

Section Seven: Participant Sections

Summary of Changes

Like the previous plan, participant sections provide greater information regarding the local jurisdictions. In this update, we have incorporated some additional risk assessment analysis and updated CFs maps.

Purpose of Participant Sections

Participant sections contain information specific to jurisdictions which have participated in the planning effort. Information from individual communities was collected at public meetings and used to develop the plan. Participant sections include background information such as history and development, location, geography, climate, demographics, and listing of jurisdiction specific documents used to establish the plan. In addition maps specific only to single jurisdictions are included such as: structural inventory, CFs, and 1% floodplain boundaries.

Please note that depending on which hazards were identified by the jurisdiction and the information that was available at the time of the plan, not all participating jurisdictions will have the same information. For example, jurisdictions that do not have a 1% annual floodplain or have not had a map delineated will not have a floodplain map in their respective sections. Below is a summary of the maps which may be included in the participant sections. Each map may not be referenced specifically in the sections.

- CF and Flooding Hazard Area Map – displays the locations of CFs as identified by the participants. Refer to *Section Three: Profile* for the definition of and displays the 1% annual floodplain as well as any structures located within the delineated boundary.

The risk assessment information, as provided by individual participants, in *Section Four: Risk Assessment* and *this section* varies due in large part to the extent of the geographical area and the jurisdictions designated representatives (who were responsible for completing meeting worksheets) personal opinion on the identification of hazards and presence and risk of each hazard type. For example, a jurisdiction located near a river may list flooding as highly likely in probability and severe in extent of damage, where a jurisdiction located on a hill may list flooding as unlikely in probability and limited in extent of damage. Or, one jurisdiction's designated representative may have concerns regarding tornados and list highly likely in probability and catastrophic in extent of damage, in comparison to another jurisdiction's representative may believe a tornado will never hit the town and list unlikely in probability and limited in extent of damage.

The overall risk assessment for the identified hazards represents the vulnerability to each hazard throughout the planning area. The individual participant hazard identification tables and responses may or may not reflect the consensus for risk and vulnerability to each hazard type in the area.

Participant Section for LPSNRD

LPSNRD Multi-Jurisdictional Hazard Mitigation Plan

March 2015

District Profile

HISTORY

Nebraska's Natural Resources Districts were created by the Nebraska Legislature and began serving the people of the state in 1972. The legislature combined 154 special purpose resources management entities, including county soil and water conservation districts, drainage districts, and watershed boards into 24 NRDs. In 1989, this number was reduced to 23 NRDs through a merger of the Papio NRD and the Middle Missouri Tributaries NRD. These districts are unique to Nebraska. No other state has a system for managing its natural resources identical to Nebraska's NRDs. The LPSNRD is governed locally by a Board of 21 elected directors.

The LPSNRD uses property tax dollars to accomplish a range of projects and programs for the benefit of the people and the resources of the District. Examples of current projects include; the MoPac east trail extension, dam rehabilitations, flood control, the Antelope Valley Project, stream stabilization, the Platte River Obstruction Removal project, and more. These projects range from actions to improve safety and the environment, to creating, improving, and maintaining public recreational outlets.

The LPSNRD owns and maintains eight public access lakes, saline wetlands and three recreational trails. Saline wetlands are classified as such by the levels of salinity found in the soil. The saline wetlands are one of the earth's most rare ecosystems; only 4,000 acres of the estimated 20,000 that originally existed, exist today. The LPSNRD's wetlands are home to two endangered species, thus it is especially important to make thorough efforts to conserve them.

LPSNRD's Master Plan Objectives focuses on eight areas that are indicative of what the NRD strives to accomplish:

- **Sustainable Water Resources** – The ability to predict changes in groundwater quality and quantity. Ground water levels are maintained and quality standards are exceeded or met for all domestic water users.
- **Low Impact Development** – All developments are compatible with and also conserve natural resources
- **Minimal Flood Threat and Damage** – Flood damages are reduced or eliminated and the public safety risk from flooding is minimized
- **Protected Natural and Unique Resource Areas** – All remaining natural and unique resource areas are identified, assessed, and sustained, or enhanced
- **Ample Natural-Resource Based Recreation** – The NRD provides diverse, safe, outdoor recreation opportunities across the district.
- **Properly Managed Agricultural Lands** – Owners of all agricultural lands utilize best management practices for water quality and quantity, maintain soils at sustainable levels in accordance with their capabilities and conserve energy
- **Healthy Forests** – The forestry resources of the NRD are diversified and enhanced in urban area. Rural forests are preserved and expanded
- **People are Responsible Conservationists** – The NRD is a credible source of information on natural resources for the public and other agencies and works with schools on providing natural resources education
- **Health Wildlife Populations** – Diverse, dispersed, and healthy wildlife populations thrive throughout the NRD
- **Stable Climate and Clean Environment** – Best Management practices for energy and conservation are everyday activities for the residents and businesses of the NRD
- **NRD is a Conservation Leader** – The LPSNRD is at the forefront of the innovative conservation with its projects and programs

LOCATION

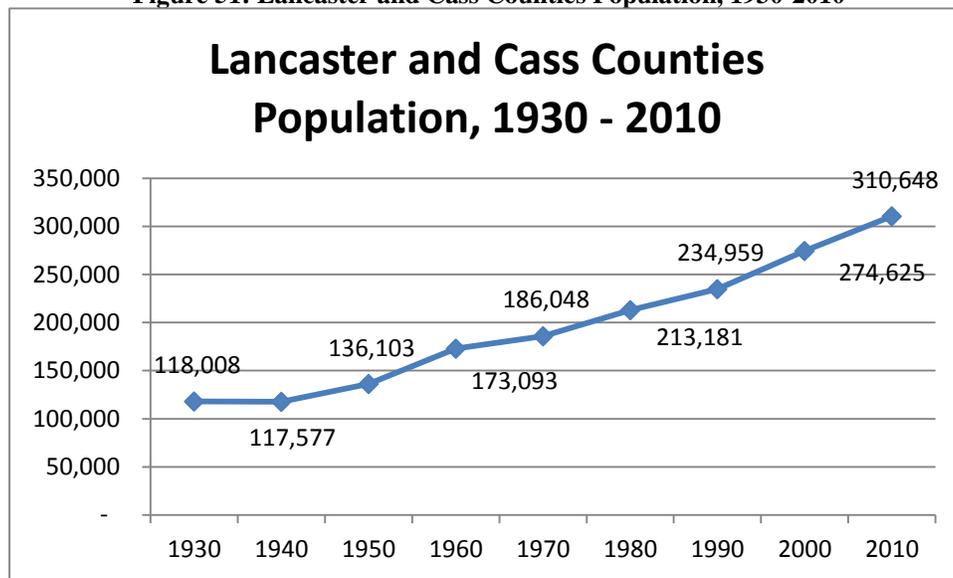
The Lower Platte South Natural Resources District (LPSNRD) is located in southeastern Nebraska and is made up of the majority of Lancaster and Cass Counties as well as portions of Seward, Saunders, Otoe, and Butler Counties. This region lies in a topographic region of ‘rolling hills’. Rolling hills are hilly land with moderate to steep slopes and rounded ridge crests. In eastern Nebraska, the rolling hills are mostly glacial till that has been eroded and mantled by loess.

The District consists of the Salt Creek Watershed, the Weeping Water Creek Watershed, and the Northeast Cass Watershed. The Salt Creek Watershed is comprised of a series of sub-basins such as; Antelope Creek, Beal Slough, Cardwell Branch, Deadman’s Run, Upper Salt Creek, Rock Creek, Callahan, Dee, Haines Branch, Little Salt Creek, Lynn Creek, Middle Creek, Oak Creek, Southeast Upper Salt Creek, and Stevens Creek basins. The District mostly drains into the Platte River along with the Missouri River to the east. As described by its name, the area is considered the southern portion of the Lower Platte River watershed.

DEMOGRAPHICS

The population of LPSNRD has steadily risen since 1940. The population in 1940 was 120,475. The 2010 population was 314,890. This growth can be contributed to the population growth in Lancaster and Cass Counties. Figure 51 shows the population from 1930 to 2010.

Figure 51: Lancaster and Cass Counties Population, 1930-2010



Source: U.S. Census Bureau, 2010

GOVERNANCE

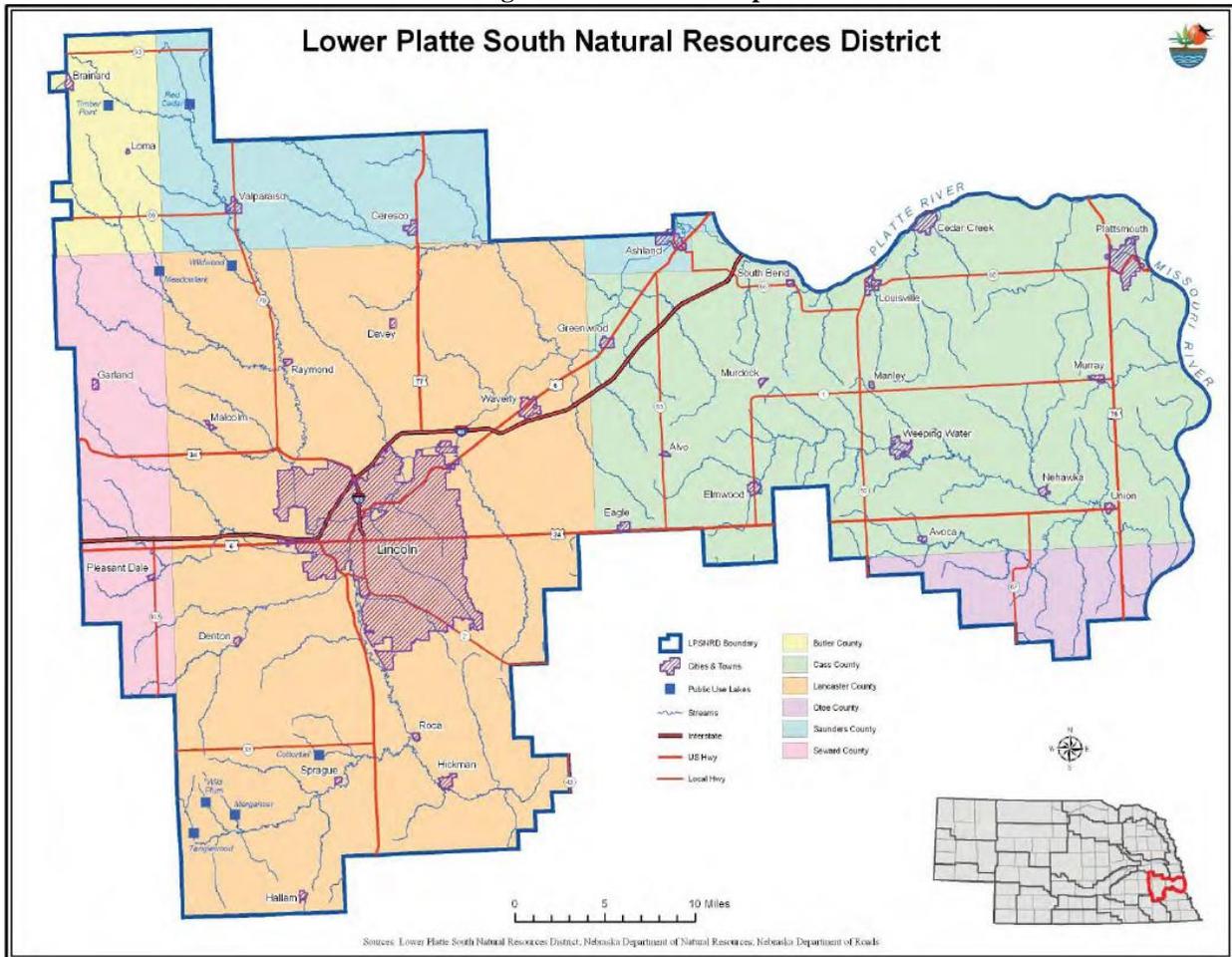
The LPSNRD office is located in Lincoln. The NRD has a board of directors with 21 members and includes the following subcommittees:

- Land Resources
- Water Resources
- Urban
- Recreation, Forestry and Wildlife
- Executive
- Finance & Planning
- Information and Education
- Antelope Valley
- Platte River
- Integrated Management

FUTURE DEVELOPMENT TRENDS

The district boundaries of LPSNRD are in an area currently experiencing ‘widespread’ development, mostly due to Lincoln, Waverly, Interstate 80, and areas south of the Platte River in northern Cass County. Due to this development, urbanization of the rural landscape around the District has increased a number of issues the LPSNRD is responsible for such as erosion prevention and control, increased runoff due to a reduction of impervious surfaces, flood prevention and control, and management of drainage ways. See the following Figure 52 for a map of the LPSNRD boundaries and the Communities within. Information on each community’s future development can be found in their respective ‘participant section’.

Figure 52: LPSNRD Map



Sources: Lower Platte South Natural Resources District, Nebraska Department of Natural Resources, Nebraska Department of Roads

Source: LPSNRD Master Plan, 2009

STRUCTURAL INVENTORY AND VALUATION

Results from the structural inventory for LPSNRD are found in Table 60.

Table 60: Structural Inventory for LPSNRD

Structure Type	Number of Structures	Total Value	Value per Structure
Commercial/Industrial	7,920	\$5,197,494,004	\$656,249
Agricultural	9,010	\$1,022,173,653	\$113,449
Residential	85,916	\$9,703,901,941	\$112,946
Public/Quasi Public	48,483	\$8,376,430,402	\$172,770
Total	151,329	\$24,300,000,000	

Source: Nebraska Department of Revenue, Property Assessment Division

Of the structures which are located in the unincorporated areas of Cass and Lancaster Counties, the following shown in Table 61 are in the 1% annual floodplain:

Table 61: Structural Inventory - Floodplain

Structure Type	Number of Structures	Total Value
Agricultural	5,315	\$1,245,146,299
Commercial	199	\$174,001,206
Industrial	349	\$144,080,418
Residential	894	\$491,486,219
Other	906	\$292,669,871
Total	7,663	\$2,347,384,013

Risk Assessment

The following information represents unique characteristics of the hazards of greatest concern for LPSNRD. See *Section Four: Risk Assessment* for the consolidated Risk Assessment table specific to LPSNRD. The five hazards of most concern to the LPSNRD are: severe thunderstorms, severe winter storms, flooding, chemical transportation, and extreme heat.

SEVERE THUNDERSTORMS

The planning team identified severe thunderstorms as the top concern for the planning area and expected that more than four severe thunderstorms would take place in the community in the next decade.

Damages to roofs and siding can result in significant losses for homeowners as well as business owners. CFs can also be damaged by hail events. 103 of the 340 hail events recorded by the NCDC for LPSNRD reported hail of one inch; using the TORRO Hailstone Scale expected impacts from this type of event include damages to trees and crops, broken glass, and damages to plastic outdoor structures. 49 of the hail events reported hail stones of one and three quarter inches or larger; stones of this size can result in wholesale destruction of glass, damage to tiled roofs, and is cause for concern related to the safety of residents as stones of magnitude pose a significant risk to persons and can cause injuries. Two events resulted in more than \$1 million in losses. One event occurred on July 18, 1996 in Plattsmouth and caused \$1,000,000 in property damage and \$250,000 in crop damage. The second event occurred on July 20, 2000 and recorded \$2,000,000 in property damage and \$1,000,000 in crop damage. There were also 12 lightning events recorded by NCDC that resulted in a total of \$1,276,000 of property damages. In addition, 93 thunderstorm events reported a total of \$2,049,000 in property damage.

The district has older housing stock and an aging population, both of which may lead to greater levels of vulnerability. Severe thunderstorms and hail can result in loss of electricity, blocked roadways, damages to trees, and flooding. Blocked roadways, as a result of downed trees, may also present life safety concerns to those needing immediate medical attention.

SEVERE WINTER STORMS

The county planning team identified severe winter storms as a significant concern for the district. NCDC data records severe winter storms as “zonal” events and there are 88 recorded events. One of the recorded events resulted in a total of \$19,175,000 of property damage and \$400,000 of crop damage.

The elderly may be more likely to sustain an injury or have a medical emergency as a result of shoveling snow following a winter storm. Community members and families below the poverty line are also at higher risk related to severe winter storms, as they may lack resources needed to sustain themselves through a major severe winter storm.

FLOODING

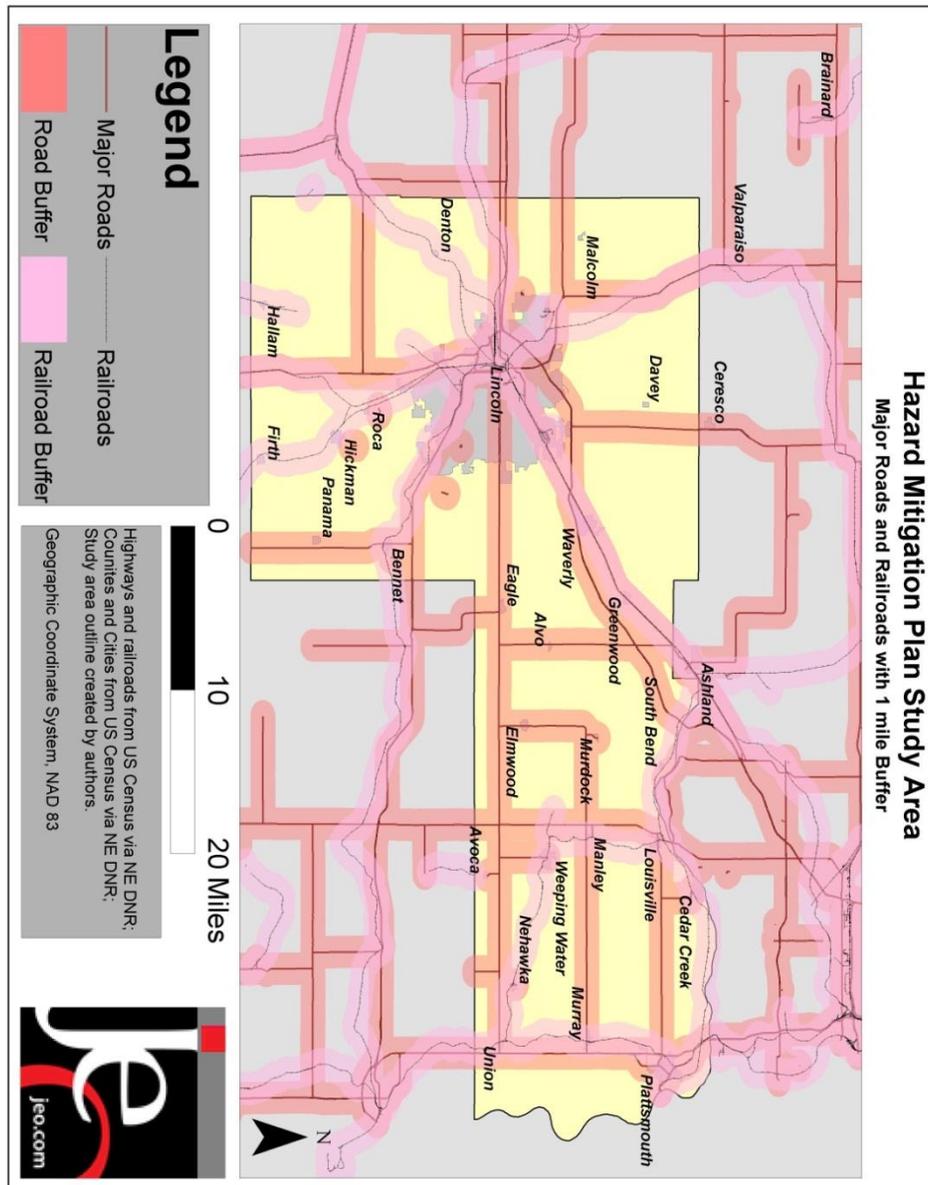
The planning team identified flooding as a significant concern for the district. The NCDC reports 59 flooding events from 1996 to 2013. Of these 59 events 38 are flash flooding and 21 are riverine flooding. According to the NCDC flash flooding resulted in \$3,347,000 in property damages and \$55,000 in crop damage. Riverine flooding caused \$1,830,000 in property damages and no crop damages.

LPSNRD also has repetitive loss properties based on NFIP records. Those properties include 39 single-family properties and 5 non-residential structures.

CHEMICAL TRANSPORTATION

The planning team identified chemical transportation as a significant concern. According to the Pipeline and Hazardous Material Safety Administration (PHMSA) there have been 11 spills/leaks involving hazardous materials. Additionally, there have been chemical leaks and natural gas leaks and explosions. Figure LPS 3 shows the major transportation routes through LPSNRD.

Figure 53: LPSNRD Major Transportation Routes



EXTREME HEAT

The planning team identified extreme heat as a significant concern for the district. The High Plains Regional Climate Center reports approximately 41 days over 90°F annually. Extreme heat events are most likely to occur during June, July, and August.

Elderly residents, young children, and low-income families are all groups within the community which are more vulnerable to the impacts of extreme heat events. Low-income elderly in urban areas are especially at risk from extreme temperatures.

Capability Assessment

The capability assessment consisted of two main components: a Capability Assessment Survey completed by the jurisdiction and a review of local existing policies, regulations, plans, and programs. The survey is used to gather information regarding the jurisdiction’s planning and regulatory capability; administrative and technical capability; fiscal capability; and educational and outreach capability.

Table 62: LPSNRD Capability Assessment

Survey Components/Subcomponents		Comments
Planning & Regulatory Capability	Comprehensive Plan	Yes (2009)
	Capital Improvements Plan	No
	Hazard Mitigation Plan	Yes
	Emergency Operational Plan	Yes
	National Resources Protection Plan	Yes
	Floodplain Management Plan	Yes
	Storm Water Management Plan	No
	Floodplain Ordinance	Yes
	Well Head Protection Area/District	No
	Other (if any)	N/A
Administrative & Technical Capability	Planning Commission	Yes
	Hazard Mitigation Planning Commission	No
	GIS Coordinator	Yes
	Civil Engineering	Yes
	Staff Who Can Assess Community’s Vulnerability to Hazards	Yes
	Grant Manager	No
	Other (if any)	N/A
Education & Outreach Capability	Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.	Yes
	Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	Yes
	Public-private partnership initiatives addressing disaster-related issues	Yes
	Other (if any)	N/A

Mitigation Actions

NEW OR PREVIOUSLY IDENTIFIED MITIGATION ACTIONS

The following hazard mitigation actions were identified high by LPSNRD, or were noted as being underway since the previous hazard mitigation plan.

Continue & Expand Water Conservation Awareness Programs, such as pamphlets

Description: Improve a program to conserve water use by the citizens during elongated periods of drought. Potential restrictions on water could include limitations on lawn watering, car washing, or water sold to outside sources. Work with DNR on farm irrigation restrictions.

Hazard(s) Addressed: Drought

Estimated Cost: \$1,000 +

Potential Funding: PDM, HMGP, LPSNRD

Timeline: 5 Years

Priority: High

Lead Agency: LPSNRD (public relations), Lincoln Water System, Water Suppliers

Status: Developing education materials

Hazard Education

Description: Increase public awareness of vulnerability and risk reduction measures through hazard education

Hazard(s) Addressed: All hazards

Estimated Cost: \$0 - \$1,000

Potential Funding: PDM, HMGP, LPSNRD

Timeline: Ongoing

Priority: High

Lead Agency: Cities

Status: In Progress

Master Plan

Description: Maintain NRD Master Plan to prioritize all hazard related projects

Hazard(s) Addressed: All hazards

Estimated Cost: \$1,000 - \$5,000

Potential Funding: PDM, HMGP, LPSNRD

Timeline: Ongoing

Priority: High

Lead Agency: NRD (Assistant Manager)

Status: In Progress. Master Plan is regularly reviewed and updated.

Emergency Action Plans

Description: Maintain NRD Emergency Action Plans to ensure safety of dams in the NRD

Hazard(s) Addressed: Dam Failure

Estimated Cost: \$1,000 +

Potential Funding: PDM, HMGP, LPSNRD

Timeline: Ongoing

Priority: High

Lead Agency: NRD (Assistant Manager)

Status: In Progress. Emergency Action Plans are regularly reviewed and updated.

Incorporate Hazards in Planning Mechanisms

Description: Incorporate known hazards into existing planning mechanisms as appropriate

Hazard(s) Addressed: All hazards

Estimated Cost: \$1,000 +

Potential Funding: PDM, HMGP, LPSNRD

Timeline: Ongoing

Priority: High

Lead Agency: Cities

Status: In Progress. Cities incorporate hazards as opportunities are identified.

Preserve Floodplain

Description: Preserve natural and beneficial functions of floodplain land through measures such as: retaining natural vegetation, restoring streambeds; and preserving open space in the floodplain.

Hazard(s) Addressed: Flooding

Estimated Cost: Varies

Potential Funding: PDM, HMGP, LPSNRD

Timeline: Ongoing

Priority: High

Lead Agency: NRD (Assistant Manager)/ Cities, Floodplain Manager

Status: In Progress. NRD regularly supports cities in floodplain preservation projects. No specific projects to report at this time.

Utilize low impact development practices and green infrastructure to reduce flood risk

Description: Low impact development practices and green infrastructure can reduce runoff and result in a reduction in stormwater related flooding

Hazard(s) Addressed: Flooding

Estimated Cost: Varies

Potential Funding: LPSNRD

Timeline: Ongoing

Priority: High

Lead Agency: Cities, Cass County/Lancaster County, LPSNRD, Floodplain Manager

Status: Lands developed in the floodplain by the NRD are typically recreation areas and trails. Developments typically use permeable pavement.

Green Mitigation

Description: Educate the public and business owners regarding rain gardens, green roofs, and other minor mitigation measures.

Hazard(s) Addressed: All Hazards

Estimated Cost: Varies

Potential Funding: LPSNRD

Timeline: 5 Years. Develop educational materials

Priority: High

Lead Agency: LPSNRD (Stormwater Specialist), Cities

Status: Not Yet Started

Hazard Risk Reduction

Description: Continue to work with state agencies such as NDNR to reduce hazard risk

Hazard(s) Addressed: All Hazards

Estimated Cost: Varies

Potential Funding: NDNR, NEMA

Timeline: Ongoing

Priority: High

Lead Agency: Cities, Cass County Emergency Manager/ Lancaster County Emergency Manager, LPSNRD (Stormwater Specialist)

Status: In Progress

Integrated Water Management Plan (IMP)

Description: Maintain and Update Integrated Water Management Plan to ensure sufficient water supply for the future

Hazard(s) Addressed: Drought

Estimated Cost: Varies

Potential Funding: LPSNRD

Timeline: 1 Year

Priority: High

Lead Agency: LPSNRD (General Manager)

Status: In Progress. IMP was adopted in 2014, implementation plan developed in 2015.

Plan Maintenance

Description: Assist jurisdictions with plan maintenance
Hazard(s) Addressed: All hazards
Estimated Cost: Varies
Potential Funding: LPSNRD
Timeline: Ongoing
Priority: Medium
Lead Agency: LPSNRD (Assistant Manager)
Status: In Progress

Install vehicular barriers to protect CFs and key infrastructure where possible

Description: Vehicular barriers can be utilized to prevent accidental, or purposeful, vehicular impacts to CFs and key infrastructure.
Hazard(s) Addressed: Terrorism
Estimated Cost: \$5,000 +
Potential Funding: DHS
Timeline: 3 – 5 years
Priority: High
Lead Agency: Cities
Status: In Progress

Backup Power

Description: Provide backup power systems to provide redundant power supply to CFs and key infrastructure
Hazard(s) Addressed: All
Estimated Cost: Varies
Potential Funding: PDM, HMGP, LPSNRD
Timeline: Ongoing
Priority: Medium
Lead Agency: NEMA, Cities
Status: Not Yet Started: No backup generators have been installed to date.

Drought Mitigation Plan

Description: Develop drought mitigation plan to reduce impacts of drought
Hazard(s) Addressed: Drought
Estimated Cost: 25,000
Potential Funding: LPSNRD
Timeline: 2 Years
Priority: High
Lead Agency: LPSNRD
Status: In Progress

Participant Section for Lancaster County

LPSNRD
Multi-Jurisdictional Hazard Mitigation Plan

March 2015

Community Profile

HISTORY

The area of Lancaster County was first used by the Native Americans. It was not until 1856 that the county was inhabited by settlers along the Salt Creek. The settlers were attracted to the saline deposits and attempted to create a small salt trading business. The business ceased when it was realized that the salt extraction process was more complicated than originally thought and there was a short supply.

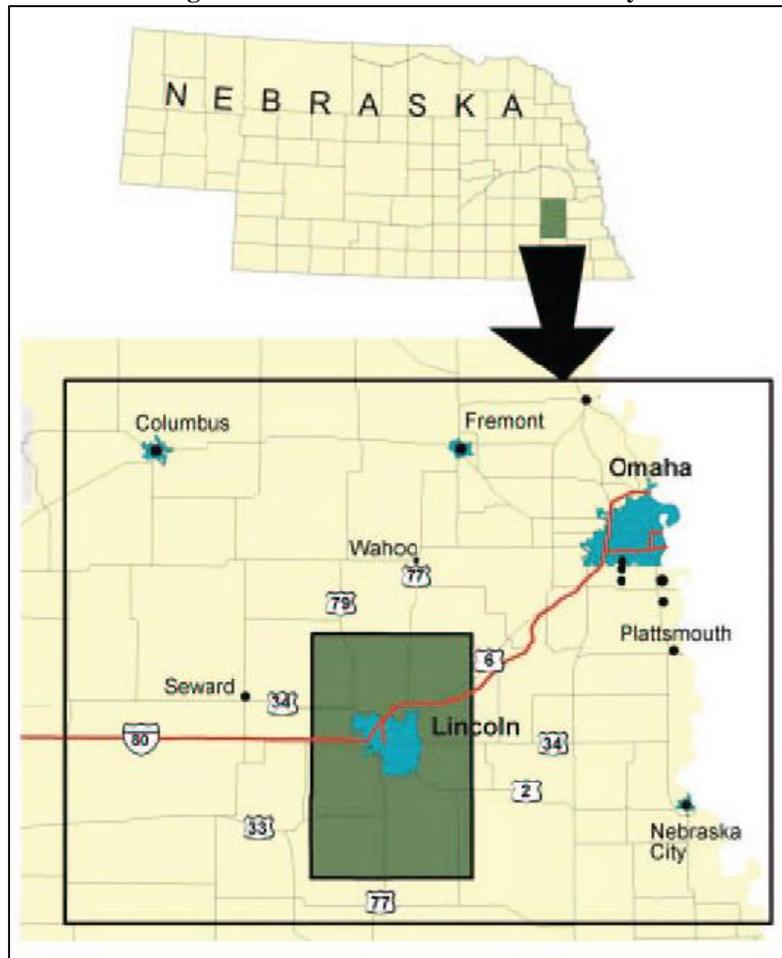
In 1859 Lancaster County was formed in relation to the establishment of the overland trail to the west. It was at this time that the population began to steadily increase.

LOCATION/GEOGRAPHY

Lancaster County

Lancaster County is located in the southeast portion of Nebraska. It is at the eastern edge of the Great Plains area. Within the county there are three physiographic areas: uplands, stream terraces, and bottom lands. The uplands are the largest portion of the area, covering approximately 80 percent of the land. The uplands are comprised of glacial till that is covered with loess. The stream terraces are located predominately along the Salt Creek. The bottom lands are along the major drainage ways.

Figure 123: Location of Lancaster County



Source: Lincoln/Lancaster County Comprehensive Plan

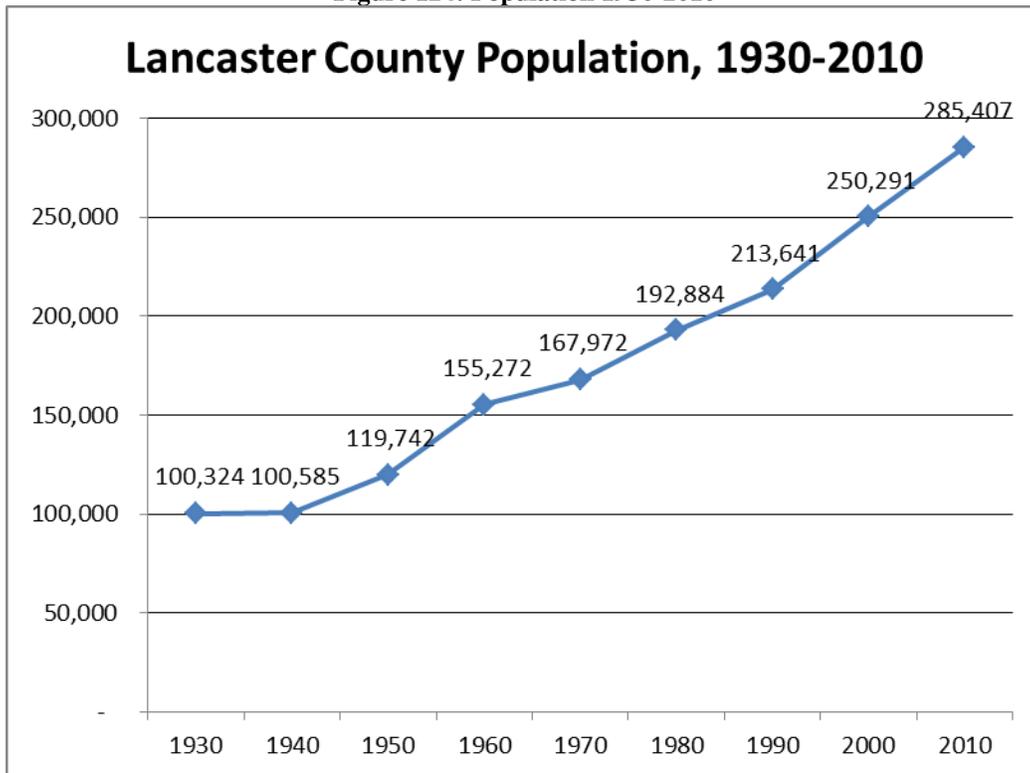
DEMOGRAPHICS

According to the Lincoln/Lancaster County Comprehensive Plan 2040, written in 2011, the county’s population is expected to reach over 412,000 persons by the year 2040. By the year 2060, The county’s population is projected to reach 512,000 people, or almost 226,000 more people than residence in the county today. In the most recent decade, the county’s population gained over 35,000 new residents. This annualized growth rate of 1.3 percent during the 2000’s was a slower pace than the average decade over the past 100 years.

The population is primarily located in the City of Lincoln and other incorporated areas, with only around 6 percent of the population located in the unincorporated areas.

As the comprehensive plan indicates, another demographic trend of significance is the continuing growth in the senior population. The number of people in Lancaster County aged 65 and older is projected to increase by about 44,000 to reach about 75,000 in 2040. It represents a projected annual growth rate of 2.96 percent, the highest among all age sectors. The following figure shows the population in the county from 1930 to 2010.

Figure 124: Population 1930-2010



Source: U.S. Census Bureau, 2010

COUNTY GOVERNANCE

Lancaster County includes the following agencies (* indicates an agency which is shared with the City of Lincoln):

- Aging Partners*
- Board of Commissioners
- Budget & Fiscal
- Building & Safety*
- Clerk of the District Court
- County Engineer
- County Sheriff
- County Treasurer
- District Court
- Election Commissioner
- Jury Commissioner
- Juvenile Court
- Lincoln City Libraries*
- Planning*
- Prop. Mgmt. / Public Bld. Comm.
- Purchasing*
- Weed Control Authority
- Youth Services Center
- Community Corrections
- Community Mental Health
- Cooperative Extension
- County Assessor / Reg. of Deeds
- County Attorney
- County Corrections, Jail
- Emergency Management
- General Assistance
- Health*
- Human Resources*
- Human Rights Commission*
- Human Services
- Information Services*
- Public Defender
- Records and Info Management
- Risk Management
- Veterans Service Center

FUTURE DEVELOPMENT TRENDS

Lancaster County, by nature, cannot and will not change its borders and will not experience any future development outside of its borders. Any future development will take place within the County as communities grow.

The vast majority of the county’s population is located within the city of Lincoln, with 91.3 percent of Lancaster County’s dwelling units in Lincoln in 2000. From the 2011 Lincoln/Lancaster County Comprehensive Plan, it is assumed by 2040 an additional 52,100 dwelling units will be added within the County, with around 16 percent of these built within the existing City.

According to the county comprehensive plan, the growth areas within the county are divided into tiers for their prioritization of future growth. The following map illustrates the 2040 Priority Growth Areas for the county and the map following shows the 2040 Lancaster County Future Land Use Plan. The growth areas are broken up into four general regions: Redevelopment and infill in the existing city, and the Tier I, II, and III growth areas. Such a planned future growth pattern in a timely manner will reduce the possibility of exposing the population to unnecessary risks by developing in unincorporated areas or areas lacking of proper infrastructures and facilities. Please refer to the comprehensive plan for more detailed information regarding future growth within the county. Although all three tiers include some land in the 1% annual floodplain, the plan does state that: “The natural topography and features of the land should be preserved by new development to maintain the natural drainage ways and minimize land disturbance.”

Figure 125: Future Development

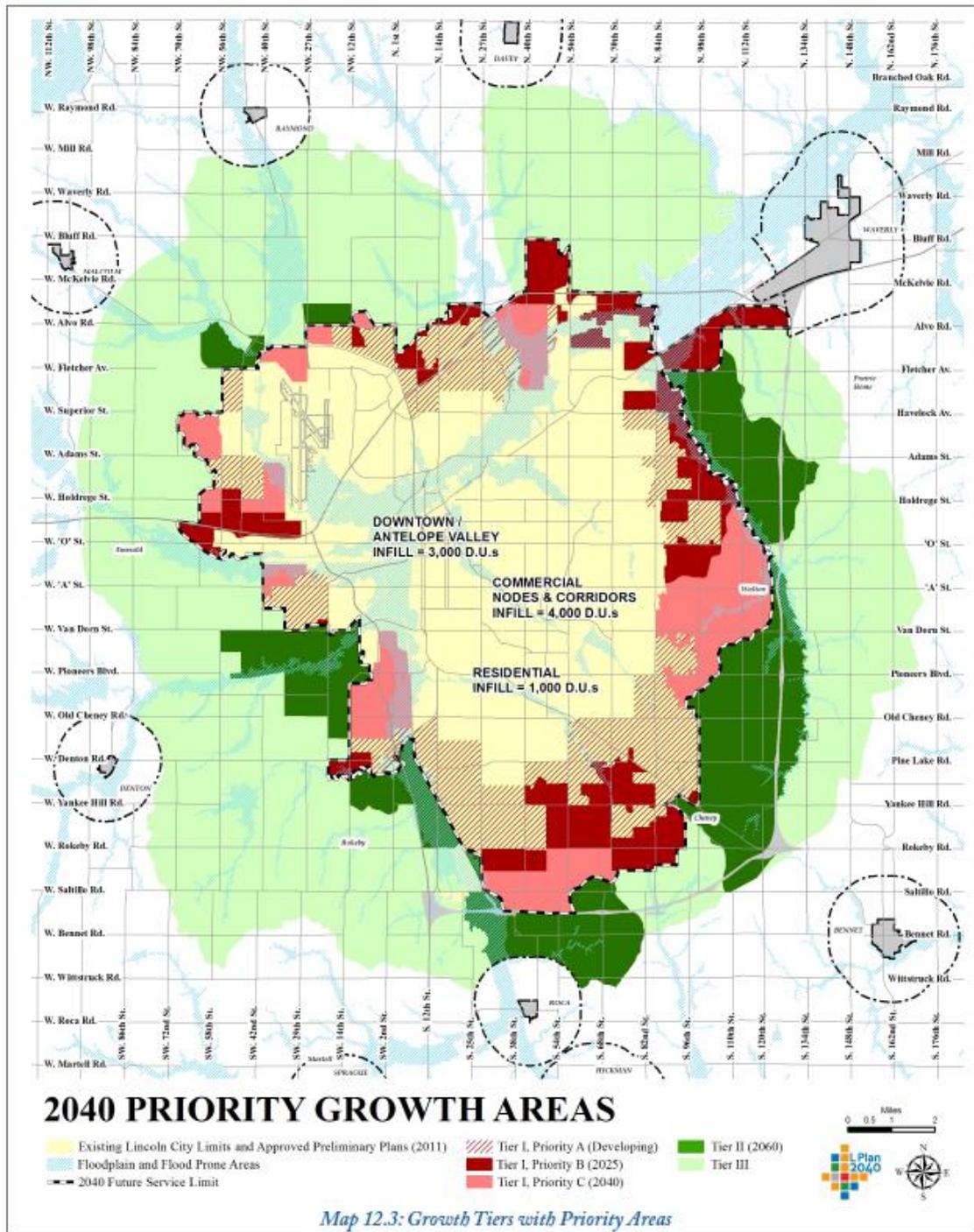
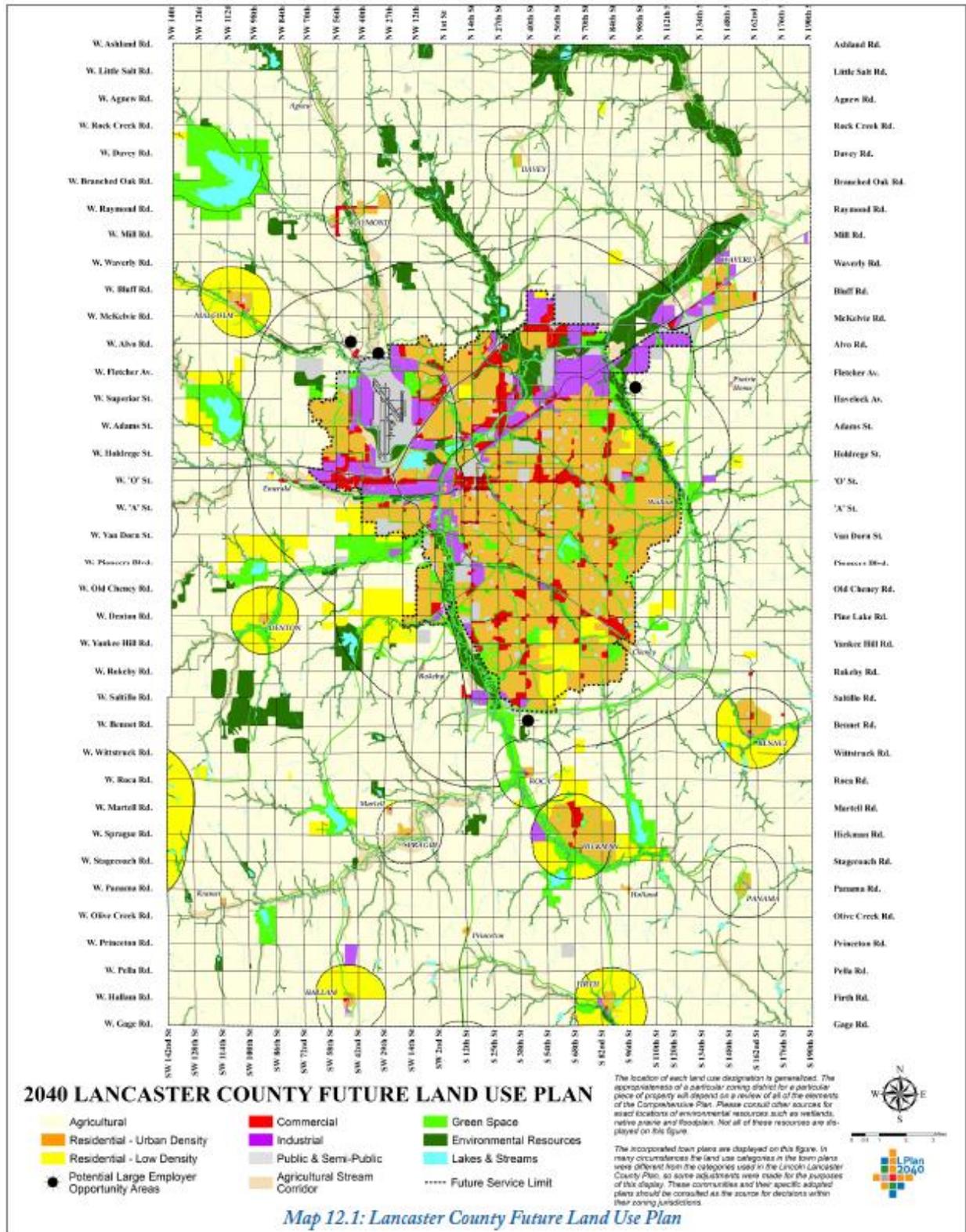


Figure 126: Future Land Use



STRUCTURAL INVENTORY AND VALUATION

The total structural inventory for Lancaster County is found in the table below. Information displayed in Table 159 includes the number of structures, value per structure, and total value of each structure type.

Table 159: Structural Inventory

Structure Type	Number of Structures	Total Value	Value per Structure
Commercial/Industrial	6,932	\$5,106,610,580	\$736,672
Agricultural	7,327	\$39,870,300	\$5,442
Residential	79,303	\$13,598,816,168	\$171,479
Other	43,260	\$20,434,113	\$472
Total	136,822	\$18,765,731,161	-

Source: Nebraska Department of Revenue, Property Assessment Division

Of these structures, the following are both located within the 1% annual floodplain and within the unincorporated areas.

Table 160: Structural Inventory - Floodplain

Structure Type	Number of Structures	Total Value
Commercial	171	\$125,970,912
Industrial	320	\$235,735,040
Agricultural	5,288	\$28,671,536
Residential	640	\$109,746,560
Other	724	\$341,728
Total	7,135	\$500,465,776

Lancaster County has properties listed as repetitive losses based on NFIP. Those properties include one single family property and one non-residential property.

CRITICAL FACILITIES

Critical infrastructure was organized by the relevant Emergency Support Functions (ESF). For each incorporated community, CFs were identified by each community. Refer to each participant section for the locations of critical facilities identified.

The structures are organized under the following categories with their coordinating numbers:

Table 161: Emergency Support Functions

ESF Category	# of Structures
ESF 1- Transportation	19
ESF 2- Communications	16
ESF 3- Public Works	22
ESF 4- Firefighting	61
ESF 5- Information and Planning	290

ESF Category	# of Structures
ESF 6- Mass Care	8
ESF 7- Resource Support	14
ESF 8- Health and Medical	51
ESF 9- Search and Rescue	1
ESF 10- Hazardous Materials	11

Among the Critical Infrastructure not included in the above table are County, Federal, State and Lincoln authority bridges. According to the County Engineer, there are 10 bridges under 20 feet and 296 bridges that are over 20 feet, for a total of 306 bridges.

The list of structures and addresses described by the ESF may be found in the LEOP, and is maintained by the Lincoln/Lancaster Emergency Operations Center (EOC).

Warning siren locations and ranges were also identified through discussions with the Lancaster County Emergency Manager. The Lincoln/Lancaster EOC maintains a listing of all sirens in the County and can trigger all of them from their office in Lincoln, NE. All the sirens are on a regular maintenance schedule.

- Pink: Federal T22 90 decibels 2000 FT Effective Range
- Green: Federal Thunderbolt 104 decibels 4000 FT Effective Range
- Yellow: Federal Signal Sirens 128 decibels 5280 FT Effective Range

In Lincoln, the electric system is organized in a grid style which helps ensure there is power always reaching the sirens. Many communities within Lancaster County’s sirens are powered by AC single source power. This is not desired, as they are inoperable when the power goes out.

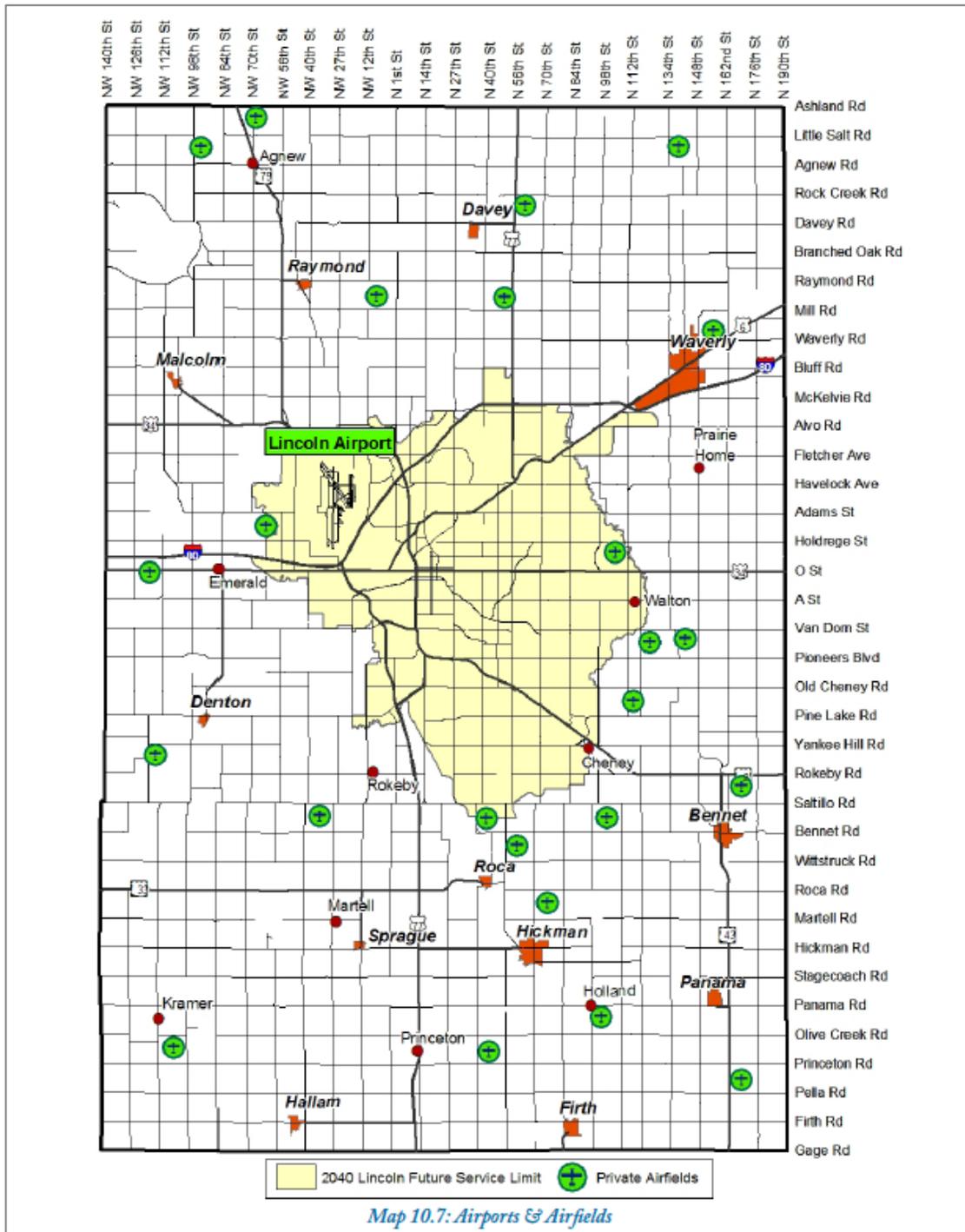
Lancaster County is the only county in Nebraska to have sirens at recreational facilities and lakes that provide camping.

RURAL WATER DISTRICT #1

Rural Water District #1 serves Lancaster County’s rural customers as well as the communities of Bennet Panama, and Roca. The district has a total of 7 water towers and ground storage that is located south of Bennet that supplies all of the district’s customers.

TRANSPORTATION SYSTEM

Figure 127: Transportation System



Roadways

The major highways that run across the counties are:

- Interstate 80
- Interstate 180
- U.S. Highway 6
- U.S. Highway 34
- U.S. Highway 77
- Nebraska Highway 2
- Nebraska Highway 33
- Nebraska Highway 43
- Nebraska Highway 79

SCHOOLS

The Lincoln Public School (LPS) district includes a total of 37 elementary schools, 11 middle schools, 6 high schools, and 7 other sites. There are also 9 public rural school districts and several private and parochial schools within the City of Lincoln. Schools are addressed in the Participant Sections.

Risk Assessment

HISTORICAL OCCURRENCES

The events recorded by NCDC are broken down to two types: county-based and zone-based events. The county-based records are events that affect the jurisdictions within the county while the zone-based records are those affecting the zone that include the county as part of the affected zone. Please refer to specific villages or cities within the county for the previous county-based severe weather events retrieved from NCDC. For zone-based events, there are 136 recorded events from 1996 to 2013 but due to the large number of events in the record only those that resulted in property or crop damages are listed in the following table.

Table 162: NCDC Severe Weather Events

Hazard	Date	Extent	Property Damage	Crop Damage
Cold/Wind Chill	1/19/1996		100.00K	0.00K
Heavy Snow	10/25/1997		16.000M	200.00K
High Wind	4/19/1996	52 kts.	2.00K	0.00K
High Wind	10/26/1996	50 kts.	25.00K	0.00K
Strong Wind	10/27/2010	42 kts. MG	5.00K	0.00K
Winter Weather	12/3/2011		75.00K	0.00K

The five hazards of most concern to Lancaster County are: tornados, high winds, severe thunderstorms, severe winter storms, and flooding.

TORNADOS

The county planning team identified tornados as the top concern for the community. This is consistent with the entire planning area. According to the NCDC data there were 15 recorded tornados that resulted in total property damage of \$100,300,000.

Lancaster County reported that they have annual tornadic occurrences throughout the entire county, particularly during the months of April, May, and June. These three months account for 60 percent of these events. No other historical occurrences were reported by residents, county officials, or found in any other document. For community specific events, refer to each jurisdiction within the County’s participant section.

HIGH WINDS

The county planning team identified high winds as a significant concern for the community. This is consistent with the entire planning area. According to the NCDC data there were 79 storm events which included strong winds (50+ kts) which can cause trees to uproot, considerable structure damage, and over turning of improperly anchored mobile homes. In addition, 23 recorded high wind and strong wind events also caused \$32,000 in property damage.

Lancaster County reported that they have annual high wind occurrences throughout the entire county, particularly during the months of April, May, and June. These three months account for 60 percent of these events. No other historical occurrences were reported by residents, county officials, or found in any other document. For community specific events, refer to each jurisdiction within the County's participant section.

SEVERE THUNDERSTORMS

The county planning team identified severe thunderstorms as a significant concern for the planning area. This is consistent with the entire planning area.

The county has older housing stock and an aging population, both of which may lead to greater levels of vulnerability. Severe thunderstorms and hail can result in loss of electricity, blocked roadways, damages to trees, and flooding. Blocked roadways, as a result of downed trees, may also present life safety concerns to those needing immediate medical attention.

Damages to roofs and siding can result in significant losses for homeowners as well as business owners. CFs can also be damaged by hail events. 66 of the 241 hail events recorded by the NCDC for Lancaster County reported hail of one inch; using the TORRO Hailstone Scale expected impacts from this type of event include damages to trees and crops, broken glass, and damages to plastic outdoor structures. 30 of the hail events reported hail stones of one and three quarter inches; stones of this size can result in wholesale destruction of glass, damage to tiled roofs, and is cause for concern related to the safety of residents as stones of magnitude pose a significant risk to persons and can cause injuries. Among these recorded hail events, the one occurred in Firth on July 20, 2000 caused \$2 million in property damage and \$1 million in crop damage. There were also 11 lightning events recorded by NCDC that resulted in a total of \$936,400 of property damages. In addition, 81 thunderstorm events reported a total of \$1,505,000 in property damage.

No other historical occurrences were reported by residents, county officials, or found in any other document. For community specific events, refer to each jurisdiction within the County's participant section.

SEVERE WINTER STORMS

The county planning team identified severe winter storms as a significant concern for the community. This is consistent with the entire planning area. NCDC data records severe winter storms as "zonal" events and there are 61 recorded events. Two of the recorded events resulted in a total of 16,075,000 dollars of property damage and 200,000 dollars of crop damage.

The elderly may be more likely to sustain an injury or have a medical emergency as a result of shoveling snow following a winter storm. Community members and families below the poverty line are also at higher risk related to severe winter storms, as they may lack resources needed to sustain themselves through a major severe winter storm.

FLOODING

The local planning team identified flooding as a significant concern for the community. The planning team estimated that flooding could impact up to 40 percent of residents and 40 percent of properties within the community. There is also the potential that CFs and services could be interrupted between one day and one week.

There were 23 floods recorded for Lancaster County by the NCDC. The most costly was a flash flood in Panama. On May 8, 1996, after two days of rain, southern Lancaster County received between six and nine inches of rain. The abundant amounts of rain resulted in a flash flood on the Salt Creek at Roca, Lincoln and Greenwood. The estimated damages from the flooding were \$1.5 million. Another flood that reported monetary damages was in Lincoln on August 14, 1996 where a flash flood from four inches of rain caused \$60,000 in property damage to local businesses and homes.

Lancaster County reported that annually there are various creeks, streams and urban flooding events. However, the LEOP states that flooding has been significantly reduced by recent flood control projects.

According to the Comprehensive Plan, “Approximately 13.8% of Lancaster County is covered by floodplains.” Lancaster County and the City of Lincoln have both adopted a No Adverse Impact approach to floodplain management. This approach seeks to insure that the actions of any one property owner do not impact others in an adverse fashion.

No other historical occurrences were reported by residents, county officials, or found in any other document. For community specific events, refer to each jurisdiction within the County’s participant section.

EARTHQUAKE

No earthquakes have been reported by the local planning team and no recorded earthquake events are found within the planning area. However, the LEOP does discuss the potential impacts to dams in the event of an earthquake and the county is astride the Humbolt Fault Line.

Current building codes do not include seismic provisions, as a result of which damages in the event of an earthquake might be more pronounced than if such codes were in place. At this time, earthquake will not be fully examined in this section. For more information, please refer to *Section Four: Risk Assessment*.

URBAN FIRE

Lancaster County identified urban fire as a significant concern. Currently, the Lincoln Fire Department operates 14 stations which are spread across the community and meet the National Fire Protection Association standards for response time. However, according to the current Comprehensive Plan: “Lincoln Fire and Rescue has repeatedly stated that maintaining desirable response times is becoming increasingly difficult in areas that have experienced urban growth further and further away from existing fire stations.” The Fire Department is expecting to look at both relocation of stations as well as creation of new stations in anticipation of future growth.

Some rural fire districts are located outside of the incorporated areas, and rely on mutual aid requests as needed.

Table 163: Calls Responded to by Fire Departments in Lancaster County

Fire Department	Fire	Over Pressure Rupture	Rescue/ EMS	Haz Mat	Service Calls	Good Intent Calls	False Alarms	Severe Weather	Special Incidents
Bennet Rural Fire District	0	0	0	0	0	0	0	0	0
Firth Rural Fire District	64	1	244	7	16	50	21	2	1
Hallam Vol. Fire and Rescue	61	0	16	9	1	3	11	0	1
Hickman Rural Fire and Rescue	143	0	555	16	25	141	51	3	2
Lincoln Fire and Rescue	1,927	264	490	2,234	4,505	2,392	5,190	55	661
Malcolm Fire and Rescue	0	0	0	0	0	0	0	0	0
Raymond Vol. Fire and Rescue	202	0	571	23	16	28	15	1	0
Southeast Rural Fire District	0	0	0	0	0	0	0	0	0
Southwest Rural Fire District	0	0	38	0	0	0	0	2	0
Waverly Fire and Rescue	171	0	860	35	58	143	54	1	1
Lancaster County	2,568	264	2,774	2,323	4,621	2,757	5342	64	666

TERRORISM

Lancaster County identified terrorism as a significant concern. There have been five reported instances of terrorism in Lancaster County, but the LEOP does rank terrorism as a moderate concern. All of the terrorism events were reported at government buildings within Lincoln or on the campus of the University of Nebraska. Terrorism can include a wide range of activities, with a very wide range of impacts.

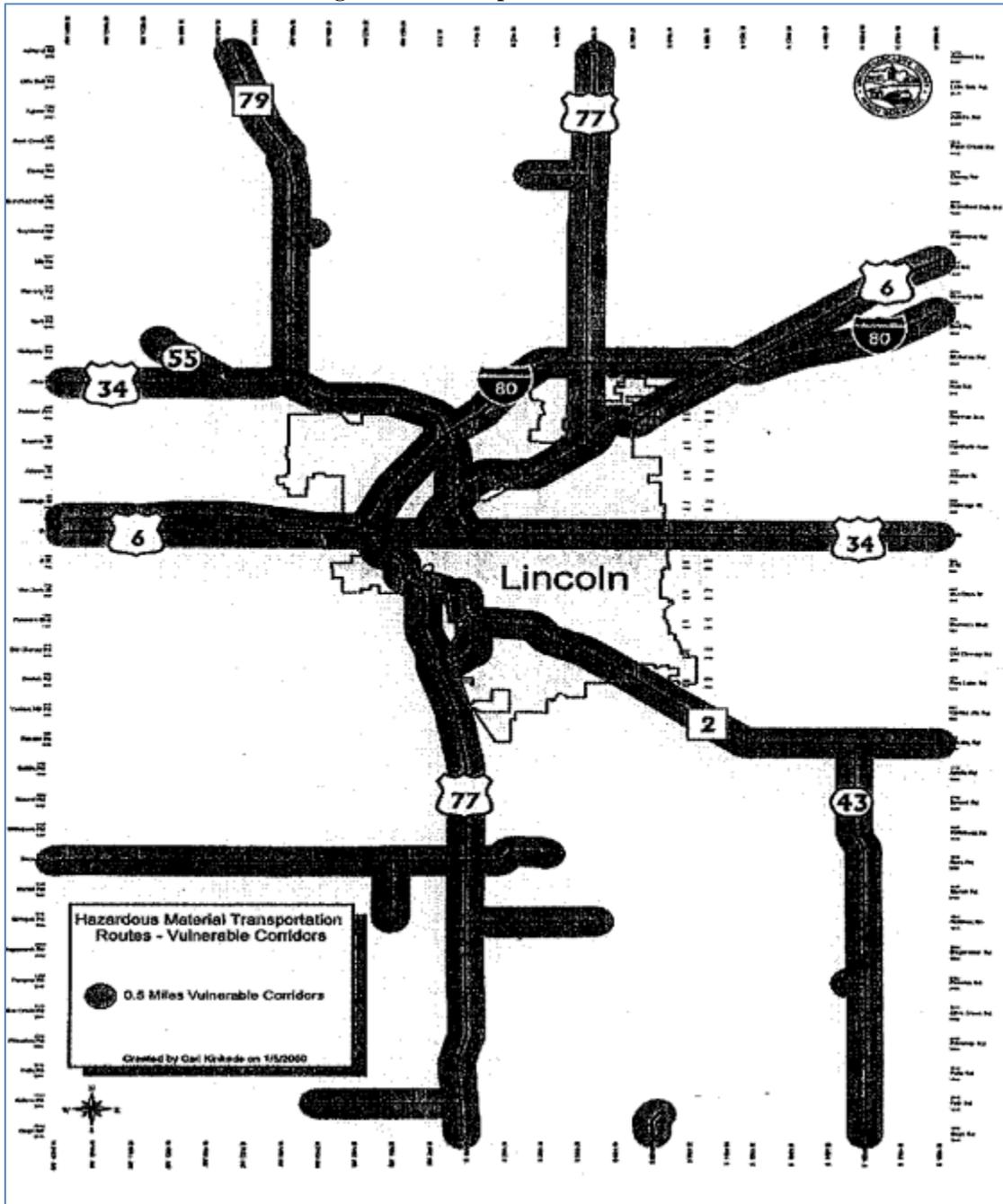
Table 164: Terrorist Events Reported in Lancaster County

<i>Date</i>	<i>Event</i>	<i>Area Impacts</i>	<i>Results</i>	<i>Injuries</i>
06/12/13	White Powder Discovered in an Envelope	Nebraska Department of Motor Vehicles	Evacuation of DMV	None
01/21/13	White powder in an envelope	Apothecary Building, Lawyer's office	None	None
02/24/11	Gunman on UNL's East Campus	University of Nebraska-Lincoln, East Campus and Wesleyan College Campus	Campus locked down for 90 minutes	None
12/04/07	White powder in an envelope	Immigration and Naturalization Service Building	None	None
06/09/05	Powder Discovered in the mailroom	Immigration and Naturalization Service Building	Evacuation of INS	None

CHEMICAL TRANSPORTATION

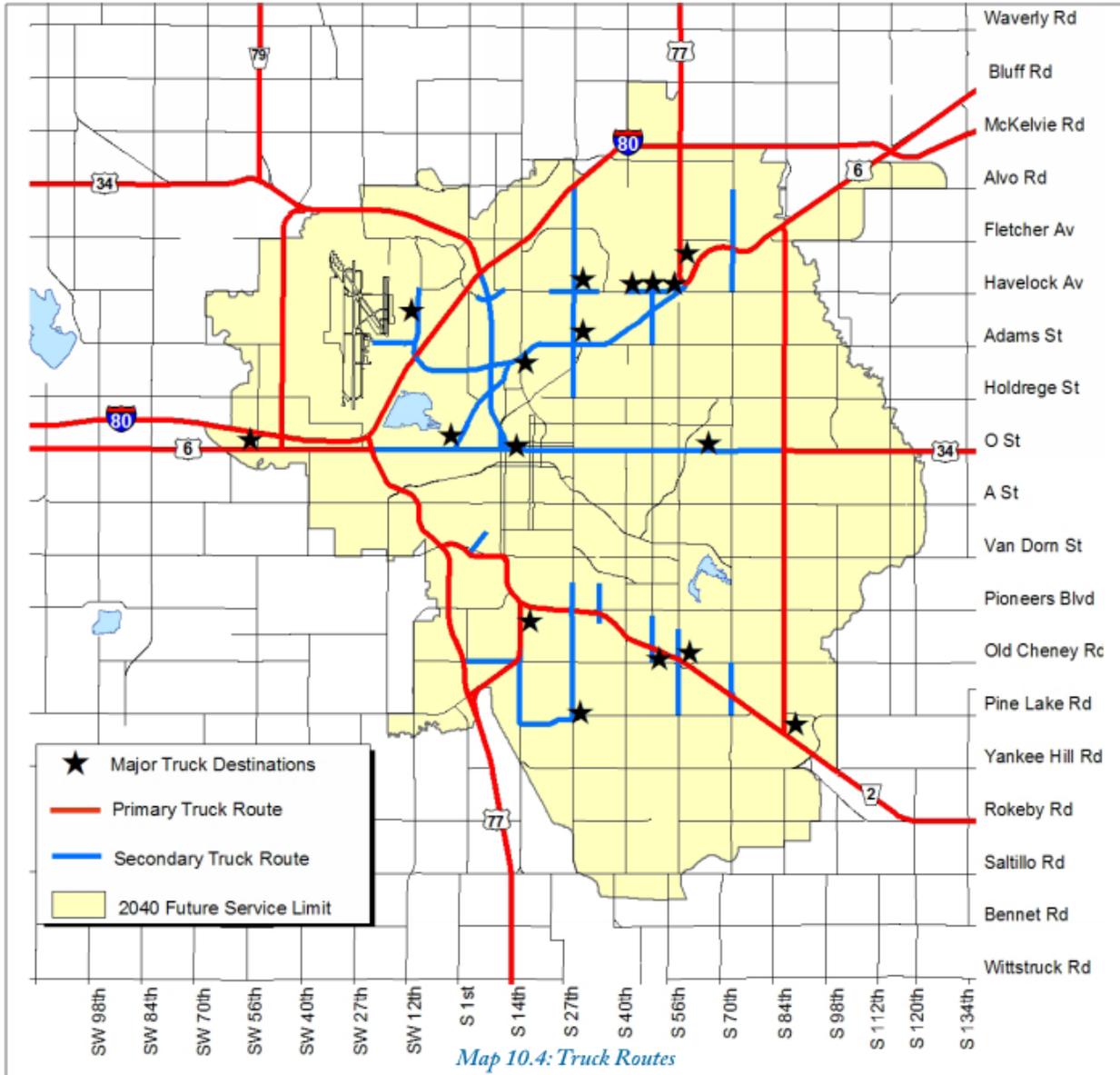
Lancaster County identified chemical transportation as a significant concern. According to the LEOP there have been several spills/leaks involving anhydrous ammonia and two propane leaks. Additionally, there have been chemical leaks and natural gas leaks and explosions. The LEOP ranks this hazard as one of the highest for the county. The following map, from the LEOP, illustrates transportation corridors.

Figure 128: Transportation Corridors



The following map, from the Comprehensive Map, illustrates existing truck routes.

Figure 129: Truck Routes



Capability Assessment

The capability assessment consisted of two main components: a Capability Assessment Survey completed by the jurisdiction; and, a review of local existing policies, regulation, plans, and the programs. The survey serves to gather information regarding the jurisdiction’s planning and regulatory capability; administrative and technical capability; fiscal capability; and education and outreach capability.

- Lancaster County has many planning and regulatory mechanisms in place which can be utilized to promote safe and resilient development. The County/City Joint Comprehensive Plan 2040 pays special attention to regulating developments in floodplains as well as critical environmental resources such as watersheds, wetlands, and endangered species habitats. Please refer to Table 165 for the results of evaluating the local planning documents against the Safe Growth Audit. It should

be noted that not all of the planning documents in the county were examined for their linkage to the hazard mitigation plan and the county is encouraged to build strong connections between local traditional planning endeavors and this update of the hazard mitigation plan.

- Lancaster County has the staff resources to implement mitigation programs and projects on their own. Many of the staff are experienced and have been with the jurisdiction for several years.
- Lancaster County has many fiscal mechanisms in place, such as CIP funding and the ability to leverage special purposes taxes, which can be utilized in support of hazard mitigation efforts.
- Lancaster County plays an active role in establishing public outreach programs and raises the public awareness of hazard mitigation issues.
- The RWD undertakes monitoring during the week and has the ability to impose water restrictions when supply is insufficient. Restrictions are based upon the recovery period for the above ground water supply. However, there has not been a restriction needed in 12 years.

Table 165 provides detailed information regarding the survey completed by the local planning team.

Table 165: Capability Assessment

Survey Components/Subcomponents		Comments
Planning & Regulatory Capability	Comprehensive Plan	Yes
	Capital Improvements Plan	Yes
	Hazard Mitigation Plan	Yes
	Economic Development Plan	Yes
	Emergency Operational Plan	Yes
	National Resources Protection Plan	Yes
	Floodplain Management Plan	Yes
	Storm Water Management Plan	Yes
	Zoning Ordinance	Yes
	Subdivision Regulation/Ordinance	Yes
	Floodplain Ordinance	Yes
	Building Codes	Yes
	National Flood Insurance Program	Yes
	Community Rating System	No
	Well Head Protection Area/District	Yes
Other (if any)	N/A	
Administrative & Technical Capability	Planning Commission	Staff: 5+; Tenure: 4+ years
	Hazard Mitigation Planning Commission	Staff: 5+; Tenure: 4+ years
	Floodplain Administration	Staff: 5; Tenure: 1-3 years
	Emergency Manager	Staff: 3; Tenure: 4+ years
	GIS Coordinator	Staff: 1; Tenure: 4+ years
	Chief Building Official	Staff: 1; Tenure: 4+ years
	Civil Engineering	Staff: 5+; Tenure: 4+ years
	Staff Who Can Assess Community's Vulnerability to Hazards	Staff: 5+; Tenure: 4+ years
	Grant Manager	Staff: 2; Tenure: 4+ years
	Other (if any)	N/A
Fiscal	Capital Improvement Project Funding	Yes

Survey Components/Subcomponents		Comments
Capability	Community Development Block Grant	Yes
	Authority to Levy Taxes for Specific Purposes	Yes
	Gas/Electric Service Fees	Yes
	Storm Water Service Fees	Yes
	Water/Sewer Service Fees	Yes
	Development Impact Fees	Yes
	General Obligation Revenue or Special Tax Bonds	Yes
	Other (if any)	Yes (Various grants applied for and received from DHS and/or FEMA)
Education & Outreach Capability	Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.	Yes
	Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	Yes
	Natural Disaster or Safety related school programs	Yes
	StormReady Certification	Yes
	Firewise Communities Certification	No
	Tree City USA Program	No
	Public-private partnership initiatives addressing disaster-related issues	Yes
	Other (if any)	N/A

PLAN EVALUATION

The Lincoln/Lancaster Comprehensive Plan addresses the natural environment in many ways, under the umbrella of Environmental Stewardship and Sustainability. The plan addresses natural resource preservation through land use, as well as discussing the need to ensure community resilience in the face of natural disasters.

The results of applying the Safe Growth Audit (see *Section Six: Plan Implementation and Maintenance*) to evaluating the Lincoln/Lancaster County Comprehensive Plan 2040, the findings are demonstrated in the table below.

Table 166: Safe Growth Audit

Component		Items	I (Included)
Comprehensive Plan	Land Use	Identify hazard areas	I
		Land-use policy that discourages (re)development within hazard areas	I
		Provide adequate area for growth outside hazard areas	I
	Transportation	Limit access to hazard areas	
		Policy that guides growth outside hazard areas	
		Emergency functional designs	
	Environmental Management	Identify and map environmental systems that protect development from hazards	
		Policy that maintains and restore protective ecosystems	I
		Policy that provides incentives to developments outside protective ecosystems	
	Public Safety	Goals and policies are related to hazard plan	I
		Plan's growth and development policies that explicitly include safety	I
		Monitoring and implementation section cover safe growth objectives	
Zoning Ordinance		discouraging (re)development within hazard areas	I
		Contain natural hazard overlay zones that set conditions for land use within such zones	
		Recognize hazard areas as limits in rezoning procedures	
		Prohibit development within, or filling of, wetlands, floodways, and floodplains	I
Subdivision Regulation		Restrict the subdivision of land within or adjacent to hazard areas	I
		Conservation subdivisions or cluster subdivisions to conserve environmental resources	
		Allow density transfers where hazard areas exist	

Mitigation Actions

COMPLETED MITIGATION ACTIONS

The following mitigation actions have been completed since the 2008 HMP.

Alert and Warning Systems for all Communities in Lancaster County

Description: Ensure that all communities have access to sirens.

Hazard(s) Addressed: All

Priority: Medium

Lead Agency: Lancaster County Emergency Management

Status: Complete

Purchase and issue weather radios for schools and CFs

Description: Conduct an inventory of weather radios at schools and other CFs and provide new radios as needed.

Hazard(s) Addressed: All

Priority: High

Lead Agency: Lancaster County Emergency Management

Status: Complete

Update Emergency Operations Center

Description: Update Emergency Operations Center.

Hazard(s) Addressed: All

Priority: High

Lead Agency: Lancaster County Emergency Management

Status: Complete

Complete a County Wide Master Plan to prioritize all flooding related projects

Description: Stormwater master plans can be conducted to perform a community-wide stormwater evaluation, identifying multiple problem areas, and potentially multiple drainage improvements for each.

Hazard(s) Addressed: Flooding

Priority: High

Lead Agency: Lancaster County Public Works

Status: Complete

Work with stakeholders to develop a database of vulnerable populations and organizations which support them

Description: Develop a database of vulnerable populations and supporting organizations.

Hazard(s) Addressed: All

Priority: High

Lead Agency: Aging Partners & Lancaster County Emergency Management

Status: Complete

NEW OR PREVIOUSLY IDENTIFIED MITIGATION ACTIONS

The following hazard mitigation actions were ranked high by Lancaster County, or were noted as being underway since the previous hazard mitigation plan.

Implement Water Conservation Awareness Programs, such as pamphlets

Description: Improve and/or develop a program to conserve water use by the citizens during elongated periods of drought. Potential restrictions on water could include limitations on lawn watering, car washing, or water sold to outside sources. Work with DNR on farm irrigation restrictions.

Hazard(s) Addressed: Drought

Estimated Cost: \$1,000 +

Potential Funding: PDM, HMGP, LPSNRD, Lancaster County

Timeline: Ongoing

Priority: Medium

Lead Agency: LPSNRD & Lancaster County Emergency Management

Status: In Progress: education materials available through Lancaster County Emergency Management and Department of Public Works

Reverse 911 System for Notification of residents and businesses

Description: Reverse 911 systems can allow for notification of residents in the event of an emergency.

Hazard(s) Addressed: All

Estimated Cost: \$5,000

Potential Funding: PDM, HMGP, LPSNRD, Lancaster County

Timeline: 1-2 Years

Priority: High

Lead Agency: LPSNRD, Lancaster County Emergency Management

Status: In Progress

Public Education

Description: Increase public awareness of vulnerability and risk reduction measures through hazard education.

Hazard(s) Addressed: All

Estimated Cost: \$0 - \$1,000

Potential Funding: PDM, HMGP, LPSNRD, Lancaster County

Timeline: Ongoing

Priority: Medium

Lead Agency: NEMA, LPSNRD, Lancaster County Emergency Management

Status: In Progress

Storm Shelters

Description: Identify, design, and develop storm shelters to protect community and critical facilities.

Hazard(s) Addressed: Tornadoes and High Winds, Severe Thunderstorms

Estimated Cost: \$200-\$300/sf stand alone; \$150-200/sf addition/retrofit

Potential Funding: PDM, HMGP, LPSNRD, Lancaster County

Timeline: 5 Years

Priority: Medium

Lead Agency: LPSNRD, NEMA, & Lancaster County Emergency Management

Status: Not Yet Started

Assist Jurisdictions with Tree City Designation

Description: Assist jurisdictions working to become a Tree City USA through the National Arbor Day Foundation in order to receive direction, technical assistance, and public education on how to establish a tree maintenance program in order to maintain trees in a community to limited potential damages when a storm event occurs. The four main requirements include: 1) Establish a tree board; 2) Enact a tree care ordinance; 3) Establish a forestry care program; 4) Enact an Arbor Day observance and proclamation.

Hazard(s) Addressed: Severe thunderstorms, tornadoes and high winds, severe winter storms

Estimated Cost: \$0

Potential Funding: Lancaster County

Timeline: 3-5 years

Priority: Low

Lead Agency: Lancaster County Emergency Management

Status: In Progress

Educate local businesses about the value of continuity planning

Description: Continuity planning helps to ensure that services can be maintained during and after a disaster.

Hazard(s) Addressed: All

Estimated Cost: \$0

Potential Funding: N/A

Timeline: Ongoing

Priority: Low

Lead Agency: Lancaster County Emergency Management

Status: In Progress

Improve storm sewers and drainage patterns in and around the County

Description: Undersized systems can contribute to localized flooding. Stormwater system improvements may include pipe upsizing and additional inlets. These improvements can serve to more effectively convey runoff, preventing interior localized flooding. Retention and detention facilities may also be implemented to decrease runoff rates while also decreasing the need for other stormwater system improvements.

Hazard(s) Addressed: Flooding

Estimated Cost: \$100,000 +

Potential Funding: PDM, HMGP, CDBG, LPSNRD, Lancaster County

Timeline: 3-5 years

Priority: High

Lead Agency: Lancaster County Public Works and Emergency Management

Status: In Progress: A part of regular maintenance program

Maintain Good Standing with the NFIP

Description: Maintain good standing with National Flood Insurance Program (NFIP).

Hazard(s) Addressed: Flooding

Estimated Cost: \$0

Potential Funding: N/A

Timeline: Ongoing

Priority: High

Lead Agency: Lancaster County Public Works & Emergency Management, Floodplain Administrator

Status: Ongoing

Develop continuity plans for critical community services

Description: Continuity planning helps to ensure that services can be maintained during and after a disaster.

Hazard(s) Addressed: All

Estimated Cost: \$0

Potential Funding: N/A

Timeline: 5 Years

Priority: Low

Lead Agency: Lancaster County Emergency Management

Status: In Progress

Encourage the use of hail resistant roofing

Description: Educate the public and business owners regarding hail resistant roofing.

Hazard(s) Addressed: Severe Thunderstorms

Estimated Cost: \$0

Potential Funding: Lancaster County

Timeline: 1 Year

Priority: High

Lead Agency: Lancaster County Building Code Officials

Status: Developing educational materials

Utilize low impact development practices and green infrastructure to reduce flood risk

Description: Low impact development practices and green infrastructure can reduce runoff and result in a reduction in stormwater related flooding

Hazard(s) Addressed: Flooding

Estimated Cost: Varies

Potential Funding: Lancaster County

Timeline: Ongoing: Community will implement projects as they are identified

Priority: High

Lead Agency: LPSNRD & Lancaster County Public Works, Floodplain Administrator

Status: Not Yet Started

Green Mitigation

Description: Educate the public and business owners regarding rain gardens, green roofs, and other minor mitigation measures.

Hazard(s) Addressed: All Hazards

Estimated Cost: Varies

Potential Funding: Lancaster County

Timeline: Ongoing

Priority: High

Lead Agency: LPSNRD & Lancaster County Emergency Management, Flood Administrator

Status: In Progress

Shelter-In-Place Training

Description: Ensure that all CFs, businesses, and residents located near major transportation corridors are aware of how to safely shelter in place in the event of a chemical incident.

Hazard(s) Addressed: Chemical Transportation and Transportation

Estimated Cost: \$1,000 +

Potential Funding: Lancaster County

Timeline: 3-5 years

Priority: Medium

Lead Agency: Lancaster County Emergency Management

Status: In Progress

Participant Section for Lincoln

***LPSNRD
Multi-Jurisdictional Hazard Mitigation Plan***

March 2015

Community Profile

HISTORY

Lincoln is the capitol city of Nebraska and is the seat of the county government. Originally known as “Lancaster,” the City’s name was changed to Lincoln after a legislative motion. The City was incorporated on April 7, 1869.

To ensure that the City would prosper, state government and major state institutions were moved to Lincoln. The City also worked hard to recruit railroad services by offering bounties. In fact, the first train arrived and claimed a \$50,000 prize on June 26, 1870. Thereafter, the City’s population went from 2,500 residents in 1870 to 7,000 residents by 1875, and 13,000 residents by 1880.

Lincoln continued to grow and expand in every direction by 1890, except to the northwest where the rail yards and Salt Creek acted as barriers for the burgeoning 55,000 residents. It was the nationwide depression in the 1890’s that adversely impacted Lincoln’s population causing a decline to 37,000 by 1900. However, by the early 20th century a significant influx of Germans from Russia helped bolster the city.

In the late 1800’s, satellite towns just outside the city began to emerge:

- In 1888, East of Lincoln’s city limits, Nebraska Wesleyan University was established. The following year the site was incorporated as “University Place.” By 1926 the community had reached 5,000 residents and was incorporated.
- In 1889, Nebraska Christian University was established. The community in 1890 was incorporated as “Bethany Heights.” In 1922 the community residents voted to join Lincoln, and it wasn’t until four years later was it annexed.
- In 1892, “College View” was incorporated with 1,000 residents. In 1929 Lincoln annexed the community when the population reached 2,900.
- The blue-collar suburban town of “Havelock”, northeast of University Place, was incorporated in 1893. Havelock grew to 3,602 residents by 1920 and actively opposed annexation by Lincoln, until a strike by the Burlington Shops in 1922 continued without resolution.
- West Lincoln, which was established in 1887 on the west bank of the Salt Creek, was annexed in the 1960’s after an increased interest in aviation was spawned as a result of the Lincoln Army Air Field (1942). Over 25,000 aviation mechanics were trained in Lincoln and 40,000 troopers were processed for combat through the facility.

LOCATION/GEOGRAPHY

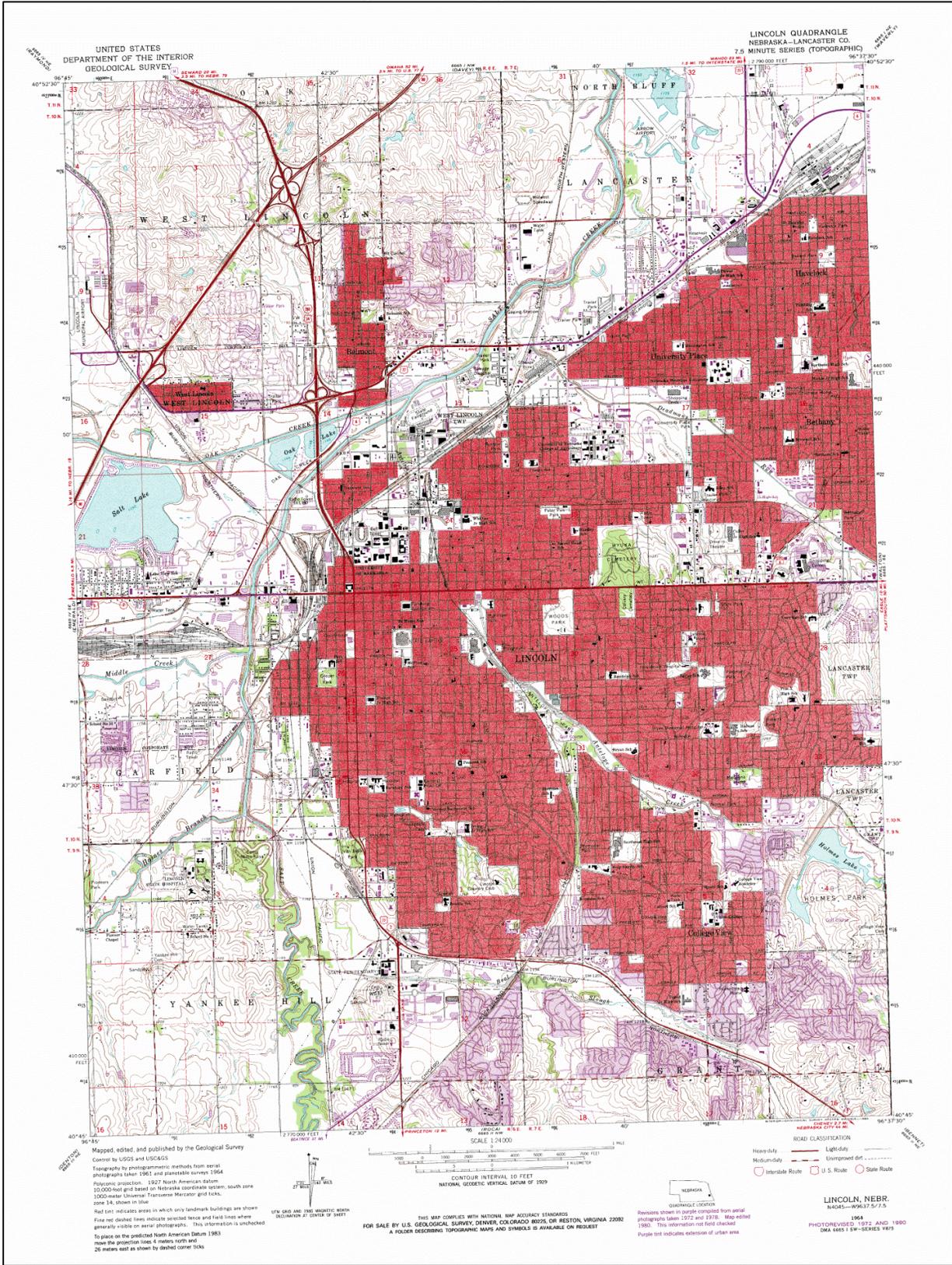
The City of Lincoln is the center and most populated city of Lancaster County. Located 55 miles west of the eastern state border, the City covers an area of 75.4 square miles comprised of 0.98% water. Originally laid out near Salt Creek, the area was selected for its salt flats, marshes, and nearly flat saline wetlands. Lincoln’s landscape is mainly comprised of gently rolling hills and sits at 1,189 feet above sea level.

Lincoln’s Salt Creek Watershed is comprised of a series of sub-basins such as; Antelope Creek, Beal Slough, Cardwell, Dead Man’s Run, Haines Branch Salt Creek, Havelock, Little Salt Creek, Lynn, Middle Creek, Oak Creek, Southeast Upper Salt Creek, and Stevens Creek basins. Below in Figure 159, is Lincoln’s watershed map as provided by the City of Lincoln’s website: <http://lincoln.ne.gov/city/pworks/watrshed>.

Figure 158: Watershed Map



Figure 159: Topographic Map



Source: <http://snr.unl.edu/data/geographyis/digitalraster/DRGdownloads.asp>

DEMOGRAPHICS

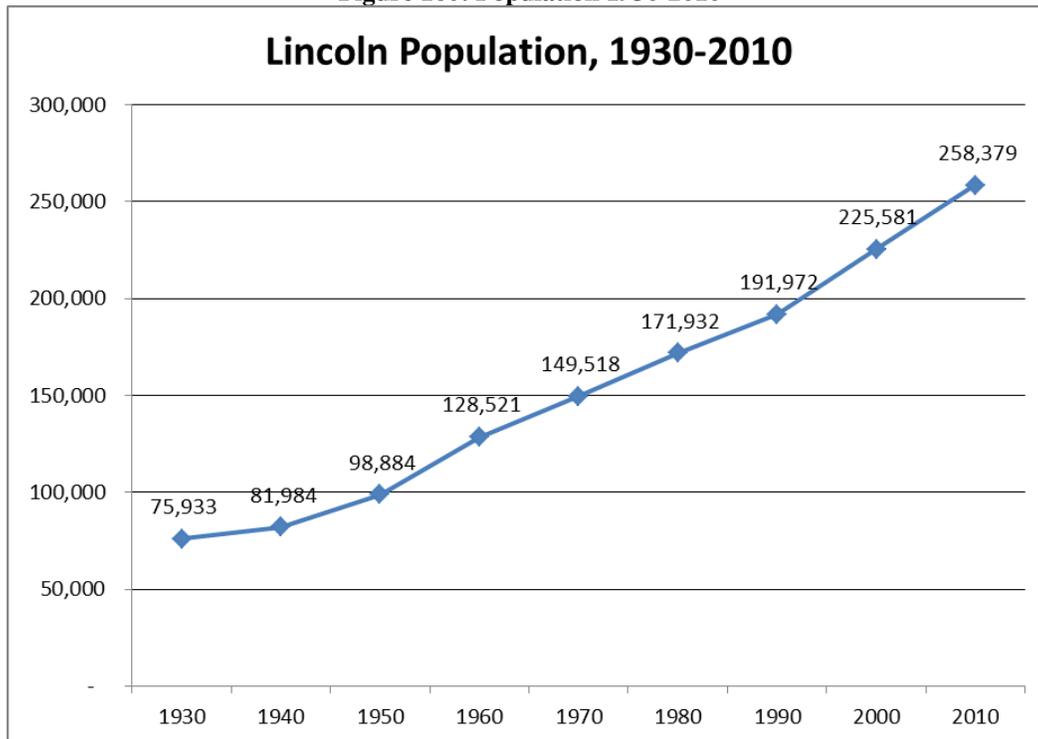
Lincoln’s population has steadily increased from 1930 to 2000. Some of the increase was the result of the annexations of surrounding communities. The population has nearly tripled since 1930 to 2010 from 75,933 residents to 258,379 residents.

Between the years of 1990 and 2000, Lincoln and Lancaster County’s minority communities more than doubled; markedly occurring within the Black/African Americans, Asians, and “Other” racial groups. This trend is anticipated to continue into the future.

The City of Lincoln’s population makes up about 90% of Lancaster County’s population. The Lincoln/Lancaster County Comprehensive Plan indicates that Lincoln’s population is expected to reach 350,000 by 2030, growing at a rate of about 1.5% per year.

Lincoln’s population density since 1970 has remained about 3,000 persons per square mile. The Lincoln/Lancaster County Comprehensive Plan expects that the overall city-wide population density to stay around 3,000 persons per square mile for the next 25 years.

Figure 160: Population 1930-2010



Source: U.S. Census Bureau, 2010, (DP4)

The age distribution and median age of individuals in Lincoln compares with the broader county population as show below. Lincoln’s age population structure is very similar with that of the county.

Table 205: Population by Age

Age	Lancaster County	Lincoln
<5	8.0%	7.2%
5-64	83.9%	82.1%
>64	8.1%	10.7%
Median	30.4 years	31.8 years

Source: U.S. Census Bureau, 2010 American Community Surveys 5-year Estimates

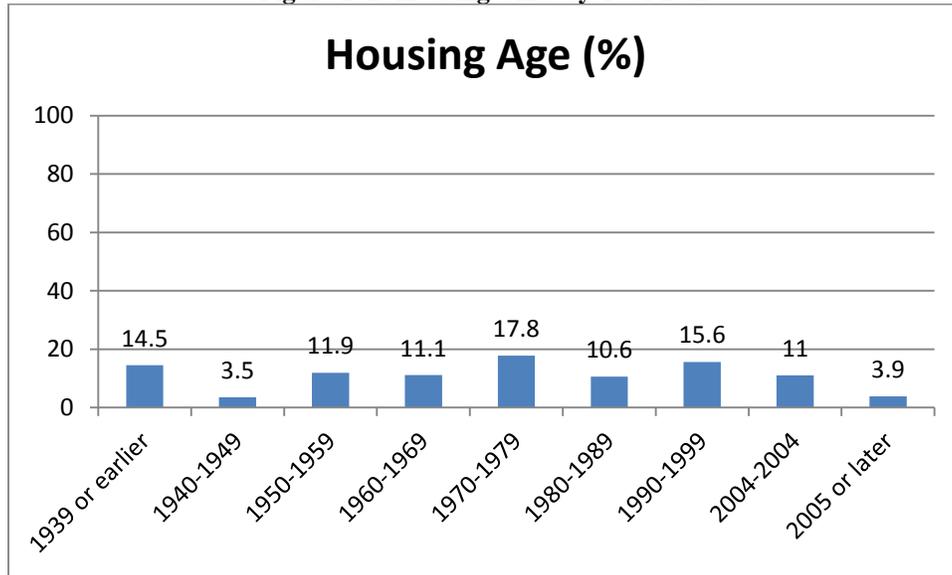
Median household income, per capita income, home value and rent for the city as a whole compare with broader county values as shown below.

Table 206: Housing and Income

	Lancaster County	Lincoln
Median Household Income	\$50,849	\$48,846
Per Capita Income	\$25,949	\$25,146
Median Home Value	\$145,400	\$140,600
Median Rent	\$668	\$667

Source: U.S. Census Bureau, 2010 American Community Surveys 5-year Estimates

Figure 161: Housing Units by Year Built



Source: U.S. Census Bureau, 2010 American Community Surveys 5-year Estimates

According to 2010 Census data, the city has 108,939 housing units; with 94% of those units occupied. 2187 units, or 2% of the village’s housing, are classified as mobile homes. 29.9% of the village’s housing units were built before 1960.

CITY GOVERNANCE

The City of Lincoln is governed by a Mayor and City Council. The City includes the following agencies, commissions, and departments (* indicates an agency which is shared with the County):

- Aging Partners*
- Building & Safety*
- Lincoln City Libraries*
- Planning*
- Purchasing*
- Public Works / Utilities Department
- Urban Development Department
- Health*
- Human Resources*
- Human Rights Commission*
- Information Services*
- Fire Department
- Police Department
- Parks & Recreation Department

FUTURE DEVELOPMENT TRENDS

As Lincoln’s population grows, so too will the number of structures within the city. In 1990, Lincoln had 91% of Lancaster County’s dwelling units at 79,079 units. From 1991 to 2000, dwelling unit construction permits were issued for 17,867 units in Lincoln. In 2000, Lincoln had 91.3% of Lancaster County’s dwelling units at 95,199. From the 2011 Lincoln/Lancaster County Comprehensive Plan, it is assumed by 2040 an additional 52,100 dwelling units will be added within the County, with around 16% of these built within the existing City.

Urban growth in Lincoln is expected to expand in multiple directions around the City. Growth building on the foundations of Lincoln’s established neighborhoods, as well as growth and strengthening of its downtown core, are the anticipated primary areas for urban growth and development.

The City of Lincoln encourages the preservation and renewal of historic buildings, districts and landscapes. Development in and around these areas is expected to maintain the integrity of these historical patterns and precedents. Additionally, conservation methods are expected to be implemented when developing in natural, and environmentally sensitive areas.

The following figure LIN 5 is the Future Growth Tier Map retrieved from Lincoln/Lancaster County Comprehensive 2040. It includes three tiers of growth for the City of Lincoln. Tier I reflects the “Future Service Limit,” 34 square miles where urban services and inclusion in the city limits are anticipated within the 30 year planning period. This area should remain in its current use in order to permit future urbanization by the city. Tier II is an area of approximately 34 square miles that defines the geographic area the city is assumed to grow into immediately beyond Tier I. Tier III provides an approximately 131 square mile area for Lincoln’s longer term growth potential. Figure X is the future land use map that displays the generalized location of each land use. Although all three tiers include some land in the 1% annual floodplain, the plan does state that: “The natural topography and features of the land should be preserved by new development to maintain the natural drainageways and minimize land disturbance.”

Figure 162: Priority Growth

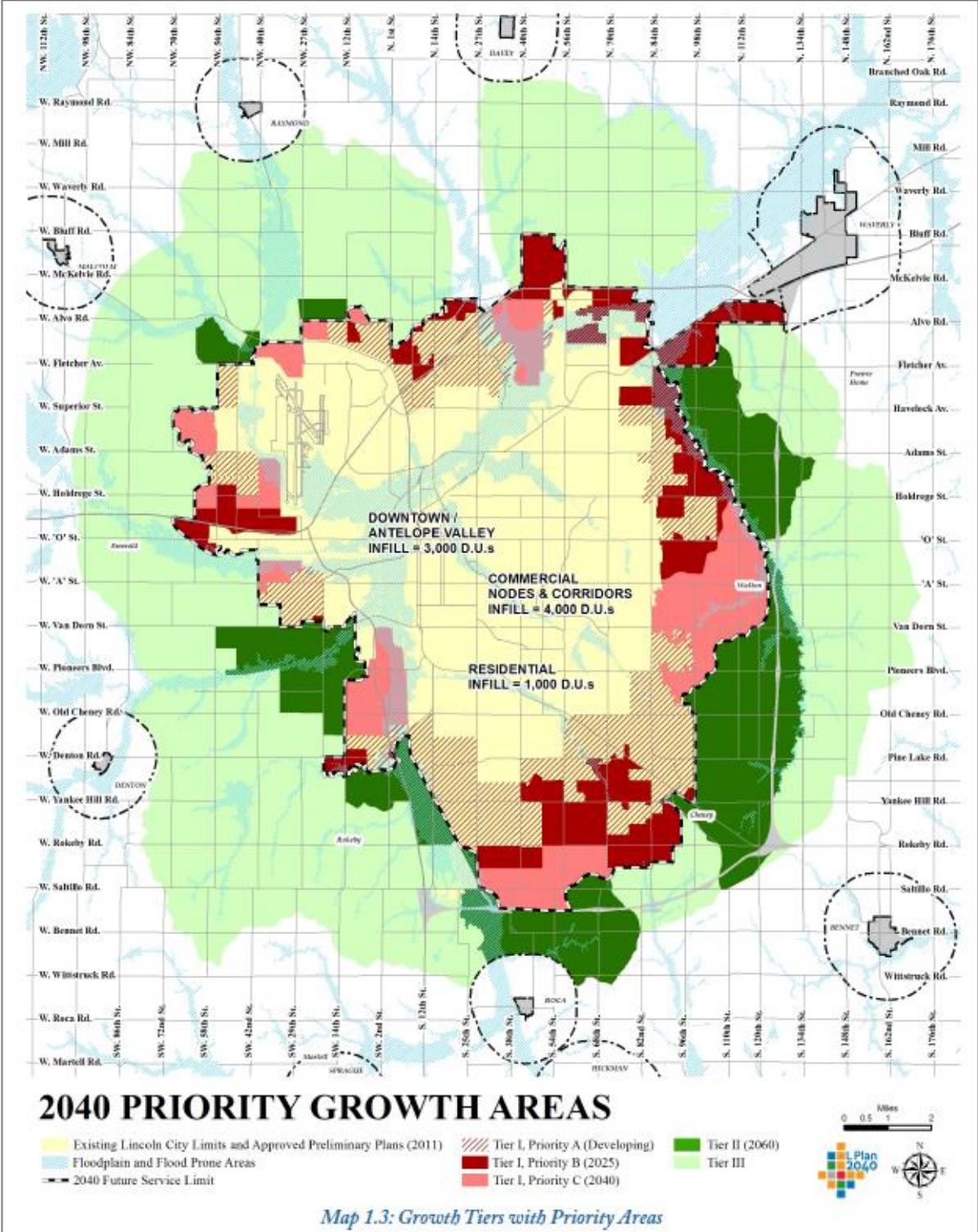
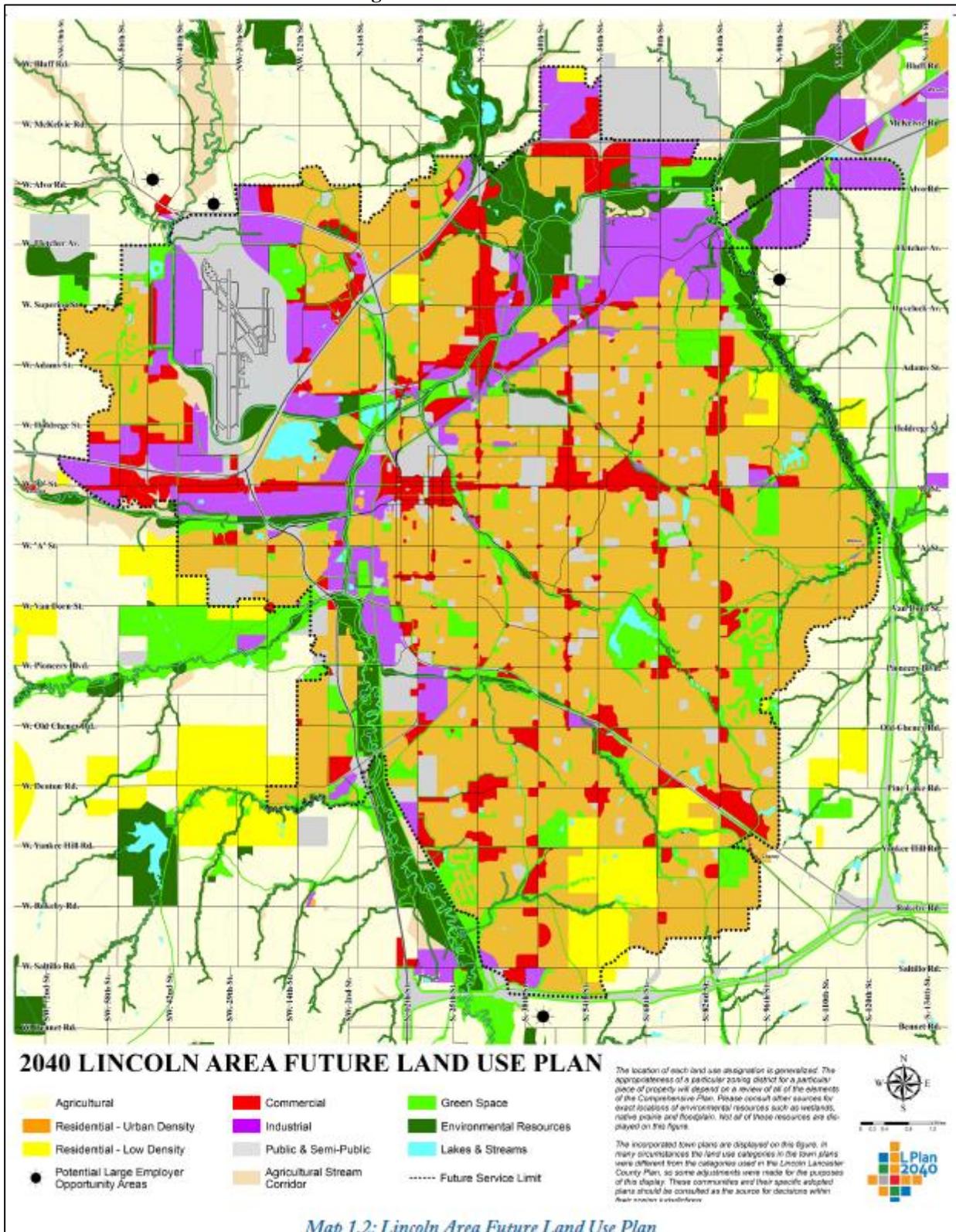


Figure 163: Future Land Use



STRUCTURAL INVENTORY AND VALUATION

Results from the structural inventory for the City of Lincoln are found in the table below. Information displayed in this table includes the number of structures, value per structure, and total value of each structure type. Of these structures, 36,536 are located in the 1% annual floodplain, with a total assessed value of \$13,228,082,412. This represents around 1/3 of all structures.

Table 207: Structural Inventory

Structure Type	Number of Structures	Total Value	Value per Structure
Commercial/Industrial	6,319	\$2,961,016,372	\$468,589
Agricultural	5,513	\$547,702,450	\$99,347
Residential	75,958	\$7,325,520,274	\$96,274
Other	40,602	\$6,281,462,478	\$154,708
Total	128392	\$17,115,701,575	-

Source: Nebraska Department of Revenue, Property Assessment Division

CRITICAL INFRASTRUCTURE/KEY RESOURCE

Each participating jurisdiction identified CFs vital for disaster response, providing shelter to the public, and essential for returning the jurisdiction's functions to normal during and after a disaster. CFs were identified during the 2008 planning process and updated by the Lincoln planning team during as a part of the plan update (refer to *Appendix C*). Below is a summary of the CFs for the jurisdiction. Due the large number of CFs in Lincoln, a list of all the facilities is not provided but those that are in the floodplain are listed below.

Table 208: Critical Facilities

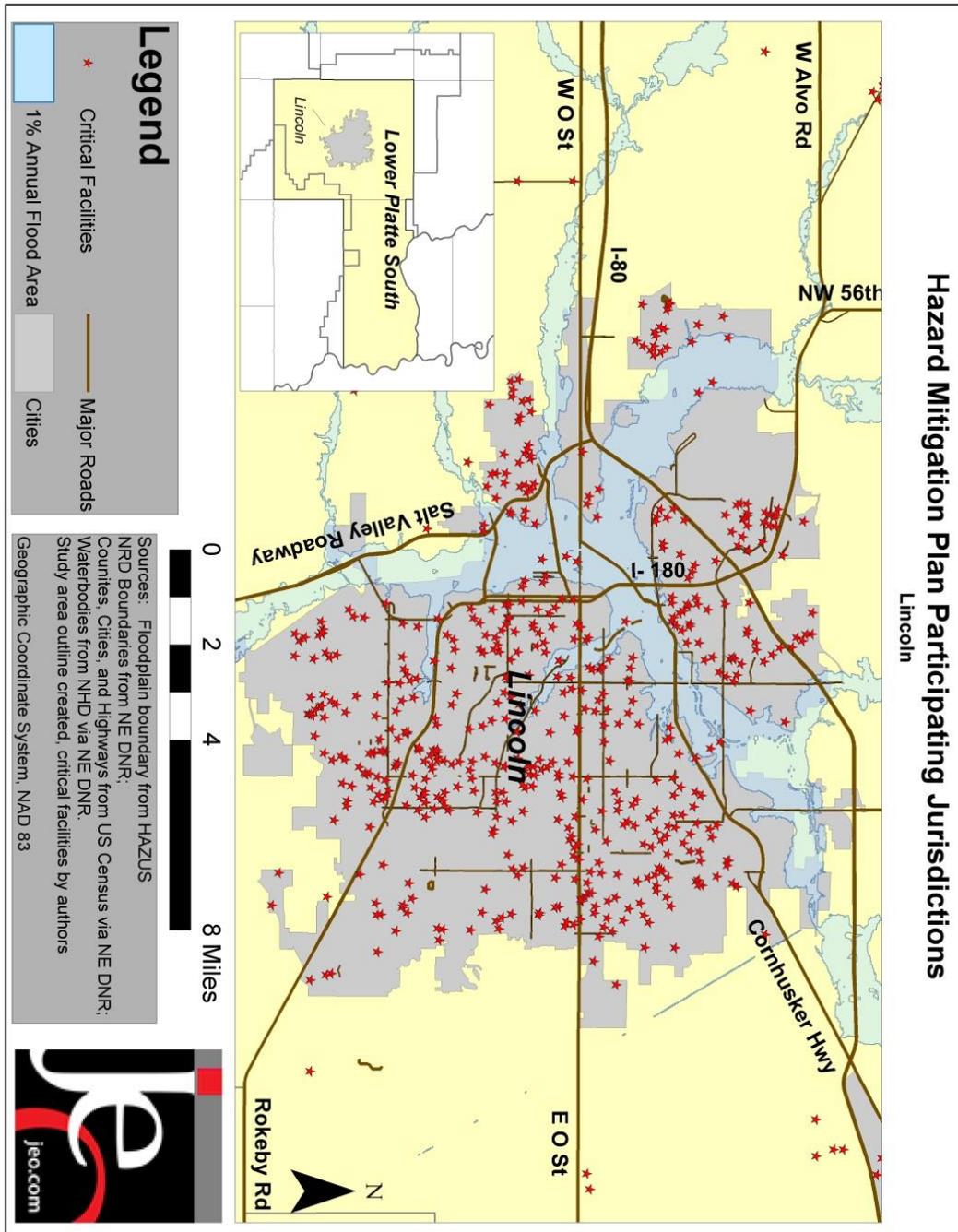
Critical Facility Type	#
Nursing Home/Child Care Center & Homes/Preschool	527
Fire Department	14
Law Enforcement/Police Station	12
Hospital/Emergency Center	9

Table 209: Critical Facilities in 1% annual Floodplain

Critical Facilities	Type
At Home To Grow, LLC	Family Child Care Home II
Diana L Jacobsen	Family Child Care Home II
Kindercafe Learning Center	Child Care Center
Nebraska State Penitentiary Hospital & Clinic	Nursing Home
Carpenter, Diana	Family Child Care Home I
Allder, Jo Ann	Family Child Care Home I
Toombs, Diane	Family Child Care Home I
Leyden, Carol	Family Child Care Home I
Pospisil, Patricia	Family Child Care Home I
Downs, Cyndee	Family Child Care Home I
Woolf, Twila	Family Child Care Home I

Critical Facilities	Type
Martinez, Dulce M.	Family Child Care Home I
Cherry, Melissa	Family Child Care Home I
Isley, Connie	Family Child Care Home I
Mcbride, Rebecca	Family Child Care Home I
Lincoln Christian School Preschool	Preschool
Prairieview Preschool	Preschool
Fire Station #3	Fire Department

Figure 164: Critical Facilities Map



TRANSPORTATION SYSTEM

Roadways

Today there are an estimated 2,808 miles of streets and highways serving the Lincoln. This includes approximately 30 miles of Interstate, 158 miles of U.S. and state Highways, 565 miles of major arterials and collector streets, and 2,055 miles of local streets. I-180 has an NDOR traffic count of 43,450 motor vehicles and 7,300 heavy trucks daily.

Risk Assessment

HISTORICAL OCCURRENCES

The NCDC reported 99 severe weather events from 1996 to 2011. Due to the many events in the city, only those that resulted in property damages were selected and refer to the table below for detailed information of these selected severe weather events including date, extent, property damage, and crop damage. The reported events by each participant during the public meetings are listed in *Section Four: Risk Assessment* under each hazard section. The five hazards of most concern to Lincoln are: tornados, high winds, drought, severe winter storms, and severe thunderstorms.

Table 210: NCDC Severe Weather Events

Hazard	Date	Extent	Property Damage	Crop Damage
Flash Flood	8/14/1996		60.00K	0.00K
Lightning	5/8/1996		0.40K	0.00K
Lightning	5/8/1996		12.00K	0.00K
Lightning	5/14/1996		9.00K	0.00K
Lightning	7/10/1997		25.00K	0.00K
Lightning	8/19/2003		90.00K	0.00K
Lightning	5/29/2004		6.00K	0.00K
Lightning	8/8/2006		225.00K	0.00K
Thunderstorm Wind	4/8/1999	60 kts.	5.00K	0.00K
Thunderstorm Wind	8/14/1996	70 kts.	20.00K	0.00K
Thunderstorm Wind	6/20/1997		5.00K	0.00K
Thunderstorm Wind (Lincoln Airport)	5/22/1996	72 kts.	1.400M	0.00K

TORNADOS

The local planning team identified tornados as the top concern for the community. This is consistent for the entire planning area. According to the NCDC data there was one recorded tornado but no events were reported by the planning team.

The following information was reported by the Tornado History Project database:

- **June 6, 1971:** Two tornados hit the City of Lincoln causing a total of \$6,000 in damage.
- **April 27, 1975:** A category F0 tornado in the City caused \$25,000 in damage.
- **August 15, 1977:** A tornado in the City caused \$25,000 in damage.
- **May 22, 2004:** An F4 touched down in Hallam that resulted in one death and \$100 million in property damage.

The NCDC reports two tornadic events in Lincoln:

- **May 8, 1995:** A funnel cloud was reported.
- **May 22, 1996:** An F0 tornado was reported. Fortunately no injuries or monetary damages resulted.

Lancaster County’s 2007 LEOP, reports three tornadic occurrences:

- **1957:** An F4 tornado damaged residential structures, there were no deaths or injuries reported.

- **1975:** An F4 tornado touched down in the northwestern portion of Lincoln. A significant amount of property damage was incurred, however there were no deaths or injuries reported.
- **1993:** A strong summer storm with 90 mph straight line winds spawned four small tornados that moved across Lincoln and the northern part of Lancaster County. There were thousands of trees destroyed and several millions of dollars in property damage.

No other historical occurrences in Lincoln were recorded by residents, city officials, or found in any other document.

HIGH WINDS

The local planning team identified high winds as a significant concern for the community. This is consistent for the entire planning area. According to the NCDC data there were 24 storm events which included strong winds (50+ kts) which could cause trees to uproot, considerable structure damage, and over turning of improperly anchored mobile homes. No other historical occurrences in Lincoln were recorded by residents, city officials, or found in any other document.

DROUGHT

The local planning team identified drought as a significant concern for the community. Drought is generally a regional event, with impacts from a single drought event impacting multiple communities, counties, and even states. For the community only a small percentage of the workforce relies on agricultural based income (0.8 for Lincoln). Due to the regional nature of drought and the low percentage of agricultural based incomes within the community drought will not be fully examined in this section. Please refer to *Section Four: Risk Assessment* for more information regarding the vulnerability of the entire planning region.

SEVERE WINTER STORMS

The local planning team identified severe winter storms as a significant concern for the community. This is consistent with the entire planning area. NCDC data records severe winter storms as “zonal” events meaning there is not a specific record of what communities are impacted or at least what the level impacts were per community.

The Lancaster County LEOP reports four separate severe winter storm occurrences for the City of Lincoln:

- **October 9, 1970:** The Columbus Day snowstorm dumped 6.6 inches of snow on the City causing extensive tree damage.
- **January 12, 1975:** The snowstorm referred to as “The Blizzard of the Century”, produced 16 inches of snowfall that transpired over a 24 hour period. Both of Nebraska’s metropolitan cities, Lincoln and Omaha, were brought to a standstill. Record low atmospheric pressures in the region were recorded, and strong winds created snow drifts reaching 15 feet.
- **1982:** An ice storm caused massive power outages. Nearly all of Lancaster County was impacted and some of the county residents were without power for three days.
- **January 26, 1994:** Freezing rain and sleet caused icing of trees and power lines. Some electrical outages also occurred. \$50,000 worth of property damage was incurred.
- **September 22, 1995:** Record low temperatures from the lower 20s to the lower 30s put an end to an already stunted growing season across the Midlands. Nearly the entire state fell below 28 degrees. Hardest hit were the milo, soybean, and corn crops. Crop damages reported were \$262 million.
- **October 25, 1997:** A rare winter storm brought 13 inches of wet, heavy, snow that weighed down and broke power lines and tree limbs. As a result, many residential areas and businesses were without power for several days and some areas for over a week. “Disaster areas” were declared and accrued over \$50 million in public property damage. The cleanup was extensive, continuing well

into the following summer. The Lincoln Water System reported that they were without power at three critical pumping stations for several hours. The Lincoln Airport and West Lincoln business areas were two pressure districts affected by the storm.

The elderly may be more likely to sustain an injury or have a medical emergency as a result of shoveling snow following a winter storm. Community members and families below the poverty line are also at higher risk related to severe winter storms, as they may lack resources needed to sustain themselves through a major severe winter storm.

SEVERE THUNDERSTORMS

The local planning team identified severe thunderstorms as a significant concern for the community and expected that more than four severe thunderstorms would take place in the community in the next decade.

Lincoln has older housing stock and an aging population, both of which may lead to greater levels of vulnerability. Severe thunderstorms and hail can result in loss of electricity, blocked roadways, damages to trees, and flooding. Blocked roadways, as a result of downed trees, may also present life safety concerns to those needing immediate medical attention.

Damages to roofs and siding can result in significant losses for homeowners as well as business owners. CFs can also be damaged by hail events. NCDC reports 12 thunderstorm and lightning events that caused a total of \$1,797,400 in property damages.

The Lincoln Journal Star reports:

- **August 1, 1981:** A 25 year storm hit, producing from 4.3 to 5.5 inches of rain in some areas.
- **September 25, 1981:** A storm producing three inches of rain in the southern and eastern part of the City caused two major power outages and six or seven smaller ones. The 911 call center reported receiving an estimated 150 phone calls regarding flooded basements.
- **June 22, 1981:** Hail, heavy rains, flooding, strong wind gusts and lightning damaged power lines, vehicles, and trees.

No other historical occurrences were reported by residents, village officials, or found in any other document.

EXTREME HEAT

The local planning team identified extreme heat as a significant concern for the community. This is consistent with the planning area. While there are no documented occurrences recently, via NCDC or other, it is understood that extreme heat is part of the local as well as regional climate. Extreme heat events are most likely to occur during June, July, and August.

Elderly residents, young children, and low-income families are all groups within the community which may be more vulnerable to the impacts of extreme heat events.

FLOODING

The local planning team identified flooding as a significant concern for the community. The NCDC reports three flash flood occurrences, one of which reported damages:

- **August 14, 1996:** \$60,000 in reported property damage was caused by four inches of rain that produced a flash flood. Local businesses and homes were also damaged.

The following list of storms and information was provided by the Lancaster County LEOP:

- Salt Creek flooded 136 times between 1900 and 1952. Of these events, 22 were considered major.
- **May 8, 1950:** Salt Creek peaked at a height of 26.05 feet with a flow of 27,800 cfs. This occurred after 5.5 inches of rain fell in six hours and accumulated to 14 inches. 20,000 acres of land was flooded including 600 homes and 80 businesses. The total damage incurred amounted to \$1,643,000 and nine deaths.
- **June 2, 1951:** Antelope Creek flooded. Water was waist deep at 28th and D streets, and one foot deep at 33rd and Normal. Salt Creek peaked at 26.15 feet with a flow of 28,200 cfs.
- **June 14, 1951:** Antelope Creek flooded. Eight inches of rain fell and caused \$2,000,000 worth of damage. 92 businesses, 298 homes and the railroad were all damaged in the area.
- **June, 1952:** Another Antelope Creek flood occurred when 2.18 inches fell, causing \$63,000 in damage.
- Between 1962 and 1993, a series of eight floods occurred on Salt Creek. The total amount of federal funds contributed was \$668,800, with the largest lump sum contribution of \$487,185 in 1993.
- **June 13, 1984:** Little Salt Creek flooded when three to four inches of rain caused the creek to peak at 16.20 feet and flow 7,500 cfs. The flood was classified as a 10-year flood.

The Lincoln Journal Star recounts the following flood events:

- **1892:** Extensive flooding drove 300 people from their homes.
- **1902:** Flooding left 1,000 residents homeless and caused 9 deaths
- **July 23, 1993:** Little Salt Creek peaked at 4 feet over flood stage. Lynn and Stevens Creek tributaries left their banks flooding streets, parking lots, businesses, and homes. The City received \$823,997 from the Federal Emergency Management Agency for partial damage reimbursement. The total damage to public property was \$2.9 million.
- **June 15, 1982:** Stevens Creek peaked at a height of 18.85 feet with a flow of 3,820 cfs. Up to five inches of rain blocked roads, threatened homes, and left cars stranded in high water. There was a police advisory encouraging Lincoln residents not to drive and at one point during the downpour, the police were instructed to park their cruisers unless they were needed somewhere. Lincoln Electric System reported several power outages, one of which was the result of flooded underground cables.
- **June 13, 1984:** Stevens Creek flooded with a peak of 19.57 feet and a flow of 4,620 cfs. The flood was classified as a 10-year flood and it claimed two lives when a car was swept off Highway 34.
- **July 4, 1984:** Water back log from Beal's Slough caused damage to local area businesses. One business reported damage of \$4,000.
- **September 13, 1989:** Heavy rains caused \$20,000 in damage to Lancaster County rock and gravel roads.
- **July 25, 1990:** Five inches of rain washed out roads, flooded basements, damaged businesses, and flooded parking lots.

Participants from the City of Lincoln recollected the following events:

- **March 1993:** The Lincoln Water System reports an ice jam on the Platte River that caused severe flooding along Salt Creek and Highway 6. The flood waters eroded embankments and exposed a 48-inch and 54-inch water transmission line from one of the Lincoln Water System's well fields. This exposure caused sections of the pipe line to break and float away.
- **July 24, 1993:** Flooding resulted when Lincoln received three times the normal amount of rain for July.

- **July 20, 1996:** Beal Slough flooded when over five inches of rain fell in south Lincoln over an 18 hour period. Flooding occurred on a number of roadways including Highway 2. Residential basements and recreational areas were flooded. Flooding also occurred near 33rd Street and Pioneers Boulevard as well as in many areas along the Tierra Branch in the Tierra, Williamsburg, Seven Oaks, and Cripple Creek Subdivisions. A similar incident occurred in 1989 when heavy rains filled and overtopped the creek. The waters spread to Tierra and Briarhurst Parks, and other nearby open spaces.

Participants also reported localized flooding at the following locations:

- 52nd and O St.
- Along Deadmans Run
- Cornhusker Hwy, particularly near N 14th St.
- 49th & Rentworth
- Old Cheney, near 7th Street
- 8th & Rentworth
- Fletcher, near N 57th St.

No other historical occurrences in Lincoln were recorded by residents, city officials, or found in any other document.

The following structures in the City of Lincoln are located within the 1% annual floodplain.

Table 211: Structural Inventory - Floodplain

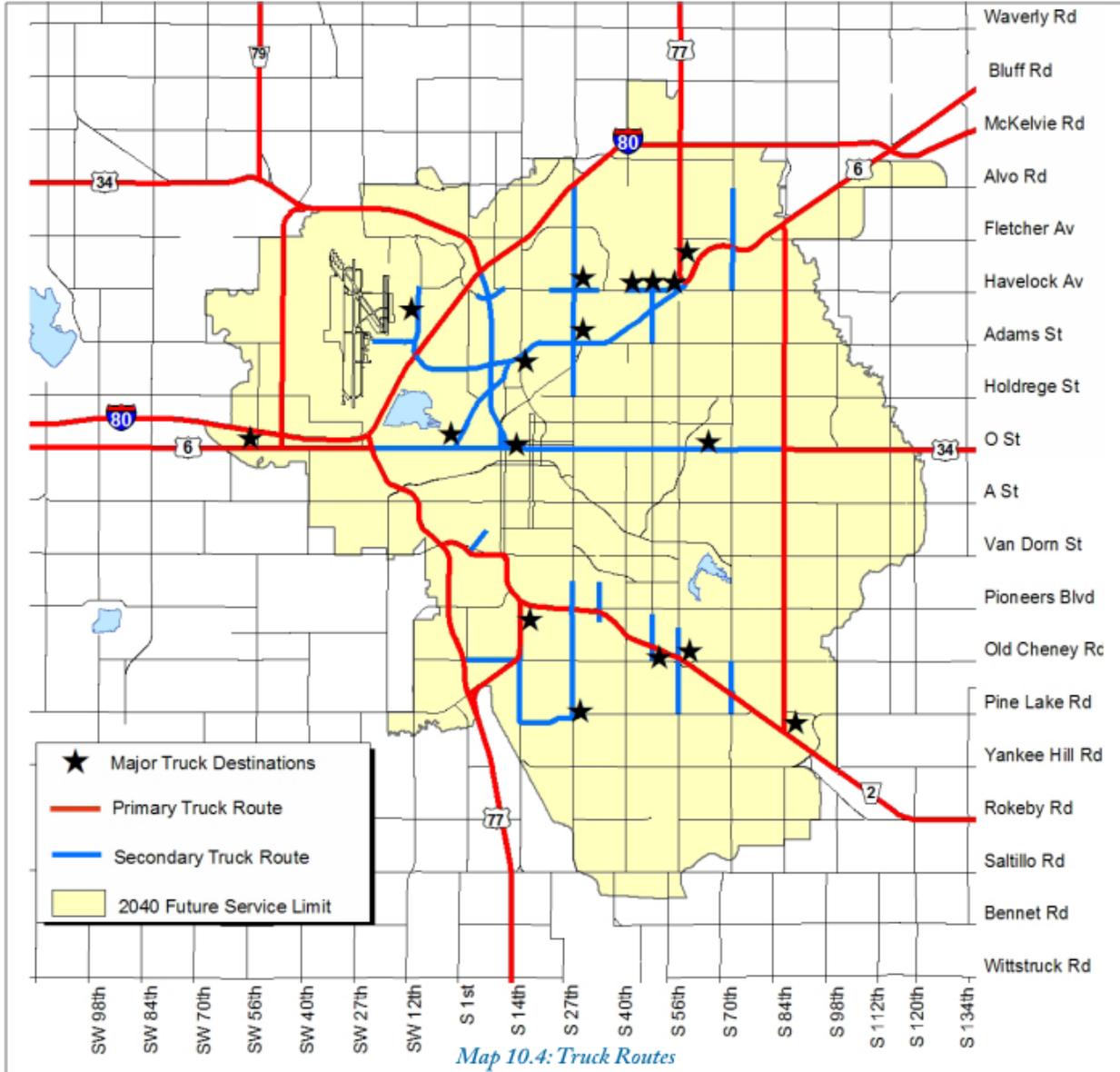
Structure Type	Number of Structures
Commercial/Industrial	7,355
Agricultural	70
Industrial	1,833
Residential	16,946
Other	10,332
Total	36,536

Lincoln also has one single family home on the NFIP repetitive loss list.

TRANSPORTATION

The following map, from the Comprehensive Map, illustrates existing truck routes.

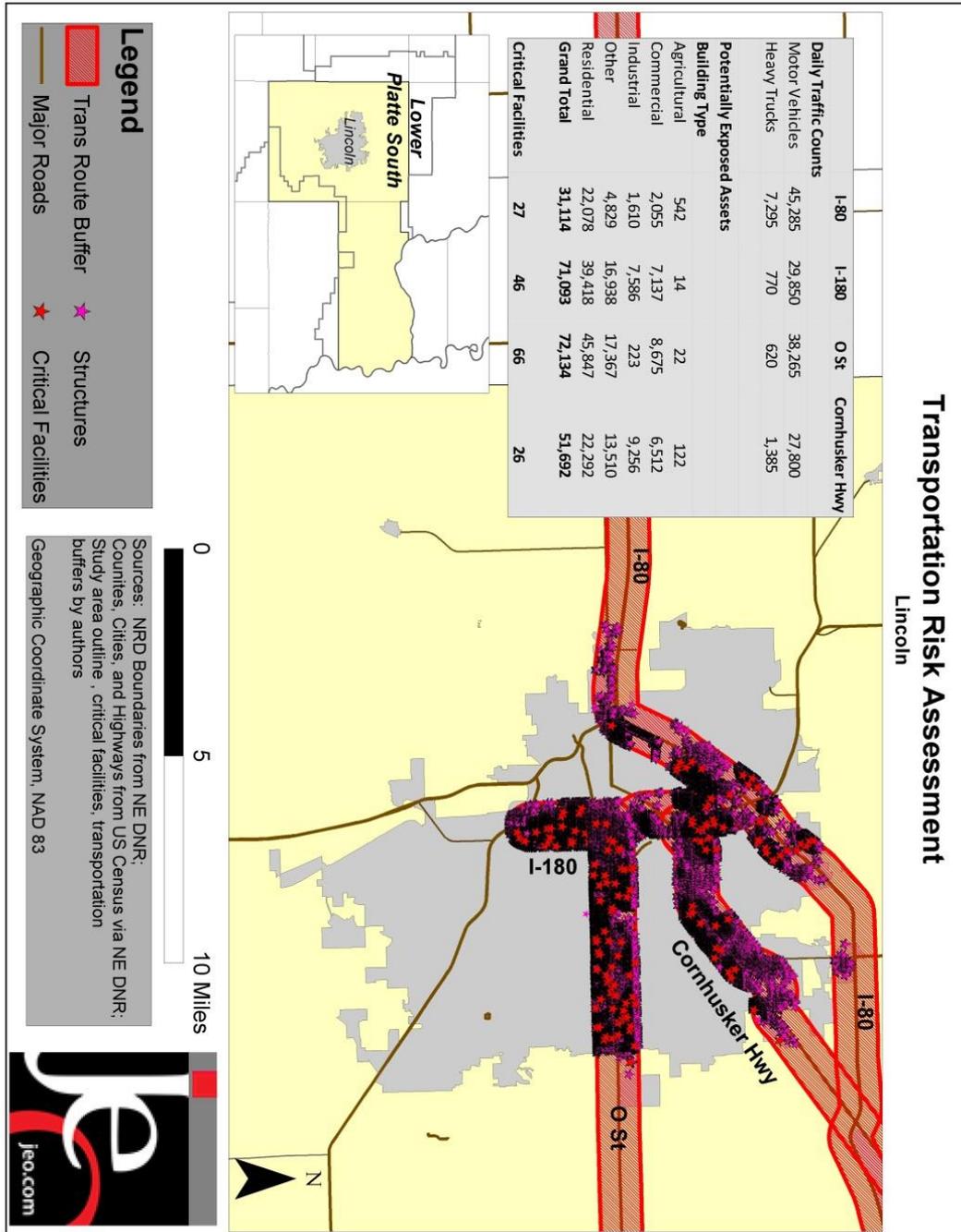
Figure 165: Truck Routes



CHEMICAL TRANSPORTATION

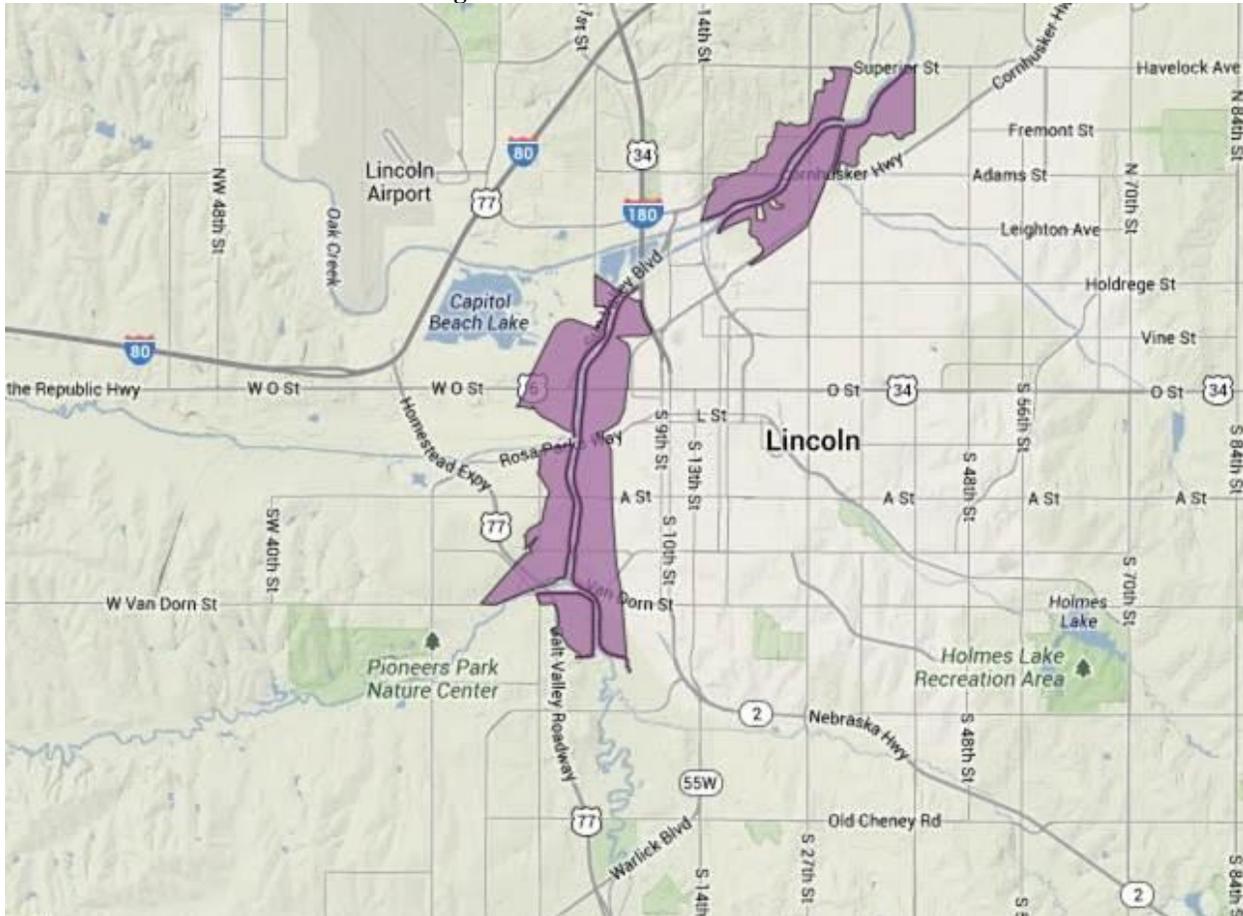
The following map illustrates all of the properties located within a ½ mile of the major chemical transportation routes which pass through Lincoln. Although any one event would not impact all of these structures, their proximity to the major transportation routes places them at greater risk. Any one event would impact a small subset of these structures, with the size of the impacted radius dependent upon the quantity and type of chemical spilled. All structures and CFs within the identified risk area should have shelter in place plans in place.

Figure 166: Transportation Risk



Although levee failure was not identified as a significant risk by the local planning team, there are urban areas of Lincoln which are protected by levees and therefore at risk in the event of a failure. The following map illustrates the levee protected areas.

Figure 167: Levee Protected Areas



Capability Assessment

The capability assessment consisted of two main components: a Capability Assessment Survey completed by the jurisdiction; and, a review of local existing policies, regulation, plans, and the programs. The survey serves to gather information regarding the jurisdiction’s planning and regulatory capability; administrative and technical capability; fiscal capability; and education and outreach capability.

CAPABILITY ASSESSMENT SURVEY

- The city has five building inspectors and in addition a total of 22 various inspectors that inspect some part of buildings ... Mechanical, Plumbing, Housing, Fire and Electrical inspectors. They inspect all new construction in some manner, but only the building inspector would inspect floodplain.
- Assorted codes are updated every three years. A task force for each trade reviews the current and proposed codes. The zoning code changes weekly, based on the changes proposed to City Council.
- Yes, they city charges fees for all parts of development.
- All of the inspectors can inspect for hazards, but it depends on the hazard. They are specialists trained in assorted fields.

- Funding for mitigation is minimal. Staffing is always on call.

Table 212: Capability Assessment

Survey Components/Subcomponents		Comments
Planning & Regulatory Capability	Comprehensive Plan	Yes
	Capital Improvements Plan	Yes
	Hazard Mitigation Plan	Yes
	Economic Development Plan	Yes (part of Comprehensive Plan)
	Emergency Operational Plan	Yes, Lancaster County
	National Resources Protection Plan	Yes (part of Comprehensive Plan)
	Floodplain Management Plan	Yes
	Storm Water Management Plan	Yes
	Zoning Ordinance	Yes
	Subdivision Regulation/Ordinance	Yes
	Floodplain Ordinance	Yes
	Building Codes	Yes (2009 IBC & local amendments)
	National Flood Insurance Program	Yes
	Community Rating System	No
Well Head Protection Area/District	No	
Other (if any)	N/A	
Administrative & Technical Capability	Planning Commission	Staff: 4
	Hazard Mitigation Planning Commission	No
	Floodplain Administration	Staff: 1
	Emergency Manager	Lancaster County
	GIS Coordinator	Staff: 3
	Chief Building Official	Staff: 5
	Civil Engineering	Staff: 4
	Staff Who Can Assess Community's Vulnerability to Hazards	Yes
	Grant Manager	Yes, at the department level
	Other (if any)	Urban Development Department
Fiscal Capability	Capital Improvement Project Funding	Yes
	Community Development Block Grant	Yes
	Authority to Levy Taxes for Specific Purposes	Yes
	Gas/Electric Service Fees	No
	Storm Water Service Fees	
	Water/Sewer Service Fees	Yes
	Development Impact Fees	Yes
	General Obligation Revenue or Special Tax Bonds	Yes
Other (if any)	N/A	
Education &	Local citizen groups or non-profit organizations focused on	

Survey Components/Subcomponents		Comments
Outreach Capability	environmental protection, emergency preparedness, access and functional needs populations, etc.	Yes
Education & Outreach Capability	Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	Yes
	Natural Disaster or Safety related school programs	Yes
	StormReady Certification	No
	Firewise Communities Certification	No
	Tree City USA	Yes
	Public-private partnership initiatives addressing disaster-related issues	Yes
	Other (if any)	N/A

PLAN EVALUATION

The Lincoln/Lancaster Comprehensive Plan addresses the natural environment in many ways, under the umbrella of Environmental Stewardship and Sustainability. The plan addresses natural resource preservation through land use, as well as discussing the need to ensure community resilience in the face of natural disasters.

The results of applying the Safe Growth Audit (see *Section Six: Plan Implementation and Maintenance*) to evaluating the Lincoln/Lancaster County Comprehensive Plan 2040, the findings are demonstrated in the table below.

Table 213: Safe Growth Audit

Component		Items	I (Included)
Comprehensive Plan	Land Use	Identify hazard areas	I
		Land-use policy that discourages (re)development within hazard areas	I
		Provide adequate area for growth outside hazard areas	I
	Transportation	Limit access to hazard areas	
		Policy that guides growth outside hazard areas	
		Emergency functional designs	
	Environmental Management	Identify and map environmental systems that protect development from hazards	
		Policy that maintains and restore protective ecosystems	I
		Policy that provides incentives to developments outside protective ecosystems	
	Public Safety	Goals and policies are related to hazard plan	I

Component		Items	I (Included)
		Plan's growth and development policies that explicitly include safety	I
		Monitoring and implementation section cover safe growth objectives	
Zoning Ordinance		Discouraging (re)development within hazard areas	I
		Contain natural hazard overlay zones that set conditions for land use within such zones	
		Recognize hazard areas as limits in rezoning procedures	
		Prohibit development within, or filling of, wetlands, floodways, and floodplains	I
Subdivision Regulation		Restrict the subdivision of land within or adjacent to hazard areas	I
		Conservation subdivisions or cluster subdivisions to conserve environmental resources	
		Allow density transfers where hazard areas exist	

Mitigation Strategy

Completed Projects:

ACTION 2.1.21	Project at Beal Slough at 14th Street
Analysis	Near 14th Street to decrease flood elevations by implementing a package of conveyance improvements. Improvements near 14th Street to include construction of a diversion channel around a BNSF Railway spur track, channel improvements to Beal Slough, and replacement of the existing 14th Street bridge to increase conveyance capacity. (Preliminary Flood Reduction Study, Beal Slough - Pioneers Boulevard to Southwood Drive, July 26, 2006)
Goal/Objective	Goal 2/Objective 2.1
Hazard(s) Address	Flooding
Status/Notes	Completed; This project was a collaborative effort between the NRD & City funded with help from HMGP

ACTION 2.1.22	Flood Reduction at Antelope Creek
Analysis	Flood reduction project along Antelope Creek from 40th Street downstream through 27th Street. This project involves widening 1,450 feet of the channel with a "lower shelf" on the left bank, reconstruction of the existing bike trail, installation of 2 box culverts at the "A" Street crossing, and creation of a dry detention cell in Antelope Park. (Preliminary Flood Reduction Study, Antelope Creek, South 27th Street to South 56th Street, Lincoln, Nebraska, Alternative 4 p. 32)
Goal/Objective	Goal 2/Objective 2.1
Hazard(s) Address	Flooding
Status/Notes	Completed

ACTION 2.1.23	Antelope Creek Project Near A Street
Analysis	Antelope Creek project near A Street. This project would add two box culverts at A Street bridge, realign the Billy Wolfe bicycle trail, and improve the channel for 1450 linear feet downstream. (Preliminary Flood Reduction Study, Antelope Creek, South 27th Street to South 56th Streets, section 3.1)
Goal/Objective	Goal 2/Objective 2.1
Hazard(s) Address	Flooding
Status/Notes	Completed

ACTION 2.1.24	Antelope Creek Dry Detention Project
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Analysis	Antelope Creek Dry Detention Project in Antelope Park to reduce flooding by adding a 2.2 acre detention cell to temporarily store a portion of the flow from a tributary to Antelope Creek. (Preliminary Flood Reduction Study, Antelope Creek, South 27th Street to South 56th Streets, section 3.3)
Goal/Objective	Goal 2/Objective 2.1
Hazard(s) Address	Flooding
Status/Notes	Completed

ACTION 2.1.30	Storm Water Detention at Taylor Park Near 66th
Analysis	Stormwater detention project in Taylor Park near 66th and Taylor Park Drive. This project would enhance the functionality of the park using walking trails and trees. (DMR Master Plan 8.4.2.2)
Goal/Objective	Goal 2/Objective 2.1
Hazard(s) Address	Flooding
Status/Notes	Completed

ACTION 2.1.50	Central Utility Plant at Department of Corrections
Analysis	At the Central utility plant at the department of corrections, where power comes in at, build a floodwall around the facility and build flood gates
Goal/Objective	Goal 2/Objective 2.1
Hazard(s) Address	Flooding
Status/Notes	Completed; This project was a collaborative effort between the NRD & City funded with help from HMGP

NEW OR PREVIOUSLY IDENTIFIED MITIGATION ACTIONS

The following hazard mitigation actions were ranked high by the City Lincoln, or were noted as being underway since the previous hazard mitigation plan.

Improve Drainage

Description: Improve the drainage at 11th Street and Harrison Ave.
Hazard(s) Addressed: Flooding
Estimated Cost: \$1,318,000
Potential Funding: HMGP, City of Lincoln, NEMA
Timeline: 3 years
Priority: High
Lead Agency: City of Lincoln Engineering Department
Status: Not Yet Started

Improve Drainage

Description: Improve the drainage from at 33rd and Holdrege Streets
Hazard(s) Addressed: Flooding
Estimated Cost: \$471,000
Potential Funding: HMGP, City of Lincoln, NEMA
Timeline: 3 years
Priority: High
Lead Agency: City of Lincoln Engineering Department
Status: Not Yet Started

NFIP Repetitive Loss Structure Removal/Acquisition

Description: Implement projects such as property acquisition, relocation, demolition, or elevation of the one existing repetitive loss structure located in the City/Village

Hazard(s) Addressed: Flooding

Estimated Cost: Dependent upon market value of the structure

Potential Funding: HMGP, PDM, Flood Mitigation Assistance, LPSNRD, Governing County & Local Governing Agency

Timeline: Ongoing

Priority: High

Lead Agency: City of Lincoln Department of Public Works (Watershed Management Division), Lower Platte South NRD

Status: No structures have been acquired in the last five years.

Stormwater System and Drainage Improvements

Description: Lincoln utilizes a stormwater system comprised of pipes and inlets as well as ditches and culverts. Stormwater system improvements may include pipe upsizing and additional inlets. Retention and detention facilities may also be implemented to decrease runoff rates while also decreasing the need for other stormwater system improvements. Other improvements may include ditch upsizing, ditch cleanout and culvert improvements. These improvements can serve to more effectively convey runoff within city, preventing interior localized flooding.

Hazard(s) Addressed: Flooding

Estimated Cost: \$100,000+

Potential Funding: HMGP, PDM, CDBG, City of Lincoln Public Works, LPSNRD, & Lancaster County

Timeline: Ongoing

Priority: Medium

Lead Agency: City of Lincoln Department of Public Works (Watershed Management Division)

Status: In the past 5 years, the City has spent approximately \$10 million on various Storm Water Bond projects to improve the capacity of inlets, ditches, and storm sewer pipes

Flood Reductions within the Deadman's Run Watershed

Description: Implement projects identified in the Deadman's Run Watershed Master plan developed by the City and NRD to address basin wide flooding concerns, stream erosion problems and improve water quality. The master plan identified more than dozen Capital Improvement Projects (CIP) with the estimated cost of \$50 Million. These CIP projects include channel widening, bridge upgrade, detention ponds and stream stabilization project. City plans to implement the CIP projects identified in these plans.

Hazard(s) Addressed: Flooding

Estimated Cost: \$50,000,000

Potential Funding: HMGP, PDM, CDBG, City of Lincoln, LPSNRD, Lancaster County

Timeline: 1 to 5 years

Priority: Medium

Lead Agency: City of Lincoln Department of Public Works (Watershed Management Division)

Status: Currently being evaluated for alternatives

Storm Shelter / Safe Rooms

Description: Design and construct storm shelters and safe rooms in highly vulnerable areas such as mobile home parks, campgrounds, school, and other areas.

Hazard(s) Addressed: Tornados and high winds, severe thunderstorms

Estimated Cost: \$200-\$300/sf stand alone; \$150-200/sf addition/retrofit

Potential Funding: PDM, HMGP, City of Lincoln, Lancaster County, LPSNRD

Timeline: Ongoing

Priority: High

Lead Agency: City of Lincoln, Lincoln/Lancaster County Emergency Management

Status: Local officials and stakeholders have met to discuss the feasibility of safe room installation in critical facilities and near vulnerable populations

Middle Creek Project

Description: Middle Creek flood control project to reduce peak flow from Middle Creek to lower flooding level in Salt Creek. Flooding from Salt Creek threatens several hundred homes and businesses in Lincoln including the downtown area.

Hazard(s) Addressed: Flooding

Estimated Cost: \$15,400,000

Potential Funding: PDM, HMGP, Lincoln, State of Nebraska, LPSNRD

Timeline: Consideration pending the availability of future funding

Priority: Medium

Lead Agency: City of Lincoln Dept of Public Works (Watershed Management), LPSNRD

Status: Not yet started

Oak Creek Project

Description: Oak Creek flood control project to reduce peak flow from Oak Creek. This will reduce flooding in Oak Creek and the adjacent airport as well as lower flooding levels in Salt Creek. Flooding from Salt Creek threatens several hundred homes and businesses in Lincoln including the downtown area.

Hazard(s) Addressed: Flooding

Estimated Cost: \$23,200,000

Potential Funding: PDM, HMGP, Lincoln, State of Nebraska, LPSNRD, NEMA

Timeline: Consideration pending the availability of future funding

Priority: Medium

Lead Agency: City of Lincoln Department of Public Works (Watershed Management Division), LPSNRD

Status: Not yet started

Oak Creek Flood Control

Description: Oak Creek flood control protection. This project is to increase the protection level of a non-certified levee for the airport and nearby National Guard base. This is associated with the Oak Creek Flood Control Project.

Hazard(s) Addressed: Flooding

Estimated Cost: \$6,000,000

Potential Funding: PDM, HMGP, Lincoln, State of Nebraska, LPSNRD, NEMA

Timeline: Consideration pending the availability of future funding

Priority: High

Lead Agency: City of Lincoln Department of Public Works (Watershed Management Division), LPSNRD

Status: Not yet started

Emergency Power Contingency Plan

Description: Development and implementation of an Emergency Power Contingency Plan for the Lincoln Water System. (A comprehensive study and installation of back-up power at critical locations. This will provide the ability to remain operational for minimum water demands and fire suppression in the City of Lincoln.)

Hazard(s) Addressed: Severe Thunderstorm, Severe Winter Storm, Flooding, Drought, and Extreme Heat

Estimated Cost: Not yet available

Potential Funding: PDM, HMGP, Lincoln, State of Nebraska, LPSNRD, NEMA

Timeline: 2 years

Priority: Very High

Lead Agency: City of Lincoln Department of Public Works (Lincoln Water System)

Status: Not yet started

Maintain Good Standing in the Community Rating System (CRS)

Description: Maintain good standing as a CRS community. Furthermore, work to gain better status and further lower flood insurance premiums

Hazard(s) Addressed: Flooding

Estimated Cost: \$0

Potential Funding: City of Lincoln

Timeline: On-going

Priority: Medium

Lead Agency: City of Lincoln Department of Public Works (Watershed Management Division)

Status: Lincoln is currently a Class 5 in the CRS program

National Flood Insurance Program (NFIP)

Description: Maintain good standing with National Flood Insurance Program (NFIP)

Hazard(s) Addressed: Flooding

Estimated Cost: N/A

Potential Funding: N/A

Timeline: Ongoing

Priority: High

Lead Agency: City of Lincoln Department of Building & Safety

Status: Lincoln is still participating in the NFIP

Civil Service Improvements

Description: Improve Fire Department and Rescue squad equipment and facilities. Providing additional, or updating existing emergency response equipment; this could include fire trucks, ATV's, motor boats, etc. This would also include developing backup systems for emergency vehicles, and identifying and training additional personnel for emergency response.

Hazard(s) Addressed: All Hazards

Estimated Cost: \$5,000 to \$400,000 per vehicle, varies depending on what equipment is needed

Potential Funding: HMGP, City of Lincoln, Lancaster County, & LPS NRD

Timeline: On-going

Priority: Low

Lead Agency: City of Lincoln, Lancaster County, Lincoln/Lancaster Emergency Management Agency

Status: Improvements to response and recovery capabilities are ongoing. New resources are purchased as the need is identified and funds are available.

Improve and Revise Snow / Ice Removal Program

Description: As needed, continue to revise and improve the snow and ice removal program for streets. Revisions should address situations such as plowing snow, ice removal, parking during snow and ice removal, and removal of associated storm debris. Actions under this item should improve the capabilities to rescue those stranded in blizzards and increase the capacity in which snow can be removed from roadways after an event.

Hazard(s) Addressed: Severe Winter Storm

Estimated Cost: \$20,000 +

Potential Funding: HMGP, City of Lincoln, Lancaster County, LPS NRD

Timeline: On-going

Priority: Low

Lead Agency: City of Lincoln Department of Public Works, LPSNRD, Lancaster County

Status: In 2014 Public Works revised the Winter Operations Plan; Implementations of Anti-Ice Brine production process for emergency snow routes, bridges, intersections, and other arterials.

Weather Radios

Description: Conduct an inventory of weather radios at schools and other critical facilities and provide new radios as needed.

Hazard(s) Addressed: All hazards

Estimated Cost: \$50/per radio

Potential Funding: HMGP, PDM, City of Lincoln, Lancaster County, LPS NRD

Timeline: On-going

Priority: High

Lead Agency: City of Lincoln, Lancaster County, Lincoln/Lancaster County Emergency Management

Status: Weather radios have been placed in all Lincoln Public Schools School. Lincoln/Lancaster County EMA continues to work with stakeholders and local agencies to identify areas of need and make recommendations to install weather radios. Lincoln/Lancaster County EMA has assisted in the purchase of weather radios as needed. In 2014 Lincoln/Lancaster County EMA assisted in the installation of 10 weather radios for local government and local nonprofit agencies

Improve Drainage

Description: Improve the drainage on 24th Street from E St. to Antelope Creek

Hazard(s) Addressed: Flooding

Estimated Cost: \$462,000

Potential Funding: HMGP, City of Lincoln, NEMA

Timeline: 3 years

Priority: High

Lead Agency: City of Lincoln Department of Public Works (Watershed Management Division)

Status: Not Yet Started

Improve Drainage

Description: Improve the drainage on 33rd Street from Holdrege St. to Baldwin Ave.

Hazard(s) Addressed: Flooding

Estimated Cost: \$3,637,000

Potential Funding: HMGP, City of Lincoln, NEMA

Timeline: 3 years

Priority: High

Lead Agency: City of Lincoln Department of Public Works (Watershed Management Division)

Status: Not Yet Started

Improve Drainage

Description: Improve the drainage at 63rd and Aylesworth Ave.

Hazard(s) Addressed: Flooding

Estimated Cost: \$531,200

Potential Funding: HMGP, City of Lincoln, NEMA

Timeline: 3 years

Priority: High

Lead Agency: City of Lincoln Department of Public Works (Watershed Management Division)

Status: Not Yet Started

Improve Drainage

Description: Improve the drainage from 40th and J Streets to 37th and M Streets

Hazard(s) Addressed: Flooding

Estimated Cost: \$1,690,000

Potential Funding: HMGP, City of Lincoln, NEMA

Timeline: 3 years

Priority: High

Lead Agency: City of Lincoln Department of Public Works (Watershed Management Division)

Status: Not Yet Started

Improve Drainage

Description: Improve the drainage at Cotner Blvd and Baldwin Ave.

Hazard(s) Addressed: Flooding

Estimated Cost: \$410,000

Potential Funding: HMGP, City of Lincoln, NEMA

Timeline: 3 years

Priority: High

Lead Agency: City of Lincoln Department of Public Works (Watershed Management Division)

Status: Not Yet Started

Improve Drainage

Description: Improve the drainage at N 68th St. between Fremont St and Seward St

Hazard(s) Addressed: Flooding

Estimated Cost: \$733,000

Potential Funding: HMGP, City of Lincoln, NEMA

Timeline: 3 years

Priority: High

Lead Agency: City of Lincoln Department of Public Works (Watershed Management Division)

Status: Not Yet Started

Improve Drainage

Description: Improve the drainage south of Lowell Ave. between 46th and 47th Streets

Hazard(s) Addressed: Flooding

Estimated Cost: \$36,000

Potential Funding: HMGP, City of Lincoln, NEMA

Timeline: 3 years

Priority: High

Lead Agency: City of Lincoln Department of Public Works (Watershed Management Division)

Status: Not Yet Started

Improve Drainage

Description: Improve the drainage at North of Madison Ave, east of 33rd St
Hazard(s) Addressed: Flooding
Estimated Cost: \$23,000
Potential Funding: HMGP, City of Lincoln, NEMA
Timeline: 3 years
Priority: High
Lead Agency: City of Lincoln Department of Public Works (Watershed Management Division)
Status: Not Yet Started

Improve Drainage

Description: Improve the drainage at Forest Lake Blvd
Hazard(s) Addressed: Flooding
Estimated Cost: \$84,100
Potential Funding: HMGP, City of Lincoln, NEMA
Timeline: 3 years
Priority: High
Lead Agency: City of Lincoln Department of Public Works (Watershed Management Division)
Status: Not Yet Started

Bank Stabilization

Description: Implement river bank stabilization measures for city owned property along the Platte River. Current erosion pattern will impact the ability to develop that area for wells to meet future production demands.
Hazard(s) Addressed: Flooding
Estimated Cost: Not yet available
Potential Funding: HMGP, City of Lincoln, NEMA
Timeline: 3 years
Priority: High
Lead Agency: City of Lincoln Department of Public Works (Lincoln Water System)
Status: In Progress

Emergency Generator Service Provider Agreement

Description: Development and implementation of a service agreement to provide emergency back-up generators. These generators would be necessary to provide power for operations to provide fire suppression and minimum water demands for the City of Lincoln.
Hazard(s) Addressed: All Hazards
Estimated Cost: Not yet available
Potential Funding: City of Lincoln
Timeline: 3 years
Priority: High
Lead Agency: City of Lincoln Department of Public Works (Lincoln Water System)
Status: In Progress

Capability to Connect To Portable Generators to Operate City Vehicle Fuel Sites

Description: Conduct a comprehensive study of remote city vehicle fueling sites to identify electrical components required for utilization of portable back-up generators. Project would also include installation of those components, generators to be provided by local emergency management or contractual services.

Hazard(s) Addressed: All Hazards

Estimated Cost: Not yet available

Potential Funding: HMGP, City of Lincoln, NEMA

Timeline: 3 years

Priority: High

Lead Agency: City of Lincoln Department of Public Works

Status: In Progress

Inflow and Infiltration Reduction Program

Description: Develop and implement a program to reduce inflow and infiltration of stormwater into the wastewater collection system.

Hazard(s) Addressed: Flooding

Estimated Cost: \$500,000

Potential Funding: PDM, HMGP, CDBG, City of Lincoln

Timeline: December 2016

Priority: High

Lead Agency: City of Lincoln Department of Public works

Status: Scope of work being developed

Re-Routing of Sump Pump Discharge

Description: Develop and implement a program to inspect piping and routing of sump pump discharge. This may include a cost share program to assist homeowner in this effort. Estimate 20,000 homes at 1c000 each and 50-50 cost share.

Hazard(s) Addressed: Flooding

Estimated Cost: 250,000 to develop program, 500,000 yearly for cost share

Potential Funding: City of Lincoln

Timeline: 18 months to develop program, 20 years to implement

Priority: Medium

Lead Agency: City of Lincoln Department of Public works

Status: Not yet started, concept being evaluated.

Service Line Inspection Program

Description: Develop and implement a program inspect wastewater service lines and prioritize lines in need of repair. This program would reduce ground water infiltration into the wastewater system and reduce impacts during flood and high water events. Estimate 10,000 homes at 5,000 ea.

Hazard(s) Addressed: Flooding

Estimated Cost: 250,000 to develop program, 1,000,000 yearly

Potential Funding: City of Lincoln

Timeline: 18 months to develop program, 50 years to implement

Priority: Medium

Lead Agency: City of Lincoln Department of Public works

Status: Not yet started, concept being evaluated.

Wastewater Collection System Monitoring

Description: Improve/expand monitoring capabilities of the wastewater collection system for the city.

Hazard(s) Addressed: Flooding

Estimated Cost: \$300,000

Potential Funding: City of Lincoln

Timeline: December of 2016

Priority: High

Lead Agency: City of Lincoln Department of Public works

Status: Scope of work being developed

Back-Flow Preventer Cost Share Program

Description: Establish a cost share program to assist home owners in vulnerable areas in the installation of backflow preventers on wastewater service lines. This would prevent wastewater from backing up into structures during flooding and high water events. Install in 200 houses at 5,000 each

Hazard(s) Addressed: Flooding

Estimated Cost: 25,000 to develop program, 1,000,000 to implement

Potential Funding: City of Lincoln

Timeline: December of 2017

Priority: Medium

Lead Agency: City of Lincoln Department of Public works

Status: Not yet started, concept being evaluated.

Develop Emergency Action Plans

Description: Develop emergency action plans for service divisions of Lincoln's Public Works Department. These plan would outline the response protocol employed during emergency events.

Hazard(s) Addressed: Flooding

Estimated Cost: \$10,000 - \$30,000 per service division (seven total divisions)

Potential Funding: City of Lincoln, Lancaster County

Timeline: 3 years

Priority: Medium

Lead Agency: City of Lincoln Department of Public works

Status: In progress

Channel Improvement

Description: Channel improvements project to correct the effects of channel constrictions near Cornhusker Highway. This project would involve 3 separate locations where the constriction of flow will be alleviated by increasing the width or the stream channel, creating a two stage channel which allows the smaller stream forming flow to meander within the larger flood channel. Other improvements would be to replace crossing structures with larger capacity structures. (DMR Master Plan, Section 8.4.1.1)

Hazard(s) Addressed: Flooding

Estimated Cost: \$8,304,000

Potential Funding: HMGP, PDM, FMA, City of Lincoln, LPS NRD

Timeline: Consideration pending the availability of funding

Priority: High

Lead Agency: City of Lincoln Public Works

Status: Not yet started

56th Street and Morton Channel Improvements

Description: The area of 56th Street/HWY 77, between Cornhusker and HWY 80 has a history of flooding, with numerous properties subject to damage. The City is pursuing channel and crossing improvements in the northern reaches of the area to increase channel capacity and reduce flood depths.

Hazard(s) Addressed: Flooding

Estimated Cost: \$3,260,000

Potential Funding: HMGP, City of Lincoln

Timeline: 5 years

Priority: High

Lead Agency: City of Lincoln Public Works

Status: Pending funding

Improve Drainage

Description: Project on N. 56th Street ditch in the vicinity of Fletcher Street. Adjacent business have been flooded two times (7/10/03 & 6/18/08)

Hazard(s) Addressed: Flooding

Estimated Cost: \$1,000,000

Potential Funding: HMGP, PDM, City of Lincoln, LPS NRD

Timeline: Consideration pending the availability of funding

Priority: High

Lead Agency: City of Lincoln Public Works

Status: Not yet started

Tree City USA

Description: Maintain participation in the Tree City USA program.

Hazard(s) Addressed: Tornado, Severe Thunderstorms, Severe Winter Storms

Estimated Cost: \$517,000 for tree care program

Potential Funding: City of Lincoln

Timeline: Ongoing

Priority: Medium

Lead Agency: City of Lincoln Parks and Recreation

Status: Lincoln has participated in the program for 38 years

Emergency Electrical Generator for Wastewater Treatment Plant

Description: Installation of emergency electrical generators at the Theresa Street Wastewater Treatment Plant to provide emergency backup power for wastewater treatment.

Hazard(s) Addressed: Flooding

Estimated Cost: \$250,000 design, \$1,008,000 construction

Potential Funding: HMGP, PDM, City of Lincoln, Lancaster County, State of Nebraska

Timeline: Timeline is currently under review

Priority: High

Lead Agency: City of Lincoln Department of Public Works (Waste Water)

Status: Scope of Services for an Emergency Preparedness Study for the City of Lincoln Department of Public Works & Utilities was prepared in 2014 and is under review

Levee at Theresa Street

Description: Installation of a levee around the Theresa Street Waste Water Treatment Plant to protect it from flooding from Salt Creek.

Hazard(s) Addressed: Flooding

Estimated Cost: \$250,000 design, \$1,008,000 construction

Potential Funding: City of Lincoln, Lancaster County

Timeline: 5 years

Priority: High

Lead Agency: City of Lincoln Department of Public Works (Waste Water)

Status: Not yet started

Complete a City Wide Master Plan to Prioritize All Flooding Related Projects

Description: Stormwater master plans can be conducted to perform a community-wide stormwater evaluation, identifying multiple problem areas, and potentially multiple drainage improvements for each.

Hazard(s) Addressed: Flooding

Estimated Cost: \$200,000 - \$300,000 per Basin or update

Potential Funding: City of Lincoln, Lancaster County, LPS NRD

Timeline: On-going

Priority: High

Lead Agency: City, NRD

Status: The City has completed plans examining different Watershed Basins within the city in recent years. Studies include (but are not limited to): Antelope Creek Basin Master Plan, Beal Slough Master Plan, Cardwell Master Plan, Deadman's Run Watershed Study, Haines Branch Master Plan, Little Salt Creek Master Plan, Middle Creek Master Plan, South Salt Creek Master Plan, Southeast Upper Salt Creek Master Plan, and Stevens Creek Master Plan)

Preserve Natural and Beneficial Functions

Description: Preserve natural and beneficial functions of floodplain land through measures such as: retaining natural vegetation, restoring streambeds, and preserving open space in the floodplain.

Hazard(s) Addressed: Flooding

Estimated Cost: \$100,000 - \$200,000 annually

Potential Funding: PDM, HMGP, CDBG, City of Lincoln, Lancaster County & LPSNRD

Timeline: On-Going

Priority: High

Lead Agency: City of Lincoln Public Works

Status: Have assisted in the purchase of several properties within the floodplain of Haines Branch

Adopt a No Adverse Impact approach to floodplain management

Description: Adopt a No Adverse Impact approach to floodplain management

Hazard(s) Addressed: Flooding

Estimated Cost: \$0

Potential Funding: N/A

Timeline: On-Going

Priority: High

Lead Agency: City of Lincoln Public Works

Status: Program On-Going

Utilize low impact development practices and green infrastructure to reduce flood risk

Description: Low impact development practices and green infrastructure can reduce runoff and result in a reduction in stormwater related flooding

Hazard(s) Addressed: Flooding

Estimated Cost: Varies

Potential Funding: City of Lincoln, Lancaster County & LPS NRD

Timeline: Ongoing: Community will implement projects as they are identified

Priority: High

Lead Agency: City of Lincoln Public Works

Status: Program On-going; City adopted Water Quality Standards which go into effect 2/2016