



# City of Waverly

## Hazard Mitigation Plan Update

Adopted By City Council: June 15, 2009

FEMA Certification Date: October 28, 2009

FEMA Certification Expiration Date: October 28, 2014

Funded By:

Federal Emergency Management Agency Hazard Mitigation Grant Program,  
Iowa Homeland Security/Emergency Management, City of Waverly and INRCOG



Prepared By: Iowa Northland Regional Council of Governments

**RESOLUTION 09-58**

**A RESOLUTION OF THE CITY COUNCIL, OF THE CITY OF WAVERLY, IOWA, ADOPTING AN UPDATE OF THEIR EXISTING HAZARD MITIGATION PLAN FOR THE CITY OF WAVERLY.**

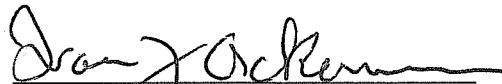
WHEREAS, the City Council of the City of Waverly, Iowa has authorized the development of a Hazard Mitigation Plan Update for the City of Waverly; and,

WHEREAS, the Hazard Mitigation Planning Committee of the City of Waverly has participated in the formulation of the plan; and has recommended the adoption of said Hazard Mitigation Plan Update, and,

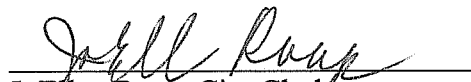
WHEREAS, a Public Hearing has been held in the City Hall for the purpose of obtaining citizen input on the Hazard Mitigation Plan Update.

NOW THEREFORE BE IT RESOLVED THAT the City Council of the City of Waverly, Iowa herewith adopts said updated plan, incorporating citizen comment and future FEMA and IHSEMD recommendations.

Passed and adopted this 15<sup>th</sup> day of June 2009.

  
Ivan J. Ackerman, Mayor

ATTEST:

  
JoEllen Raap, City Clerk

STATE OF IOWA

ss:

Bremer County,

CERTIFICATION OF PUBLICATION

I, Betty Bast, being duly sworn  
 depose and say that I am classified/receptionist of  
 THE WAVERLY DEMOCRAT, a weekly newspaper published at  
 Waverly, Bremer County, Iowa, and I further state that the annexed and  
 subjoined notice was duly published in said paper, as often as once in  
 each week for 1 week(s), commencing on the 14th  
 day of May, 2009, and ending on the  
14th day of May, 2009.

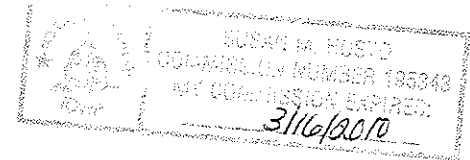
Betty Bast

Subscribed and sworn to before me this 14th  
 day of May, 2009.

Susan M. Gusto

Notary Public in and for Bremer County, Iowa

Printer's Fee, \$ 14.73



\*Charge for additional certificates

**Public Notice**

**NOTICE OF PUBLIC HEARING**

TO WHOM IT MAY CONCERN: Notice is hereby given that on the 15th day of June, 2009 at 7:00 p.m. in the Council Chambers in the Waverly City Hall, Waverly, Iowa, a public hearing will be held to accept input regarding the Hazard Mitigation Plan Update recently being undertaken by the City.

Anyone interested may appear at the above stated time and place on June 15, 2009 for the public hearing and be heard or may file written comments in person or mail to the City Clerk, Waverly City Hall, P.O. Box 616, Waverly, IA 50677 to be received in the City Clerk's office before 5 PM on the date set for said hearing. There are copies of the plan currently available for review at Waverly City Hall, the Waverly Library and on the City's webpage: [http://city.waverlyia.com/public\\_works\\_intro.asp](http://city.waverlyia.com/public_works_intro.asp)

Published in the Waverly Democrat on May 14, 2009.

City of Waverly  
Hazard Mitigation Plan Update

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Appendix A: Invitation List, Agendas, Meeting Notices, Invitation Letters, Press Releases, Sign-In Sheets and Meeting Minutes

Appendix B: 2003 Hazard Ranking Score Table

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## Acknowledgements

Over the course of the planning process a number of individuals donated their time and efforts toward providing information, attending meetings, and providing input for the successful completion of the plan. The following is a list of people who participated in preparation of this Waverly Hazard Mitigation Plan Update, in no particular order:

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Duane Liddle	Karen Heinselmann
Gary Boorum	Ben Kohout

### INRCOG Planning Leaders:

Brian Schoon, Director of Planning  
Adam Roberts, Planner

## INTRODUCTION AND EXECUTIVE SUMMARY

### What is a Hazard Mitigation Plan?

Generally the first question asked when communities begin the process of preparing a Hazard Mitigation Plan is very simply "What is a Hazard Mitigation Plan and what is its intended purpose?" First, it is imperative to define what precisely the term mitigation entails. One definition of the term is stated most effectively by the Federal Emergency Management Agency and is as follows: "Mitigation is defined as any sustained action taken to reduce or eliminate long-term risk to human life and property from a hazard event. Mitigation, also known as prevention (when done before a disaster), encourages long-term reduction of hazard vulnerability. The goal of mitigation is to decrease the need for response as opposed to simply increasing the response capability." ([www.fema.gov](http://www.fema.gov)).

With that definition in mind, a mitigation plan is a document that is intended to accomplish several things. First, through the planning process the hazards that pose a risk to the community will be identified. Second, an assessment of the hazards will be made that takes into account historic occurrence, the number of people that will be impacted, the area of the community that will be affected, potential costs that the City, individuals, and organization may incur, the likelihood of future occurrence, and the amount of warning time before an event occurs.

Once the assessment is completed a list of current and historic mitigation efforts are discussed. Through this discussion areas that can be improved upon are identified and developed into "action steps". Early in the planning process meeting attendees identify broad goals that briefly state what the plan should attempt to accomplish. Every action step should, if implemented, work toward one or more of the goals of the plan. An action step may suggest continuing a current mitigation effort or propose a new project altogether.

Finally, once the hazards have been assessed, mitigation steps identified, and the action steps have been prioritized the plan makes some suggestions for implementation and makes estimates as to the costs of implementation. Some proposed projects are small in scope and thus relatively low cost. However, other projects are broad in nature and would require more funding than the local community can reasonably provide. Therefore, the final piece of the plan suggests methods to implement the plan, how to keep the public involved, and what steps should be taken by local government to ensure that the concept of hazard mitigation is always a priority.

When implemented appropriately, mitigation projects can save lives, reduce property damage, is cost-effective, and environmentally sound. This, in turn, can reduce the enormous cost of disasters to property owners and all levels of government. In addition, mitigation can protect critical community facilities, reduce exposure to liability, and minimize community disruption.



## The Planning Process

The first step in updating the City's Hazard Mitigation Plan was to bring together a group of people with a variety of knowledge and backgrounds, yet all having some connection to the goal of hazard mitigation. Working in conjunction with the planning agency (Iowa Northland Regional Council of Governments) the City developed a list of organizations and positions they felt would best represent the knowledge base required to begin the planning process. The idea was to first establish a base committee and then invite other organizations and/or individuals as necessary.

This initial group of people encompassed individuals representing local government, law enforcement, fire and rescue, local emergency management, public utilities, local schools, local non-profits and service providers, area employers, railroads, insurance, real estate, and citizen volunteers, including some of the persons involved in the creation of the City's original Hazard Mitigation Plan. Once established, this assembly was considered to be the Hazard Mitigation Planning Committee. Beyond this core group of individuals, the City Council decided to appoint a committee strictly made of citizens. Each council person appointed two citizens to attend and contribute to the development of the plan (See Appendix A).

Following the establishment of the Hazard Mitigation Planning Committee, a number of public meetings were held in order to review and update the 2003 Hazard Mitigation Plan. The committee began by updating statistical data, reviewing previously established hazards, adding additional hazards the plan would address, and re-ranking the hazards from the previous plan (See Appendix B) by the following criteria: historical occurrence, probability of the hazard occurring again, vulnerability of the city's population and assets, maximum threat, severity, and speed of onset. Furthermore, those who participated at the public meetings were charged with re-assessing mitigation action steps outlined in the previous plan (See Appendix C), deleting those that were no longer relevant or had already been completed, and adding new mitigation activities that were not included in the previous plan. The committee, city staff and public officials also decided to include an outline for formalizing a Hazard Mitigation Planning Committee. In the future, if the committee is enacted, it would be tasked with reviewing the mitigation activities, making recommendations, and evaluating the plan's progress over the next five years. The process is outlined in the mitigation prioritization section of this plan.

Many of the identified action steps were projects that could be accomplished by the local government independently. Other identified projects included efforts that would either require the cooperation of two or more entities, or would not include the local government at all. It is intended that each action step be considered at least on an annual basis. In order to increase the likelihood that the plan will be implemented, each action step identifies the parties that would most likely be responsible for completing an annual review of that step.

The City of Waverly served as the sub-grantee for the hazard mitigation project and contracted with the Iowa Northland Regional Council of Governments (INRCOG) for implementation of the planning process and preparation of the plan. The kick-off meeting began August 19, 2008 and the final planning session was held May 5, 2009. At the final meeting the committee made a formal recommendation to take the plan to the City Council for adoption, once the final draft was prepared. To date there have been a total of seven public meetings (dates are listed below) and on public input session held for this project. Prior to each of these meetings mailed notices were distributed to approximately 42 individuals, businesses, organizations, and or agencies representing a variety of interests. Each of these meeting notices included an agenda, meeting notice and invitation letter (See Appendix A) that clearly stated the dates, time, place, and issues to be discussed at the meeting. Other public notification measures utilized included advertisement on the local public access television station, radio interviews, press releases to the local newspaper (See Appendix A), and posted agendas. City Council was also briefed multiple times throughout the planning process on the status of the plan. The meeting times averaged between two to three hours and received varying degrees of attendance.

### Planning Session Dates:

August 19, 2008  
September 16, 2008  
October 7, 2008  
October 21, 2008  
November 11, 2008  
April 7, 2009  
May 5, 2009

## COMMUNITY PROFILE

### Geography

The City of Waverly is located in southwest Bremer County in the northeast quadrant of Iowa at latitude 42.7° N x longitude 92.5° W, *see Attachment 1, Figure 2: Location of the City map*. Elevations in Waverly peak at 1,050 feet above sea level, with an average elevation of 886 feet, *see Attachment 1: Waverly Topographic Map of the City*. The Cedar River divides the community, which is served by two major highways, U.S. Highway 218/27 and State Highway 3.

The terrain on which Waverly is built is generally the undulating topography that characterizes the agricultural areas of northeast Iowa. There are a few areas of steeper than normal slope with these being dispersed throughout the community adjacent to watercourses. The highest point in the community lies at approximately 1,050 feet above sea level and is located near the water tower on the east side of town.

### Major Rivers and Surface Water Systems

There are three primary surface water systems that affect the City of Waverly. The largest of these water systems is the Cedar River. The Cedar River at Waverly is part of a watershed that is responsible for the drainage of over 1,500 square miles of land and has been the cause of most of the major flooding in the city.

The second primary surface water system is the stream referred to as Dry Run Creek. Dry Run Creek flows mainly in a southeasterly direction before it converges as a tributary to the Cedar River near the corner of Sixth Avenue SW and First Street SW.

The third and final primary surface water system is relatively insignificant in nature when compared to the affect of the first two channels have on the city. In fact the FEMA Flood Insurance Study for the community identifies the stream as "Unnamed Creek", sometimes referred to as "No Name Creek." This creek converges with the Cedar River northwest of the intersection of Fifth Avenue SE and Eleventh Street Southeast.

### Climate

Waverly's climate is not unlike those of most cities in the Midwest. Waverly has a climate of continental character. Because Waverly is far away from the moderating influence of a large body of water, a wide variation is experienced in both temperature and precipitation during the four distinct seasons. Temperatures for the Waverly area have been recorded as high as one hundred five (105) degrees Fahrenheit in 1988 and as low as low as negative thirty four (-34) degrees Fahrenheit in 1962. Precipitation also varies substantially in a climate such as Waverly's, however, the average annual precipitation of approximately 31.4 inches of rainfall.

Summer precipitation results primarily from thunderstorm activity, although longer less intense rains are not uncommon in the area. Other forms of precipitation recorded in the area include: snow, hail, ice pellets, and sleet.

### Vegetation

Originally the land surrounding and including Waverly was covered with deciduous forest; this vegetation is now predominant only along the banks and flood plains of watercourses. The original cover has been reduced to make room for additional cropland and construction of houses and businesses in suitable areas.

Tree cover can also be found throughout the community in residential areas, parks, and cemeteries. These remaining trees contribute to the aesthetics of the community and are viewed as an asset.

### Soils Information

According to the Bremer County Soil Survey conducted in 1967 by the United State Department of Agriculture Soil Conservation Service, the soil in Waverly is "Loamy alluvial land, channeled ... nearly level and gently sloping, excessively drained to poorly drained loamy soils formed in loamy alluvial sediments; on bottom lands and terraces". These soils tend to act as drainage ways for more elevated surrounding areas. Drainage can be a problem if there is no suitable outlet for the waters. In addition, due to their location in and near the Cedar River floodplains, some of the soils in Waverly may be subject to flooding.

**History / Development Trends**

The Waverly area was originally given to the Winnebago Indians by a treaty that lasted from 1833 to 1850. In 1859, the Winnebago traded their lands in Iowa for lands further to the northwest.

The earliest non-American Indians to settle in the Waverly area arrived in 1852. Frederick Cretzmeyer, his brother Wendelin, and their families were the first to arrive. Soon thereafter, William P. Harmon arrived and promptly purchased ten acres of land from the Cretzmeyers. Mr. Harmon constructed a sawmill with the prerogative of building a town around it. His dream was soon realized and many of the first homes in the Waverly area were built using wood from the Harmon sawmill and bricks from a manufacturing plant (Waverly's first industry) started by Wendelin Cretzmeyer.

It wasn't long before rapid development was occurring. In 1853 the first county elections were held and Waverly was named the county seat of Bremer County. Within the next ten years (1854 to 1864) the city witnessed publication of its first newspaper, the Republican; the first county fair; the construction of the Waverly House Hotel; and perhaps most important, the arrival of the railroad.

Since Waverly's early existence education has been a priority. The first schoolhouse, which was also used for public meetings, was built in 1855. Construction on the area's first high school began in 1872. Seven years later, German Lutheran College was founded in Waverly. In 1935, what was originally German Lutheran College became what is today Wartburg College. The college has remained an important contributor to the economic, social, and cultural structure of the community. Wartburg College is now a fully accredited, four-year liberal arts college with an estimated enrollment of approximately 1,800 students. The college is named after the Wartburg Castle in Eisenach, Germany.

Originally, the community was to be called Harmon or Harmonville after the town's founder William P. Harmon. Yet, during the town's incorporation celebration in 1859, the speaker, an avid fan of Scott's "Waverly Novels", made the mistake of calling the town Waverly. The name was recorded and the town became known as Waverly. It was not until March 2<sup>nd</sup> of 1859 that Waverly was officially named an incorporated municipality.

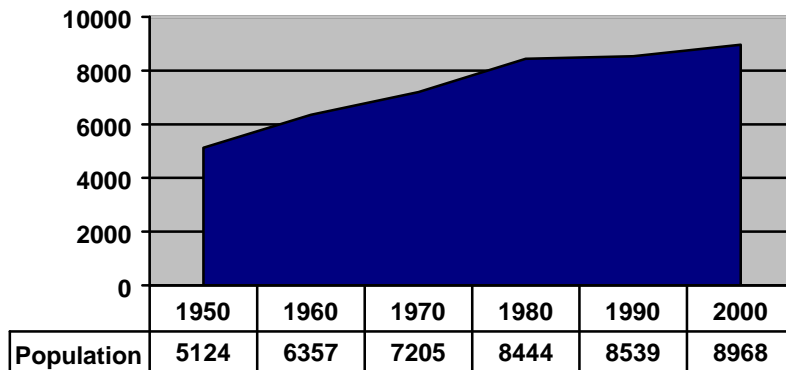
*Source: Bremer County Independent, Historical Issue*

**POPULATION AND DEMOGRAPHICS**

**Population**

The City of Waverly experienced growth in every decade of the 20<sup>th</sup> century. The Farm Crisis that affected the majority of communities in the region also slowed the population growth in Waverly. Waverly, unlike some neighboring communities (i.e. Waterloo, IA) was able to maintain positive population growth, although somewhat decelerated, throughout the turbulent 1980's. This is a trend that eluded Bremer County as a whole during the same period. According to the 2000 Census information Waverly maintained positive population growth during the 1990's by posting a five percent increase. The figure shows population growth in Waverly from 1950 to 2000.

**Figure 1: Population Growth 1950 - 2000**



Source: U.S. Census Bureau, 2000

The table below compares the percentage of persons under age 18 and those age 65 and over for the City, County and State. In all jurisdictions, the number of young people declined, while those over age 64 increased as a percentage of total population. This information holds some significance, insomuch as it provides a rough estimate of the aging of the population and indicates the number of persons who may be considered to be at an additional risk in the event of a disaster.

**Table 1: Persons in the Selected Populations Under 18 and Over 64 Years of Age**

Area	1990				2000			
	<18	%	>64	%	<18	%	>64	%
Waverly	1,895	22.2	1,432	16.8	1,927	21.5	1,464	16.3
Bremer County	7,263	29.3	3,261	13.1	5,621	24.1	3,732	16.0
Iowa	718,880	25.9	426,126	15.3	734,507	25.1	433,096	14.8

Sources: Iowa's Counties: Selected Population Trends, Vital Statistics, and Socioeconomic Data, 1991 and U.S. Census Bureau, 1990

### At Risk Groups

The elderly are often listed as an "at risk" population. According to 2000 Census data, Iowa has an aging population and the age group of those 80 and over is increasing more rapidly than any other age group. Iowa currently ranks second in the nation in the percentage of person over the age of 85. The Iowa Department of Elder Affairs, the area agencies on aging, and Iowa State University recently studied the elderly in Iowa. According to their findings, most elderly Iowans own their own homes and few live in group living facilities such as nursing homes, assisted living, or independent living facilities. The study found that over 50 percent of the elderly lived alone. There are a number of housing alternatives available for the elderly in Waverly. As of June 2001 there were 126 nursing home beds, 30 assisted-living units and 38 independent-living units in Waverly.

Persons under the age of 18 are also at higher risk during some disasters. This is mostly due to the fact that young persons often are not aware of the proper actions to take in the event of a disaster. In addition, very young children would be more susceptible to a disaster such as a disease epidemic simply due to their age. In 2000, there were 1,927 children in the city under the age of 18, and 450 children under the age of five.

Populations living in the 100-year floodplain are also at risk of sustaining personal injury or property damage. According to City records, there are approximately 400 houses and 134 commercial/industrial/public structures in Waverly the 100-year floodplain, see *Attachment 1, Figure 2: Floodplain Map of the City*. Using the average persons per household, 2.36, approximately 936 persons are living in the floodplain.

In addition, persons living in mobile homes, also known as manufactured housing may also be at risk from tornadoes or high winds. At the time of the 2000 Census, there were 84 manufactured housing units in Waverly. Again using the average persons per household, there are approximately 198 persons living in manufactured housing units in Waverly.

Finally, persons living in some multi-family housing units may also be at risk, due to the lack of a proper tornado shelter. In 2000 there were 467 multi-family housing units in apartment buildings housing from 3 to 20 or more apartments. According to this, approximately 1,102 persons were living in multi-family housing units.

### Population Projections

Projections are only estimates of future population, and many factors have an effect on the future population, such as employment, housing, and educational opportunities. While some projections use some of this data in order to estimate future population, they cannot plan for unknown events, such as drastic employment opportunities or natural disasters.

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The following projections are based on the linear and geometric methods, which assume that future population will continue to change based on past trends. The linear method adds or subtracts from the population the average number from each ten-year period since 1950, while the geometric method uses an average growth or decline rate. The table below shows the actual number change and the growth or decline rate for each decade and their averages.

Table 2: Historic Population Changes

Year	Population	Number Change (Linear Method)	Growth/Decline Rate (Geometric Method)
1950	5,124	--	--
1960	6,357	+1,233	+24.1%
1970	7,205	+848	+13.3%
1980	8,444	+1,239	+17.2%
1990	8,539	+95	+1.1%
2000	8,968	+429	+5.0%
Average (1950-2000)		+3,844 / 5 = +768.8	+60.7 / 5 = +12.14%

Source: U. S. Census Bureau

Using the numbers derived in the table above, population projections can be estimated using the two methods (Linear and Geometric). These projections are listed in the table below. It is important to note that these projections are just estimates based on past trends. Many variables can affect a cities growth and/or decline in population. Nevertheless, projecting population can give some idea as to how to plan for the future.

Table 3: Population Projections

Year	Linear Projections	Geometric Projections
2010	9,737	10,057
2020	10,506	11,278

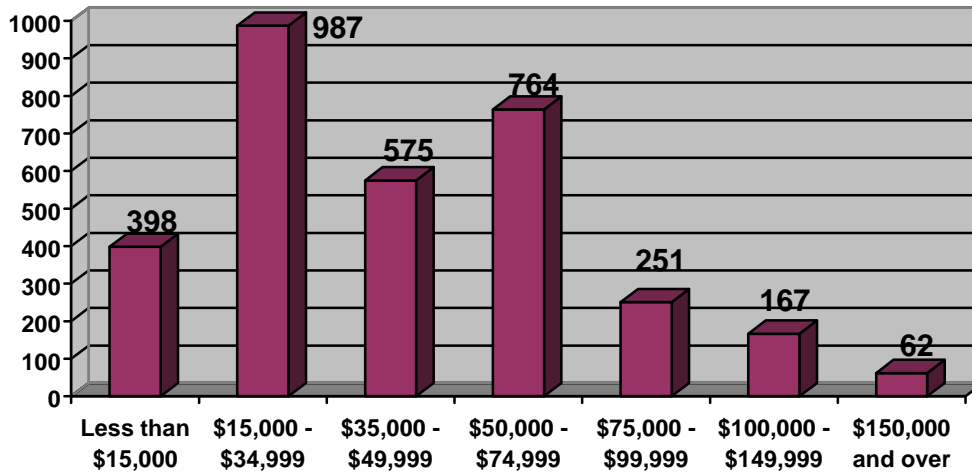
Source: INRCOG

**Income**

According to the 2000 U.S. Census, there were a total of 3,238 households located within the city limits of Waverly. Among these households, the median income was \$39,587, meaning that one-half of the households earned more than \$39,587 and one-half of the households earned below \$39,587. The figure below shows the income distribution for Waverly households in 2000.

Among Waverly households, income was mostly derived from wages and salaries, a total of 77 percent of households received income in this form. Also among households, 33 percent received income from Social Security and 21 percent received retirement income. Two percent of households received income from public assistance, and the poverty rate among individuals was six percent and among family households the poverty rate was eight percent.

Figure 2: Household Income: 2000



Source: U.S. Census Bureau, 2000

Major Local Employers

Listed in the table below are the fourteen largest employers in the City of Waverly according to the Iowa Department of Economic Development.

Table 4: Top Employers by Number of Personnel

Employer	Number of Employees
Wartburg College	1,362
Cuna Mutual Life Insurance Co.	693
Waverly-Shell Rock Comm. Schools	428
Waverly Health Care Center	320
City of Waverly	300
Terex Cranes Inc.	273
Nestle Beverage	250
Bartels Lutheran Home	223
GMT Corporation	219
Bremwood Lutheran Services	200
Bremer County	167
TDS Automation, A Doerfer Company	148
Hy-Vee Food Store	140
Wal-Mart	118
Rada Manufacturing Company	105

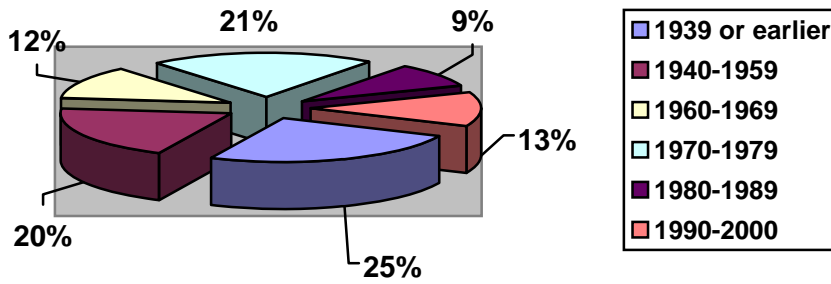
Source: <http://www.smart.state.ia.us/>

**HOUSING INFORMATION**

**Age of Housing**

One-quarter of the homes in Waverly were constructed prior to 1939, a total of 855 homes (25 percent) were built in this time period. The city also saw increased development in the 1970, during which 724 homes (21 percent) were built. The figure below shows the percentage of housing units built for each time period.

Figure 3: Age of Housing Units



Source: U.S. Census Bureau, 2000

**Condition of Housing**

As part of the completion of a Regional Housing Plan, a condition of housing survey was conducted in Waverly. In this survey housing units were rated on exterior appearance only and were placed into five categories. A unit was considered excellent if it was new or if it was older but in excellent condition, and a unit was considered good if it was in need of a few minor repairs. A unit was considered to be slightly deteriorated if it had more than a few deficiencies that needed repaired, and a home was considered seriously deteriorated if it was in need of major repair. A home was considered dilapidated if it appeared vacant and it was beyond repair to be habitable.

Table 5: Condition of Housing Units

Rating	Number of Housing Units	Percent of Housing Units
Excellent	401	13.1
Good	892	29.1
Slightly Deteriorated	1,746	57.0
Seriously Deteriorated	25	0.8
Dilapidated	0	0.0
Total	3,064	100.0

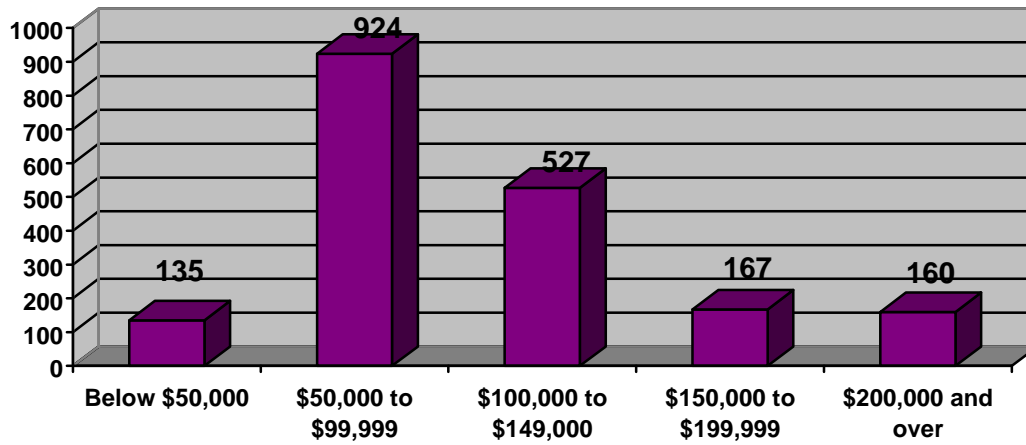
Source: INRCOG Regional Housing Plan

**Value of Housing**

Information available from the U.S. Census, housing values in Waverly increased by 40 percent from 1990 to 2000. Compared to other communities in Bremer County during this time period, Waverly had a rather small increase in housing values. According to the Bremer County Assessor’s Office, the total residential valuation for the City of Waverly for the year 2002 was \$302,729,616. This valuation was based on a total of 2,661 residential properties, and includes all residential properties, with the exception of multi-family units. Based on the information from the Assessor’s Offices, the average residential value for a home in Waverly was \$113,765.

At the time of the 2000 Census, the median housing value for owner-occupied housing units in Waverly was \$95,800, meaning that one-half of the housing units were valued at more than \$95,800 and one-half of the housing units were valued below \$95,800. Figure 3 below, represents the range of housing values in Waverly at the time of the 2000 Census.

Figure 4: Value of Housing in Waverly: 2000



Source: U.S. Census Bureau, 2000

#### Houses In Hazardous Areas

The City of Waverly is potentially affected by flooding from the Cedar River, Dry Run Creek and Unnamed Creek. The waterways have 100-year floodplains and there remain a number of houses located within those floodplains. Throughout previous years the city has participated in buy-out programs in efforts to remove houses from the floodplain. This will continue to be a priority for the city as opportunities for purchasing homes in the floodplain come forward in the future.

According to City records, there are approximately 400 houses and 134 commercial/industrial/public structures in Waverly the 100-year floodplain including the floodway, see *Attachment 1, Figure 2: Floodplain Map of the City*. Using the average persons per household, 2.36, approximately 936 persons are living in the floodplain.

In addition, persons living in mobile homes, also known as manufactured housing may also be at risk from tornadoes or high winds. At the time of the 2000 Census, there were 84 manufactured housing units in Waverly. Again using the average persons per household, there are approximately 198 persons living in manufactured housing units in Waverly.

Finally, persons living in some multi-family housing units may also be at risk, due to the lack of a proper tornado shelter. In 2000 there were 467 multi-family housing units in apartment buildings housing from 3 to 20 or more apartments. According to this, approximately 1,102 persons were living in multi-family housing units.



## TRANSPORTATION INFORMATION

Two major highways serve Waverly: Iowa State Highway 3, which is an east/west route, and U.S. Highway 218/27, the Avenue of the Saints, which is a north/south route. Old U.S. Highway 218 within Waverly has now evolved into a secondary route due to the recently constructed U.S. Highway 218/27 bypass that now runs to the west of the city limits. Other significant roadways entering Waverly include county roads V14, C38, C33, and V21

According to the Iowa Department of Transportation, an average of 6,600 cars and trucks travel on U.S. Highway 218/27 each day. An additional 9,500 cars and trucks travel within the city on Old Highway 218 and 3,620 vehicles travel on Highway 3, which passes through the city on an east-west route. Finally, an average of 15,400 vehicles travel on city streets each day.

Waverly is also served by a railway. The Illinois Central/Cedar River Railroad line enters the city from the south and then exits the city to the west. These two railroads comprise a Class II freight system that operates 850 miles of road. The main lines run west from Chicago across Illinois and Iowa while the secondary line runs north from Cedar Falls, Iowa through Waverly to Albert Lea, Minnesota.

For air service Waverly is served by the Waverly Municipal Airport, located just one mile north of the city. The airport maintains a concrete runway, which is approximately 2800 feet long, but has no control tower. A total of 21 aircraft are based at the field, 20 single engine airplanes and one multi engine airplane. The airport sees an average of 26 aircraft operations daily, of these operations, 56 percent are general aviation, 41 percent are transient general aviation, and three percent are air taxi operations

The closest major airport is the Waterloo Municipal Airport, located 20 miles south of Waverly. According to the latest statistics, the aircraft based at the airport include 60 single-engine airplanes, 20 multi-engine planes, 1 jet airplanes, and 20 military aircraft. As of May 2003 the airport averaged 118 aircraft operations per day. Operations are made up of 43 percent transient general aviation, 28 percent local general aviation, 20 percent commuters, and eight percent military.

There are no major commercial watercraft routes in Waverly. The Cedar River does offer a location for recreational watercraft use by the public.

### Zoning Ordinance

The Zoning Ordinance was last updated in 1990. The stated purpose of the ordinance is to promote the public health, safety, morals, order, convenience, prosperity and general welfare; to conserve and protect the value of property throughout the city and to encourage the most appropriate use of land; to lessen congestion in the streets; to population; and to facilitate the adequate services, including transportation, community protection and utility services.

A critical portion of the Zoning Ordinance is the district defined as the "Environmentally Sensitive Protected District (U-1)." Essentially this district, its definition and the regulations on the classification translate into what is commonly referred as a Flood Ordinance. The zoning classifications identified in the Waverly Zoning Ordinance are as follows:

- Agricultural Districts
- Single Family Residential Districts
- One and Two Family Residential - Transitional Districts
- Planned Factory Built Home Districts
- Shopping Center Districts
- Three Commercial Districts
- Two Industrial Districts
- Planned Development Districts
- Environmentally Sensitive Protected Districts

### Building Codes

The City of Waverly has adopted the following codes:

- 2006 International Building Code
- 2006 International Residential Building Code
- 2006 International Plumbing Code
- 2006 International Mechanical Code
- 2006 International Fire Code
- 2006 International Fuel Gas Code
- 2006 Existing Building Code
- 2005 National Electric Code

The City has a contracted with Bremer County for inspections and enforcement of building codes. Enforcement of the various codes can reduce the number of household fire calls due to improper electrical and heating installations. In addition, adhering to requirements outlined in building codes reduces the likelihood of damage occurring due to high winds or heavy snow events.

**Community Valuations**

The valuations for the City of Waverly are available from the County Assessors and Auditors offices. The following valuations are as of January 1, 2009.

**Table 6: Community Valuations**

	Total Valuation	Average Valuation
Residential Valuation	\$457,372,680	\$155,147/Unit
Commercial Valuation	\$104,576,140	\$226,355/Unit
Industrial Valuation	\$28,004,960	\$500,089/Unit
Agricultural Valuation	\$2,224,500	\$778/acre
Gas and Electric Utility Valuation	\$3,339,566	NA
City Utility Valuation	\$2,858,945	NA
<b>Total Valuation</b>	<b>\$598,376,791</b>	

Source: Bremer County Assessors and Auditors Office

**Municipal Water System**

The City of Waverly has a municipal water supply with an elevated storage capacity of 1,750,000 gallons. The capacity of the water plant is approximately 6,000,000 gallons. Average daily consumption roughly 1,000,000 gallons. Peak recorded consumption is 1.8 million gallons.

**Waste Water Treatment Facility and Collection System**

The current Waste Water Treatment Facility consists of waste management treatment tanks located in the southeast corner of the city near the intersection of 8<sup>th</sup> Street SE and 17<sup>th</sup> Avenue SE. The wastewater is transported to the tanks with the assistance of nine (9) wastewater lift stations. The city currently has what is commonly referred to as a tertiary sewage treatment system. Over 95 percent of the city is served by this sewer system. The average load in gallons per day is approximately 1,240,000 gallons. The system has a peak load of 2,951,000 gallons per day. The current design capacity is 2,330,000 gallons per day.

**Utilities**

The primary providers of utilities in Waverly are listed in the table below.

**Table 7: Utility Providers**

Utility	Provider
Electric	Waverly Light and Power
Natural Gas	MidAmerican Energy Company
Telephone	Qwest
Water	City of Waverly
Cable	Mediacom

**Fire Insurance Rating:**

The current rating for the City of Waverly is five (5).

**Major River/Watersheds**

Information from the United States Environmental Protection Agency shows that the City of Waverly is located near the bottom of the Upper Cedar Watershed. The Upper Cedar, above the Janesville gage, has a drainage area of 1,727.31 square miles and contains 14 rivers and streams for a total of 1,929.5 river miles. There are also 31 lakes covering 3,095.8 acres.