DRAFT

Executive Summary

Anticipation of the exact timing and magnitude of natural hazard events is often a futile endeavor; however, through experience communities discover the importance of planning efforts in establishing an adequate level of preparedness when such events do occur. During recent years, the cities and counties of the Green River Area Development region have endured a significant number of natural hazard events, many of them severe in nature. These events, and the struggles that develop in the aftermath, highlight the need to maintain and update the original GRADD Hazard Mitigation Plan.

Although the GRADD Hazard Mitigation Plan received formal FEMA approval in January 2006, the region has undergone substantial change since that time. The creation of a dynamic planning tool is one primary goal of extensive planning efforts, but even a planning tool, once created, requires regular maintenance to guarantee pertinence in the midst of a changing world. To ensure the continued utility of this multi-jurisdictional planning document, local officials and public/private stakeholders considered local and regional transformations and incorporated them into an updated plan that will, through the relevance of its content, become an even greater asset for all GRADD cities and counties.

Green River Area Development District

The Green River Area Development District (GRADD) assisted the region with the creation of the GRADD Hazard Mitigation Plan and, through facilitation of local meetings and data collection, remained involved with the plan update process. The continuation of GRADD's involvement allowed consistency in the overall planning approach, while providing tremendous access to resources and established community relations for all officials and stakeholders involved. To every extent possible, GRADD will participate in the maintenance of this plan update to ensure the perpetuation of a viable, living document that will achieve the goals of saving lives and protecting property.

GRADD works in concert with local governments and citizens to foster a regional dialogue that identifies issues and opportunities and explores strategies to improve the quality of life throughout the region. Through this collective discourse, GRADD offers leadership and planning implementation measures capable of converting strategies into the realm of actions and results. This relationship has assumed a critical role in the various levels of development that have occurred throughout the region.

Across Kentucky, fifteen Area Development Districts serve their respective regions and receive federal funding from the Appalachian Regional Development Act and the Public Work and Economic Development Act of 1965. Area Development Districts promote a vision of shaping economic development through the collaborative efforts of locally elected officials, businesses and civic leaders, and representatives of all facets of the citizenry. With diverse staffs composed

of professionals possessing extensive backgrounds in city and regional planning, management, community development, human services, and GIS/GPS mapping, Area Development Districts provide local governments with the services of skilled and experienced staff, which many cities and counties ordinarily cannot afford.

Although its main operating office is located in Owensboro, Kentucky, the Green River Area Development District includes the seven Western Kentucky counties of Daviess, Hancock, Henderson, McLean, Ohio, Union, and Webster. In the seven counties there are 27 incorporated cities. Possessing a land area of 2,619 square miles, the region has a 2009 estimated population of 211,362, which reflects a 1.9 percent increase from the US Census population reported in 2000.

GRADD Population Estimates

Jurisdiction	2000 Population	2009 Population Estimate
Daviess County	91,545	95,394
Owensboro	54,067	55,745
Whitesville	632	596
Hancock County	8,392	8,635
Hawesville	971	973
Lewisport	1,639	1,643
Henderson County	44,829	45,496
Corydon	744	779
Henderson	27,373	27,952
Robards	564	554
McLean County	9,938	9,607
Calhoun	836	780
Island	435	423
Livermore	1,482	1,413
Sacramento	517	498
Ohio County	22,916	23,534
Beaver Dam	3,033	3,119
Centertown	416	423
Fordsville	531	544
Hartford	2,571	2,628
McHenry	417	432
Rockport	334	342
Union County	15,637	14,990

GRADD Population Estimates		
Jurisdiction	**2000 Population**	**2009 Population Estimate**
Morganfield	3,494	3,264
Sturgis	2,030	1,905
Uniontown	1,064	1,022
Waverly	297	277
Webster County	14,120	13,706
Clay	1,179	1,142
Dixon	632	611
Providence	3,611	3,420
Sebree	1,558	1,510
Slaughters	238	232
Wheatcroft	173	168
Source: US Census Bureau		
Source: Kentucky State Data Center		

All 7 GRADD counties and 27 GRADD cities participated in the update process for the GRADD Hazard Mitigation Plan.

Mitigation Planning

The partnership between the Kentucky Emergency Management Agency and the Green River Area Development District, first formed for the development of the original GRADD Hazard Mitigation Plan, continued through the update phase and will remain for the use, maintenance, and future updates of the plan. As with the original plan, a Pre-Disaster Mitigation (PDM) planning grant, combined with the time and efforts of local leaders and stakeholders, facilitated the completion of the plan update endeavor. Pursued in accordance with all current rules and regulations governing regional mitigation plans, the GRADD Hazard Mitigation Plan update will be routinely monitored, as defined in subsequent sections, to maintain compliance with the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended by the Disaster Mitigation Act of 2000 (Public Law 106-390, October 30, 2000).

The increasing intensity of natural hazards fuels a significant rise in the costs of related damages. Consequently, the U.S. Congress championed the need for all states and local communities to develop and maintain a Hazard Mitigation Plan, stipulating that such plans become a specific requirement for Federal Emergency Agency (FEMA) mitigation grant funding. Updating the GRADD Hazard Mitigation Plan is one critical step in acknowledging the impact of natural

hazard events upon the region and maintaining eligibility for funding sources necessary to implement key mitigation actions.

Local Mitigation Planning Efforts

The GRADD Hazard Mitigation Council, with the assistance of GRADD staff, organized and conducted several local level and regional meetings for the purposes of data collection and information dissemination. The strong level of participation contributed a diversity of opinion and experiences, which proved instrumental in reevaluating the following five sections of the plan:

3.1 Prerequisites
3.2 Planning Process
3.3 Risk Assessment
3.4 Mitigation Strategy
3.5 Plan Maintenance

Focusing on local and regional needs and vulnerabilities, the plan update process considered the role of existing outreach programs, partnerships, and activities and the extent to which these resources can serve in the pursuit of hazard mitigation goals. A careful evaluation of both strengths and weaknesses can yield a valuable outline of measures that could lead to the changes needed for visible improvements. Throughout the region, natural hazards, from tornadoes and thunderstorms to snow storms and ice, have paved a path of personal injuries, deaths, and property damages. Private citizenry and community leaders recognize the importance of seeking solutions that will ultimately limit the destructive power of natural hazard events in the future. When recalling the chaos, struggle, and sorrow of responding to the aftermath of natural hazard events, those affected quickly realize that proactive, rather than reactive, measures can thwart the full range of possible damages, saving great pain and expense.

The GRADD Hazard Mitigation Council utilized other GRADD, county, and city plans, including Comprehensive Plans, Emergency Operations Plans, the Regional Transportation Plan, and the GRADD Water Management Plan, to coordinate project priorities, funding sources, and action plans. Seeking such resources from within the region allowed the collaboration of a strong cross section of agencies and organizations. These relations supported the revisions and enhancements to all sections of the plan.

Mission and Purpose

The GRADD Hazard Mitigation Council adopted the following revised mission statement:

Through regular maintenance of and updates to the GRADD Hazard Mitigation Plan, the GRADD Hazard Mitigation Council strives to protect citizens, property, and the environment from natural hazard event damages. The Council encourages the participation of stakeholders throughout the region in meetings and events designed to increase public awareness. With a commitment to the planning process, the Council seeks and identifies resources for risk reduction and determines actions that will protect all aspects of the region for the future.

The Council reflected on the intent of the GRADD Hazard Mitigation Plan and targeted the following primary components to define the overall purpose of the plan in its preparation for and response to natural hazard events:

- Saving lives and diminishing the number of injuries;
- Reducing property damages;
- Accelerating recovery efforts;
- Decreasing and eliminating vulnerabilities through necessary planning and action implementation;
- Educating communities about funding opportunities and project eligibility; and
- Demonstrating a firm commitment to improving community health and safety.

After reviewing data on hazards that have occurred since the development of the original Hazard Mitigation Plan, the GRADD Hazard Mitigation Council analyzed all potential hazard types. Hazards that are deemed "high" or "moderate" risk for the region receive full coverage in this plan update. While this plan does acknowledge all hazards that have been known to impact the region, full coverage is not granted to those hazards that occur infrequently with minor to no resulting damages. The Council analyzed the magnitude, frequency, area, and impact of the region's major hazards and adopted a final determination.

High Risk Hazards	**Earthquakes** **Flooding** **Severe Thunderstorms** **Tornadoes**
Moderate Risk Hazards	**Excessive Heat / Drought** **Severe Winter Storms** **Subsidence**
Low Risk Hazards	**Dam Failure / Levees** **Landslides**

In addition to the review of hazards, the Council assessed the goals, objectives, and actions contained in the original plan and formalized all revisions in the Mitigation Strategy section of the plan. All jurisdictions revised their respective mitigation strategies, relying upon careful discussions on projects already completed, significant area needs, funding availability, and responsible local personnel.

As with the original plan, the plan update process included the entire GRADD region, covering all incorporated cities and unincorporated land of the seven counties. Whenever possible, data

and background information was collected at the city level; however, proper reference notes are provided throughout the plan update to indicate the sources and applicability of the data and information. All jurisdictions and the GRADD Board of Directors adopted the GRADD Hazard Mitigation Plan update, following FEMA's review and formal approval. Copies of all resolutions are included as an appendix to this plan update.[1]

Planning efforts require patience, and at times, they reveal latent frustrations. Often certain limitations, especially in terms of data availability, can impede expectations of progress. Perseverance, however, can reward communities and regions, even in the aftermath of severe and destructive national hazard events. The GRADD Hazard Mitigation Plan and all its future updates will never prevent natural hazard events from occurring, but in its focus on actions and awareness, the plan can assist local leaders and stakeholders as they pursue pre-disaster mitigation strategies and fashion response efforts that ultimately limit losses of life and property.

[1] At this time, GRADD communities have not formally adopted the plan update. All involved anticipate that the updated plan will be adopted by all communities; however, the language in this section will be revised as necessary prior to final submission to FEMA.