a regulatory- and voluntary-based system for private facilities while exploring funding mechanisms for both public and private locations. | Building Division | X | | |
| Seismic Compliance/Retro Fit for Existing Structures – Private | Medium | Unknown | Phase 1: Develop an inventory of qualifying structures. Phase 2: Develop a cost estimate to complete upgrades/retro fits. Phase 3: Examine the feasibility of a regulatory- and voluntary-based system, exploring funding mechanisms. | Building Division | X | | |
| Earthquake /Erosion/Flood | | | | | | | |
| Harbor Slope Stabilization | High | \$3,130,000 | Upon funding availability | Engineering Department/Design Division | X | | X |
| Erosion/Flood | | | | | | | |
| Bastanchury Storm Drain Improvements | High | \$400,000 | June 2010 | Engineering Department/Design Division | X | X | X |
| Flood | | | | | | | |
| Olive Street Storm Drain Improvements | High | \$2,100,000 | Upon funding availability | Engineering Department/Design Division | X | X | X |

| Mitigation Action Title | Priority | Cost Estimate | Schedule | Responsible Party | Addresses Current Development | Addresses Future Development | Continued Compliance with NFIP |
|---|----------|---------------|----------------------|---|-------------------------------|------------------------------|--------------------------------|
| Evaluate status of floodplain management program | High | Staff time | 3-5 years | Engineering | X | X | X |
| Wildfire | | | | | | | |
| Modifying/Enforcing Fuels Modification Plans and Weed Abatement on Public Lands | High | \$75,000 | Dependent on funding | Fullerton Fire Department Fire Prevention Bureau | X | X | |
| Study for Protection of Existing EOC | High | \$25,000 | Dependent on funding | Fullerton Fire Department/Engineering | X | X | |
| Purchase Type 3 Engine | High | \$350,000 | Dependent on funding | Fullerton Fire Department Fire Prevention Bureau | X | X | |

Multi-Hazard Mitigation Actions

1. Action: Integrate Local Hazard Mitigation Plan into Safety Element of General Plan

Issue/Background: Local jurisdiction reimbursement for mitigation projects and cost recovery after a disaster is guided, in part, by AB 2140. Specifically, this bill requires that each jurisdiction adopt a local hazard mitigation plan (LHMP) in accordance with the federal Disaster Mitigation Act of 2000 as part of the safety element of its general plan. Adoption into the safety element of the general plan may be by reference or incorporation.

Other Alternatives: No action

Responsible Office: City of Fullerton Planning Division.

Priority (High, Medium, Low): High

Cost Estimate: Staff time

Potential Funding: Existing budget for General Plan Update.

Benefits (Losses Avoided): Adoption and coordination of planning documents will help the City maximize potential for state reimbursement.

Schedule: As soon as possible

2. Action: Tree Master Plan Update

Issue/Background: Replacement of problematic tree species listed in the current Master Street Tree Plan / List could be expanded to include and promote the use of additional drought tolerant species. List should eliminate species found to have susceptibility to structural failure, likelihood to cause hard scape damage or high maintenance requirements.

Other Alternatives: None identified

Existing Planning Mechanism(s) through which project will be implemented:

- Master Street Tree Plan update
- Annual tree planting program as part of divisional goals and objectives
- Annual Arbor Day Tree Planting (Laguna Lake) March 13, 2010 California Native Tree / public educational program
- Lions Field Sports Complex upgrade/ utilization of California native tree and plant species
- City Hall Demonstration Garden

Responsible Office: Maintenance Services, Landscape Division

Priority: Medium

Cost Estimate: Unknown

Benefits (avoided Losses): Sustainable, healthier urban forest which provides benefits including the ability to withstand severe wind, provide shading/cooling benefits in extreme temperature situations, reduce run-off during flood events, and require less irrigation water in response to drought conditions.

Potential funding:

- Sanitation Fund
- Grant Funding

Schedule: summer/fall 2010

3. Action: Community Forest Master Plan Update

Issue/Background: Community Forest Master Plan Update (CFMP) requires updating in order to facilitate successful management and sustainability of the urban forest. The goal being to:

- Establish and maintain optimal tree cover;
- Maintain trees in a healthy condition through good cultural practices;
- Establish and maintain an optimal level of age and species diversity;

(A concerted effort to focus on maintaining the age and species diversity component of the master plan should be emphasized.)

- Provide suitable locations for and select, situate and maintain street trees to minimize hazard, nuisance, hardscape damage, and maintenance costs, with special consideration given to compatibility in commercial areas with regard to aesthetics and sign visibility.

Other Alternatives: None identified.

Existing Planning Mechanism(s) through which project will be implemented:

- Current CFMP
- Community Forestry Ordinance
- Public Education Programs

Responsible Office: Maintenance Service, Landscape Division

Priority (High, Medium, Low): High

Cost Estimate: Unknown

Benefits (avoided Losses): Sustainable, healthier urban forest which provides benefits including the ability to withstand severe wind, provide shading/cooling benefits in extreme temperature situations, reduce run-off during flood events, and require less irrigation water in response to drought conditions.

Potential funding:

- Sanitation Fund
- Grant Funding

Schedule: summer/fall 2010

4. Action: Develop and Conduct a Multi-Hazard Seasonal Public Awareness Program

Issue/Background: The City of Fullerton is subject to several natural hazards. Each poses a different degree of risk and associated vulnerability. Some hazards have a combination of attributes, including a high likelihood of occurrence, a specific location that would likely be impacted, and proven approaches that could reduce the impact. For other hazards, where either the likelihood of occurrence is very low, the area of likely impact is not specifically known, or there is very little that can be done to reduce the impacts, the HMPC has determined that the best approach is public awareness. People should have information describing historical events and losses, the likelihood of future occurrences, the range of possible impacts, appropriate actions to save lives and minimize property damage, and where additional information can be found. Any information provided through this effort should be accurate, specific, timely, and consistent with current and accepted local emergency management procedures as promoted by the California Emergency Management Agency (CAL EMA) and the American Red Cross. This public outreach effort should be conducted annually and should include:

- Using a variety of information outlets, including local news media;
- Creating and printing (where applicable) brochures, leaflets, water bill inserts, websites, and public service announcements;
- Displaying current brochures and flyers in City office buildings, libraries, and other public places; and
- Developing public-private partnerships and incentives to support public education activities.

Other Alternatives: Continue public information activities currently in place

Responsible Office: City of Fullerton Community Development Department, Fullerton Public Information Office, Fullerton Chamber of Commerce, and the American Red Cross.

Priority (High, Medium, Low): High

Cost Estimate: \$5,000-20,000 annually, depending on printing and mailing costs, level of volunteer participation, and scope and frequency of events

Potential Funding: FEMA's Hazard Mitigation Grant Program, City of Fullerton funds, other available grants

Benefits (Avoided Losses): Life safety, reduction in property losses, relatively low cost

Schedule: Part of seasonal multi-hazard public awareness campaign

5. Action: Hazardous Materials GIS Improvements

Issue/Background: Currently, records of the locations of businesses which use or store hazardous materials are not available as a GIS data layer. The Fire Department maintains an Excel spreadsheet of business name and addresses of any location that stores/uses a hazardous material. A separate source of data lists the actual type of hazardous material at the location. The two lists are maintained separately.

A visually mapped layer containing both the address location and the hazardous material types would aid in preparing for disasters and responding to them.

Other Alternatives: Combine the two lists without benefit of GIS or continue the same method.

Existing Planning Mechanism(s) through which project will be implemented: General Plan Update implementation.

Responsible Office: Fire Department and GIS staff

Priority (High, Medium, Low): Medium to High

Cost Estimate: Software solutions already exist, only the cost of staff hours would be needed to accomplish this project. An intern could complete some of the work matching the two existing databases together.

Benefits (avoided Losses): Since the current listing by address does not distinguish between types of hazardous materials, by combining these databases in a GIS format, this data can be overlaid with natural hazards layers to ensure that the appropriate precautions given the nature of the materials, and the hazard risk can be taken. Additionally, having data in a GIS format would result in better allocation of personnel in an emergency situation since a level of danger could be assessed by location and material type. Having a GIS data layer of mapped locations would make the information easily visible for localized emergencies and could assist in mapping plumes or areas to be evacuated and could help identify areas where a potential for dangerous combinations of materials might exist.

Potential funding: Unknown at this time

Schedule: Unknown at this time

6. Action: Acacia Grade Separation

Issue/Background: Acacia Avenue is a north-south secondary arterial street that carries traffic resulting from commercial, industrial, and residential zoning. Acacia Avenue serves as one of the primary accesses connecting the residents to the elementary schools, junior high schools, and high schools within the City. Acacia is also an alternate route for State Route 57 (SR-57) during times of heavy congestion. The Burlington Northern Santa Fe (BNSF) crossing has approximately 82 trains per day. The purpose of the project is to eliminate an at-grade railroad crossing on Acacia Avenue. The project will increase safety and reduce the frequency of accidents on the road caused by the presence of an at-grade railroad crossing.

Other Alternatives: None

Existing Planning Mechanism(s) through which project will be implemented: Capital Improvement Program

Responsible Office: Engineering Department/Design Division

Priority (High, Medium, Low): High

Cost Estimate: Not available

Benefits (avoided Losses): Elimination of an at-grade crossing at Acacia Avenue will benefit City residents, commuters, and facilitate better movement of transporting goods. By improving traffic conditions along one of the City's key vehicular routes, the project will contribute to mitigation of various hazards including fire, earthquake, and flooding.

Potential funding: Unfunded

Schedule: Upon funding availability

7. Action: State College Grade Separation

Issue/Background: The State College Boulevard corridor is a north-south Congestion Management Plan route that carries heavy commuter traffic resulting from commercial and industrial zoning. State College Boulevard serves as one of the primary accesses to California State University, Fullerton and is the primary alternate route for State Route 57 (SR-57) during times of heavy congestion. The Burlington Northern Santa Fe (BNSF) crossing has approximately 82 trains per day. The purpose of the project is to eliminate an at-grade railroad

crossing on State College Boulevard. The project will increase safety and reduce the frequency of accidents on the road caused by the presence of an at-grade railroad crossing.

Other Alternatives: None

Existing Planning Mechanism(s) through which project will be implemented: Capital Improvement Program

Responsible Office: Engineering Department/Design Division

Priority (High, Medium, Low): High

Cost Estimate: \$62,083,000

Benefits (avoided Losses): Elimination of an at-grade crossing at State College Boulevard will benefit City residents, commuters, and facilitate better movement of transporting goods. By improving traffic conditions along one of the City's key vehicular routes, the project will contribute to mitigation of various hazards including fire, earthquake, and flooding.

Potential funding: Redevelopment Agency, Measure "M", Proposition 1B, Federal, State.

Schedule: June 2012

8. Action: Raymond Grade Separation

Issue/Background: Raymond Avenue is a north-south primary arterial street that carries commuter traffic resulting from commercial, industrial, and residential zoning. Raymond Avenue serves as one of the primary accesses connecting the residential areas in the northern part of the City to the Riverside 91 Freeway. Raymond is also an alternate route for State Route 57 (SR-57) during times of heavy congestion. The Burlington Northern Santa Fe (BNSF) crossing has approximately 82 trains per day. The purpose of the project is to eliminate an at-grade railroad crossing on Raymond Avenue. The project will increase safety and reduce the frequency of accidents on the road caused by the presence of an at-grade railroad crossing.

Other Alternatives: None

Existing Planning Mechanism(s) through which project will be implemented: Capital Improvement Program

Responsible Office: Engineering Department/Design Division

Priority (High, Medium, Low): High

Cost Estimate: \$64,539,000

Benefits (avoided Losses): Elimination of an at-grade crossing at Raymond Avenue will benefit City residents, commuters, and facilitate better movement of transporting goods. By improving traffic conditions along one of the City's key vehicular routes, the project will contribute to mitigation efforts of various hazards including fire, earthquake, and flooding.

Potential funding: Measure "M", Proposition 1B, Federal, State.

Schedule: June 2012

9. Action: Data Gathering and GIS tracking of Police and Fire calls for service in response to natural hazard events

Issue/Background: Currently, Police and Fire response records do not include information that would provide historical data as to whether the response was required because of a natural hazard event.

Other Alternatives: Continue current record keeping system

Existing Planning Mechanism(s) through which project will be implemented: General Plan Update implementation

Responsible Office: Community Development Department to coordinate with Police and Fire representatives

Priority (High, Medium, Low): Low

Cost Estimate: Software solutions already exist, only the cost of staff hours would be needed to accomplish this project.

Benefits (avoided Losses): More specific local information as to natural hazard events and damages could be maintained for

Potential funding: Unknown at this time

Schedule: Unknown at this time

10. Action: GIS Integration

Issue/Background: Currently, GIS data is maintained by various/separate departments and not shared/stored in one database for coordinated use and analysis. Graphical data is also maintained on multiple platforms which can not be integrated.

Other Alternatives: Continued missed opportunities for information sharing and coordinated analysis and planning

Existing Planning Mechanism(s) through which project will be implemented: General Plan Update implementation

Responsible Office: Community Development Department with City Manager's Office

Priority (High, Medium, Low): Medium

Cost Estimate: Software solutions already exist, only the cost of staff hours would be needed to accomplish this project.

Benefits (avoided Losses): Ability to perform a more comprehensive analysis on a regular basis of hazard risks associated with potential new development projects.

Potential funding: Unknown at this time

Schedule: Unknown at this time

11. Action: GIS Tracking of Historic, Cultural, and Natural Resources

Issue/Background: Currently, records of the locations of historic, cultural and natural resources are not available as a GIS data layer.

Other Alternatives: Continued future risk analysis without all potential losses identified

Existing Planning Mechanism(s) through which project will be implemented: General Plan Update implementation

Responsible Office: GIS staff

Priority (High, Medium, Low): Low

Cost Estimate: Software solutions already exist, only the cost of staff hours would be needed to accomplish this project.

Benefits (avoided Losses): As noted in the Risk Assessment, vulnerability analysis of historic, cultural and natural resources was not possible due to these data limitations. Having GIS data would allow for a more complete understanding/valuation of risk within the City. Plan updates could address future mitigation actions, if needed.

Potential funding: Unknown at this time

Schedule: As soon as possible

Multi-Hazard/Liquefaction Mitigation Actions

12. Action: Structure Buy Out Program and Conversion Program (Southwest Fullerton) to Open Space

Issue/Background: Area contains two primary multi-hazards: flooding and liquefaction. Additionally, the area has a significant deficiency in parks and open space.

Other Alternatives: None identified

Existing Planning Mechanism(s) through which project will be implemented: Facilitate the establishment of a Southwest Fullerton Community Land Trust [i.e., a private non-profit corporation – 501(c)3] with the purpose of acquiring, holding and developing land for the benefit of providing secure open space, including parks, community gardens, etc., for community residents. Areas most vulnerable to flooding and liquefaction would be identified for acquisition and conversion to open space.

Responsible Office: Planning Division, in coordination with other divisions and departments

Priority (High, Medium, Low): Low

Cost Estimate: Under \$50,000 for public outreach and administration to facilitate the establishment of the 501(c)3 (not including in-kind services, such as City staff time, etc.). Once the 501(c)3 is established, the organization would be responsible for pursuing funding necessary to achieve its mission.

Benefits (avoided Losses): Reduced property damage due to flooding and liquefaction. Potential for reduced loss of life and injury due to flooding and liquefaction. Increased open space for public health and wellness.

Potential funding: Caltrans Environmental Justice Grants and similar

Schedule:

- Phase 1: Develop understanding of Community Land Trusts (CLT) and the steps required to establish and operate a 501(c)3.
- Phase 2: Identify potential organizers and partners for establishing the CLT.
- Phase 3: Prepare a feasibility analysis for establishing and operating the CLT.
- Phase 4: Prepare the case statement for the CLT and its mission.
- Phase 5: Establish the 501(c)3 and begin pursuit of mission

Dam Failure Mitigation Actions

13. Action: Brea Dam Safety and Maintenance Plan

Issue/Background:

- Obtaining and updating dam safety and maintenance plan for the Brea Dam from the Operations Center at the US Army Corps of Engineers - Los Angeles District
- Maintain contact with the Operations Center for updated information pertaining to potential hazards

Other Alternatives: None identified

Existing Planning Mechanism(s) through which project will be implemented: License agreement with the USACE for the Brea Dam Basin

Responsible Office: Parks and Recreation

Priority (High, Medium, Low): Medium

Cost Estimate: Staff time

Benefits (avoided Losses):

- Ability to prepare and/or evacuate residents in case of dam breach, failure or emergency closure
- Reduce potential injuries, loss of life and loss of personal property

Potential funding: Undetermined

Schedule: As soon as possible

Drought Mitigation Actions

14. Action: Convert Lions Field and Richmond Park to Artificial Turf

Issue/Background: Replace natural grass athletic fields with artificial turf to reduce the amount of water used.

Other Alternatives: None identified

Existing Planning Mechanism(s) through which project will be implemented:

- 5-year Capital Improvement Project
- Projects included in the current CIP budget are: Lions Field and Richman Park

Responsible Office: Parks and Recreation Department

Priority (High, Medium, Low): Medium

Cost Estimate: \$1,100,000 to \$2,475,000 per facility

Benefits (avoided Losses): Reduces the need for water for non life- and business-sustaining activities in response to drought conditions.

Potential funding: Park Dwelling Fund, Redevelopment Agency, HUD, State water grants

Schedule: Lions Field – Sept. 2010, Richman Park – August 2010

15. Action: Water Main Replacement

Issue/Background: The City has some areas with leaking and deteriorating water mains which need to be replaced. These deficient water mains are responsible for a higher water loss than is customary in the City. In addition, these areas have main breaks that occur more often, which wastes water.

Other Alternatives: None

Existing Planning Mechanism(s) through which project will be implemented: Capital Improvement Program

Responsible Office: Engineering Department/Water Division

Priority (High, Medium, Low): High

Cost Estimate: \$1,600,000

Benefits (avoided Losses): Replacement of these water mains will help in the City's conservation efforts by retaining more system water by replacing the old leaking mains. The efficient water main system is a must-have attribute in mitigating the negative impacts of drought.

Potential funding: Water fund

Schedule: June 2010 for Lois Lane area and November 2010 for Coronado area.

16. Action: Water Allocation Study

Issue/Background: The goal of conservation through tiered water rate structure does not provide the financial incentive to motivate residential customers to reduce water consumption.

However, many utilities who have implemented water budget based tiered rate structure are finding positive shifts in the way residential customers use the water budgeted to them due to the high financial costs associated with exceeding established water budgets. Based on this information the City plans to conduct a water allocation study that will establish a water budget for each residential customer based on the landscaped area of the property, size of the home, and other considerations. Commercial and Industrial customers would be evaluated to establish a water budget for landscaped areas only.

Other Alternatives: Institute a fixed percentage reduction requirement to all rate payers based on past water usage. However, this alternative will be complicated by the fact that some customers have already cut back water consumption and would be expected reduce usage beyond a reasonable expectation. In addition, those customers who have consistently over-watered will not experience the effect of reducing water usage as compared to other customers who have managed their water consumption and will now be required to reduce further.

Existing Planning Mechanism(s) through which project will be implemented: Capital Improvement Program

Responsible Office: Water Engineering

Priority (High, Medium, Low): High

Cost Estimate: \$2 Million

Benefits (avoided Losses): The use of a water budget based tiered rate structure would provide the City with a conservation tool that is considered fair and effective. The project's water conservation potential will assist the City in maintaining the required level of water supply during drought periods.

Potential funding: Water Fund

Schedule: Unknown due to lack of funding

17. Action: Water Meter Replacement

Issue/Background: The existing water meters in the City of Fullerton require water consumption to be manually collected by City staff on a daily basis to prepare the monthly and bi-monthly water bills to customers. The City plans to upgrade these existing meters with AMR (Automatic Meter Reading) systems that will enable the City to collect consumption data from water meters remotely and automatically via fixed communications network. The primary purpose of the data collected through AMR systems is monthly customer billing, and reduced costs. AMR systems typically comprise meters fitted with communication modules, collection systems (including handheld computers, drive-by systems and fixed network technology), as well as supporting software to manage collection of the data. The City will be able to use the

data collected to spot anomalies which can indicate potential system leaks, potential leaks at customer sites, damaged or broken meters, and tampering or theft. Overall, the water conservation potential via AMR provides a reasonable payback of investment expectation.

Other Alternatives: Hire additional staff and purchase additional equipment to collect the same quantity and frequency of water meter consumption data. This approach would be a permanent addition to the City's budget with no payback potential.

Existing Planning Mechanism(s) through which project will be implemented: Capital Improvement Program

Responsible Office: Water Engineering

Priority (High, Medium, Low): High

Cost Estimate: \$6 Million

Benefits (avoided Losses): The cost savings, efficiency gains, customer service improvements and revenue cycle enhancements provided by automation of the meter reading are expected benefits to the City. The project's water conservation potential will assist the City in maintaining the required level of water supply during time of drought.

Potential funding: Water Fund

Schedule: Unknown due to lack of funding

18. Action: *Park and Recreation Master Plan*

Issue/Background:

- Reducing the amount of water used for irrigation/operation by recapturing run off for reuse for landscaping and recirculating water at spray grounds
- Plant native drought tolerant trees in park

Other Alternatives: None identified

Existing Planning Mechanism(s) through which project will be implemented:

- 5-year Capital Improvement Project
- Projects included in the current CIP budget are: Replacement of Valencia Park Sprayground Pump, Laguna Lake Park Improvements, Lions Field, Hillcrest Park, Union Pacific Trail, Lemon Park, Independence Park, Fullerton Community Center, Hiltcher Trail, and Richman Athletic Field,

Responsible Office: Parks and Recreation Department

Priority (High, Medium, Low): Medium

Cost Estimate: \$25,000 - \$250,000 each project

Benefits (avoided Losses): Reduces the need for water for non life- and business-sustaining activities in response to drought conditions.

Potential funding: Park Dwelling Fund, Water Fund

Schedule: FY 2011-12

Drought/Earthquake Mitigation Actions

19. Action: Reservoir Rehabilitation

Issue/Background: Las Palmas 3B and Tank Farm 2D-#5 tanks were built in the late 1960's. These tanks are in need of seismic upgrades to prevent a catastrophic loss during a seismic event and extend the life of the storage facilities. The City completed an Engineer's assessment of the tanks and the following items are at risk in a seismic event: Roof damage due to sloshing waves; shell damage from hydrodynamic forces; piping connection failure at the shell and; bottom piping penetration failure. The report also concluded that the tanks are at the end of their service life on both the interior coating and exterior painting. These systems are also no longer used because of lead content and VOC regulations.

Other Alternatives: None

Existing Planning Mechanism(s) through which project will be implemented: Capital Improvement Program

Responsible Office: Engineering Department/Water Division

Priority (High, Medium, Low): High

Cost Estimate: \$2,200,000

Benefits (avoided Losses): The upgrade of these reservoirs protect the community from seismic and drought events. The piping retrofits will offer protection from a catastrophic failure of the tanks during a seismic event. Also, by removing the existing coating systems, the service life of the tanks will be extended and the water may be utilized during drought periods.

Potential funding: Water Fund

Schedule: February 2010 for Las Palmas and July 2010 for Tank Farm #5.

Earthquake Mitigation Actions

20. Action: Seismic Compliance/Retro Fit for Existing Structures – Public and Critical Facilities

Issue/Background: Area is seismically active. As building and safety codes have evolved, three areas have been identified as benefiting from seismic upgrades/retrofits. These are residences without anchored foundations, soft story structures, and masonry structures constructed prior to 1976. Additionally included are existing structures within liquefaction zones. Certain City facilities as well as privately owned facilities which could be critical in the event of a natural hazard could fall into these categories.

Other Alternatives: None identified

Existing Planning Mechanism(s) through which project will be implemented: General Plan/Capital Improvement Plan

Responsible Office: Building Division along with Engineering and Fire Departments

Priority (High, Medium, Low): Medium

Cost Estimate: Unknown

Benefits (avoided Losses): Life safety and continuity of operations as well as reduced losses.

Potential funding: Grants

Schedule:

- Phase 1: Develop an inventory of qualifying structures.
 - Initial list includes:
 - City Fire Stations
 - Fullerton Municipal Airport Control Tower
 - Locations identified to provide emergency shelter
 - Locations which store and distribute food and water
 - Locations which store and handle hazardous materials
- Phase 2: Develop a cost estimate to complete upgrades/retro fits.
- Phase 3: Examine the feasibility of a regulatory- and voluntary-based system for private facilities while exploring funding mechanisms for both public and private locations.

21. Action: Seismic Compliance/Retro Fit for Existing Structures – Private

Issue/Background: Area is seismically active. As building and safety codes have evolved, three areas have been identified as benefiting from seismic upgrades/retrofits. These are residences

without anchored foundations, soft story structures, and masonry structures constructed prior to 1976. Additionally included are existing structures within liquefaction zones.

Other Alternatives: None identified

Existing Planning Mechanism(s) through which project will be implemented: General Plan

Responsible Office: Building Division

Priority (High, Medium, Low): Medium

Cost Estimate: Unknown

Benefits (avoided Losses): Reduced property damage due earthquakes.

Potential funding: Grants

Schedule:

- Phase 1: Develop an inventory of qualifying structures.
- Phase 2: Develop a cost estimate to complete upgrades/retro fits.
- Phase 3: Examine the feasibility of a regulatory- and voluntary-based system, exploring funding mechanisms.

Earthquake/Erosion/Flood

22. Action: Harbor Slope Stabilization

Issue/Background: Harbor Boulevard is classified by Caltrans as a principal arterial highway traversing north and south connecting various urban cities in northern part of Orange County such as La Habra, Fullerton, and Anaheim. Harbor Boulevard also provides access to the 91-Riverside freeway. Within the City of Fullerton, Harbor Boulevard is a 4 to 6 lane major and a primary arterial that spans the entire City with high traffic volume (31,600 vehicles/day along the project section per 2008 traffic study) accessing the Fullerton Transportation Center (Metrolink and Amtrak depot), the booming and bustling downtown Fullerton businesses, the North Orange County Court House, and the St. Jude hospital. Harbor Boulevard is a well known, well traveled street that was built in the early 1930's. Due to limited technology, knowledge, and equipment, the slope adjacent to the street was not properly graded. Over the years, this slope began to slough and erode, hinting at localized instability issues. This project's main purpose is to stabilize the slope and to minimize storm water run-off by construction of a retaining wall, construction of slope interceptor drains and down drains, provide landscaping on the slope to reduce erosion, and provide a walkway along the street for pedestrian access.

Other Alternatives: None

Existing Planning Mechanism(s) through which project will be implemented: Capital Improvement Program

Responsible Office: Engineering Department/Design Division

Priority (High, Medium, Low): High

Cost Estimate: \$3,130,000

Benefits (avoided Losses): Stabilizing the existing slope will safeguard the roadway from the event of a slope failure due to flood, erosion, or earthquake; offer protection during the rain season; and prevent the unforeseen closing down of Harbor Boulevard due to a slope failure event that would gravely affect residents and businesses. Additionally, this project will provide ADA access along Harbor Boulevard and create a safer environment for pedestrians to travel. Furthermore, the slope improvements will preserve the structural integrity of the existing Army Corp of Engineers' property situated on top of the slope, which consists of a single story North Orange County Young Mens Christian Association (YMCA) building, an asphalt parking lot, a fitness yard, and the Brea Dam Recreational Area.

Potential funding: Sewer and Drainage Fund, Measure "M" Regional Fund, Federal

Schedule: Upon funding availability

Erosion/Flood Mitigation Actions

23. Action: Bastanchury Storm Drain Improvement

Issue/Background: Bastanchury Storm Drain channel is an earthen trapezoidal ditch streaming along the west side of Bastanchury Road that carries storm runoff in excess of 2,000 cfs (cubic feet/sec) for the 100-year storm event. Over the years, storm flow has significantly carved out the easterly bank of the channel causing the earthen toe of the embankment to become a near vertical slope. Dirt and debris sloughing off from the eroded slope further decrease the capacity of the channel. This project proposes to stabilize the embankment by means of grading, rock slope protection fabric, and placing rock rip-rap to return the channel to its designed storm water carrying capacity.

Other Alternatives: None

Existing Planning Mechanism(s) through which project will be implemented: Capital Improvement Program

Responsible Office: Engineering Department/Design Division

Priority (High, Medium, Low): High

Cost Estimate: \$400,000

Benefits (avoided Losses): Improving the channel will protect the health, safety, and welfare of the community from continued erosion of the east bank and undermining of the sidewalk and street. By eliminating dirt and debris, the quality of storm runoff from this channel would improve since the amount of suspended solids is lessened. This project will eliminate the need and costly expense of recurring maintenance. By restoring storm water carrying capacity of the channel, the project will benefit overall efficiency of the City's storm drain system, which will assist in mitigating potential flood hazard.

Potential funding: Sewer and Drainage Fund

Schedule: June 2010

Flood Mitigation Actions

24. Action: Olive Street Storm Drain Improvements

Issue/Background: Olive Avenue from Magnolia Avenue to Courtney Avenue is a residential street that serves as a storm drain passage way that carries water runoff during rain events. The tributary area that Olive Avenue serves exceeds 40 acres consisting mostly of residential homes. During the rain season, Olive Avenue becomes an almost impassable road due to the high volume of water that overflows beyond the street gutter onto the travel lanes. This project proposes to install a storm drain system consisting of underground pipes and catch basins to collect storm water along Olive Avenue.

Other Alternatives: None

Existing Planning Mechanism(s) through which project will be implemented: Capital Improvement Program

Responsible Office: Engineering Department/Design Division

Priority (High, Medium, Low): High

Cost Estimate: \$2,100,000

Benefits (avoided Losses): An underground storm drain system in Olive Avenue will improve the drainage of the neighborhood, protect the homes from getting flooded due to heavy rains, alleviate traffic accidents due to hydroplaning, extend the longevity of street pavement, curb and gutter since less water is flowing on the street, and eliminate localized ponding areas, which in turn resolve the vector control issue.

Potential funding: Unfunded

Schedule: Upon funding availability

25. Action: Evaluate status of floodplain management program/Consider Joining CRS

Issue/Background: The City of Fullerton joined the National Flood Insurance Program (NFIP) on July 5, 1977. The City does not participate in the Community Rating System (CRS). The CRS was created in 1990 and was developed to recognize floodplain management activities that are above and beyond the NFIP's minimum requirements. If a community implements public information, mapping, regulatory, loss reduction and/or flood preparedness activities and submits the appropriate documentation to FEMA, then its residents can qualify for a flood insurance premium rate reduction.

Information developed for this LHMP indicates that the City has 259 (240 residential) parcels located within the 100-year floodplain and 10,109 (9,006 residential) parcels located within the 500-year floodplain. Using 2000 Census data, 2,089 people reside in the 100-year floodplain and 61,296 people reside in the 500-year floodplain. There is also 1 critical facility located within the 100-year floodplain and 130 critical facilities located within the 500 year floodplain. Given the assets at risk, the city is evaluating its floodplain management program to determine what activities it can and should implement in order to more proactively manage its floodplains for the protection of both existing and future development within the City. In addition to evaluating the effectiveness of the existing program, the City will look at additional activities and programs to enhance their overall approach to sound floodplain management. This will include evaluating the benefit-cost to the community of participating in the CRS program.

Other Alternatives: No action – maintain status quo

Existing Planning Mechanism(s) through which project will be implemented: Safety or Natural Hazards Element of General Plan

Responsible Office: Engineering

Priority: High

Cost Estimate: Staff time

Benefits (avoided Losses): Life Safety, property protection, potential reduction in flood insurance premiums

Potential funding: Local funds

Schedule: 3-5 years.

Wildfire Mitigation Actions

26. Action: Modify and Enforce Fuel Modification and Weed Abatement of Public Lands

Issue/Background: Fullerton has areas in the City designated by the State of California to be Very High Fire Severity Zones. Fullerton is located in Southern California. Southern California is subject to dry, hot and windy conditions. These conditions create hazards in areas where dry brush and vegetation exist. Fuel Modification Plans and brush clearance are necessary to reduce the hazards of extreme fire conditions to protect lives and property.

Other Alternatives: None

Existing Planning Mechanism(s) through which project will be implemented: Existing Fuel Modification/Brush Clearance Ordinance. Utilizing State laws, codes and local ordinances.

Responsible Office:

- Fullerton Fire Department
- Fire Prevention Bureau

Priority (High, Medium, Low): High

Cost Estimate: \$75,000 annually

Benefits (avoided Losses): This program protects lives and property. Excessive brush and fuel contribute to fire and its spread. Fuel Modification Plans set specific guidelines for planting and clearing in relationship to a structure. Brush clearance eliminates fuel which contributes to fires and fire spread. Properly executed programs reduce the hazards and protect lives and property.

Potential funding: Unknown/Grant funding, if available

Schedule: Dependent on funding

27. Action: Study for Protection of Emergency Operations Center (EOC)

Issue/Background: In 2004, the City of Fullerton built a new fire station in the 2600 block of Rosecrans, Fullerton. When it was built, the station included the infrastructure for a new EOC. Since occupying the station, the area surrounding the EOC/station has been designated as a Very High Fire Severity Zone by the State of California. This designation indicates that the EOC is now subject to increased danger due to wildfires. This poses a critical problem at the site for both the structure and the occupants that would occupy it during emergencies/activation. The Study is required to determine modifications to the site and surroundings, including access, which remedy the location and its designation.

Other Alternatives: Move the station/EOC

Existing Planning Mechanism(s) through which project will be implemented: None identified

Responsible Office: Fullerton Fire Department/Engineering

Priority (High, Medium, Low): High

Cost Estimate: \$25,000 (study only)

Benefits (avoided Losses): As a critical facility, this building must be protected. Fifty to one hundred people could be working in this facility when activated. Loss of this facility would greatly hinder the City's ability to respond and react to large scale emergencies within the City and Southern California.

Potential funding: Unknown/Grant funding, if available

Schedule: Dependent on funding

28. Action: Purchase Type 3 Fire Engine

Issue/Background: Fullerton has areas in the City designated by the State of California to be Very High Fire Severity Zones. Fullerton is located in Southern California. Southern California is subject to dry, hot and windy conditions. These conditions create hazards in areas where dry brush and vegetation exist. Many areas of the City of Fullerton are in areas that could be subject to life threatening wildfires. Traditional fire apparatus are unable to navigate the uneven and rugged terrain where a majority of fuel exists. The only apparatus available to fight these types of fires is a "Type 3" engine. These come equipped with the tools necessary to fight fire and protect lives and property.

Other Alternatives: None

Existing Planning Mechanism(s) through which project will be implemented: None currently exist

Responsible Office:

- Fullerton Fire Department
- Fire Prevention Bureau

Priority (High, Medium, Low): High

Cost Estimate: \$350,000

Benefits (avoided Losses): The potential loss from uncontrolled wildfires could be disastrous. The department needs additional resources to fight a wildfire primarily due to the terrain. A Type 3 vehicle is paramount in fighting wildfires. The ability to get through uneven terrain with a properly equipped vehicle will save lives and has the potential for saving millions of dollars in property loss.

Potential funding: Unknown/Grant funding, if available

Schedule: Dependent on funding