

Grand Forks Flood Disaster and Recovery Lessons Learned

Grand Forks, North Dakota
2011

Prepared by the City of Grand Forks, North Dakota

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Statement of Intent

The City of Grand Forks, North Dakota, would like to take this opportunity to provide a set of local observations garnered during the recovery from our devastating flood that occurred in the Spring of 1997.

We know that all disasters are unique. So are the recoveries. The information presented here may or may not have relevance to your particular situations. However, everyone here stands ready to assist in any way possible whether your call comes tomorrow, next week, or years from now.

The purpose of this material is also to introduce the Grand Forks community to you and convey a message of hope. This message is that although the recovery may be long and often trying, there is a nation behind you, and you *will* recover.

Sincerely,

Michael R. Brown, Mayor
City of Grand Forks, ND

Grand Forks Flood Recovery Brief

In the Spring of 1997, the community of Grand Forks, North Dakota, along with communities all along the Red River Valley, experienced an unprecedented flood with disastrous results.



With over 130,000 cubic feet/second of water raging through the heart of the community, the Red River swelled to over 54.35 feet, overtopped existing levees and surged through the city's infrastructure. Adding to the unbelievable nature of the devastation, a fire broke out in the heart of downtown Grand Forks, consuming 13 buildings as fire fighters battled the blaze from the sky and from the flooded streets.

In this community of 52,500 people, over 90% of the population was evacuated and approximately 12,000 residential and commercial properties were damaged.

There were 13 days without running water and 23 days without potable water. Three quarters of our 40-plus sanitary lift stations were inundated and extensive damage was sustained to our sewer collection system. In financial terms, alone, with over \$1.5 Billion in damages, this was a disaster of extreme proportions.

There was heartache and tragedy that had to be addressed. Homes, personal belongings and family businesses were severely affected and, sometimes lost. Over 800 residences had to be removed either because of flood damage or to make way for increased flood protection. Businesses sustained uninsured losses and faced the hard choice of whether to return. In the end, 60,000 tons of debris was hauled away from the homes and businesses that were besieged by floodwaters.



The recovery of this community still continues, but there have been monumental strides taken. Today, a \$400 M flood protection project is complete and the population that had dropped by over 3,000 has not only stabilized but has regained pre-flood levels.

Residential and commercial investment in the community, very uncertain in the early months, has surpassed pre-flood levels and the opportunities sought out by residents and the local, state and federal leaders have instilled a reinvigorated life into the community.

More than anything, the support of the Nation kept the candle of hope burning, even in the darkest days. For that, the people of Grand Forks will be forever grateful.

Lessons Learned: Grand Forks 1997 Flood Recovery

(This is a working document and will be adjusted to reflect ongoing circumstances.)

FEDERAL LEADERSHIP

Challenge/Encourage legislators (Federal and State) to figure out ways to streamline regulations such as bidding procedures and resources procurement

This means either loosening or waiving regulations that will add time or complexity to rebuilding efforts. In addition, flexibility is needed to try to keep the contracts local. Circulating dollars throughout the community are some of the most beneficial recovery tools.

This also means encouraging federal action that will permit agencies to act outside of their normal scope of responsibility. Federal agencies are fundamentally designed to be “stovepipes” and act only within a specific purview. Action outside of this purview is necessary to address the fluid needs of recovery.

WORKING PARTNERSHIP WITH ALL LEVELS OF GOVERNMENT

Great relationships are developed, not expected

It is absolutely essential that solid partnerships exist between all agencies and on all levels. Recovery is a team effort that relies on the diverse resources and expertise of all parties and “turf wars” must be set aside.

Working with representatives “on the ground”

- **Governor should designate a State Recovery Coordinator to cut through State red tape**

- **Federal representatives- HUD, FEMA, . . . should work shoulder to shoulder**

This will give the agencies a greater sense of ownership of the community’s recovery needs and mission

- **“Been there, done that” experience is cliché but extremely valuable**

Government officials will be able to tell local responders and political leaders what to expect during recovery. They will provide insight in many situations that are foreign to local decision makers.

- **Review decisions made by representatives and get policy decisions in writing**

They are caring people dedicated to providing the maximum assistance possible. The result, in some cases is a tendency to say “do what needs to be done” in the immediate aftermath. However, auditors months or years later will have a different attitude. Get decisions in writing so resulting actions can be supported.

Working with Federal and State Agencies in general

- **Establish points of contacts in state and federal agencies and a liaison to work with each.**

This is imperative to knowing policies as well as the differences that may exist between different districts and jurisdictions (as well as working to minimize these differences) Examples include different policies or interpretations of policies that come from different US Army Corps of Engineers Districts or FEMA districts.

- **It is the local staff/official job to insure federal officials understand local codes and policies**

A city needs to become a leader and self-directed when it comes to being knowledgeable regarding Federal rules and regulations.

- **Document everything – too much information is enough**

Document all files and actions, e.g., Damage Survey Reports (DSR) files meticulously

- **Plan for when the city assumes full control**

FEMA will provide absolutely necessary assistance and leadership for varying time periods but each community has to plan for the time in the recovery process to proceed independently.

- **Hire/designate someone to keep up with programs and guidelines and being specific liaison to FEMA, HUD, EDA, USACE**

Designate someone to carefully monitor checklists for all federal and state funds and programs.

- **Clarify Insurance Policies (Was it flood, wind or sewer backup)**

RECOVERY STRUCTURE & PLANNING

- **Put in place a solid Recovery Structure**

Work with federal resources to either hire experts to lead the recovery planning or hire a recovery coordinator or both.

- **A Recovery Plan and Mission is Critical**

A recovery plan keeps elected officials, federal assistance and community members focused on a goal- or phased sets of goals and helps to overcome the day to day hurdles.

- **Impacts of Immediate Action to Long-Range Community Land Use**

The land use decisions made in the next 18 months will have an impact on the community's growth pattern for decades.

- **Mitigation Planning**

It is never too early to learn from the disaster and mitigate future disasters through thoughtful planning

- **Importance of Phased approach to recovery**

A recovery plan should include various phases, i.e., Response, Short Term, Medium Term, Long Term Planning. This allows decision makers to focus time and resources appropriately while establishing clear expectations for citizens.

- **Involve Elected Officials and Citizens, not just “experts” or consultants.**

Elected Officials will have to make the end decisions so they need to know all aspects of the situations. Similarly, citizens need to have ownership. It is their city that is being rebuilt. (See citizen involvement.)

- **Include Non-Profits in the planning**

Their specialty is working with populations that are often overlooked. Overlooking them in recovery planning will exacerbate existing discrepancies and create new ones.

- **In the end, decisions will have to be made by the decision makers.**

Decision makers will be held accountable and therefore must remember that their actions are the ones that will define the success or failure of recovery. Their decisions will not always be in full accordance with the expert's opinions and will not always be in full accordance with community members. Which leads to . . .

POLITICS OF LEADERSHIP

- **Political Fallout – Some leaders will not survive**

Extremely difficult and oftentimes unpopular decisions will have to be made. As an elected official or staff member, it is a time to either make a difference or watch out for your own political life or public career. Upheaval will happen no matter how hard you try to avoid it. Make the RIGHT decisions.

CITIZEN COMMITTEES/INVOLVEMENT

- **Creation of Leadership Teams**

Grand Forks created several citizen-led leadership teams such as the Business Redevelopment Task Force, Housing Task Force and Downtown Task Force. This encouraged ownership of citizens, businesses and other community organizations.

- **Utilize public forums and charettes**

The city of Grand Forks conducted a charette to “re-imagine Downtown”. The end result wasn’t exactly as the two-day exercise pictured, but the general character and components were consistent with the direction formed from the dozens of community members who participated. These visions and directions are crucial to policy makers as they make decisions as well as for maintaining cohesive community support for actions.

- **Decisions will take painfully long to make and will happen too quickly**

This paradox demonstrates the public who are waiting for action will feel like decisions are being avoided or being prolonged. Once decisions are made, however, there will be groups who feel they did not have the proper input and they were therefore made hastily. People will be focused on their own concerns for a majority of the time and will not know that seemingly unrelated decisions will have personal impact. Promoting continual and repetitive community discussion can help to address this.

FINANCIAL LESSONS

- **Establish a line of credit for the city**

If the city can’t make payments/payroll, what hope does a small business or a family have? The city of Grand Forks, through the assistance of the Governor and the designated State Flood Recovery Coordinator, acquired a \$25 M line of credit to ensure bills would be paid in the initial stages while typical income – fees, sales tax and property tax – was not being collected.

- **Impact on Wages and Reemployment**

Wages may rise with influx of recovery jobs paying higher salary. This community experienced an approximate \$1/hr increase in many areas of employment. FEMA employed many local people to fill their needs that ultimately depleted the local workforce and hampered businesses in re-establishing themselves.

- **Economic Effect on Secondary Markets**

It may seem obvious, but the cost of building supplies, appliances and other secondary market items will increase and the availability will decrease. Citizens are the ones who deal with these increases firsthand and they may feel like gouging. (Although real gouging is a threat that should be guarded against.)

- **Dedicate people to be accountable for every dollar spent.**

Recovery spending will be scrutinized by granting agencies, citizens and the country.

VOLUNTEERS AND DONATIONS

▪ **One-Stop Shop for Non-Profits/Service Providers**

After our flood many local nonprofits, as well as some national nonprofit organizations (that came to town to assist us in the recovery) provided assistance to families. It soon became clear to all of us that 1) families were going from one organization to another in search of help which only added to the confusion and, 2) the various nonprofit organizations had expertise in certain areas but, the average family didn't know that, or where to turn.

United Way, which does not usually provide *direct service to individual clients* became a clearinghouse for these requests. All nonprofit organizations (except the Red Cross which had to use their own forms) agreed to one common form that could be filled out at any of the organizations. United Way then entered the information into a central data base (clients had to sign off on the sharing of information). Many times a client was confused about who was actually providing them help, so having one central location to call eased some of the frustration.

In the beginning, the agencies providing help met almost daily & passed around the requests depending on who had either available resources and/or workers to help out. After the initial weeks, these meetings went to weekly and then finally monthly. We processed over 3,000 cases and the last one was closed out 2 years after the flood.

▪ **Distribution of Donated Goods**

Pay strict attention to in-processing, storage, maintenance and delivery of all donations. There will be scrutiny of how things are handled and distributed and the long-term credibility of leadership is at stake.

United Way also assisted with the distribution of donated goods that came into the community. The city asked us to staff three centers where all of the donated goods that came pouring into Grand Forks were distributed. We had to 1) make sure that individuals were actually living in Grand Forks or East Grand Forks – used drivers licenses first & then asked for FEMA # when we realized that people were simply “shopping” for Christmas Gifts etc. (Remember, besides some of the junk ... used clothes etc., we received things like Microwaves, & other small appliances, clothing from places like Nike etc. 2) Then we had to police things, like people coming in & demanding that they really needed the three microwaves etc.

REBUILDING REGULATIONS

▪ **“One-Cop Shop”**

Following the 1997 flood in Grand Forks, North Dakota, city and state officials established, through a joint effort, a one stop shop within the City of Grand Forks for the issuance of state and local transient merchant and contractor licenses. In addition, photo ID's were provided for contractors and contractor employees. Any contractor seeking to

provide flood repair or cleanup services in Grand Forks was required to be processed through the one stop shop and obtain photo ID's. All employees of the contractors were also required to have individual picture ID's. Both the contractor and contractor employees were required to possess their photo ID's with them at all times while working within the City. The purpose of the one stop shop was to coordinate and expedite licensing procedures. The agencies involved included the North Dakota Secretary of State's Office, the North Dakota Office of Attorney General, the North Dakota Workers Compensation Bureau, the North Dakota Bureau of Criminal Investigations, and the Grand Forks Department of Administration and Licensing. Additional assistance and staffing was provided by the Air Guard Security Forces.

Contractors or individuals seeking licenses were required to pay fees, file bonding information, obtain workers compensation coverage, obtain unemployment insurance coverage, and go through a criminal background check in the course of making application for state and local licenses. In addition, they were required to obtain photo identification documents. The one stop shop was located at the Regional North Dakota Job Service Center located in Grand Forks. Criminal background checks were completed on all persons seeking photo identification. More than 20 arrests were made as a result of background checks revealing outstanding warrants. The one stop shop opened on Sunday, April 27, 1997 and remained open until Thursday, July 3, 1997. Thereafter, the City continued its licensing locally and the State resumed its normal licensing operations at the State Capitol in Bismarck. While the one stop shop was in operation, 544 new contractors were licensed and more than 2,400 identification cards were issued to employees of these contractors.

The one stop shop was established despite the fact that there were no sewer or water services in place. The successful operation of the one stop shop was directly related to efforts of employees and cooperation among the respective agencies involved. It is believed that the one stop shop expedited licensing for contractors and their employees to begin helping those in need and in serving as a first line of protection for consumer fraud. It is believed that the one stop shop was successful in discouraging contractors with less than honorable intentions from attempting to do business in the City of Grand Forks. Other benefits included licensing, fee and tax collection, worker protection, consumer protection, business protection, and unemployment insurance.

INFRASTRUCTURE RECOVERY PLANNING

▪ Leverage Federal resources with local ones for long-term investment

A city needs to leverage the Federal Government's investment to automate and improve the efficiency of the city operation. The vision of the city should be to make investments to make the city better in the long term, which will make the respective state and nation stronger. For example, FEMA will pay to replace the equivalent system, but a city can invest to further upgrade its systems. A public works example is FEMA agreed to pay to replace flooded water meters with an equivalent system and the City of Grand Forks paid for the incremental cost to upgrade and automate the water meter system.

COMMUNICATIONS

- **Consistent and Repetitive Communication**

Local governments cannot communicate too much, only too diffusely. This also goes for messages from different entities and agencies. Citizens are sponges soaking up life-changing information and will either seek out or otherwise find contradictory information if it is available. Consistent and repetitive communication is key to ensuring ongoing progress as well as managing expectations. There will be Public Information Officers (PIO) for every conceivable organization working on the disaster. At some point in time they need to have regularly scheduling meetings amongst themselves to ensure:

- Each are getting their message across effectively and consistently
- They can cross-pollinate their messages to increase public awareness
- Sharing of resources

Close monitoring of all major media outlets is important in controlling numerous rumors, speculation, and innuendo long into the recovery stage. The most difficult Public Information Officer work really begins during recovery. Daily reports, pamphlets, newsletters and media articles need to be produced to educate the public on a variety of subjects.

Prior to the flood, the City of Grand Forks had no specific communications department. That office, the Public Information Center, was developed to help with direct communication with the public. Among other things, the Public Information Center began sending a weekly newsletter to residents who were housed in FEMA trailers and also developed a monthly newsletter, called Recovery Road and later Forks Focus, and sent it to approximately 22,000 homes and apartments for approximately two years.

- **Acknowledge Change is necessary and is inevitable – a “New Normal”**

Repeated the message that there will be a “new normal” where lives will never be exactly the same. People will not be made whole and neighborhoods will never be the mirror image of pre-disaster.

- **Ward Officers**

Local neighborhood groups and individuals will demand answers and solutions to their problems, many of which will involve potential for civil disorder. The GFPD instituted a Community Policing effort by creating Neighborhood Resource Officers (NROs). These police officers were assigned to and worked in concert with local councilpersons within each council ward/precinct to face and successfully resolve problems in effected areas.

- **Keep the nation informed**

The National media will eventually fade away – with the exception of anniversaries - but people around the country – and world - have placed you in their hearts and will want to know how you’re doing

- **Consider hiring historian/anthropologist**

Firsthand observations come only once and the opportunity to compile an objective view of recovery and chronology of process has already begun

- **IT Infrastructure**

Be selective in document restoration. The tendency was to restore everything which was unnecessary and very costly. Be aware that accessing the restored documents can cause

individuals to have allergic reactions and the restored documents are often hard to read. FEMA allowed us to put scanning systems in place, which makes the documents available both internally and externally. Also, time was spent on restoring hard drives of PC's and only a very few were needed.

Take the opportunity to setup databases that will work across departments and across agencies. The ability to be able to share the information will help to create efficiencies in government that were almost impossible to achieve when legacy systems were in place. For example, inspection, assessing, lift station information, and pictures of streets are now available to all city departments.

Find people within the organization who are familiar with computers and the operations in several departments and assign those people to work with IT staff to setup databases, spreadsheets, and other computer applications. As frustrations and tension is high, communications between techies and users can be at an all time high. Having the liaisons work with IT and the various departments can greatly assist in communications.

HOUSING - REBUILDING

- **Rebuilding Residential Neighborhoods** (How to replace “Affordable Housing”)
- **Creativity with Community Development Block Grants (CDBG) –**

It is critical to meet the needs of the people and not simply administer the programs as they were developed years ago in areas far away from the communities where they are now needed. This is also where it is essential to have personal and on-the-ground contact with government agencies so documented policy changes can happen to meet this need.

- **Housing – Using a non-profit entity when private developers are hesitant**

The Grand Forks Housing Authority is a non-profit, public sector entity that was utilized to spur redevelopment in affordable housing in the early stages where it was generally regarded as risky by private developers.

PERSONNEL ISSUES (STAFFING)

- **Staffing Plan – Use Experts to develop one**

UTILIZING HUD/CDBG STAFFING NEEDS ASSESSMENT AND MAKING IT FIT THE NEEDS OF THE CITY OF GRAND FORKS

As time elapsed and the City transitioned from response to recovery, some employees returned to their “normal” government activities, others became extensively immersed in disaster-related activities.

Recovery placed tremendous pressure of City personnel resources, authorized for normal, non-disaster delivery of public services and government business. The redirection of City personnel to flood aftermath and recovery demands substantially increased the backlog of City departments.

Adoption of a First Season of Recovery Action Plan which identified goals, objectives and tasks required to maintain flood disaster recovery efforts.

The Mayor requested an assessment be undertaken by HUD/ICF consultants who met with each Department Head in the City to identify staffing needs with regard to flood recovery. CDBG set aside money for administration from the total allotment of CDBG grant money was used and staffing administration costs were projected for a 3-4 year period of recovery.

Hiring of additional personnel through temporary one-year contracts, the City was able to maintain adequate levels of public services and effectively manage recovery operations which would have been in serious jeopardy had City staff not been available. Importance of having HR staff committed solely to flood recovery hiring processes, including coordination with State job agency and closely monitoring staffing needs on an on-going basis, meeting quarterly with the Department Heads and Mayor to discuss existing flood related projects/programs with relation to staffing. Approximately 3 years was necessary to delegate flood related duties back to existing permanent municipal staff and reviewing the need for permanent staffing additions on an ongoing basis. This process provided the most efficient and cost saving approach to staffing for the public interest. On-going evaluation and communication being key to the entire recovery effort by local government.

- **Take care of your staff!**

EMPLOYEES ARE MOST VALUABLE ASSET FOR RECOVERY EFFORTS

Employees worked to get City up and running and placed their own personal recovery last. A critical need for the quick recovery of a city is to return critical public works infrastructure, such as water and wastewater systems, back to normal operations. A key component in the return is getting city operators back to work to return the critical systems back to normal operation. Professional expertise from engineering consultants and federal agencies (COE and FEMA) is important but does not replace the knowledge and expertise of city operators.

MAYOR ISSUED ADMINISTRATIVE LEAVE FOR TWO WEEK PERIOD

IMMEDIATELY FOLLOWING EVACUATION – Salaries continued to be paid for two week period, payroll checks were processed and direct deposited into existing bank accounts. Employees did not miss out on wages or a payday.

EMPLOYEES RELIED ON EMPLOYER FOR SUPPORT AND DIRECTION

- Flexible/Reduced work hours were accommodated by Department Heads at their discretion, for items such as locating family/friends, time for FEMA/SBA appointments, childcare issues, emotional issues, etc. as the City Code had been suspended and the Mayor had full authority.
 - Crisis Counseling
 - Employee Assistance Program
 - On-Call Psychologist Available to City staff
 - Inter-Departmental Round Table Discussions held.
- **Awareness of the psychological effects and impact** personal loss would cause thereby affecting their performance as public employees.
 - **Importance of having a back up system for payroll and personnel files** for all City employees including retired employees and having that available from an off-site location.
 - **Who Helps the First Responders (And City Workers)?**
Many first responders will be victims themselves in a large-scale disaster. All Public Safety employees need to have extensive training in the area of Emergency

Management/Homeland Security. They especially need to “pre-stage” their own needs and well as the needs of their families in order to remain on the job. City, county and state official must make this a priority to ensure Public Safety is adequately staffed during a disaster and well into recovery. We experienced:

- Public Safety employees that refused to report to duty until they felt their own families were taken care of first.
- Public Safety administrators that simply had a difficult time dealing with the enormity of the disaster and thus rendered themselves ineffective.
- Public Safety first and second line supervisors that felt this was their time to take over and exhibited too much of a General Patton mentality.

General Murray Sagsveen Army National Guard (and designated by the governor as State Coordinator of the Recovery) was given the responsibility to oversee and coordinate all the of the Public Safety groups responding to our disaster which proved to be valuable for objectiveness and overall control functions. He provided a focus on goals and priorities.

- Some will perform amazingly, some will fall apart
- They will have much more pressure than they signed up for
- Bring in assistance to recognize and deal with stress

BUSINESS RECOVERY

▪ **Establish Planning Committee**

Made up of business people, citizens and community leaders, a broad-based committee will be essential to achieve both a wide range of suggestions and general support and acceptance.

▪ **Daycare – Letting people get back to work**

Our flood happened towards the end of the school year and thus schools simply closed. For that first month afterwards, I don’t believe there were any child care facilities even open. Many of the Centers had received damage, as well as the homecare providers. This meant that parents had no safe place to leave their children for the day & thus they did not immediately go back to work. It is important to note here that North Dakota ranks No. 1 in the number of two parent income families.

Thus, to get people back to work, (especially women who worked as bank tellers, grocery store workers, sales clerks, wait staff etc.) we needed to have safe places for children to be during the day. United Way provided \$100,000 to the Park District which set up free daycare throughout the community. To help staff this, child care workers from the centers that were not “up & running” were hired. Also, all of these centers had to then replace equipment & toys that were destroyed in the flood.

▪ **Taking Too Much** – How much in loans do businesses and residents need?

Many small businesses felt compelled to take out as many loans as possible (as were offered) thinking that it was the cheapest money available (including rumors about forgiving the loans.) In three to five years this debt was too much to handle and hampered the long-term business recovery.

- **Provide lists of technical assistance and one-on-one advisors** on financial planning (they should be able to determine if they can repay loans.)

ESSENTIAL INFRASTRUCTURE

▪ **Turning on the Basic Infrastructure to Homes (Wiring, water and heat)**

For community members, the first signs to putting lives back together are the return of electricity and potable water. This will require many contractors and a structure plan to address neighborhoods – or grids – one at a time since these utilities require that each home/property must be occupied or monitored to avoid additional damage.

CITIZEN NEEDS

▪ **Throwing away too much –**

Everyone should be cautious, but not too cautious. There must be clear guidelines pertaining to what personal items can be salvaged and cleaned and what needs to be thrown away due to personal/public health concerns. There may be an initial sense to throw away everything that got wet. That may not be the case and valuable items may be discarded needlessly.

▪ **Addressing Diversity – Is everyone being treated equally?**

▪ **Make recovery programs fit the needs of the people. Don't manipulate needs to fit programs.**

Leaders and decision makers should continually listen to the public and to the on-site service providers about what needs are and are not being addressed with the available programs. Gaps in service must be recognized and then programs adjusted accordingly (which may require documented waivers “higher up”).

▪ **Public input is essential - but not public control. Leaders will have to make hard choices.**

▪ **Reestablish sense of safety and neighborhood**

Without a sense of security, residents will not be able to invest emotionally or financially in the recovery efforts. Businesses and industry will also not be able to reinvest.

In addition to basic housing, citizens must also recover the sense of neighborhood and community – even in transitional or temporary housing units. Government should give them an opportunity to be part of a new neighborhood and they'll bring that sense of community back to old one (see below).

PSYCHOLOGICAL/MENTAL EFFECTS

▪ **Significance to mental health of getting people into homes and into neighborhoods**

Rebuilding the emotional/psychological infrastructure is equally as important as the physical infrastructure. Safety, belonging, and trust are the unseen bonds that will be necessary for long-term recovery. Grand Forks' transitional housing “FEMAville” was made up of travel trailers but local government added community by converting a nearby building into a day care and Community Recreation Center as well as produced a weekly neighborhood newsletter and other efforts such as a holiday-themed decorating contest for the trailers.

▪ **Psychological Stages of Recovery**

- **Denial**
- **Anger**
- **Bargaining**
- **Depression**
- **Acceptance**

- **Re-establishing sense of protection – A requirement for necessary reinvestment.**
(See above)

- **There will be a “New Normal” – not the same as before**

Everyone will want to get back to how they were before the disaster but there will be many differences. Leaders should emphasize that there will be many differences and that these can/will be positive changes.

- **Long-range affects:**

Mental Health issues are enormous after an event like this. Suicides or the “one car accident” increased after the flood. This was thought to be a way for the man-of-the-house to provide for his family via life insurance. Incidences of violence in the home increased, even violence among teenagers increased. In a 1998 United Way Needs Assessment Survey of Health & Human Service needs, the number one issue was Stress, Anxiety & Depression. In past surveys, this had always shown up, but never in the number one spot.

- **Robert Wood Johnson Foundation funded a population-based study of health conditions associated with the 1997 flooding in Grand Forks, North Dakota**

- Researcher: Larry Burd, PhD;
- Compared: Pre Flood Year: April 95 - March 97, Flood Year: April 97 - May 97, and Post Flood Year: June 97 - Jun 00
- Data from the Hospital, Clinics, and 35 Community Agencies

- **Findings:**

- Increase in Youth Truancy (schools)
- Increases in Domestic Violence: 43%
- Increase Driving Under Influence: 129%
- Increase in Drug/Narcotic Violations: 275%
- Increase in Mental Illness (Depression): 45%
- Increase in Injuries: First 90 days
- Increase in Respiratory (ages 20 - 64)
- Increase in Infectious Disease
- Increase in Nervous System Conditions
- Population Decrease 3-4% (elderly)

- **Robert Wood Johnson Foundation funded a study of the impacts of the 1997 flood on health insurance in North Dakota**

- Researcher: Alana Knudson-Buresh. PhD
- Random telephone survey of 5,027 North Dakota Households from Feb 98 to May 98, with a response rate: 76.2%

- **Findings:**

- Uninsured were the highest among people evacuated for two months or more
- Uninsured were the highest as flood damage levels increased
- Policy Implications:
 - Develop health insurance plans for displaced disaster victims
 - Provide access to health care professionals
 - Provide education about health insurance