LPlan 2040

Lincoln/Lancaster County 2040 Comprehensive Plan

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LINCOLN MPO
METROPOLITAN PLANNING ORGANIZATION

LPlan 2040

Adopted October 25/ October 31, 2011

LPlan 2040 is the Lincoln-Lancaster County 2040 Comprehensive Plan. The Plan embodies Lincoln and Lancaster County's shared vision for the future, out to the year 2040. It outlines where, how and when the community intends to grow, how to preserve and enhance the things that make it special, and strategies for implementing the vision for how we will live, work, play and get around in the future.

LPlan 2040 was developed through a broad-based community input process that included the work of the LPlan Advisory Committee (LPAC), a 20-person citizen group appointed by the Mayor representing a broad range of interests in the City and County which included the nine members of the Lincoln-Lancaster County Planning Commission. LPAC members were as follows:

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LPAC met from June of 2010 through June of 2011. During the same time period, broad input was sought from the community, as well as from City-County departments and numerous other agencies and organizations. The technical elements of the Transportation chapter were developed with consulting assistance from LSA Associates, Inc.

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1 Vision & Plan

The LPlan 2040 Vision provides a broadly painted horizon for the community's future. The vision statements and goals describing the desired future condition provide guidance for individual land use decisions and other actions that collectively will determine the future of Lincoln and Lancaster County.

Introduction

The core promise embedded in LPlan 2040 is to maintain and enhance the health, safety and welfare of our community during times of change, to promote our ideals and values as changes occur, and to meet the needs of today without sacrificing the ability of future generations to meet their needs. LPlan 2040 is specific to Lincoln and Lancaster County and it recognizes the factors that make us unique. This Plan acknowledges the importance and interconnectedness of economic, environmental, and socio-cultural domains, and the ways in which technology and public policy are applied and affect outcomes in these domains. The Plan therefore is a combination of practicality and vision, and provides guidelines for sustaining the rich mosaic that now characterizes our growing community.

The Vision Statements that follow include goals that are worded as descriptions of the desired future conditions.

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Vision Statements

Lincoln and Lancaster County: One Community

Lincoln and Lancaster County contain a rich mosaic of households, living in a variety of urban and rural settings. But we share a common bond and work cooperatively to promote future growth that offers new opportunities for living and working while conserving our local environmental and cultural resources for future generations.

For a "good quality of life," a community has more than jobs, shelter, utilities and roads — there are numerous services, education, historic, natural and cultural resources that are fundamental to enriching lives.

*The following goals are based on this **One Community** statement:*

- All of the communities and people of Lancaster County work together to implement a common plan providing for mutual benefit.
- An important relationship exists between the urban, rural, and natural landscapes. Urban and rural development maximize the use of land in order to preserve agriculture and natural resources.
- Policies of managing urban growth, maintaining an "edge" between urban and rural land uses, and preserving prime agricultural land form a distinctive and attractive built environment for Lincoln and Lancaster County.
- Lincoln remains a unified community. The policies of a single public school district, drainage basin development, and provision of city utilities only within the city limits continue to be a positive influence and help shape the City for decades to come. These policies are sustained in order to preserve our ability to move forward as one community.

Quality of Life Assets

Lincoln and Lancaster County are home to many major assets that enhance the quality of life for all residents. However, access to our quality of life assets is impossible without adequate infrastructure. LPlan 2040 acknowledges this fact, and commits us to use access to quality of life assets as a decision-making criterion.

*The following goals are based on the **Quality of Life Assets** statement:*

- Preservation and enhancement of the many quality of life assets within the community continues. For a "good quality of life," a community has more than jobs, shelter, utilities and roads — there are numerous services, education, historic, natural and cultural resources that are fundamental to enriching lives. As the population continues to become more diverse, the richness and variety of Lincoln and Lancaster County's cultural assets will enrich the quality of life for all those living here.
- The community continues its commitment to strong, diverse neighborhoods. Neighborhoods remain one of Lincoln's great strengths and their conservation is fundamental to this plan. The health of Lincoln's varied neighborhoods and districts depends on implementing appropriate and individualized policies.
- LPlan 2040 is the basis for zoning and land development decisions. It guides decisions that will maintain the quality and character of the community's new and established neighborhoods.
- The community continues its commitment to a strong Downtown. A strong, vital Downtown provides a common center for all of Lincoln and Lancaster County and will be a catalyst for future growth. LPlan 2040 acknowledges Downtown's unique role and will guide decisions that will

maintain Downtown's vitality and enhance its contribution to the quality of life of all Lincoln and Lancaster County.

Economic Opportunity

Lincoln and Lancaster County must have a sustainable tax base to provide quality services to residents. LPlan 2040 recognizes that technological change and global economic forces have a direct impact on local employment and quality of life.

*The following goals are based on this **Economic Opportunity** statement:*

- Existing businesses flourish and there are opportunities for new businesses within Lincoln and the incorporated communities. The Plan provides new employment locations and supports retention of existing businesses.
- Residential, commercial, and industrial development takes place in the City of Lincoln and within incorporated towns. This ensures that there are convenient jobs and a healthy tax base to support public safety, infrastructure and other services within the communities. While location in the cities and towns of the county is a priority, unique site requirements of a business may necessitate consideration of other suitable and appropriate locations in the county.
- The community has adapted and thrives in an ever changing world economy. Reliable and affordable energy and utilities, along with a strong information technology infrastructure support business growth and the demands of a growing community. New technologies have led to new modes of living and working. A skilled and educated workforce continues to adapt to economic and cultural changes.

Downtown Lincoln — the Heart of our Community

Downtown Lincoln is the heart of our community, a unique common ground for all Lincoln and Lancaster County residents. It is also emerging as an attractive place to live, becoming an increasingly vibrant mixed use neighborhood. At the same time, Downtown Lincoln belongs to all residents of Nebraska because "downtown" is synonymous with the University of Nebraska, state government, and the State Capitol building. This state-wide ownership has strong economic implications. LPlan 2040 will ensure that downtown remains a special place.

*The following goals are based on this **Downtown Lincoln** statement:*

- Downtown Lincoln continues to serve as the heart of our community and is an asset for all Nebraska residents.
- Downtown Lincoln continues to serve its role as the central location for commerce, government, entertainment and the arts.
- Views to the State Capitol are preserved, as they have been in the past, as part of our community form.
- Downtown Lincoln is promoted as a vibrant mixed use neighborhood, offering choices for residential lifestyles and daily needs commerce in a walkable and bicycle-friendly environment.

Healthy Community

The interaction between people and their environments, natural as well as human-made, has re-emerged as a major public health issue. A healthy community is one that continuously creates and improves both its physical and social environments. It also provides easy access and connectivity to other communities - places where every person is free to make choices amid a variety of healthy, available, accessible, and affordable options. Since 1900, life expectancy in

the United States has increased by approximately 40 years. Only 7 of those years can be attributed to improvements in disease care; the rest are the result of improved prevention efforts and improved environmental conditions, including sanitation and water. Examining the interaction between health and the environment requires considering the effects of factors in the broad physical and social environments, which include housing, urban development, land use, transportation, industry, and agriculture.

*The following goals are based on this **Healthy Community** statement:*

- Urban design encourages walking and bicycling which improve environmental and physical health.
- Neighborhoods are friendly to pedestrians, children, bicycles, the elderly and people with disabilities.
- Redevelopment projects consider the use of existing infrastructure and buildings in their design.
- Mixed use communities that integrate a variety of housing types and commercial services and serve a variety of income levels allow people to live, work and shop within walking and biking distance.

Environmental Stewardship and Sustainability

LPlan 2040 commits Lincoln and Lancaster County to sustainable growth through preservation of unique and sensitive habitats and the encouragement of creative integration of natural systems into developments. The importance of building sustainable communities — communities that conserve and efficiently utilize our economic, social, and environmental resources so that the welfare of future generations is not compromised – has long been recognized. This concept has grown in importance with increased understanding of the limits to energy supplies and community resources, the likelihood that energy costs will continue to increase in the future, the climatic impacts of energy consumption, and the impacts on the physical and economic health of the community. LPlan 2040 describes a community that values natural and human resources, supports advances in technology, and encourages development that improves the health and quality of life of all citizens.

*The following goals are based on this **Environmental Stewardship and Sustainability** statement:*

- Natural and environmentally sensitive areas are preserved and thrive. Wetlands, native prairies, endangered species, and stream (riparian) corridors are preserved to ensure the ecological health of the community.
- Residents and visitors to the city and county enjoy an interconnected network of trails, parks, open space and natural resources called the Salt Valley Greenway that contributes to the community's unique sense of place.
- Natural features such as tree masses in areas for future development are integrated into new development to provide for green spaces within the built environment.
- Incentives are used to encourage more projects and neighborhoods that incorporate best practices for mixing uses and reducing vehicle trips, which will reduce energy demands and harmful emissions.
- Local food production is encouraged, building a stronger relationship between city and rural communities and greater security for our food supplies.
- Reduced energy consumption is encouraged in new building construction and in retrofitting existing buildings.

- Re-use, recycling, and conservation of natural resources and man-made materials are encouraged.
- Efforts are made to attract new and expanding industries that serve the emerging market for more sustainable products and services.

Interaction between LPlan 2040 and the Citizens

Although LPlan 2040 is intended primarily to guide the physical development of our community, the results of such development are ultimately felt by individuals and their families. The planning process aspires to make this interaction between people and their physical landscape one in which all facets of our community can prosper, not only economically, but also intellectually, aesthetically, and spiritually. LPlan 2040 seeks to accommodate and encourage the participation of all citizens of the city and county in the making of public policies to implement the visions of the community.

Comprehensive planning is a continuous process, requiring a continuing, equitable, and frequent interaction between governments and their constituencies.

*The following goals are based on this **Interaction between the Comprehensive Plan and the Citizens** statement:*

- The Comprehensive Plan continues to be updated regularly with extensive citizen participation.
- The Plan is a successful guide, shaping development, yet remaining responsive to changing conditions.

2040 and Beyond

LPlan 2040 is a vision for the next 30 years. However, it is also wise to envision our community beyond this point. Lincoln and Lancaster County will continue to grow over the next 50 years and the year 2060 will see a population of well over a half million people. The community in which these people live may be radically different from the one we experience today. Energy, food, and water are just a few of the necessities whose future abundance is not guaranteed. Development decisions made today will affect the choices available in the community of the future.

*The following goals are based on this **Vision for 2040 and Beyond**:*

- Greater Downtown and nodes and corridors incorporate a mix of uses that accommodate the daily needs of residents.
- Nodes and corridors with higher density are transit-oriented and have higher service levels.
- The economy provides opportunities for local food production and sales, renewable energy production, and the benefit of natural resources produced in the area and integrates them into the land use pattern.

Community Resiliency

A community should be prepared for the unforeseen. Natural or man-made disruptions to our way of life on a variety of scales are inevitable. Many of the greatest challenges facing Lincoln and Lancaster County will be due to widespread global/international pressures. The trend of global warming could lead to unfamiliar seasons with more severe weather and extremes from prolonged droughts to major flooding. Prices of fossil fuels will likely continue to be volatile based on increasing worldwide demand. Technological advances and urban policies should work together to prepare us to meet these challenges.

The following goals are based on this Vision for Community Resiliency:

- Raise public awareness of the impacts of global issues on the local environment and economy.
- Identify points of vulnerability based on different impact scenarios.
- Facilitate policies that support various means to make Lincoln and Lancaster County more resilient in the face of natural or man-made disruptions.
- Utilize technology to efficiently adapt to change based on the situation.

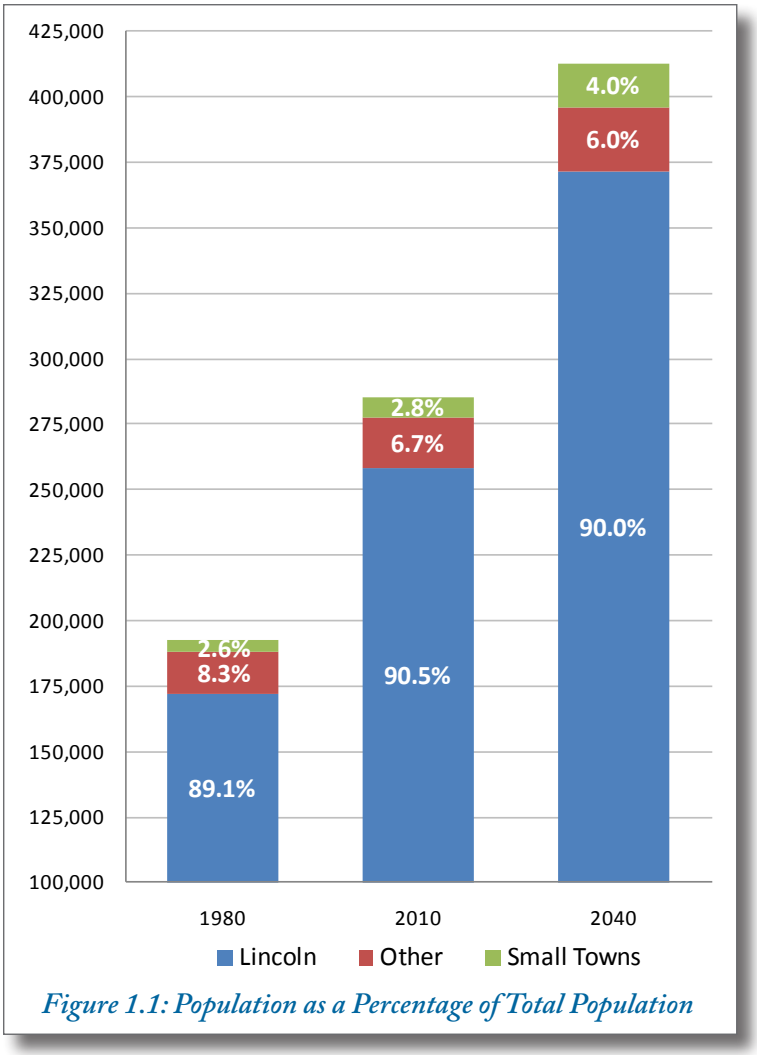


Figure 1.1: Population as a Percentage of Total Population

Implementation of the Vision

Summary of Comprehensive Plan Assumptions

These assumptions represent the agreement of the LPlan 2040 Advisory Committee which assisted in the development of LPlan 2040. The following assumptions guide the planning process for Lincoln and Lancaster County:

1. A City and County population growth rate of 1.2 percent per year was used for the 30 and 50 year planning periods. This adds approximately 126,000 persons to the current County population of 285,000 over the next thirty years and about 226,000 over the next fifty years.
2. The assumed County population distribution would remain ninety percent in the City of Lincoln, four percent in other incorporated towns and villages, and six percent on rural acreages, farms and unincorporated villages.
3. Approximately 52,100 dwelling units will need to be added in Lancaster County to support the additional population of 126,000 persons by 2040.
4. For transportation modeling purposes, an urban residential density factor of 3 dwelling units per gross acre was assumed for a majority of the designated future growth areas.
5. Approximately 16% of new dwelling units will be built within the existing City, with about 3,000 in the Downtown and Antelope Valley areas, 1,000 in existing neighborhoods, and 4,000 in mixed use redevelopment nodes and corridors.

Land Use Plan

The Vision is the basis for decision making within the community. The challenge is turning these statements and goals into reality. Implementing these guiding principles requires additional details that come in three distinct forms:

1. The principles and strategies found in this Plan
2. The land use relationships in the future land use plan
3. The direction and timing of future development projected by the future urban growth tiers

There is one land use plan for both the City of Lincoln and Lancaster County. This one land use plan is displayed in two figures for the purpose of providing greater clarity of display within the Lincoln urban area. The first figure displays the entire Lincoln/Lancaster County Future Land Use Plan. The second figure is an enlarged portion of the same plan, focused on the Lincoln urban area.

The future land use plan displays the generalized location of each land use. It is not intended to be used to determine the exact boundaries of each designation. The area of transition from one land use to another is often gradual. LPlan 2040 also encourages the integration of compatible land uses, rather than a strict segregation of different land uses.

The comprehensive plans adopted by surrounding towns and counties are listed in the *"Plan Realization"* chapter.

Timing: Future Growth Tier Map

Tier I, II and III

The Comprehensive Plan 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. Infrastructure planning, especially for water and sanitary sewer facilities is anticipated to reach beyond the 30 year time horizon to 50 years and further. Tier II shows areas where long term utility planning is occurring today. Tier II should remain in its current use in order to allow for future urban development. It also acts as a secondary reserve should Tier I develop faster than anticipated.

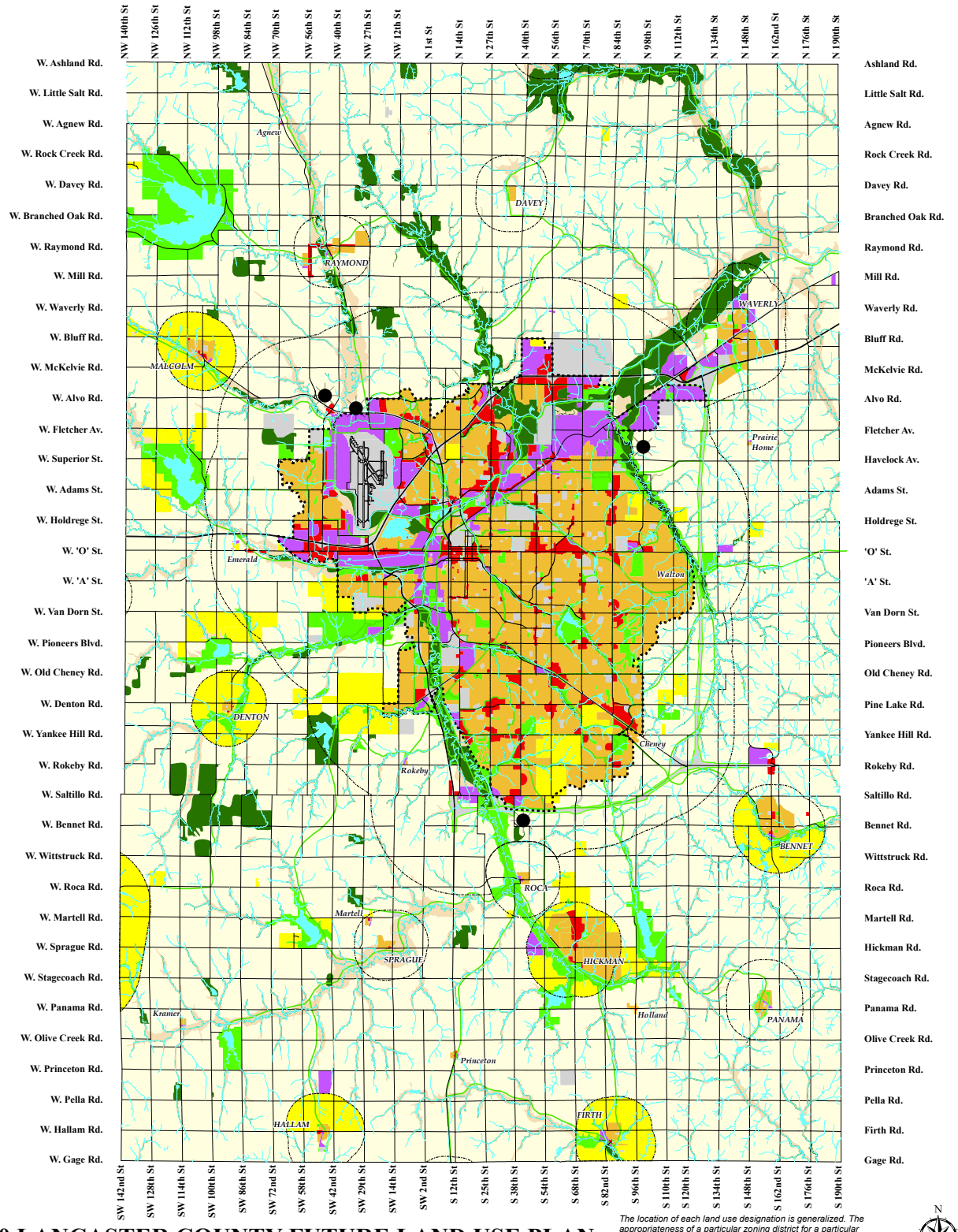
Tier III provides an approximately 131 square mile area for Lincoln's longer term growth potential – perhaps 50 years and beyond. Little active planning of utilities or service delivery is likely to occur in the near term in Tier III; however, it should also remain in its present use in order to be available for future urban development.

Subarea Planning Process

Subarea planning for neighborhoods or other small geographic areas can address issues at a more refined scale than can be included in LPlan 2040. Subarea plans may then become incorporated into LPlan 2040 through a formal adoption process. Subarea plans can serve as an official guide for elected decision makers, individuals and various City or County departments to promote improvements in areas such as land use, housing, transportation, parks and recreation, public safety, infrastructure and the built and natural environments.

Subarea planning for neighborhoods or other small geographic areas can address issues at a more refined scale than can be included in the Comprehensive Plan.

Subarea plans adopted as part of the Comprehensive Plan are discussed in the *Plan Realization* chapter.



2040 LANCASTER COUNTY FUTURE LAND USE PLAN

- Agricultural
- Residential - Urban Density
- Residential - Low Density
- Potential Large Employer Opportunity Areas
- Commercial
- Industrial
- Public & Semi-Public
- Agricultural Stream Corridor
- Green Space
- Environmental Resources
- Lakes & Streams
- ----- Future Service Limit

The location of each land use designation is generalized. The appropriateness of a particular zoning district for a particular piece of property will depend on a review of all of the elements of the Comprehensive Plan. Please consult other sources for exact locations of environmental resources such as wetlands, native prairie and floodplain. Not all of these resources are displayed on this figure.

The incorporated town plans are displayed on this figure. In many circumstances the land use categories in the town plans were different from the categories used in the Lincoln Lancaster County Plan, so some adjustments were made for the purposes of this display. These communities and their specific adopted plans should be consulted as the source for decisions within their zoning jurisdictions.

N W E S

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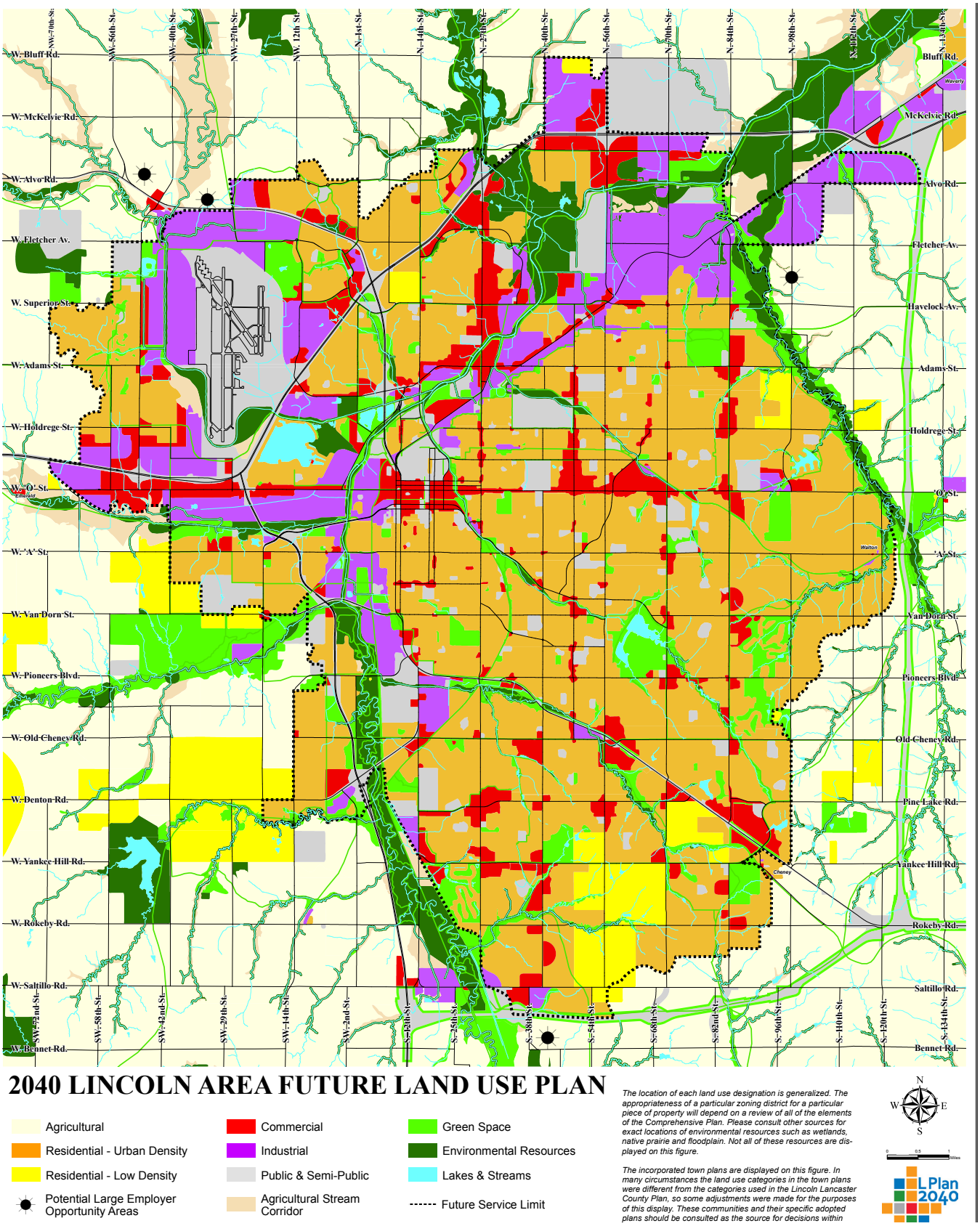
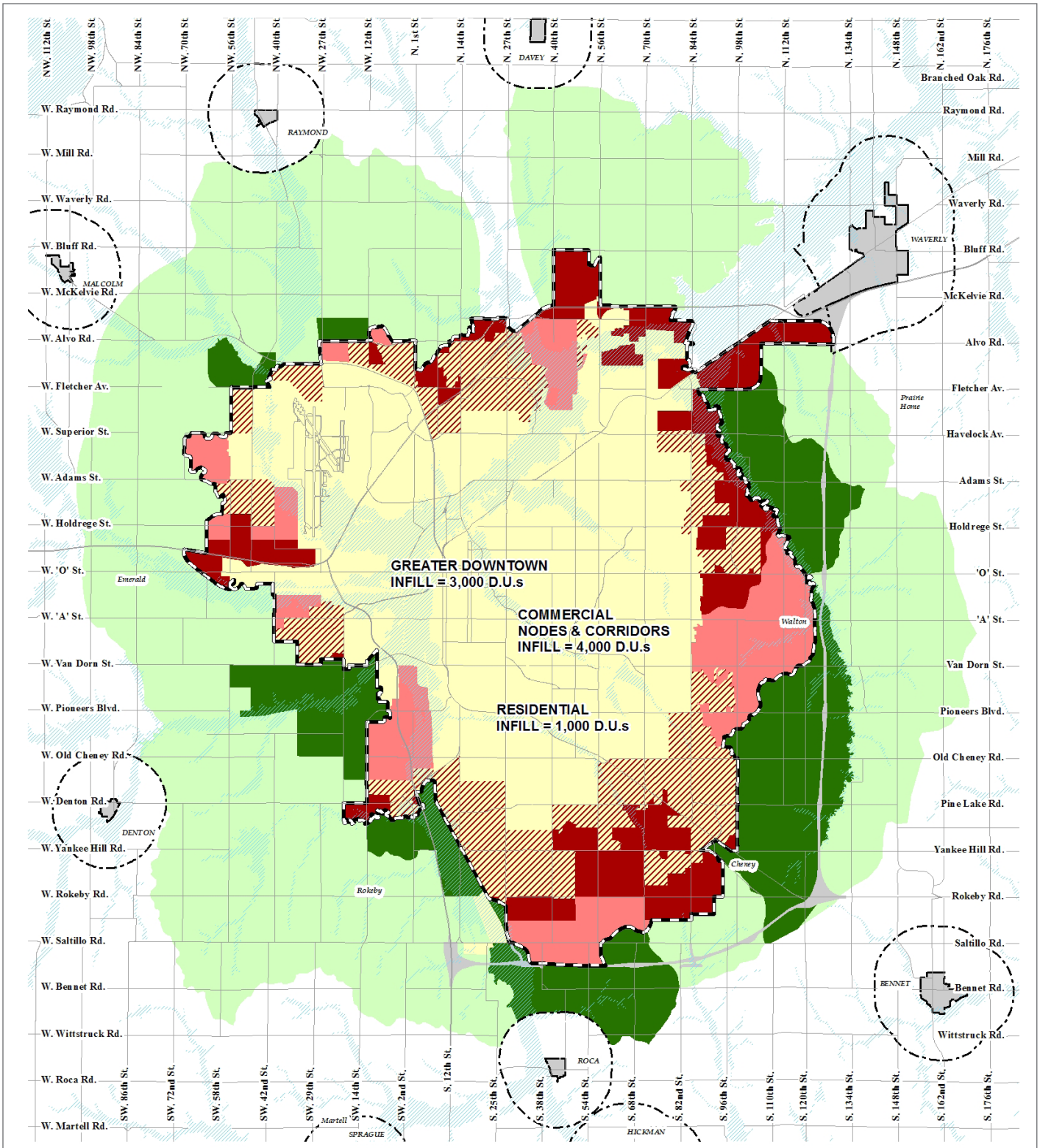
LPlan 2040

Map 1.1: Lancaster County Future Land Use Plan



Map 1.2: Lincoln Area Future Land Use Plan



2040 PRIORITY GROWTH AREAS

- Existing Lincoln City Limits and Approved Preliminary Plans (2011)
- Floodplain and Flood Prone Areas
- 2040 Future Service Limit
- Tier I, Priority A (Developing)
- Tier I, Priority B (2025)
- Tier I, Priority C (2040)
- Tier II (2060)
- Tier III

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Map 1.3: Growth Tiers with Priority Areas

LPlan 2040 Elements

LPlan 2040 for Lincoln and Lancaster County evaluates many different planning factors. These factors have been divided into chapters, summarized in the remainder of this chapter.

The Community

Introduces the reader to the community of Lincoln and Lancaster County: its history, place in the larger region, people, employment, and general urban and rural form. This chapter includes discussions on changing demographics, their possible effect on future development and the need for regional planning within the greater southeast Nebraska area.

Environmental Resources

Includes an outline of the guiding principles for environmental resources, a discussion of environmental resource features and a long range planning and implementation approach with associated strategies, entitled "The Greenprint Challenge."

Placemaking

Describes principles and strategies intended to preserve and enhance the community's unique character—its sense of place—through preservation of cultural and historic resources and focused attention to the quality of public and private development through urban design.

Business & Economy

Lays out the Plan's strategy for economic development and additional commercial and industrial activities. Different types of commercial and industrial centers are described in this chapter.

Mixed Use Redevelopment

Develops the strategy for mixed use redevelopment that strives for compatibility with surroundings while accomplishing various principles of the Plan.

Mixed use redevelopment focuses primarily on the Greater Downtown area and nodes and corridors identified elsewhere in the city for redevelopment.

Neighborhoods & Housing

Discusses the desired pattern of development in existing and developing neighborhoods and rural areas and describes strategies for meeting future housing demand.

Community Facilities

Reviews the projected status of community facilities such as libraries, fire services, law enforcement, health care, schools and public buildings and proposes a series of principles and strategies to meet the community's future health, safety and educational needs.

Parks, Recreation & Open Space

Describes principles and strategies for acquiring and managing parks, recreation and activity centers, open space, greenways, and other recreational facilities in the community.

Transportation

Examines multiple modes of travel and lays out the transportation vision to 2040 based on future land uses. This chapter is related to and consistent with the Lincoln Metropolitan Planning Organization's (MPO's) 2040 Long Range Transportation Plan, or LRTP.

Energy & Utilities

Examines energy and individual utilities including water, wastewater, watershed management, solid waste, electric services, information technology, and natural gas service.

Plan Realization

Explores the means for bringing about the Vision described throughout this Plan and ways to ensure that the community continues to view the Vision and the Plan as remaining current and pertinent.

2 The Community

This chapter introduces the reader to the community of Lincoln and Lancaster County: their history, place in the larger region, people, employment and general urban and rural form.

History

The City of Lincoln and Lancaster County lie within the Platte River Valley in southeastern Nebraska. A little more than 50 miles west of the Missouri River, the county's natural features are characterized by uplands, stream terraces, and bottom lands. The region was historically covered by native tallgrass prairie that served as home to buffalo, antelope, grassland birds, and many other smaller species of plants and animals.

The county's 846 square miles are situated mostly within the Salt Valley Basin. Native Americans and early settlers were attracted to the area by the natural forming salt flats. One of the region's earliest European settlers was Captain W.T. Donovan of the Crescent Salt Company. He named the settlement Lancaster after his home in Pennsylvania. "Lancaster" was later used to name both the county and the county seat in 1859.

When Nebraska became a State in 1867, one of the first tasks for the new government was to establish a capital city. A three member Capital Commission selected the hamlet of Lancaster as the new Nebraska capital on August 14, 1867. In a last minute effort to move the capital to

In this Chapter

History 2.1
The Region 2.2
The People 2.3
Employment 2.6
Community Form 2.6
2040 and Beyond 2.9

a location north of the Platte River, a State Senator from Omaha substituted the name "Lincoln" for "Capital City" in the final legislation. His hope was that by naming the new city after President Abraham Lincoln, post-Civil War bitterness might dissuade some Senators from voting for the site. The gambit failed and the name stuck.

Native Americans and early settlers were attracted to the area by the natural forming salt flats.

The Region

The City of Lincoln today serves as both the capital for the State of Nebraska and the seat of government for Lancaster County. The County's 285,407 residents comprise the second largest metropolitan area in the State. The Lincoln Metropolitan Statistical Area includes Lancaster and Seward counties and 302,157 people. The broad southeastern Nebraska region is home to over one million people, including the greater Omaha urban area to the east.

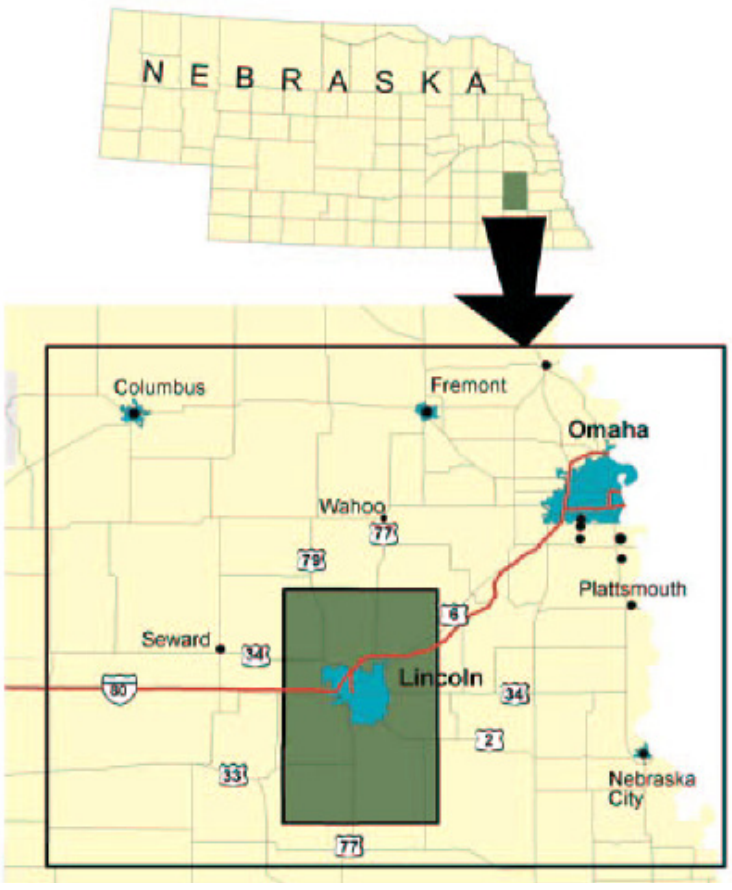

Figure 2.1: Lancaster County's Location in Nebraska

Southeastern Nebraska is experiencing a growing sense of social, cultural, and economic interdependence. The Interstate 80 corridor in particular offers a major link between the State's two largest urban areas and the region as a whole. Strengthening ties between the two cities and the surrounding rural communities is integral to the region's future success in providing employment, recreational, and other opportunities. The Nebraska Department of Economic Development established the Nebraska Innovation Zone Commission (NIZC), to advocate and recommend programs that encourage regional cooperation and foster community sustainability and economic development initiatives along the I-80 Corridor. The commission included 19 representatives from cities and counties, Natural Resource Districts (including Lincoln and Lancaster County) and educational institutions in the region. The commission began meeting in 2005 and finalized the *Phase I Study NIZC Regional Comprehensive Plan* in 2008 and the *NIZC Model Design Standards* in 2009. The NIZC plan does not envision wall-to-wall urbanization of the I-80 corridor between Lincoln and Omaha; instead it emphasizes the reinforcement of existing urban areas and preservation of the rural landscape character. The Phase I Study included a regional inventory, the identification of opportunities, principles to guide the region, and recommended development patterns. The Model Design Standards were developed based upon the principles identified in Phase I. They were intended as best management practices in the form of model standards that local governments could use to promote quality design, preserve natural features, and promote economic development along the I-80 corridor.

The Model Design Standards represented just one of a series of "next steps" envisioned by the Phase I study. As recognized by the NIZC, the achievement of the goals of the NIZC plan will require thoughtful

coordination. The NIZC plan is a good first step in this process. Planning and growth issues will need to be approached with care and respect individual jurisdictions. The communities involved need to reach a common understanding of the value to be placed on the region's natural, cultural, economic, and historic resources. Time will be needed to faithfully craft a long-term vision for regional planning and development along this corridor.

The City of Lincoln and Lancaster County are committed to further examining regional planning issues for southeastern Nebraska. Much public dialogue about the future of the region is needed if core planning issues and potential solutions are to be fully explored.

The People

LPlan 2040 embraces a growing, changing community. The Plan energetically recognizes the long term growth potential of the City of Lincoln and Lancaster County, and opportunities presented by the fundamental demographic changes in the community.

From a humble settlement with little more than 150 people in 1860, the County's population has prospered through good times and bad. The most recent decade witnessed a continuation of this pattern as the County gained over 35,000 new residents — from 250,291 in 2000 to 285,407 in 2010. This annualized growth rate of 1.3 percent during the 2000's was a slower pace than the 1990s, but still faster than the average decade of the past 100 years.

Lancaster County's population is assumed to reach over 412,000 persons by the year 2040 — that's almost 126,000 more people than the County's year 2010 population base of 285,407 persons. By the year 2060, the County's population is projected to reach 512,000 people, or almost 226,000 more people than reside in the county today. This growth is based on an assumed rate of 1.2 percent per year over the fifty year period, an assumption which is supported by three independent researchers.

Within this expanding population base, changes are also envisioned to occur in the community's demographic mix. Although no specific projections have been made, it is assumed that the city and county's future population will mirror several recent local and national trends.

The Krull house was built in the 1860s in Lancaster County between Roca and Sprague.

For example, within the planning period the community will witness further growth among existing racial and ethnic minority groups. Lincoln and Lancaster County have historically been home to a relatively small minority population. From less than 25,000 people in 2000, the number of minority residents in the County surged to almost 45,000 persons in the year 2010 Census. This increase was witnessed across all segments of the minority community – with notable growth occurring among Black/African Americans, Asians, "Other" racial groups, and persons of Hispanic origin. Immigration over the past two decades has also increased the number of eastern European and middle-eastern persons, groups that are more difficult to track because they are classified by the Census Bureau as white, non-Hispanic. Increases within the minority community — both in absolute numbers and as a percentage of the area's overall population – are anticipated to continue into the future. This trend is embraced by the LPlan 2040 Vision and is to be considered as the Plan's policies and programs are implemented.

From less than 25,000 people in 2000, the number of minority residents in the County surged to almost 45,000 persons in the year 2010 Census.

Lincoln's ethnic diversity is evident in several commercial districts in Lincoln. Most of these

commercial areas are small and serve the immediate neighborhood, providing a comfortable, familiar setting for new residents. North 27th Street is an example of a larger commercial district with many North African, Asian, Arabic and Hispanic businesses such as restaurants, clothing stores, groceries, auto sales and repair, and many other goods and services. The entire community benefits from the wide variety of cultural experiences provided by these centers.

A second demographic trend of significance is the continuing growth in the area's 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. This represents a projected annual growth rate of 2.96 percent, the highest among all age sectors. Issues relating to an aging population will increase in importance as more and more individuals reach the age of 65 and above. Housing preferences, discussed later in this section, may open a new market for high quality smaller homes, condos, accessory dwelling units and apartments. Communities such as Madison, Wisconsin, have also found a niche for older adults in their cultural and educational communities, with many seniors choosing to spend time experiencing the arts and expanding their knowledge through partnerships with the local colleges and university. Premium health care will continue to be a major attractor for this age group. New assisted living and nursing facilities will likely be needed as Baby Boomers move into their later years. Limited mobility may mean increased need for transit and other transportation alternatives. These issues and others are discussed in the *Living and Working in 2040* report developed in 2010.

Urban, Rural, and Village Growth

Since the 1960s, the City of Lincoln has made up about 90% of the County population, with the remaining population being divided between other towns in the County and the rural and unincorporated areas. This 10% of the County population has seen a shift over the years from about 2% in the incorporated towns and 8% on acreages and farms, to a current split of about 3% in towns and 7% in the unincorporated area. This plan assumes the shift will continue and that 4% of people will live in incorporate villages and cities by 2040, with the remaining 6% on acreages, farms and in the unincorporated villages in the County.

Population Density

Since about 1970, Lincoln's population density has remained relatively consistent at around 3,000 persons per square mile. Certainly within the urban fabric there are variations from this norm. Areas of residential concentration near the Downtown and many of Lincoln's older neighborhoods have levels of density greater than this average. Conversely, there are locations on the urban fringe with newer neighborhoods having population densities below this level.

Several factors may contribute to overall density that is greater than what is currently seen in the city. Demographic shifts may result in a change in future population densities. While many single families with children will likely desire suburban development similar to what is seen today, there are indications that other segments of the population may have different housing needs. The large increase in households with a head of household over the age of 65 may create a demand for smaller dwellings with smaller yards, multi-family units such as apartments, condos and townhouses, or assisted living facilities. Generation Y, the children of the Baby Boomers (those born between 1977 and 1994) also express a desire for a more urban setting that includes access to transit, proximity

to amenities such as shopping and dining, and smaller dwellings that don't require a great deal of time spent on maintenance. Studies of these two major population groups indicate future housing markets might call for more compact growth than what is seen in Lincoln today.

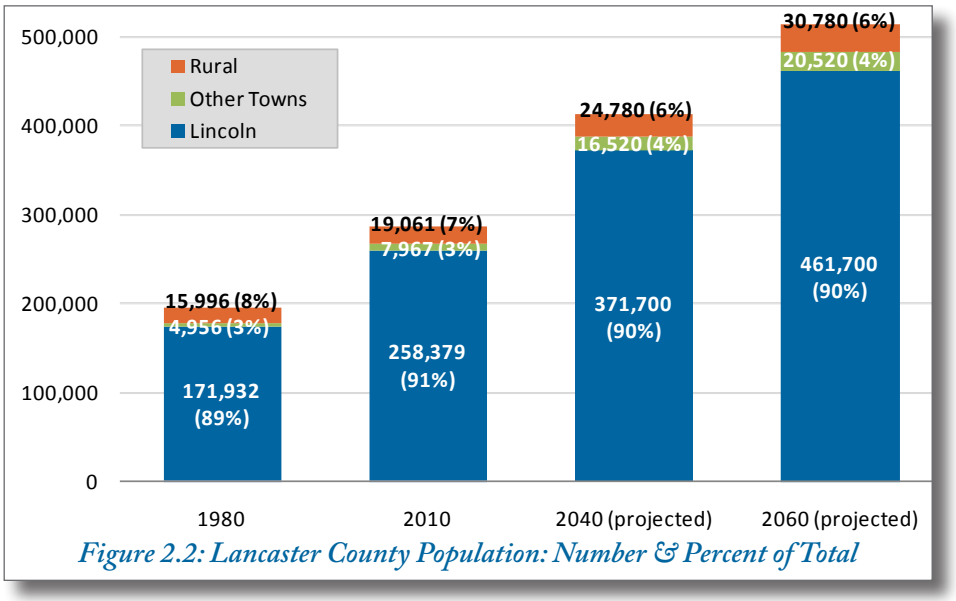

Figure 2.2: Lancaster County Population: Number & Percent of Total

An additional trend that has been observed and is anticipated to continue is a decrease in average household size. Since the 1940s household size in Lancaster County has been steadily falling, from over 3 persons per household in the 1940s, '50s and '60s to an estimated 2.40 in 2010. Projections indicate this trend will continue over the next 30 years, although household sizes will fall at a much more moderate pace to 2.35 in the year 2040. The decrease in household size may also indicate an inclination toward smaller houses and more multi-family housing.

A third trend which may have an impact, although probably smaller than the others already mentioned, is the increasingly diverse racial and ethnic mix experienced in the community. It is unclear what effect an increasing racial and ethnic diversity will have on the housing patterns of the community, but there may be new markets for housing products not currently familiar. Immigrants from all over the world may bring a desire for community form that more closely resembles their former homeland.

In addition, increased socioeconomic challenges may cause a desire for more affordable housing with greater access to alternative transportation and services closer at hand. The recent downturn in the economy has brought with it changes in home mortgage and bank lending practices, higher levels of unemployment, and diminished access to credit. Each of these factors may contribute to shifts in housing demand.

Due to the changes suggested by these trends, LPlan 2040 assumes an increase in the amount of infill and redevelopment, as well as the proportion of dwellings that will be multi-family (apartments, townhouses, condominiums, etc…) Sixteen and one half percent of future dwelling units are expected to be built within the existing built environment, as opposed to 4% as shown in the 2030 Comprehensive Plan. Of the total new dwelling units, 40% are expected to be multi-family and 60% single family (including duplexes).

The City of Lincoln and the University of Nebraska have undertaken several major efforts in the West Haymarket, Antelope Valley and Innovation Campus areas over the past decade that include and encourage the development of residential infill and redevelopment projects. An increase in redevelopment of underperforming or failing commercial areas is also encouraged in the Plan. These areas present opportunities for mixed use redevelopment to include retail, office, service and residential uses located near transit, trails and major arterials. A smaller amount of infill is anticipated in the neighborhoods on vacant lots and through accessory dwelling units. For further discussion, see the *"Neighborhoods & Housing"* chapter.

Sixteen and one half percent of future dwelling units are expected to be built within the existing built environment.

Employment

The quality of a community's future rests firmly with its ability to maintain and expand its economic foundation. In 2008, 207,845 people were employed in Lancaster County according to the Bureau of Economic Analysis. About 36,659 of these were self employed and/or employing other people. Lancaster County has added more than 11,000 jobs since 2000 at an average rate of 0.93 percent per year. In 2009, Lincoln had one of the lowest unemployment rates among metropolitan cities in the U.S.

Employment is divided into four major sectors: Business and Commerce, Government, Industrial, and Agricultural. The Business and Commerce sector has shown the most robust growth over the past decade, followed by the stable Government sector, and a declining Industrial sector. Agriculture is still a major factor in Lancaster County's economy with about 78% of the land area of the county being used for agricultural production. Niche farms have seen strong growth over the past decade and are expected to continue to grow as more local food is demanded by the growing population. For detailed information on past economic trends, please refer to the Annual *Community Indicators Report*.

The total employment in Lancaster County is projected to increase by 108,713 jobs to reach a total of 317,836 jobs in 2040. This reflects an average annual rate of growth of 1.41 percent. This rate of growth is higher than the current 1.26 percent per year. The projected rate of growth of employment is higher than the projected rate of growth of population due to individuals holding more than one job and the Lincoln metropolitan area attracting workers who live in other counties.

The Industrial sector, which showed a decline in the last decade, is projected to increase by about 0.98 percent per year. In this sector, employment in construction, manufacturing, trade, warehousing and transportation is expected to increase at more than 1 percent annually.

Industries	Jobs		Percent of Total		Growth Rate
	2010	2040	2010	2040	2040
Industrial	65,561	87,832	31.4%	27.6%	0.98%
Commerce	108,070	181,855	51.7%	57.2%	1.75%
Government	35,494	48,148	17.0%	15.1%	1.02%

Table 1.1: Lancaster County Jobs by Industry

The Government sector employment is projected to grow at 1.02 percent annually, similar to the projected population growth rate. This sector's share of the total employment will decrease from about 17 percent in 2010 to 15 percent in 2040.

The Business and Commerce sector is projected to be the fastest growing sector with an annual increase of 1.75 percent. This sector's share of total employment increases from about 53 percent in 2010 to 57 percent in 2040. Administrative and waste services, health care, social assistance, and accommodation and food services all show a growth rate of more than two percent annually.

Further details on employment projections are available in the *Living and Working in 2040* report.

Community Form

There is currently a very well defined community form in Lancaster County. The main land use in Lancaster County is agricultural. Of the approximately 846 square miles in the County, the Lincoln city limits cover only 92 square miles or just under 11% of the land, despite having 90 percent of the County population. The urban area has expanded in a contiguous pattern with well defined

edges between Lincoln and agricultural uses. The "leap-frog" development which is a common and dominating force in other metropolitan areas is absent here, and most urban development takes place in Lincoln or in the incorporated towns.

Guiding Principles for Community Form

The following guiding principles for the development of the rural and urban environment are further expanded upon within the various sections of the plan.

The Rural Environment

- Acknowledge the fundamental "Right to Farm." Preserve areas throughout the county for agricultural production by designating areas for rural residential development — thus limiting potential conflicts between farms and acreages.
- Ensure that acreage and rural development preserve and protect environmentally sensitive areas, and maximize the preservation of our nonrenewable resources, such as land and fossil fuels.
- Preserve areas for the future growth of incorporated towns in the county, including areas outside of the current one mile zoning jurisdiction of certain towns.
- Support new commercial, residential, and industrial development within the incorporated towns in the county.
- Provide for about four percent of the total population in the County in other incorporated towns, and six percent on acreages, farms, and unincorporated villages.

The Urban Environment

- Lincoln's future urban growth should generally occur in multiple directions around the existing city. Lincoln will continue to have managed and contiguous growth, including strengthening our Downtown core. Lincoln's sense of community has been based on incremental, compact growth built on the foundations of established neighborhoods. Future growth will continue this traditional pattern and be linked to both the level of demand in the market and to the orderly extension of public improvements and services. Lincoln will continue to contain approximately 90 percent of the County's population.
- The community's present infrastructure investment should be maximized by planning for well-designed and appropriately-placed residential and commercial development in areas with available capacity. This can be accomplished in many ways including encouraging appropriate new development on unused land in existing neighborhoods, redevelopment of underperforming commercial areas into mixed use redevelopment areas that include residential, retail, office and entertainment uses, and encouraging a greater amount of commercial space per acre and more dwelling units per acre in new neighborhoods.

- Develop sustainable practices such as those for building and site design to maximize the preservation of our nonrenewable resources, including land and fossil fuels.
- Near and long term growth areas for the City of Lincoln should be preserved in order to facilitate future urban development. Acreages will be directed to areas outside of the future urban growth areas, or designed to easily accommodate future "build-through" of urban services and densification, in order to minimize conflicts between urban and acreage uses and

so that the City may provide urban services as efficiently as possible.

- Preservation and renewal of historic buildings, districts, and landscapes is encouraged. Development and redevelopment should respect historical patterns, precedents, and boundaries in towns, cities and existing neighborhoods.
- Natural and environmentally sensitive areas should be preserved within and between neighborhoods. Conservation areas and open lands should be used to define and connect different neighborhoods. The natural topography and features of the land should be preserved by new development to maintain the natural drainageways and minimize land disturbance.
- Mixed use redevelopment, adaptive reuse, and well-designed and appropriately-placed infill development, including residential, commercial and retail uses, are encouraged. These uses may develop along transit routes, at major nodes, and near employment centers to provide residential opportunities for persons who do not want to or cannot drive an automobile.

Figure 2.3: Community Form Diagram

The accompanying image displays how these multiple development principles can be integrated. It includes principles such as:

1. Mix of office, retail and service uses
2. Floodplain preserved as open space, ballfields, trails, conservation areas
3. Natural and environmentally sensitive areas preserved, such as existing wetlands preserved & integrated into the development
4. Connected green space; encourage linear connected green spaces as much as possible
5. Transit stops integrated into commercial center, near arterial and near area of greater population
6. Mix of housing types — single family, townhomes, apartments, elderly housing — all within one area
7. Pedestrian orientation with parking at rear, multiple pedestrian routes, and buildings and uses close to each other
8. Transition of uses; less intense office uses near residential areas
9. Multiple vehicular connections between residential neighborhood and commercial center and multiple access points in and out of area
10. Public uses (such as elementary schools) serve as centers of neighborhood

2040 and Beyond

While couples will continue to marry, families will continue to grow and thrive, and newcomers will continue to seek opportunities, the population is expected to have a high percentage of elderly in the 20 years beyond 2040. During the same period that our school system is expected to serve twice the children that it does today, the two largest present-day generations will be older than the traditional retirement age. People will be living longer. Baby Boomers will be centenarians and Generation Y will be reaching their 70's and 80's by 2060. Largely due to the advancing age of these two key generations, we will likely see a continued increase in single person households, and increased pressure for special needs housing and a specialized service industry to cater to their needs in the 2040-2060 time frame.

Much of the housing stock that exists today will continue to serve future needs, and the preservation, maintenance, and rehabilitation of this housing stock should be a primary focus, but new options should be facilitated to meet the expected needs driven by the changing demographics of a county with over a half million people. A full range of housing options should be available for rental or ownership: single-family homes in new and older neighborhoods, single-family homes on small lots, accessory dwelling units, duplexes, townhomes, rowhouses, live/work units, apartments, condominiums, special needs housing, mixed use buildings, and downtown mid-rises. Within the existing city, vacant lots should be pursued for infill and existing apartment complexes encouraged to add more dwelling units if their sites allow. Greater Downtown should attract thousands of new residents, while "greyfields" — older commercial and industrial areas reaching obsolescence — should be converted to residential and mixed use.

More compact, dense development clusters allow for savings in public infrastructure cost and improved accessibility to jobs, goods and services. Denser mixed use nodes and corridors, designed for walkability and coupled with improved transit service, can improve the livability of the surrounding community as well.

The projections in this Plan for inward growth may prove to be conservative, if appropriate supports are set in place and successful models are demonstrated early in the planning period. Transit enhancements can both lead and follow redevelopment projects, forming a virtuous circle that can accelerate investments in both areas. Transit enhancements

will begin with increased level of service such as shorter wait times or longer hours in key corridors. Identifying specific routes for express service is another likely strategy. As development intensifies along major corridors, such as O Street, perhaps in the next 30 years and perhaps later, bus rapid transit that interconnects with other routes could be introduced.

Figure 2.4: Present Day Photo, Looking West along P Street at about 68th Street

Figure 2.5: An architect's depiction of the Mixed Use Redevelopment Nodes and Corridors Concept, Looking West along P Street at about 68th Street

3 Environmental Resources

This chapter includes an outline of the guiding principles for environmental resources, a discussion of environmental resource features and a long range planning and implementation approach with associated strategies, entitled "The Greenprint Challenge."

Introduction

Lancaster County is characterized by flat and rolling plains, sloping toward the east from a high elevation of 1,520 feet in the southwest, to its lowest point of 1,080 feet where Salt Creek exits the northeastern portion of the county. The Salt Creek basin defines most of the County's topography, with portions of the Middle Big Blue (southwest), Big Nemaha (southeast) and Little Nemaha (east) basins also entering the County borders.

Surface water flows in over 400 miles of warm water streams over the gentle slope, contributing to numerous ponds and lakes, including 16 major lakes between 20 and 1,800 acres each, most built in the 1960s by the Army Corps of Engineers. These lakes provide recreation and habitat to the people and animals of Lancaster County. Surface water is susceptible to pollution in the form of sedimentation and contamination from runoff. Fertilizers and sediment are the most common water quality problems in the County's streams and lakes. Agriculture, construction, and urban runoff are the primary sources of pollution. The *Watershed Management* division of Public Works and Utilities and the *Lower Platte South Natural Resource District (NRD)* partner to design management plans

In this Chapter

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Guiding Principles 3.3
The Greenprint Challenge: Overview 3.4
Environmental Resource Features and Strategies 3.6
Local Food 3.11
Greenways and Open Spaces 3.12
Unique Features 3.16

LPlan 2040 Vision for Environmental Stewardship

"LPlan 2040 commits Lincoln and Lancaster County to sustainable growth through preservation of unique and sensitive habitats, and the encouragement of creative integration of natural systems into developments."

LPlan 2040 Vision & Plan

that address both the quantity and quality of surface water.

Wildlife includes white-tailed deer, a wide variety of song birds, ground birds, and small mammals, migrating and resident water fowl, and a variety of fish species. Large mammals include predators such as fox, coyote, and bobcats. Many species such as raccoon, squirrel, and opossum are commonly seen in both urban and rural areas. Lancaster County is also home to several State and Federal threatened and endangered species which are discussed later in this chapter.

Ground water seeps into the ground and collects, is stored, and moves slowly through layers of soil. Groundwater is almost exclusively the source of drinking water in Lancaster County. Generally groundwater quality and quantity is higher in the southern portions of the County. Residential, agricultural, and industrial users outside the urbanized area obtain about 25% of the water used in the Dakota aquifer beneath Lancaster County. High salinity in the northern part of the county makes groundwater more difficult to acquire. Groundwater contamination includes infiltration of agricultural chemicals into supplies. Small areas of contamination, mostly in the urban area, have also been identified. The Lower Platte South NRD, Nebraska Department of Environmental Quality and other public and private non-profit entities work together in programs to cap abandoned wells, protect wellhead areas, and educate the public on proper use and disposal of potential contaminants.

The soils of Lancaster County are intimately tied to groundwater. Soils are widely varied in the County with the most common being the Sharpsburg, Wymore, Pawnee, Judson, and Kennebec soil series. Generally, soils north of Lincoln show higher infiltration rates, are able to hold more water, and are more likely to be saline. Soils to the south have slower infiltration rates and higher run-off potential. Soil erosion is a primary concern as agricultural production forms a major economic base for Lincoln and Lancaster County. Thirty-one percent of soils in the non-urbanized areas of Lancaster County are classified as Prime Farmland and are located primarily along streams and bottomland.

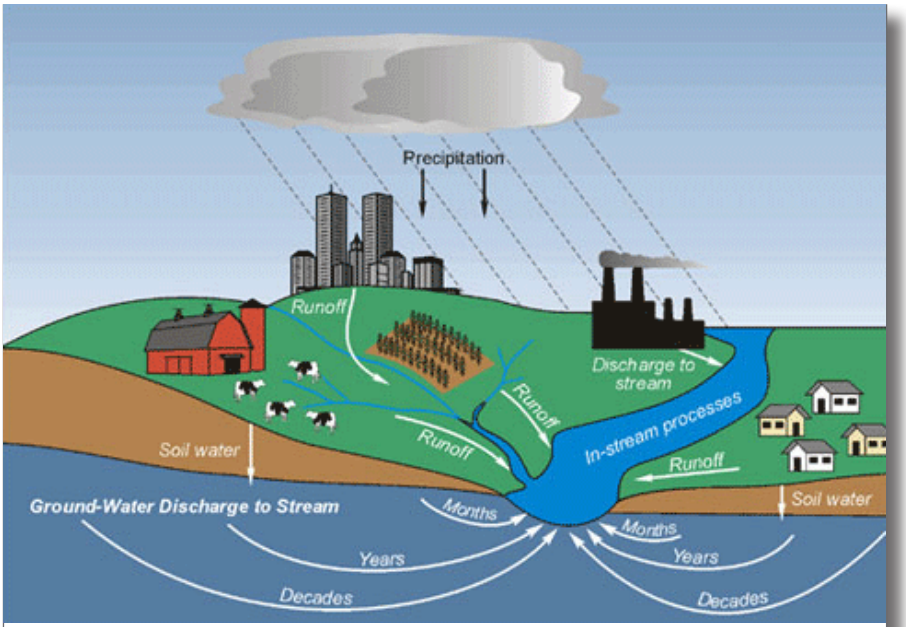


Figure 3.1: Model of the Water Cycle

Air quality in Lancaster County has historically been high. Lancaster County benefits from prevailing westerly winds and an extensive rural landscape between Lincoln and Denver, CO. The level of air pollution as measured against standards set by the US Environmental Protection Agency is low. The *Lincoln – Lancaster County Health Department* conducts regular air quality monitoring activities and provides up to date information on their website.

Guiding Principles

Maintain the Richness and Diversity of the County's Urban and Rural Environments

- Lancaster County boasts a diverse set of environmental resources and landscape types that should be respected and maintained.
- Lancaster County is home to a distinctive association of threatened and endangered species of plants and animals that represents a highly valued environmental legacy.
- Environmental resources reside within a broad range of settings that should be considered as policy and development decisions are made.

Be Broadly Inclusive

- The impact of the actions taken by the community extend beyond the borders of Lancaster County, and oftentimes influence the natural resource features of adjacent counties, states, nations, and the world.
- Urban and rural areas should receive equal priority in the planning process as the natural resource features are found throughout Lancaster County.
- Public-private alliances and partnerships should be built upon, with an emphasis on the natural resource features rather than the patterns of ownership or land use on which the features exist.
- The community should capitalize upon both the environmental and economic benefits that the natural resource features provide.
- Well managed environmental resources generate and reinforce business opportunities.

Focus Attention on Unique Landscapes

- Signature landscapes provide visual images of the community's natural and cultural history and serve as a reminder of the ecosystem that forms the community's urban and rural economic base.
- Signature landscapes will require thoughtful management if their long term viability is to be ensured.

Seek Early Identification of Areas to be Preserved

- While planning for future growth is integral to LPlan 2040, it is equally important that environmental resource features be accorded similar attention. The community should invest planning resources into the early identification of those areas that are most valued as part of the Greenprint Challenge. This principle supports the notion of "getting ahead of the game" by knowing what resources are most valued, where they are located, and what actions should be made within the broader planning process to secure their future for the community.

Obtain Reasonably Constrained Regulations

- Maintaining a balance between the natural and human built environment is always a delicate one. Planning policy and regulatory approaches employed in achieving the Plan's Vision and Greenprint Challenge should strive to be effective, tempered, pragmatic, circumscribed, and respectful of private property rights.

Well managed environmental resources generate and reinforce business opportunities.

Provide Biological Interconnection

- Plants and animals do not exist in isolation. They interact with each other and reside within an integrated habitat. Implementation of LPlan 2040 needs to respect biological connections that exist today and provide responsive means for maintaining those associations.

Promote Diversity of Vegetation

- Plants are a basic environmental building block. They provide habitat and food for animals, as well as aid in sustaining other vegetation that holds the soil and protects water quality. Maintaining a diverse range of plants ultimately supports a healthier environment for all plants and animals.

Make "Green Space" an Integral Part of All Environments

- "Green space" can come in a wide variety of forms. The policies of LPlan 2040 should strive to incorporate such uses in the full range of urban and rural landscapes.

Prevent the Creation of a "Wall-to-Wall City" through the Use of Green Space Partitions

- As cities and villages expand, establishing corridors and districts of green should be part of the growth process. This often requires the advance delineation of these areas and the means for securing their ongoing protection and maintenance.

Establish Effective Incentives for Natural Resource Feature Preservation

- Securing the long term permanence of green space is a basic dilemma in natural resources planning. The use of "green space development incentives" (e.g., setting aside non-buildable areas, creating green space preserves, density bonuses) should be a primary consideration in implementing this Plan.

The Greenprint Challenge: Overview

In 2001 the City of Lincoln and Lancaster County Planning Department, in close cooperation with the Lincoln Parks and Recreation Department and the Lower Platte South Natural Resource District, initiated the development of a "Greenprint" for Lancaster County: a vision and detailed model for how natural and cultural features can be effectively maintained and can exist harmoniously with economic vitality and community growth. Through extensive participation of the University of Nebraska-Lincoln faculty and staff from the Nebraska Game and Parks Commission, the *Greenprint Challenge* was formed.

The purpose of the Greenprint Challenge is to assure the long term health and integrity of the ecosystem upon which Lancaster County is superimposed, and to capture the community-wide quality of life and economic benefits that can be derived from the area's environmental resource features. The "Challenge" reflects a demanding character associated with pursuing a truly broad community vision requiring marshaling of public and private forces based upon the prospects of long-term results.

Proper land use planning and plan implementation can aid in maintaining a healthy natural environment. While ultimately focusing on three "Core Resource Imperatives" — Saline and Freshwater Wetlands; Native Prairies; and Riparian,

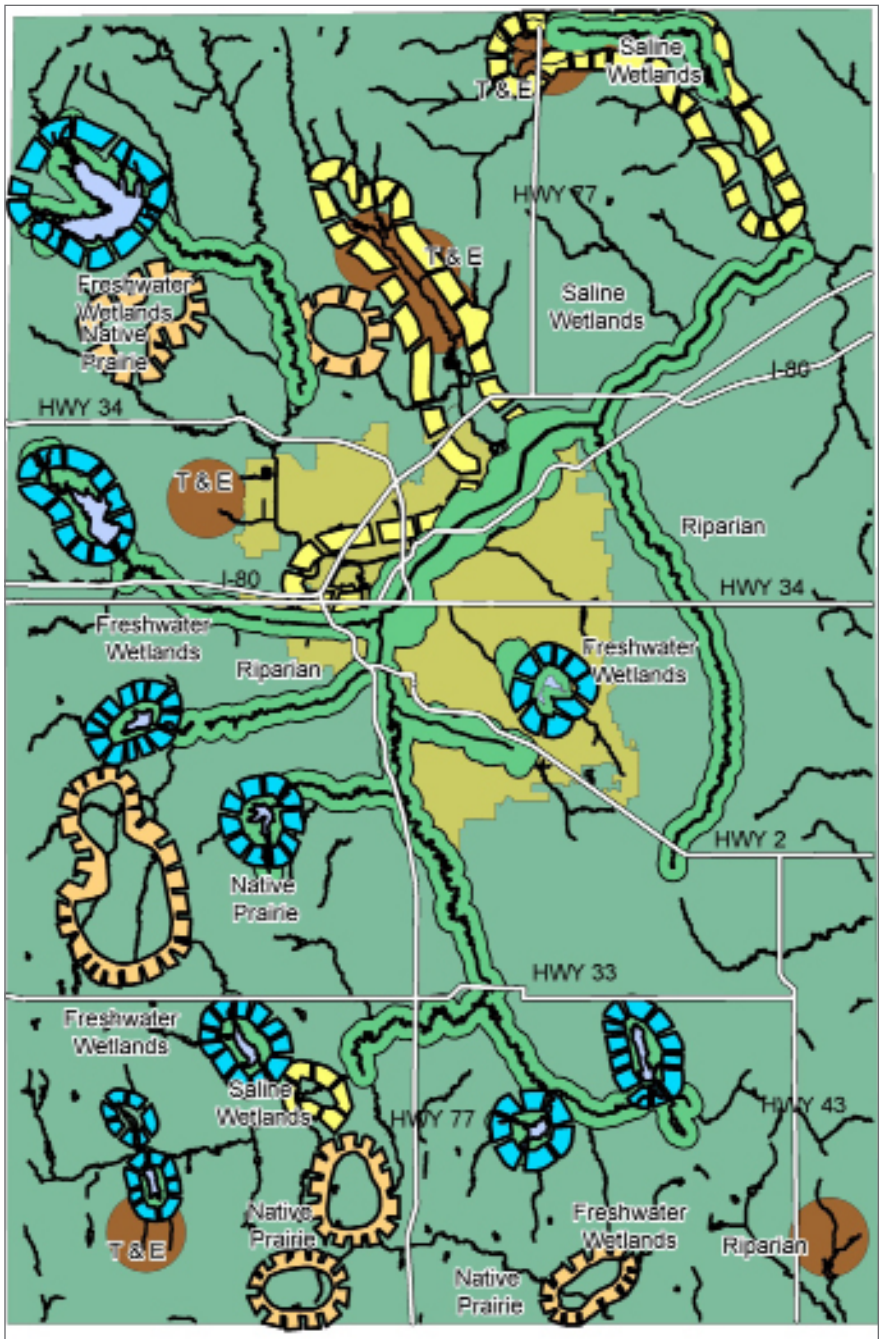
Floodplains and Stream Corridors — the Greenprint Challenge offers a basis within which crucial planning decisions concerning the wide range of environmental resource features can be effectively pursued. The Greenprint Challenge Composite Map highlights these Core Resource Imperatives together with Threatened and Endangered ("T & E") species.

Greenprint Challenge Implementation

The Greenprint Challenge Report, August, 2001, includes several implementation concepts to guide the completion of the natural resource feature strategies listed above. Many of these implementation concepts have been followed in the development of this and previous plans. Some are still yet to be accomplished. As future plans are developed, the Greenprint Challenge will continue to act as a guidepost in the process.

Implementation Strategies for the Greenprint Challenge

- Integrate the natural resource feature concepts into future planning activities such as zoning and subdivision review, watershed master planning, subarea planning, transportation and utility planning, and floodplain management studies.
- Pursue a variety of funding and financing options on a continuing basis. These may include establishment of a land trust to enable donations of land, capital improvements programming providing for further acquisition of park property and natural areas, and grant funding from such sources as the Land and Water Conservation Fund, various floodplain and water quality funding programs, and the Nebraska Environmental Trust.
- Conduct outreach efforts bringing together private land owners, environmental interests, and the development community to seek a common understanding and approach regarding natural resource features and the vision described in this Plan.
- Identify and foster partnerships to maintain and operate parks, recreation programs and natural areas in the county. This structure may involve



Map 3.1: Greenprint Challenge Composite Map

existing agencies, reflecting a modification in current responsibilities and authorities. The entity should have clear responsibility to act both inside and outside the City of Lincoln and its extra-territorial limits.

Environmental Resource Features and Strategies

As an LPlan 2040 land use category, "environmental resources" represent an important part of today's urban and rural landscapes. Such features need to be valued and sustained as part of the overall planning process if they are to remain as vital parts of the natural heritage left for succeeding generations. These features help to define the County's unique sense of place — geographically, culturally, and temporally. The Plan fully recognizes the harmony and connections that exist within and among these features.

Thirteen separate environmental resource features are recognized in the Plan. The Greenprint Challenge map displays generalized locations within the county in which these resources categories may be found. For a more detailed map, the *Natural Resources Geographic Information System (NRGIS)* map can be accessed, and categories can be toggled off and on to view their location. A brief description of each of the Plan's environmental resource features and specific strategies for protecting these features is provided below.

Native Prairie

This feature refers to the tallgrass prairie areas that are dominated by big bluestem, little bluestem, indiangrass, and sideoats grama grass species. Numerous wildflowers and forbs are also found in these prairies, including golden rod, purple coneflower, purple prairie clover, and black-eyed susan. Though historically they were the region's prevailing natural condition, native prairies are an increasingly rare feature on the Nebraska landscape. Lancaster County is fortunate to have about 8,640 acres of native prairie remaining, mainly in the west central portion of the county, although they are scattered throughout the county in patches of land that must remain whole if their integrity as a natural resource feature is to continue. Nine Mile Prairie, Pioneers Park and Spring Creek Prairie are three of the larger massings of native grasslands in the county.

Strategies for Native Prairie

- Develop planning guidelines, management techniques and supporting policies for preserving native prairies and grassland. For example, these areas remain healthiest when periodic burning is done to support plant regeneration. Notification to adjacent property owners of possible burnings and smoke occurrences must occur as title to property changes. Research into such issues should examine how the implementation of necessary management guidelines can best occur; particularly options for balancing the inherent needs of natural resources features (such as grasslands) with those of surrounding properties.
- Acquire buffer areas around prairies and other natural areas for management and resource protection.
- Investigate means for encouraging native prairie restoration by private entities.
- Utilize the University of Nebraska Center for Grassland Studies in assessing alternatives for grassland preservation and restoration.
- Resurvey and update the County's prairie and grassland inventory for inclusion in the Natural Resources Geographic Information Systems (NRGIS).

Freshwater Wetlands

This feature refers to areas that have hydric (i.e., water-bearing) soils, are frequently if not regularly moist, and are home to water tolerant plants. These types of wetlands are distinguished from "saline wetlands" by the lack of salt in the water that keep them wet. Freshwater wetlands are more prevalent in the county than are saline wetlands; however, they provide important water quality and habitat functions. The use of many freshwater and saline wetlands are regulated under Section 404 of the Federal Clean Water Act.

Strategies for Freshwater Wetlands

- Pursue stormwater management practices that consider both water quality and quantity approaches near freshwater wetlands. Buffer areas should be encouraged at their perimeters to decrease the effects of adjacent future uses.

Saline Wetlands

This feature refers to those locations in the county where wetlands having a high salt content can be found. These wetlands played a large part in the founding of Lancaster County, as settlers were attracted by the salt deposits. Saline wetlands have four distinguishing characteristics: a type of soil usually associated with damp or soggy areas; the presence of water during most of the year; a high occurrence of saline (otherwise known as salt); and plants that are adapted to wet, salty soils. Eastern Nebraska saline wetlands are rare, with perhaps 1,400 acres remaining in the county. They tend to be found along Little Salt Creek and Rock Creek to the north and northeast of Lincoln. They provide habitat to a number of threatened and endangered species of plants and animals — the Salt Creek tiger beetle and the saltwort plant in particular.

The Saline Wetlands Conservation Partnership (SWCP) was established in 2002. The partners include the City of Lincoln, Lancaster County, Lower Platte South Natural Resources District, the Nebraska Game and Parks Commission, and the Nature Conservancy.

The *Implementation Plan for the Conservation of Nebraska's Eastern Saline Wetlands* was completed in 2003. This plan seeks a partnership approach to address the conservation of saline wetlands and the needs of the community. The goal is "No net loss of saline wetlands and their associated functions with a long-term gain in sustaining wetland functions through the restoration of hydrology, prescribed wetland management, and watershed protection."

Strategies for Saline Wetlands

- Continue the efforts of the Saline Wetlands Conservation Partnership to execute the Implementation Plan for the Conservation of Nebraska's Eastern Saline Wetlands.
- Provide appropriate incentives — in addition to regulatory mechanisms such as the Federal Section 404 process — to encourage landowners to preserve saline and freshwater wetlands. Incentives to be used or considered further include:
  - Special density credits or bonuses within a Community Unit Plan for wetland conservation.
  - Transfer of development rights.
  - Utilize these areas for wetland bank mitigation.
  - Technical assistance for wetland preservation and enhancement.
  - Conservation easements with tax incentives.
  - Fee simple purchase of land for preservation.
- Research and seek implementation of procedures for managing lands containing and

near to saline wetlands. It would be desirable for this research to be conducted at the watershed level to provide a broad perspective of how area-wide development will interact with this natural resource. A special treatment buffer along the perimeter of saline wetlands could reduce the impact of increased runoff, sedimentation, and other pollutants. Such buffers could also serve to provide support for the preservation of habitat areas for the county's threatened and endangered species.

Threatened and Endangered Species

This feature refers to those plant and animal species whose continued existence have been identified by Federal and/or State officials as being threatened or endangered. In Lancaster County these include the Salt Creek tiger beetle (State and Federal Endangered), Western Prairie Fringed Orchid (State and Federal Threatened), Saltwort or Western Glasswort (State Endangered), Least Bittern (State Threatened), and the Massasauga Rattle Snake (State Threatened). Other vulnerable species having habitat or that have historically been found in Lancaster County include the Bald Eagle (State and Federal Threatened), River Otter (State Threatened), Small White Lady's Finger Orchid (State Threatened), Topeka Shiner (State and Federal Endangered), and American Burying Beetle (State and Federal Threatened).

A final rule designating critical habitat for the Salt Creek tiger beetle was made in 2010, and a recovery outline was completed by the U.S. Fish and Wildlife Service. The Nebraska Game and Parks Commission is initiating a Habitat Conservation Plan for the Salt Creek tiger beetle with a completion goal of 2013.

Strategies for Threatened and Endangered Species

- In conjunction with the Habitat Conservation Plan research continues into the conservation of Nebraska's eastern saline wetlands, which will enhance Salt Creek tiger beetle habitat. This will continue to include authorizing or soliciting funding for hydrology or hydrogeology research of the habitat area, determining basin-wide impacts of land use and human activities on the wetlands, characterizing the tiger beetle's biology and habitat, and assessing the economic impacts of potential management efforts.
- Continue cooperation between public and private entities to protect habitat for threatened and endangered species. Current efforts include those of the Saline Wetlands Conservation Partnership, the USDA Natural Resource Conservation Service, the Nature Conservancy, Nebraska Audubon, and others.
- Landowners with saline wetlands and within the 500-foot buffer zones should be offered assistance concerning programs to preserve and protect wetlands and transition lands occurring on private property.
- Continue to investigate incentives allowing land owners to pursue voluntary purchases, conservation easements, transfer of development right (TDR) or other similar preservation options.
- Continue to explore grant opportunities for saline wetland preservation and enhancement.
- Continue the public education effort to raise awareness of the Salt Creek tiger beetle and its unique habitat.

Basins and Streams

This feature refers to the region's watersheds and the waterways they produce. These areas are demarcated by ridge lines that define the top of each basin. The majority of the county falls within the Salt Creek Basin with its numerous tributaries to Salt Creek forming smaller watersheds or sub-basins. A portion of the county in the extreme southeast also drains to the Nemaha River Basin The Watershed Management section of the *"Energy & Utilities"* chapter further describes the Salt Creek and associated sub-basins and the management plans being created for them.

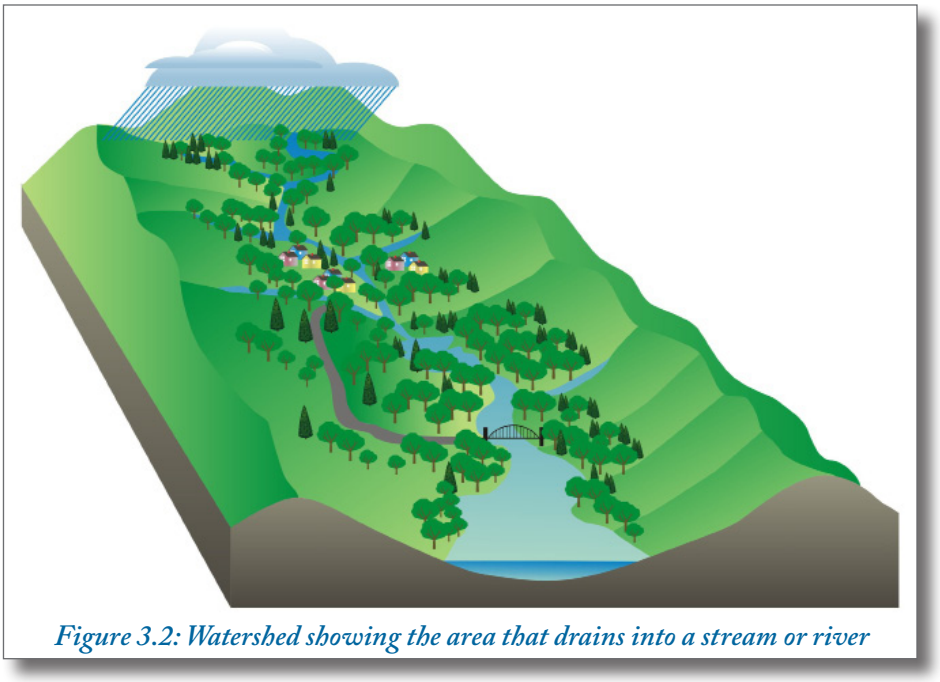


Figure 3.2: Watershed showing the area that drains into a stream or river

Floodplains

This feature refers to land that is susceptible to flooding or that has flood prone soils. Approximately 13.8% of Lancaster County is covered by floodplains. Floodplains provide multiple benefits to both the natural (flood storage, habitat, water quality) and built (recreation, public health and safety, economic) environments. The overriding policy for the floodplain is a "No Adverse Impact" policy for the City and County, which means that the community has a goal of insuring that the action of one property owner does not adversely impact the flooding risk for other properties.

Further discussion of floodplain and stormwater management considerations and strategies can be found in the Watershed Management section of the *"Energy & Utilities"* chapter.

Strategies for Floodplains

- Designate areas for future urban development outside of the floodplain and floodway.
- Preserve and enhance vegetative buffers along stream corridors and other natural functions of the floodplain.
- Implement a "*Rain to Recreation*" watershed approach to reduce flood damages, protect water quality and natural areas, while providing for recreational and educational opportunities so as to realize multiple benefits.

Approximately 13.8% of Lancaster County is covered by floodplains.

Riparian Areas

This feature refers to spaces immediately adjacent to water courses on each side of a stream. They are most often located in the floodplain. They frequently contain a large amount of woody vegetation. Riparian areas can serve as linear connections between natural and built areas, as well as boundaries and edges to a variety of adjacent land uses. They offer numerous benefits including flood storage, stormwater conveyance, wildlife habitat, recreation, visual appeal, and shaded areas.

Strategies for Riparian Areas

- Buffer areas should be sought along stream corridors with significant natural values worthy of continued preservation, and/or to decrease impacts from adjacent future land uses; considerations may include natural areas protection and/or stormwater management.

Parks, Trail Corridors and Other Recreational Areas

While LPlan 2040 recognizes parks, trails, and recreational areas as a separate, distinctive land use category, they are an important part of the overall county's natural resource base. They include a diverse collection of sites and facilities owned, managed, and maintained by public entities and accessible to the general community. They accommodate a variety of recreational uses including passive and active recreation, hunting, fishing, and boating. Further discussion of specific greenways and corridors follows in this chapter. The County Trails map can be viewed in the *"Transportation"* chapter of this plan. For continued discussion on other parks and recreation facilities, please see the *"Parks, Recreation & Open Space"* chapter.

Strategies for Parks, Trail Corridors and Other Recreational Areas

- Pursue the active coordination of all future trail network extensions and enhancements. The urban network of trails should connect employment centers, shopping areas, schools, and residential neighborhoods. Trails should be an integral part of the community's green spaces and corridors. (See *"Transportation"* chapter)
- Seek establishment of trail easements or comparable options along selected county roads. (See *"Transportation"* chapter of the Plan.)
- Monitor rail lines which may be abandoned in the future for acquisition as trails as part of an overall open space and recreation system for the county.
- Seek opportunities to incorporate scenic views, corridors and natural areas into parks, trails, and other recreational facilities.

Urban Forest

This feature refers to the trees and other woody plants that have been planted or grow naturally within the communities in Lancaster County. Though many may not consider the urban forest to be part of the natural environment, it represents a significant community investment — exemplified in Lincoln being a "Tree City" — with its elimination or neglect having substantially detrimental consequences. The urban forest is more thoroughly discussed in the *"Parks, Recreation & Open Space"* chapter.

Strategies for the Urban Forest

- Further the continued development of the urban forest through design standards and other current planning mechanisms.

Woodlands

This feature refers to the County's natural wooded areas, especially those exhibiting bur oak/hickory associations. Woodlands in this context exclude the numerous stands of tress dominated by elm species, red cedar, mulberry, etc. This feature is also distinct from the riparian areas discussed earlier in this chapter.

Strategies for Woodlands

- Preserve existing tree masses as much as possible by integrating them into future development plans.

Agricultural Lands

This feature refers to land — about 78.5 percent of the county — utilized for growing crops, raising livestock, or producing other agricultural products. Though agricultural activity is identified as a separate land use category in LPlan 2040, agricultural land does constitute a distinctive natural resource feature as well. These lands are an integral element in the natural landscape providing habitat as well as being a basic element of the County's historic signature landscape. More information about agricultural areas can be found in the *"Neighborhoods & Housing"* chapter of this Plan.

Strategies for Agricultural Lands

- Preserve agricultural land within the Tier I and Tier II areas, both to reduce conflicts in the future growth of Lincoln and to ensure available land for the production of food products that are important to the health and economic vitality of the community.

Cultural and Historic Landscapes

This feature refers to places that are significant because of their unique character, because significant activities or events occurred at those sites, or because persons who have had a significant impact on culture are associated with the sites. Cultural and historic landscapes are also considered in the *"Placemaking"* chapter, because they individually and collectively add value to the community's sense of place and hold an important place in affirming memorable images of the County's heritage. Further discussion of cultural and historic resources can be found in the *"Placemaking"* chapter.

Strategies for Cultural and Historic Landscapes

- Document historic, cultural and archeological sites throughout the city and county.

Views and Vistas

This feature refers to important or unique natural resources, places, structures, and landmarks. The views of these features can be from nearby or afar. Vistas refer to areas that afford significant views. Views and vistas, such as those to the State Capitol, provide key points of reference and help create the County's signature landscape. The Capitol View Corridors are also more thoroughly described in the *"Placemaking"* chapter.

Strategies for Views and Vistas

- Investigate the availability for preservation of several locations in the county that offer distinguished views and vistas. These could be acquired through fee simple title or easements. Many of these locations may be appropriate for public ownership as future parks or open space. Efforts should be made to acquire these parcels should they become available.

Local Food

A topic that has become increasingly important since the Greenprint Challenge was developed is that of local foods. The local food movement was born of a desire to provide a secure source of nutritious food that has a reduced impact on the environment and increased benefit to the health of consumers. Many urban areas have few sources of fresh produce, meats and dairy products; and many consumers must rely upon convenience foods and fast food restaurants. Food that is transported over great distances, sometimes from other

continents, consumes a great deal of energy in that transport and produces a corresponding amount of greenhouse gases.

Production of food closer to the urban center, if not within it, reduces the distance food must be transported, increases the freshness of food available, supports the local agricultural economy, and provides nutritious food to those who might not otherwise be able to obtain it.

Local food may be produced in the rural area of the county, or counties nearby; or it may also be produced within the urban area itself. In any case, the preservation of land for food production both nearby and within the city is integral to local food opportunities. Prime farmland within the county should be preserved for its agricultural value as well as potential for food production. Within the city, community gardens, bee keeping, chicken coops, farmer's markets and local cooperative markets are all important links in the local food chain.

Building a strong local food network takes the cooperation of both public and private sectors. Organizations such as Community Crops, Nebraska Food Cooperative and the University of Nebraska Extension Service have been at the forefront in the provision of local food program support.

Strategies for Local Food

- Continue to promote the preservation of prime farmland in the rural areas of the county.
- Continue to promote public-private partnerships that build stronger food networks and promote urban agriculture.
- Promote more community gardens.
- Allow community gardens in all zoning districts at appropriate locations and with appropriate standards.
- Encourage backyard gardens, edible landscaping and urban orchards.
- Provide the opportunity for community garden space on public land such as in public parks and rights-of-way.
- Encourage increased points of sale of local foods.

Greenways and Open Spaces

Open space and greenway linkages form systems of land preserved in an undeveloped state, often due to unique natural attributes such as floodplains and associated riparian areas, saline and freshwater wetlands, and native prairies. The local and regional commuter and recreational trail system is often integrated with greenway linkages.

The geography of Lancaster County presents unique opportunities for creating open space and greenway linkages that can connect neighborhoods as well as rural and urban areas, while creating buffers that provide relief from a wall-to-wall city. The Salt Valley drainage basin which dominates the county and wraps around the City of Lincoln, is fed by numerous tributaries that radiate out into the surrounding rolling hills. The effect is that of a large loop primarily made up of Salt Creek and Stevens Creek, with tributary tendrils both uniting and separating areas of urban, residential and agricultural development.

This loop comprises the Salt Valley Greenway, which is envisioned to be accomplished through conservation easements and fee simple acquisition of selected sites with unique environmental features or recreational opportunities. This can include parks and open space, trails, both active and resource-based recreation, riparian and stream corridors, floodplains, threatened and endangered species habitat, saline and freshwater wetlands,

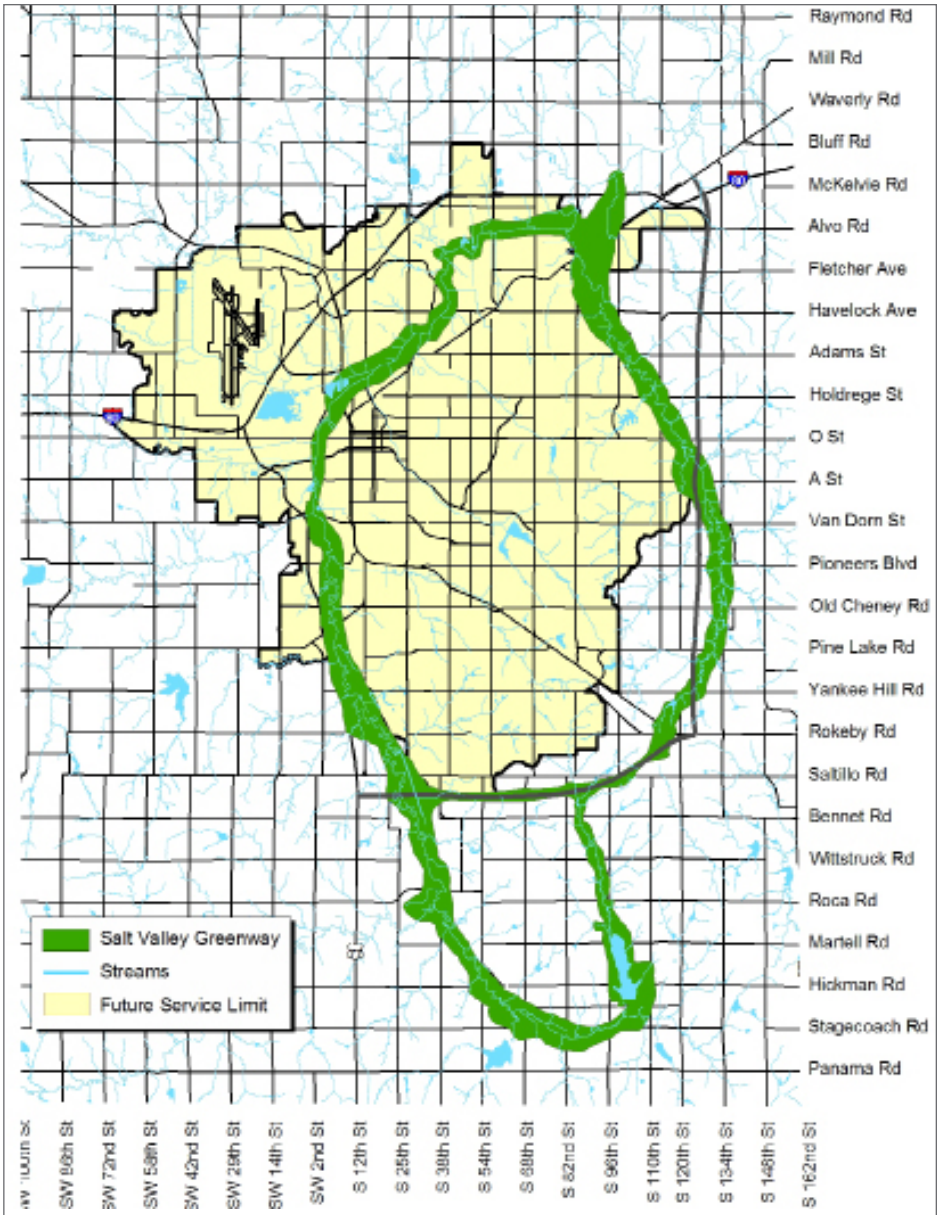
agricultural land, signature landscapes, wildlife corridors, lakes and streams, abandoned rail lines, and transportation corridors. The Greenway may be as narrow as a few hundred feet in some places to as wide as a mile around state recreation areas.

The Salt Valley Greenway includes the previously identified "Crescent Green" linear greenway along Salt Creek beginning on the north and then proceeding along Salt Creek on the west, including Wilderness Park. It follows the Salt Creek floodplain south of Wilderness Park, connecting with the community of Roca and continuing south to the city of Hickman. From Hickman, the corridor proceeds east to Wagon Train Lake tributary and follows the linear open space along the planned South Beltway east before turning north along the Stevens Creek floodplain. At the north end, the Greenway connects back in with Salt Creek including saline wetlands, Salt Creek tiger beetle habitat and the Crescent Green Corridor on the north, forming a continuous open space system.

The Salt Valley Greenway is important for recreation, transportation, environmental resource preservation, education, and economic development among other benefits. The opportunity to tie together multiple environmental and recreational resources would create a facility that is unique in the region and could be a platform for multiple community events attracting visitors from all over the region.

The Salt Valley Greenway would provide connectivity with current and future green corridors that extend out from Lincoln such as the MoPac Trail corridor, Murdock Trail corridor, Antelope Valley, Dietrich Bikeway, and Billy Wolff Trail Corridor. It would provide a destination for additional trails as Lincoln continues to grow. The Greenway would also provide access to green corridors that then would extend out into the county to State Recreation Areas (SRA) and natural resource areas and beyond including the following:

- Prairie Corridor on Haines Branch corridor to Conestoga SRA and Spring Creek Prairie.
- Cardwell Branch corridor to Yankee Hill SRA.
- Middle Creek corridor to Pawnee SRA.



Map 3.2: Salt Valley Greenway

- Salt Creek corridor to Killdeer and Bluestem SRA.
- Oak Creek corridor to Branched Oak Lake.
- Salt Creek corridor east and up the Little Salt Creek and Rock Creek corridor.

The Salt Valley Greenway would provide connectivity with the Homestead Trail that goes to Beatrice and south to Kansas. It would connect with additional rail lines that are acquired for trails in the future.

Strategies: General

- Use the Salt Valley Greenway concept to embody LPlan 2040's Vision and environmental resource guiding principles.
- Develop a strategic plan for acquiring and conserving lands within the Salt Valley Greenway corridor through cooperative efforts of public agencies, private organizations, and individuals.
- Prepare and distribute information to community residents regarding the functions and value of the Salt Valley Greenway, and of the plans for its creation.
- Identify and pursue funding sources for the acquisition of significant properties forming the Greenway.
- Coordinate the planning of the Salt Valley Greenway with county-wide trails planning and any other relevant on-going planning activities.
- Encourage the development of a public-private partnership that will concentrate efforts on further planning, funding, land acquisition, and development of the Salt Valley Greenway. This should be viewed as a local natural resource as well as a major economic development program.
- Continue to use conservation easements to protect greenway areas where it may be desirable to allow compatible land uses such as row crop farming or pasturing.
- Use of fee simple title may be more appropriate for areas that are best maintained in a natural state due to particularly sensitive features such as rare or sensitive areas, or that have value for resource-based recreation like hiking, interpretive activities, and wildlife viewing.
- Continue to develop a county-wide open space plan as identified on the Parks Master Plan Map.
- Encourage the retention of linear connections of green spaces wherever possible. Efforts should be made to preserve small stream corridors throughout future developments.
- Pursue greenways connecting urban and rural areas. Such corridors should follow stream courses and connect valuable natural resource areas.
- Ensure that as greenways and open space corridors are identified and created, provisions are made for possible future access points across these areas. This may include, but not be limited to, access for new road alignments, road widenings, utilities, and other similar services.

Crescent Green

The concept of a linear greenway along Salt Creek as it runs through the Lincoln urban area has been in the City's Comprehensive Plan since 1961. The name "Crescent Green" was first used in 1964 as part of an architectural design class. A plan formally describing a "Crescent Green Park" was prepared by the firm of Clark & Enersen in 1977. This plan called for a park to be created along Salt Creek from Wilderness Park north to the city's former landfill near North 56th and Fletcher .

Strategies: Prairie Corridor on Haines Branch

- Continue the Pioneers Park trail network along Haines Branch to connect with Conestoga Lake and then continue south by the Village of Denton and on to Spring Creek Prairie Audubon Center. These connections would form a corridor encompassing over 2,000 acres of native prairie and two premier prairie education centers

– Pioneers Park Nature Center and Spring Creek Prairie Audubon Center.

Strategies: Stevens Creek Basin Link

- Seek the early acquisition (or the application of other management techniques) of land along Stevens Creek and within the Stevens Creek Basin for future greenways, open space and park uses. Examine possible park and open space potential around Walton where the MoPac and future Stevens Creek Trails will connect.
- Use the Stevens Creek Watershed Master Plan as a guide for identification of areas of opportunity.

Strategies: Crescent Green Link

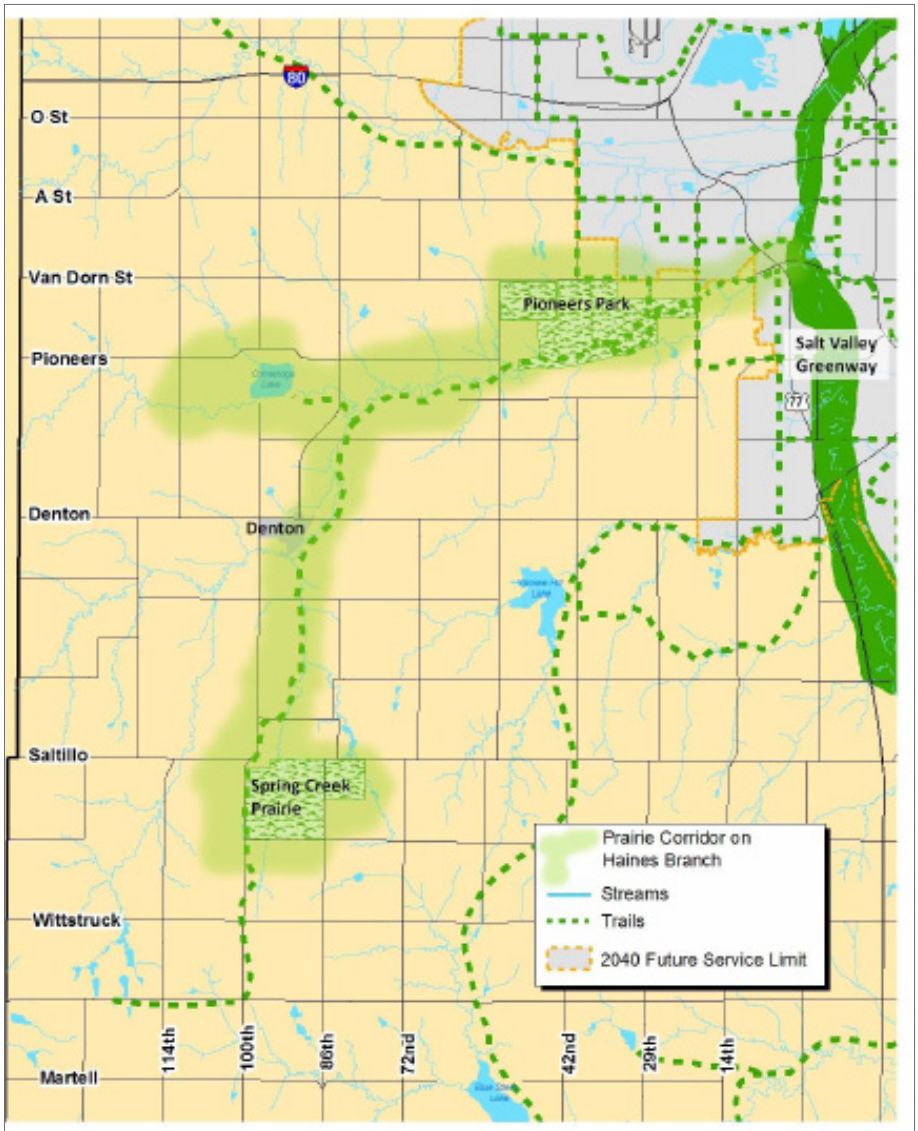
- Continue development of the "Crescent Green" concept to provide a continuous greenway and open space corridor around the west and northern part of Lincoln.

Strategies: South and East Beltway Links

- Explore alternatives for creating a greenway corridor along the South and East Beltways. This work would occur as the more detailed planning of those facilities takes place. The activities could range from park-like areas existing today along Interstate 180 and Highway 2 in Lincoln, to more riparian settings as are found in Wilderness Park and the Crescent Green areas. The corridor could connect with historic and cultural assets, regional and community parks, lakes, and other recreational areas. It could also provide potential habitat and corridors for animal movement.

Strategies: I-80 Corridor (N. 27th to Waverly)

- Continue the advancement of the greenway corridor along Interstate 80, between North 27th Street and the City of Waverly. This corridor already includes a number of wetland areas (both saline and fresh water) that are under public ownership – City of Lincoln and the Lower Platte South Natural Resources District in particular. The corridor contains the Warner Wetlands and the City's wetlands mitigation bank. The area is a major entryway into the City of Lincoln and provides associated trail and open space opportunities.



Map 3.3: Prairie Corridor on Haines Branch

Strategies: Salt Creek South/ Wilderness Park Link

- Pursue the acquisition of additional greenway south from Saltillo Road along Salt Creek. This future greenway should generally follow the 100-year floodplain along Salt Creek, and incorporate the right-of-way of the abandoned Union Pacific rail line. This area could eventually connect a network of trails that would extend into northern Kansas. This extension may be accomplished through a combination of land purchases, conservation easements, donations, and other options.

- Work with other incorporated communities within the county — notably Roca and Hickman – to coordinate the Greenway's extension.

Strategies: Little Salt Creek and Rock Creek Saline Wetlands

- Continue the efforts along these stream corridors to conserve and enhance Nebraska's most limited and endangered wetland type, which provides habitat for a variety of native plant and animal species, including two endangered species. Link these important natural resource corridors to the Salt Valley Greenway via future county trails.

Unique Features

Inventory and pursue the preservation of unique features to provide special educational and interpretive opportunities. These include quarries and areas of geological significance, remnants of historic trails, unique bluffs near Bennet, the sandstone prairies, a small waterfall south of Denton, and historic pits and grasslands around Hickman and Roca.

4 Placemaking

This chapter describes principles and strategies intended to preserve and enhance the community's unique character — its sense of place — through preservation of cultural and historic resources and focused attention to the quality of public and private development.

Introduction

The people of Lincoln and Lancaster County have transformed a rolling prairie into a fertile agricultural landscape, with significant tracts of native prairie and a dozen villages, towns and small cities, surrounding a highly livable urban place. The jewel in this fine setting is the Nebraska State Capitol, one of America's great buildings, which was designed and constructed to be seen and enjoyed from throughout the city and county. Together, the urban and the rural landscapes produce a distinctive place, offering a sense of identity to visitors and especially to residents. It is worthwhile to plan for, protect, and strengthen this character as the community grows and matures. All parts of LPlan 2040 contribute to the attainment of this vision, but urban design and one of its components, historic preservation, relate most directly to guarding and enhancing the community's physical image.

Urban design is the concept and practice of studying people's experience of their physical environment—both visual and functional—then consciously striving to improve that experience. It is essential both to preserve and enhance key existing elements and to create improvements that mesh with and strengthen a distinctive and enjoyable place. When

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successful, urban design and historic preservation make a community more enjoyable for residents, more attractive to visitors, and more competitive in drawing new businesses and retaining existing ones. A truly sustainable community recognizes and builds on its heritage by fostering good urban design, creating a sense of place and uniqueness that supports a strong economy, values environmental assets, and promotes social engagement and interaction. Successful urban design requires cooperation of public and private sectors.

A unique urban design asset of Lincoln and Lancaster County, providing orientation and identity throughout the community, is our remarkable State Capitol. The 400-foot tower was planned and built as the key historic, architectural, and geographic landmark of the city and surrounding countryside.

The Setting

Enhancing a community's environment begins with understanding it. Before all else, Lancaster County was and is the land—rolling prairie, crisscrossed by streams, enriched by wetlands, green in the spring and summer, golden, tan, and russet in the fall and winter. We and our ancestors have largely transformed this prairie land through agriculture and city-building, but the seasonal cycle still strongly shapes us. Past policies and practices discouraging urban sprawl, maintaining a clear edge between urban and rural land uses, and preserving natural features and prime agricultural land have done much to establish the distinctive and attractive built environment of our community.

The City

Upon the prairie, the original designers and developers of Lincoln laid out a grid of streets, alleys, and blocks, from A Street on the south to U Street on the north, and from 1st Street on the west to 17th Street on the east. The gently rolling terrain accommodated this grid, creating a framework for a city which was readily comprehensible and expandable. The suburban towns founded east of the city in the 1880s and '90s aligned their grids with Lincoln, facilitating their integration into Lincoln a few decades later. Much of the Original Plat remains evident, giving form to the center of the city through such major features as the Capitol location, the core of University of Nebraska-Lincoln's downtown campus, the County/City Building location, three sites used by Lincoln Public Schools, and Cooper Park. Especially wide rights-of-way provide vistas to the Capitol and campus. Throughout Downtown and the Haymarket, the range of possibilities within the ample, "ordinary" 100-foot rights-of-way is demonstrated by the loading docks, sidewalk cafes, public art, landscaping, and Farmers Market, along with vehicular, bicycle, and pedestrian circulation.

Most of Lincoln's early expansion simply extended the grid. By the early 20th century, the best developments were more varied in their response to the topography, developing curving streets and boulevards while maintaining ample, comprehensible connections to the grid of arterial streets.

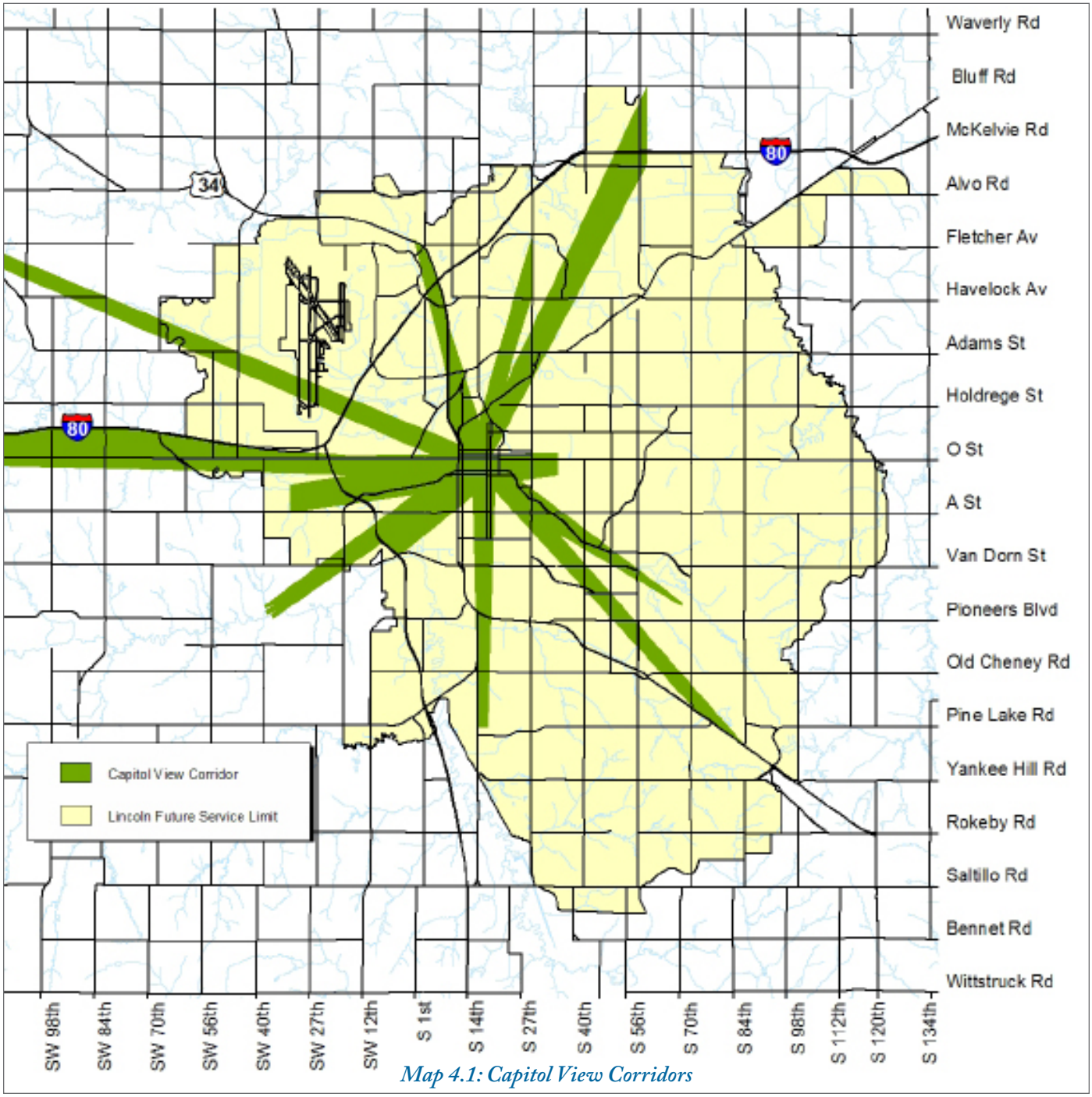
The Capitol

A unique urban design asset of Lincoln and Lancaster County, providing orientation and identity throughout the community, is our remarkable State Capitol. The 400-foot tower was planned and built as the key historic, architectural, and geographic landmark of the city and surrounding countryside. From distant vistas along Interstate 80 to intimate glimpses from core neighborhoods, views of the Capitol enrich and unify this place. Many of the best elements of Lincoln's built environment are based on Capitol views—the Malls, the tree-framed vistas from Pioneers Park, and the homeowners' park in Woodsshire Historic District. Protecting key vistas that provide important public views to the

Capitol, along with identification and enhancement of new view corridors as the community grows, are important urban design strategies of this plan.

Corridors

Other important resources for providing community identity and orientation are entryway corridors, parks, trails, and open spaces. Key entryways provide indelible "first impressions" of a community. The community's strong network of trails offers recreation and transportation alternatives, knitting together established and new neighborhoods. Parks provide neighborhood centers and community gathering places, and along with public street trees are major components of our urban forest, providing shade, beauty, and habitat.



Map 4.1: Capitol View Corridors

Current Practices

The public and private sectors, often working in direct partnership, are both essential to an attractive, livable, competitive built environment. Lincoln's Original Plat of 1867, designed by state officials, established a framework for a successful city. Attractive public and private buildings, city purchases and private donations of park land and of public art, street trees and private gardens, all contribute to urban character.

Many of the principles of this section already are expressed in the community's practices. The *Historic Preservation Commission* and the *Nebraska Capitol Environs Commission* advocate for and protect key resources of our heritage, in cooperation with property owners, the community's design professionals, and other interested citizens.

The Historic Preservation Commission works with neighborhood groups, preservation advocates, property owners, and the State Historical Society to discover, protect, and share the community's heritage. The zoning code provides protection for designated historic property and incentives for creative uses that maintain the vitality of historic places. The Commission has a key role in providing on-going guidance in the revitalization of areas such as Haymarket, residential historic districts, and Havelock Avenue.

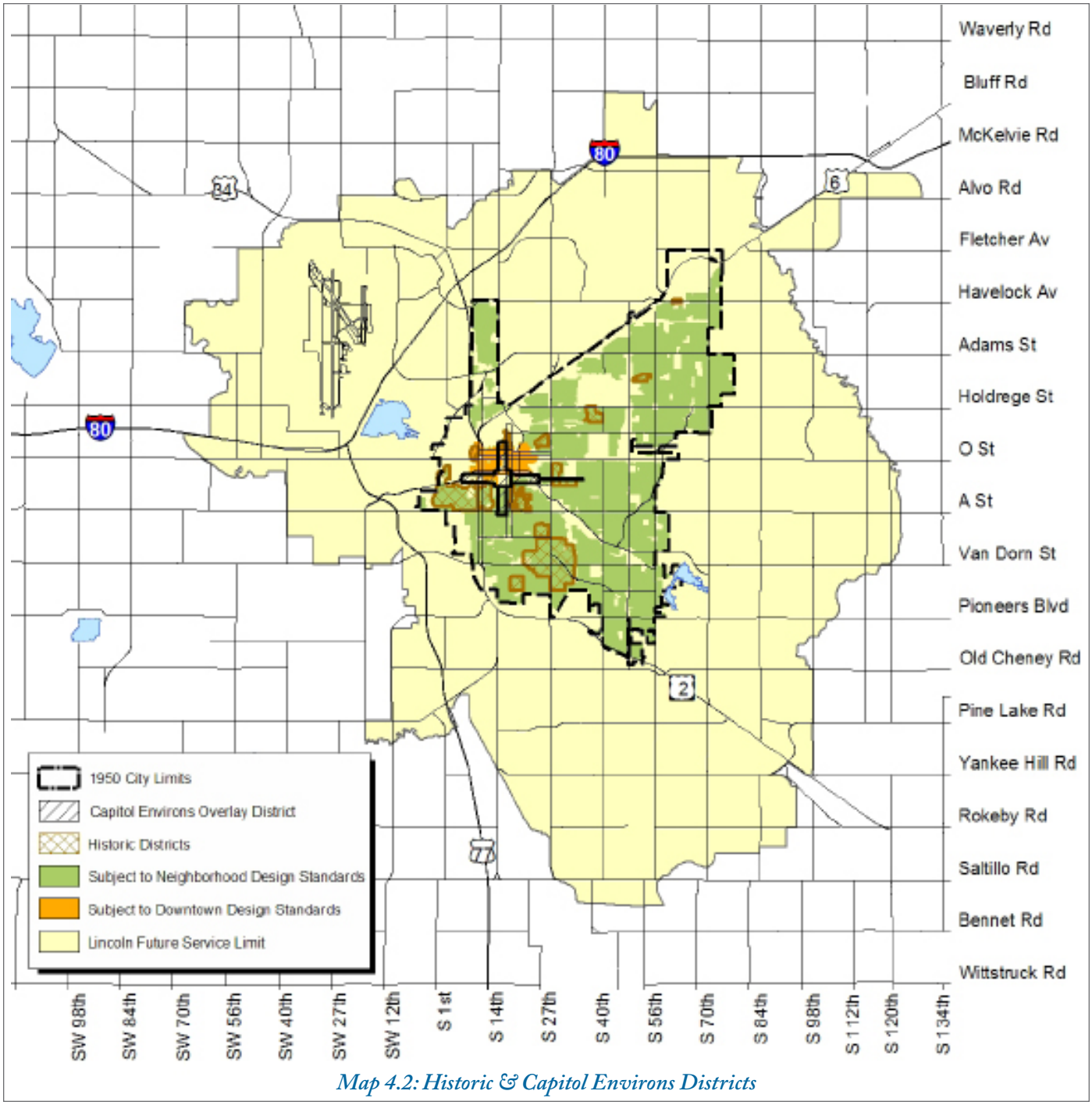
The Capitol Environs Commission is a unique board combining membership appointed by the City and by the State, empowered to protect and to advocate for improvements to the setting of the beautiful Nebraska State Capitol. All public and private property within the Capitol Environs District receives the Commission's design oversight, along with key view corridors to the Capitol which enhance the whole community.

The *Urban Design Committee* (UDC) provides advisory services to city government on the design of city-owned buildings and other public projects, major public/private developments, and any private projects constructed on city right of way or other city property. The Committee's intent is to make sure that new public facilities are exemplary – that they provide functional and aesthetically pleasing facilities for the public, and model good design for the private sector. The benefits of this guidance would be strengthened by including all public projects under UDC review, just as the Environs Commission reviews projects of all local and state governmental units. The Committee also works to publicize and reward good design, private as well as public, through an annual awards program.

All three of these design boards assist in the process of siting wireless communication antennae and towers within their various jurisdictions. The community values efficient and effective telecommunications while also desiring to minimize adverse impacts of this rapidly evolving infrastructure on our rural and urban environments. Capitol view corridors, historic landmarks and districts, environmentally sensitive areas, and predominantly residential neighborhoods are not preferred locations. Unobtrusive locations on public property; co-locations on existing towers, buildings, and structures; and commercial and industrial areas with minimal impact on residences are preferred. The City has adopted zoning provisions to state the community's preferences. Combined with guidance from the design review boards, community residents and the telecommunications industry can be well-served.

The community has also expressed its interest in good urban design through the *Neighborhood*

Design Standards for infill development in older residential neighborhoods and the Lincoln *Downtown Design Standards* for the community's center. However, the appearance of other commercial areas and new residential areas is guided by few public design standards, although private design covenants in some areas are far more stringent than any public requirements. Good urban design includes an attractive streetscape, pedestrian access and comfort, and orientation of buildings, yards, and parking to create a pleasant transition between public and private space. When developments ignore these elements, our community is weakened. The *"Neighborhoods & Housing"* chapter describes the community's expectations for new residential development. The emphasis in LPlan 2040 on mixed-use redevelopment in established commercial centers



Map 4.2: Historic & Capitol Environs Districts

and corridors necessitates adoption of clear design standards and a predictable process to protect existing and new investors—commercial and residential—in those areas. The *"Mixed Use Redevelopment"* chapter discusses how mixed use redevelopment, including residences, can meet important community needs as Lincoln grows and ages.

Guiding Principles

- The 400-foot State Capitol is the key historic, architectural, and geographic landmark of the city and surrounding countryside. Views to the Capitol are highly valued by the people of Lancaster County and the State of Nebraska and should be protected and enjoyed for generations. The community's opportunity to benefit from the Capitol is further enhanced by improvements to its immediate setting, especially to the axial malls which extend from the Capitol in the cardinal directions, such as Centennial Mall.

- Public buildings and structures should be well built, durable, and highly functional. Most should be designed to blend attractively within the context of surrounding development. Major civic structures should serve as focal points in the community and should be of superior, even iconic, design. All public projects should be worthy to serve as guides for future development or redevelopment.

Design standards should be developed, monitored, and revised as necessary to express and protect community values without imposing burdensome delays or restrictions on creativity.

- Implementation of the Salt Valley Greenway, described in the *"Environmental Resources"* chapter, offers a long-term opportunity to enhance all of Lancaster County and to strengthen the essential juncture of rural and urban land uses.

- Major entryways to Lincoln including Interstate 80 and its exits (especially I-180), Highways 77 and 34 from the north, Cornhusker Highway from the east and from the Airport on the west, O Street from the east and west, Homestead Expressway/Highway 77/Rosa Parks Way from the southwest and west, and Highway 2 from the southeast, should be studied, protected, and enhanced to create and express community pride.

- Public art is an important means by which the community can strengthen a sense of place and promote a positive image.

- Public property, especially publicly owned historic property, is a community trust and should be maintained, preserved, and utilized in an exemplary fashion. Most historic property is and should be privately owned and maintained.

- The community's distinctive character and desirable quality of life for current residents and for future generations should be supported by exercising stewardship of historic resources throughout the county, while maximizing benefits of past investments in public infrastructure and private property. The Plan encourages the continued use and maintenance of historic resources, including properties not formally designated as landmarks.

- Design standards should be developed, monitored, and revised as necessary to express and protect community values without imposing burdensome delays or restrictions on creativity. Well-crafted standards should add predictability and clarity to the development process, rather than imposing a design solution. Design standards for landscape elements should be developed and then monitored and enforced

with attention to long-term sustainability, or the benefit of this investment can quickly be lost.

- Historic areas and quality new development share underlying aspects of good design—durable materials, thoughtful attention to maintaining or creating a desirable overall setting, accessibility by multiple modes and all people, well-designed and effective signs that communicate without dominating, and sustainable, maintainable landscaping.

Strategies

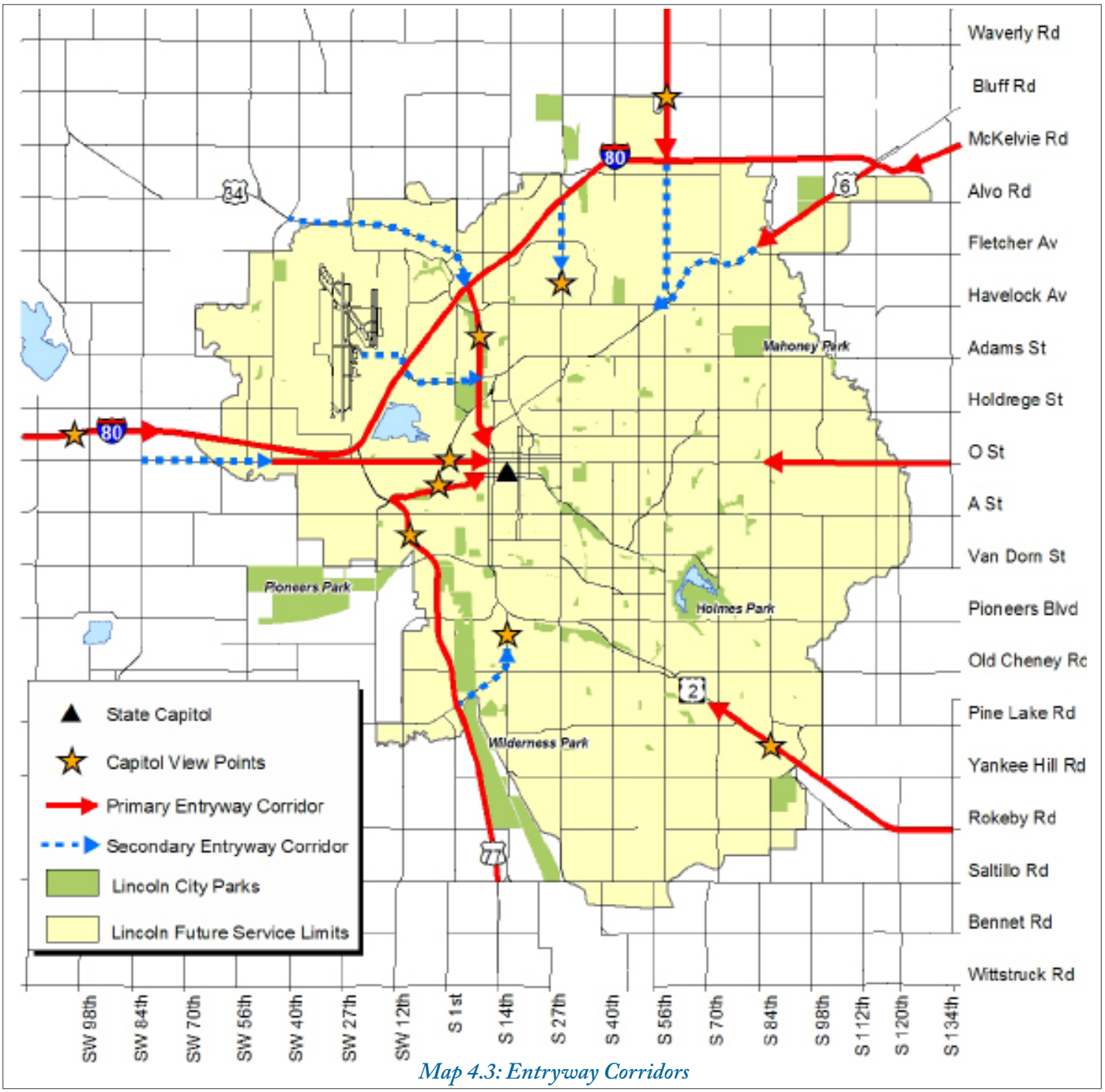
Urban Design Standards

- Continue to identify and maintain high-value Capitol View Corridors and protect those views through regulations and guidelines, including vistas that gain in prominence as the community grows. Structures that may interfere with these public corridors should be reviewed by the Capitol Environs Commission and a recommendation made within the context of their overall effect upon the view.
- Establish clear urban design standards and an efficient, expeditious review process for development and redevelopment of mixed use commercial/residential areas, especially focusing on the interface with residential neighborhoods, attractive streetscapes, and safe and comfortable movement of people — whatever their mode of travel.
- Prepare subarea plans for the redevelopment of mixed use corridors and nodes to facilitate predictable, expeditious, well-designed improvements and investments.
- Monitor and update the *Downtown Master Plan* periodically, as the adopted guide to redevelopment of the community's center, as identified in the *"Vision & Plan"* chapter.
- Extend the contributions of Urban Design Committee to advise on building projects of Lancaster County and other local government agencies as appropriate.

Entry Corridors and Public Art

- Study key entryways to Lincoln and adopt zoning tools and incentives to protect and enhance "first impressions" of the community, including a thoughtful, distinctive, and attractive system of "wayfinding" signs to key community attractions.
- Complete a wayfinding system of related, attractive signs guiding and orienting motorists, bicyclists, and pedestrians throughout the community.
- Preserve and enhance the character of key entry points and corridors into the City of Lincoln through enhanced landscaping and public art in rights-of-way, and respectful development of adjacent properties.
- The corridors along I-180 from Interstate 80 to the entry into Downtown, and from Lincoln Municipal Airport along Cornhusker Highway to the interchange with I-180 should be a special focus for public/private partnerships to

Figure 4.1: Design for Wayfinding Guide Sign



Map 4.3: Entryway Corridors

identify special themes and appropriate sites for public art.

- Support the development of a Public Arts Master Plan for the City of Lincoln to identify art projects and policies that enhance the cultural fabric of the City.
- Strengthen design standards for commercial and mixed-use development along major travel corridors, to reflect a positive visual image that engenders community pride and identity.
- The inclusion of public art should be considered during the conceptualization and design of any major public project.
- Seek the early integration of the talents of artists with architects, landscape architects and engineers on public improvements.

Historic Preservation

- Expand the community's historic preservation program to include Lancaster County through interlocal agreements between Lancaster County, the City of Lincoln, and other incorporated communities. Widen the scope of the mission and membership of the Historic Preservation Commission to include all of Lancaster County.
- Lincoln and Lancaster County should work in partnership with state and federal historic preservation programs, but local landmark protections are usually the most effective and appropriate.
- Continuously monitor and improve local programs and regulations, especially working to balance conflicting regulations that may offer alternatives to achieve life-safety goals while protecting threatened historic resources.
- City and county governmental policies should provide for the protection and enhancement of historic resources.
- Continue to inventory, research, evaluate, and celebrate the full range of historic resources including standing structures, distinctive neighborhoods and regions, landscapes, and buried cultural materials throughout Lancaster County, collaborating with individuals, associations, and institutions.
- Designate landmarks and districts through the local preservation ordinance and the National Register of Historic Places.
- Seek incentives and regulatory support to maintain, rehabilitate, and minimize energy utilization of existing buildings in order to make it more feasible to rehabilitate and continue to use older buildings.
- Implement a public policy of the careful stewardship of significant, publicly owned historic resources, including a full and open examination of alternatives when major alterations or demolition are considered. Consider designation of such resources under the preservation ordinance to demonstrate leadership and standardize review of proposed changes.
- Continue the educational outreach effort of the historic preservation program through tours, publications, on-line information, and presentations, in order to share the results of historic preservation and research with the broadest audience of residents and visitors.

- Monitor local preservation efforts and local, state, and federal incentive programs to improve and apply the most effective tools for preserving, maintaining, and utilizing historic resources as fully utilized components of the community.
- Include a procedure in the preservation ordinance for temporary protection of significant historic resources threatened with demolition, to allow time to explore and implement alternatives.
- Support and participate in neighborhood, community, and statewide groups interested in historic preservation.
- Encourage protection and discourage destruction of buried cultural resources either by vandals, looters, or insensitive construction.

5 Business & Economy

LPlan 2040 envisions a healthy expansion in the region's economic foundation during the planning period. This chapter lays out the Plan's strategy for economic development and additional commercial and industrial activities.

Introduction

Lancaster County is a growing county with a relatively stable economy. Continued economic growth in Lincoln and Lancaster County is expected over the plan period. In order to ensure that growth and employment occur in an organized fashion that meets the vision of LPlan 2040, principles and strategies are laid out to guide policies and future development.

Guiding Principles

- Focus primarily on retention and expansion of existing businesses; attracting new businesses should also be encouraged.
- Enhance Downtown's role as the heart of the City. A strong downtown is important to the economic future of the community. Lincoln's Downtown is unique in the community as the home of State government, the State Capitol Building, and the flagship campus of the University of Nebraska. Together with Antelope Valley and the surrounding neighborhoods, it forms a vital core for the City.

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- Promote and foster appropriate, balanced, and focused future economic growth that maintains the quality of life of the community.
- Seek to efficiently utilize investments in existing and future public infrastructure to advance economic development opportunities.
- Provide flexibility to the marketplace in siting future commercial and industrial locations.
- Strive for predictability for neighborhoods and developers.
- Encourage and provide incentives for mixed uses in future developments.
- Encourage commercial areas and limited industrial areas to make available opportunities for individuals and/or organizations to raise and market local food.
- Encourage preservation or restoration of natural resources within or adjacent to commercial or industrial development.
- Encourage commercial centers to encompass a broad range of land uses with the integration of compatible land use types.

Economic Development

Lancaster County benefits from many quality of life factors that attract both employers and employees. Lancaster County's educational systems are among the best in the country and provide a skilled workforce. Lincoln's neighborhoods provide a good stock of quality, affordable housing of many sizes and types. The presence of State government and the *University of Nebraska Lincoln* (UNL) campuses are attractive to employers and employees. Lancaster County provides a wide range of art, entertainment, and recreation opportunities. Public and private investment in Lincoln is evident in the Downtown, Antelope Valley, Innovation Campus, and West Haymarket projects. All of these assets should be emphasized to encourage economic development. Lincoln's workforce, the presence of the University, and the strength of the agricultural economy make it particularly attractive for development of several specialized industries.

- **Biotechnology.** UNL has a strong biotechnology research program. Expansion and retention of start-ups and existing companies, particularly those that build on University research should be a focus.
- **Value Added Agriculture.** Food research at the University of Nebraska – Lincoln (UNL) is vital to attracting and retaining these industries in the Lincoln area. This category could include renewable energy development, such as ethanol plants, though these plants are primarily locating outside Lancaster County.
- **Specialty Electronics.** Expanding or using the Foreign Trade Zone in the *Airpark* area holds promise for this type of use and should be examined with the Airport Authority.
- **Technical Customer Support.** Interest in this category is returning after years of customer support jobs being sent overseas.
- **Insurance and Financial Services.** The success with job expansion of several local insurance companies points out the attractiveness of Lincoln. The State of Nebraska statutes and taxation policies provide a competitive advantage for insurance companies, as witnessed by several out-of-state companies also having located in Nebraska.
- **Entrepreneurship.** Lincoln has benefitted from entrepreneurs starting new businesses which have grown rapidly, adding many jobs to the economy. More should be done to encourage entrepreneurs, to utilize technology from UNL in the marketplace, and to promote entrepreneur

education at UNL, *Southeast Community College* and other educational institutions.

- **Health Care.** Lincoln's health care providers serve a larger region than just the city. This is an industry that is growing nationally and is expected to grow locally as well, especially as the population ages. Expansions of existing locations are expected and a wide variety of new facilities will likely come forward over time.

Strategies for Economic Development

- Offer incentives for "primary" employers – that is for companies where the majority of their business and sales come from outside Lancaster County. The City should develop a policy on the use of incentives, such as Tax Increment Financing, for primary employers.
- Apply design standards as a tool for economic development. They provide assurances for surrounding property owners as well as prospective developers.
- Continue to coordinate the City's Economic Development efforts with the *Lincoln Partnership for Economic Development* (LPED) and UNL.
- Utilize *Lincoln Electric System* technology infrastructure as an economic development tool.
- Continue the work of the City and LPED to maintain an inventory of potential economic development sites and their current status in terms of planning and infrastructure.
- Continue to support UNL's efforts to obtain grants for research and support the expansion of the mixed use concept of *Innovation Campus*. The success of the University's research and development is important to the future of the city.

Downtown

Downtown continues to contain the largest concentration of commercial space in the County with 9.7 million square feet of occupied space in 2009. This represents nearly 24 percent of the total occupied space in the County. Downtown also continues to be the largest single concentration of office space and government services. UNL's main campus also adds significantly to the number of employees in Downtown.

Among existing Regional Centers, Downtown Lincoln stands as a unique community resource. Downtown is the County's most intensive center of activity, offering a broad mix of retail, office, industrial, residential, and governmental uses. It is home to numerous public facilities — including the Nebraska State Capitol, the University of Nebraska-Lincoln's main campus, and the County-City Building — as well as private endeavors— including financing, insurance, and other business services. Downtown Lincoln has historically served as the community's dominant center of entertainment. A key element to this role has been the long standing and successful "theater policy." This policy has allowed Downtown to retain an appreciable share of the area's movie theaters. It is intended that this policy will continue as part of LPlan 2040. Downtown is also an important node for mixed use redevelopment that is more fully described in the *"Mixed Use Redevelopment"* chapter.

Downtown continues to contain the largest concentration of commercial space in the County with 9.7 million square feet of occupied space in 2009.

Strategies for Downtown

- The City should preserve and enhance Downtown's role as:
  - The major office and service employment center
  - The center of all levels of government
  - The principal cultural, entertainment, and tourism center
  - The center for hotels and conventions
  - The financial center
  - The hub of higher education
  - A regional retail center geared toward employees, area residents, visitors, and UNL students and staff
  - A major focus for new residential reuse, infill, and redevelopment
- Retain the City's government center in Downtown and wherever possible locate local, state, and federal offices Downtown when expansions and relocations are considered or new facilities are located.

- Maintain and reinforce Lincoln's successful *Theater Policy*; encourage new entertainment attractions to locate in the Downtown.
- Support compatible and pedestrian-oriented development and implementation of the *Antelope Valley* project and West Haymarket redevelopment, making use of the *Lincoln Downtown Design Standards*.
- Maintain the urban environment, including a mix of land uses and residential types.
- Encourage higher density development with parking areas at the rear of buildings or on upper floors of multi-use parking structures.

Lancaster County, Outside of Lincoln

The majority of new development takes place in the urban area of Lincoln. However, it is important to strengthen existing commercial areas and support new development within the incorporated communities of Lancaster County. Commercial development in towns also provides opportunities for businesses that support rural residents within the county.

Farms are an important part of the history and economy of the region. While agriculture is no longer the primary occupation or major source of income in the County, agricultural production is still important to the community. It provides opportunities for produce to be sold at the local level and for large scale operations with sales worldwide. Farmers, while working year round, often support their families with accessory home occupations.

Agriculture is the dominant land use in Lancaster County, accounting for over 78% of all land. While this land is largely considered "undeveloped," it is still an important economic factor in the county's future. Agriculture's impact on the local economy goes beyond the sale at the end of production. Farms of all sizes make purchases of goods and services in the city and county throughout the year, which contribute to the local tax base and sustain growth for other businesses in the agriculture industry.

Development within the incorporated towns and their one mile zoning jurisdiction will be determined by the communities themselves. However, LPlan 2040 supports these communities and their efforts to maintain and improve their commercial and industrial base.

Uses near the interchange of Highway 2 and Highway 43 (the Bennet exit) should be limited to commercial immediately surrounding the interchange that generally supports the agricultural community and those traveling through the area. The remainder of the designated area should be reserved for a potential large industrial employer which may desire to locate in a rural area with limited services and would be compatible with the surrounding rural residential area.

Strategies for Lancaster County, Outside of Lincoln

- Locate all new commercial and industrial development within Lincoln or the incorporated communities.
- Continue the County's support for road improvements that accommodate commercial and other development within the towns.
- Continue to encourage and permit accessory home businesses, and locate businesses within the commercial areas of incorporated towns as they expand beyond the definition of home occupation.
- Continue efforts to preserve the viability of the county's agriculture industry through zoning, easements, and other means.

Commercial and Industrial Development

The City and County have experienced significant increases in commercial and industrial development over the last several decades. Numerous new shopping centers, office complexes, and industrial facilities have been built – representing valuable economic resources for the community.

Lincoln remains the County's dominant home to both the commercial and industrial sectors of the local economy. Virtually all of the recent growth in commercial space – that is, retail, office, and service uses – has occurred within the city limits of Lincoln. Most manufacturing expansion has also taken place in Lincoln with a few industries locating in the City of Waverly. This clustering of commercial and industrial activity in the City of Lincoln has been completed in accordance with the goals of previous comprehensive plans.

Commercial and Industrial Development Strategies

- It is the policy that Commercial and Industrial Centers in Lancaster County be located:

  - Within the City of Lincoln or incorporated villages.
  - Outside of saline wetlands, signature habitat areas, native prairie and floodplain areas (except for areas of existing commercial and industrial zoning).
  - Where urban services and infrastructure are available or planned for in the near term.
  - In sites supported by adequate road capacity — commercial development should be linked to the implementation of the transportation plan.
  - In areas compatible with existing or planned residential uses.
  - In existing underdeveloped or redeveloping commercial and industrial areas in order to remove blighted conditions and to more efficiently utilize existing infrastructure.
  - In areas accessible by various modes of transportation (i.e. automobile, bicycle, transit, and pedestrian).
  - So that they enhance entryways or public way corridors, when developing adjacent to these corridors.
  - In a manner that supports the creation and maintenance of green space as indicated in

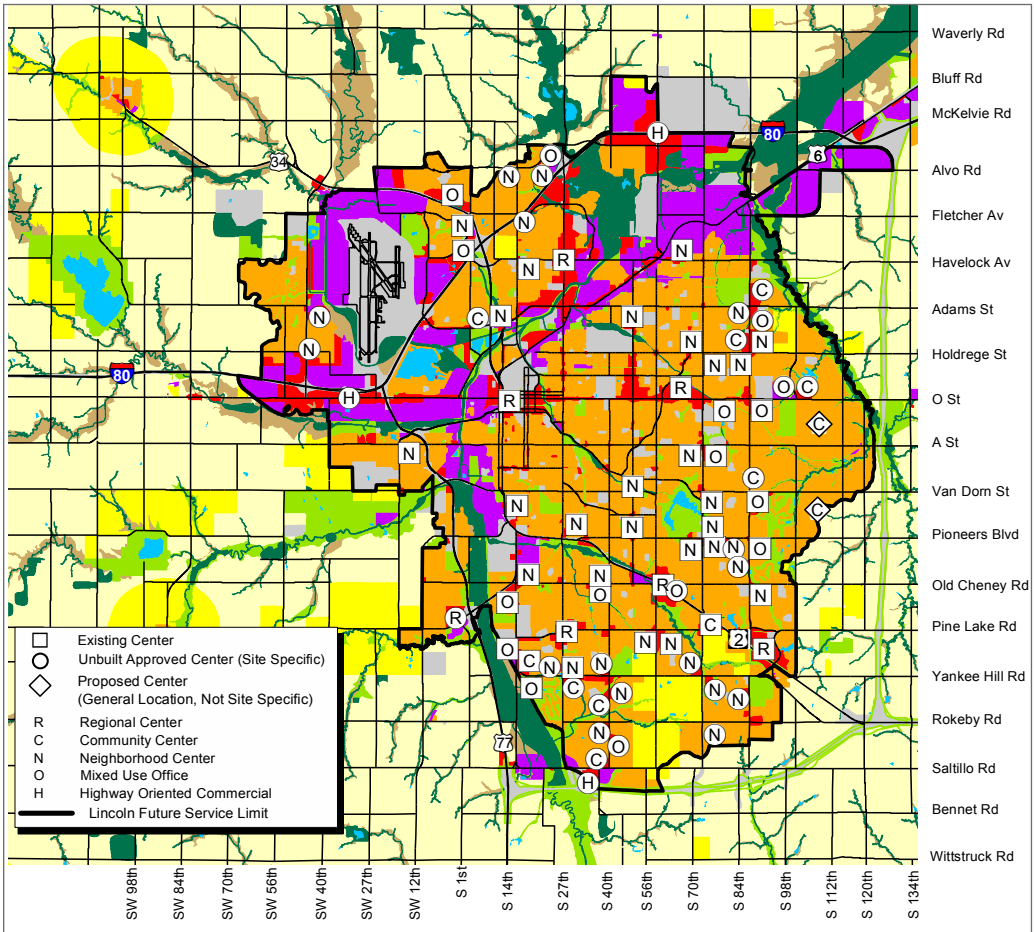
the environmental resources section of this Plan.

- Encourage public-private partnerships, strategic alliances, and collaborative efforts as a means to accomplish future economic objectives.
  - Explore additional opportunities for streamlining the permitting process.

Commercial Centers

Based on the projected population growth rates, the Plan identifies the potential for 58.6 million square feet of occupied retail, office, and service uses by 2040. A substantial portion of this future commercial capacity will be accommodated on sites already zoned or approved for commercial development or that have been identified in the Plan for future commercial land use.

"Commercial Centers" are defined as areas containing a mix of retail, office, service, and residential uses, with some light manufacturing and warehousing in selected circumstances. Other land uses such as child care centers, assisted living facilities, and recreational facilities should be integrated within the development. They can include shopping centers or districts (such as neighborhood centers, large scale retail malls, strip centers, and traditional store-front retail settings), residential mixed use centers, office parks, business parks, stand-alone corporate office campuses, research and technology parks, and Downtown Lincoln. Commercial Centers are distinguished from Industrial Centers by their dominance of commercial uses over industrial uses, and in the types of industrial uses located in them — that is, the uses are less intrusive in terms of lighting, noise, odors, truck and vehicular traffic, and pollutants. Where properly sited, light manufacturing uses may be a part of larger Commercial Centers, except for Neighborhood Centers.



Map 5.1: Existing and Proposed Commercial Centers

The Commercial Centers concept gives recognition to the evolving role of commercial and industrial uses in the life of cities. Commercial Centers encompass a broad range of land uses and are intended to encourage the mixing and integration of compatible land use types. Residential mixed use is encouraged in some commercial areas; especially for Regional, Community, Neighborhood, and Mixed Use Office Centers. Transitional uses (such as offices or commercial uses) should develop between Moderate to Heavy Industrial Centers and residential uses. In redeveloping areas, smaller setbacks between commercial

and residential may be acceptable due to the existing conditions.

The renovation, reuse, and redevelopment of existing commercial centers is encouraged and is further described in the *"Mixed Use Redevelopment"* chapter, which outlines many strategies that are also appropriate for new mixed use commercial centers.

Design standards for Commercial Centers should be reviewed (see *"Placemaking"* chapter).

Strategies for Commercial Centers

- Disperse Commercial Centers throughout the community to support convenience of access and to lessen impacts on infrastructure.
- Locate Commercial Centers where they will have access to arterial streets with adequate capacity and be supported by transit, trails, sidewalks, and local streets.
- Discourage "four corner commercial development."
- Encourage multiple street connections to adjacent residential neighborhoods to allow convenient access for neighboring residences and pedestrians without the use of arterial streets, but exercise care in designing the street network to minimize undesirable traffic impacts.
- Include higher density residential uses within and/or adjacent to all Commercial Centers except for Highway Oriented Commercial Areas.
- Discourage single use centers. Office parks should include supporting retail and residential components, while shopping centers should include supporting office and residential uses.
- Develop smaller stores next to larger anchor stores in centers to encourage small businesses and to provide a variety of goods and services for customers utilizing the centers.
- Incorporate or enhance green space and other public spaces, where possible.
- Design streets and public spaces to enhance pedestrian activity and support multiple modes of transportation.
- Create a pedestrian-oriented environment in the physical arrangement of buildings and parking.
- Develop Commercial Centers as compact clusters or mixed use nodes with appropriate site design features to accommodate shared parking and ease of pedestrian movement, to minimize impacts on adjacent areas, and encourage a unique character.
- Discourage auto-oriented strip commercial development; Commercial Centers should not be developed in a linear strip along a roadway or be completely auto-oriented.
- Design new Commercial Centers in a manner that facilitates future development and intensification of land uses on the site.
- Redevelop existing commercial strips for residential mixed use and/or transit oriented development where appropriate.
- Design buildings and land uses at the edge of the center to be compatible with adjacent residential land uses. Examples of compatible land uses include apartments, mixed use residential buildings, offices, assisted living facilities, or child care centers. Buildings should be compatible in terms of height, building materials and setback. Small compatible commercial buildings at the edge could include retail or service uses. Buildings with more intrusive uses should have greater setbacks, screening requirements and be built of more compatible materials.

Figure 5.1: Detailed Strategies for Future Commercial Centers (pages 5.8 and 5.9)

1. Mix of office, retail, service, and residential uses
2. Pedestrian orientation, parking at rear, multiple pedestrian routes, buildings and uses close to each other
3. More intense commercial uses (gas stations, grocery store, car wash, fast food, etc.) nearer to arterial streets
4. Develop smaller stores next to larger anchor stores in centers to encourage small businesses and to provide a variety of goods and services for customers utilizing the centers.
5. Transition of uses; less intense office uses and residential mixed use buildings near residential areas
6. Multiple vehicular connections between residential neighborhood and Commercial Centers

- Locate the most intensive commercial uses, such as restaurants, car washes, grocery stores, gas stations/ convenience stores and drive through facilities nearer to the major street or roadway and furthest from the residential area (unless contained within a mixed use center). Lighting, dumpsters, loading docks and other service areas should be screened from residences.

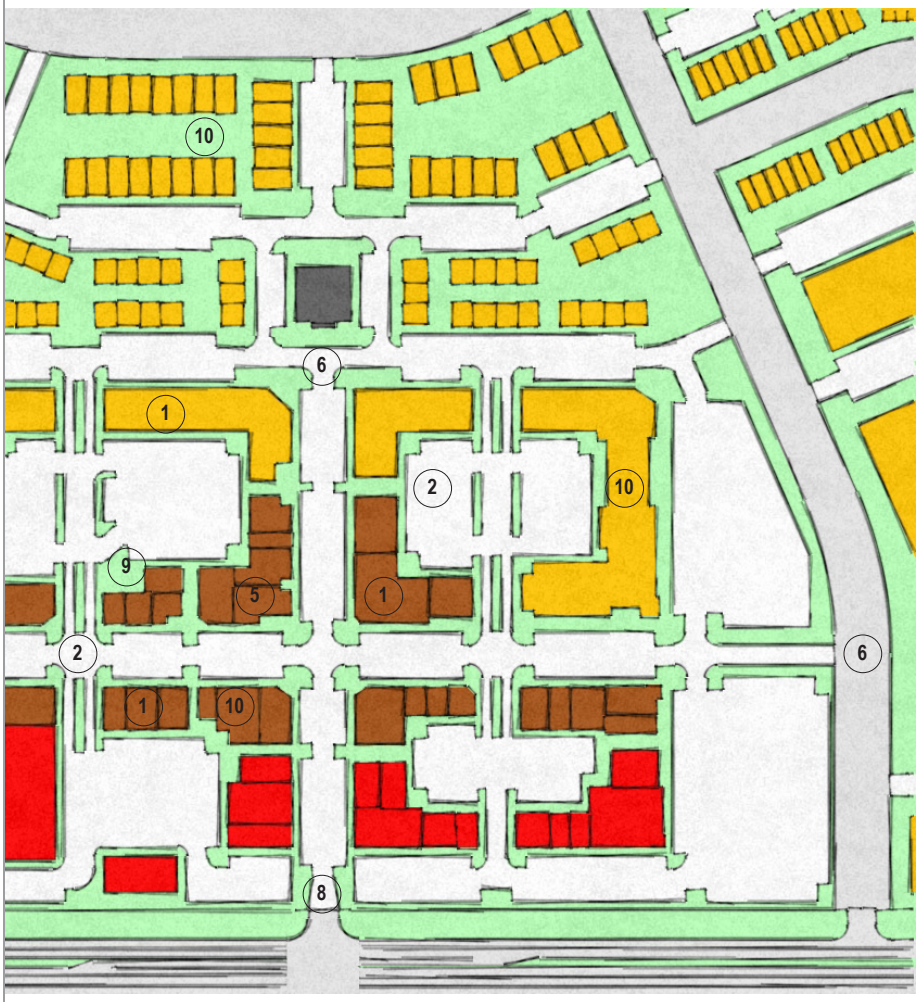
Principles and strategies for commercial development associated with other chapters:

- Greater Downtown (see *"Mixed Use Redevelopment"* chapter)
- Mixed Use Redevelopment Nodes and Corridors (see *"Mixed Use Redevelopment"* chapter)

The accompanying image displays how these strategies might work together in future Commercial Centers.

For the purpose of LPlan 2040, Commercial Centers have been divided into separate categories, depending on the type of center. The differences reflect the differing impacts that the centers have on adjacent land uses and the public infrastructure. The categories of Commercial Centers are:

1. Regional Centers (R)
2. Community Centers (C)
3. Neighborhood Centers (N)
4. Mixed Use Office Centers (O)
5. Highway Oriented Commercial (H)



7. Encourage commercial development at ½ mile between major intersections
8. Provide for transit opportunities in the center design
9. Provide public amenities such as recreational facilities, plazas, squares and other types of facilities or meeting areas open to public
10. Provide for a variety of housing opportunities within and adjacent to the Commercial Center

- Single-Family/Duplexes/Garages
- Multi-Family/Assisted Living/Rowhouses/ Garages
- Residential/Commercial Mixed Use
- Commercial Uses (Office, retail, and service)
- Public/Semi-Public Buildings
- Green Space/Natural Resources
- Other Open Space
- Public Right of Way: includes sidewalks, street trees, on-street parking, and street paving
- Parking Lots
- Arterial Streets

Note: The image is conceptual and does not depict a specific Lincoln neighborhood.

The following section describes the general characteristics of each center, the location criteria to be used in siting such centers, potential future locations, and compatibility guidelines for determining their applicability to a given location. Smaller commercial areas less than five acres in size need not be identified specifically in the Plan, but should still develop in accordance with the principles of the Plan.

Regional Centers (R)

Center Size

Regional Centers typically contain one million or more square feet of developed building space.

Description

Regional Centers generally include a unique blend of commercial and other compatible land uses. Within this type of center, one may find retail shopping, restaurants, entertainment complexes, cultural and artistic institutions, offices, personal and business service facilities, public institutions and governmental functions, and the center should include residential uses. The scale of such centers can offer a sense of place with a unique character or cohesive theme. Regional Centers may be considered a "Mixed Use Redevelopment Node" if they generally conform to the strategies listed in the *"Mixed Use Redevelopment"* chapter.

Regional Centers typically contain one million or more square feet of developed building space.

Many Regional Centers are large scale retailing centers that include a mall with several department store anchors and numerous small shops, as well as adjacent commercial development with stand-alone restaurants and stores, such as Westfield Shoppingtown Gateway or SouthPointe Pavilions.

Since several Regional Centers are still under development and will take years to develop due to their size and scope, it is anticipated that they will serve the community's demand for Regional Centers well into the planning period.

Market Area

The market area of Regional Centers may cover the entire planning area and even counties within several hours drive of the center.

Center Spacing

Regional Centers should be located approximately four to six miles apart, depending upon their size, scale, function, and area population.

Location Criteria

Regional Centers should be geographically well dispersed throughout the Lincoln urban area, based on the center spacing guidelines noted above. The locations of existing Regional Centers, several of which are still under development, are shown on the Existing and Proposed Commercial Centers map. These existing centers are sufficient for the needs of the community through 2040 and no new additional Regional Centers are planned for at this time. Should any new Regional Centers be proposed during the planning period they should be sited on the map so that the potential impact on existing centers may be considered as part of the development review process. The community will not require market studies to determine the economic impact on existing development. (Market studies will still be required for movie theaters.)

Community Centers (C)

Center Size

Community Centers may vary in size from approximately 250,000 to 600,000 square feet of commercial space. Typically, new Community Centers will range from 300,000 to 400,000 square feet, with those meeting the incentive criteria having up to 600,000 square feet.

Description

Community Centers are intended to be smaller in scale and intensity of uses than Regional Centers and serve a more targeted market and geographic area. Community Centers tend to be dominated by retail and service activities, although they can also serve as campuses for corporate office facilities and should include a mix of residential uses. When properly located, some light manufacturing or assembly when accessory to an office function may be appropriate.

One or two department stores or "big box" retail operations may serve as anchors (a single store over 50,000 sq. ft.) to the Community Center with numerous smaller general merchandise stores located between anchors or on surrounding site pads. Community Centers may be considered a "Mixed Use Redevelopment Node" if they generally conform to the strategies listed in the *"Mixed Use Redevelopment"* chapter.

Market Area

Community Centers can have a community-wide appeal but primarily serve a geographic subarea within Lincoln and surrounding areas within the County. Depending on the mix of stores and other shopping opportunities in the area, existing Community Centers can have a market area that is quite extensive, even rivaling some Regional Centers.

Center Spacing

Community Centers should be located approximately 1 to 1 ½ miles apart, depending upon their size, scale, function, and area population. When located at intersections, they should also not be located across an arterial street from a Neighborhood Center or another Community Center.

Location Criteria

Community Centers should be geographically well dispersed throughout the Lincoln urban area, based upon the center spacing guidelines noted above. The general location of future Community Centers should be indicated in advance on the Existing and Proposed Commercial Centers map. These locations are not intended to be site specific but rather to suggest a general area within which a Community Center might be developed. This allows the potential impact on existing centers to be considered during the development review process, when an exact location would be determined and noted on the map. The community will not require market studies to determine the economic impact on existing development.

Siting Process

The locations of the Community Centers shown in the plan are generalized. It is anticipated that the center will develop somewhere within a ½ mile of the location shown in the Plan. As part of major development proposals that include proposed Community Centers, the exact location of the Community Center for that area should be determined and a Comprehensive Plan Amendment forwarded for consideration.

Floor Area Incentive

New Community Centers will typically range from 300,000 to 400,000 square feet, and should have a minimum of 10% of their total floor area in office use. However, centers that follow most, if not all, of the incentive criteria listed at the end of this section may be appropriate to develop with up to 200,000 sq. ft. of additional space (as long as at least 20% of the total space in the center is in office space) for a total of 600,000 square feet. A desirable example would be for the total space in a center to be divided into a mix such as 120,000 square feet in office space (minimum 20%), 360,000 square feet of anchors (maximum 60%) and 120,000 square feet in smaller stores.

Community Centers may vary in size from approximately 250,000 to 600,000 square feet of commercial space.

Neighborhood Centers (N)

Center Size

Neighborhood Centers typically range in size from 50,000 to 150,000 square feet of commercial space, with those meeting the incentive criteria having up to 225,000 square feet. Existing centers may vary in size from 50,000 to 225,000 square feet.

Description

Neighborhood centers provide services and retail goods oriented to the neighborhood level, with significant pedestrian orientation and access. A typical center will have numerous smaller shops and offices and may include one or two anchor stores. Residential mixed use is encouraged. In general, an anchor store should occupy about a third to half of the total space. In centers meeting the incentive criteria, anchor store(s) may be larger, however the goals of Neighborhood Centers are to be diverse and not simply one store. Examples include Lenox Village at S. 70th Street and Pioneers Boulevard, and Coddington Park Center at West A Street and Coddington Avenue. These smaller centers will not include manufacturing uses. Neighborhood Centers may be considered a "Mixed Use Redevelopment Node" if they generally

conform to the strategies listed in the *"Mixed Use Redevelopment"* chapter.

During the planning period, several additional neighborhood centers will be needed. These centers are not identified on the future land use plan and will instead be located as part of plans for future neighborhoods based on the commercial guidelines.

Market Area

These centers typically serve the neighborhood level. It is anticipated that there will be no more than two neighborhood centers per one square mile of urban use. For areas of less than one square mile, the number of the centers will be reduced.

Center Spacing

Neighborhood Centers should be located approximately ½ mile apart, depending upon their size, scale, function and the population of the surrounding area. When located at intersections, they should also not be located across an arterial street from a Community Center or another Neighborhood Center.

Criteria

Future Neighborhood Centers are not sited in advance, but are identified once approved or built and are added to the land use plan during the annual review process.

Neighborhood Centers should generally not develop at corners of intersections of two arterial streets due to limited pedestrian accessibility and impact on the intersection – locations 1/4 to ½ mile from major intersections are encouraged, particularly if there is to be more than one Commercial Center within a square mile of urban residential use. There may be circumstances due to topography or other factors where centers at the intersection may be the only alternative.

Neighborhood Centers typically range in size from 50,000 to 150,000 square feet of commercial space.

When a square mile of urban use contains a Community or Regional Center, then only one neighborhood center should be sited within that square mile.

Siting Process

The exact location and land use composition of the Center should be determined as part of development proposals.

Floor Area Incentive

New Neighborhood Centers will typically range from 50,000 to 150,000 square feet of floor area per square mile of urban use. For centers meeting the incentive criteria, a 50% floor area bonus of up to 25,000 square feet of retail space and 50,000 square feet of office space could be added to the 150,000 square feet total, for a center total of 225,000 square feet.

Mixed Use Office Centers (O)

Center Size

Centers will develop typically with 250,000 square feet or more. Existing centers may be as small as 150,000 square feet. New centers should have retail space to serve office tenants, which may also serve adjacent neighborhoods. In general, centers should have 10-25% of their space in retail uses.

Description

Mixed Use Office Centers are intended to provide a high quality office environment with some supportive retail, service, and residential uses. Centers are designed to encourage office uses to locate together, rather than to be dispersed on single sites, in order to maximize transportation access and to have enough mass to support retail and services within the center. Office uses benefit from the mix, and employees are more satisfied with the work environment when residential and retail uses are within walking distance. A good example of a Mixed Use Office Center is Fallbrook, which has 560,000 square feet of office uses around a 120,000-square foot "neighborhood" type retail

center – which is 18% of the total space. Existing office parks may have little or no retail space, but are encouraged to add retail, service, and residential space as they continue to develop or redevelop. Mixed Use Office Centers may be considered a "Mixed Use Redevelopment Node" if they generally conform to the strategies listed in the *"Mixed Use Redevelopment"* chapter.

Center Spacing

Mixed Use Office Centers should be generally dispersed throughout the community. They may be across the street from a Neighborhood or Community Center. (Office uses across from a Regional Center should be integrated into the Regional Center). These centers may include: 1) Light Industrial Centers in I-3 Employment Center zoning which are developing with predominately office type uses; 2) up to 25% retail space and up to 150,000 square feet; and 3) single retail users less than 50,000 square feet.

Location Criteria

The locations of existing, and general locations of future, Mixed Use Office Centers are shown on the Existing and Proposed Commercial Centers map. Additional locations can be designated in the Comprehensive Plan as part of the development review process.

Highway Oriented Commercial Areas (H)

Center Size

These commercial areas will range in size considerably depending on market potential and land availability.

Description

Highway Oriented Commercial Areas are primarily oriented to the highway traveler and highway oriented distribution, warehouse and light manufacturing companies. They may include a variety of retail and service uses, including big box retail stores that have a regional draw or serve "community" center needs, restaurants, motel/hotels, gas stations, truck stops.

Since they are along entryways into the community, they should have landscaping and design standards. The Highway Oriented Commercial Areas identified in the Plan are not surrounded by large residential areas, so they are not typical locations for large discount and grocery stores or other types of anchors that serve local markets. However, these stores may be able to attract additional support from the population in rural areas and smaller towns in the region, along with the possibility of large specialty or destination stores such as sporting goods and furniture stores, which have the ability to attract consumers from one hundred miles and beyond.

Location Criteria

The locations of existing, and general locations of future, Highway Oriented Commercial Areas are shown on the Existing and Proposed Commercial Centers map. Additional locations can be designated in the Comprehensive Plan as part of the development review process.

Incentive Criteria

Community and Neighborhood Centers meeting the criteria below are eligible to increase their floor area, as described in those sections.

- The center is located in a neighborhood with greater residential density than is typical for a suburban area, and the center itself contains higher density residential uses (density above 15 dwelling units per acre) integrated within the development.

- Provides a significant mix of uses, including office, service, retail, residential, and open space — far more than typical single use centers.
- Includes multi-story buildings, including residential uses above stores and throughout the site.
- Integrates some light industrial or manufacturing uses within Community Centers.
- Provides public amenities such as recreational facilities, significant open space, plazas, public squares, and other types of public/community facilities or meeting areas.
- The center is supported by a street network with significant traffic capacity in the future, rather than on streets that already have significant commercial development.
- Provides for a significant pedestrian orientation in the layout, including the physical arrangement of buildings and parking, with buildings oriented to pedestrians.
- Provides a "town center" orientation in the overall center plan to create a quality mixed use environment (e.g. by having design elements such as a "main street" environment with a row of on-street parking on both sides, slower traffic speeds, and the majority of parking at the rear with buildings, sidewalks, benches and other amenities oriented to pedestrians).
- Traffic, pedestrian circulation and utilities are planned to facilitate a future intensification of the center, if parking needs and requirements are reduced and traffic capacity allows for additional space in the center in the long term.
- Location is ¼ to ½ mile from major intersections in order to facilitate traffic movements.
- Provides for transit opportunities in the center design.

Commercial Infill

A variety of commercial land uses seek infill and redevelopment locations. There are numerous opportunities throughout the community. Currently, there are approximately 1,900 acres of vacant commercially-zoned land in the existing city. That translates to over 10 million potential square feet based on current floor area ratios by zoning district. (Floor Area Ratio is the total square feet of a building divided by the square feet of the parcel it occupies.) This figure excludes the inventory of over 13 million square feet of approved commercial space in use permits and planned unit developments that has not yet been constructed. The Plan envisions a portion of the vacant commercially-zoned land will be utilized by 2040 since it has access to urban services today.

Strategies for Commercial Infill

- Discourage auto-oriented strip commercial development and seek opportunities for residential mixed use redevelopment and/or transit oriented development of existing commercial strips.
- Develop infill commercial areas to be compatible with the character of the area.
- Maintain and encourage businesses that conveniently serve nearby residents, while ensuring compatibility with adjacent neighborhoods.
- Avoid encroachment into existing neighborhoods during expansion of existing commercial and industrial uses, and take steps to ensure expansions are in scale with the adjacent neighborhood, are properly screened, fulfill a demonstrated need and are beneficial to health and safety.
- Ensure the priority in older areas is on retaining areas for residential development. Prior to approving the removal of housing in order to provide for additional parking to support existing centers, alternatives such as reduced

The accompanying conceptual images illustrate examples of how a variety of strategies might work together for commercial infill:

Figure 5.2: Detailed Strategies for Commercial Infill

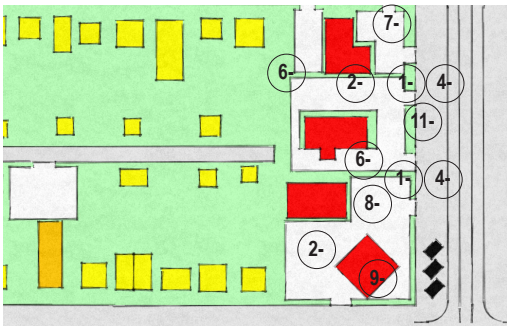
A "+" sign behind the number means the example illustrates the strategy; a "-" sign means the example does not.

1. Maintain existing vehicular access, relocate drives as needed, share access where possible, and discourage additional vehicular access to an arterial street
2. Encourage a higher Floor Area Ratio for commercial redevelopment
3. Face existing residential uses with new residential uses rather than the backs of buildings unless existing residential faces the opposite direction such as along an alley
4. Align commercial driveways with existing streets where possible
5. Discourage commercial driveways that interrupt the blockface of a residential street, especially when residences face the street
6. Encourage shared driveways and interconnected parking lots where possible
7. Orient buildings to the street, especially corners
8. Maintain or adaptively reuse existing structures (especially historical structures) where possible
9. Encourage a vertical mix of residential and commercial use types
10. Encourage shared parking between land uses with different peak demand periods
11. Maintain or enhance on-street parking resources, especially in established/historic commercial districts

- Single-Family/Duplexes/Rowhouses/Garages
- Multi-Family/Assisted Living
- Residential/Commercial Mixed Use
- Commercial Uses (office, retail, and service)
- Industrial Uses
- Public/Semi-Public Buildings
- Green Space/Natural Resources
- Other Open Space
- Public Right of Way: includes sidewalks, public alleys, street trees, on-street parking, and street paving
- Parking Lots/Driveways
- On-Street Parking Examples
- Arterial Streets

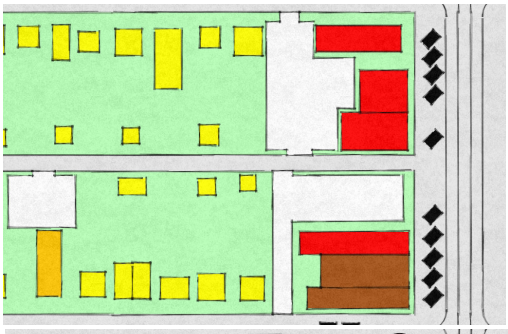
Very Poor

Redevelopment fails to meet or undermines several Business and Economy Chapter principles and/or strategies.



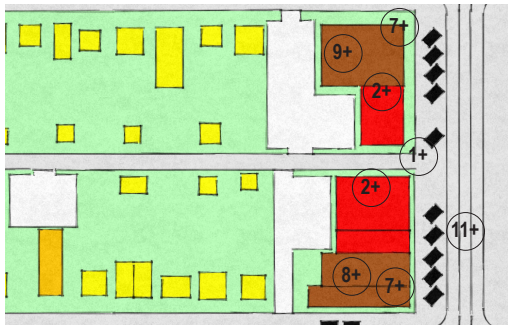
Poor

Redevelopment does not result in broad change that strives to meet Business and Economy Chapter principles and/or strategies.



Existing

Existing site prior to infill or redevelopment.



Better

Redevelopment accomplishes or incorporates only a few Business and Economy Chapter principles and/or strategies.

Preferred

Redevelopment accomplishes or incorporates numerous Business and Economy Chapter principles and/or strategies

Note: The Commercial Infill Images are conceptual and do not depict specific Lincoln commercial areas, but have been developed from examples from several commercial areas throughout the city and elsewhere. The intent of the images is to provide examples of situations in existing commercial areas that illustrate a range of development outcomes.

parking requirements, shared parking, additional on-street parking, or the removal of other commercial structures should be explored.

- Encourage efforts to find new uses for abandoned, under-utilized or "brownfield" sites that are contaminated, through redevelopment and environmental mitigation.
- Maintain and encourage ethnically diverse commercial establishments that are convenient to existing neighborhoods.
- Develop and maintain an ongoing citywide floor area and land-use space survey and analysis for office, service and retail commercial uses to monitor growth and measure vacancy rates and to provide baseline information for decision making.

Currently, there are approximately 1,900 acres of vacant commercially-zoned land in the existing city.

- Identify and maintain an inventory of vacant and undeveloped commercially-zoned land within the existing city, and make the inventory publicly available.
- Develop design standards for varying types of Commercial Centers and corridors, taking into consideration the context of the site and surroundings.

Industrial Centers

Industrial employment is considered an employment sector with moderate growth potential for the city and county. Using the population projections discussed earlier, LPlan 2040 foresees the demand for nearly 1,400 acres of additional industrial property over the planning period. Locations for future industries should be sought on land outside of the 100 year floodplain. The City's policy is to site Industrial Centers in the land use plan in advance in order to ensure public safety and adequate infrastructure. (See Existing and Proposed Industrial Centers map on the following page.) The Lincoln/Lancaster County Health Department should be involved in all siting of new industrial centers to ensure the public's health and safety.

Moderate to Heavy Industrial Centers (HI)

Size

Moderate to Heavy Industrial Centers should be over 80 acres in size, with planned industrial centers of over 200 acres preferred.

Description

Moderate to Heavy Industrial Centers are primarily for manufacturing, processing and assembly uses such as Veyance, Archer Daniels Midland, and Kawasaki. In the past, large industrial users were often located in isolation from each other; preferably industries should locate together in planned industrial centers. Many industrial centers also include some warehouse, storage and contractor yard uses with a minor amount of supporting commercial use — but they should be and usually are over 75% industrial use.

Spacing

Moderate to Heavy Industrial uses are encouraged to locate near each other in planned industrial centers. Planned industrial centers should generally be distributed throughout the community.

Criteria

New industrial centers should be distant from existing or planned residential areas. Industrial uses should be located in close proximity to each other. Transitional uses (such as offices or commercial uses) should develop between Moderate to Heavy Industrial Centers and residential uses. In redeveloping areas, lesser setbacks may be acceptable due to the existing conditions, as long as industrial zoning does not get closer to existing residences. Each planned industrial district should

be established only after further consideration of site characteristics, buffering and appropriate zoning.

Light Industrial Centers (LI)

Size

Light Industrial Centers should be a minimum of 50 acres in size, with larger planned centers preferred.

Description

Light Industrial Centers are primarily for lighter manufacturing uses with some additional office and retail uses located within the center, such as the Chamber Industrial Park at S. 14th Street & Old Cheney Road.

Spacing

Light Industrial Centers should generally be distributed throughout the community. Particularly, new Light Industrial Centers should be located in new growth areas of the city.

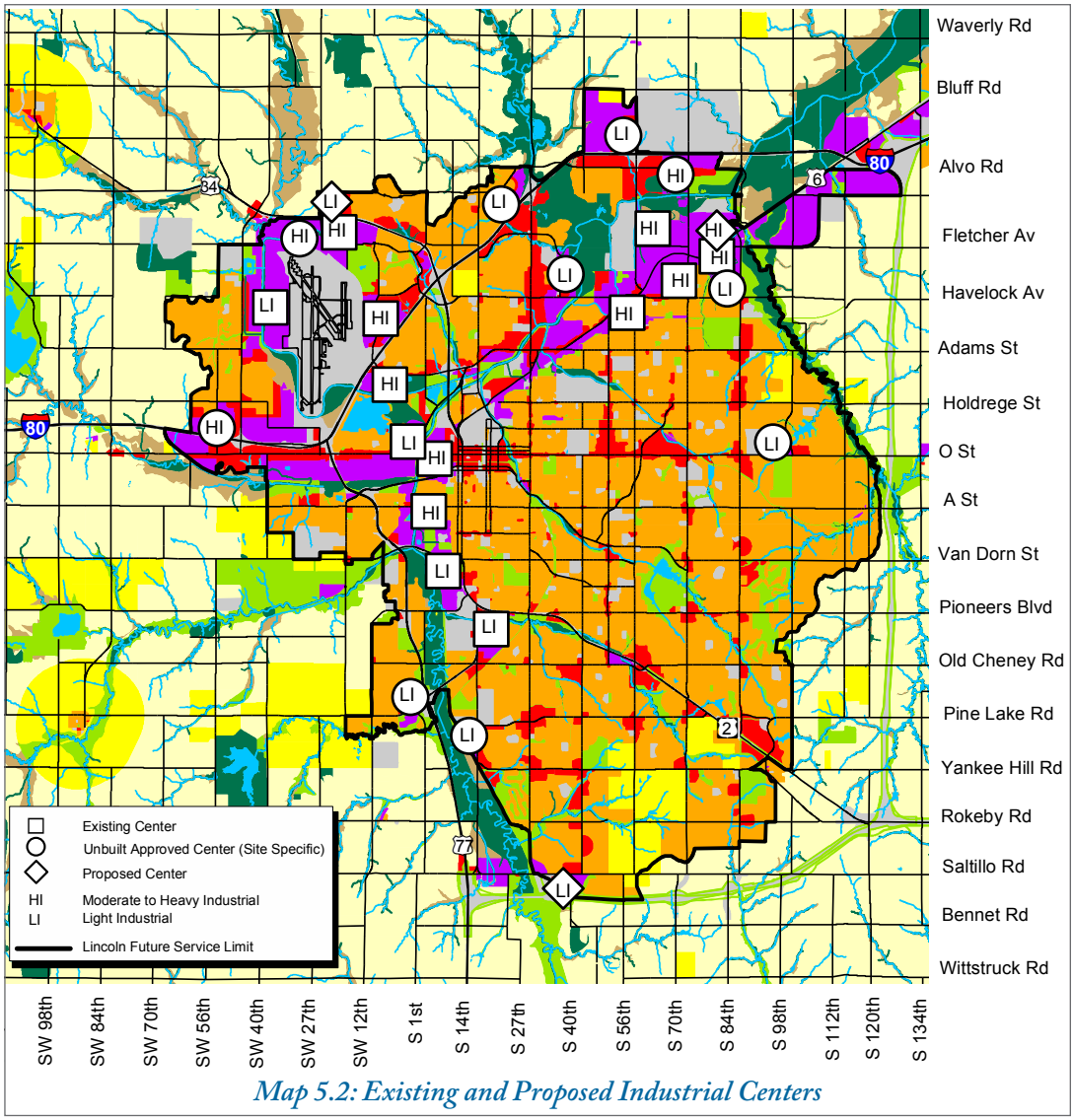
Criteria

Light Industrial Centers can be located more closely to residential uses than Moderate to Heavy Industrial Centers, though residential uses should be buffered through landscaping, large setbacks and transitional uses, such as office or open space. In redeveloping areas, smaller setbacks may be acceptable due to the existing conditions, as long as existing industrial zoning does not get closer to existing residences.

Hazardous Materials

There are considerations for industrial uses in regard to the potential impact on adjacent property. In 2005, a Joint Committee of the Board of Health and Planning Commission began to meet regularly to discuss issues of common interest; including industrial land uses that use and store hazardous materials. The Joint Committee developed reports called *"Use and Storage of Hazardous Materials" and "Pipelines Carrying Hazardous Materials."*

LPlan 2040 foresees the demand for nearly 1,400 acres of additional industrial property over the planning period.



Map 5.2: Existing and Proposed Industrial Centers

Public Health & Safety Measures

Industrial zoning districts should be primarily for industrial uses.

Risk Reduction: In areas where industrial and residential uses are already close, efforts should focus on changes in the quantity and type of hazardous materials used and on increasing the distance between where hazardous materials are stored and residential districts.

Notification: Persons living in close proximity to businesses with hazardous materials should be notified of the hazards.

Emergency Planning: Businesses and government agencies should continue to work together on developing and updating Emergency Management Plans for dealing with accidents and emergencies.

Joint Planning: Joint planning and health efforts should continue between the Board of Health and Planning Commission. The specific objectives and recommendations already developed should be further reviewed and implemented.

Potential Large Employer Opportunity Areas

The Plan designates some sites outside the 2040 Future Service Limit as "Large Employer Opportunity Areas," which are displayed on *"Map 1.2: Lincoln Area Future Land Use Plan"*. The purpose of these sites is to provide a "second tier" of potential sites for large "primary" employers to consider, if for some reason potential sites within the Future Service Limit are unsuitable. These second tier sites currently have limited infrastructure, however, some employers may find them desirable due to their large size, highway and/or rail accessibility, and remoteness from residential areas. All economic development efforts should focus on land within the future service limit, which are the most viable sites, however, these Opportunity Areas can potentially provide a secondary option if needed for a large primary employer.

Initially, not all of the Opportunity Areas are viable locations, since many are remote from the city limits and infrastructure. A selected site would develop only if annexed by the City after a careful evaluation of infrastructure costs and implications.

6 Mixed Use Redevelopment

This chapter lays out the strategy for mixed use redevelopment that strives for compatibility with surroundings while accomplishing various principles of the Plan.

Introduction

LPlan 2040 projects a significant shift in demographics during the planning period, which is expected to create a demand for some smaller dwellings, smaller lots and more walkable neighborhoods that have retail and services integrated to serve residents. The mixed use redevelopment concept for LPlan 2040 focuses on the existing and expected large supplies of undeveloped or under-utilized commercial land with city services already in place.

Based on the projected demographic trends, fiscal constraints for expanding infrastructure, and numerous opportunities for future redevelopment of commercial areas, the Plan identifies the potential for 8,000 new dwelling units to be located within the existing built-out portion of the City by 2040. The primary focus for new dwelling units is the "Greater Downtown" which includes Downtown proper, Antelope Valley, the Haymarket, and Innovation Campus. These areas should accommodate roughly 3,000 new dwelling units by 2040. 1,000 dwelling units are slated for existing residentially-zoned land, primarily on vacant lots (see *"Neighborhoods & Housing"* chapter). The remaining 4,000 dwelling units are anticipated to be located primarily in MIxed Use

In this Chapter

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Redevelopment primarily occurs where land is developed with buildings that are cleared from the site, buildings that are converted to a different use, or a combination of the two. *Infill* primarily occurs where land is not presently developed with buildings.

Mixed Use Redevelopment should target underdeveloped or redeveloping commercial and industrial areas.

Special Needs Housing generally includes, but is not limited to the following uses: elderly housing, assisted living facilities, group homes, domestic shelters, and children's homes.

Redevelopment Nodes and Corridors including existing commercial centers and along major transportation corridors.

Increasing residential densities by adding new dwelling units to existing commercial areas in the form of mixed use centers also strengthens the buying power of adjacent neighborhoods by adding more "rooftops." Strengthened buying power may be able to improve the quality and quantity of localized private businesses and services.

The community should plan for sufficient and varied choices for the location of special needs housing. Special needs housing should be encouraged to locate within mixed use commercial centers where it could serve as a transitional use to less intensive residential development and could benefit from closer proximity of services and retail goods within walking distance.

Guiding Principles

- Mixed Use Redevelopment should:
  - Target existing underdeveloped or redeveloping commercial and industrial areas in order to remove blighted conditions and more efficiently utilize existing infrastructure.
  - Occur on sites supported by adequate road and utility capacity.
  - Be located and designed in a manner compatible with existing or planned land uses.
  - Enhance entryways when developing adjacent to these corridors.
  - Preserve existing affordable housing and promote the creation of new affordable housing throughout the community.
  - Provide a diversity of housing types and choices throughout each neighborhood for an increasingly diverse population.
  - Encourage substantial connectivity and convenient access to neighborhood services (stores, schools, parks) from nearby residential areas.
  - Create housing opportunities for residents with special needs throughout the city that are compatible with and integrated into residential neighborhoods.
  - Incorporate and enhance street networks with multiple modes of transportation in order to maximize access and mobility options.
  - Promote activities of daily living within walking distance, and provide sidewalks on both sides of all streets, or in alternative locations as allowed through design standards or review process.
  - Help to create neighborhoods that include homes, stores, workplaces, schools, and places to recreate.
  - Encourage residential mixed use for identified corridors and redeveloping Regional, Community, Neighborhood, and Mixed Use Office Centers identified as nodes.
  - Develop with substantial connectivity between developing or existing neighborhoods and developing or redeveloping commercial centers.
  - Be encouraged to make available opportunities for individuals and/or organizations to raise and market local food.

- Encourage preservation or restoration of natural resources within or adjacent to mixed use redevelopment areas.
- Encourage public/private partnerships with housing entities such as Lincoln Housing Authority, Nebraska Housing Resource, and NeighborWorks.

Mixed Use Redevelopment Approach

The Mixed Use Redevelopment Approach presented below seeks to fulfill three objectives:

1. To provide flexibility to the marketplace in siting future mixed use redevelopment locations;
2. To offer existing neighborhoods, present and future residents, developers, other businesses, and infrastructure providers a level of predictability as to where such mixed use redevelopment concentrations might be located; and
3. To encourage and provide incentives for residential mixed use in redeveloping commercial and industrial areas.

Balancing these three objectives in a meaningful way will require diligence, mutual understanding, and an ongoing planning dialogue.

The Mixed Use Redevelopment Approach is divided into two major components:

1. Greater Downtown
2. Mixed Use Redevelopment Nodes and Corridors

Components and strategies for redevelopment associated with other chapters include:

1. Commercial Infill (see *"Business & Economy"* chapter)
2. Existing Neighborhoods (see *"Neighborhoods & Housing"* chapter)

Greater Downtown

A major focus for new residential reuse, infill, and redevelopment is in the Greater Downtown area. The Plan envisions an additional 3,000 dwelling units in this core area by 2040. This area is the main hub of employment, entertainment, and higher education. Over the years, there have been significant public and private investments in new building construction, renovations, and infrastructure. In order to capitalize on these collective investments, further development in the Greater Downtown should be realized.

The Plan envisions an additional 3,000 dwelling units in this core area by 2040.

Strategies for Greater Downtown

- Support development and implementation of the *Downtown Master Plan* and the *Antelope Valley Redevelopment Plan*.
- Ensure that new development is compatible with the existing Downtown and is pedestrian-oriented.
- Maintain the urban environment, including a mix of land uses with a major focus on residential uses.
- Encourage higher density development with parking areas at the rear of buildings, below grade, or on upper floors of multi-use parking structures.

Mixed Use Redevelopment Nodes and Corridors

"Down-zonings" in established neighborhoods to help preserve a mix of single family homes and apartments have occurred in several areas over the past decade. In acknowledgement of this trend and community desire, the City's primary strategy for residential infill and redevelopment outside of the Greater Downtown is to encourage the redevelopment and reuse of sites and buildings in commercial areas in order to create new mixed use centers that are compatible and complementary

to adjacent neighborhoods. Nodes and corridors are mixed use and transit oriented. Residential development is strongly encouraged. This strategy is meant to absorb dwelling unit redevelopment demand from existing residential neighborhoods while enhancing areas with blighted conditions.

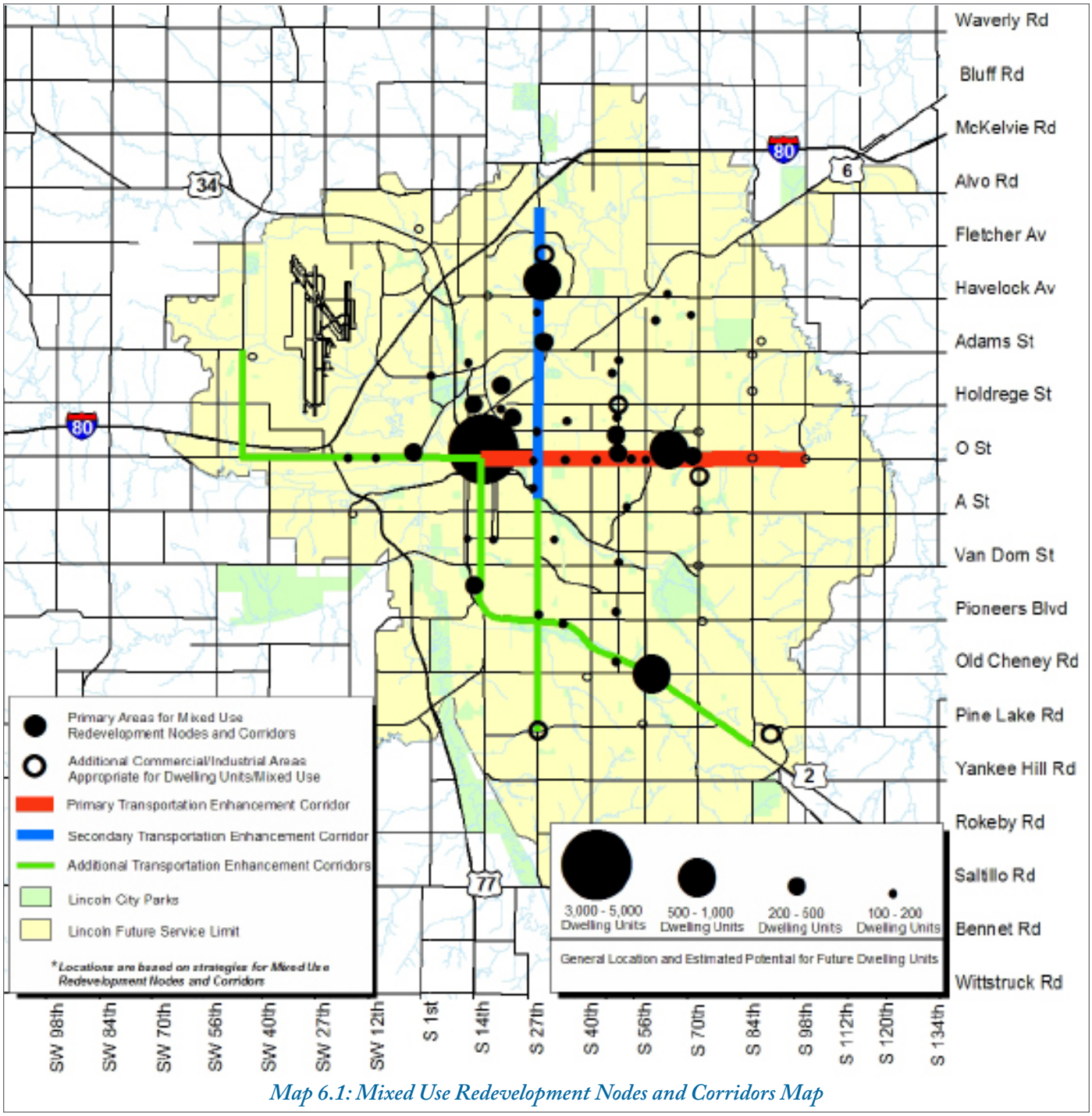
Mixed Use Redevelopment Nodes and Corridors supplement the "Commercial" land use designation on the Future Land Use Map and the Commercial Centers map. Nodes are Commercial Centers that are five acres or larger that are encouraged to be redeveloped into walkable residential mixed use centers. Nodes may be classified as Regional, Community, Neighborhood, or Mixed Use Office Centers, and can be thought of as "villages within the city" with a broad range of land use types including civic, residential, special needs housing, retail, office, and service. Corridors are located along major transportation corridors such as arterials. Corridors often link Mixed Use Redevelopment Nodes and/or other Commercial Centers. Residential mixed use redevelopment should be encouraged in these areas, and transportation enhancements may be targeted to support such redevelopment.

Nodes encompass generalized locations of commercial and industrial land uses with access to arterial streets, public transportation, and proximity to community facilities such as parks and schools. As the foundation of a great new neighborhood, nodes should provide services and retail goods oriented to the residents in and adjacent to the development, with significant pedestrian orientation and access. The adaptive reuse of historic or other existing structures into mixed uses is encouraged. The size, scope, and spacing of a node will depend on the Commercial Center designation. Nodes should be located on arterials and should have access to public transit. They should provide adequate facilities for

Figure 6.1: An architect's depiction of the Mixed Use Redevelopment Nodes and Corridors Concept, Looking West along P Street at about 68th Street

multi-modal transportation including a complete sidewalk network, transit stops, automobile parking and circulation, and storage of bicycles. This concept is designed and intended to be mutually beneficial for existing adjacent neighborhoods and the new mixed use neighborhood created by the redeveloped center. Newer commercial centers that are not yet fully developed are encouraged to utilize this concept as a guide for amending their approved plans to develop as mixed use centers.

Corridors represent priorities for future public transportation enhancements (such as increases in level of service), areas to encourage mixed use redevelopment of commercial strips, and connections for Mixed Use Redevelopment Nodes and/or commercial centers. Corridors are typically



Map 6.1: Mixed Use Redevelopment Nodes and Corridors Map

a half block to a block wide along arterial streets in commercially or industrially-zoned areas. Since they are often located on major arterials between commercial centers, they experience a lot of traffic and usually have transit. Corridors present opportunities for small-scale reuse or redevelopment projects and should include a mix of land use types, especially residential. The adaptive reuse of historic or other existing structures into mixed uses is encouraged. Due to the linear nature of Corridors, existing residential neighborhoods are often next door or across the alley from the commercial strip or industrial remnant. This close relationship makes the adoption of design standards very important in proceeding with this strategy.

Design standards should be developed for Mixed Use Redevelopment Nodes and Corridors. As of 2011, urban design standards generally only cover residential areas inside the 1950 City limits and the Downtown. Most commercial areas of the city are not under any design review and sometimes create rough edges and poor entryways to neighborhoods. Establishing design standards for Mixed Use Redevelopment Nodes and Corridors should result in better design within commercial centers and soften the transition to surrounding neighborhoods.

Strategies for Mixed Use Redevelopment Nodes and Corridors

- Mixed Use Redevelopment Nodes and Corridors should strive to locate:
  - In areas where there is a predominance of commercial or industrial zoning and/or development, focusing on non-residential areas as opposed to existing neighborhoods.
  - In proximity to planned or existing neighborhoods and community services, to facilitate access to existing community services or to address a deficiency by providing services such as grocery stores, childcare centers, and restaurants.
  - Where there is existing or potential for good access to transit, to enhance the public transit system by making it accessible to residents and to facilitate the development of neighborhood multimodal hubs where residents can drive, bike, or walk to a transit stop, go to work, and then shop for their daily needs before they return home.
  - On at least one arterial street to help provide for traffic and utility capacity and access to transit.
  - In areas appropriate for residential mixed use redevelopment, outside of areas identified as Industrial Centers and Highway Oriented Commercial Areas in LPlan 2040 to avoid conflicts with health and safety.
  - In areas that minimize floodplain and other environmental impacts. Areas within the floodplain that already have buildings and fill are appropriate for redevelopment; projects that receive public assistance should meet a higher standard to preserve flood storage. This criterion encourages redevelopment while protecting sensitive environmental areas.
- Strive for commercial Floor Area Ratios of at least 0.5 within buildable areas designated for commercial development inside the project boundary (including public and semi-public buildings). This strategy encourages significant returns on public investment by developing high-quality properties with sustained value, long-term viable businesses to generate sales tax, and efficient use of land and infrastructure resources.

- Strive for residential densities of at least seven dwelling units per gross acre within buildable areas inside the project boundary. This strategy encourages significant returns on public investment by developing high-quality properties with sustained value, supports new businesses in the mixed use center, makes public transportation more viable, and uses land and infrastructure more efficiently.
- Develop design standards specific to Mixed Use Redevelopment Nodes and Corridors.
- Revise pertinent codes and regulations in order to remove impediments to achieving mixed-use residential and commercial development.

***Floor Area Ratio* is the total square feet of a building divided by the square feet of the parcel it occupies.**

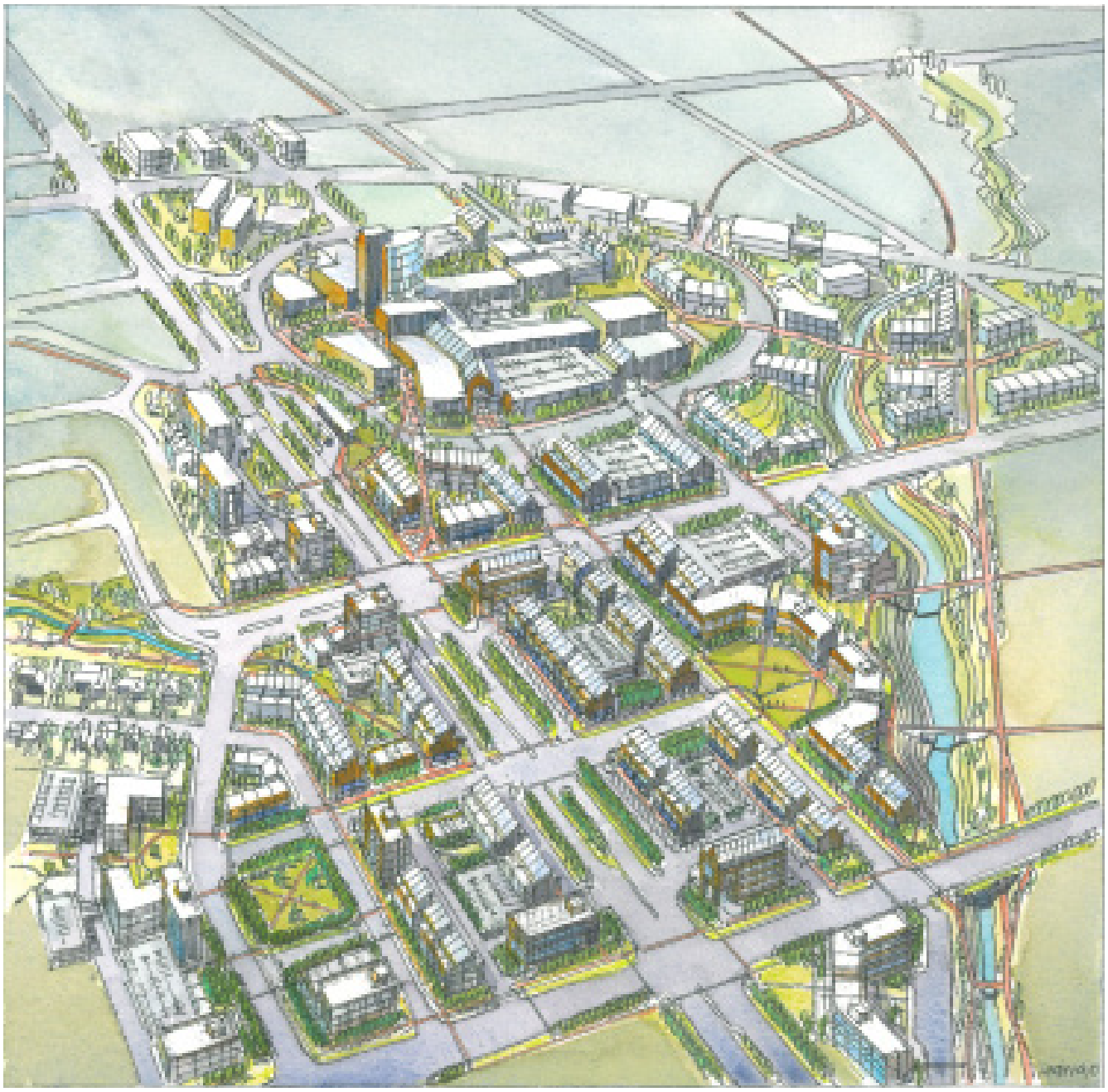


Figure 6.2: An architect's depiction of the Mixed Use Redevelopment Nodes and Corridors Concept for the Gateway/East Park area (looking northwest from 70th and O Streets)

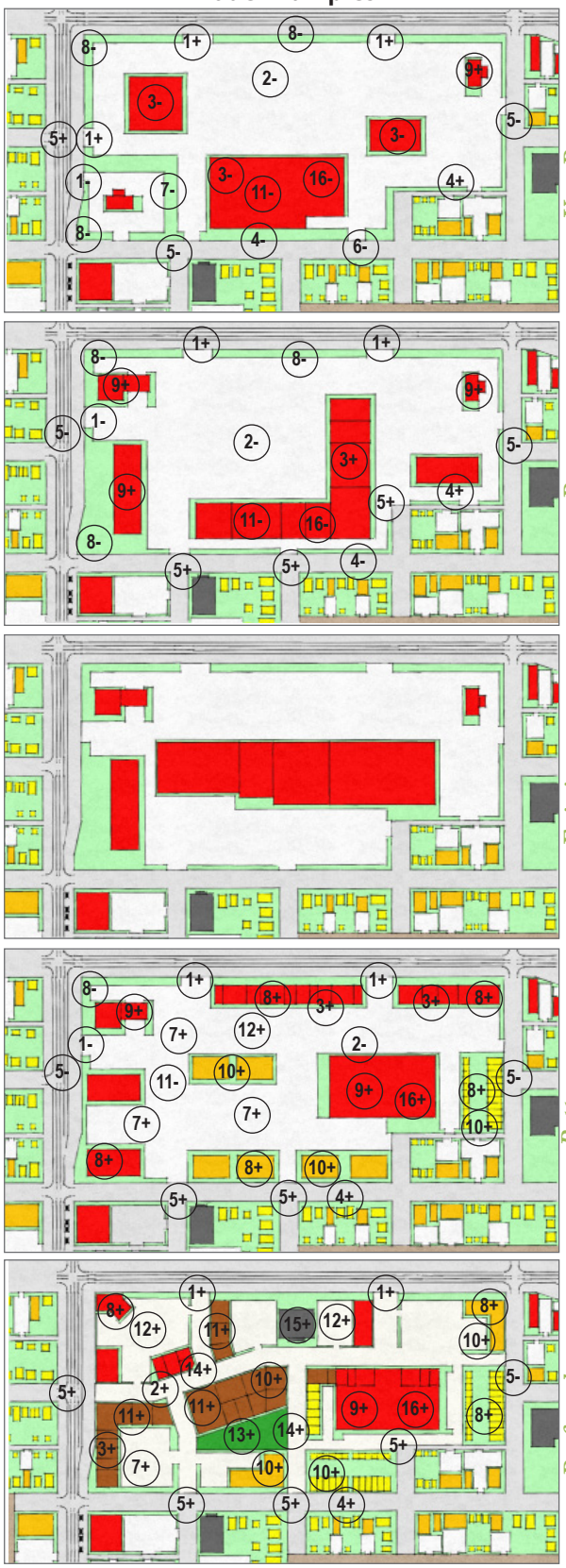
Figure 6.3: Detailed Strategies for Mixed Use Redevelopment Nodes and Corridors (pages 6.8 and 6.9)

A "+" sign next to the number means the example illustrates the strategy; a "-" sign means the example does not.

1. Maintain existing vehicular access, relocate drives as needed, share access where possible, and discourage additional vehicular access to an arterial street.
2. Encourage a higher Floor Area Ratio for commercial redevelopment.
3. Encourage a wide variety of commercial tenants.
4. Face existing residential uses with new residential uses rather than the backs of buildings, unless existing residential faces the opposite direction such as along an alley.
5. Align commercial driveways with existing streets where possible.
6. Discourage commercial driveways that interrupt the blockface of a residential street, especially when residences face the street.
7. Encourage shared driveways and interconnected parking lots where possible.
8. Orient buildings to the street, especially corners
9. Maintain or adaptively reuse existing structures (especially historic structures) where possible.
10. Incorporate a variety of residential use types such as rowhouses, apartment buildings, apartments in mixed use buildings, live-work units, and special needs housing. These buildings could also serve as a transition to the existing neighborhood.
11. Encourage a vertical mix of residential and commercial use types.
12. Encourage shared parking between land uses with different peak demand periods.
13. Create public/semi-public green or open spaces such as parks, plazas, or community gardens.
14. Establish or re-establish an internal public or private street network within the node that has substantial connectivity to adjacent neighborhoods.
15. Encourage public/semi-public uses.
16. Encourage supermarkets or specialty grocery stores to locate within nodes.

- Single-Family/Duplexes/Rowhouses/Garages
- Multi-Family/Assisted Living
- Residential/Commercial Mixed Use
- Commercial Uses
- Industrial Uses
- Public/Semi-Public Buildings
- Green Space/Natural Resources
- Other Open Space
- Public Right of Way: includes sidewalks, street trees, on-street parking, and street paving
- Parking Lots
- On-Street Parking Examples
- Arterial Streets

Node Examples



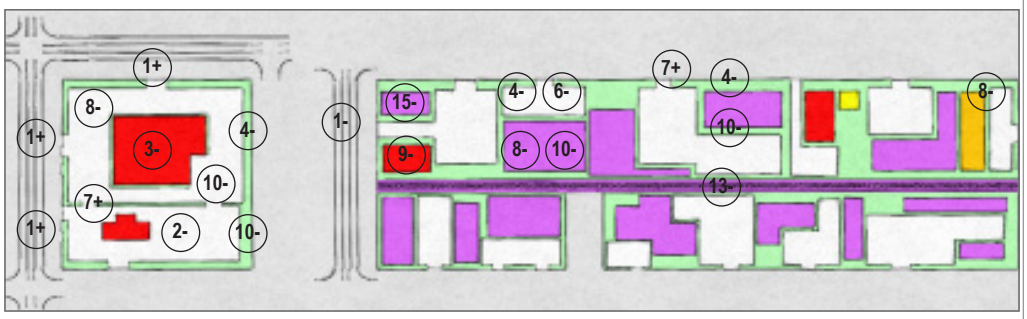
Note: General ratings for drawings on page 6.9.

Commercial Corridor Examples	Industrial Corridor Examples

Note: General ratings for drawings on pages 6.8 and 6.9.

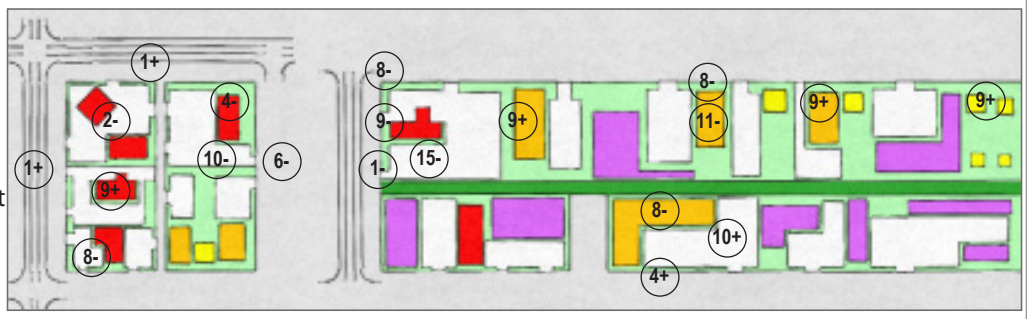
Very Poor

Redevelopment fails to meet or undermines several Mixed Use Redevelopment principles and/or strategies.



Poor

Redevelopment does not result in broad change that strives to meet Mixed Use Redevelopment principles and/or strategies.



Existing

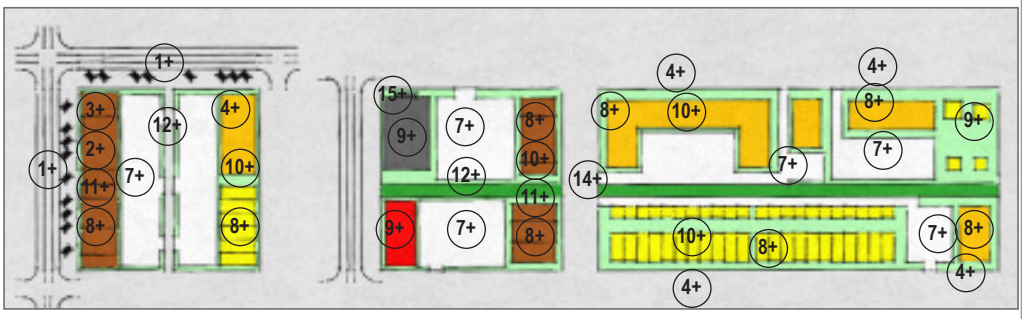
Existing site prior to infill or redevelopment.

Better

Redevelopment accomplishes or incorporates a few Mixed Use Redevelopment principles and/or strategies.

Preferred

Redevelopment accomplishes or incorporates numerous Mixed Use Redevelopment principles and/or strategies.



Note: The images are conceptual and do not depict a specific Lincoln neighborhood, but have been developed as examples from several nodes and corridors throughout the city and elsewhere. The intent of the images is to provide examples of situations in existing nodes and corridors that illustrate a range of development outcomes.

Strategies for Facilitating Redevelopment

Facilitating infill and redevelopment in the existing city requires both a nuanced understanding of the challenges associated with redevelopment projects and a well-thought out set of strategies to overcome them. Commonly cited challenges to infill and redevelopment include land cost and assembly, access to financing, zoning requirements, and consensus building among project stakeholders, including neighbors. The Comprehensive Plan seeks to address these concerns and encourage successful infill and redevelopment through the following strategies:

- Raise public awareness of and support for infill and redevelopment.
  - Develop subarea plans for specific areas that set a framework for development, including advance blight studies, redevelopment plans, identification of infrastructure needs and public/private roles.
  - Establish stronger design standards for redevelopment projects to provide assurance that they will blend into the context of, or enhance, the surrounding neighborhood and avoid conflicting visions among developers, neighbors, and city officials.
  - Formally assign responsibility for implementing the Mixed Use Redevelopment strategies in this chapter of the Comprehensive Plan to the Urban Development Department.
  - Establish a new Mayor's Advisory Committee to oversee progress and provide support for infill and redevelopment projects.
  - Raise awareness among local developers and learn from other communities. Invite local and out-of-town developers to share their experiences and identify the necessary ingredients for successful redevelopment with city officials, local developers, lenders, architects, and neighborhood groups.
- Work with state and local government to extend financial incentives to designated locations within the built environment.
  - Revise policies to extend Tax Increment Financing (TIF) eligibility to additional defined areas.
  - Examine opportunities to simplify the state redevelopment law, such as revising the requirement for a finding of "blight and substandard" conditions.
  - Offer property tax abatement as an alternative to TIF (the City's current financial incentive) because it does not require studies, contracts, or negotiations and can be used on smaller projects. This would require a constitutional amendment to the previously approved provision which applies only to historic properties.
  - Examine new tax policies such as a "land value tax" that taxes the land and not the improvements, to discourage holding unimproved property and encourage development at higher densities; this would require a constitutional amendment.
- Develop incentives to reduce the cost and risk of infill and redevelopment.
  - Encourage the establishment of a Community Development Corporation (CDC) or incorporated nonprofit organization that could raise equity for projects, purchase land, offer services, and engage in other activities that promote and support community development.

- Consider reducing building and zoning fees for infill and redevelopment projects.
- Examine the potential for extending impact fee exclusions beyond Downtown/Antelope Valley to other designated redevelopment areas.
- Reduce the time it takes to move city-assisted projects through the City review process.

- Encourage land assembly for redevelopment that is sensitive to the existing built environment.
  - Implement a strategic land banking program to purchase and hold land for future development to reduce developer risk associated with land assembly and enhance development potential.
  - Maintain a current and accurate inventory of vacant property.
- Revise the Zoning Ordinance to provide more flexibility, particularly in commercial districts.
  - Provide a mechanism for adjustments in older zoning districts to lot area, height, setbacks, and parking standards, similar to the provisions already available for newer districts.
  - Provide for accessory dwelling units that meet appropriate standards as a conditional use in residential zoning districts.
  - Where compatible mixes of uses, appropriate site layout, and quality design standards still can be upheld, reduce the minimum size for Planned Unit Developments to promote mixed use redevelopment on smaller parcels in identified Mixed Use Redevelopment Nodes and Corridors.
- Support and enhance existing infrastructure and amenities.
  - Consider opportunities for centralized, shared public parking lots and structures beyond the downtown area.
  - Attract infill and redevelopment with complementary public improvements such as plazas and enhanced streetscapes.
  - Provide convenient transit service and pedestrian/bicycle connections and facilities.

7 Neighborhoods & Housing

This chapter discusses the desired pattern of development in newer and older neighborhoods and rural areas and strategies for meeting future housing demand.

Introduction

One of the essential elements of the community and LPlan 2040 is housing. Ensuring safe, adequate, and affordable housing is an important function in maintaining the vitality of neighborhoods and the city as a whole. The key to both developing and existing urban neighborhoods is land use diversity. For existing neighborhoods, the diversity is often already in place, but efforts must focus on maintaining this balance and variety. The diversity of architecture, housing types and sizes are central to what makes existing neighborhoods great places to live. New construction should continue the architectural variety, but in a manner that is sympathetic to the character of existing neighborhoods.

The community continues its commitment to strong, diverse neighborhoods. Neighborhoods remain one of Lincoln's great strengths and their conservation is fundamental to this plan. The health of Lincoln's varied neighborhoods and districts depends on implementing appropriate and individualized policies.

In existing neighborhoods, preservation, maintenance, and rehabilitation of existing housing should continue to be the focus. Infill and

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redevelopment needs to respect the street pattern, block sizes, and development standards of the area, such as parking at the rear and porches, windows, and doors on the front street side. Diversity of land uses, including commercial and special needs housing, is important provided the use fits within the character of the block and neighborhood.

Guiding Principles

- Encourage public investment in neighborhood infrastructure and services such as parks, pools, libraries, and neighborhood business districts.
- Continue policies such as landmark districts and down-zonings that maintain a mix of single-family and multi-family housing and support home ownership and the preservation and enhancement of historic properties.
- Promote sustainability and resource conservation by preserving and improving housing in existing neighborhoods.
- Distribute and preserve affordable housing throughout the community to be near job opportunities and to provide housing choices within existing and developing neighborhoods.
- Make available a safe residential dwelling for all citizens.
- Provide a wide variety of housing types and choices for an increasingly diverse and aging population.
- Provide flexibility to the marketplace in siting future residential development locations.
- Strive for predictability for neighborhoods and developers for residential development and redevelopment.
- Encourage acreages to develop in appropriate areas and preserve farmland.
- Preserve areas designated for multi-family and special needs housing in approved plans to support a distributed choice in affordable housing.
- Provide safe and decent affordable and special needs housing for low- and moderate-income households.

Housing Trends

According to the U.S. Bureau of the Census, the number of housing units in Lancaster County rose from 104,217 units in 2000 to 120,875 units in 2010 – an increase in the housing stock of 16,658 units. The increase in housing units predominantly occurred in the City of Lincoln. Lincoln had 110,546 housing units in 2010 or 91.5 percent of the housing units in Lancaster County. This ratio is consistent with data from 2000 when about 91.3 percent of the housing units (95,199 units) in Lancaster County were in Lincoln. During the planning period, there will continue to be a need to accommodate Special Needs Housing, which generally includes, but is not limited to: elderly housing, assisted living facilities, group homes, domestic shelters, and children's homes.

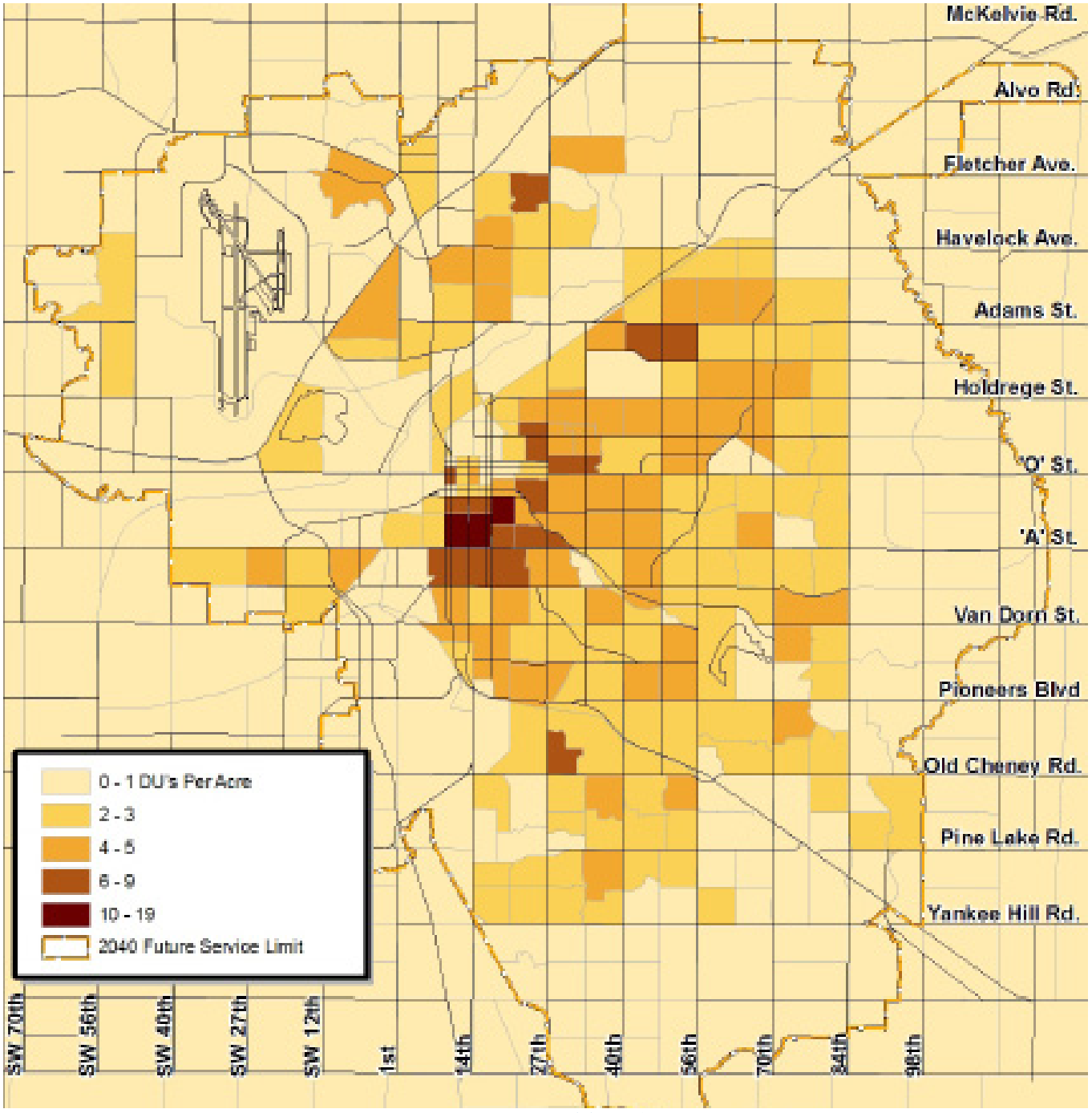
In 2010, housing occupancy for Lancaster County stood at 93.8 percent, with a vacancy rate of 6.2 percent. This rate is slightly lower than the 95.2 occupancy rate in 2000 and 95.4 occupancy rate in 1990, reflecting the effect of the economic recession in the last part of the decade.

The map on the following page shows the number of dwelling units per gross acre within traffic zones for January 1, 2011. Traffic zones vary in size from as small as four blocks in the Downtown area, up to one-half of a square mile in suburban areas, and as large as several square miles in the County. The total area in each traffic zone includes all land uses, such as commercial, industrial and rights-of-way for roads in addition to residential areas. Thus, this measure is considered the "gross" density per acre. (In contrast, "net" density describes the total number of dwelling units divided by the number of residential acres, excluding all other uses.)

The density in the urban area currently ranges from 1 to 3 dwelling units per gross acre in developing neighborhoods to as much as 19 per gross acre in

neighborhoods nearest to Downtown. Existing neighborhoods generally have a greater density than developing areas. Many developing areas have low densities at this time because they are not fully developed.

Preserving our existing housing stock is one of the best ways to provide for affordable housing in our community. Over the last few years the City has been working on improvements to housing code enforcement. These efforts include an increase in fines for violations of property maintenance code and adoption of the "international" property maintenance code which is more comprehensive and stricter than the previous code. Building and Safety has begun to institute more "performance-based" inspections of multifamily rental units.



Map 7.1: Density by Traffic Zone

Performance-based inspections allow a property owner who has a good inspection to have inspections every two years, while property owners with poor inspections are inspected every six months. These are big steps to improving quality affordable housing, but there may be other strategies that should be explored.

The efficiency of our existing housing stock could also be improved by allowing accessory dwelling units (ADU). ADUs allow for multiple generations of a family to live on the same property, provide smaller, more affordable units as part of an existing neighborhood fabric, and more efficiently and cost effectively utilize existing infrastructure and resources.

Strategies for Neighborhoods and Housing

- Discourage residential development in areas of environmental resources such as endangered species, saline wetlands, native prairies, and in floodplain corridors.

- Encourage preservation or restoration of natural resources within or adjacent to development.
- Provide adequate spacing from pipelines and areas where hazardous chemicals could be used and stored; notify property owners and residents along the pipeline about hazards and emergency actions.
- Encourage substantial connectivity and convenient access to neighborhood services (stores, schools, parks) from residential areas.
- Create housing opportunities for residents with special needs throughout the city that are integrated into and compatible with residential neighborhoods.
- Encourage mixed use commercial centers to incorporate special needs housing where they could serve as a transitional use to less intensive residential development and benefit from walkable access to the commercial area and transit.
- Incorporate interconnected networks of streets, transit, trails, and sidewalks with multiple connections within and between neighborhoods and commercial centers to maximize access and mobility to provide alternatives and reduce dependence upon the automobile.
- Provide sidewalks on both sides of all streets, or in alternative locations as allowed through design standards or review process.
- Develop and utilize a measurement tool to evaluate proposed projects and assess existing and proposed neighborhoods in terms of how well they achieve the Plan's goals for design and sustainability.
- Encourage public/private partnerships with housing entities such as *Lincoln Housing Authority*, *Affordable Housing Initiatives*, *Habitat for Humanity*, and *NeighborWorks Lincoln*.
- Design and locate special needs housing to enhance the surrounding neighborhood.
- Make available opportunities for individuals and/or organizations to raise local food.
- Provide for more education of the public about affordable housing and code enforcement.
- Pursue more proactive code enforcement for maintenance of existing buildings.
- Provide for accessory dwelling units with proper design standards.
- Principles and strategies for neighborhoods and housing associated with other chapters:

  1. Commercial Development (see the *"Business & Economy"* chapter).

2. Greater Downtown (see the *"Mixed Use Redevelopment"* chapter).

3. Mixed Use Redevelopment Nodes and Corridors (see the *"Mixed Use Redevelopment"* chapter).

Accessory Dwelling Units

An Accessory Dwelling Unit (ADU) is an additional, self-contained housing unit that is secondary to the main residence. ADUs are sometimes referred to as "Granny Flats" or "Mother-In-Law Units" since many ADUs were initially constructed to provide for family members.

ADUs can take many forms. In some cases, an ADU can be attached as an addition to the house or as a second story over a garage. The garage itself may be converted to an ADU or, in rare cases, the ADU may occupy a basement if codes can be met. An ADU can even be a section of the main house that has been separated from the main living space. Additionally, an ADU can be a stand-alone unit like a small house or cottage. Alleys provide excellent opportunities for ADU development with an access that is separate from the main house. Lincoln already hosts a handful of grandfathered ADUs and five "guest houses" approved on the sites of designated historic homes.

An ADU is different from a duplex in two main ways. First, the two units that make up a duplex are usually relatively equal in size and one unit does not usually dominate the other on the lot, whereas an ADU is typically limited in size. Second, both units in a duplex may be rented. For ADUs in some communities, the owner must reside either in the ADU or in the main house. ADUs should be considered on both existing and developing neighborhoods as an additional choice of housing.

Strategies for Accessory Dwelling Units

- Examine opportunities to revise the zoning code to legalize new ADUs where appropriate and adopt design standards to facilitate the harmonious implementation of this housing choice.
- Develop a system for tracking, monitoring, or certifying ADU's to ensure they remain in compliance with the adopted codes and standards.

Developing Neighborhoods

A neighborhood is more than housing – great neighborhoods combine all the elements of parks, education, commercial areas, environmental resources, and housing together in one place. Thus, principles from multiple other chapters and the strategies for neighborhoods and housing in the preceding section also apply here.

Developing neighborhoods should have a variety of housing types and sizes, plus commercial and employment opportunities. Developing a pedestrian orientation of buildings and street networks that provides substantial connectivity is also a priority for developing areas.

There are notable differences between special needs housing and traditional multiple-family residential developments. Typically, special needs housing will have fewer occupants per unit and will generate less traffic than housing built for the general marketplace. Thus, a location that is deemed appropriate for special needs housing may not be deemed appropriate for other types of higher-density housing such as apartments or town homes.

Strategies for Developing Neighborhoods

- Provide for an adequate supply of affordable land and timely infrastructure improvements.

The image on these pages is an example of how these strategies might be applied in a developing neighborhood:

Figure 7.1: Detailed Strategies for Developing Neighborhoods (pages 7.6 and 7.7)

1. Encourage a mix of compatible land uses in neighborhoods:
   a. Similar uses on the same block face.
   b. Similar housing types face each other: single-family faces single-family, change to different use at rear of lot.
   c. Commercial parking lots should not intrude into residential areas where residential uses predominate the block face.
   d. More intense commercial uses (gas stations, big box stores, car wash, fast food, etc.) may not be compatible due to impact on nearby housing.
2. Encourage pedestrian orientation with parking at rear of residential and neighborhood commercial uses.
3. Residential mixed use included in commercial center.
4. Encourage a mix of housing types all within one area:
   a. Single-family and duplex.
   b. Attached single-family and row house units.
   c. Apartments.
   d. Special needs housing.
   e. Encourage apartments and special needs housing near commercial areas and along arterials.

Note: This image is conceptual and does not depict a specific Lincoln neighborhood, but has been developed from examples from several neighborhoods throughout the city and elsewhere. The intent of the image is to provide examples of situations in newer neighborhoods that illustrate a range of development outcomes.

5. Sidewalks on both sides of all streets.
6. Encourage shared facilities (city parks and school sites) .
7. Maintain parks and open space within walking distance of all residences.
8. Encourage public and semi-public uses (elementary schools, churches) as centers of neighborhood.
9. Encourage shared parking wherever possible.
10. Integrate transit stops into commercial center, near arterial.
11. Develop with shorter block lengths for connectivity.
12. Encourage shopping and employment uses to be within the neighborhoods and within walking distance to most residences.
13. Utilize streets for parking.
14. Encourage alley access and shared driveways to reduce interruptions to pedestrians, to preserve on street parking capacity, and to reduce automobile conflict points.
15. Support the preservation or restoration of natural resources.

- Structure incentives to encourage higher densities to make greater use of the community's infrastructure.
- Encourage new development to achieve densities greater than five dwelling units per gross acre.
- Develop new design standards that encourage density, optimize infrastructure costs, and help lower the overall cost of property development.
- Revise the regulations or procedures to provide notice to potential buyers about the location of pipelines and hazardous chemical use and storage, and to encourage adequate spacing be provided from pipelines and areas where hazardous chemicals could be used and stored.

Existing Neighborhoods

For existing neighborhoods, housing diversity is often already in place, but efforts must focus on maintaining this balance and variety. The diversity of architecture, housing types and sizes are central to what makes existing neighborhoods great places to live. New construction should continue the architectural variety, but in a manner that is sensitive to the existing neighborhoods. *Neighborhood Design Standards* for areas within Lincoln's 1950 corporate limits were adopted in 2004. Areas annexed after that are not currently covered by Neighborhood Design Standards.

Preserving existing housing and promoting homeownership should remain the focus in established neighborhoods, with modest opportunities for infill and redevelopment. "Down-zonings" in established neighborhoods to help preserve a mix of single family homes and apartments have occurred in several areas over the past decade. In acknowledgement of this trend and community desire, the City's primary strategy for residential infill and redevelopment outside of the Greater Downtown is to encourage the redevelopment and reuse of sites and buildings in commercial areas in order to create new mixed use centers that are compatible and complementary to adjacent neighborhoods. 1,000 well-designed and appropriately-placed dwelling units are projected for neighborhoods in the existing city — a one percent increase to the existing housing stock—on vacant lots, expansions of existing apartment complexes with undeveloped land, and through accessory dwelling units. Residential redevelopment in existing neighborhoods tends to occur naturally without public intervention over a long period of time, as individual properties become obsolete or are acquired piecemeal by private or nonprofit developers.

Vacant Land

Currently, there are roughly 350 acres of vacant residentially-zoned land in the existing built-out portion of the City. Some of the land is in the floodplain and lots scattered throughout the City. The Plan envisions a portion of this land will be utilized by 2040 since it has access to urban services today.

Strategies for Vacant Land

- Identify and maintain an inventory of vacant residentially-zoned land within the existing city; make the inventory available to the public, housing agencies, and developers searching for infill sites.
- Minimize impacts on flood storage when vacant land in the floodplain is developed.

Redevelopment in Existing Neighborhoods

Infill and redevelopment in existing neighborhoods typically occur through an incremental and

organic process over long periods of time. This process is chiefly led by the private and nonprofit development sector. Good design and appropriate placement are key to successful redevelopment. Widely varying techniques are utilized to achieve redevelopment in existing neighborhoods such as the following examples:

1. De-conversion of multi-family back to single-family homes (resulting in a net decrease in density);
2. Replacement of a single-family home with a new single-family home (resulting in no net change in density);
3. Tearing down more than one structure and building a new multi-family building or a group of other housing types (resulting in a net increase in density); or
4. Multi-family complexes identifying open areas to develop additional buildings on the existing property (resulting in a net increase in density).

Strategies for Redevelopment in Existing Neighborhoods

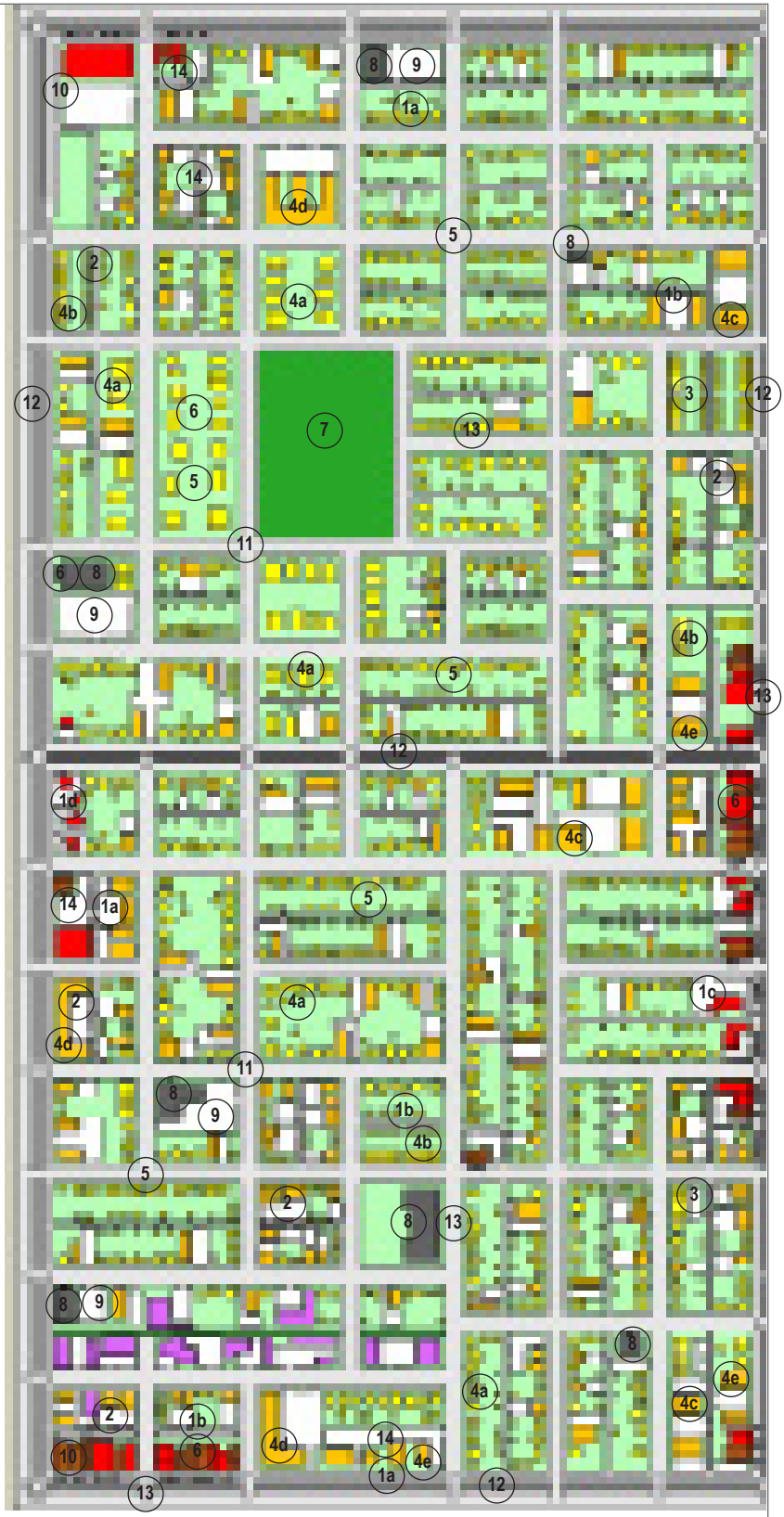
- Promote the preservation, maintenance and renovation of existing housing and neighborhoods throughout the city, with special emphasis on low and moderate income neighborhoods.
- Maintain and enhance infrastructure and services in existing neighborhoods.
- Encourage increased density of existing apartment complexes and special needs housing where there is land available for additional buildings or expansions.
- Recognize that broad economic diversity within existing neighborhoods encourages reinvestment and improves quality of life for all residents while acknowledging the need for affordable housing.
- Preserve, protect and promote the character and unique features of urban neighborhoods, including their historical and architectural elements.
- Promote the continued use of single-family dwellings and all types of buildings, to maintain the character of neighborhoods and to preserve portions of our past. Building code requirements for the rehabilitation of existing buildings should protect the safety of building occupants, while recognizing the need for flexibility that comes with rehabilitating existing buildings.

- Implement the housing and neighborhood strategies as embodied in the City of Lincoln Consolidated and Annual Action Plans and subsequent housing and neighborhood plans. These plans provide the core for affordable housing and neighborhood preservation actions for public and private agencies.
- Retain existing predominately single-family blocks in some existing neighborhoods, in order to maintain the mix of housing types.

The image on the following pages is an example of how these strategies might work together in an existing neighborhood:

Figure 7.2 Detailed Strategies for Existing Neighborhoods (pages 7.10 and 7.11)

1. Encourage a mix of compatible land uses in neighborhoods:
   a. Similar uses on the same block face.
   b. Similar housing types face each other: single family faces single family, change to different use at rear of lot.
   c. Commercial parking lots should not intrude into residential areas where residential uses predominate a block face.
   d. More intense commercial uses (gas stations, big box stores, car wash, fast food, etc.) may not be compatible due to impact on nearby housing.
2. Encourage pedestrian orientation with parking at rear of residential and neighborhood commercial uses.
3. Redevelopment and infill should strive for compatibility with the character of the neighborhood and adjacent uses (i.e., parking at rear, similar setback, height and land use).
4. Encourage a mix of housing types all within one area:
   a. Single-family and duplex.
   b. Attached single-family and rowhouse units.
   c. Apartments.
   d. Special needs housing.
   e. Encourage apartments and special needs housing near commercial areas and along arterials.
5. Encourage retention of single-family uses where appropriate in order to maintain mix of housing.



- Single-Family/Duplexes/Rowhouses/Garages
- Multi-Family/Assisted Living
- Residential/Commercial Mixed Use
- Commercial Uses (office, retail, and service)
- Industrial Uses
- Public/Semi-Public Buildings
- Green Space/Natural Resources
- Other Open Space
- Public Right of Way: includes sidewalks, public alleys, street trees, on-street parking, and street paving
- Parking Lots/Driveways
- On-Street Parking Examples
- Arterial Streets

6. Encourage historic preservation and the rehabilitation and maintenance of buildings.
7. Maintain small parks and open space within walking distance of all residences.
8. Support retention of public and semi-public uses (elementary schools, churches) as centers of neighborhoods.
9. Encourage shared parking whenever possible — permit minor incursions of accessory parking for public/semi-public uses into neighborhoods if properly screened.
10. Integrate transit stops into commercial center, near arterial.
11. Maintain existing pattern of streets for connectivity.
12. Maintain arterial streets that are compatible with the existing neighborhood character with two through lanes and a center turn lane where applicable.
13. Utilize streets for commercial and residential parking.
14. Encourage alley access and shared driveways to parking areas in order to reduce interruptions to pedestrian traffic, to preserve on street parking capacity, and to reduce automobile conflict points.
15. Support the preservation and restoration of natural resources.
16. Encourage additional density of apartment complexes and special needs housing on open adjacent land areas.

Note: This image is conceptual and does not depict a specific Lincoln neighborhood, but has been developed from examples from several neighborhoods throughout the city and elsewhere. The intent of the image is to provide examples of situations in older neighborhoods that illustrate a range of development outcomes.

Rural Areas

LPlan 2040 supports the preservation of land in the bulk of the County for agricultural and natural resource purposes. However, it recognizes that some parts of the County are in transition from predominantly agricultural uses to a mix that includes more residential uses. Balancing the demand for rural living and the practical challenge of integrating acreages with traditional land uses will continue.

New acreage development is not encouraged in the *"Map 1.3: Growth Tiers with Priority Areas"* for Lincoln's three-mile extra territorial jurisdiction (ETJ), except for areas already platted, zoned, or designated for low density residential development. Development in these tiers should only be permitted under the "build-through" model that has been established, and without use of Sanitary Improvement Districts (SIDs). For areas outside of the Lincoln three mile jurisdiction but inside a future Lincoln growth tier, the County should consider applying "build-through" standards, on a case-by-case basis, when a proposed development is in a location that is more likely than others to have city services extended in the foreseeable future. The build-through model includes provisions that are intended to facilitate a later transition to urban densities when city services are extended, including:

- A preliminary plan lot layout that accommodates first phase subdivisions on a portion of the land area with rural water and sewer systems, and shows how future urban infrastructure will be built through the land to permit further subdivision and annexation when appropriate.
- A development agreement that runs with the land and acknowledges that the acreage development is not entitled to extra buffering protection and that waives the right to protest the creation of lawful assessment districts for sewer, water and paving in the future.

The build-through model includes provisions that are intended to facilitate a later transition to urban densities when city services are extended.

All proposals for acreages, whether designated on the future land use map for low density residential or not, should be evaluated based on factors such as paved roads, adequate water quality and quantity, soil conditions for on-site wastewater management, availability of emergency services, agricultural productivity, land parcelization, the pattern of existing acreages, and plans for future urban development. Applications for acreage designation on the future land use map or rezoning to *AGR*, if planned for on-site wells, should be accompanied by information on water quality and quantity. If information becomes available that land already designated in the Plan for acreages is not suitable for acreage development, that designation should be reconsidered as part of the annual review. Areas not designated for acreages should remain agriculturally zoned and retain the current overall density of 32 dwellings per square mile (1 dwelling unit per 20 acres). However, consideration should be given to new ways that smaller lots within the County jurisdiction can be subdivided and sold, while still maintaining that overall density and maintaining good access management along the County's section line roads.

Grouping acreages together in specific areas will limit the areas of potential conflict between farms and acreages. It also may enable services to be provided more efficiently, by reducing the amount of paved routes, reducing the number and distance of school bus routes, and taking advantage of more effective rural water district service. Clustering lots in one portion of a development site, while preserving both farmland and environmental resources on the remainder, should continue to be encouraged in agriculturally-zoned areas. A considerable supply of acreage lots has been platted in recent years in this manner. The County

also should continue to pursue state enabling legislation to enable clustering lots by "transfer of development rights" between non-contiguous parcels of land. It is important to note that the value of this tool, by which property owners "buy" and transfer rights to develop additional lots, will be negated if the owners simply are "given" those additional lots through rezoning.

Private nonprofit land trusts are operating successfully to preserve farmland in other rural areas experiencing pressure for development. They accept donations, and in some cases have funds to pay in part for land to be conserved, including land that is cropped or pastured as well as land that is held for its natural value such as prairie, wetland, or woodland. The donations of these easements qualify as charitable deductions to federal income tax. Some other states protecting farming close to cities also have adopted tax credit programs to help encourage the donation of agricultural easements. City and county officials should encourage the expansion of an existing private trust or formation of a new one to encourage more of these donations.

Many families are not well-informed of all the implications of rural living before they make that lifestyle choice. This includes an understanding of the state's *"Right to Farm"* law, which protects farmers from nuisance claims when conducting normal agricultural practices, and an understanding of the difference between urban and rural public services (e.g. road maintenance, emergency medical, fire protection, and police). Objective information on the pros and cons of rural living should be provided to the public through continuing education efforts by the County's extension service, handouts available to county departments and local realtors, and potentially, documents filed of record with new platted lots for disclosure to prospective buyers.

Strategies for Rural Areas

- Continue to use GIS data and other sources, along with adopted county zoning criteria, to help determine which lands are most suitable for acreage development.
- Require applicants seeking plan designation or rezoning for acreages to provide information on water quality and quantity if planning to use on-site wells.

- Pursue state legislation to enable the County to establish a transfer of development rights program that helps encourage acreage development in more suitable locations while protecting environmental resources and prime farmland, while also respecting property rights by compensating owners who agree to the transfers.
- Encourage an existing private land trust or a new one to pursue the donation of agricultural easements on prime farmland in the county.
- Expand education for prospective home buyers on the implications of rural living.

8 Community Facilities

This chapter reviews the projected status of community facilities during the planning period, including libraries, fire services, law enforcement, health care, schools, and public buildings.

Introduction

The availability and service levels of community facilities affect the quality of life in the City and County, and as the community grows, it should be prepared to adapt to change. This chapter addresses a series of principles and strategies to be pursued in meeting the community's future health, safety and educational needs. It takes into consideration an increasing population, changing demographics and evolving technology in planning high quality and efficient delivery of services. It also continues to emphasize the importance of collaboration and shared resources among agencies to realize the greatest benefit to the community.

Guiding Principles

Overall Guiding Principles

- Promote a functional balance between community facilities and growth.
- Encourage adequate facilities and services which provide diverse educational, cultural, and social opportunities.

In this Chapter

Introduction 8.1
Guiding Principles 8.1
Lincoln City Libraries 8.3
Fire and Rescue 8.4
Law Enforcement 8.6
Health Care 8.6
Education 8.7
Other Public Buildings and Facilities 8.9

- Promote adequate facilities and services to assure the health, safety and welfare of all citizens.
- Promote cooperation and coordination among both the public and private sectors in the development and maintenance of community facilities.

Libraries

- Libraries are important centers of activity and education, and should grow along with the community while keeping their center in downtown.

- Balanced and accessible service should be provided to all.
- Location and layout of new facilities should attract and serve the maximum population within a reasonable distance.
- Changes in technology should be considered while planning for the physical layout of libraries and for the addition of services to those traditionally supplied by the libraries.

Fire and Rescue

- Provide timely and effective emergency response services.
- As the community grows fire and rescue services must be able to respond to changing needs in order to provide public safety services.

Law Enforcement

- As the community grows, law enforcement must be able to respond to changing needs in order to provide public safety services.
- Continue to promote the cooperation exhibited by the city, county, University of Nebraska police and State Patrol in furthering the efficient delivery of public safety services to the community.

Health Care

- Develop Lincoln as a major network of quality regional health care services at reasonable costs.
- Encourage health care service facilities to meet the demand of the community's growing and aging population base.
- Medical services, including physical and mental health care services, should be integrated and accessible within the community.
- Many of the existing medical facilities are located near existing residential neighborhoods and are expected to remain the vital core of health care services in the county and region.

Education

- Encourage cooperative planning and site development between the City and public and private educational institutions.
- Continue to coordinate development proposals with all the school districts in the County.
- Lincoln Public Schools is the only public school district within the City of Lincoln, and the Lincoln Public School boundary will continue to expand as the city limits of Lincoln expand.
- Elementary and middle schools should be sized and located to enable children to walk or bicycle to them. Child care centers should be located within neighborhoods and near schools and parks when possible.

Other Public Buildings and Facilities

- Public buildings and structures should be well built, functional, energy efficient and designed to blend attractively within the context of surrounding development or to serve as a guide for future development or redevelopment.

- Future public buildings should be designed, built, and maintained to ensure good indoor air quality to help protect the public's health.

Lincoln City Libraries

Library services, similar to many other public services, must be provided regardless of how the community grows. Lincoln City Libraries currently operates the following nine facilities: the headquarters library in Downtown — Bennett Martin Public Library; four quadrant branch libraries — Victor E. Anderson, Charles H. Gere, Loren Corey Eiseley and Bess Dodson Walt; three neighborhood libraries — Bethany, Dan A. Williams and South; and the bookmobile.

Lincoln City Libraries has a branch library in each quadrant of its operational service area. The intent is to provide balanced and accessible library service to the entire community. Through contractual arrangement, residents living outside Lincoln, but within Lancaster County, have access to all services of Lincoln City Libraries.

Downtown is the heart of our community, and strong community facilities are essential to maintaining downtown vitality. The Downtown Master Plan has identified the importance of maintaining the location of the main library in downtown.

In addition to Lincoln City Libraries, there are private and other publicly supported libraries in the community. These libraries are associated with colleges and universities, and access is determined by each institution's governing body.

Strategies

- Continue through contractual arrangement to provide residents living outside Lincoln, but within Lancaster County, access to all services of Lincoln City Libraries.
- Future renovation and/or relocation plans of the main library must consider sites that maintain or augment access, including pedestrian and mass transit accessibility, and continue the main library's role as a core community facility in downtown.

- While planning for new libraries or renovating and reusing existing facilities, Lincoln City Libraries should consider neighborhood and Downtown development, transportation corridors, public school patterns, and agencies and services that complement the public library system.
- With changing demographics of the community and changes in technology, the libraries should explore the possibility of providing additional services to the traditional role such as:
  - Self-service kiosks in heavily-trafficked places to provide an alternative to a full service facility.
  - Provide for more services such as for community gatherings and meetings.

Lincoln City Libraries currently operates the following nine facilities: the headquarters library in Downtown — Bennett Martin Public Library; four quadrant branch libraries — Victor E. Anderson, Charles H. Gere, Loren Corey Eiseley and Bess Dodson Walt; three neighborhood libraries — Bethany, Dan A. Williams and South; and the bookmobile.

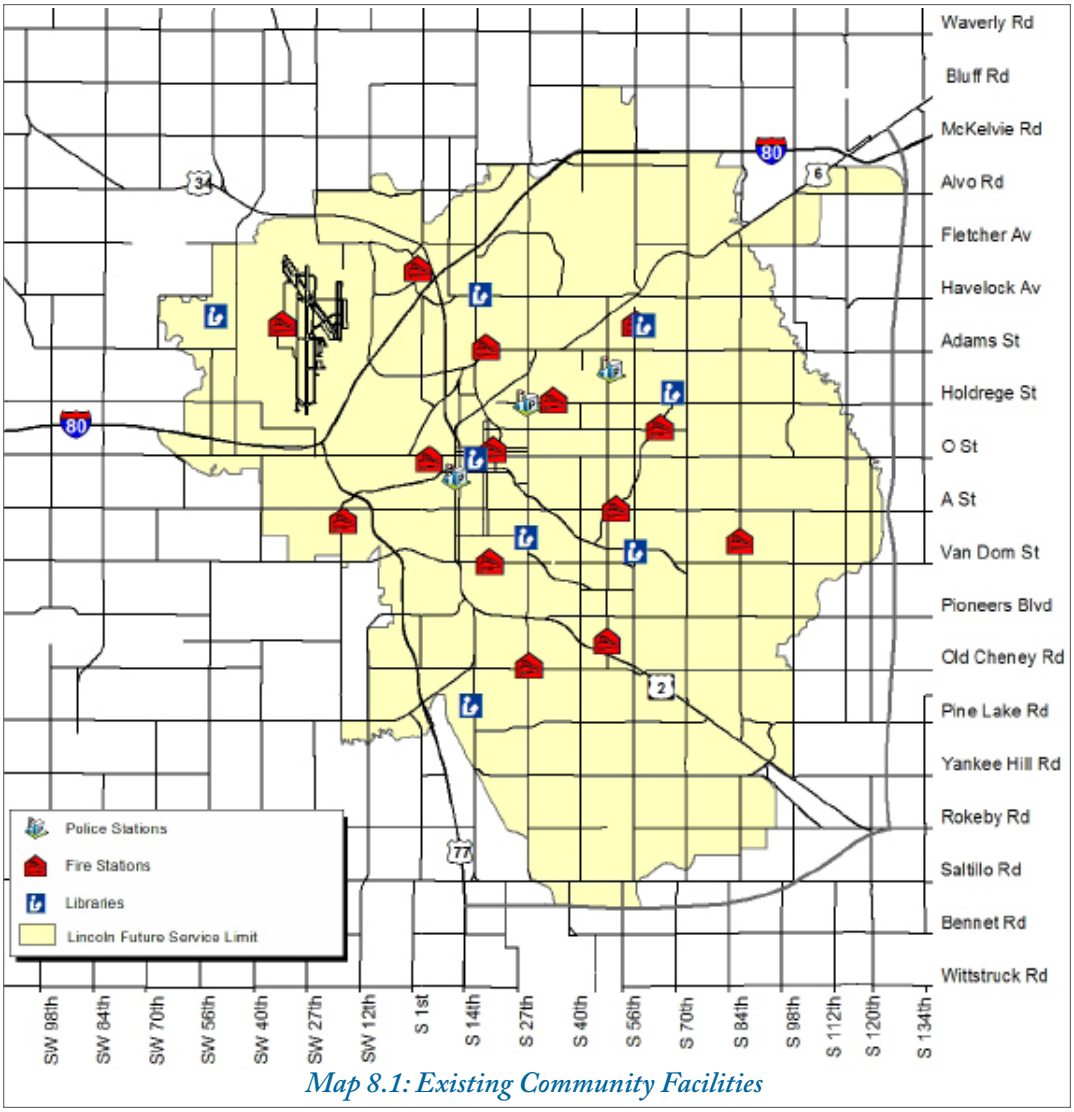
Fire and Rescue

Lincoln Fire and Rescue

Lincoln Fire and Rescue anticipates the relocation of fire stations, reconstruction of existing fire stations, and the need for additional fire stations to service the City's projected expansion during the 30 year planning period. These new stations would house a variety of Fire and Rescue apparatus and Emergency Medical units. In general, the new facilities would be placed in areas to the north, east, southeast, south, and southwest of the City's growth areas. No specific locations for new fire stations have been identified. Lincoln Fire and Rescue routinely monitors response times, population growth, city growth, and call volumes in evaluating possible relocation and building new fire facilities. Changing development patterns financial concerns, service expectations, availability of resources, environmental issues, traffic flow, or other conditions will warrant changes to provide effective emergency response. The utmost priority of Lincoln Fire and Rescue is the ability to provide the highest level of emergency service within the shortest period of time.

The Lincoln Fire Department currently operates from 14 stations located throughout the City. These stations are geographically located in the community to be able to meet the National Fire Protection Association (NFPA-1770) Standards concerning response times. However, 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 expected to review the strategic deployment of stations, including relocating existing stations as well as planning new ones, in order to improve response times and anticipate further growth. Mutual aid requests for Lincoln Fire Department service are common for incidents outside Lincoln.

The Lincoln Fire Department's equipment system is designed for use with a public water supply capable of generating 1,500 gallons of water per minute at a residual pressure of 50 pounds per square inch.



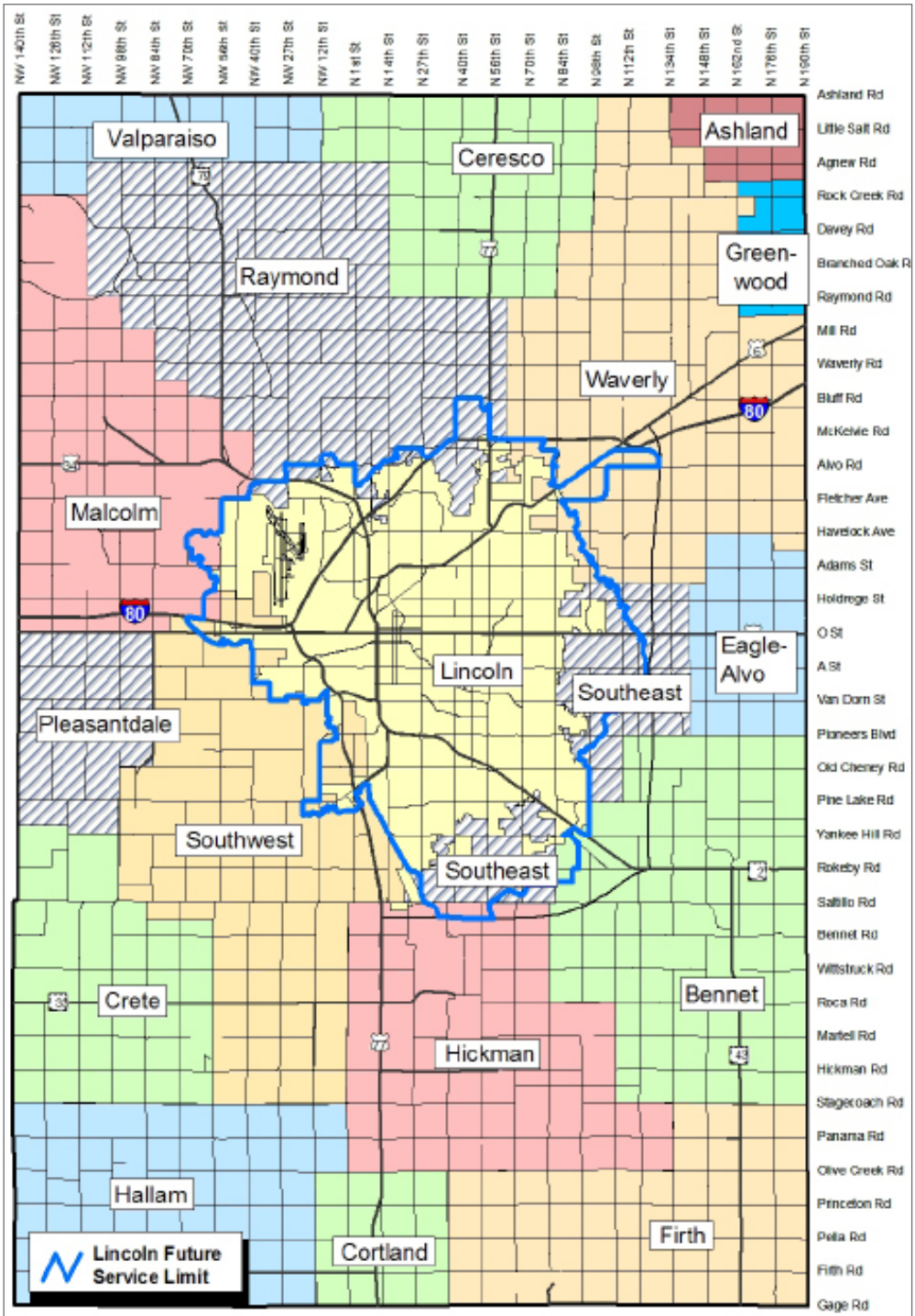
Map 8.1: Existing Community Facilities

The Lincoln Fire Department provides emergency ambulance transport services in the City of Lincoln. Inter-facility hospital-to-hospital non-emergency services are provided by the private sector.

Rural Fire Districts

The 17 rural volunteer fire departments will continue to see increasing challenges. All rural fire district personnel are volunteers. Rural fire districts can provide fire protection, rescue, and emergency ambulance transport. Fire departments are distributed throughout most of the towns and villages, while some are located in the unincorporated areas of the county. Mutual aid requests between fire districts are common for incidents outside Lincoln. Each rural fire district has unique challenges, including response times and water availability.

A growing population in the small towns, villages, and rural areas, as well as increased traffic, will continue to create demands for fire and emergency services. The physical growth of the City of Lincoln will cause changes to the character of some areas and to the tax base of many districts.



Map 8.2: Existing Rural Fire Districts

Strategies

- Continue to routinely monitor the response time of all existing stations.
- Lincoln Fire Department should continue to identify needed fire facilities that will allow them to meet or exceed the National Fire Protection Association standards with a response time of 6.20 minutes for fire suppression, 6 minutes for medical calls, 90% of the time, and to meet the City Ordinance standard of 8 minutes or less for ambulance response, 90% of the time.

- Explore the possibility of relocating fire stations to meet the community's needs of changing development patterns.
- An expansion of the requirements to meet the evolving fire needs in the rural areas, such as fire ponds and dry hydrants, should be investigated.

Law Enforcement

The Lincoln Police Department and Lancaster County Sheriff's Office are anticipated to remain as the sole providers of law enforcement services to the City and County during the planning period. The Sheriff's Office will continue to provide contract law enforcement support to the various incorporated towns of the county. The overall increase in population in the City and County will increase the demand for police and sheriff services in the urban, small town, and rural areas.

The Hall of Justice and Law Enforcement Center accommodates both the operations of the Lincoln Police Department and the Lancaster County Sheriff within a single facility. This facility is an example of the cooperation exhibited by the City and County in furthering the efficient delivery of governmental services to the community.

In addition to the Lincoln Police Department, the City of Lincoln also has police presence by the University of Nebraska Police on the UNL campus as well as the State Patrol. The Capitol Security Division of the State Patrol Division monitors 48 buildings and eight parking facilities in the greater Lincoln area.

Strategies

- The Lincoln Police Department will experience a need for additional full service assembly stations and other facilities located within the community. The Capital Improvement Program will be used to plan and finance projects needed to meet this growing need.
- Planning has taken place for the building of a new jail facility on a site which should allow the County to accommodate an increase in future inmate numbers.
- An increase in population and dwelling units may lead to a more crime and building code violations, which are part of police activities; more neighborhood watch initiatives with police involvement are anticipated.
- Continue the cooperation among the City of Lincoln Police Department, County Sheriff's Office, UNL Police and State Patrol in providing services that make the community safe.

Health Care

Hospitals represent one of the highest and most important community service land uses. Lincoln has a growing number of medical campuses such as Bryan LGH East and West, St. Elizabeth's Regional Medical Center, Madonna Rehabilitation hospital, Veterans Medical Center, Lincoln Surgical Hospital and the Nebraska Heart Institute. Minor emergency medical services are also provided at several private facilities dispersed throughout the community. A number of private non-profit organizations provide targeted health services to residents throughout Lincoln and Lancaster County.

Multiple public and private service sites around Lincoln serve mental health needs of persons in Lancaster County. Continued population increases in Lancaster County and southeast Nebraska have meant increased demand for mental health services.

The Lincoln/Lancaster County Health Department also provides a wide range of health related services to the residents of Lincoln and Lancaster County.

New medical office buildings have been constructed in many areas of the city. This trend is

likely to continue into the immediate future as the demand for health care services increases as a result of the community's growing and aging population.

Strategies

- Provide for accessible physical and mental health care services in appropriate areas in and around residential neighborhoods.
- Any hospital expansion will need to take into consideration the impact on adjacent neighborhoods.
- Hospitals should plan on using parking garages and multi-story construction in order to maximize use of the land.
- Plan for further construction on medical campuses.

Education

Lincoln Public Schools

The Lincoln Public School (LPS) district provides kindergarten through 12th grade education to almost 35,000 students within the City of Lincoln and surrounding area. The district operates 37 elementary schools, 11 middle schools, six high schools, and seven other alternative and special focus program sites. In addition to schools, LPS facilities include administrative, food service, maintenance, sports facilities and transportation centers.

The past decade has seen a change in the students enrolled at LPS. In 2000, about 14% of students were racially diverse; in 2010 this rose to 28%, with students representing 50 different countries. Economic changes are also affecting the school system. In 2000, 28% of students received free or reduced price lunches. That figure has risen to 40% over the past ten years. Over those ten years LPS has seen an increase from 31,000 to 35,000 students overall.

Lincoln Public Schools has made a substantial investment in renovating and improving existing schools throughout the Lincoln area. A $250 million school bond issue passed in 2006 allowed construction of six new schools and renovation of schools in every Lincoln neighborhood. During the planning period, LPS anticipates the addition of one high school in the Stevens Creek area east of Lincoln; three middle schools, one each in Stevens Creek, southeast Lincoln and the Arnold Heights area; and six elementary schools in the east and southeast areas of the future service limit.

In 2000, about 14% of students were racially diverse; in 2010 this rose to 28%, with students representing 50 different countries.

Lincoln Public Schools and the City of Lincoln actively coordinate planning activities. Projected growth of residential development is crucial information used to identify future school sites. As LPlan 2040 was developed, LPS was consulted and informed at each step. This relationship is ongoing and expected to continue into the future. The Student Housing Task Force Report and the LPS Master Plan are adopted as approved components of the Comprehensive Plan and can be viewed on the LPS website at *lps.org*.

One relationship between city government and LPS that has particular potential for improving future efficiencies is the relationship between LPS and the Lincoln Parks and Recreation Department. In some locations, such as Lefler Middle School and Piedmont Park, Humann Elementary and Cripple Creek Park, and Fredstrom Elementary and Highlands Park, park and school facilities are already located on adjoining properties.

There are opportunities to reduce costs for both parks and schools by sharing playgrounds and playfields and even using picnic shelters as outdoor classrooms. This relationship has not yet been formalized but shows great potential benefit for both organizations. The image displays how the

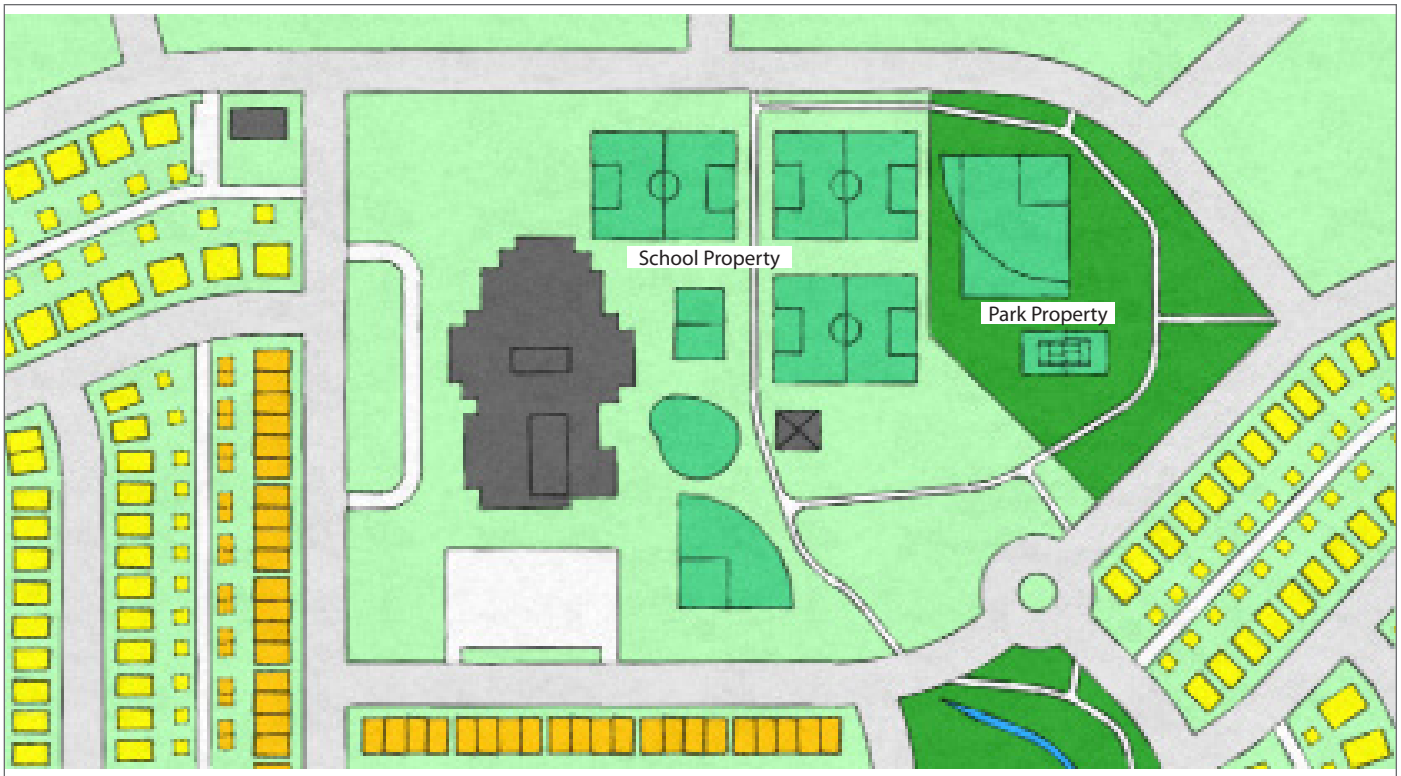


Figure 8.1: Joint School and Park Site ("Spark") Image

joint school and park site ("spark") principles might work together in future neighborhoods.

Rural School Districts

There are nine public rural school districts serving residents of Lancaster County. Several school facilities are located outside of Lancaster County. All of the remaining public school facilities are located within incorporated and unincorporated communities, except for the Norris Public School and Raymond Central Public School (Junior and Senior High).

Several school districts, most notably Waverly School district, will be impacted by expansion of the Lincoln city limits. The City, LPS and each school district impacted will need to coordinate efforts in the future.

Rural school districts also need to plan to accommodate areas designated for acreage residential development. Acreage residential areas provide additional tax revenue, but also create the need for more financial resources in order to provide additional transportation services and educational facilities. Grouping acreage residential areas in pre-designated locations allows rural school districts to plan for adequate transportation and educational services in advance of development.

Private and Parochial Schools

There are currently 18 private and parochial elementary schools in Lincoln, serving almost 7,000 students. In addition, there are four private and parochial high schools: Lincoln Christian, Lincoln Lutheran, Parkview Christian, and Pius X.

Additional private and parochial schools are anticipated during the planning period. The Catholic Diocese has several sites for potential future schools, including a potential future high school site. The City should work with private entities to coordinate development and infrastructure plans around new school sites.

Community Colleges and Trade Schools and Universities

Lincoln is home to a community college and several technical and trade schools providing a comprehensive array of higher education and vocational opportunities. These public and private facilities are dispersed throughout the community.

Lincoln has multiple institutions of higher learning, with campuses located throughout the city. These include the University of Nebraska-Lincoln (UNL campuses: Downtown and East), Nebraska Wesleyan University, Union College, Kaplan University and Southeast Community College. There are a number of satellite campuses of surrounding colleges and universities located in Lincoln. These campuses provide a range of academic programs from Doane College (Crete), Bellevue University (Bellevue), and the College of Saint Mary (Omaha).

These colleges and universities are actively involved with surrounding neighborhoods and business districts. UNL has been a major partner in the Antelope Valley Project, the West Haymarket Arena development, and is beginning the Innovation Campus project on the former State Fair Park site. Wesleyan University was part of the North 48th Street/University Place project approved in 2004. Union College took a lead role in efforts to increase mobility and improve streetscapes in the South 48th Street College View neighborhood in 2007. These institutions and others should be actively engaged in future planning efforts.

Strategies

- Promote the development, design, and use of public and private facilities to assure cooperative planning and maximum utilization, when appropriate. Schools are vital to the preservation of existing neighborhoods and every effort should be made to enhance and retain 'neighborhood schools.'
- Support the necessary expansion of education facilities while remaining sensitive to surrounding neighborhoods.
- Provide universities, colleges, and the community with a means by which university research findings can move easily into the commercial world for economic development.
- Coordinate school site selection with subarea plans, community open space, and trails system development. Develop new schools on sites where they serve as the heart of the neighborhood.
- Plan for joint school/park facilities with all new schools and renovation projects when feasible.
- Coordinate plans for Southeast Community College with future land development immediately to the east to ensure that new development is compatible and provides employment and housing opportunities for students.
- Coordinate neighborhood revitalization and transportation plans for the surrounding areas with Nebraska Wesleyan University, Union College and Kaplan University.

Other Public Buildings and Facilities

As general purpose governments, the City of Lincoln and Lancaster County own, operate and manage numerous buildings, structures, and facilities.

During the time period covered by this Plan, there will likely be a need to construct, renovate, or abandon certain public buildings and facilities not already discussed in this document. At such time as these events may occur, care should be taken by public officials making decisions that the vision of this Plan is recognized

and respected. This may apply to the siting of a new facility, the abandonment of an existing one, the way renovations are undertaken, the manner of financing used to complete the work, the arrangements made for the facility's operation, the process followed in making the decision, and the timing of the action.

Of particular note to local government operations is the Lincoln-Lancaster County Public Building Commission. The Public Building Commission is responsible for facilities jointly used by City and County agencies, such as the County-City Building. This entity was established in 1991 to oversee any buildings, structures, or facilities used jointly by the City and County for a public purpose.

The new Municipal Service Center is an example of consolidating City services to find efficiencies. The Center will house the Engineering Services division of Public Works and Utilities and is expected to become the campus for Public Works, Street Maintenance, the 911 Center, and potentially to accommodate maintenance operations of other departments.

Lincoln and Lancaster County is a community made up of public-private partnerships that make our community stronger. Such public-private partnerships include but are not limited to YMCAs, the Lincoln Children's Museum and the Lincoln Children's Zoo.

Strategies

- The location of public buildings should support the policies of the Comprehensive Plan.
- The City's government center must remain Downtown. All efforts should be made to locate local, state, and federal offices Downtown when expansions and relocations are considered.
- Lincoln and Lancaster County should seek to integrate concepts that result in more energy-efficient, lower-cost, less environmentally damaging, and more occupant-friendly facilities.

9 Parks, Recreation & Open Space

This chapter describes principles and strategies for acquiring and managing parks, recreation and activity centers, open space, greenways, and other recreational facilities in the community.

Introduction

The Lincoln Parks and Recreation Department is the primary public sector provider of recreational services to city residents. The Department manages 146 different sites on 5,974 acres of parks and open space land. The principles and strategies in this chapter will help guide the further enhancement of Regional, Community, and Neighborhood Parks, Community and Recreation Centers, swimming pools, an ice center, open space and greenway linkages, and the urban forest.

Guiding Principles

Parks and open space enhance the quality of life of the community's residents and are central to the community's economic development strategy—the community's ability to attract and retain viable businesses, industries, and employees is directly linked to quality of life issues, including indoor and outdoor recreational opportunities.

Signature landscapes are defined as those areas and natural features that are unique to Lincoln and Lancaster County and contribute to the identity of the community; acquisition and development of parks and open space areas should conserve and enhance these areas and features.

In this Chapter

Introduction 9.1
Guiding Principles 9.1
Regional Parks & Tournament Sports Facilities 9.3
Community Parks 9.4
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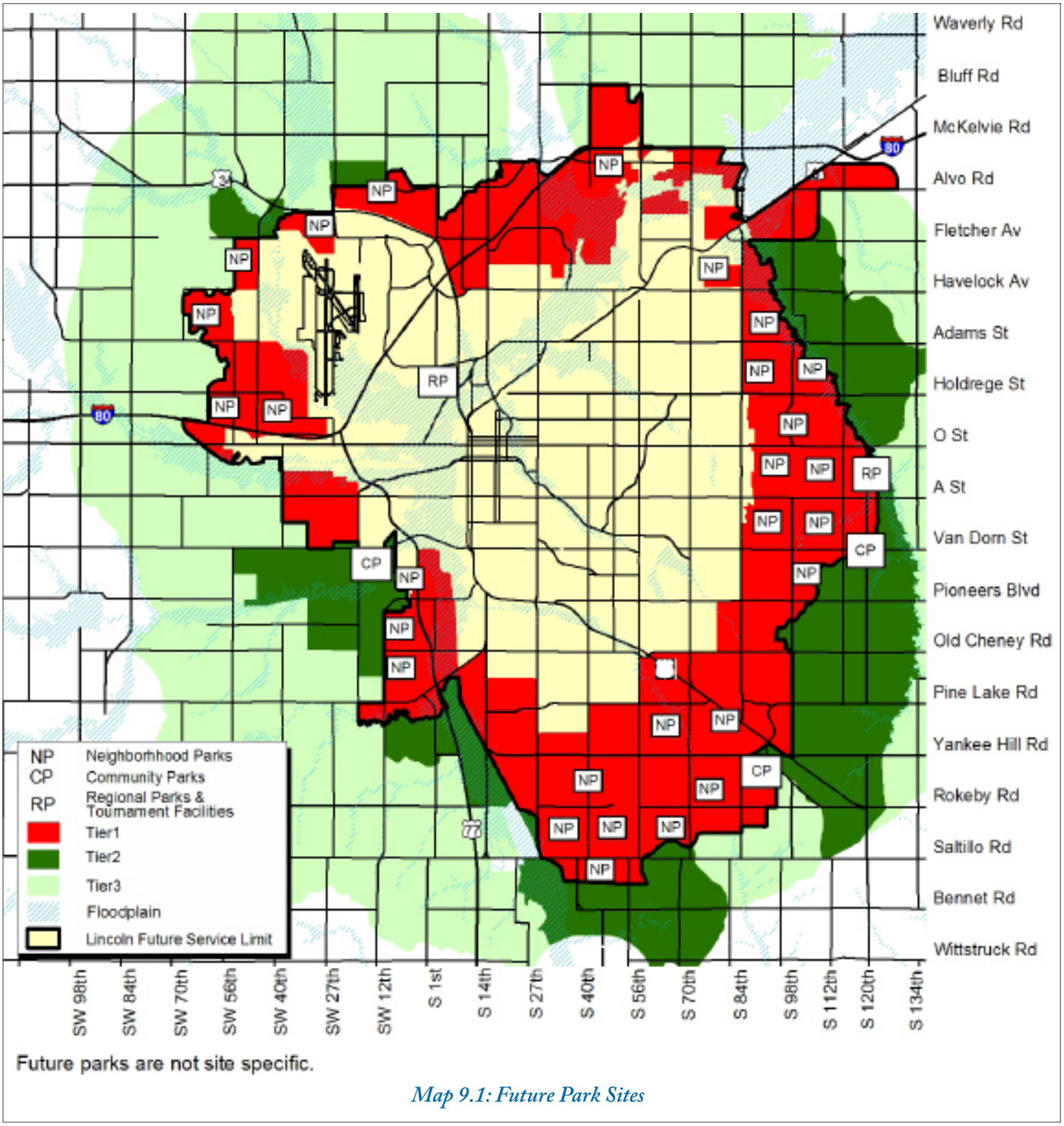
Community Centers, Recreation Centers & Activity Centers 9.7
Aquatic Facilities 9.8
Open Space and Greenway Linkages 9.9
Urban Forest 9.10
Other Recreational Facilities & Activities 9.11

It is important that the community continue to acquire parkland and conserve open space areas commensurate with expanding development and population growth, with the responsibilities for acquisition and development of parkland and conservation of open space shared among many cooperating partner agencies and organizations.

Comprehensive and adaptive urban forestry management approaches should be applied to sustain the city's urban forest; it is essential that adequate human and financial resources be allocated and specifically dedicated to sustaining our community's expanding public green



Map 9.1: Future Park Sites

infrastructure in conjunction with increasing development and population growth.

Public and private partnerships are important in the development of recreational opportunities and the preservation of environmental resources that bring a high quality of life to the City and County.

Regional Parks & Tournament Sports Facilities

Description

Regional Parks and Tournament Sports Facilities are tracts of land that encompass special or unique facilities and features that are of interest to diverse groups throughout the community. Regional Parks primarily provide opportunities for day use activities that may include community festival/ gathering spaces, picnicking, hiking, sports, fishing, canoeing, boating, and environmental interpretation/appreciation. Fields and courts for organized sports activities may be secondary or primary uses. One new Regional Park is anticipated for the Stevens Creek area during the plan period; one new Tournament Sports Facility is anticipated as an upgrade to the existing Oak Lake Park.

Level of Service

The current citywide Level of Service (LOS) is 2.5 acres of Regional Park land per 1,000 Lincoln residents. No set LOS goal is stated in LPlan 2040 since the size may vary depending on the feature or facility. In addition, Regional Parks may attract visitors from outside the immediate area and thus do not have a defined service area.

Strategies for Regional Parks & Tournament Facilities

- The City should work with the Nebraska Game and Parks Commission and the Lower Platte South Natural Resources District (NRD) to provide recreation facilities around the Salt Valley Lakes and other natural resource sites.
- Anticipate the transition of sites from management by the Lower Platte South Natural Resources District to the City as surrounding areas urbanize.

- Provide trail access over time to the Salt Valley Lakes and other natural resources via connections to the Salt Valley Greenway and associated tributary stream corridors.
- Continue to enhance opportunities for interpretation of native landscapes and ecosystems indigenous to eastern Nebraska through acquisition of additional parcels for buffering and enhancement of visitor facilities at the Pioneers Park Nature Center.
- Formalize a strategy for the development, marketing, and management of a tournament sports complex at Oak Lake Park.
- Explore opportunities to provide enhanced water recreation activities at Holmes Lake in Holmes Park.

- Continue to develop a cooperative relationship with the Nebraska Game and Parks Commission and the Lower Platte South Natural Resource District to provide recreation facilities within rural areas of the community.
- Identify and acquire a site of approximately 200 acres for the future development of a Regional Park in the Stevens Creek Basin. This site could potentially be co-located with a future Lincoln Public Schools high school facility.

Community Parks

Description

Community Parks are typically 30 to 50 acre sites that are readily accessible from arterial streets and the commuter/recreational trail system. Community Parks may include play fields and play courts for organized sports, a playground with an accessible fall surface, facilities for day use activities including a picnic shelter and restroom, seating, walking paths, and off-street parking. Community Parks may also include a swimming pool and/or a recreation center. Community Parks often include activity areas consistent with those located in neighborhood parks and as a result, Community Parks may serve as the Neighborhood Park for surrounding residential areas. LPlan 2040 recognizes the need for about 150 acres of new Community Park land. Three new Community Park sites are anticipated.

Community Parks are typically 30 to 50 acre sites that are readily accessible from arterial streets and the commuter/ recreational trail system.

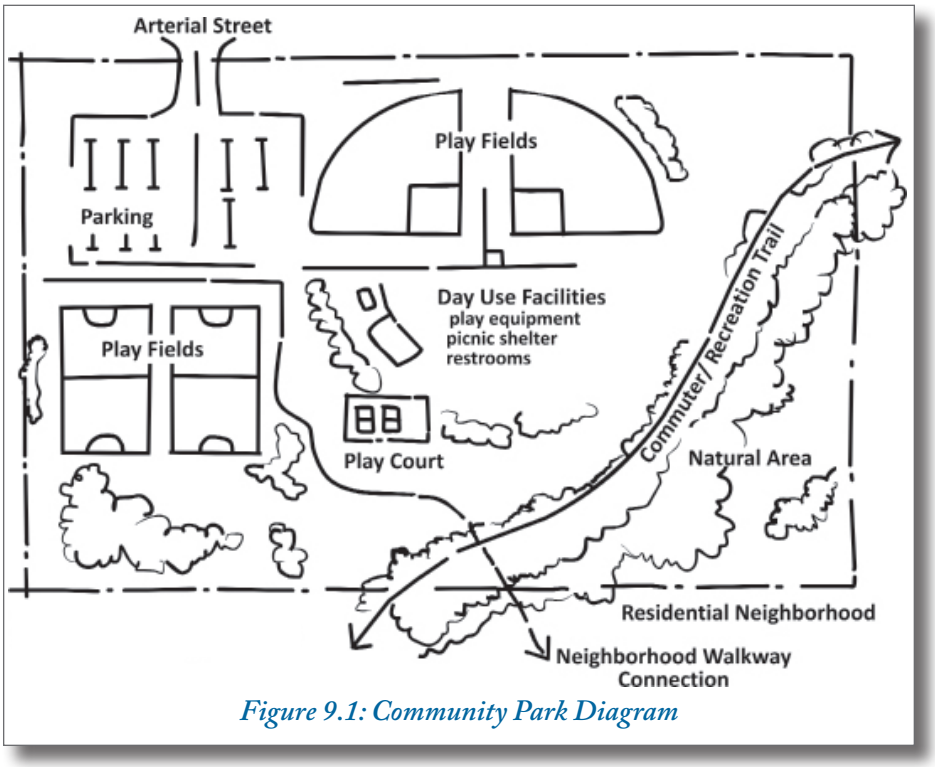


Figure 9.1: Community Park Diagram

Level of Service

The level of service (LOS) goal for Community Parks is based on both the financial resources anticipated to be available for park development and programmatic objectives. It is anticipated that development of future Community Parks will be financed primarily through voter-approved general obligation bonds. There are currently 18 Community Parks encompassing roughly 746 acres, with an average size of 41 acres. The current citywide LOS is 2.9 acres of Community Park land per 1,000 Lincoln residents. This LOS is calculated by dividing the total acres in such parks by the city's total population in thousands. LPlan 2040 establishes an LOS goal of 1.3 acres per 1,000 new Lincoln residents in new growth areas and a service area radius of approximately 2 miles in the urban area. Given the new Community Parks developed in growth areas, the city-wide measure by the end of the plan period, 2040, is projected to be 2.4 acres of Community Park land per 1,000 Lincoln residents. While this goal is lower than the current LOS, it recognizes the financial resources projected to be available and plans for the development of three 50-acre sites during the planning period of a size that will meet the programmatic objectives for Community Parks.

Strategies for Community Parks

- Locate Community Parks on a collector or arterial street to accommodate automobile access and parking; park sites should also be readily accessible by pedestrians and bicyclists from a commuter/ recreation trail.
- Locate Community Parks adjacent to middle schools where possible.
- Community Parks should be adjacent to greenway linkages.

- Provide buffering between Community Park activities and adjacent residential areas to minimize traffic and noise impacts.
- Enact design standards for field and parking lot lighting that seek to minimize glare, light spill-over onto adjacent properties, and impacts on the dark night sky.
- Select sites for Community Parks that allow for multiple functions, such as stormwater management or habitat conservation.
- Focus on the development and maintenance of sports fields and associated day use facilities.
- Establish Youth Baseball/Softball complexes as part of Community Parks throughout the city; form partnerships with youth baseball organizations and Lincoln Public Schools for maintenance and utilization strategies.
- Create pedestrian connections between surrounding residential development and neighborhood-related park features such as playgrounds and park shelters.
- Development of Community Park sites should be accomplished through regularly scheduled "quality of life" bond issue initiatives and capital improvement program allocations.
- Develop Jensen Park, southeast of Yankee Hill Road and South 84th Street as a Community Park as funding becomes available.
- Develop Bison Park, located southeast of West Van Dorn and South Coddington Avenue as a Community Park as funding becomes available.
- Acquire and develop a Community Park in the Stevens Creek basin in the vicinity of A Street and South 120th Street as funding becomes available.

Neighborhood Parks

Description

Neighborhood parks are approximately four to six acre sites that are centrally located within areas of residential development. Typical activity areas include playground equipment, open lawn areas for informal games and activities or play courts with a single basketball goal for informal games, shaded seating, and walking paths. The "Sparks" concept envisions an expansion of the current co-location of schools and parks and sharing of some facilities.

Neighborhood parks are approximately four to six acre sites that are centrally located within areas of residential development.

Level of Service

The level of service (LOS) goal for Neighborhood Parks is based on both the financial resources anticipated to be available for park development and on programmatic objectives. It

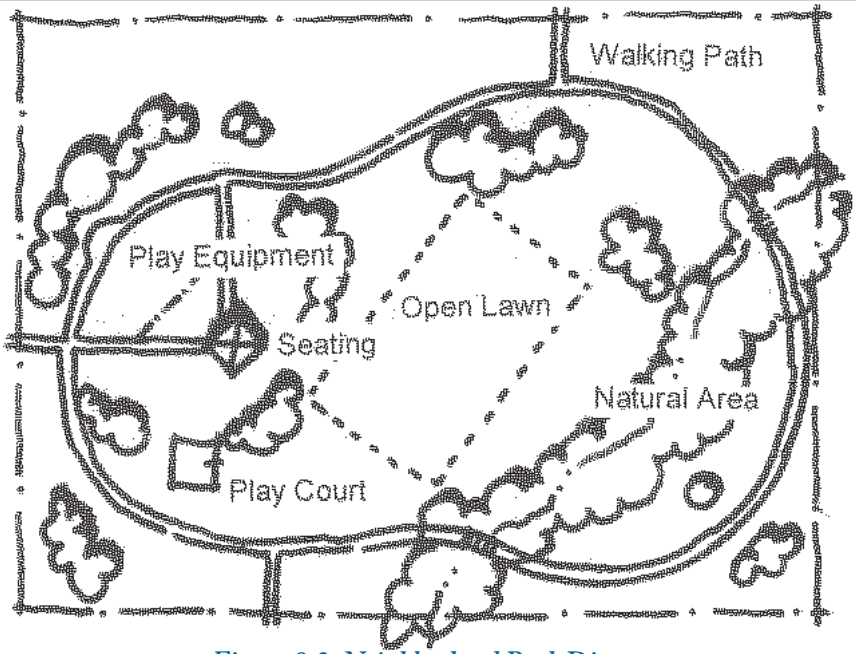


Figure 9.2: Neighborhood Park Diagram

is anticipated that development of Neighborhood Parks will be financed primarily through impact fees. There are currently 48 Neighborhood Parks encompassing roughly 353 acres, with an average size of 7.4 acres. The current citywide LOS is 1.4 acres of Neighborhood Park land per 1,000 Lincoln residents. This LOS is calculated by dividing the total acres in such parks by the city's total population in thousands. LPlan 2040 establishes an LOS goal of one acre per 1,000 new Lincoln residents in new growth areas. Neighborhood Parks should generally be located within the center of each mile section with a service area radius of approximately ½ mile in the urban area. Given the new Neighborhood Parks developed in growth areas, the city-wide measure by the end of the plan period, 2040, is projected to be 1.3 acres of Neighborhood Park land per 1,000 Lincoln residents. While this goal is slightly lower than the current LOS, it recognizes the financial resources projected to be available. Projected funding is based upon the current level of impact fees for Neighborhood Parks, which supports the acquisition and development of about four acres of Neighborhood Park land per square mile of residential development. Four acres are adequate to accommodate the programmatic objectives for a Neighborhood Park.

Strategies for Neighborhood Parks

- Locate Neighborhood Parks close to the center of residential areas and within walking distance of a majority of residents; park sites should be readily accessible by pedestrians and bicyclists.
- Develop "Sparks" such that site planning and development is coordinated, anticipating that the primary use of the Spark will be school students during the school day and related after school programming; Sparks will be available for use of neighborhood and community residents during the evening, weekend, and summer hours.
- Locate Neighborhood Parks adjacent to greenway linkages where possible.

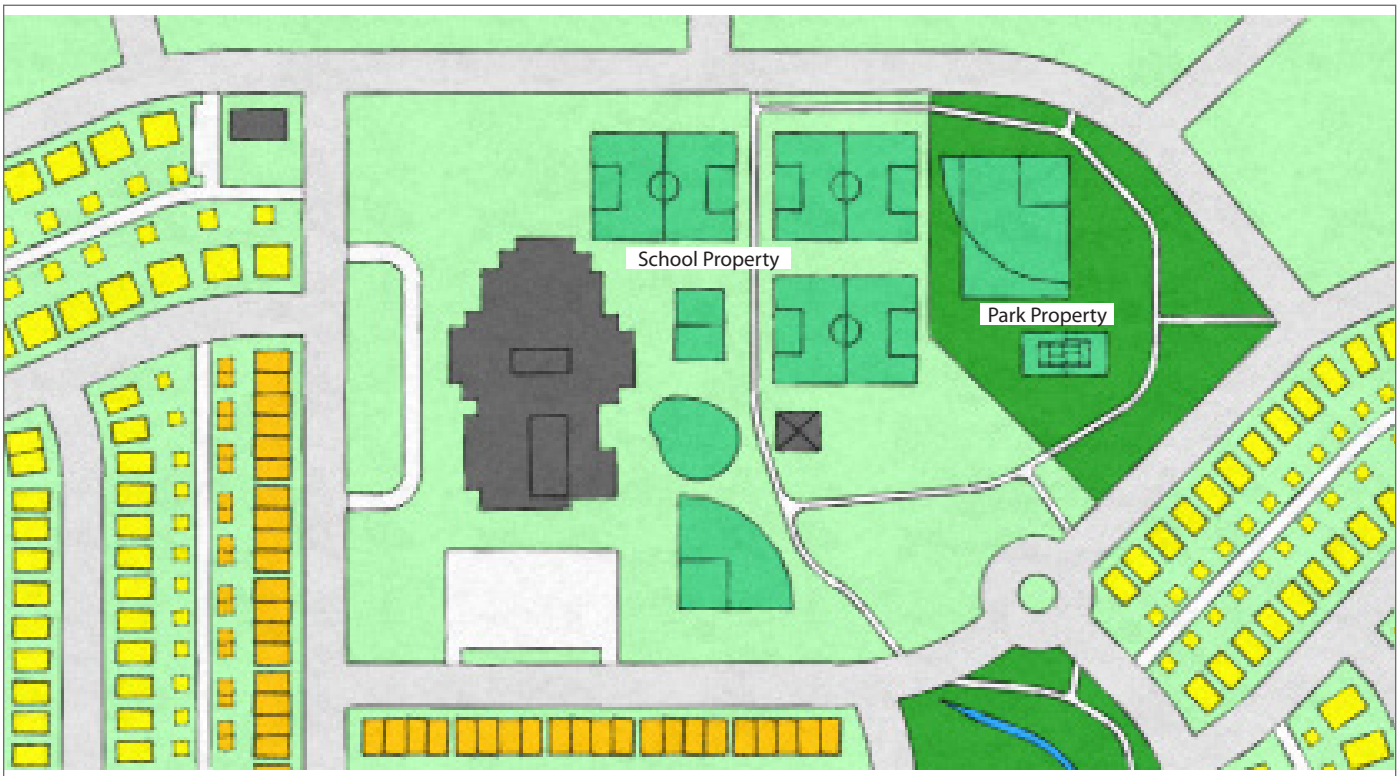


Figure 9.3: Joint School and Park Site ("Spark") Image

- Locate park sites where residents living in surrounding homes, people in passing vehicles, or pedestrians can view activities in the park to provide for informal supervision.
- Where possible, select sites for Neighborhood Parks that allow for multiple functions, such as stormwater management or habitat conservation.
- Identify opportunities to acquire and develop Neighborhood Parks in established neighborhoods that are deficient in Neighborhood Park resources.
- Continue joint planning activities between the City of Lincoln and Lincoln Public Schools for selection and acquisition of future school/park sites.
- Establish an interlocal agreement for the development of Sparks that addresses funding for initial construction, repair and replacement, liability, play equipment inspections, mowing, and maintenance.

Community Centers, Recreation Centers & Activity Centers

Description

Public school buildings, particularly elementary schools, can serve as centers of neighborhood life if the buildings are designed to maximize flexibility and opportunities for community use during non-school hours. The addition of multi-purpose space described as an "activity center" allows for community activities such as programs for older adults during the school day, and supports youth programs before and after school.

The City of Lincoln through its Parks and Recreation Department currently operates seven facilities as recreation/community centers. Three of these facilities are co-located with schools (Belmont, Calvert, and Irving) and incorporate youth recreation programming, before and after school programming, and summer day camps. Air Park Recreation Center operates out of a former Air Force Base recreation center building, with an emphasis on youth programs at Arnold Elementary School. Therapeutic and adaptive recreation programs are a primary emphasis of programming at Easterday Recreation Center. The Ager Play Center provides facilities and activities focused primarily on pre-school children and their families. F Street Community Center provides a broad range of human service and recreation activities. The programs and facilities offered by Parks and Recreation are part of a network of recreation and human service programs offered in the community.

Level of Service

There should be a center integrated with each new elementary school and middle school. These centers should have a service area radius of approximately two miles in the urban area.

Strategies for Community Centers, Recreation Centers & Activity Centers

- An activity center should include a large multi-purpose space, public restrooms and shared office and storage space for community agencies and organizations offering programs in the center.
- Access to the activity center should be designed so that it can be restricted to the school during school hours and accessed via a separate entrance after hours.
- Activity centers should also be designed so that they can be used in combination with the school gym, media center, cafeteria and entry lobby to

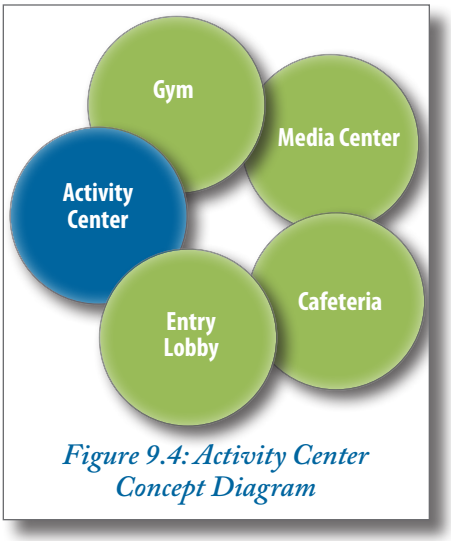


Figure 9.4: Activity Center Concept Diagram

support youth programs before and after school, as well as a variety of other community activities.

- Replace the aging Air Park Recreation Center with a new facility co-located with Arnold Elementary School, which was designed to provide for future opportunities to attach a recreation center or activity center.
- Explore opportunities to work with the Lincoln YMCA and Lincoln Public Schools to develop new community recreation center facilities in southeast and possibly northeast Lincoln similar to the school/recreation center/park model of Schoo Middle School/Fallbrook YMCA/ neighborhood park.
- Explore opportunities with Lincoln Public Schools to develop multi-purpose community space (activity centers) with new school facilities, allowing for expanded community programs and activities at school sites.

Aquatic Facilities

Description

Aquatic Facilities are developed to provide opportunities for water recreation activities. The City of Lincoln owns and manages ten Aquatic Facilities. The most recently constructed outdoor swimming pools (Highlands Pool and University Place Pool) are designed as "pool in a park" facilities. These pools feature zero depth entry, interactive water features and a deep well for diving activities. There are currently nine outdoor public pools in Lincoln, and one free-standing sprayground in Trago Park. Four of these facilities are classified as Community Pools (Highlands, Star City Shores, University Place, and Woods) and five are classified as Neighborhood Pools (Air Park, Ballard, Belmont, Eden, and Irvingdale). The City should maintain its commitment to outdoor water recreation activities; however no additional Neighborhood Pools should be constructed in the future. New Aquatic Facilities should be located and designed to serve quadrant areas of the community. New Aquatic Facilities should be readily accessible by pedestrians and bicyclists.

Level of Service

The current citywide LOS is 3.5 outdoor public pools per 100,000 Lincoln residents. The range of LOS for benchmark cities is 1.1 to 6.0 outdoor public pools per 100,000 residents, with an average LOS of 3.7 outdoor public pools per 100,000 residents. No new neighborhood pools are proposed during the planning period because of the low cost-recovery and the level of ongoing tax support required for annual operations and maintenance. Thus, the City is not intending to maintain the current LOS, but will continue to provide opportunities for aquatic recreation as described in the strategies that follow.

Strategies for Aquatic Facilities

- Continue to maintain and upgrade mechanical systems of existing outdoor swimming pools; regularly add features to Neighborhood Pools to make them inviting and attractive to visitors.
- Complete a major renovation of Star City Shores, adding new features.
- Construct a new Community Pool facility similar to Star City Shores at Mahoney Park.
- Renovate three existing Community Pools (Highlands, University Place, and Woods) over time as needed.
- Renovate the five Neighborhood Pools (Air Park, Ballard, Belmont, Eden and Irvingdale) to bring the pool basins and bathhouses into compliance with accessibility guidelines, contingent upon adequate funding for annual operations and for repair/renovation costs.

- Consider public-private partnerships with organizations such as the YMCA to provide access to outdoor pools in Lincoln that are outside of the service area of City operated pools on a non-membership, fee-for-use basis.
- Explore opportunities as they emerge to promote development of an indoor aquatics center with competition facilities as an emphasis; potential partners include UNL and one or more private partners.

Open Space and Greenway Linkages

Description

Open space and greenway linkages are a system or network of areas preserved in an undeveloped state due to unique natural attributes, such as floodplains and associated riparian areas, saline and freshwater wetlands, and native prairies. Some areas may be protected through conservation easements that allow for compatible land use activities such as row crop farming or pasturing. Fee simple title may be acquired for other areas that are best maintained in a natural state due to particularly sensitive features (e.g., rare or sensitive habitat areas), or that have value for resource-based recreation activities (e.g., hiking, interpretive activities, wildlife viewing). The local and regional commuter/recreation trail system should be integrated with the greenway linkages.

Figure 9.5: Greenway Linkages

Strategies for Open Space and Greenway Linkages

- Develop criteria and priorities to determine land areas that are most appropriately acquired and managed by a public agency.
- Implement the Salt Valley Greenway concept as identified in the *"Environmental Resources"* chapter.
- Continue the cooperative efforts of the City of Lincoln, Lancaster County, Nebraska Game and Parks Commission, and the Lower Platte South Natural Resources District on various efforts including land assembly, maintenance, flood control, wildlife and habitat preservation, recreation, and game management.
- Formalize cooperative agreements between the City of Lincoln, Lancaster County and the Lower Platte South Natural Resources District regarding planning, acquisition and management of open space and greenway areas.
- Utilize a "Rain to Recreation" approach to open space and greenway linkages that is coordinated with the City's watershed management program

and the Lower Platte South Natural Resources District to reduce flood damages, protect water quality and natural areas, while providing for recreational and educational opportunities so as to realize multiple benefits.

- Establish an organizational structure for coordination of open space conservation activities between public agencies and private organizations.
- Encourage development of a private land trust organization, or expand the role of an existing organization to include land trust activities in Lancaster County.
- Identify open space areas that are particularly valued by community residents for rare or unique attributes and establish development regulations utilizing a balance of incentive and mandatory measures.
- Utilize greenway linkages for commuter/ recreation trails.
- Pursue additional strategies as identified in the *"Environmental Resources"* chapter.

Urban Forest

Description

The native landscape of the region surrounding Lincoln is tall grass prairie. Urban trees shelter homes from the elements, reduce reflective heat gain, slow down stormwater runoff, provide wildlife habitat, and stabilize the soil. It is recognized that trees, both those occurring naturally and those planted and managed, are essential to the quality of life of residents and the character of the community. Research indicates that street trees have public health and environmental benefits, enhance the values of adjoining residences and enhance the economic vitality of commercial districts.

Other Location and Design Criteria

Continue to promote planting and management of street trees along all public streets within the corporate limits, and planting and management of trees in park areas.

Strategies

- Promote a diverse mix of tree species and ages in public tree plantings.
- Systematically and proactively manage trees on public property.
- Continue to plant and replant public trees through City tax funds, grants, and public/private partnerships.
- Monitor emergent insect infestations and diseases that threaten the vitality of public trees; develop readiness plans.
- Promote public education regarding the planting and care of trees, and opportunities for volunteer involvement in planting and maintaining public trees.
- Street trees require ongoing, regular management to assure adequate clearance over sidewalks and over streets, and to maintain visibility of traffic safety signage. Increasing resources for staffing and contractual work are needed commensurate with the increasing number of street trees associated with new development in the community.
- Consider development of regulations that promote preservation of significant trees within new commercial and residential subdivisions.

Other Recreational Facilities & Activities

Indoor Ice Center

The Breslow Ice Center is proposed to be located in the West Haymarket area as part of a concentration of sporting facilities near downtown Lincoln and the University of Nebraska City Campus.

The Breslow Ice Center will be developed in phases with the initial construction to include a single ice surface, and the opportunity to add a second ice surface in the future. The facility should be operated in cooperation and coordination with the Ice Box. The Ice Box is operated by a private organization in a building on Innovation Campus through a long-term lease agreement that expires during the Plan period. As the Breslow Ice Center develops, opportunities for the integration of functions associated with the Ice Box should be explored and may include the addition of spectator seating.

Golf Courses

The Parks and Recreation Department operates five public golf courses, including Ager Junior, Highlands, Holmes, Mahoney and Pioneers. In addition, there are several private golf courses in Lincoln and Lancaster County. LPlan 2040 assumes continued operation of five public golf courses, but no additional ones.

Other Public, Semipublic, and Private Facilities

Additional recreational facilities available to local residents include those under the control of public schools, private and parochial schools, the State of Nebraska, other units of local government, and private interests. It is anticipated that fitness and wellness facilities will continue to be developed and managed by private organizations in the future. Therefore, development of new City-owned and managed recreation centers with an emphasis on fitness and wellness is not anticipated. The Lincoln YMCA has indoor recreation facilities in the downtown and three quadrants of the community – Cooper YMCA in southwest Lincoln, Fallbrook YMCA in northwest Lincoln, and Northeast Family YMCA in northeast Lincoln. The YMCA has interest in the development of a new facility in southeast Lincoln in the future, and possibly a replacement facility in northeast Lincoln.

Primary and Secondary Schools

Lincoln Public Schools, various private and parochial schools, and other school districts in Lancaster County play a key role in the overall system of recreational facilities and services. Schools are focal points for surrounding neighborhoods. School playgrounds and facilities may be the most significant recreation resource at the neighborhood level.

Universities and Colleges

Local colleges and universities also provide a wide range of participant activities and spectator sports available to both students and the community. Major sports, music, and entertainment programs often are held in facilities owned by colleges and universities.

Non-Profits/Private Organizations

There is a diverse range of facilities and programs available to community residents from privately operated fitness facilities to community centers offering human service programs operated by non-profit organizations. Programs and activities range from food distribution and adaptive recreation programs for individuals with intellectual disabilities to weight rooms and aerobics classes. The YMCA, YWCA, and other private organizations sponsor programs in swimming, athletics, arts and crafts, camping, and various club activities, and provide facilities for more casual recreational activities. Some examples of private sector recreation facilities include bowling alleys, sport courts, soccer complexes, gyms, athletic clubs and fitness facilities and privately owned golf and miniature golf courses.

Lincoln Children's Zoo

The *Lincoln Children's Zoo* is one of only five zoos in the nation dedicated to educating our youth. The Zoo's design is tailored specifically for children. The zoo is located on city-owned land near South 27th Street and A Street, but is managed by a nonprofit organization. The zoo plans to expand its facilities and attractions to the west along A Street and also has plans for additional parking south of A Street.

Lincoln Children's Museum

The *Lincoln Children's Museum* is a nonprofit organization located in Downtown. The Lincoln Children's Museum is an indoor facility that includes exhibits to encourage children and parents to learn and play together. The museum is located on city-owned land near Centennial Mall and P Street, but is managed by a nonprofit organization.

Community Gardens

Community gardens have been established at a number of privately owned locations across Lincoln. Community gardens also can be an appropriate land management approach for areas of parkland not committed to active recreation uses. The Parks and Recreation Department, working in cooperation with organizations such as Community Crops, should develop standards and procedures to support and encourage development and operation of community gardens in appropriate park and public locations.

Plant Conservatory

The City should cooperate with other organizations to explore the potential for establishing an indoor plant conservatory as a year-round attraction for visitors and local residents. A plant conservatory could include a variety of species ranging from local to exotic, and could serve a dual function as research/educational facility.

Special Purpose Facilities

The City owns and operates two special purpose facilities — the Pioneers Park Nature Center (an interpretive facility for native prairie, plants, animals and landscapes), and the Hyde Observatory near Holmes Lake. The City and Nebraska Game and Parks plans to develop Boosalis Park as a recreational shooting sports complex.

Major Spectator Event Facilities

In collaboration with the University of Nebraska and Lincoln Pro Baseball, the City of Lincoln participated in the development of Haymarket Park adjacent to Downtown's historic Haymarket District. The complex includes a 4,500 seat baseball stadium and a 750 seat softball stadium.

In collaboration with the University of Nebraska, the City of Lincoln is participating in the development of the West Haymarket Arena adjacent to Downtown's historic Haymarket District. The project includes a 16,000 seat indoor arena and adjacent plaza and public gathering areas.

Emerging Recreation Activities

It is likely that there will be a generational shift in recreation interests and activities due to increasing experience with technology as a recreational activity. The Parks and Recreation Department should monitor and be responsive to emerging interests, and seek opportunities for partnerships and collaborations with user groups to support

activities and to develop facilities. Current examples of emerging recreation activities include: Skate Parks, BMX Cycling, Cyclo-Cross, Mountain Biking, Geocaching, and Adventure Racing.

Dog Parks/Runs

The Parks and Recreation Department currently manages two dog run facilities – Rickman's Run in southeast Lincoln and the Oak Creek Dog Run in northwest Lincoln. These facilities are heavily utilized and there is regular and continuing interest in development of additional facilities for dog-related activities. The Parks and Recreation Department should develop a master plan for dog facilities. This master plan should explore the development and management of a dog run in each quadrant of the city, a dog park near downtown, operations and capital funding needs, and opportunities for partnerships for the development and management of dog facilities.

Additional County Recreation Amenities

Lancaster County accommodates many other outdoor activities including hunting, nature viewing, fishing, boating, swimming, picnicking, camping, and hiking. The *Nebraska Game and Parks Commission* manages seven State Recreation Area lakes (Bluestem, Branched Oak, Conestoga, Olive Creek, Pawnee, Stagecoach, and Wagon Train) and seven Wildlife Management Areas. In addition, the *Lower Platte South Natural Resources District* manages five public lakes (Cottontail, Merganser, Tanglewood, Wild Plum, and Wildwood) and two urban area wetlands with public access (Lincoln Saline Wetland Nature Center and Whitehead Saline Wetland. Other cities and villages in the county maintain their own public parks, recreation centers, and camping areas.

10 Transportation

This chapter considers a full complement of transportation components, including trails, pedestrian and bicycle facilities, transit, roads, railroads, airports and airfields. It describes a balanced local transportation system built upon LPlan 2040's vision.

1. Introduction

This Transportation chapter is a companion to the 2040 Lincoln Metropolitan Planning Organization (MPO) *Long Range Transportation Plan* (LRTP). Together these documents provide the blueprint for the area's transportation planning process over the next 30 years. The transportation planning process is a collaborative effort between the City of Lincoln, Lancaster County, the Nebraska Department of Roads (NDOR), StarTran transit and other agencies, where the multimodal transportation system was evaluated and a set of recommendations were made with extensive public input. The transportation plan meets federal requirements and addresses the goals, objectives, and strategies to meet the community's vision for the future and was developed as an integrated part of LPlan 2040. The LRTP provides additional detailed financial information to meet federal requirements.

While the LRTP update is federally required for all MPOs every five years, the regular update provides the community an opportunity to also update the Comprehensive Plan to identify what challenges and opportunities may lay ahead, to re-examine values as they relate to urban travel and development patterns and to communicate about what

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they think the transportation system should look like in the future. The Lincoln-Lancaster County Comprehensive Plan and MPO LRTP, in accordance with federal requirements, addresses transportation system needs and provides a set of methods, strategies, and actions for developing an integrated, fiscally constrained multimodal transportation system that supports the efficient movement of people and goods.

The Lincoln-Lancaster County Comprehensive Plan and MPO LRTP cover the transportation systems of the jurisdictions located within the Lincoln Metropolitan Planning Area (MPA). The LRTP considers the interdependent nature of the metropolitan area's multimodal transportation systems through addressing the region's roadway, transit, bicycle, and pedestrian modes in a combined effort. The study area is illustrated on Map 10.3: Existing Functional Classification in section 2.

Vision for Transportation

The Vision for Transportation in Lincoln and Lancaster County is a safe, efficient and sustainable transportation system that enhances the quality of life, livability, and economic vitality of the community. The following four principles guide the plan toward that goal:

A Connected City. In Lincoln and Lancaster County, the unifying qualities of transportation will be emphasized. Neighborhoods, activity and employment centers, rural communities, and open lands should be connected by a continuous network of public ways. The transportation network needs to sustain the One Community concept by linking neighborhoods and rural communities together.

A Balanced Transportation System. Transportation planning in Lincoln will be guided by the principle of balancing needs and expectations. It will recognize that transportation is a means to the goal of a unified, livable, and economically strong community. The system needs to effectively move people and goods around the community, while minimizing impacts on established neighborhoods and investments. The concept of balance also applies to modes of transportation. While the system must function well for motor vehicles, it should also promote public transportation, bicycling, and walking as viable alternatives now and into the future.

Transportation as a Formative System. Transportation and land use are linked systems that are subject to change by growth and development. The land use plan, which includes projections of future development, determines the character of the transportation plan. On the other hand, transportation has a major impact on the form of developing areas. Lincoln and Lancaster County will use transportation improvements to reinforce desirable land use development patterns.

Planning as a Process. Transportation planning is a dynamic process, responding to such factors as community growth, development directions, and social and lifestyle changes. Therefore, the Comprehensive Plan and LRTP employ an ongoing process that responds to these changes.

Reason for Planning

LPlan 2040 anticipates many changes over the 30 year planning period. Changing demographics and employment patterns will create challenges for provision of transportation services and facilities. LPlan 2040 strengthens the connection between land use decisions and transportation needs. At the same time, Lincoln and Lancaster County face significant financial challenges in the construction of new transportation facilities and the care and maintenance of an expanding and aging system.

LPlan 2040 proposes a new way of looking at growth and land use in the City and County. A new emphasis on mixed use redevelopment and infill within the existing City will serve to increase the overall density of the City, concentrating it in areas along major transportation and utility corridors. While the density increases proposed in this plan are modest, developing a community that provides housing options in a variety of neighborhood settings, an array of well maintained transportation choices is a key goal and is anticipated to continue to be a focus as the plan is updated over the next several decades.

SAFETEA-LU Compliance

It is the role of the Lincoln MPO as the transportation planning agency for Lincoln and Lancaster County to ensure that the planning process is consistent with Federal law. The current Federal surface transportation legislation is the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU).

SAFETEA-LU is the most recent authorization for surface transportation investment in the United States. This builds upon the two previous national transportation bills, the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) and the Transportation Equity Act for the 21st Century of 1998 (TEA-21) which together established a new agenda for maintaining and investing in the nation's transportation infrastructure. SAFETEA-LU carries forward many of the principles and accomplishments of previous legislation and builds on and refines many existing efforts. This legislation also introduces new measures to meet the many challenges facing our transportation system which include improving safety, reducing traffic congestion, improving efficiency in freight movement, increasing intermodal connectivity, and protecting the environment. A list of the SAFETEA-LU factors can be found in the Technical Report. In addition to SAFETEA-LU, the Clean Air Act Amendment (CAAA) of 1990 requires communities to explore modes of travel other than single occupant vehicles to improve air quality while meeting the population's mobility needs.

There are eight planning factors included in SAFETEA-LU, which are specified areas that need to be considered for all metropolitan planning activities. The eight SAFETEA-LU planning factors are incorporated in the Transportation Plan goals and further detailed the LRTP Technical Report. Other SAFETEA-LU emphasis areas that were addressed include:

Strategic Highway Safety Plan (SHSP). NDOR published the *Strategic Highway Safety Plan, 2007-2011*. It includes five Critical Emphasis Areas, most of which are outside of the scope of an LRTP. However, two particular emphasis areas are relevant to a metropolitan transportation plan, to "Improve Intersection Safety" and "Improvements to Address Lane Departure Crashes". The transportation planning process includes an on-going traffic safety evaluation, looking at the crash data available from the City of Lincoln and NDOR for the planning area. High crash rate locations were identified, the types of crashes were evaluated and then improvements were evaluated where feasible. The crash information was used as part of the 2040 LRTP project selection process.

Existing Transportation Facilities. It is now required that the LRTP include a discussion of strategies to improve the performance of existing facilities. In addition to including a planning goal and associated objectives dedicated to preserving the existing system, many of the recommendations in this plan include projects / programs focused on improving the current system, and providing new connections to the existing multimodal system that will improve its performance. Furthermore, maintenance of the current system was a key element addressed in the LRTP funding approach. This is discussed further in the Safety and Security portion of section 2.

Agency Consultation. SAFETEA-LU states that the MPO must document in the LRTP how the agencies in the following areas are consulted within the

transportation planning process: environmental protection, wildlife management, land management and historic preservation. The process for consulting with agencies is described in section 7 and further discussed in the Technical Report.

Environmental Mitigation. The LRTP must include discussion of potential environmental mitigation activities to be developed in consultation with federal, state and tribal wildlife, land management, and regulatory agencies. Potential environmental impacts and mitigation measures were included in the evaluation of multimodal alternatives. A more complete discussion is included in the section 7 and further discussed in the LRTP Technical Report.

This transportation plan is to meet or exceed the principles of SAFETEA-LU planning provisions in addressing the changing transportation needs and many challenges facing the Lincoln Metropolitan Planning Area.

Lincoln Metropolitan Planning Organization

Transportation planning in Lincoln and Lancaster County is the responsibility of the Lincoln Metropolitan Planning Organization, or *Lincoln MPO*. This group is a policy-making board comprised of representatives from local government and transportation authorities that review transportation issues and develop transportation plans and programs for the metropolitan area. The MPO works to ensure the directives of SAFETEA-LU are incorporated into transportation planning and operations in the County. This organization is a forum for cooperative decision making and provides for the involvement of principal elected officials from the City and County. Although these individuals come to the table with multiple, and sometimes conflicting perspectives, they work together to establish local and regional priorities for the transportation improvements that are eligible for state and federal funding.

To assist them in their decision-making process, the *MPO Officials Committee* relies upon other committees and support staff, such as the MPO Technical Committee, as well as active participation from interested citizens, concerned business representatives, interest groups and other voices in the community. Aside from the LRTP, the MPO also has responsibility for preparation of the *Transportation Improvement Plan (TIP)* and the *Unified Planning Work Program (UPWP)*. These two documents are short term planning tools that help implement the goals of the LRTP.

While the Lincoln MPO plans and develops programs for the all of Lancaster County, separate and defined funding sources are used to fund the respective urban and rural transportation programs. Urban sources of funding are generally planned to be used within the "Urban Area Boundary" as shown on Map 10.3: Existing Functional Classification. Rural sources of funding are generally planned to be used outside of this identified boundary. There are, however, programs such as the Rural to Urban Transition for Streets (RUTS) program where both urban and rural programs are used to develop the transportation system in a more efficient manner within the Urban Area Boundary.

2. Existing Conditions and Issues

The City of Lincoln serves as both the capital for the State of Nebraska and the seat of government for Lancaster County. The County's 285,407 residents comprise the second largest metropolitan area in the State. The Lincoln Metropolitan Statistical Area includes Lancaster and Seward counties and 302,157 people. The broad southeastern Nebraska region is home to over one million people, including the greater Omaha urban area to the northeast.

As discussed in *""The Community""* chapter of LPlan 2040, the population over the next 30 years is expected to grow at an average annual rate of 1.2%. By the year 2040, the population of Lancaster County is anticipated to reach about 412,000, with

about 90% of those people living in the City of Lincoln. Like much of the country, a large segment of Lancaster County's population was born during the "Baby Boom" of 1946 – 1964. These residents are now beginning to enter retirement years. At the same time, Lancaster County has experienced a change in racial and ethnic demographics, with the number of those indicating they are Hispanic or other than white quadrupling in the last 20 years. Household size in Lancaster County has continued to decline over the past 50 years, from 3.5 people per household in 1960 to 2.4 in 2010. These factors may cause a shift in demand of transportation choices.

Population density in Lincoln still tends to be rather low at about 3.0 dwelling units per acre in the City as a whole. There are, of course, parts of Lincoln, particularly in the downtown area and in the older neighborhoods, where this figure rises significantly, as there are areas on the edge where large lots prevail. During the development of LPlan 2040 there was significant discussion of the benefits of an urban growth pattern with a higher degree of density than what is generally seen in Lincoln today. Some of Lincoln's most livable neighborhoods are in the older parts of the City where densities of seven or more units per acre are common. These neighborhoods often include parks, schools, small retail and service centers, and transit service within an easy walking distance of homes. Indeed, services such as transit are not viable when density is significantly lower. The public and the advisory committee have expressed support for development that reflects some of those more traditional neighborhoods.

Housing preference is one area that could be heavily influenced by these demographic factors. A desire for smaller homes, and homes with lower maintenance requirements, is commonly expressed among older adults. The proximity to goods and services that are used on a daily basis is also important. New immigrants also often seek out neighborhoods where the language, retail items such as groceries, and services provided in their native language are available. These factors indicate a future need for neighborhoods that are able to serve the people that live within them. This type of neighborhood pattern would indicate greater need for pedestrian and bicycle facilities. It may also mean that some residents in those areas would choose public transit and other alternative modes over automobile ownership.

Since the 1950s the majority of development has been on the edges of the City, progressing multi-directionally with strong growth to the south and east. Suburban style development with separation of land uses prevails, although in recent years more creative development patterns have been seen in some new projects. Lincoln has a long tradition of a clear differentiation between the urban and rural areas and "leapfrog" development has not been seen in the community. The existing transportation system has focused on the personal vehicle since the mid-20th Century. The older part of Lincoln maintains a strong grid street system, which has been continued in the new growth areas along mile-line arterial streets. Newer local streets have developed in more curvilinear patterns with cul-de-sacs being common in some neighborhoods.

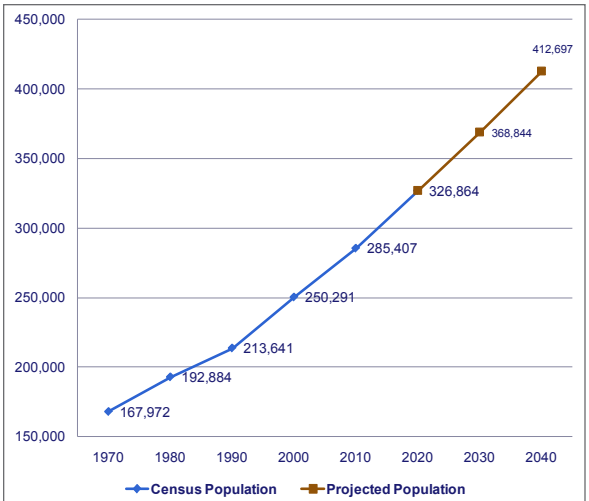


Figure 10.1: Lancaster County Population

As fuel costs continue to rise, the need for more transportation options, as well as lifestyle options, becomes more urgent. It is likely that the personal vehicle will continue to be the dominant form of transportation for the foreseeable future. However, as fuel costs rise, the option of using alternate

modes such as transit, bicycles and walking for some trips becomes more important to everyone. Telecommuting is one concept that has been discussed over the years, and some cities in the U.S. have made progress toward policies and tools to make this work style possible.

At this time, most cities in the U.S. are concerned with the costs associated with the operation and maintenance of transportation facilities. Lincoln and Lancaster County have not escaped from this challenge. The cost of new construction also continues to rise at a rate that outpaces the increase in revenues. These financial challenges demand a closer look at the priorities of the community. Maintenance costs can be significantly reduced if maintenance is done when streets and other transportation infrastructure are in relatively good condition. As maintenance is deferred, condition continues to decline and the costs of repairs rise dramatically. Techniques for reducing traffic demands by deferring trips to alternate modes or minimizing peak demands can reduce the need for projects that increase capacity on roads, resulting in a reduction in the cost for new projects.

Environmental stewardship is a priority for LPlan 2040 and for the LRTP. As part of the transportation alternatives analysis, extensive effort was made to identify possible environmental impacts and to gather input from both public and private environmental agencies and groups. Three primary areas of concern are closely tied to transportation: air quality, land conservation, and stormwater quality. All three of these areas can be best addressed by reducing the amount of paved area needed to serve transportation needs. If trips are shorter (i.e. destinations are closer) fewer miles are traveled and fewer emissions created. Shorter trips also make alternative modes such as bicycling and walking more attractive. Generally, shorter trips are accomplished by a more compact growth pattern which has the added benefits of fewer acres of land used for development, and more land, with the associated streams, trees, agricultural fields, and floodplains, left in a natural state.

Of primary importance in this and every plan is the equitable distribution of the community investment in transportation. It is important that no segment of the community receives less benefit or assumes a greater negative impact than any other. The LRTP process included an evaluation of the community according to the *Environmental Justice Action Strategy*. This strategy identified areas in the County that include a greater than average percentage of the population that identified themselves, through Census responses, as either belonging to a minority racial or ethnic group or meeting the definition of low income as defined by the U.S. Department of Housing and Urban Development. These areas were evaluated in a manner similar to that used for the environmental impact evaluation; impacts were identified and agencies and interest groups were contacted for their input. Responses were sent to agencies and groups that provided input and their comments were considered in the development of the plan. No adverse impacts were identified as a result of the proposed Plan during the Environmental Justice analysis. A full report of the findings can be found in the LRTP Technical Report.

Existing Pedestrian and Bicycle Facilities

Walking is an essential part of our daily activities, whether it be trips to work, shop, or play. Lincoln's greatest pedestrian asset is the long standing policy of requiring sidewalks on both sides of all City streets and connectivity between subdivisions. Because of this policy, the vast majority of homes and businesses are served by Lincoln's 1,500 miles of sidewalks. However, rehabilitation of sidewalks, particularly in older residential and commercial areas, has proven to be a challenge.

The responsibility for rehabilitation of sidewalks was passed from the adjoining property owner to the City in two separate votes during the early 1990s. The sidewalk rehabilitation program has been underfunded in the recent past. In order to continue this program at an appropriate level, serious consideration of increased funding must be taken.

There is currently not a single clearinghouse for pedestrian planning, design, and engineering in the Lincoln MPO. Instead, a number of departments address pedestrian mobility and sidewalks with varying perspectives as part of other job assignments. This results in pedestrian needs not being a primary focus of a coordinated program.

The current bike route network for the Lincoln MPO is tied closely to the streets and trails network. It includes existing paved and unpaved routes, proposed trails and trail easements, on-street routes, bicycle lanes on 11th and 14th streets in the Downtown area, and a shared lane facility on G Street from Capital Parkway to 4th Street. Riding bicycles is not allowed on the sidewalk in the following commercial areas because of the large number of pedestrians:

- Downtown
- Havelock
- College View
- Bethany

Bicycles can play an important role in the community by providing a healthy alternative to the automobile, reducing traffic congestion, improving air quality, and creating a more balanced transportation system.

While Lincoln has some on-street bicycle facilities, these are not common and there is no formal plan for a citywide system, nor is there a dedicated funding source for its accomplishment.

Improvement of existing street and trail facilities that are presently suitable for bicycles and other users, and the development of an expanded system of bicycle-friendly roads and trails for the City of Lincoln and Lancaster County's future have been expressed as strong community goals.

Bicycle Facilities Planning Lingo

Multi-Use Trail: Bikeway or trail that is physically separated from motor vehicle traffic by open space or a barrier. May be within the road right-of-way or have its own right-of-way. Also referred to as a "shared use" or "multi-use path," "recreational trail," or Class I bikeway.

Bicycle Lane: Bikeway on a street designated for preferential or exclusive use of bicycles by striping, signage, and pavement markings.

Bicycle Route: Streets with "Bike Route" signs installed along them. Intended for the shared use of automobiles and bicyclists without striping or pavement markings.

Sharrow: On-street facility that includes pavement markings with chevrons and a bicycle symbol. Usually on streets with sufficient existing width and low traffic volume.

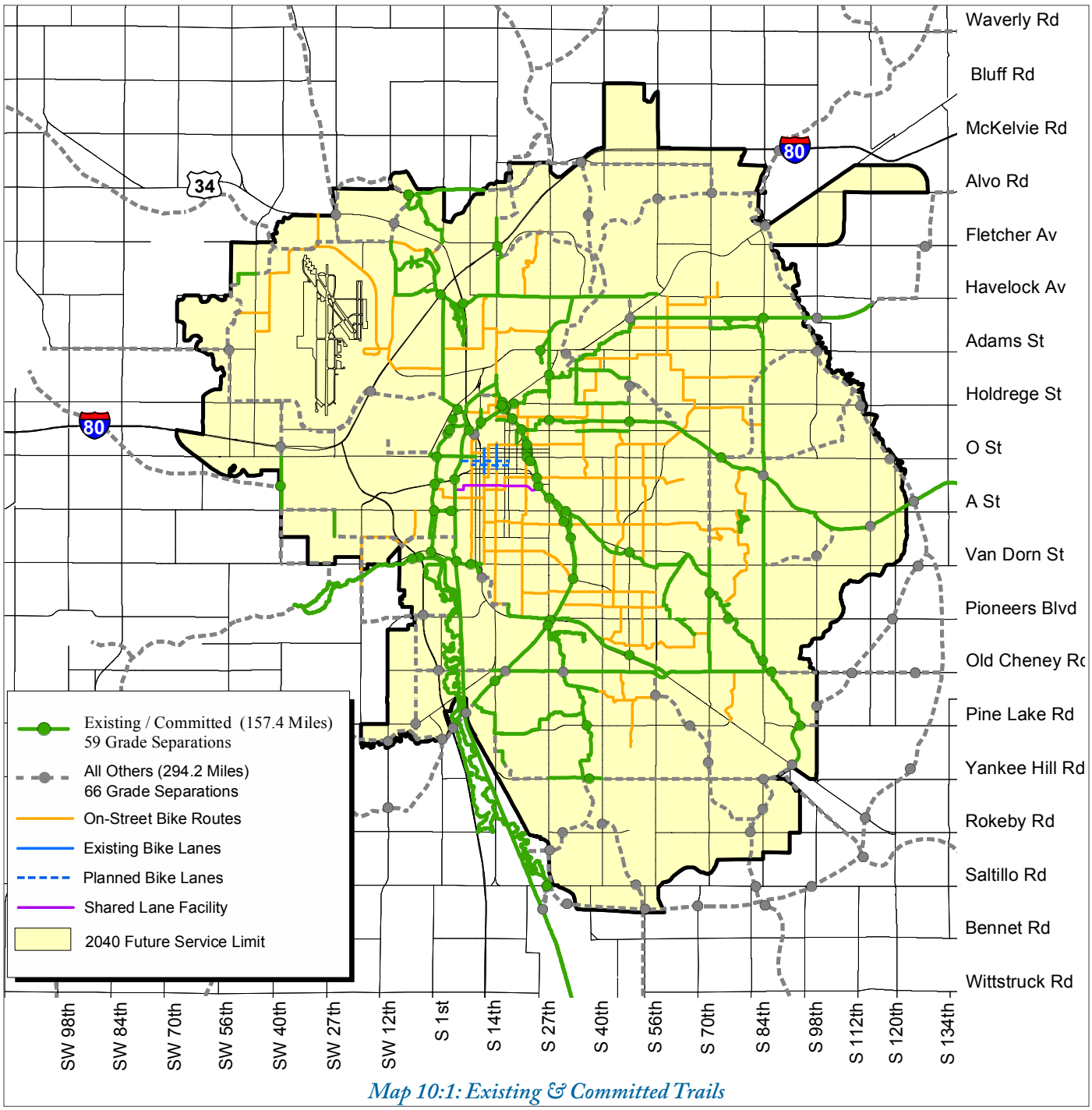
Trail Head: Major entry point onto a trail system often providing public facilities, such as parking, water fountains, bicycle racks, picnic facilities, and restrooms. A trail head is not necessarily at the beginning or end of a trail.

Existing Multi-Use Trails System

The community has an existing system of multi-use trails that currently provides a trail within one mile of 93% of dwelling units in the City. The system serves users such as bicyclists, pedestrians, roller-bladers, and parents with strollers and wagons. The present system serves both commuter bicyclists and pedestrians who use the trails daily for work and shopping trips and tend to travel from point to point, and recreational bicyclists and pedestrians

who tend to use the trails on a more occasional basis, seeking attractive and safe routes, as shown on Map 10.1: Existing and Committed Trails.

Much of the current trail system is built in the right-of-way of abandoned railroad corridors. Others are built along streams in the floodplain, along one side of major arterial streets, or as part of residential development. Maintenance of the system includes litter pick-up, mowing, trail clearing and signage. The Lincoln Parks and Recreation Department, Public Works and Utilities Department, and the Lower Platte South Natural Resource District are primarily responsible for trail development in Lancaster County. Lincoln Parks and Recreation, along with Lincoln Public Works & Utilities, maintain trails in the City and all of Wilderness Park while the Lower Platte South NRD maintains County trails.



Map 10:1: Existing & Committed Trails

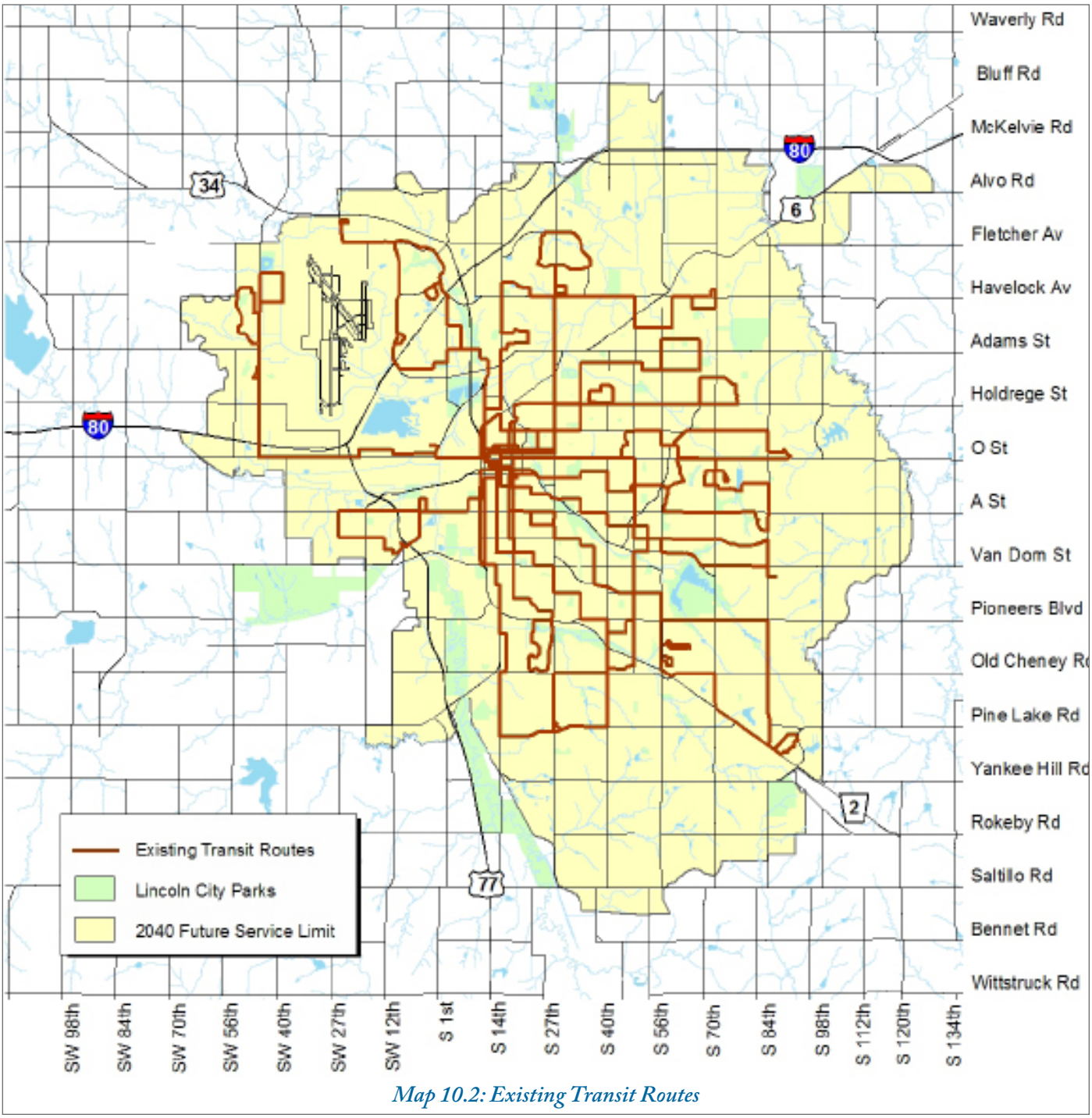
Volunteer organizations also assist in maintenance as well as donating significant funds for trail development.

Most of the existing trail system has been built over the last 30 years and some of the oldest trails are beginning to require rehabilitation, either because of declining pavement condition or because use has risen to a level that a wider trail is required.

Rehabilitation is currently funded at about $175,000 annually but costs are anticipated to rise as the system grows and ages.

Existing Transit System

Public transit is an essential component of the transportation system and should be integrated with all other transportation modes. StarTran - the



Map 10.2: Existing Transit Routes

City operated transit system - provides fixed-route service, para-transit (Handi-Van), and brokerage or contracted transportation service that is a door-to-door demand-responsive disability service. These public services are critical to those persons that are dependent on public transit services, and the service is provided in compliance with the Federal Americans with Disabilities Act. In addition to providing services for the transit dependent, StarTran also offers services as an alternative to the automobile for the non-transit dependent or choice riders.

The regular fixed route transit system runs Monday through Friday from 5:15 am to 7:20 pm and Saturday from 6:30 am to 6:30 pm with 17 routes and a Downtown shuttle. In 2010, over 1.8 million trips were provided by this service. The fixed route system operates based upon a Downtown hub and is a coverage system, meaning it attempts to provide service to all areas of the City. In 2010, nearly 82% of Lincoln households were within ¼ mile of a StarTran bus route.

Lancaster County does provide transportation for individuals in rural Lancaster County that is wheelchair accessible through the Lancaster County Public Rural Transit program. Service is provided Monday through Thursday, 8:00 a.m. to 4:00 p.m. The northern half of the County is served on Mondays and Wednesdays, and the southern half of the County is served on Tuesdays and Thursdays.

As a public service, StarTran transit should be funded and supported similar to any other public service. Transit service, whether a fixed-route or demand-responsive service, is linked to the larger transportation system and is affected by land use decisions. Providing fixed-route transit service relies on good pedestrian connections at the beginning and the end of the trip. Transit service is influenced by the density, community policy, transportation corridors and activity centers, as well as to the design of activities along those corridors and centers it serves. Other factors such as abundant supply and low cost parking, low travel time, gas prices and minimal congestion also affect transit demand. High travel corridors and activity centers with a mix of uses provide the demand that can effectively support higher levels of transit service.

Existing Roadway System

The Lincoln MPA is served today by an extensive system of streets and highways. This system ranges from roads capable of safely carrying thousands of vehicles each hour, down to local residential streets that help form the character of neighborhoods. The street system further plays a vital role in commerce by carrying products to all portions of the City and County. The rural road network also links the agricultural community to key transportation centers, allowing their commodities to be shipped around the world.

Section line roads form the basic layout for the City's and County's existing street system. Spaced approximately one mile apart, these roads create the underlying grid pattern found throughout the County. This roadway pattern was established nearly 150 years ago by the United States government. Surveyors were sent west to the Plains states to create a patchwork of one mile squares. These squares became the building blocks upon which the earliest settlements and agricultural communities were formed.

The section line roads are used today as Lincoln's main system of arterial streets. In the newer areas of the City, section line roads are ultimately built with four through lanes, with turning lanes added to improve safety and operations along these corridors. However, two lanes with some turn lanes where needed are often built to carry lower levels of traffic and then expanded to four lanes when growth occurs and as traffic warrants. The grid pattern has also been accentuated in the older

areas of Lincoln through the use of arterial streets at the half section (or half mile) line. This has created a more extensive street grid pattern in the older areas of the community.

To aid in moving traffic through and across the community, other routes have been layered on top of the County's underlying one mile grid pattern. From the Federal Interstates (such as I-80 and I-180), to State highways (Highway 2, 33, 34, and 79), U.S. Highways 6, 34, and 77, and to local facilities (such as Capital Parkway, Cotner Boulevard, and Sheridan Boulevard), diagonal roads have helped expand the community's street capacity. These facilities often offer more direct movement between major centers of activity than are provided by the grid system.

Bridges and overpasses have also been added over the years to make travel safer and easier. Separating cars and trains reduces the potential for crashes, as well as reducing the time spent by motorists waiting for passing trains. Even the spanning of the region's numerous creeks and streams with permanent structures have allowed people and vehicles to move more easily.

Today there are an estimated 2,808 miles of streets and highways serving the Lincoln MPO. 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.

System Operation and Management

The Street Operations program is the day-to-day work that is necessary to keep the street system functioning at a level that reasonably serves the community's travel needs. Efforts conducted as part of Street Operations include street sweeping, snow removal, crack sealing, pothole repair, signs, striping, signal operations, storm watch, record keeping (i.e. traffic counts, crash database), and engineering and safety studies. Currently the budget for the Street Operations program is $13 million annually.

Rehabilitation Program

The Rehabilitation program includes the repair of arterial and residential roads when the pavement conditions deteriorate to an unacceptable level. A pavement condition rating system is used to determine which road surfaces are in most need of repair. Also included in the Rehabilitation program is bridge rehabilitation and signal replacements. It is important to note that money invested today in the ongoing maintenance and repair of the street system saves a significant amount of money in the future by avoiding the costs associated with full reconstruction of roadways. Currently the arterial and residential street rehabilitation program is funded at $3.2 million annually. The bridge rehabilitation program is funded at $1.9 million annually, and the signal program is funded at $1.8 million. This funding is not adequate to meet the needs of the rehabilitation program, and the costs associated with this program will increase as the street system ages and expands as the community grows.

Safety and Security

An important part of the Lincoln MPO's urban transportation planning process involves the collection of transportation related crash data. The City's annual *Crash Study* provides a source of information through which local and state officials examine and respond to changing transportation conditions. During 2008, approximately 7,900 crashes were reported within the City limits, involving pedestrians, bicyclists, buses, trucks, trains, motorcycles and automobiles. The estimated monetary loss from those crashes is $196 million. These total crashes resulted in a vehicle crash rate of 4.94 crashes per million vehicle miles traveled. The crash rate has experienced an average annual decline of 3.26 percent per year since 1985. This crash information was used as part of the 2040 LRTP project selection process.

> The City's goal is to reduce the overall number of crashes, fatalities and injury crashes during and beyond the planning period.

The City's goal is to reduce the overall number of crashes, fatalities and injury crashes during and beyond the planning period. To achieve these fundamental goals, it is important that national, state and local standards along with education, enforcement, engineering and evaluations continue to be pursued. Nationally, the Federal Highway Administration (FHWA) continues to emphasize transportation safety. As a result, the primary focus of highway planning and investment is on improving the safety of the transportation system. In accordance with the provisions in SAFETEA-LU, each state is required to develop, prepare, submit and implement a comprehensive safety plan. The Nebraska Safety Plan, developed in collaboration with public and private agencies, has identified the following Critical Emphasis Areas that will require the continuation of existing or implementation of new programs:

- Increasing safety belt usage.
- Keeping vehicles on the roadway, minimizing the consequences of leaving the road, & reducing head-on and across-median crashes.
- Reducing impaired driving.
- Improving the design and operation of highway intersections.
- Addressing the impact of distractions for of young drivers.

Lincoln and Lancaster County have been involved in several different efforts to address these emphasis areas. Several of these programs are further described in this section and in the section entitled Planning for the Transportation Needs of 2040. Other programs are part of local and national private and non-profit efforts.

- Implementing an annual intersection capacity improvement program that will address safety concerns.
- Funding an annual program to match project costs from the State's safety program.
- Continuation of a regular crash study to identify locations needing further study and safety improvements.
- Advancing the two plus center turn lane program to ease traffic flow on internal streets and to improve safety conditions.
- Employing the ITS program to use the latest technology to assist in traffic flow monitoring and incident management efforts.
- Annual programs to improve and maintain signing, striping, and signal timing as part of the regular operations efforts.
- Implementing a signal replacement program as part of the heightened rehabilitation effort that will allow for improved signal systems with latest technology.
- Local driver education programs and school safety programs.
- Heightened vehicle safety standards at the national level, such as anti-lock brakes and daytime headlights.

Congestion Management

One of the main components of the LRTP is an analysis of congested roadways in the Urban Area and the Management Process to address these congested areas. The Lincoln MPO Congestion Management Process (September 2009) is a guideline for the identification and development of capacity improvement projects. Because of the limited financial resources available to Lincoln and Lancaster County to address roadway congestion, the MPO carefully reviews projects to determine their suitability for widening and selects only the most critical areas recommended by transportation agencies to become part of the list of capacity

improvement projects in the Lincoln-Lancaster County LRTP. The Congestion Management Process is a tool used by local transportation agencies to determine what level of capacity improvement is most suitable for a corridor and uses data from the Lincoln MPO Travel Demand Model to analyze the submitted capacity improvement projects included in this Plan and was used as part of the 2040 LRTP project selection process. This is discussed further in the Streets and Roads portion of Section 5 and in greater detail in the Technical Report.

Congestion management is one of the primary responsibilities of the Department of Public Works and Utilities. A combination of road and intersection design, road condition, Intelligent Transportation Systems, a well connected system and a strong tradition of linking transportation to land use serve to reduce traffic congestion within the urban area. The Congestion Management Process includes the use of congestion data to support transportation decision making and is reported on annually.

Transportation System Monitoring & Management

Effectively managing the metropolitan area's transportation system requires an ongoing program of monitoring and data collection. Over the past several years, the measures used to monitor, evaluate, and manage the MPO's transportation system have been the subject of considerable dialogue within the community, beginning with the Congestion Management Task Force in the mid-1990s. A variety of parameters are used to judge system performance including travel time, average speed, intersection delay, vehicle occupancy, traffic volumes, crash rates and other relevant measures. These measures remain an important statistical foundation upon which to build a valid process to evaluate and manage the overall transportation system.

Intelligent Transportation Systems

Intelligent Transportation Systems, or ITS, can be simply defined as "people using technology in transportation to save lives, time and money." ITS integrates computers, electronics, sensors, communications, and management practices into the daily operations of a community's transportation system.

The Public Works and Utilities department currently manages a Travel and Traffic Management System that includes approximately 430 traffic signals, 90 miles of communication lines, 26 portable and 15 fixed dynamic messaging signs, 55 traffic monitoring cameras, 7 roadway and weather monitoring sites, and about 169 intersections with fire pre-emption and 9 railroad pre-emption units.

Two Plus Center Turn Lane Program

One of the challenges of providing efficient transportation services to a growing community is the possibility of negative impacts to existing neighborhoods. Widening an older roadway in an established neighborhood can significantly impact the quality of life for those living there. At the same time, highly congested roads where traffic moves slowly during peak hours can cause noise, air quality and safety concerns. To help meet this challenge, Lincoln has implemented the Two Plus Center Turn Lane Program, often called the "2 Plus 1" program.

Under this concept, designated arterial streets in existing neighborhoods are improved with a street design that includes two through travel lanes and a single common center turn lane. This approach increases the street's efficiency to move traffic and improves safety, while minimizing the impacts on the adjacent neighborhood. This design can usually be accommodated within the existing right of way; however, small portions of right of way may need

to be acquired in order to complete this program's objectives.

While all arterial rehabilitation projects should be done to a width that can accommodate two lanes plus a center turn lane, actual striping varies depending on the particular neighborhood circumstance.

Street and Highway System

The street and highway system is the primary backbone of the Lincoln-Lancaster transportation system. In 2010, approximately 90 percent of work trips in the planning area were made by automobile on the street and highway network. The street and highway system provides connections within the region, connections to other cities and regions and connections between various modes of travel within the metropolitan area. This section provides an overview of the various components of the street and highway system.

Functional Classification

Functional classification is a hierarchical grouping of roadways into various categories according to the level of traffic service that they are intended to provide. The MPO has developed a functional classification system for roadways within the transportation planning area that includes urban and rural categories. The various functional classifications define the roadway's general role, which can be summarized by the degree to which it provides access to adjacent properties or provides travel mobility from one part of the region to another.

Urban/Rural Interstates, Freeways and Expressways are at the top of the classification hierarchy. These are roads capable of carrying large numbers of vehicles at higher rates of speed over long distances. Access to these roadways is strictly controlled. Vehicles can only get on or off these facilities at a few designated locations — typically at an interchange.

Principal Arterials and **Minor Arterials** are at the next level of roadway classification. Arterials carry traffic between major activity and population centers. They may run for many miles across the City and County. Posted speed limits are generally in the 35 to 45 miles per hour range in urban areas, (higher in rural areas) with access provided at grade. Traffic signals as well as roundabouts are often used to regulate the flow of traffic at major intersections along arterials. Access is managed, although movement to and from adjacent property is sometimes allowed depending upon the character of the area and the uses being served.

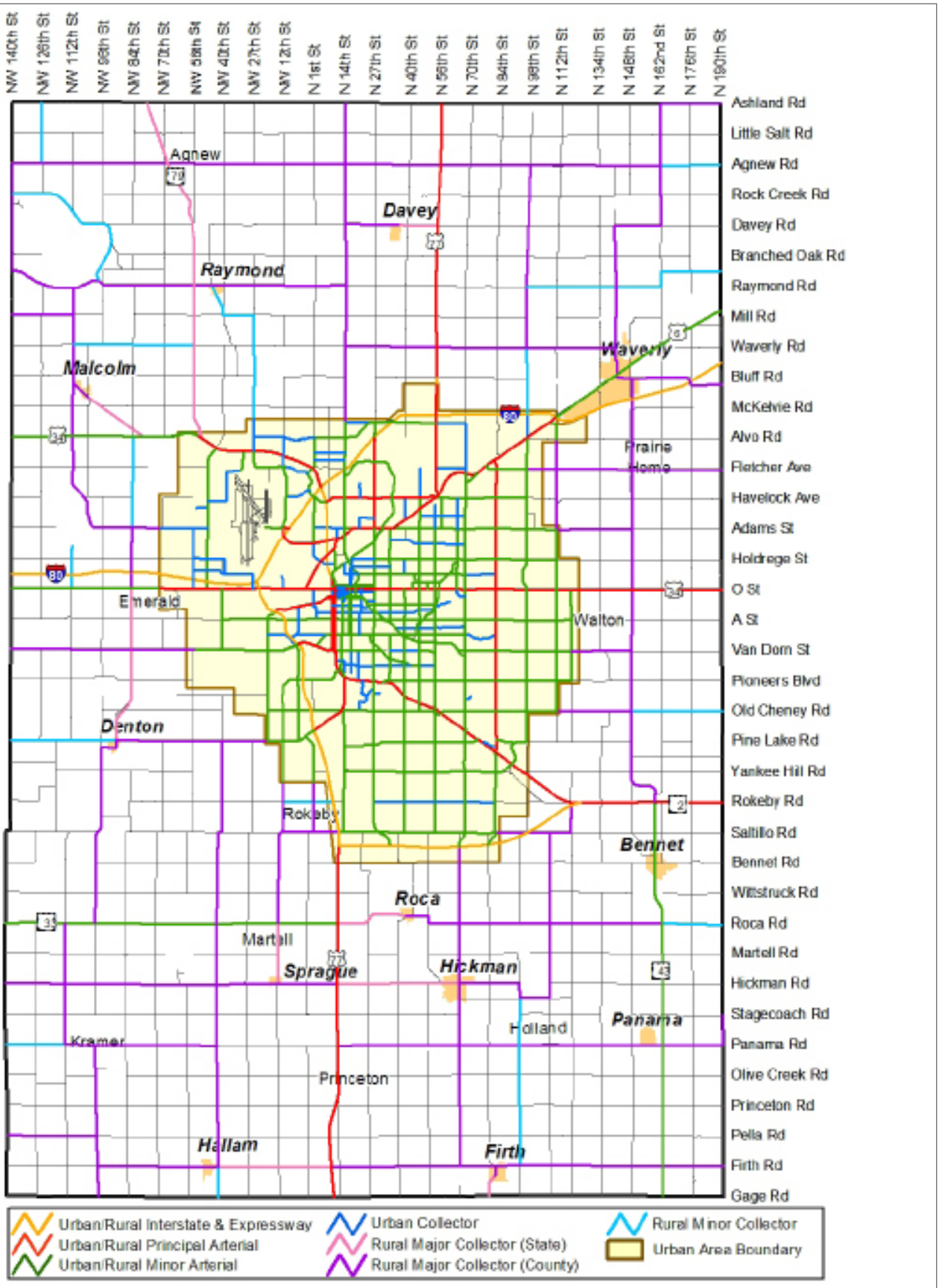
Collector Streets offer motorists a safe and convenient way to move from a neighborhood to the arterial street system. This next level of street classification is intended to "collect" traffic from residential or other destinations and move it to the higher order streets. Speeds are generally lower than arterial streets with direct access more liberally granted.

Local or **residential** streets provide the greatest access. These streets provide very limited opportunities for through traffic; their primary function is to provide access to adjacent properties.

Rural Roadway System

There are 1,486 miles of rural roadways in Lancaster County that are managed by the State of Nebraska and Lancaster County. The state manages all Interstate, U.S. and State Highways which make up more than 170 miles of rural highways. The County Engineer manages approximately 1,316 miles of roads in the rural road system of which approximately 1,028 miles are gravel surfaced, 239 miles are paved or asphalt, and about 49 miles remain unimproved dirt roads.

Most County roads in Lancaster County are developed along section line corridors, giving the County a general 1-mile grid pattern of roadways. Safety is always a major concern. Population growth and increased recreational demands in the rural areas add to the volume of traffic. Grain



Map 10.3: Existing Functional Classification

trucks and other commercial vehicles are carrying heavier loads than ever before and create additional problems as roads experience greater transport weights.

These pressures lead to increased maintenance demands and demand for improved pavement and modifications to road foundations. The decision to make improvements to the road surface is based on several factors including:

- Role of the road in the overall system
- Number of vehicles traveling the road daily
- Increased maintenance or decreased driver safety
- Type of traffic and weight of vehicles on the roadway
- Spacing or proximity to other paved roads

Existing Freight System

The movement of goods and freight into and out of the metropolitan area is critical to the economic health of the community. Goods and freight are currently transported throughout the City and County by road, rail, air, and pipeline. In 2005, 188 freight operations employed nearly 6,000 employees in Lancaster County. The total payroll for these establishments approached $240 million per year. Trucking comprised the bulk of the freight movement services in the County in terms of employees, payroll, and number of establishments.

Truck Freight

Truck freight is the most visible, and most common, form of delivering goods to customers in Lincoln and Lancaster County. Activities generating high truck traffic— especially grain elevators and warehousing operations — were historically located on the periphery of the City. Many, if not most of these, have been absorbed into Lincoln as the City's corporate limits have been pushed out by growth. Today I-80, I-180, US-34, NE-2, NE-33, US-77, and US-6 all exhibit high commercial truck traffic.

A number of roadways have been designated as "Truck Routes." These roadways are built to a higher weight standard to accommodate heavy trucks. Turn radii and the heights of bridges and signs and other overhangs are designed to allow easy movement of large vehicles. They also provide identifying signage and direct routes through town or to commercial and/or industrial centers. Some truck routes may have special features, such as restricting trucks to the right lane to allow other vehicles to use the left lane to accelerate from stop lights on Highway 2, that assists with the smooth flow of traffic and improve safety.

Rail Freight

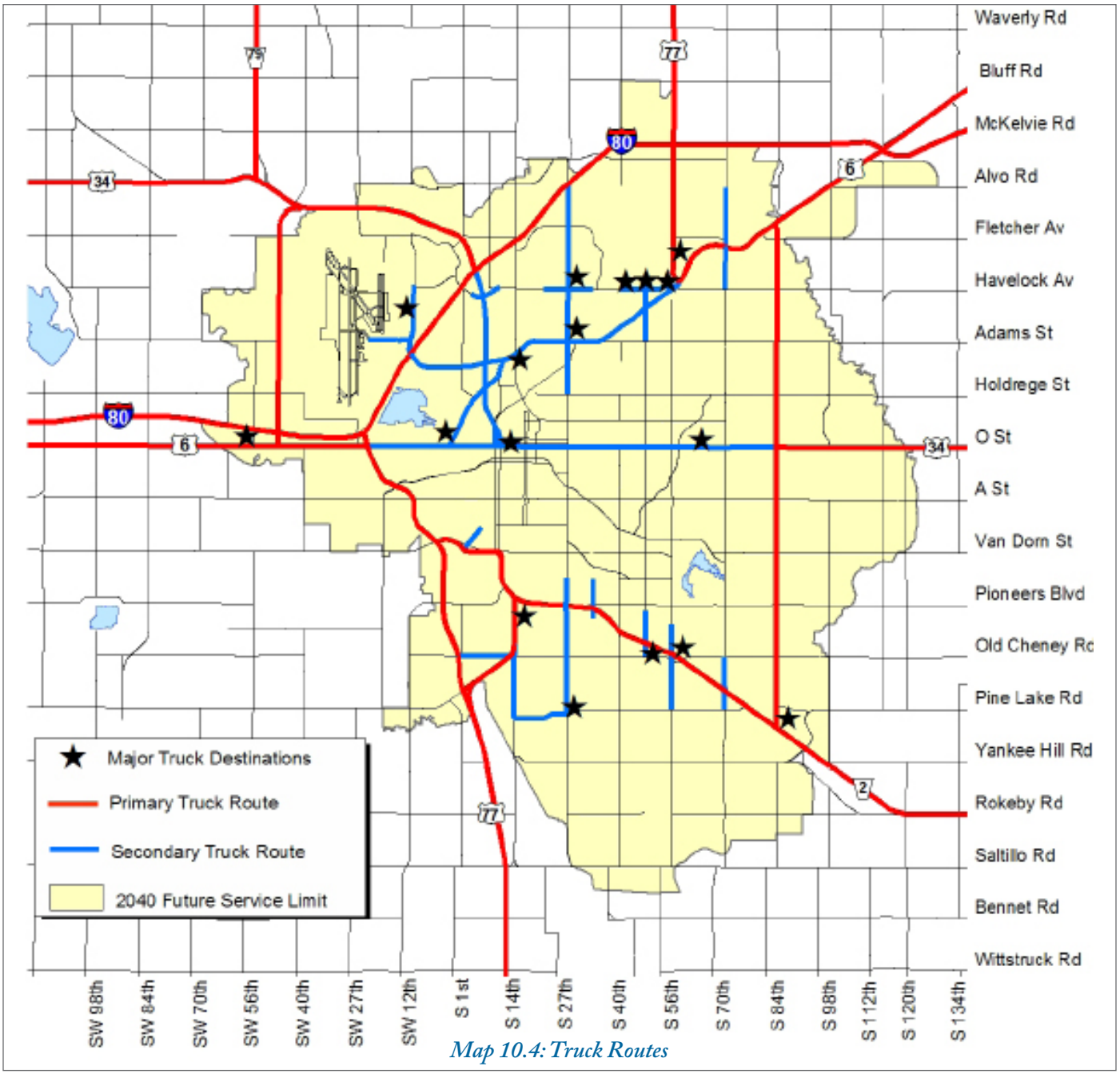
The majority of rail freight originating in Lancaster County is heavy, bulky agricultural product. Grain elevators and mills within Lincoln and throughout Lancaster County serve as the primary customers of railroad transportation services. Nine grain elevators throughout Lancaster County and five in Lincoln are served by the BNSF Railway. Much of the other freight entering or passing through the County is coal headed for power plants.

Air Freight

While the Lincoln Airport is the County's major air facility, Omaha's Eppley Airfield currently serves much of the air freight needs for Lincoln and Lancaster County. Air freight entering Lincoln Airport arrives through passenger service in small loads. United States Postal Service (USPS) mail is delivered to Lincoln through passenger service. USPS mail is not regularly shipped out of the Lincoln Airport, but rather it is trucked to Omaha's Eppley Airfield for processing. The majority of private parcel delivery service is also handled through Omaha's Eppley Airfield.

Pipeline Freight

There are 17 major pipelines in Lincoln and Lancaster County. The majority transport petroleum or natural gas products. One of the lines transports anhydrous ammonia, which is a product used in agricultural production. All of the pipelines are managed by four firms in Lancaster County.



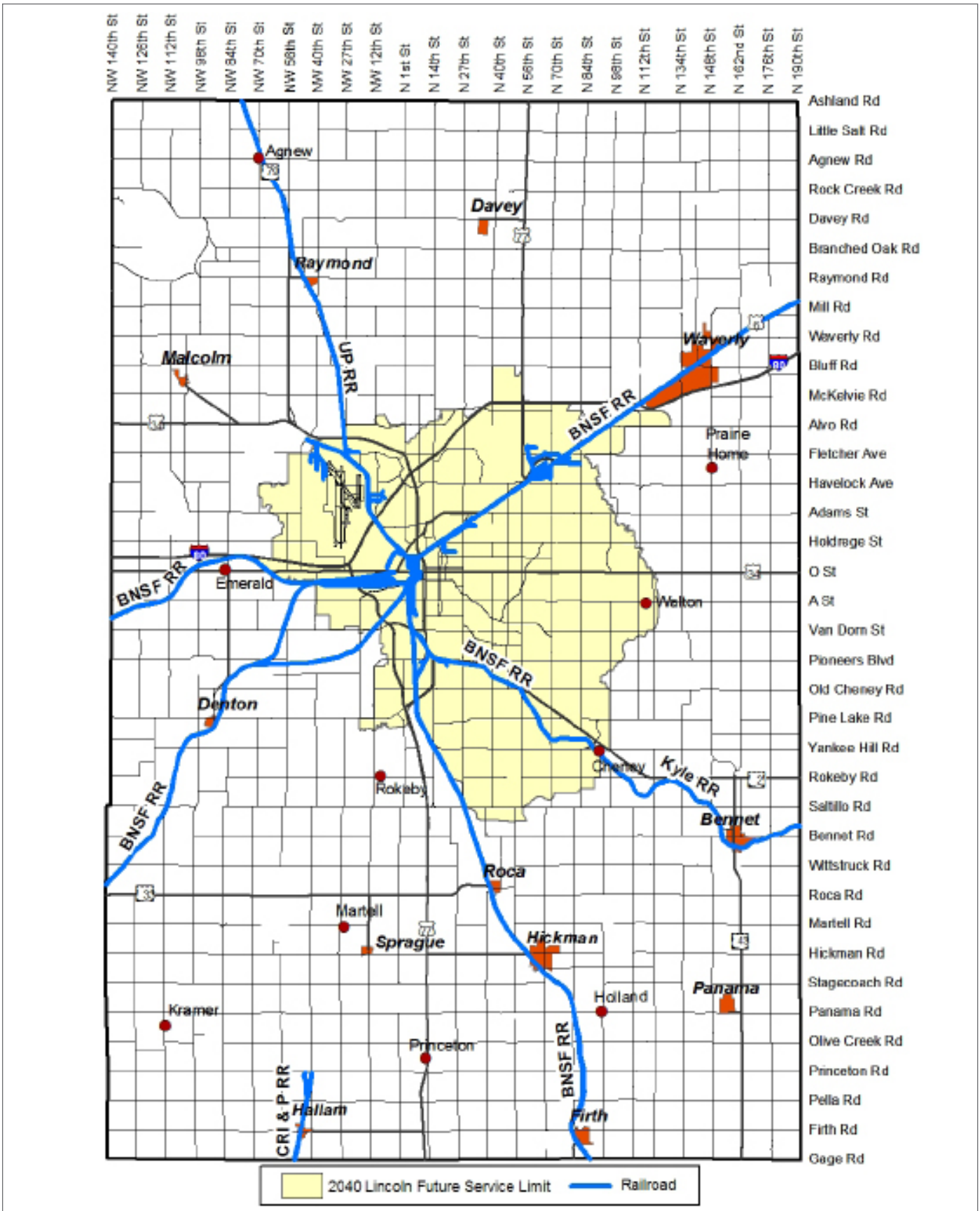
Map 10.4: Truck Routes

Existing Rail System

The City and County are currently served by two Class I railroads and two Class III railroads - the mainline of BNSF Railway (Class I), a secondary branch line of the Union Pacific Railroad (Class I), Lincoln Lumber Railroad (Class III) and the Kyle Railroad (Class III) which operates a rail line in southeast Lancaster County via the Omaha Public Power District (OPPD) track from southeast Lincoln to Nebraska City.

Both freight and passenger rail services are offered in Lincoln and Lancaster County. Currently up to 80 trains a day travel east-west through the County. In recent years, railroads in Lincoln and Lancaster County have been affected by changes in the railroad industry and growth within the City.

The Railroad Transportation Safety District (RTSD), a countywide entity, was established in 1971 to fund transportation and safety improvements at railroad



Map 10.5: Existing Rail Lines

crossings. The funding mechanism provided by the RTSD allows for grade separation project to be built.

Eliminating at-grade vehicular-train conflicts is a primary objective of LPlan 2040 through the RTSD. Removal of such conflicts will enhance safety, reduce delays, and improve emergency access to the surrounding neighborhoods. Current and recently completed safety projects include:

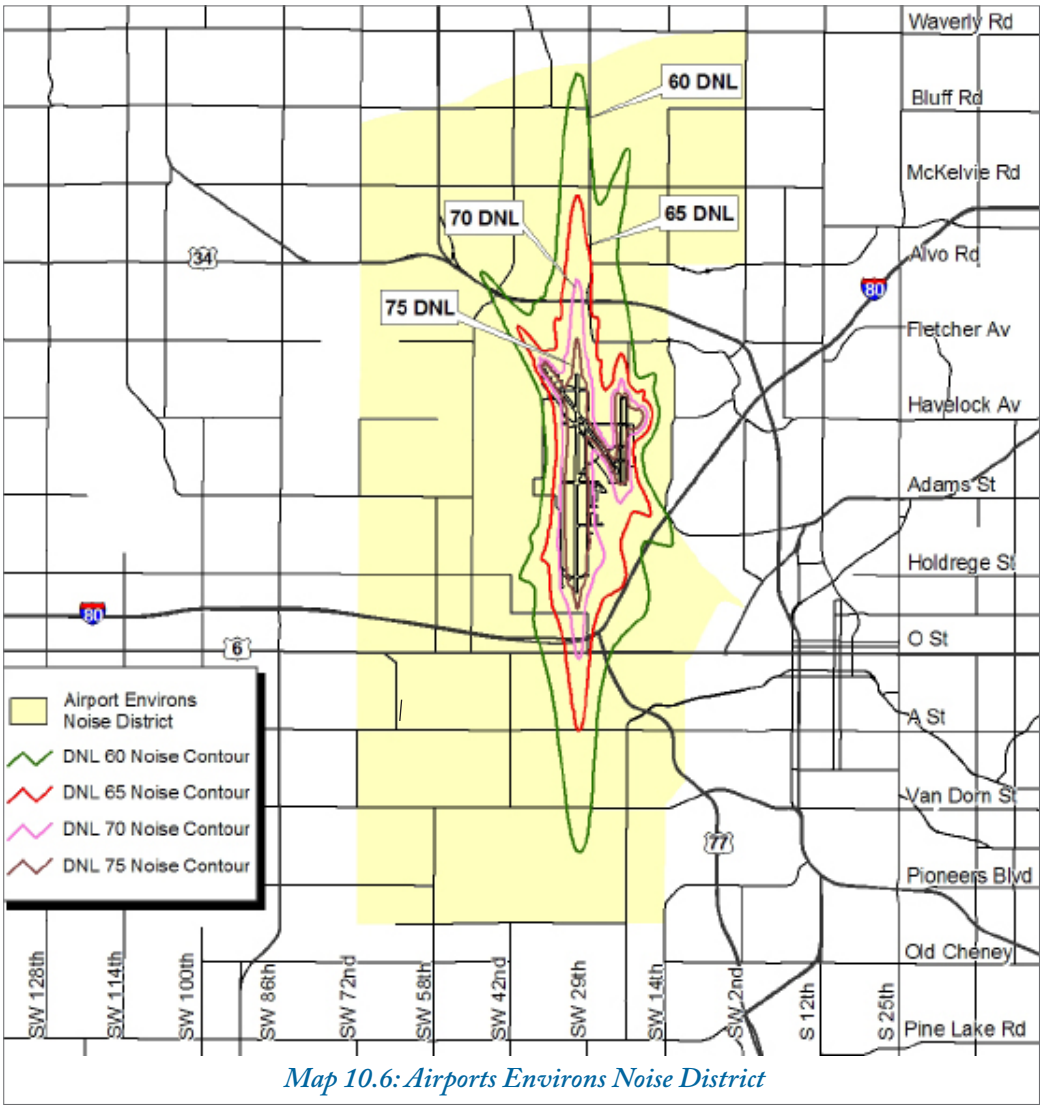
- The Antelope Valley roadway elevated intersection in the vicinity of N. 18th Street and State Fair Road (completed)
- SW 40th St Viaduct (committed project)
- South 68th St, south of Hickman (under construction)
- Quiet Zones in the South Salt Creek neighborhood from 1st and J St to 3rd and D St, and at 3rd and South St to 27th and Saltillo Rd. The City of Waverly is also designing a quiet zone from 141st St to 148th St.

Existing Airports and Airfields

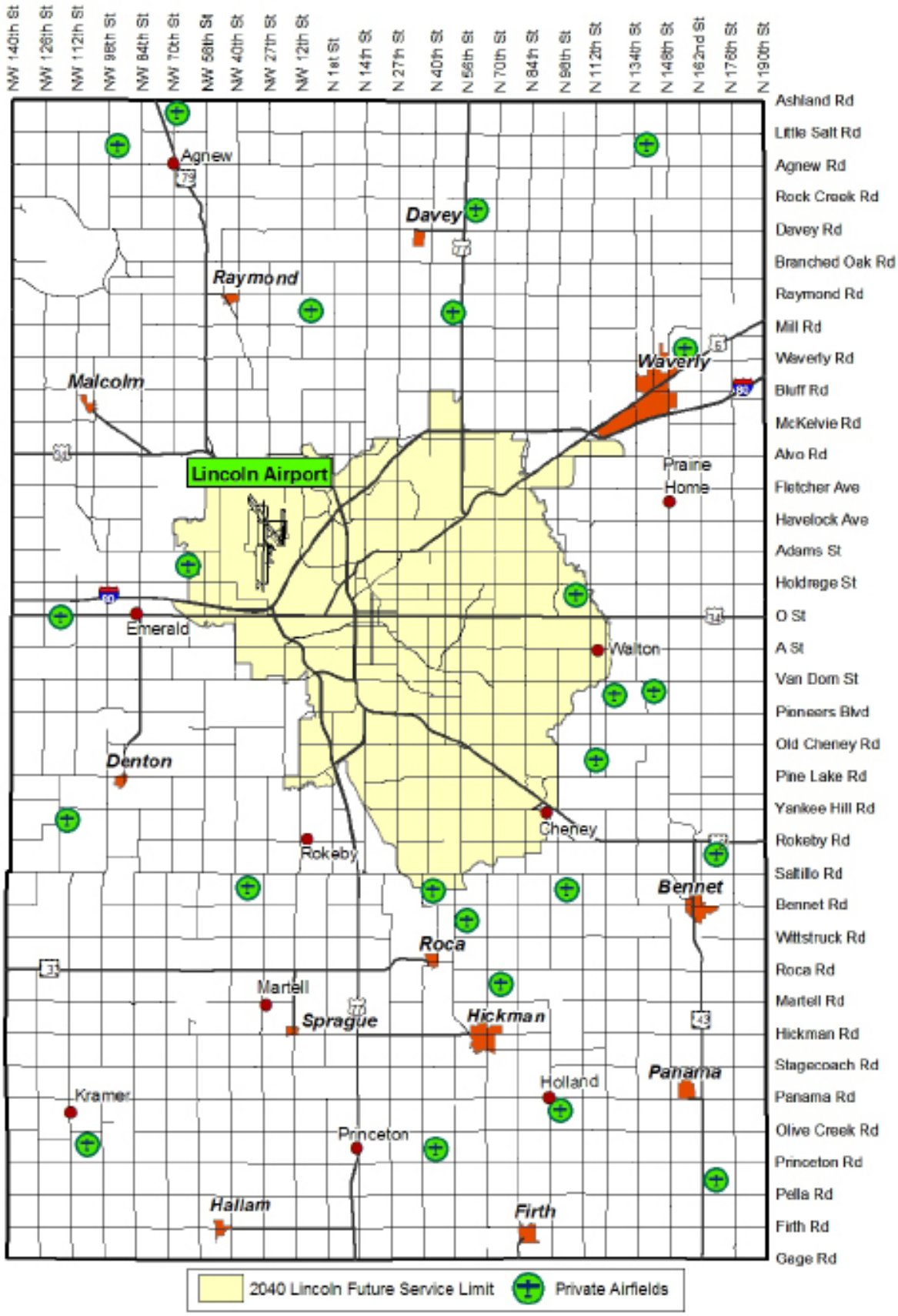
The Lincoln Airport is the major air facility servicing Lincoln, Lancaster County and the region. It provides an important transportation link to national and international markets. It is located in the northwestern part of Lincoln, with access provided by Interstate and State highways.

The City of Lincoln's Airport Environs Noise District and Airport Zoning Regulations have been established to ensure a balance between airport operations and the surrounding land uses. These regulations govern uses and structural characteristics compatible to the airport operations and minimize negative impacts on surrounding residents.

Smaller private airports and airfields are also located throughout the County. The distinction between an airport and an airfield is generally the number of planes using the facility and who is allowed to use them. "Airfields" are limited to use by the residents of a single family home with not more than one plane. All other air facilities, including single family airfields which accommodate guest planes or house more than one plane, are termed "airports." Within Lancaster County, airports and airfields are discouraged within close proximity to homes, schools, hospitals or other areas potentially sensitive to noise and restricted by zoning.



Map 10.6: Airports Environs Noise District



Map 10.7: Airports & Airfields

3. Outreach and Public Participation

As part of the development of LPlan 2040 and the 2040 Long Range Transportation Plan update, a public involvement and engagement effort was undertaken to guide the process of disseminating information and gathering input from the public. The public involvement process was developed from and consistent with the adopted MPO *Public Participation Plan*.

Many individuals and groups participated in the process through open houses, newsletters, workshops, websites, surveys, informational materials at libraries and community centers and comment boards. Online tools proved to be the most effective in soliciting input in several different campaigns. Multi-media and social networking software were also utilized in this planning effort.

The LPlan 2040 Advisory Committee (LPAC):

The LPAC was appointed by the Mayor of Lincoln, with input from the Lancaster County Board. LPAC members included the nine Planning Commission members and eleven other community representatives representing a broad range of interests in the community. A list of the LPAC members can be found at the front of this document and in the LRTP Technical Report.

The LPAC operated under the Nebraska Open Meetings Law with posted agendas, public notice, open, accessible meetings, and minutes or other records of the discussions. The LPAC was an advisory body to the Director and the Planning Department as the Plan was drafted, supplementing but not supplanting the statutory duty of the Planning Commission to review and advise elected officials once the Plan was developed. The LPAC did not take votes on elements of the Plan, but rather studied, analyzed, questioned and discussed the data, assumptions, and recommendations that make up the draft Plan.

The following is a list of groups and organizations to whom presentations were made or who were given information as part of their meetings:

Elected, Appointed Officials, and Advisory Boards.

The City Council and County Board received several updates on LPlan 2040 activities during their regular staff briefings or monthly Commons meeting. Several advisory boards such as the StarTran Advisory Board, Mayor's Pedestrian Bicycle Advisory Committee, Mayor's Environmental Task Force, County Ecological Advisory Board, Historic Preservation Committee, Urban Design Committee, Nebraska Capitol Environs Commission, and others were also regularly updated.

Business Groups.

Various business groups such as the Chamber of Commerce, Lincoln Independent Business Association, Home Builders Association of Lincoln, and Lincoln Board of Realtors received special briefings or presentations at their meetings. A special committee of freight industry representatives was also formed to advise on freight issues.

Neighborhood, Community and Interest Groups.

Several community organizations were directly contacted by email and by telephone multiple times throughout the process in order to more fully engage traditionally under-represented populations such as racial and ethnic minorities and low income households. The Mayor's Neighborhood Roundtable and several neighborhood associations requested presentations at their regular meetings and others regularly sent representation to the LPAC meetings. Interest groups such as Leadership Lincoln, Friends of Wilderness Park, and the Great Plains Trails Network also received briefings and participated in other ways.

All groups that received presentations and/or direct contact are listed in the Process Overview section of the Technical Report.

Major Public Outreach Efforts

Throughout the planning process, materials were made available both in print and electronic format.

The website created for the development of LPlan 2040 was a major source of information for the public, with all materials from workshops, open houses, and advisory committee meetings posted. Flyers were translated into Russian, Vietnamese, Spanish and Arabic. Newsletters were translated into Spanish. Several social networking tools such as Facebook, YouTube, and Twitter were employed for outreach. An additional social networking site called Mind-Mixer (Virtual Town Hall) was also used to engage the public in initial conversations about ideas they may have and to assist in the selection of a preferred growth scenario. There were several points in the process where major effort was made to conduct specific public outreach activities.

Plan Launch

In June of 2010, the LPlan 2040 process was launched with a press conference, newsletter, press release and several workshops: Complete Streets, Living and Working in 2040, Plan-it-Yourself, and Sustainability Workshops. A special online campaign titled Bright Ideas was also launched. This campaign lasted four weeks with the public being asked to submit, comment upon and vote for ideas for 2040. One of the topic areas was Bright Ideas for "Getting Around," which garnered 25 ideas and 1,657 total visits. The purpose of this effort was primarily to inform the public of the upcoming process and opportunities to participate.

Decision Point 1: Future Growth and Land Use

In October of 2010, the public was asked to share their thoughts on three potential future growth scenarios for the City of Lincoln and Lancaster County. Newsletters, a workshop called Plan-it-Yourself, several newspaper articles, email contact and information stations set up at libraries and community centers were used to engage the public. Five open houses were held in locations throughout the City and County. An online forum called Virtual Town Hall was used to solicit input and allowed participants to select a preferred scenario. The LPAC also played a large part in this process. The resulting recommended Future Growth Scenario was used to develop the 2040 Priority Growth Areas and the Future Land Use map that the transportation plan is based on, which are described fully in the *"Plan Realization"* chapter of LPlan 2040.

Decision Point 2: Goals and Objectives

One of the major activities that expressly addressed transportation was a community conversation on Transportation Goals and Objectives. The public was asked to share their priorities for seven pre-defined transportation goals through a paper and electronic survey. (For a description of the process used to formulate these goals, see next section on Goals, Objectives and Evaluation Criteria). A newsletter, information stations at libraries and community centers, email and a press release were used to engage the public. The LPAC made the final decision on priorities through a weighting activity. The results are displayed in the next section of this chapter.

Decision Point 3: Alternative Evaluation and Selection of a Preferred Plan

Three Transportation Alternatives were developed for public and agency evaluation. A newsletter, open houses, email, newspaper articles, information

stations set up at libraries and community centers, and advertisement on community bulletin boards (television) were used to inform the public of this opportunity for input. (Note: Special effort was made to solicit specific input from environmental agencies and interest groups and from groups with special interest in minority populations through a process described in the Impact Measures and Environmental Analysis section of the Technical Report). Online and paper surveys were used to get specific input. The LPAC conducted an activity that helped to select a proposed transportation plan.

4. Goals, Objectives and Evaluation Criteria

Federal Planning Requirements

Several laws, regulations, and other documents at the federal level affect the development of the Long Range Transportation Plan by specifying regulations and guidance to be considered in the planning process or to be contained in the plan. These include SAFETEA-LU, existing and proposed metropolitan planning regulations, management and monitoring system regulations, Executive Order 12898 on Environmental Justice, the Americans with Disabilities Act, and a variety of others.

There are many environmental, funding, infrastructure, modal, safety, and other transportation-related provisions in this legislation. These provisions also require that the process for developing transportation plans provide for consideration of all modes, and is "continuing, cooperative, and comprehensive" to the degree appropriate.

Goals, Objectives, And Evaluation Criteria

The seven goals developed for the Comprehensive Plan and 2040 Long Range Transportation Plan are primarily based upon the SAFETEA-LU Planning Factors. These goals were presented to the public for input regarding their relative importance.

The LPAC then used that input and developed a weighting system for the goals, which were used as a multiplier in the initial evaluation of each project.

The correlation between these goals and the SAFETEA-LU Planning Factors is further explained in the Technical Report. Included in this comparison are the planning objectives from the currently proposed Federal Transportation Bill. Although this bill has not yet been passed, it is likely that it will be before the next update of the LRTP in 2016. For this reason, they have been included to show that they were considered and addressed in the planning and evaluation of projects for the 2040 LRTP.

Objectives and Evaluation Criteria

The transportation goals listed below were used in the evaluation of projects during the prioritization process, which is explained in more detail in the section on the Financially Constrained Transportation Plan in the LRTP. During the public process, in order to more fully explain the intention of each goal, more descriptive objectives were developed and provided. Evaluation criteria were then developed that defined parameters for a high (3), medium (2), or low (1) rating. Using these parameters, project evaluations were conducted by technical staff to develop evaluation scores. The goal weights described earlier were then multiplied by the evaluation score and a total project score was calculated. Projects were sorted from highest to lowest project score to form an initial list of prioritized projects for further analysis.

Below is a list of each Goal with an explanation of the intent. For a complete description of the seven goals, including objectives and evaluation criteria used, see the Technical Report of the LRTP.

Goal 1: Maintain the existing transportation system to maximize the value of these assets. (Weight 18.3)

As the transportation system ages, increased funding is required for maintenance. There is often competition between funding for new projects and funding for the maintenance and operation of the existing system. Reductions in maintenance funding today lead to higher costs in the future. Constructing new roads increases future maintenance costs as the new facilities age.

Goal 2: Improve the efficiency, performance and connectivity of a balanced transportation system. (Weight 18)

Efficiency, performance and connectivity of the transportation system imply multiple benefits to all users. An efficient system allows people to move from place to place in as direct a route as possible, allowing them to reduce the amount of time spent in travel, the distance that must be traveled, and the amount of time spent in congested traffic. Connectivity allows people to make route decisions based on current traffic conditions, road access, or desired stopping points. A transportation system that performs well allows users to choose multiple transportation modes and to move through those modes in an efficient and safe manner.

Goal 3: Promote consistency between land use and transportation plans to enhance mobility and accessibility. (Weight 10.1)

A major objective of the 2040 City of Lincoln and Lancaster County Future Land Use Plan is to create a future vision of a more compact, livable urban environment that minimizes vehicle miles traveled and promotes alternative transportation modes. This plan also addresses the changing demographics of an aging population and the increased number of single person households requiring alternative choices in housing and transportation. A goal of the transportation plan is to demonstrate an integration of the land use plan and transportation plan by supporting transportation improvements that target mixed use development nodes, redevelopment and infill projects, and multimodal corridors that connect these activity nodes.

Goal 4: Provide a safe and secure transportation system. (Weight 9.8)

All transportation improvements should be designed to be safe and secure. Visibility, access control, and separation of incompatible modes, either through buffers or grade separations, are some of the methods that can be employed to decrease conflicts and increase comfort. Security devices at key facilities, such as bus stops and trail head facilities, increase the safety and security of users. Educational programs that help travelers understand the particular safety concerns associated with various modes can help all users travel with increased confidence and security. Access to technology that helps identify and clear safe and rapid routes to incident sites is vital for first responders. The ability to ensure alternative routes in times of weather emergencies, crashes, and other emergency incidents helps to secure the continued access of responders and regular users.

Transportation Goals

Goal 1: Maintain the existing transportation system to maximize the value of these assets.

Goal 2: Improve the efficiency, performance and connectivity of a balanced transportation system.

Goal 3: Promote consistency between land use and transportation plans to enhance mobility and accessibility.

Goal 4: Provide a safe and secure transportation system.

Goal 5: Support economic vitality of the community.

Goal 6: Protect and enhance environmental sustainability, provide opportunities for active lifestyles, and conserve natural and cultural resources.

Goal 7: Maximize the cost effectiveness of transportation.

Goal 5: Support economic vitality of the community. (Weight 14.6)

Economic vitality requires that many characteristics beyond transportation facilities be present, including a low cost of doing business, availability and access to technology, an educated and skilled workforce, choice of housing types, high quality schools, low municipal and state debt, and other less tangible qualities. A good transportation system, which includes transit, vehicle, freight, air, non-motorized and rail modes all integrated with land use, can help contribute to these factors.

Goal 6: Protect and enhance environmental sustainability, provide opportunities for active lifestyles, and conserve natural and cultural resources. (Weight 17.7)

This goal is one that should be part of many different planning elements. The SAFETEA-LU Planning Factors and the proposed Transportation Bill both stress the need for transportation planning to more seriously take these factors into account than they have before. The LRTP process requires a review of environmental, cultural and social effects of transportation plans. Protection of quality of life factors such as clean air and water, the promotion of healthy lifestyles, and the preservation of natural, historic and cultural resources are priorities of LPlan 2040.

Goal 7: Maximize the cost effectiveness of transportation. (Weight 11.6)

Transportation costs can be viewed on an individual, organizational, or municipal scale. Costs can also be viewed as the cost of building structures, powering vehicles, or the time spent in travel. Transportation facilities that expand the travel options available, reduce the time spent traveling, reduce the fuel consumed in travel, and make the best use of public funding in their construction and maintenance are most desirable.

5. Planning for the Transportation Needs of 2040

The Future Land Use Plan is the basis for transportation planning in the County. This plan defines the extent of the urban area that is expected by the year 2040, and what land uses are anticipated with the new growth area. It also defines the number of expected new dwelling units and where those units will be located. The purpose of the Transportation Plan, then, is to support these land uses and provide transportation alternatives that will increase the mobility, safety and livability of the community.

Future Land Use Plan — Urban Area and County

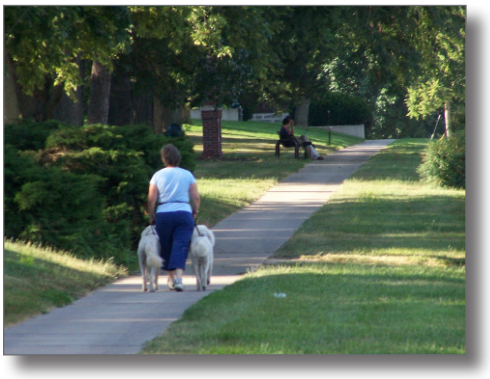
Lincoln and Lancaster County share a single land use plan, shown in two separate views in the *"Vision & Plan"* chapter to allow more detail to be visible within the urban area. The Plan displays the generalized location of future land uses to be used as a guide in making zoning decisions as land is developed. It is also used in determining the need for transportation facilities in the future. Transportation Analysis Zone data, directly based on the land use plan, is used to model and provide data for transportation decision making.

A significant change in LPlan 2040, and therefore a potential long-term impact on transportation demands, is the shift toward increased density within the existing urban area. It is anticipated that as the population ages, and as the children of the Baby Boomers, "Generation Y", move into adulthood, there will be a demand for a wider variety of housing types than what is currently offered in Lincoln. Smaller homes on smaller lots, accessory dwelling units, downtown condominiums, and mixed use residential units are all housing types that could see higher demand. Trend watchers predict an increased desire to live closer to services and goods for daily needs, and for housing that requires less time be spent on maintenance, many

of the characteristics shared by the traditional pattern of pre- WWII neighborhoods. If such a shift in demand occurs, an impact on travel such as shorter trips lengths and higher use of non-auto modes may result.

The 2040 Needs Based Plan

The Needs Based Plan identifies the programs, projects, and funding necessary to address the transportation needs of Lincoln and Lancaster County through 2040. This proposal is based on the 2040 Future Land Use, and it provides information on how to attain a balanced transportation system with all modes of travel funded adequately. By proposing a balanced transportation system that provides choice of multiple modes of travel, by basing the transportation needs of the community on the Future Land Use that calls for more opportunities for mixed-use residential development in the existing commercial areas, and by emphasizing the need to invest in healthy, safe and walkable neighborhoods, the Needs Based Plan takes into consideration and applies multiple livability principles.



This is not a financially constrained look at future transportation needs, and additional community dialogue will be needed to determine how to implement the Needs Based Plan. The Financially Constrained Transportation Plan is provided in the *MPO LRTP*. The overall annual cost in present-day dollars of the Needs Based Plan described in this section is $68 million. This is approximately $11 million more than existing transportation revenues allow. Additional funding sources and amounts will need to be developed for the Needs Based Plan to be afforded.

The following is the breakdown of funding amounts by program for the urbanizing area of Lincoln needed to fully fund the Needs Based Plan (shown in millions):

Table 10.1: Needs Based Plan Costs

Needs Based Plan	Annual Investment (Current Year Dollars in Millions)
Pedestrian and Bicycle Facilities	
Maintenance/Rehabilitation	$2.5
Capital	$0.7
TOTAL	$3.2
Multi-Use Trails	
Maintenance/Rehabilitation	$0.425
Capital	$1.0
TOTAL	$1.425
Transit System	
Capital & Operations	$13.0
Streets and Roads	
Operations	$14.0
Maintenance/Rehabilitation	$15.0
Capital/Programs	$21.3
TOTAL	$50.3
TOTAL PROGRAM	**$67.925**

Pedestrian And Bicycle Facilities — 2040 Needs

Bicycle and pedestrian facilities are very highly valued by the citizens of Lancaster County. According to SAFETEA-LU these facilities should be considered in all transportation projects. In order for these facilities to be properly planned and for a full network to be integrated into the existing transportation network, active planning and coordination of projects should be a priority. This will require a dedicated funding source of about $700,000 per year.

During the planning, engineering, maintenance, and rehabilitation of all streets and roads, bicyclists should be considered "design users," with most streets being considered a "bicycle facility." Education and enforcement of the rules of the road are keys to encourage bicycling as viable transportation and creating an environment that is safe and convenient for cyclists and motorists. The bicycle and pedestrian program should include education and promotional activities to encourage full and safe use of these facilities.

Lincoln currently has a well developed sidewalk system, and the requirement of sidewalks on both sides of all streets should continue. However, this system is in need of rehabilitation in many areas. The sidewalk rehabilitation program should be funded at a level of about $2.5 million per year in order to fully meet these needs in a reasonable timeframe. Pedestrian crossing signals should be updated and installed when warranted at appropriate sites along with other visual cues to alert drivers to pedestrian crossing points and to increase the safety and security of pedestrians. With the adoption of the 2040 Plan, a prioritized list of needed pedestrian improvements and policy changes should be identified as part of an implementation strategy. Planning and developing pedestrian facilities should consider many factors:

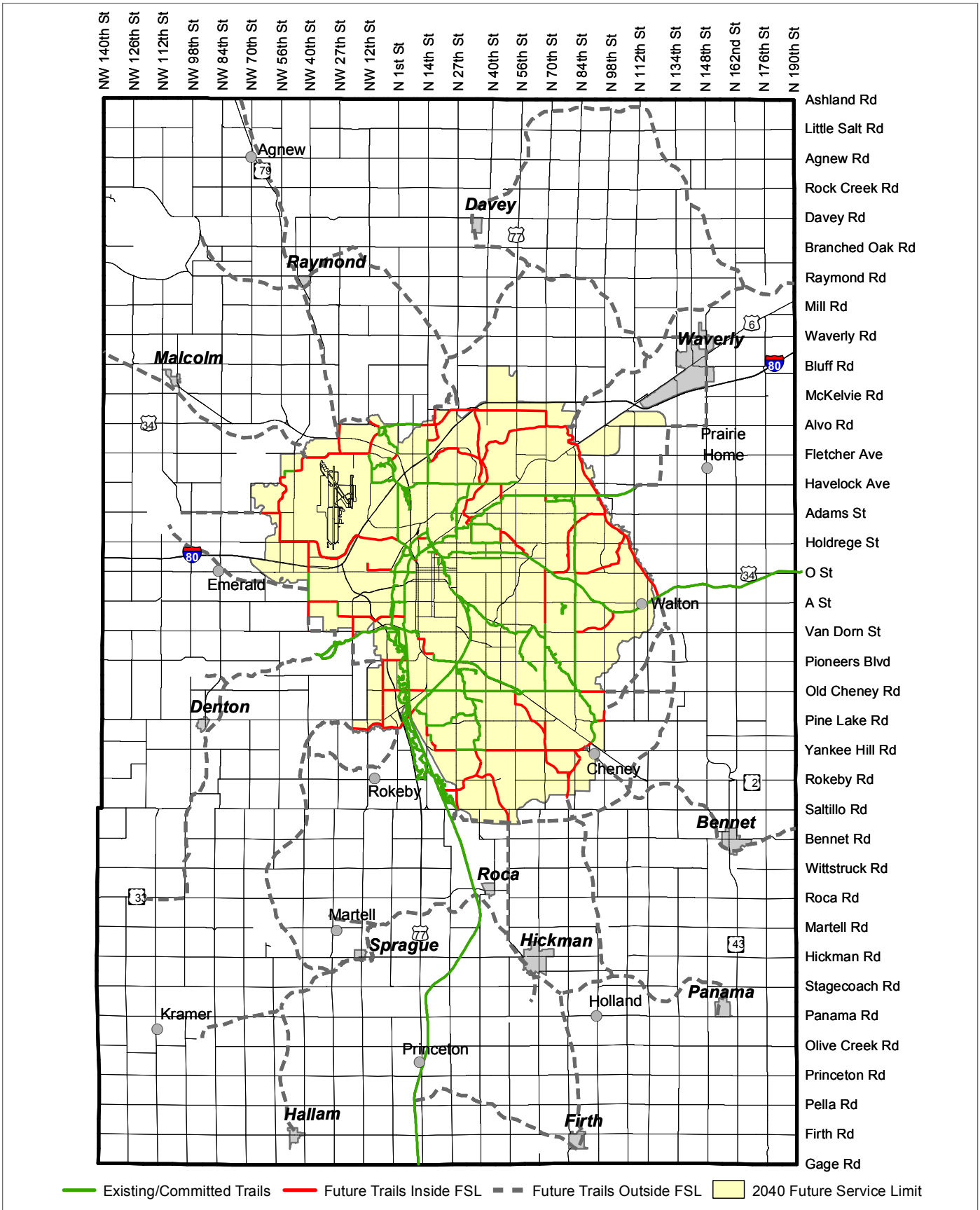
- Location of existing and planned activity centers and districts, such as shopping malls, older neighborhood centers, libraries, community centers and schools.
- Programs to retrofit established sections of town with pedestrian amenities.
- Design standards for pedestrian facilities in new residential and mixed-use developments.
- Location of existing and planned multi-use trails.
- Requirements of the Americans with Disabilities Act (ADA).
- Needs of a growing senior population.

A major element of the overall bicycle plan is the provision for adequate bicycle facilities as part of the existing urban area. For example, while parking for cars is routinely planned for, rarely is there a place where bicyclists can lock or store their bicycle. These facilities can be public facilities or part of private development. In addition to basic bicycle locking and storage facilities, many communities and larger mixed-use centers provide basic shower facilities for commuter bicyclists. The bicycle and pedestrian program should include subdivision and building codes that plan for the inclusion of appropriate bicycle facilities. As part of an implementation strategy, a prioritized list of needed bicycle improvements and policy changes should be identified.

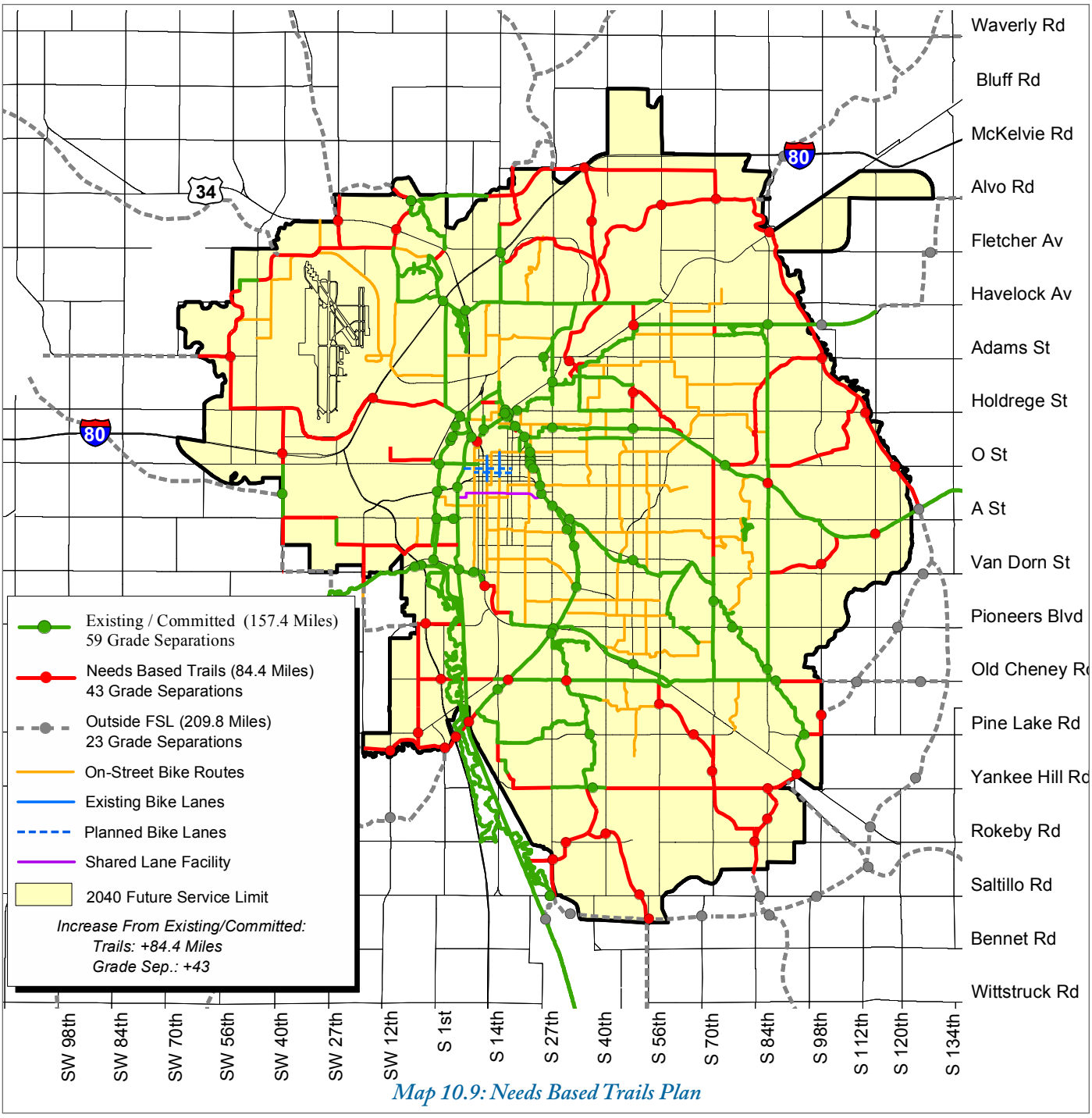
Multi-Use Trails — 2040 Needs

The grid pattern of roadways and the use of the Rails-to-Trails program have provided a strong foundation for a quality trail system. This system should be completed and new growth areas should be connected to it as they develop. To accomplish this, funding of about $1 million per year is needed. Opportunities to develop trails in the County should be identified as they are presented and efforts to complete these projects should be made as funding opportunities allow.

As the trail system begins to age, rehabilitation of trails will become a larger issue. A rehabilitation program should be developed and funded at $425,000 per year in order to complete these projects as they are needed. Additionally, some trail segments have already begun to see more use than was originally anticipated. New trails should be built to a ten foot width and in some areas existing trails should be widened to 10 or 12 feet as they are rehabilitated.



Map 10.8: Countywide Trails Plan



Map 10.9: Needs Based Trails Plan

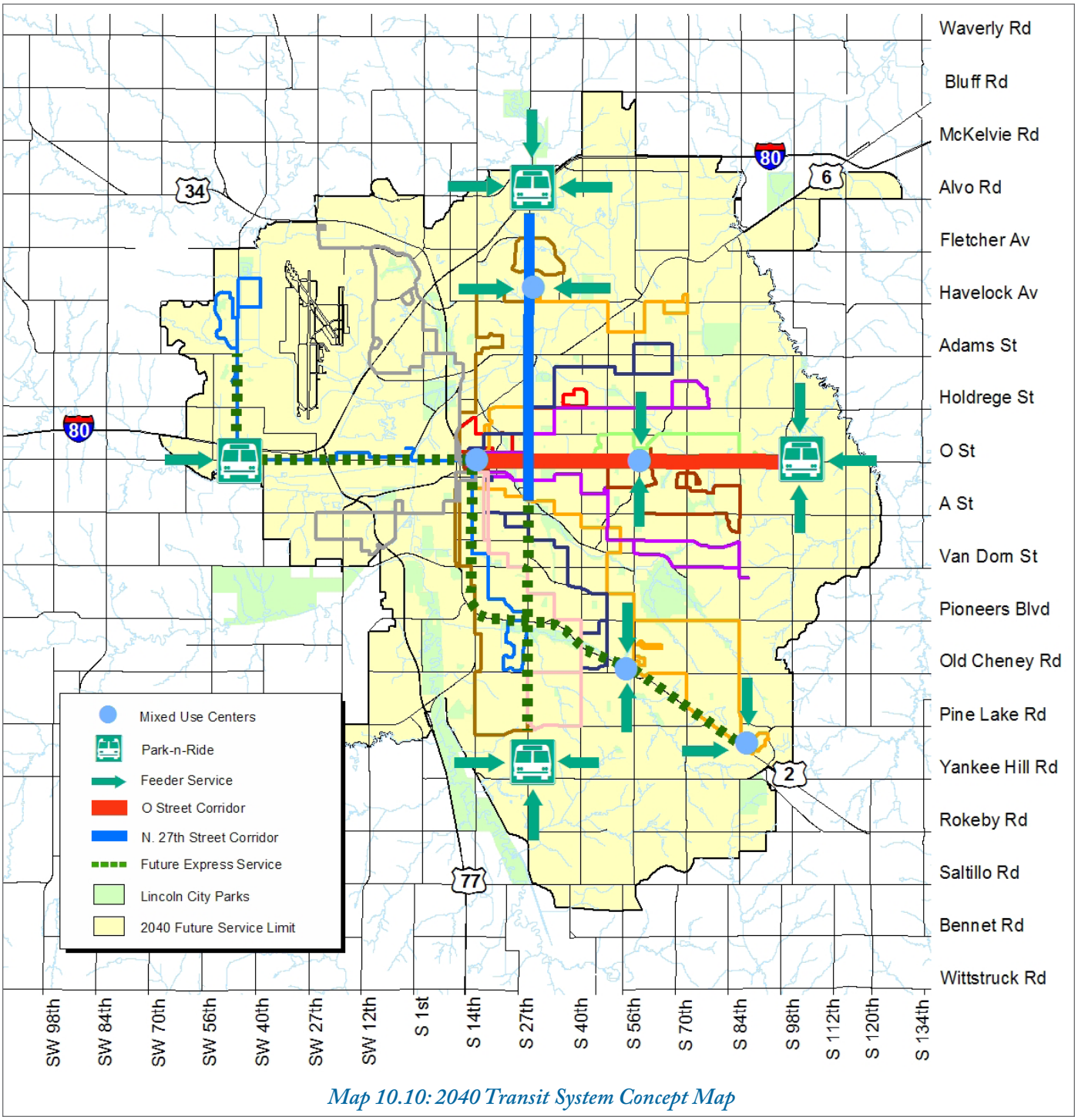
Transit System — 2040 Needs

Providing transit services throughout the City requires careful consideration of the number of routes, the frequency of service, and the hours of service. The *Transit Development Plan* (TDP) adopted in 2007 provides a framework for monitoring and modifying transit services in response to changes in development patterns and user needs, and is based on adopted service standards and policies. The TDP is developed by Public Works and Utilities – StarTran under the guidance of the StarTran Advisory Board and the public. The TDP is the main planning document for transit in Lincoln and was last updated in 2007.

The current transit pattern in Lincoln attempts to provide some level of service to all households.

However, in the future, consideration of a change to the pattern of transit delivery needs to be made in order to maximize the productivity of the system. Corridors with higher ridership should be enhanced with shorter wait times and longer service hours. Service to major employment centers should be considered for enhancement as well as areas of current and future anticipated density. The Mixed Use Redevelopment Nodes and Corridors discussed in the *"Mixed Use Redevelopment"* chapter provide an opportunity to direct redevelopment and transit services in a coordinated fashion.

To be comparable to other cities of Lincoln's projected 2040 size, funding for transit should be increased to provide similar levels of service.



Map 10.10: 2040 Transit System Concept Map

Areas of the City that are not along the transit corridors discussed above can be served to a more modest level. Neighborhood feeder routes that direct transit riders to the major corridors could be provided with smaller and more fuel efficient vehicles. Continued enhancement of the bike-and-bus feature would also allow those in areas with lower service to access and use transit. Establishing park-and-ride locations along outlying areas of the community could support transit connections to the Downtown and other mixed use centers. The use of ITS to provide route information and real-time bus location information will allow those who ride by choice to participate at a higher level and riders of necessity to plan their routes. To accomplish these projects, funding of at least $13 million per year is needed. This funding will have to increase with inflation and as the City grows in order to keep pace.

Effective public transportation service requires good pedestrian connections to and from transit stops, density of activities, and development designs supportive of transit riders. Pedestrian connections to transit must be direct and the sidewalk system must have continuity. Street crossings to transit stops must be safe. Productive transit service requires higher-density land development patterns that link residential areas and employment, retail, and service centers. Development design needs to be transit-friendly, providing convenient access to transit services.

Although Lincoln may not reach the density and demand needed to justify a bus rapid transit (BRT) system within the planning period, efforts should be made to identify potential routes and to concentrate efforts to increase density along those routes. Careful design and right of way preservation along these routes may also allow a conversion to street car or light rail in the distant future. The "O" Street corridor is a likely candidate for planning and identification as a long term BRT route.

The projected increase in the 65 and over population creates challenges in service provision. This population increase will create a greater usage of demand-responsive public transportation. Based on current funding levels, such increase in usage could create funding challenges. While all fixed-route services are, and will continue to be, accessible, the need for increased complementary paratransit services (HandiVan/Brokerage) will continue. Such services are very expensive, due to vehicle load constraints and operating policies and therefore, innovative variations of such services will be essential.

Expanded transit service within the rural areas of the County or between Lincoln and other larger cities is not currently practical, however, data should continue to be collected and analyzed to monitor travel patterns in the hopes of identifying opportunities for regional transit. The Nebraska Innovation Zone Commission and several other interest groups have advocated regional planning for just such an opportunity. The Lincoln MPO should continue to be involved in these conversations.

Streets And Roads — 2040 Needs

Cars and trucks will continue to be the primary mode of travel for Lincoln and Lancaster County residents throughout and beyond the planning period of this Plan. These vehicles depend upon the expansion and continued maintenance of a street and road network allowing ease of mobility throughout the region. Although investment in other modes of transportation may decrease reliance on the automobile, streets and highways will continue to form the backbone of the entire region's transportation system.

A major responsibility of the Long Range Transportation Plan is the operation and

maintenance of the new and existing street and roadway system. Without regular maintenance, monitoring the functionality of the existing system, and implementation of lower cost improvements designed to alleviate congestion, the addition of new roads would provide only localized improvements to the overall functionality of the system.

This subsection examines the streets and highway system designed to serve the future community form of the Lincoln MPO as presented in LPlan 2040 in terms of:

- Streets and Roads Programs
- Urban Street Network
- Rural Road Network

Streets and Roads Programs

System Management and Operations

The day to day requirements of the roadway system are met through the operations program. The operations program includes such activities as street sweeping, striping, signal maintenance, and snow removal. Routine maintenance activities such as crack sealing, pothole repairs and sign replacement are also included. Monitoring the performance of the system is an important part of the operations program. Data is gathered on a regular basis to monitor traffic flow, crash rates, and intersection functionality. This data is used in timing traffic signals and for safety studies to identify needed improvements. Engineering studies to identify future alignments and intersection design are also conducted through this program.

The City's Annual Crash Study and Transportation Crash records system are intended to address the requirements of SAFETEA-LU and the State of Nebraska Critical Emphasis areas. It is anticipated that the City's transportation safety program will continue to emphasize education, enforcement, engineering and evaluation to help mitigate crashes. This crash data was used to inform the project selection process for the 2040 Plan. It is imperative that all funding opportunities be pursued to help mitigate and improve Lincoln's transportation safety program.

The Operations Program budget is currently adequately funded, but an increase to $14 million per year is needed in order to better fund needs.

Roadway Rehabilitation Program

The rehabilitation of roadways is needed when the condition of the roadway requires attention beyond the routine maintenance provided through the Operations Program. There are varying levels of rehabilitation from pavement overlays to a complete rebuild of the roadway. In general, the former is less expensive and can delay the need for the latter. A regular system of sealing and minor repair can mean fewer roads in need of major repair and a higher overall level of service. If regular maintenance is not conducted, however, roadway condition can fall from good to poor in the matter of two or three years. An investment of one dollar in roadway rehabilitation when roads are still in good condition can mean a saving of five dollars or more in the rehabilitation required should they fall into poor condition.

This program is challenged in many ways. Inflation of project costs over the last several decades has outpaced the growth in revenue available. The lane-miles of roadway have been increasing much faster than the budget. State gas taxes, a major source of revenue, have not been growing to keep pace as people react to higher gas prices by reducing trips and purchasing more fuel efficient vehicles.

Consequently, the rehabilitation program has not been funded to an adequate level in many years.

Continuing with current funding levels would mean a decrease in overall level of service to a "poor" or "very poor" rating by the year 2040. In order to maintain the current condition of urban roadways at a "good" level, funding must be increased to $10 million dollars per year, and must subsequently increase to keep pace with inflation and the growth and aging of the system. Signal rehabilitation and bridge rehabilitation should be funded at a level of $2.5 million per year each, for a total rehabilitation annual need of $15 million per year.

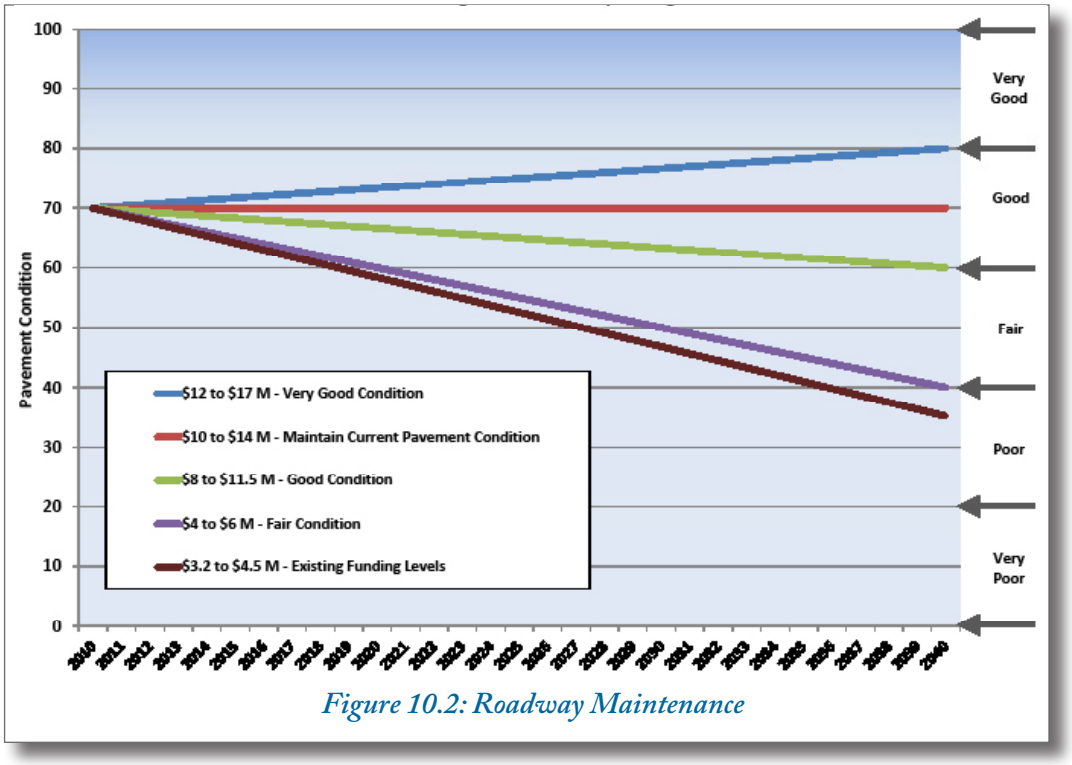


Figure 10.2: Roadway Maintenance

Congestion Management Process

The *Congestion Management Process* and mitigation efforts should remain flexible and ongoing. A regular process is in place to identify and respond to traffic congestion challenges. Many management and operational actions will be undertaken at the departmental level to provide the quickest possible resolution, while more serious issues may require a formal study process. Congestion management data is a primary source of information that shapes the decision making process for the Long Range Plan. Levels of delay, or congestion, were identified using the MPO traffic model to determine which roadway projects are most needed by the year 2040. Also, incident management is one of the major challenges of congestion management in Lincoln where much traffic congestion can be tied to crashes, incidents, and construction.

Additional studies may be desirable to identify specific congestion mitigation strategies that appear most reasonable for the particular location. Where deficiencies are identified, the MPO Technical Committee will suggest specific strategies for congestion mitigation. More general strategies include:

- Alternative transportation modes and Complete Streets policy development
- Continued monitoring and planning
- Intelligent Transportation System (ITS) improvements
- Transportation Demand Management (TDM) techniques
- Two Plus Center Turn Lane Program
- Intersection capacity improvements
- Road improvements (described in the following section)

Alternative Transportation Modes and Complete Streets Policy Development

Alternative transportation modes are discussed in previous sections of this chapter. Increased trips using alternative transportation modes, such as bicycles and transit, reduce the number of single occupant vehicles on the road, and so reduce congestion.

The streets of our City and County are important parts of the livability of our community. Most streets should be designed and maintained for all users, not just vehicular traffic. Complete streets are designed and operated to enable safe access for all users. Pedestrians, bicyclists, motorists and transit riders of all ages and abilities should be able to safely move along and across a Complete Street.

The City should develop a Complete Streets policy, related new roadway standards, and a process to implement complete street principles prior to the next regular five-year update of the Plan. A Complete Streets policy will direct planners and engineers to routinely design and operate the entire right of way to enable safe access for all users regardless of age, ability, or mode of transportation. Every transportation project should begin with the goal that the street network will be designed for use by drivers, transit users, pedestrians, and bicyclists.

Continuing Monitoring and Planning

The monitoring and planning of the community's land use patterns and transportation systems are an integral part of a continuing process. This process involves the periodic examination of the City-County Comprehensive Plan and Long Range Transportation Plan. Amendments to these two plans, as well as related capital improvement programs and other implementation documents, are an important part of this process. Such amendments help ensure these plans remain current, relevant, and practical.

Intelligent Transportation System (ITS) Improvements

A stated mission of the Lincoln MPO is "to advance the development and application of ITS across the region, which will increase highway safety, mobility, security, economic health and community development, while preserving the environment."

ITS technologies are cost effective and relatively quick to deploy. Solutions like synchronized or adaptive traffic signals yield a $40 return in time and fuel savings for every $1 invested, reduce carbon dioxide emissions up to 22%, and travel delays by 25%. The Government Accountability Office found the benefit-cost ratio of a nationwide real-time traffic information system to be 25 to 1, with benefits in safety, mobility, and environmental quality. The overall benefit-cost ratio of ITS-enabled operational improvements is estimated at 9 to 1, a significant return on investment when compared to the addition of new roadway capacity that has an estimated benefit-cost ration of 2.5 to 1.

The Federal Transportation Efficiency Act (TEA-21) required that local communities consider and include ITS applications in their transportation planning process. This mandate has been carried forward by the Lincoln MPO in subsequent updates of the Long Range Transportation Plan, including preparation and adoption of the 2005 Southeast Nebraska Regional ITS Architecture, which continues to guide ITS planning in Lincoln and Lancaster County. The analysis of future traffic growth and demand further underscores the importance of ITS investments. Given the expense and difficulty of adding expressway and arterial street capacity, and the anticipated high demand for arterial and expressway usage, it is clear that strategic ITS operational improvements will be necessary for the Lincoln area and the region.

Incident management is an important aspect of addressing non-recurring congestion in Lincoln. Non-recurring congestion is congestion that is caused by conditions that are not permanent such as vehicular crashes, construction zones, or weather conditions. Incident management provides procedures and programs to best handle such congestion to minimize the negative impacts on the road system. To accomplish this, ITS technology can be used to assist in delivering and disseminating real time data on the conditions of traffic flow that can then be shared and used by motorists and the proper authorities to effectively address changing conditions on the streets.

The safe, secure and continuous movement of people and goods during emergencies depends upon well coordinated operations plans and policies. To address the security needs of our community and the transportation system infrastructure, it is anticipated that a greater emphasis will be placed on the funding and implementation of ITS technologies. Applicable ITS technologies will be of enormous benefit, particularly when they are integrated with the information and communication systems of our public safety agencies.

The implementation of ITS technologies during the 2040 planning period is expected to include traffic monitoring cameras, dynamic messaging signs, vehicle detection, communication infrastructure, traffic adaptive signal systems, advance parking management and information systems and other traffic management systems and software. For a full description of ITS projects and costs, see the Technical Report. An annual program cost of $1 million is needed to fund this program.

Travel Demand Management (TDM) Techniques

Travel Demand Management (TDM) is a strategy to reduce demand for single occupancy vehicle use on the transportation network. TDM can reduce congestion and traveler delay, improve air quality, and improve access to jobs, schools and other opportunities. Travel Demand Management Strategies can include the following:

- Flexible Work Schedules
- Traveler information
- Employer and Campus TDM
- Auxiliary Transit Service
- Market and Financial Incentives
- Parking Management
- Transit Use
- Walking and Cycling
- Teleworking or Telecommuting

Solutions like synchronized or adaptive traffic signals yield a $40 return in time and fuel savings for every $1 invested, reduce carbon dioxide emissions up to 22%, and travel delays by 25%.

By comparison to road widening and other capital projects, TDM programs are very inexpensive and can be effective in decreasing demand on roadways, especially during peak travel times of the day. An annual program cost of $200,000 is needed to fund this program.

The Lincoln MPO should develop a travel demand management program, with dedicated funding, that is coordinated between various departments and identifies and works with large employers including the State of Nebraska, University of Nebraska-Lincoln, and various private businesses.

Two Plus Center Turn Lane Program

The Two Plus Center Turn Lane Program, or "2 + 1" program, described in the Existing Conditions section has been a very successful strategy for addressing the congestion issues seen on major arterials in older neighborhoods while remaining sensitive to the environmental and social assets of the neighborhood. This program should continue to build the "2 + 1" system as shown on the Committed Roadway Projects map. The identified 2+1 program projects should be completed by 2025, the midpoint of the 2040 planning period. These projects are generally constructed at a time that the existing pavement requires major rehabilitation. They are funded primarily through

the street rehabilitation program with the cost of additional capacity improvements covered by the capital portion of the budget at a level of $300,000 per year.

Intersection Capacity Improvements

Often, causes of congestion can be traced to bottlenecks at intersections. These congestion points can be at least partially addressed by relatively low cost additions of turn lanes, flaring of intersections, or other improvements to allow vehicles to move through intersections more efficiently.

Intersection capacity improvement projects that address congestion at a relatively low cost should be completed and remain priority projects through an annual program funded at $1 million per year. The following intersections are likely candidates for improvement projects within the planning period and were identified based on information from the Congestion Management Process including crash data:

- 27th/Superior
- 33rd/O
- 27th/Old Cheney
- 70th/South
- 70th/A
- 70th/Van Dorn
- 70th/Pioneers
- 70th/Glynoaks
- 70th/Berean Church drive
- 56th/South
- 56th/Van Dorn
- 56th/Calvert
- 56th/Pioneers
- 56th/Shady Creek
- 27th/Superior - Fairfield
- 27th/Cornhusker - Knox
- 48th/Normal
- 48th/A
- 48th/Randolph
- 48th/Vine
- 29th/Cornhusker
- Hwy 34/Fletcher
- 1st/Cornhusker
- SunValley/West O
- 1st/Superior
- Coddington/A
- 9th/A
- 9th/D

Urban Street Network — 2040 Needs

The long range program for improving the urban area street system is detailed below. This effort involves numerous projects and studies taking many years and costing millions of dollars to complete. Close planning and coordination among various Federal, State and local government agencies and departments will be needed. The planned future urban area street system is comprised of the following elements:

- Developer Commitments
- Federal and State Improvements
- Committed Roadway Projects
- Controlling Roadway Cost
- Urban Capital Roadway Projects
- South and East Beltways
- Nebraska Highway 2
- Right-of-Way Consideration

Developer Commitments

As the City grows, new roads must be built to meet the projected needs of growing areas. In some cases new development is proposed that requires infrastructure not planned for at the time it was requested. In certain cases, special agreements have been entered into that commit the City to repay developers within a time period for funding the construction of road improvements. The City will honor these agreements and is committed to participation in the funding of those improvements that have been and are expected to be constructed in the early part of the planning period. A budget of $1.6 million per year through the year 2025 is needed to meet these commitments for a total of $22.4 million in street improvement commitments.

The following are the agreements and the corresponding dollar amounts of the commitments that comprise this total amount. Specific street improvement descriptions are noted only for those projects that have not yet been constructed; these projects are shown in green on Map 10.11: Committed Roadway Projects that follows. The commitments that only show a dollar figure are repayments required for completed street improvements.

Fallbrook $313,057
Firethorn $38,475
Grandale/Southwood Lutheran.....$1,130,000
(Rokeby Road 2 lanes offset from S. 40th to S. 48th)
Highland View $3,760,000
(Alvo Road 2 lanes from NW 12th to NW 27th and NW 27th 2 lanes from Alvo to US 34)
Jensen Park.....$2,750,000
(Yankee Hill Road 2 lanes from S. 84th to railroad tracks)
Northbank Junction.....$250,000
Southwest Village $2,135,207
Waterford Estates $4,265,396
Wilderness Commons.....$2,876,160
Wilderness Heights $1,323,840
(S. 40th Street 4 lanes from Yankee Hill Road to ¾ mile south)
Wilderness Hills.....$348,253
Woodlands at Yankee Hill Road $3,200,000
(Yankee Hill Road 2 lanes from S. 70th to S. 84th)
TOTAL.....$22,390,388

Federal and State Improvements

During the planning period, improvements are planned for Interstate 80 and many of the existing Nebraska State Highways in Lincoln and Lancaster County. These improvements can generally be categorized as the widening of roadways or construction of interchanges. All of the projects listed in Tables 10.2 and 10.3 are considered to have funds committed for design and construction during the 2040 planning period with the exception of those identified as illustrative projects:

Committed Roadway Projects

Committed roadway projects as shown on Map 10.11: Committed Roadway Projects include the road segments that are part of the 2+1 program as described in this section, Developer Commitment projects that have not yet been constructed, urban area rural paving projects that have been coordinated with the County Engineer's Office, and funded urban and State projects that are scheduled to be constructed or are underway.

Controlling Roadway Costs

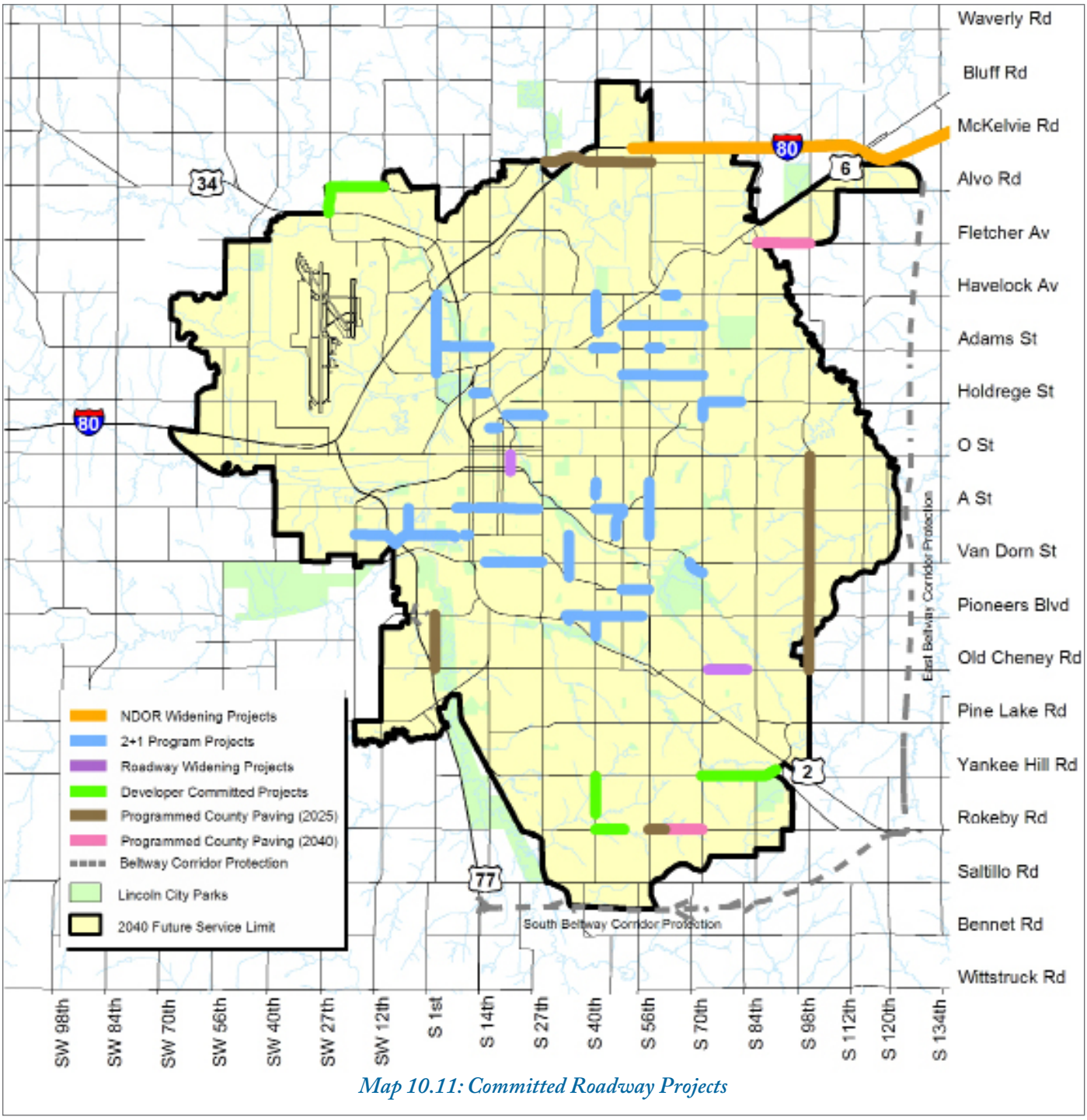
In developing the remaining future roadway system, consideration of the limits of the capital budget and the needs of the future population were considered. A valuable tool in the development of the system was the work of the Mayor's Road Design Task Force. This 14 member committee appointed by the Mayor of Lincoln was charged with developing a strategy for addressing the near term roadway funding challenges of the time. In 2008, Executive Order 081547 directed City departments to immediately begin taking steps to adopt the recommendations of the committee. Among other findings, the Task Force recommended the City consider extended life for rural paved roadways, simplified road designs, and building roads initially to meet the demand of the immediate future, rather than traffic volumes that may not exist for decades.

Table 10.2: State Projects

I-80, Lincoln to east county line	Widen to 6 lanes
I-80, Lincoln to west county line	Widen to 6 lanes
I-180, I-80 to Downtown Lincoln	Paving Improvements
US-34 East, 84th Street to east county line	4 lanes + turn lanes
US-34 West, west city limits to Malcolm spur	4 lanes + turn lanes
US-34 West, Malcolm Spur to west county line	Paving Improvements
US-6 West, Emerald to west county line	Paving Improvements
US-6 West, City Limits to Emerald	Asset Preservation Project
US-6 (Sun Valley Boulevard), "O" Street to Cornhusker Highway	4 lanes + turn lanes
South Beltway, US 77 to Hwy 2	Corridor Protection
NE-79, US-34 to County Line	Paving Improvements
Safety Projects	Program

Table 10.3: Unfunded State Projects

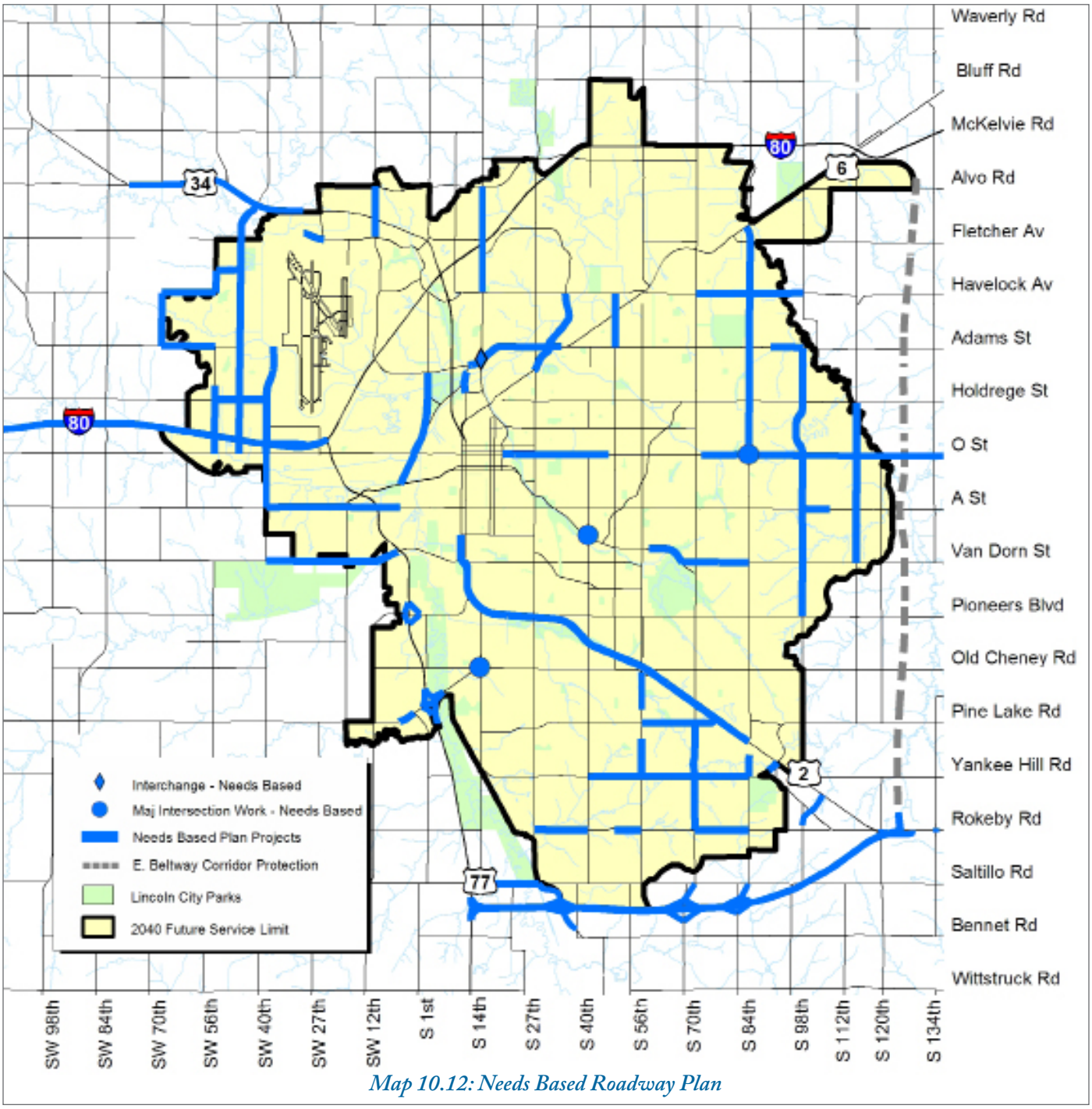
US-77 and Warlick Boulevard Intersection	Interchange - Illustrative
US-77 and West Pioneers Boulevard Intersection	Interchange - Illustrative
South Beltway, US-77 South to Nebraska Highway 2	4 Lane Expressway - Illustrative



Map 10.11: Committed Roadway Projects

The Needs Based Plan reflects this philosophy by including roadway designs that are scaled back, compared to the 2030 LRTP, to the projected traffic demands of year 2040. In some cases this means that existing pavement, such as the asphalt paving on Saltillo Road in southwest Lincoln, would remain (and be maintained) to serve the future population through 2040. However, acquisition of right-of-way should still occur with development to plan for the full build-out of the roadway beyond 2040.

The result of this philosophy of planning for future roads is a system that provides paved roadways to all areas of the future service limit and minimizes the level of congestion in the road system while keeping costs as low as possible.



Map 10.12: Needs Based Roadway Plan

Urban Capital Roadway Projects

The capital roadway projects resulting from this evaluation are shown on Map 10.12: Needs Based Roadway Plan and listed in Table 10.4: City of Lincoln Needs Based Capital Roadways Projects and Programs. Each of these projects is considered a need by 2040, but not all of them can be funded given current funding constraints. This list of urban projects and programs amounts to a $21.3 million annual cost in current dollars. The Financially Constrained Transportation Plan in the MPO LRTP uses this list of projects to develop a prioritized list of capital roadway projects that can be afforded with current revenue sources. Those projects identified as Illustrative/Unfunded are those that cannot be constructed unless additional revenue is found.

Table 10.4: City of Lincoln Needs Based Capital Roadways Projects and Programs

Facility/Project Name	Lead Agency	Project Type	Project Cost (Current Dollars)
MPO Programs			
Intersection Capacity Improvement Projects	Local	Program	$29,000,000
Two Plus Center Turn Lane Projects in the Built Environment (added capacity portion of projects)	Local	Program	$4,212,000
Intelligent Transportation System Capital Program of Projects	Local	Program	$25,375,000
Safety Projects (20% Local share for State safety program)	Local	Program	$5,800,000
Safety Projects (80% State share for State safety program)	State	Program	$23,200,000
Travel Demand Management Program of Projects	Local	Program	$5,800,000
East Beltway, I-80 to Hwy-2, " Corridor Protection" Freeway	Local	Corridor Protection	$7,250,000
Developer Commitments	Local	Various	$22,390,388
MPO Roadway Projects			
N. 14th Street, Superior to Alvo	Local	4 lanes + turn lanes	$5,604,000
SW 40th Viaduct	Local	Viaduct over BNSF Railroad	$6,500,000
S. 56th Street, Shadow Pines Dr. to Old Cheney Road	Local	4 lanes + turn lanes	$7,275,000
S. 14th Street / Warlick Boulevard / Old Cheney Road	Local	Major Intersection Work	$10,600,000
NW 48th Street, Adams to US-6	Local	4 lanes + turn lanes	$14,122,516
Pine Lake Road, S. 61st Street to Hwy-2	Local	4 lanes + turn lanes	$6,602,985
S. 9th Street, Van Dorn to South Street	Local	3-lanes + turn lanes	$2,063,195
Hwy-2, Van Dorn Street to Old Cheney Road	Local	6 lanes + turn lanes	
Phase I - Van Dorn thru S. 14th	Local		$9,359,699
Phase II - S. 14th thru S. 33rd	Local		$9,359,699
Phase III - S. 33rd thru South 56th/Old Cheney Road	Local		$18,719,399
US-6 (Sun Valley Blvd.), Corn. Hwy (US-6) to W "O" St.(US-6), including R.R Overpass (local 20% share)	Local	4 lanes + turn lanes	$4,866,487
N. 48th Street, Adams to Superior	Local	4 lanes + turn lanes	$7,296,353
W. Holdrege Street, NW 56th Street to NW 48th Street	Local	2 lanes + turn lanes	$1,249,810
NW 56th Street, W. Partridge Lane to W. "O" Street	Local	2 lanes + turn lanes	$3,840,675
W. "A" Street, SW. 40th Street to Coddington Avenue	Local	2 lanes + turn lanes	$4,022,980
N. 98th Street, Adams Street to Holdrege Street	Local	2 lanes + turn lanes	$4,683,568
N. 10th Street, US-6 to Military Road, including Salt Creek Bridge	Local	4 lanes + turn lanes	$8,119,202
US-34 ("O" St.), Antelope Valley N/S Rdwy. (19th St.) to 46th Street	Local	6 lanes + turn lanes	$15,161,957
I-80, US-77 to NW 56th	State	Widen to 6 lanes/10 Year	$32,897,984
NW 48th Street Bridge over I-80	State	2 Bridges over 6-lane I-80/10 Year	$5,134,112
NW 56th Street Bridge over I-80	State	1 Bridge over 6-lane I-80/10 Year	$2,831,903
US-34 West, west city limits to Malcolm Spur	State	4 lanes + turn lanes/10 Year	$12,546,143
US-6 West, west city limits to west county line	State	Paving Improvements/10 Year	$11,441,872
US-6 (Sun Valley Boulevard), "O" Street to Cornhusker Highway (State 80% share)	State	4 lanes + turn lanes/10 Year	$19,465,948
US-79, US-34 to County Line	State	Paving Improvements/10 Year	$15,784,477
South Beltway, US 77 to Hwy-2	State	ROW and PE/10 Year	$42,147,192
US-34 ("O" St), Wedgewood Drive to 98th Street	Local	6 lanes + turn lanes	$16,489,642
S. 56th Street, Thompson Creek Boulevard to Yankee Hill Road	Local	4 lanes + turn lanes	$4,139,817
S. 70th Street, Pine Lake Road to Yankee Hill Road	Local	4 lanes + turn lanes	$5,923,581
Yankee Hill Road, S. 40th Street to S. 56th Street	Local	4 lanes + turn lanes	$5,967,970
Yankee Hill Road, S. 56th Street to S. 70th Street	Local	4 lanes + turn lanes	$6,011,339
Yankee Hill Road, S. 70th Street to S. 84th Street	Local	additional 2 lanes	$3,876,017
Yankee Hill Road, Railroad Crossing to Hwy-2	Local	2 lanes + turn lanes	$1,720,324
S. 84th Street, Amber Hill Road to Yankee Hill Road	Local	4 lanes + turn lanes	$2,542,248
Normal Boulevard, S. 58th Street to Van Dorn Street	Local	4 lanes + turn lanes	$5,153,267
W. Holdrege Street, NW 48th Street to NW 40th Street	Local	2 lanes + turn lanes	$1,423,628
West Denton Road, Amaranth Lane to S. Folsom Street	Local	additional 2 lanes	$837,065
W. "A" Street, Coddington to Folsom	Local	2 lanes + turn lanes	$2,720,537
N. 98th Street, US 34 to Holdrege	Local	additional 2 lanes	$2,430,392

Ongoing Programs

Projects Projected to 2025

Table 10.4 (con't)

Facility/Project Name	Lead Agency	Project Type	Project Cost (Current Dollars)
MPO Roadway Projects			
South Beltway, Local 20% Share	Local	4 Lane Expressway	$35,000,000
S. 98th Street, US-34 to "A" Street	Local	4 lanes + turn lanes	$7,889,890
S. 112th Street, US-34 to Van Dorn Street	Local	2 lanes + turn lanes	$6,158,680
N. 112th Street, Holdrege Street to US-34	Local	2 lanes + turn lanes	$5,364,896
Saltillo Road, Highway 77 to S. 27th Street	Local	2 lanes + turn lanes	$4,253,759
W. Adams Street, NW 70th Street to NW 56th Street	Local	2 lanes + turn lanes	$2,622,729
W. Van Dorn Street, Coddington Avenue to US-77	Local	2 lanes + turn lanes	$2,811,311
W. Van Dorn Street, SW 40th Street to Coddington Avenue	Local	2 lanes + turn lanes	$5,008,028
Rokeby Road, S. 70th Street to S. 84th Street	Local	2 lanes + turn lanes	$2,603,248
Rokeby Road, S. 27th Street to S. 40th Street	Local	2 lanes + turn lanes	$2,933,994
Rokeby Road, S. 48th Street to S. 56th Street	Local	2 lanes + turn lanes	$1,215,196
W. Cummings Street, NW 56th Street to NW 52nd Street	Local	2 lanes + turn lanes	$638,126
NW. 56th Street, W. Cummings Street to W. Superior Street	Local	2 lanes + turn lanes	$1,363,503
W. Superior Street, NW 70th Street to NW 56th Street	Local	2 lanes + turn lanes	$2,564,904
NW 70th Street, W. Superior Street to W. Adams Street	Local	2 lanes + turn lanes	$2,622,729
Hwy-2, Old Cheney Road to S. 84th Street	Local	6 lanes + turn lanes	$16,523,640
S. 98th Street, "A" Street to Pioneers Boulevard	Local	4 lanes + turn lanes	$11,456,844
I-80, Pleasant Dale to NW 56th with Related Bridges	State	Widen to 6 lanes/10-20 Year	$96,798,791
I-180, Reconstruction with Related Bridges	State	Reconstruction/10-20 Year	$30,065,057
I-180, I-80/I-180 Reconstruction	State	Interchange/10-20 Year	$15,938,652
US-34 East, 84th Street to east county line	State	4 lanes + turn lanes/10-20 Year	$50,575,804
N. 84th Street, US-6 to US-34	Local	6 lanes + turn lanes	$34,008,524
Sun Valley Blvd. Extension, W. O Street to Rosa Parks Way	Local	4 lanes + turn lanes + RR overpass	$18,070,442
US-6 (Corn. Hwy), N. 20th Street to N. 33rd Street	Local	6 lanes + turn lanes	$9,908,111
NW 40th Street, W. Holdrege Street to W. Vine Street	Local	2 lanes + turn lanes	$1,325,821
NW 40th Street, W. Vine Street to US-6, including I-80 Overpass	Local	Overpass	$6,765,962
NW 48th Street, US-34 to Adams	Local	2 lanes + turn lanes	$10,937,084
N. 14th Street and US-6, Interchange	Local	Interchange	$8,953,020
Van Dorn Street, Normal Boulevard to S. 84th Street	Local	4 lanes + turn lanes	$7,591,126
Havelock Avenue, N. 70th Street to N. 84th Street	Local	2 lanes + turn lanes	$2,564,904
S. 40th Street / Normal Boulevard / South Street	Local	Major Intersection Work	$5,000,000
NW 12th Street, W. Alvo Road to Fletcher Avenue , US 34 Overpass	Local	2 lanes + turn lanes + overpass	$6,776,272
S. 70th Street, Yankee Hill Road to Rokeby Road	Local	2 lanes + turn lanes/Illustrative	$2,847,257
NW 38th Street, W. Adams Street to W. Holdrege Street	Local	2 lanes + turn lanes/Illustrative	$2,842,567
US-6 (Corn. Hwy), N. 11th Street to N. 20th Street	Local	6 lanes + turn lanes/Illustrative	$10,644,537
Havelock Avenue, N. 84th Street to N. 98th Street	Local	2 lanes + turn lanes/Illustrative	$2,967,313
N. 33rd Street, Ant.Valley Rdwy East Leg End to Corn. Hwy. to Superior	Local	4-lanes+turn lanes+bridge/Illustrative	$36,600,000
A Street, S. 98th to 105th	Local	2 lanes + turn lanes/Illustrative	$1,372,212
W. Fletcher Avenue, NW 31st Street to NW 27th Street	Local	2 lanes + turn lanes/Illustrative	$1,392,117
Adams Street, N. 90th to N. 98th Street	Local	2 lanes + turn lanes/Illustrative	$1,685,936
South Beltway, US-77 South to Nebraska Highway 2	State	4 Lane Expressway/Illustrative	
US-77 and Warlick Boulevard Intersection with South Beltway	State	Interchange/Illustrative	
US-77 and West Pioneers Boulevard Intersection with South Beltway	State	Interchange/Illustrative	

Projects Projected to 2040

Unfunded Needs

South and East Beltways

The South and East Beltways have long been projects included in the Lincoln and Lancaster County Comprehensive Plan. Together with the West Bypass/US Highway 77 and Interstate 80, they would form a beltway loop around the City of Lincoln. These roadways provide alternative routes for traffic traveling around the City of Lincoln, particularly interstate truck traffic. The safety benefits of removing this type of traffic from 84th Street, NE Highway 2, and 148th Street, which also serve as major intercity traffic routes, are very important. Protecting the beltway corridors, acquiring the right-of-way, and obtaining funding has begun for these routes.

The South Beltway is a $175 million State project that is currently not within the State's programmed budget. The State has completed preliminary engineering and done some level of work with landowners within the planned corridor. With the passage of the Build Nebraska Act (LB 84) during the 2011 State legislative session, road funding for the State's expressway system will be available beginning in 2013. Should this project move back onto the State list of programmed projects, the LRTP Financially Constrained Plan provides for the $35 million 20% local match to fund the project. If this occurs, an amendment and a reprioritization of road projects in the LRTP Financially Constrained Plan will be needed to coordinate with the State's timing for the project.

The East Beltway remains a local project at this time with no state or federal funding available to assist. The $275 million dollar price tag for construction of this project does not justify the traffic expected on that road in the next 30 years. At this time, the City and County should continue to fund a program for protecting the corridor where the future East Beltway is planned. However, no funding is shown at this time for construction of this project. Continued evaluation of this corridor is important in order to identify any change in its priority.

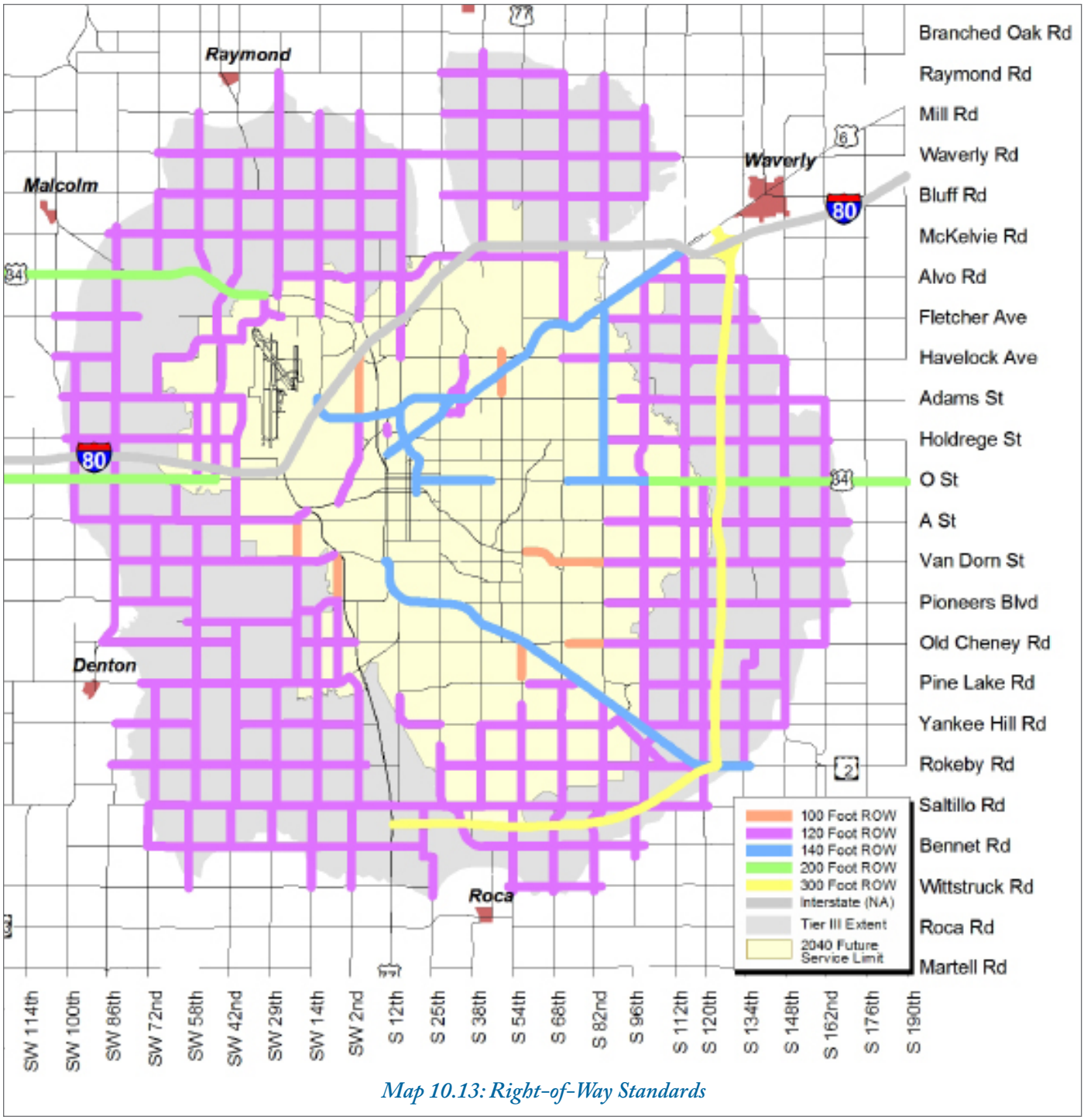
Nebraska Highway 2

One of the largest roadway projects in the first half of the prioritized capital road program is the Highway 2 widening to 6-lanes project from Van Dorn Street to Old Cheney Road. This project needs to be studied closely to determine how best to improve this important facility. A study should be completed within five years of the adoption of this plan to determine the utility of concentrating improvements at the major intersections along Highway 2 (14th Street, 27th Street, 40th Street, 48th Street, 56th Street/Old Cheney Road), or to construct the full widening to 6 lanes along the entire length of the corridor. Included in this study should be consideration of impacts to and conflicts with the rail line that runs along the south side of Highway 2. Also needed is a phasing plan based on the recommended improvements.

Right-of-Way Considerations

Right-of-Way (ROW) widths for projects on the Year 2040 Street and Highway Improvements Plan are displayed on Map 10.13: Right-of-Way Standards.

Projects occurring at the intersection of two arterial streets or at locations where right turn lanes are required will warrant the further dedication or acquisition of public right-of-way up to 130 feet in width for the "2+1 at 120 feet of ROW" and "4+1 at 120 feet of ROW" projects, and 150 feet in width for the "6+1 at 140 feet of ROW" projects, for a distance extending two blocks from the centerline (approximately 700 feet) of the intersection. The length of the intersection improvement should consider the existing and proposed land uses in the general area, traffic studies, and other pertinent information. Signalized intersections occurring along an arterial but not crossing another arterial may also fall under these ROW standards. The standard applies when land uses or other factors

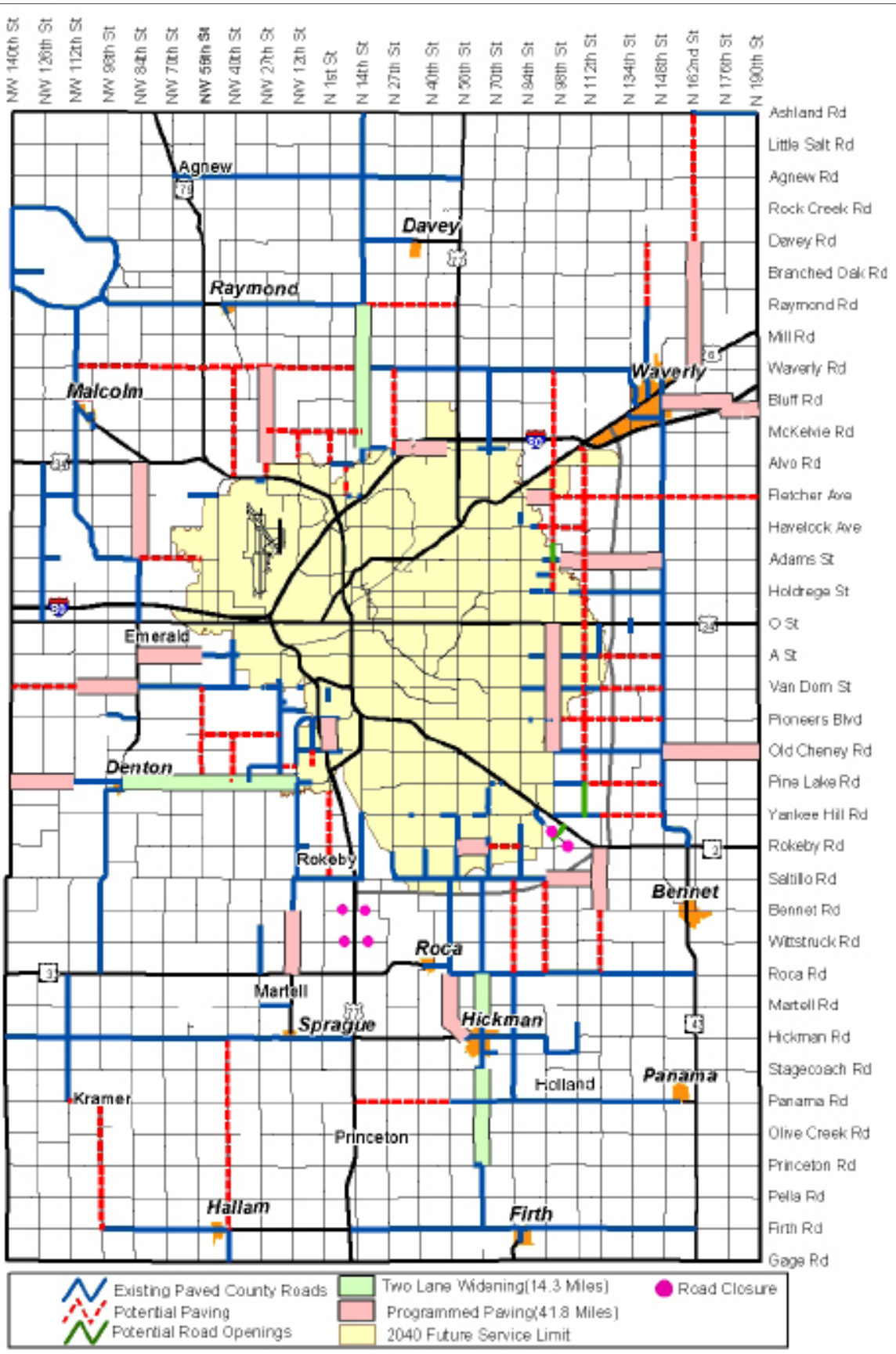


Map 10.13: Right-of-Way Standards

demonstrate the need for a wider ROW at that location.

Within Lincoln's future Growth Tiers I, II and III, a public ROW width of 120 feet for any potential future arterial street is considered the standard for this Plan. This may include, but is not necessarily limited to, the existing section and half-section line roads in these future Growth Tiers. Any ROW obtained to extend or otherwise complete the section line road system in the future growth area should also be done at this standard.

There are instances — mostly but not always in newer areas — where trails are to be placed along an arterial street. This may occur in order to provide



Map 10.14: Future County Road Improvements

trail connections and to allow safe trail crossings at arterial streets. When a future trail or bike lane is designated along an arterial roadway, the corridor should be expanded by six (6) additional feet on the side where the trail will be located. This additional ROW should be obtained in advance of development.

Within the "built environment" area of the City, 66 foot rights-of-way are typical. This is normally adequate for a two lane or a two plus center turn lane street design.

Rural Road Network — 2040 Needs

Improvements to the rural road system will occur throughout the County. The amount of new pavement installed will depend upon the growth in traffic and population, and the fiscal resources available in the future to make the improvements.

The future County Paved Road Network is subject to more impacts in areas closest to the City when compared to areas experiencing slower growth outside the urbanizing areas of Lincoln. These impacts and the resulting improvements vary from simply grading and graveling a road to a two-lane paved facility.

Road improvement decisions in the County are triggered by daily traffic volumes with the amount of traffic dictating the type and degree of improvement necessary. When a road experiences traffic levels of 300 trips per day or more, a minimum of 100 feet of ROW may be acquired by the County and grading and drainage improvements may be made in anticipation of future improvement needs. At 400 trips per day, a roadway qualifies for paving, which should remain as an effective facility, with proper maintenance, until a level of 6,000 trips per day is reached. At that point a four-lane divided facility may be needed. The Future County Road Improvements Plan shows County roads which are likely candidates for two-lane paving in the future.

Often these traffic level increases are experienced as urban development approaches the roadway. It may be possible that as this happens the roadway will move from a County road to a City street as land is annexed into Lincoln or other surrounding towns. In order to make the best use of existing facilities, these rural roads may continue to be used until the demand reaches a level where an urban design is needed.

The County Road Plan indicates some road widenings for those existing two lane paved roads that are no longer adequate for current traffic volumes. These widening projects consist of increasing the lane width and the addition of paved shoulders, not the construction of additional lanes. The County's road improvement plan also includes a new railroad viaduct under construction south of Hickman to address increasing conflicts at rail crossings from both rail and vehicular traffic. New roadways are included in this Plan to provide for continuity in the road system and better serve the adjacent areas. These segments include:

- 98th Street, A Street to "O" Street
- 98th Street, Adams Street to Fremont Street
- 112th Street, Pine Lake Road to Yankee Hill Road

This approach to County road improvements does, however, become threatened when acreage development is not focused on already paved roads and the needs exceed limited fiscal resources available for road improvements. New development should locate along those facilities that have already received improvements capable of supporting such development.

A newer program adopted in 2006 is the Rural-to-Urban Transition for Streets (RUTS). Lancaster County and the City of Lincoln agree it is mutually beneficial to provide a better transition from County roads located within the three mile zoning jurisdiction of the City to City streets at the time of annexation. This process provides a more useful life from the public investment in these County roads while at the same time accommodating future growth of the City, by establishing right-of-way

and construction standards with the initial paving offset to allow future transition from rural to urban standards without disruption to the existing through traffic and the surrounding property. A primary candidate in the first half of the planning period (by 2025) to use this more efficient road design is South 98th Street from O Street to Old Cheney Road.

Railroads — 2040 Needs

The City and County are served by both freight and passenger rail service. Continuous study and analysis of potential projects that will reduce rail/vehicular/pedestrian conflicts at street crossings should continue. The availability of Railroad Transportation Safety District (RTSD) and State Train Mile Tax revenue should allow for appropriate railroad related projects to be funded throughout the 2040 planning period.

One possible project that should remain under consideration is the consolidation of railroad tracks along the southern portion of the community. The Nebraska Highway-2 transportation corridor offers the potential of combining railroad activities, including the BNSF facilities along NE-2, and would increase the safety and security of the growing community. As a highly prioritized roadway project, improvements to NE-2 should include evaluation of the use of railroad right-of-ways and tracks.

Goods and Freight Movement — 2040 Needs

Air, rail and trucking are essential components in the local economy and play a key role in the Lincoln Metropolitan Area and Lancaster County transportation system. Efforts should be made to continue coordination with the freight community that will further integrate freight interests into the transportation planning process. Specific activities that are beneficial to the freight industry include ongoing information dissemination and dialogue through the MPO's Freight Carriers Working Group, enhanced efforts to inform the freight industry of upcoming projects and related impacts on detours and routing, and moving forward with projects like intersection improvements and improvements along major freight routes like Highway 2. The focus of discussion on freight bottlenecks with the freight community during the development of the 2040 Plan was on needed improvements to Highway 2 and the anticipated construction of the South Beltway as a major benefit to freight operations in the region. Freight considerations, including the locations of identified truck routes in the region, were part of the project selection process for the 2040 Needs assessment.

Airports and Airfields — 2040 Needs

The Lincoln Airport will continue to be the principal airport facility serving the Lincoln Metropolitan Area, Lancaster County, and a significant portion of the region in the southeast area of the State. As a member of the Lincoln MPO Technical Committee, the Lincoln Airport Authority will continue to be part of the metropolitan area transportation planning process. Specific strategies include:

- Ensure that future developments are aware of their proximity to the airport and noise issues are appropriately addressed through the Airport Environs Noise District ordinance and the recommendations of the Airport Noise Compatibility Study.
- The Airport West Subarea Plan was approved in 2005 and was amended into the Comprehensive Plan. Elements of the Plan should be pursued for implementation over time.
- Other future considerations include redevelopment of Lincoln Airpark West for a variety of uses including the development of sites for rail-accessible warehousing and seeking

opportunities for air-rail-truck freight operations. While these potential developments can make the airport into an intermodal transportation hub, attention will need to be focused on mitigating conflicts between the different freight operations.

Financially Constrained Transportation Plan

The Transportation Needs of the 2040 Comprehensive Plan include roadway operations, maintenance and capital, pedestrian and bicycle, trails and transit. The Financially Constrained Transportation Plan in the *MPO LRTP*, which is not a part of the Comprehensive Plan, describes in detail the revenue sources, anticipated revenues, and potential additional revenues to maintain, operate, and expand the transportation system in the City of Lincoln and Lancaster County from 2012 until 2040.

The financial analysis presented in the MPO LRTP meets the federal requirements stated in SAFETEA-LU. This detailed information should be referenced to guide project implementation for all modes of travel. The project costs and potential funding are estimates and will be revisited several times before the years they represent come to pass. The intent of the Financially Constrained Transportation Plan is to prepare an approximate, but realistic, estimate of both the total funds available and total program cost by year of expenditure.

6. Implementation

Land use and transportation are interdependent in that one relies on and is influenced by the other. LPlan 2040 envisions a City and County that provides an ample supply of land for future edge growth, but is also more compact with a wider range of housing options, which will support and require a wider range of transportation options. The impacts of the new land use plan will need to be closely watched to gauge and best plan for impacts on the transportation system.

It should also be noted that by federal regulation the MPO Long Range Transportation Plan is to be updated every five years. This is considered a more substantial review of the plan than the annual review process or a standalone amendment process. During these five-year updates the assumptions and identified needs and priorities of the transportation plan will be reexamined to best reflect any changes that occurred since the previous five-year update.

The following sections identify Guiding Principles and Strategies for implementing projects, programs, and studies for each of the major modes of transportation.

Guiding Principles

Pedestrian and Bicycle Facilities

- Elevate the status of pedestrians and bicyclists in the community to be an integral part of the Transportation Plan.
- Make adequate maintenance of existing and future pedestrian and bicycle facilities a priority.
- A dedicated funding source for pedestrian and bicycle projects and programs should be established.
- Provide bicyclists and pedestrians safe, direct, and convenient access to all destinations served by the Lincoln area streets and roads network.

Multi-Use Trails

- A well connected multi-use trail system provides recreational and health benefits, acts as an alternative transportation network, and promotes economic development in the community.
- Adequate maintenance of existing and proposed trails is a priority.

Transit

- A well functioning transit system that provides options to both riders by choice and those who

ride out of necessity is an integral part of an economically viable City.

Streets and Roads

- Maintain the existing transportation system to maximize the value of these assets.
- Improve the efficiency, performance and connectivity of a balanced transportation system.
- Promote consistency between land use and transportation plans to enhance mobility and accessibility.
- Provide a safe and secure transportation system.
- Support economic vitality of the community.
- Protect and enhance environmental sustainability, provide opportunities for active lifestyles, and conserve natural and cultural resources.
- Maximize the cost effectiveness of transportation.

Pedestrian and Bicycle Facilities

Dedicated funding for an ongoing pedestrian and bicycle capital program is identified as a priority in the 2040 Transportation Plan. In order to develop a list of priority projects for pedestrian and bicycle improvements, analysis of the current system must be conducted and a plan for future system improvements must be developed. A study is needed to identify projects that are most needed, including but not limited to assessment of the existing bike route system, expansion of the bike route system, the development of bike parking standards, locations of potential bike lane facilities, wayfinding and signage needs, pedestrian mid-block crossing locations, pedestrian and bike amenities needs, identification of needed local and state law adjustments, and education and promotional strategies.

Strategies

- Identify possible amendments to state law that protect the status of bicyclists as equal users of transportation facilities.
- Consider the establishment of a bicycle licensing fee, the proceeds of which would be dedicated to bicycle improvements and programs.
- Projects should be coordinated through a continuing program of data collection, interagency cooperation and public input and participation.
- Develop and implement a coordinated system of well connected pedestrian and bicycle facilities that serve both new and older neighborhoods and provide access to activity centers such as schools, parks, employment areas and shopping.
- Consider on-street bicycle facilities that are designed to meet the capacity and the opportunity of new and retrofitted roadways. These facilities may vary from bike routes with signage to shared use lanes (sharrows) to dedicated on-street bicycle lanes.
- Develop a program of standards and incentives to include bicycle amenities in employment, commercial, educational and office centers such as lockers, showers, and bicycle parking.
- Develop design standards for a variety of on and off street bicycle facilities that may be appropriate for roadways of different traffic levels.
- Conduct an analysis of the pedestrian/bicycle system to develop a plan for future system improvements and a list of priority projects.
- Include bicycle and pedestrian amenities as part of all City and County facilities to serve as a model for private investment.

- Cooperate with public and private organizations to develop and deliver educational programs for pedestrians, bicyclists and motorists on the rules, regulations, and benefits of alternative transportation.
- The Mayor and City Council should examine funding options prior to the 2012-13 city budget year that more closely match funding with identified needs in the sidewalk rehabilitation program.

Multi-Use Trails

Lincoln's multi-use trail system should continue to be a priority for the community. Plans for this system in the MPO LRTP Financially Constrained Transportation Plan identify prioritized trail segments for construction within the 30-year planning period as well as connections to be made after 2040, or as funding is available. A countywide trail system is also planned and should be considered in future development.

Strategies

- Continue the development of the multi-use trail network according to the priorities as shown on the Financially Constrained Transportation Plan trails map. Maintain existing route maps for all trails, lanes, and routes.
- Implement a useful and visually pleasing wayfinding signage program along the trail system.
- Consider the location and alignment of multi-use trails and bike lanes in reviewing development applications; request that the platform for trails be graded in conjunction with the associated development.
- Consider grade separated crossings in conjunction with all new construction and reconstruction of transportation projects.
- In rural areas of the County, identify potential bicycle corridors that serve existing and planned activity centers and link to existing and planned City bicycle facilities.
- Continue the practice of widening and paving the shoulders of County roads. This should occur when reconstruction or resurfacing of the road is planned, with safety of users as a primary consideration.

Transit

To achieve viable long range transit service for the City of Lincoln and Lancaster County in the year 2040, a number of broad policies and actions are needed to guide successful implementation and expansion of public transit. These policies and action items are to be guided by the results of an updated Transit Development Plan (TDP) Study. The TDP is the guide for near and mid-term transit planning for the 2040 Transportation Plan. Included in a Transit Development Plan is a comprehensive operations analysis, near and long term transit service alternatives, updated service standards and policies, and management and funding options.

Strategies

- Update the Transit Development Plan to reflect the input received during the LPlan 2040 public process.
- Consider evening service hours as part of the TDP update process.
- Examine alternatives to change from a coverage based transit system to a productivity based transit system.
- Consider Mixed Use Redevelopment Nodes and Corridors in developing transit corridors.

Streets and Roads

Several studies are identified to evaluate the need for detailed planning and design of future roadways. The identified studies are based on the prioritized list of programs and projects in the MPO LRTP Financially Constrained Transportation Plan. In order to best use financial resources, studies should be conducted to better frame the issues and solutions.

Strategies: General

- Implement the recommendations of the Mayor's Road Design Task Force to maximize cost-effectiveness in roadways, build roads to serve the traffic projected in the near term, and ensure all roadways within the future service limit are served by an appropriately paved surface.
- Adjust the division of roadway funding between maintenance and rehabilitation, programs, and capital projects to reflect and implement the funding program identified in the Financially Constrained Transportation Plan.
- Continue to discuss strategies to more fully fund the roadway rehabilitation program to more closely match identified needs.

Strategies: Complete Streets Policy

The Lincoln MPO should develop a Complete Streets policy, related new roadway standards, and a process to implement complete street principles prior to the next regular five-year update of the Plan. A Complete Streets policy will direct planners and engineers to routinely design and operate the entire right of way to enable safe access for all users regardless of age, ability, or mode of transportation.

Strategies: Roadway Project Impact Studies

- North 44th at BNSF RR — Closure of North 44th Street at the BNSF Railroad should be studied with consideration given to neighborhood and business access, safety, and access as it relates to future improvements at 35th and Adams Street
- Beltway and Fringe Arterial Streets — Explore options for promoting the maximum utilization by local traffic of the West, South, and East Beltway, Interstate 80, and major urban fringe arterials in order to minimize the impact of future traffic growth on interior roadways within the built environment.
- North 70th to North 84th Streets and Havelock Ave. to Bluff Road Area Study.
- Highway 2 Corridor Study from 9th and Van Dorn Street to South 84th Street, including study of benefits of widening compared to focusing efforts on major intersection improvements, and the phasing of needed improvements.
- Cornhusker Highway Corridor Study from I-80 Exit 399 to I-80 Exit 409, including study of the benefits of widening and intersection capacity improvements.
- A study that encompasses the general area bounded by NW 48th Street and NW 27th Street, West Webster to US-34. The study is to include north/south and east/west roadway needs and alignments, including the West Fletcher corridor and US-34 access considerations.
- As part of the US-77/West Beltway freeway project, study a potential overpass at US-77 and Old Cheney Road and Rokeby Road. The study is to be a joint State/County/City feasibility study, including a traffic analysis, a citizen participation element, an appropriate environmental review, and will be started no later than one year prior to the contract letting of the West Bypass freeway upgrade. The study will comply with FHWA procedures for Federal Aid projects

and will attempt to maintain an Old Cheney connection to 1st Street. (Study for a potential overpass at Rokeby Road has been approved by the County Board only.)

Strategies: Congestion Management Process

One area of ongoing emphasis is the Congestion Management Process. Congestion mitigation efforts should continue and remain flexible. There should be a regular process in place to identify and respond to traffic congestion challenges. Many management and operational actions will be undertaken at the departmental level to provide the quickest possible resolution, while more serious issues may require a formal study process. Additional studies may be desirable to identify specific congestion mitigation strategies that appear most reasonable for a particular location. Where deficiencies are identified, the MPO Technical Committee may suggest strategies for congestion mitigation.

- Studies or recommendations for congestion mitigation should address as a minimum the impacts on the following:
  - Established neighborhoods
  - Homes and businesses
  - Pedestrian and bicycle safety
  - Public and private trees
  - Environmental resources
  - Property values of the surrounding area
  - Access to adjacent properties
  - Cost of ROW and of purchasing properties
  - Traffic noise
  - Crash rates
  - Budgetary constraints
- Continue development of a travel demand management program with dedicated funding.
- Implementation of ITS projects for congestion management, safety and security.
- Completion of Two plus Center Turn Lane Program within the first half of the planning period.
- Continue to develop the use of traffic monitoring devices at key locations to monitor transportation activity on a daily basis.
- Continue to use technology, such as the internet and dynamic messaging signs, to bring real time traffic and road condition information to the public.
- Collect and analyze data on a regular basis to identify intersections, bottle necks, and safety issues in the roadway system that may be appropriate for additional turn lanes, intersection improvements, or safety projects.

Congestion Management Process: Congestion mitigation efforts should continue and remain flexible and ongoing. There should be a regular process in place to identify and respond to traffic congestion challenges.

Airports and Airfields

Lincoln Municipal Airport is governed by the Lincoln Airport Authority (LAA). The LAA is part of the MPO and participates in its activities; however, planning for airport facilities is done in a separate process. Private airports and airfields must abide by the rules of the Nebraska Department of Aeronautics as well as County and City zoning code.

Strategies

Maintain compatible land uses and zoning within the 60 DNL and 75 DNL noise contour lines.

Freight

Strategies

- Build on current efforts to establish an MPO freight advisory task force with representatives from all appropriate modes to ensure that projects proposed by the private sector are incorporated into the planning and programming process. The focus of discussion on freight bottlenecks with the freight community during the development of the 2040 Plan was on needed improvements to Highway 2 and the anticipated construction of the South Beltway as a major benefit to freight operations in the region.

- Review existing policies concerning distances (i.e., buffers) between conflicting land uses.
- Encourage the assessment of risk concerning hazardous materials and impact on land uses.
- Enhance access to external transportation connectors (e.g., Interstate system) in order to minimize impact on existing land uses.
- Enhance the internal transportation routes (e.g. State highways and City arterials) in order minimize impact on existing land uses.
- Encourage and support the development of individual inter-modal projects by private industry. Opportunities for expanding the intermodal facility should be encouraged in the Lincoln Airport and Airpark areas where rail access exists.

Mitigating Impacts on Environmental, Social and Cultural Resources

As part of the planning process to develop the 2040 Long Range Transportation Plan, environmental impacts of proposed transportation projects were analyzed by a group of state and local government representatives, non-profit organizations and interest groups in a process which is fully described in the Technical Report. The purpose of this effort was to provide an opportunity to identify any conflicts between environmental, social and cultural resources and potential transportation projects, and to use this information to help determine which projects to include in the transportation plan. The following is an explanation of these reviews by topic area. This information will be considered as transportation projects from the plan are implemented.

In summary, GIS mapping was used to represent proposed roadway and trail projects and to analyze their relationship to identified environmental, social, cultural and historic resources. Possible conflict points and areas were identified and information and maps were sent to a group of 27 different contact persons. These individuals were asked to consult with their group or agency and report back on 1) any possible conflict points that were missed in the analysis, 2) issues that may be raised by the conflict points, and 3) possible mitigation strategies to address these issues. Responses are included in the Technical Report.

The list of projects analyzed includes projects that were ultimately removed from the final list through the prioritization process. Therefore, the list of projects in the Technical Report, Alternative Transportation Analysis, is longer than that found in the LRTP 2040 Financially Constrained Transportation Plan and the 2040 Needs Based Plan.

In general, transportation projects shown did not represent the construction of an entirely new roadway, but rather the widening of existing right

of way. An exception to this would be the South and East Beltways, which have both had some level of environmental analysis as part of their preliminary planning to date. Trails also follow railway or roadway right of ways. Environmental impacts are fairly limited because the area has already been impacted to some extent with the establishment of the existing right of way. Because of this, comments received, particularly from the environmental groups, were fairly general and limited. Social and cultural groups commented more generally with concerns of inadequate transit service, linkages between modes, and maintenance of streets in older parts of the City.

Mitigation strategies

In general, adherence to the overall mitigation sequence of "avoid, minimize impacts, and compensate for unavoidable impacts" should be applied for all projects that are implemented. Detailed mitigation strategies should be developed during the engineering of all transportation projects. Cooperation and collaboration with environmental agencies early and throughout the construction process will insure the best result.

Wetlands and Saline Wetlands

Freshwater wetlands should be avoided as much as possible. When avoidance is not possible, mitigation can be done on site or through a wetland mitigation bank. Generally, mitigation on a 2:1 basis with five years of monitoring is required, but this ratio varies depending on the type and quality of wetland impacted.

The Growth Tiers Map in the Vision and Plan chapter of LPlan 2040 indicates an emphasis on directing growth away from saline wetlands and urban growth outside the Little Salt corridor for the very long term.

Endangered Species

Projects that are planned in areas identified as known or possible threatened and endangered species habitat must comply with all state and federal regulations. In general, these areas have a higher imperative to avoid when engineering roadway projects. Trail projects, when carefully designed, should not be detrimental to endangered species and may in fact provide opportunities to educate and increase awareness.

Tree Mass

Tree masses may be affected by construction even when the trees are left in place. Changes in grading can change runoff flows and subsurface water available to roots. Compaction of soil by heavy equipment can decrease soil permeability. Root zones should be protected from compaction by avoiding the area or by placement of non compacting materials over equipment travel lanes during construction. Retaining walls may be used when site distances require dramatic changes in grade, rather than grading back beyond the right of way. When trees must be removed they should be replaced with similar species at an appropriate ratio.

Floodplain

When grading must be done in floodplain areas the surface hydrology must be carefully considered. While compensatory storage mitigation addresses the floodwater quantity issue, the flow of surface water during a flood event must also be addressed in order to mitigate any possible effects to downstream, or upstream, properties. Lincoln and the three mile extraterritorial jurisdiction are governed by a "No Adverse Impact" policy for new growth areas. This ensures that construction activity on one piece of property will not negatively impact another. The floodway should remain open for the conveyance of flood water; stream crossings

must generally be constructed so as to cause no rise in the flood level.

Often trails are constructed in floodplain areas. These structures, if properly constructed, should not cause adverse impact. However, care should be taken when grading for trail construction, and the trails themselves may require a higher level of maintenance due to sediment and debris deposit during flood events, movement of the base material due to high water table, and increase vegetative growth.

Native Prairie

Native prairies can be negatively impacted by runoff from impermeable surfaces which can often carry pollutants. Runoff detention and retention areas where pollutants can settle and runoff can be slowed and infiltrate are useful mitigation strategies. Issues can also arise when prairies are burned as part of regular management practices causing smoke and reduced visibility. Proper management techniques include selection of burning event dates to ensure favorable winds, or use of mowing when burning is not feasible.

Stream Corridors

Stream corridors, or riparian areas, provide important habitat and connections for wildlife. These corridors are often associated with floodplains and so similar mitigation efforts are effective. Lincoln ordinances define buffer areas that must be kept in place to provide a functional riparian area. When roadways must cross streams it is important that proper design allows a sufficiently wide riparian corridor to pass underneath the structure. The use of culverts on significant streams should be avoided as these stretches interrupt the continuous stream corridor.

The process for analysis of social, cultural and historic resources was similar to that described for environmental resources above. Census data was used to identify Census tracts with a higher than average percentage of low income, racial, and ethnic minorities. Projects were then mapped and data was provided on the number of lane miles of roadway proposed in these high population areas. Eighteen different agencies and non-profit organizations were asked for input. Responses are included in the Technical Report.

There were very few roadway projects that crossed through or were adjacent to these population concentrations. There were only 1.53 miles of trail proposed in these areas. Most of the identified Census tracts are located in the older parts of the City, where very few new transportation projects are proposed.

The majority of comments received from these groups were in reference to transit issues, particularly concerns regarding the lack of evening bus service and the proposed reallocation of service to higher density and higher ridership areas.. Major issues identified are in the Technical Report.

Transit Service

The most frequent comment was in regard to the lack of evening bus service. It is difficult for those who are transit dependent to find transportation to and from work if their jobs require them to work before 6:00 a.m. or after 6:00 p.m. This is one of the goals of the proposed update of the Transit Development Plan and was also a common issue in other surveys and open house commentaries.

There was also discussion about the proposed reallocation of transit service to higher density and higher ridership areas, providing more frequent or perhaps longer service hours on those routes. Some identified this as a desirable change which would allow these areas, identified as higher in low to moderate income and racial and ethnic

minority populations, to benefit from a higher level of service. Others expressed concerns that the very service provided would discourage low income populations from moving out of the areas and inadvertently cause poverty to remain concentrated in these areas of the City. In order to avoid this unintended circumstance, careful evaluation of service and Census data will need to be made on a regular basis and as future transit plans are developed.

Historical Impacts

There was a specific comment from the historic impact review of the proposed plan regarding the mapping of Pioneers Park as a single site (point). The park should be considered as a district (polygon) as it encompasses 500 acres, putting it in proximity to Coddington and West Van Dorn trails and street projects. Another mapping information comment during this review was the fact that the Woodsshire Historic District is not mapped, but there were no streets or trails projects in proximity to this area.

For the broad-brush level of planning, mapping to identify designated cultural resources in proximity to potential projects is appropriate, mostly to serve as an early reminder to potential historic impacts. It is noted that the actual project planning should consider both designated cultural resources and those eligible for the National Register of Historic Places, but not yet identified; that projects that are federal undertakings (federal funding or approvals) require review under Section 106 of the National Historic Preservation Act; that early planning, once actual projects are programmed, helps avoid, minimize, or mitigate adverse impacts on cultural resources.

It also bears mentioning that proximity alone does not constitute adverse impact, and in fact well-designed improvements and especially system maintenance can benefit historic resources, especially neighborhood districts.

Similarly, trails may have no adverse impact or even be beneficial to the livability of historic residential areas and revitalization of commercial areas.

Roadway Maintenance in Existing Neighborhoods

Another area of concern expressed was the apparent lack of new road projects in the existing neighborhoods. While the mapping and tabular tools shared with the evaluating groups did include all new projects, they did not include existing and committed projects which include the Two Plus Center Turn Lane program. These projects are explained more fully in an earlier section, but generally improve traffic flow without requiring additional right of way and are designed to alleviate traffic congestion and all of the negative associated impacts (noise, air quality impacts, etc…) without significantly impacting the profile of the roadway.

The question was asked whether there would be increased efforts to improve roadway quality in existing neighborhoods. As explained in the LRTP 2040 Financially Constrained Transportation Plan section, roadway rehabilitation projects are an emphasis with the rehabilitation budgets for roads, trails and sidewalks proposed to roughly double for all modes.

Connectivity between Modes

The ability of people to move around by various modes was listed as a concern by some groups. Connection of trail systems to the pedestrian and street system, ability to move from bike to transit, and transit service to major employment centers were some of the topics discussed. The City recently added bike racks to all City buses to improve the

bike-to-transit connection; this is anticipated to continue.

Connection of the trail network to the pedestrian and street system is a major goal of the trails plan as described in the Multi-Use Trails Guiding Principles and Strategies section. The on-street bicycle system will also be a major area of concentration for the new pedestrian and bicycle program.

Process for Amending the MPO LRTP Financially Constrained Transportation Plan

With the adoption of the MPO LRTP Financially Constrained Transportation Plan, there is a need to explain how the plan will be amended in the future when needed. As with all long range plans, conditions in the community likely will change over time and related shifts in priorities will occur. A change such as an increase in the amount of growth in one direction of the urbanizing area with a corresponding decrease in expected growth in another direction will shift the needs and priorities of the transportation system. Some projects that were expected to be needed farther out in the planning period may become needed sooner. Likewise, a project that is no longer needed as soon as expected could be delayed.

Changes in the basic assumptions or goals and policies of the 2040 Lincoln/Lancaster County Comprehensive Plan may require formal amendments to the 2040 Comprehensive Plan including the Transportation chapter. More likely will be more specific shifts in needs and priorities that will need to be reflected in the MPO LRTP Financially Constrained Transportation Plan in order to continue to have a financially constrained plan that meets the needs of the community over time. Changes to the Financially Constrained Transportation Plan are to be made by a formal plan amendment through the MPO planning process. These may take the form of a standalone amendment or as a package of amendments during the established annual review process discussed in the Plan Realization chapter of LPlan 2040.

For example, when a project is identified as needed sooner than expected and that need is in the first ten years of the MPO LRTP Financially Constrained Transportation Plan, a project(s) of similar cost will need to be dropped lower in the priority list to keep the plan financially constrained.

Close adherence to the amendment process will be of particular importance if a project is desired to be placed in the first four years of the plan. The first four years of the MPO LRTP Financially Constrained Transportation Plan should closely reflect the MPO Transportation Improvement Program (TIP) for projects of regional significance and those using the federal planning process and federal funding. Close coordination and consistency between the TIP and the Long Range Transportation Plan should be an ongoing effort.

All amendments to the Financially Constrained Transportation Plan will need to be reviewed and approved by the Technical Committee of the Metropolitan Planning Organization (MPO) that includes local, state, and federal representation, the Lincoln-Lancaster County Planning Commission and the MPO Officials Committee. The amendment process will also need to adhere to the MPO's Public Participation Plan to ensure opportunities for public engagement and information dissemination.

11 Energy & Utilities

This chapter examines energy and individual utilities including water, wastewater, watershed management, solid waste, electric services, information technology, and natural gas service.

Introduction

Energy use, supply and conservation are topics of global as well as local concern. This chapter includes an assessment of energy use, evaluates the utilization of renewable energy sources, and describes efforts to conserve energy in the community. The relationship between land use patterns and energy consumption has been widely researched and is a topic of national conversation. As Lincoln and Lancaster County continue to plan for the future, the need to consider the impacts of energy supply and demand is likely to increase in importance.

The provision of other basic services, (such as water, wastewater, and electricity) is also discussed in this chapter. The need to plan for the extension of these services to new growth areas is one of the primary reasons for comprehensive planning. Lincoln has a history and policy of providing utilities only to those areas that have been annexed into the City. Lincoln wastewater collection systems operate on a gravity flow principle and so are planned to extend along the natural drainage of the land, or drainage basins. These growth policies have served Lincoln well in that it has retained a clear differentiation between urban and rural areas and has been able to resist sprawl to a greater degree than

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many other communities. The efficient extension of utilities will continue to be a major factor in land use planning.

Guiding Principles

Overall Guiding Principles

- Continue the City's growth policy of contiguous urban growth; urban development will occur in areas immediately abutting the city that reflect a logical and timely extension of urban infrastructure.
- It is the policy of the City of Lincoln to only provide water and wastewater service to properties located within the corporate limits of the city. This policy provides for contiguous growth, allows for efficient long range planning and cost-effective construction and management of the system.

Energy Guiding Principles

- Promote renewable energy sources.
- Promote the conservation and efficient use of energy in all areas.

Water Guiding Principles

- Development proposals should ensure that there is adequate quantity and quality of water available to serve their project without impacting other customers.

- Development actions should not impact Wellhead Protection areas or the municipal water wells serving towns.
- Water improvements must be in accordance with the Lincoln Water System Facilities Master Plan and LPlan 2040. The *Lincoln Water System Facilities Master Plan* will guide future actions and serve as the basis for facilities planning and improvements.

Wastewater Guiding Principles

- The City's collection system, in general, will continue to be a gravity flow system that is designed to accommodate urbanization of drainage basins and sub-basins. This system encourages orderly growth within the natural drainage basin boundaries. This policy encourages urban growth from the lower portion of the drainage basin and discourages pumping of wastewater across basin boundaries.
- Development proposals should ensure that there is an adequate on-site wastewater system to serve a project without impacting adjacent properties. However, in urban areas, it may be necessary to create assessment districts if a sewer line crosses abutting properties.
- Wastewater improvements must be in accordance with the Lincoln Wastewater Facilities Plan and LPlan 2040. The Lincoln Wastewater Facilities Plan will guide future actions and serve as the basis for facilities planning and improvements.

Watershed Management Guiding Principles

- Watershed planning will continue in order to be proactive and integrate stewardship principles for land conservation, stream and wetland buffers, better site design, *Best Management Practices (BMP)*, and erosion and sediment control. The natural drainage system can serve multiple benefits, including wildlife habitat and recreation.
- The community encourages site designs that are compatible with the natural characteristics of the site, clustering development, minimizing grading and impervious surfaces, and preserving site hydrology to the maximum extent possible. Naturalized or bioengineered

solutions to drainage issues should be used wherever possible.

- In new growth areas, the City of Lincoln and Lancaster County have a policy of No Adverse Impact, with a goal of ensuring that the action of one property owner does not adversely impact the flooding risk for other properties.
- Urban development in new growth areas will be outside of the floodplain and floodway.

Solid Waste Guiding Principles

- No out-of-county waste is accepted for landfill disposal. This policy reserves landfill capacity for city and county residents and allows administration of programs under existing authorities.
- The City policy of privately owned and operated collection of refuse and recyclables coupled with public ownership, operation and financing of disposal and selected integrated solid waste management services will continue during the planning period.

Electrical Guiding Principles

- Lincoln Electric System will be the sole electrical utility within the City of Lincoln.
- Norris Public Power District will be the primary provider of electricity outside the City of Lincoln.
- Norris Public Power and Lincoln Electric System should continue their cooperative effort in regard to future growth areas of Lincoln and changes in service boundaries between the two utilities.

Information Technology Guiding Principles

- Information technology programs and regulations must be flexible enough to adapt to advances in technology.
- The development of a well designed fiber optic network to serve residential, business, education, and public facilities is very important. This network is a priority to ensure a high quality of life, serve as an economic development tool, and provide efficient public services.

Energy

To remain competitive as the global economy expands and puts greater strain on traditional fuel supplies, energy costs rise, and supplies remain unpredictable, Lincoln must develop a comprehensive strategy of fuel diversity and encourage conservation, alternative forms of energy and modern energy technologies.

The City of Lincoln and Lancaster County are making substantial efforts toward sustainable energy reform. The City will soon have an energy strategy for City government and also intends to develop recommendations for residential energy conservation. In addition, through the *Cleaner Greener Lincoln Program*, the City currently funds municipal lighting upgrades, energy saving improvements for residential buildings and non-profit facilities, clean energy production and green building practices. Lincoln Electric System also provides energy rebates for investments in energy-saving devices through their Sustainable Energy Program.

Best Management Practices (BMPs)are defined as measures that remove or prevent pollutants from entering stormwater, streams and lakes. Examples of BMPs include stabilizing all areas disturbed during construction and preserving natural drainageways. It is the City's policy to encourage the use of BMPs in new development and redevelopment.

Figure 11.1: Watershed showing the area that drains into a stream or river

Using energy more effectively through more efficient end-uses or through more productive generation, such as combined heat and power, reduces the amount of fuel required to produce a unit of energy output and reduces the corresponding emissions of pollutants and greenhouse gases. Energy from renewable resources such as solar, geothermal, and wind technologies generally does not contribute to climate change or local air pollution and generally conserves nonrenewable natural resources.

Statutory Requirements

Per State Statute Section 15-1102: "The comprehensive plan shall, among other things, show:… an energy element which: assesses energy infrastructure and energy use by sector, including residential, commercial, and industrial sectors; evaluates utilization of renewable energy sources; and promotes energy conservation measures that benefit the community."

In 2010, the Nebraska Legislature passed legislation requiring cities and counties in Nebraska to assess, evaluate and promote renewable energy sources and energy conservation measures as part of their Comprehensive Plan updates. Energy affects many aspects of land use, and as the population continues to increase over the next 30 years, so will energy consumption and the need for renewable resources.

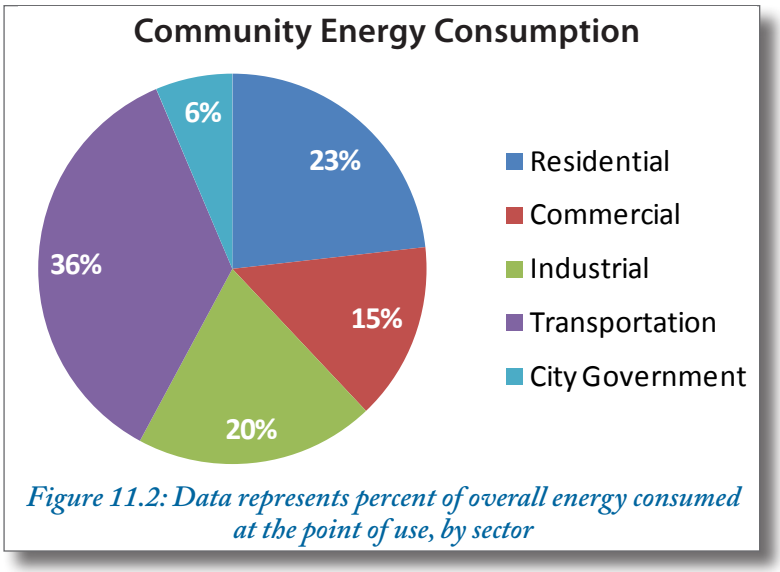


Figure 11.2: Data represents percent of overall energy consumed at the point of use, by sector

Energy Use

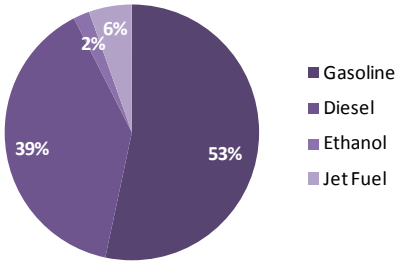
Like many other communities, it is a challenge for the City of Lincoln and Lancaster County to obtain data that can be put into a meaningful model to use in setting goals and comparing our community with others.

The City has assessed energy infrastructure and energy use by sector, including transportation, residential, commercial, city government and industrial sectors. The data does not include lifecycle consumption, or energy that is used to generate the end use energy product. Thus, the following data provides a snapshot of energy being consumed at the point of use and does not factor in energy such as coal that is used to produce the electricity that powers our homes and businesses.

As shown in the accompanying chart, the majority of Lincoln's energy consumption is related to how we live and how we get around. (All data are from 2008, except the transportation data which are from 2010).

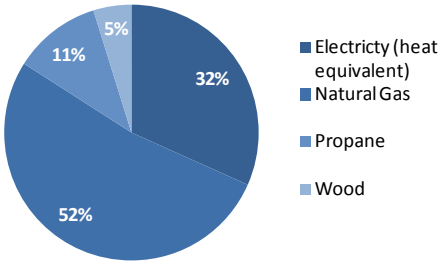
As the chart identifies, Transportation represents 36% of the overall energy use in the community with the Residential sector being second at 23%. The Industrial sector comes in at a close third with 20%, followed by Commercial at 15%. Although the City Government sector has an impact, it is less significant at 6% of the overall energy use. Nevertheless, City Government can have a significant impact on efforts to reduce energy consumption by setting an example for the community through more efficient use of energy and investing in renewable resources.

Transportation



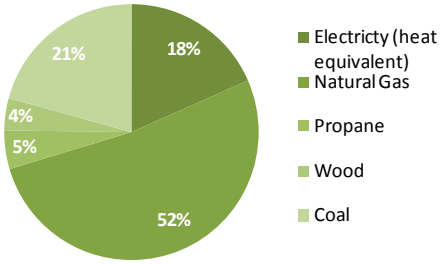
Transportation is the biggest energy user in the City at 36% of total consumption. Within this sector, 53% of that use is gasoline and 39% is diesel. Fleet fuel economy is mandated by Federal requirements and by consumer preferences, much of which is beyond local control. Opportunities on a local scale for using energy more efficiently in this sector would be to provide and promote alternative transportation options such as walking, biking and transit services and improving traffic flow.

Residential



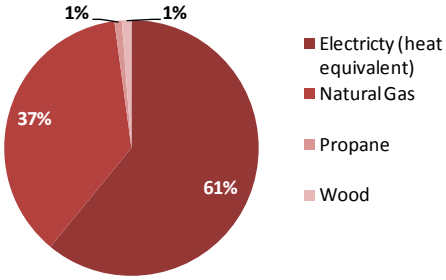
The Residential sector represents 23% of the energy consumption of the City of Lincoln. As shown in the chart, 52% of that use is in natural gas, primarily for heating, water heating and cooking. Electricity, used primarily for lighting, air conditioning and appliances accounts for 32% of energy used. Propane is primarily a rural usage, and kerosene and wood are quite small. The biggest impact on energy usage in the residential sector would be made by increasing the thermal performance of homes, improving heating and cooling equipment, and improving the efficiency of appliances and lighting.

Industrial



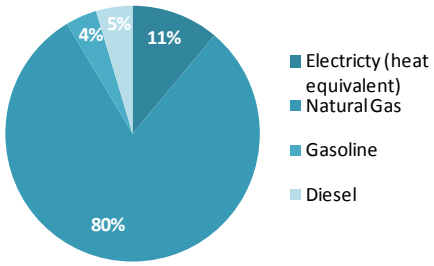
Industrial use represents 20% of the total city energy consumption. Within the Industrial sector, 52% is natural gas, 18% is electricity and 21% is coal. Opportunities for improvement should be determined on a process by process basis in addition to striving for general building efficiencies.

Commerical



Commercial sector energy consumption represents 15% of total energy use of the City. Within this sector, electricity represents 61% as the primary energy use and natural gas is 37%. Natural gas is used for heating businesses and water along with some food preparation and water heating. Electricity is primarily represented by lighting and air conditioning. Opportunities for improving the efficiency within this sector should be directed at building, lighting and heating/air conditioning.

City Government



The majority of City Government energy consumption is in natural gas. The City of Lincoln water and wastewater facilities consume more than half of the energy in this sector.

Figure 11.3: Energy consumption by sector and energy type

Renewable Energy

Local government entities, including all local utilities, should strive to increase utilization of renewable energy sources such as wind power, hydropower, solar energy, biomass, and geothermal energy. Energy providers such as Lincoln Electric System, Norris Public Power District and Black Hills Energy should strive to purchase a higher percentage of energy from renewable sources. Today, 6.7% of the energy generated for Lincoln through LES is wind-powered or hydro-powered. The City-owned utility should strive to increase the use of renewable energy sources by the year 2040. Additional information should be collected to better facilitate a more comprehensive energy strategy.

> Today 6.7% of the energy generated for Lincoln through LES is wind-powered or hydro-powered.

Strategies for Renewable Energy

- Continue to encourage and expand wind and solar access to buildings and other land uses.
- Incorporate the use of alternative fuels into local government and institutional operations.
- Incorporate the use of alternative fuels when feasible.

Energy Conservation

Because of the limited amount of nonrenewable energy sources on Earth, it is important to both reduce consumption of resources and substitute non-renewable resources with renewable ones, so that our natural resources will be available for future generations.

Energy conservation is also important because consumption of nonrenewable sources impacts the environment. Specifically, our use of fossil fuels contributes to air and water pollution. For example, carbon dioxide is produced when oil, coal, and gas combust in power stations, heating systems, and car engines. Carbon dioxide in the atmosphere acts as a transparent blanket that contributes to the global warming of the earth, or "greenhouse effect" according to the *Environmental Protection Agency* (EPA). There is consensus of scientific thought that this warming trend is significantly altering our climate. Possible impacts include a threat to human health, environmental impacts such as rising sea levels that can damage coastal areas, and major changes in vegetation growth patterns that could affect agricultural productivity and cause some plant and animal species to become extinct.

At the local level, energy conservation saves money and energy which benefits both homeowners and businesses. Through the *Cleaner Greener Lincoln Program*, the City is setting goals and developing measurable strategies to use energy more efficiently, which will in turn save the City and its residents money.

Strategies for Energy Conservation

Land Use and Development

- Consider prioritizing infrastructure investment based on projects that can show net energy reduction.
- Provide incentives for projects that utilize green building codes or green rating systems.
- Encourage higher density housing in/near large commercial development, redevelopment nodes and corridors and employment centers.
- Encourage energy-efficient compact development and mixed use development.
- Explore options for allowing more home occupations that are compatible with neighborhoods.

- Revise codes to allow for more opportunities to work and live in the same place.

Transportation

- Include provisions for safe and convenient pedestrian and bicycle use.
- Continue traffic signal optimization measures.
- Encourage integration of alternative modes of transportation in new developments.
- Encourage transit-oriented development near transit stops, bicycle pathways and bicycle parking stations.
- Encourage telecommuting to reduce vehicle miles traveled.
- Encourage employers to initiate work schedules that will help alleviate congestion at peak hours.
- Encourage carpooling, car/ bike sharing, and use of transit.

Buildings and Landscaping

- Retrofit and weatherize existing buildings with energy efficient technologies.
- Incorporate energy-efficient design and technology into new buildings.
- Encourage orientation and siting of new buildings to take advantage of solar heating and cooling breezes.
- Use landscaping to provide shade to reduce heating and cooling demands and to act as windbreaks.
- Reduce and reuse construction and demolition waste.
- Consider incentives such as fee waivers and rebates to encourage sustainable measures for buildings and landscaping.

Public and Semi Public

- Conduct an energy audit of all buildings.
- Promote weatherization programs.
- Educate the public on the benefits of energy-efficient buildings and development.
- Improve the City's ability to measure energy use and conservation efforts.
- Continue to provide and promote waste reduction, reuse and recycling options.
- Explore opportunities for using grey water.
- Promote and encourage the use of water conservation systems in City and County codes.

Water Services

Lincoln Water System and County Water Resources

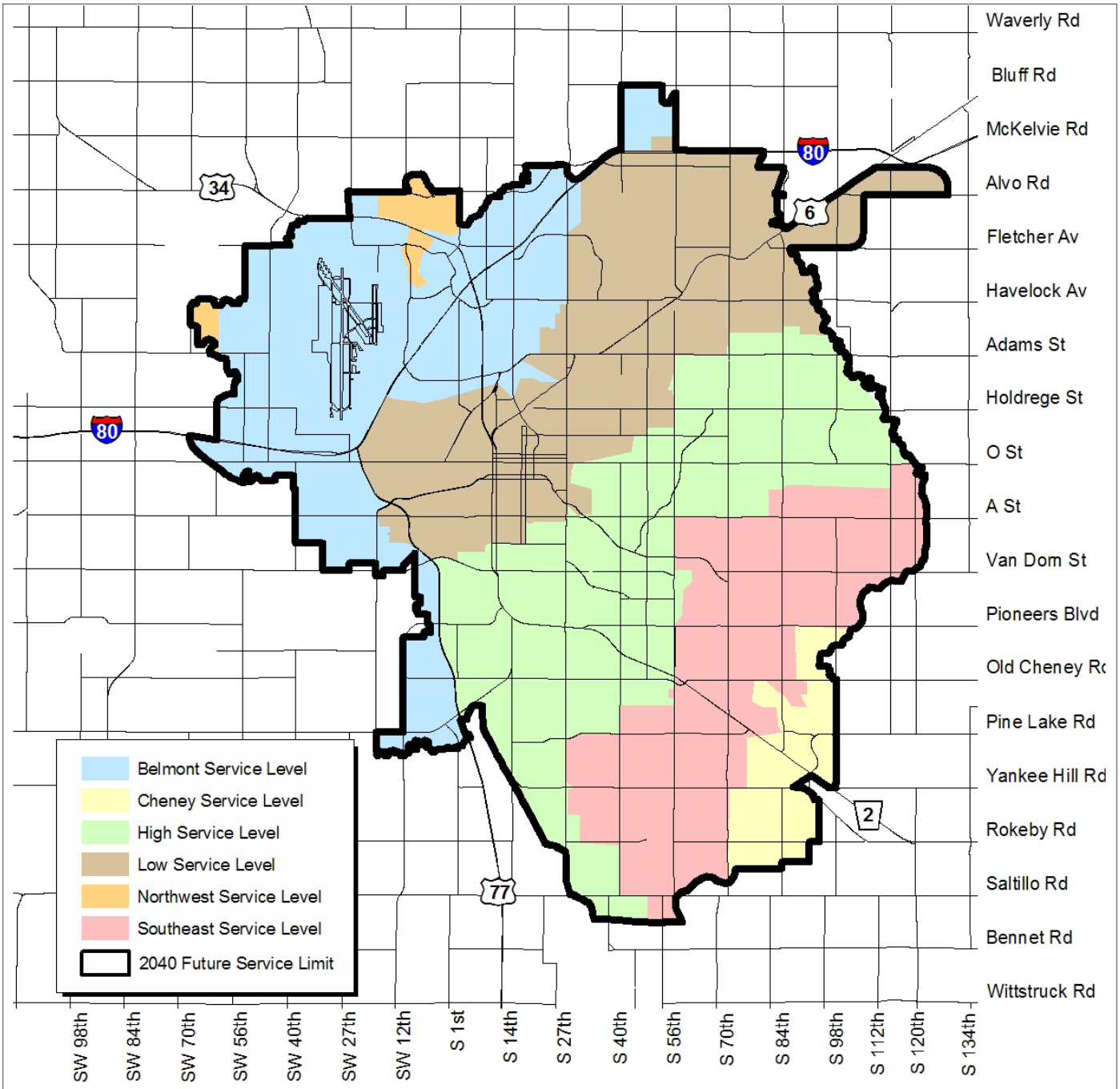
Potable water is provided to Lincoln residents and businesses by the Lincoln Water System (LWS). The System is owned by the City of Lincoln and managed by the City's Department of Public Works and Utilities under the direction of the Mayor and City Council. It is a revenue producing and self-supporting system (i.e., no tax funds are used by the system).

Lincoln's only source of water is groundwater recharged from the Platte River northeast of Lincoln.

Lincoln's only source of water is groundwater recharged from the Platte River northeast of Lincoln. Lincoln Water System processes groundwater at the treatment facility prior to its transmission to Lincoln for distribution.

The distribution system is divided into six pressure zones. Each zone has a system of storage facilities and pumping stations that keep operating pressures in the 35-100 pounds per square inch (PSI) range. Because pressure for the system relies upon elevation, reservoirs and pump stations are often located outside the respective service area, and in some cases outside of the City.

The existing water system is made up of more than 1,240 miles of water distribution mains. Pipes providing service to customers range in size from



Map 11.1: Existing & Future City of Lincoln Water Pressure Zones

4" to 16" in diameter and total 1,100 miles. There are also 160 miles of transmission and transfer mains which range from 24" to 54" in diameter.

The water distribution system contains approximately 25,000 valves for the isolation of water main breaks to minimize the number of customers out of service. Approximately 13,000 hydrants in the distribution system provide for the fire protection needs of the City.

The Public Works and Utilities Department completed the Lincoln Water System Facilities Master Plan in 2013 The plan is a guide for short term and long term improvements to the infrastructure of the Lincoln Water System during the planning period. The Lincoln Water System Facilities Master

Plan was adopted as a subarea plan in 2014 (see Plan Realization chapter). The projected maximum day water demand for year 2040 is 141 million gallons per day (MGD), and for 2060 is 175 MGD based on the assumed population growth rate of 1.2% per year. Additional supply, treatment, and transmission improvements will be necessary to meet these growing demands. The well fields currently owned by the Lincoln Water System have a projected maximum capacity approximately equal to the projected need by 2040 to 2050. Additional well field property and water rights will need to be acquired in the planning period to meet these demands and a financial plan adopted to fund such a project.

Lincoln's drinking water currently meets all of the State and Federal regulations regarding water quality. As new drinking water regulations are implemented, additional treatment may be required. LWS strives for environmental stewardship in all aspects of its operations.

LWS actively promotes water conservation to customers and works to conserve energy in system operations. Operators continually work toward the best balance between system energy needs and the variable rate schedules provided by both Lincoln Electric System and Omaha Public Power District.

Rural and Town Water Services

Water service to rural Lancaster County residents is obtained through private water systems (i.e., private wells), rural water districts, or Sanitary Improvement Districts (SIDs). The Lincoln-Lancaster County Health Department enforces standards on wells within the city limits and three-mile extraterritorial jurisdiction. The Lower Platte South Natural Resources District is maintaining a *Groundwater Management Plan* for the County to ensure the protection of this resource.

Two rural water districts supply potable water to Lancaster County residents; Lancaster Rural Water District No. 1 and Cass County Rural Water District No. 2. These rural associations include property owners adjacent to the City limits. There are three SID's providing water services to area residents: Emerald, Holland, and Walton.

Cities and villages in Lancaster County collect water from municipally owned wells. Some communities are provided water via contract from rural water districts. Limited well source and poor water quality in some areas contribute to reliance on rural water districts.

Groundwater Management Plan

In April 1995, the Lower Platte South Natural Resources District (LPSNRD) adopted a *Groundwater Management Plan*. This Plan describes steps for managing the area's groundwater to protect its future quality and quantity. The Plan has led to the designation by the LPSNRD of a Groundwater Management Area. This designation provides the District with the authority to regulate nonpoint sources in the urban and rural areas that might affect groundwater quality and quantity.

Strategies for Water Services

- Property owners are responsible for the cost to alter the boundaries of the Rural Water District and have their land removed from the district's service area, prior to annexation. The City of Lincoln will be the sole public water district within the city limits. The City of Lincoln, Lancaster Rural Water District No. 1 and Cass County Rural Water District No. 2 should work toward a cooperative agreement and planning regarding changes in service boundaries between the two rural utilities and the City.

- Continue to encourage water conservation practices with the development of the City and County.
- Continue to utilize impact fees to recover a portion of the capital costs to build water mains. This includes increasing the capacity of the existing water treatment facilities for future growth.

> Two-thirds of the energy used by City of Lincoln municipal operations is to move and treat water and wastewater.

- Continue to collect water service and water usage utility fees to pay for operation, maintenance, debt service, replacement improvements, and fund the majority of water capital improvements, including growth related projects.
- Continue the strategic use of revenue bonds to finance growth and expansion of the system. (Revenue bonds are not a new source of revenue, but rather a means to address the timing of improvements.)

Wastewater Services

Lincoln Wastewater System and County Areas

The City of Lincoln Wastewater System is a publicly owned and operated system. The system is a revenue producing and self-supporting, enterprise fund system (i.e., no tax funds are used). The Department of Public Works and Utilities Wastewater Division manages the operation of the system.

Collection System

In general, the wastewater collection system is a gravity flow system that is designed to accommodate urbanization of drainage basins.The existing system includes 14 lift stations to assist in pumping and conveying the wastewater in the collection system. The collection system currently serves 11 major drainage basins, with more than 1,020 miles of sanitary sewer pipes ranging in size from 8" to 90" in diameter. This system encourages orderly growth within the natural drainage basin boundaries.

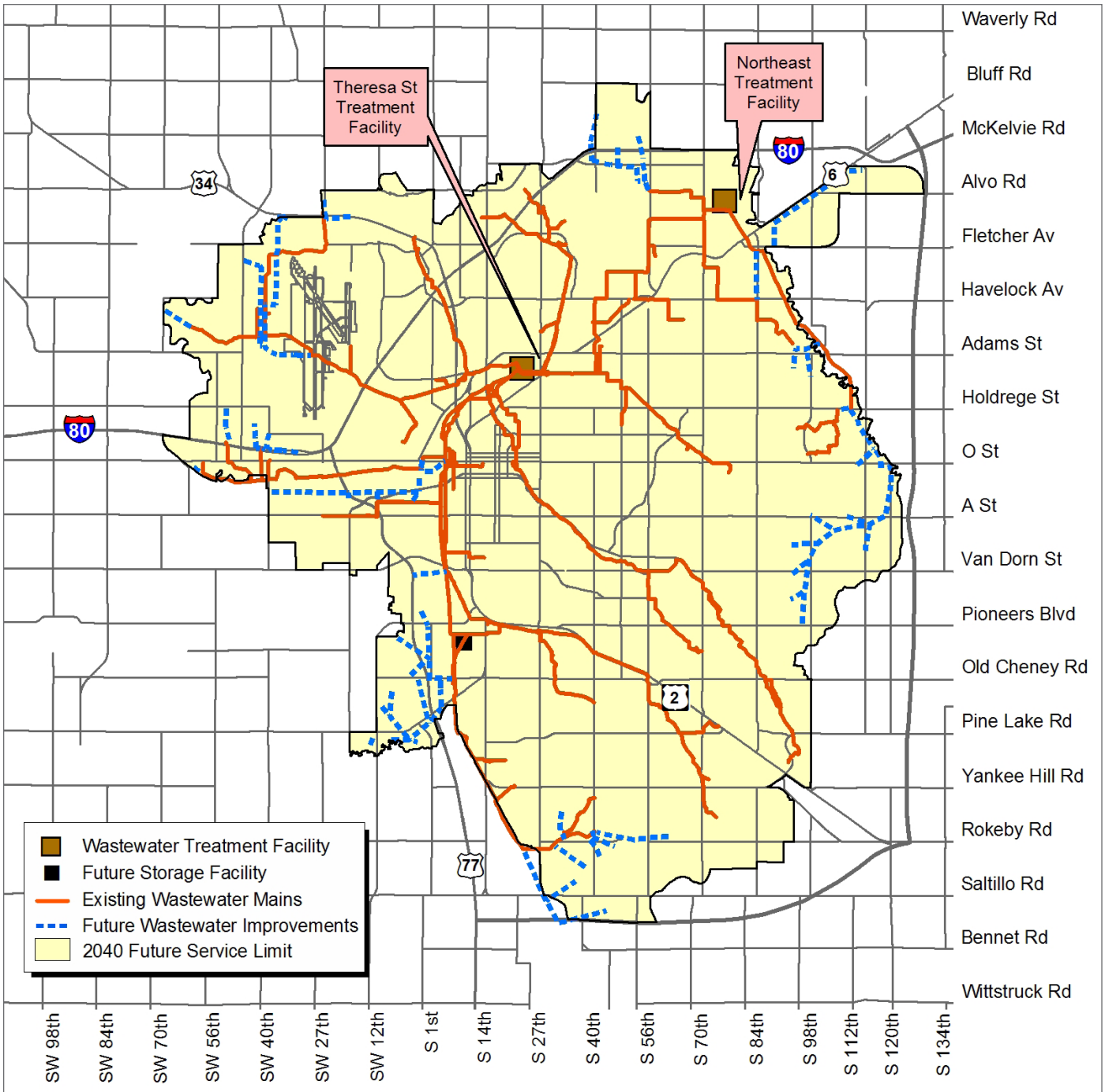
Treatment Facilities

There are two treatment facilities in operation: Theresa Street and Northeast Wastewater Treatment Facilities.

The Theresa Street facility is located at 2400 Theresa St., near N. 27th Street and Cornhusker Highway, and currently serves approximately 70% of the City. The Northeast facility is located at 7000 N. 70th Street, near N. 70th and Salt Creek and serves the remaining 30% of the City. By the year 2040, because of strong growth projected to the south and east, the Northeast Wastewater Treatment Facility will have increased to about 40-45% of the service and Theresa Street Wastewater Facility will serve the remaining 55-60% of the City.

The Theresa St. facility also receives liquid wastes from liquid waste haulers providing services to Lincoln and Lancaster County businesses and residents. Treated effluent from both facilities is discharged into Salt Creek. Treated biosolids produced by the treatment plants are spread on croplands through a program operated jointly by the City's Wastewater and Solid Waste System, the University of Nebraska, and the Lancaster County Cooperative Extension Office.

The Public Works and Utilities Department completed the Lincoln Wastewater Facilities Master Plan in 2007. The plan is a guide for short term and long term improvements to the infrastructure of the Lincoln Wastewater System during the planning period, as well as potential service extensions beyond Lincoln's anticipated future service limits. The Lincoln Wastewater Facilities Master Plan as adopted as a subarea plan in 2007 (see *"Plan Realization"* chapter).



Map 11.2: Existing & Future City of Lincoln Wastewater Improvements

Rural and Town Wastewater Services

Residents in unincorporated areas employ on-site septic and/or lagoon treatment systems. Lancaster County has adopted standards for on-site wastewater treatment systems that are enforced by the Lincoln – Lancaster County Health Department.

Each incorporated city and village in the county operates a municipally-owned wastewater collection and treatment facility. In addition, on-site septic treatment systems are permitted within their planning and zoning jurisdictions.

There are a number of subdivision developments in Lancaster County that utilize shared infrastructure

systems. These systems are typically for sewer collection and treatment within the development and provide no connections or services to outside development or communities.

Three Sanitary Improvement Districts provide sanitary sewer to local residents: Cheney (lagoon), Holland (lagoon), Emerald (lagoon).

These larger point-source and community systems (towns, subdivision systems and SIDs) are reviewed and approved by the Nebraska Department of Environmental Quality.

Strategies for Wastewater Services

- Maintain and expand programs to recycle and reuse treated wastewater effluent and bio-solids where appropriate.
- Encourage programs to minimize impacts of treatment facilities on adjacent properties and natural resources.
- Continue to utilize impact fees to recover a portion of the capital costs to build trunk sewer lines. This includes increasing the capacity of the existing wastewater treatment facilities for future growth.
- Continue to collect utility fees pay for operation, maintenance, debt service, replacement improvements, and fund the majority of wastewater capital improvements, including growth related projects.
- Continue the strategic use of revenue bonds as a means to address the timing of improvements.
- Minimize the demand for energy in the collection and treatment of wastewater.
- Explore the use of grey water systems that safely repurpose non-pathogenic sources of wastewater.

"Point" and "non-point" sources of contamination: A point source is one that can be traced to a single origin, such as a manufacturing plant. Non-point source pollution comes from many diffuse sources, often carried in stormwater runoff.

Watershed Management

As discussed in the *"Environmental Resources"* chapter of LPlan 2040, Lancaster County is primarily within the Salt Creek watershed. When it rains in Lincoln, stormwater flows into drainage inlets, gutters and underground pipes before reaching Salt Creek, which drains into the Platte River. Rain that falls on hard surfaces like rooftops, parking lots and other surfaces can carry pollutants into our streams and lakes. Lincoln occasionally gets more rain than the storm drain system or streams can adequately convey, which can lead to flooding.

Floodplain and Stormwater Management

Local floodplain and stormwater management responsibility is shared by the City of Lincoln, which assumes care of the tributaries and storm drain system, and the *Lower Platte South Natural Resources District* (LPSNRD), which maintains the main stream channels. Both the City of Lincoln and Lancaster County participate in the *National Flood Insurance Program* administered by the Federal Emergency Management Agency (FEMA).

Water quality from stormwater is managed under the *Federal Clean Water Act*. The *National Pollutant Discharge Elimination System* (NPDES) program addresses non-agricultural sources of stormwater discharge This program is administered in the State by the *Nebraska Department of Environmental Quality* (NDEQ).

Comprehensive Watershed Management

The City of Lincoln Watershed Management program combines previously separate floodplain and stormwater management initiatives. This approach recognizes that floodplains, tributaries, and upland areas are all part of a comprehensive, integrated watershed system. A comprehensive approach to watershed planning is crucial as development expands into new basins around the Lincoln city limits and as redevelopment occurs

within the existing urban area. A comprehensive watershed management program needs to incorporate a range of strategies including land use planning, conservation efforts, appropriate standards for floodplains and stormwater, flood warning system development/expansion, stream stabilization, stormwater storage basins, and other structural flood control efforts.

As part of the overall watershed management program, the City, in cooperation with the LPSNRD, is developing a unified master watershed management plan. This plan will provide information and computer models to aid in analyzing stormwater management alternatives. Individual *Watershed Plans* for several watersheds in Lincoln and the surrounding area have already been completed and are adopted as subarea plans in this document (see *"Plan Realization"* chapter). These plans evaluate and propose projects to address a wide range of water resources, and they are formulated in cooperation with other local, state and federal agencies. Ideally, additional watershed plans are completed and adopted prior to urban development occurring within a new basin. This allows projects and recommendations in the plan to be considered during the review of specific development proposals.

Watershed planning and the performance and adequacy of stormwater storage basins and other measures to prevent increases in peak flows will require continued assessment with the growth of the City. Upstream detention facilities are critical to preventing further increases to the floodplain, and if properly designed also help to reduce pollutant loads to downstream waterbodies. Detention facilities should be identified and developed in a manner that incorporates water quality best management practices and causes minimal adverse impact to existing residential, agricultural and other land uses.

Basin management plans are a more recent watershed planning initiative that is part of the ongoing effort to proactively forecast, evaluate and manage stormwater quality impacts associated with existing and future development and redevelopment of the City. These plans provide available information on the source of contaminants and how such contaminants can be reduced through projects and programs. They also include information for the education of the public on water quality and include projects to protect and restore stream channels. The first of these basin management plans (Antelope Creek from Holmes Lake to Salt Creek) provides a framework upon which future plans can be built.

Floodplain Management

The overriding policy for the floodplain is a "No Adverse Impact" policy for the City and County, which means that the community has a goal of insuring that the action of one property owner does not adversely impact the flooding risk for other properties. The majority of the strategies below relate back to and support this umbrella concept.

The No Adverse Impact concept is supported by the *"Map 1.3: Growth Tiers with Priority Areas"* which designates the majority of floodplain areas outside of the existing urban area as Green Space, Environmental Resources, and Agricultural Stream Corridors. This supports the opportunity to reduce the risk of flood damage to life and property and to preserve the important functions of floodplains. This concept is more explicitly supported by the Salt Creek Flood Storage Area Standards and the *Flood Regulations for New Growth Areas* which protect flood storage in the areas with greatest risk for impacts. While regulations to support the No Adverse Impact concept have not been fully adopted throughout the *"Existing Urban Area"* or in the County's jurisdiction, goals and strategies in this plan support minimizing impacts to the floodplain in all circumstances.

Strategies for Watershed Management

- Designate areas for future urban development outside of floodplain and floodway to avoid introducing new development to flood risks and to preserve the important functions of the floodplain.
- Create a stormwater utility, as a division of the Public Works and Utilities Department, to provide for a steady revenue source as well as an organizational structure to address the growing needs of the stormwater and watershed management system.
- Develop and utilize watershed plans during the review and evaluation of proposed developments and as a guide in the preparation of future capital improvement projects; unify individual plans into a Watershed Management Master Plan for Lincoln and future growth areas.
- Utilize naturalized approaches or bioengineered solutions to drainage issues wherever possible, and use public projects as an opportunity to set positive examples. Seek opportunities for *"Best Management Practices"* (e.g. Rain to Recreation, Rain Gardens, etc) that reduce flood damages, protect water quality and natural areas, while providing for recreational and educational opportunities so as to realize multiple benefits.

- Develop project approaches which view stormwater as an asset, by working with the natural topography and using wetlands, floodplains, and natural drainage corridors as natural ways to manage flood flows and stormwater runoff.
- Preserve and enhance vegetative buffers along stream corridors to slow the flow of stormwater, filter pollutants, protect the biological health of the stream, and conserve other natural functions of the floodplain.
- Develop and implement a floodplain buyout program for the City and County to restore floodplain functions while being sensitive to the need to minimize impacts on neighborhoods and historic districts.
- Seek broad public participation in the location and design of specific watershed management projects, and evaluate the relative benefits as they relate to flood hazard reduction, water quality, channel integrity, natural character, bridges, culverts, and existing public and private structures.
- Continue to develop a comprehensive, watershed approach to floodplain mapping and to improve the accuracy by making it a priority to which specific resources are dedicated.
- Retain City or County property in the floodplain in public ownership, and consider the purchase of easements or land when other publicly-owned property in the floodplain is proposed for surplus. Retain conservation easements to protect floodplain functions where unusual circumstances merit the consideration of surplus floodplain property.
- Continue to implement education efforts to notify floodplain property owners and prospective buyers of flood risks.

Solid Waste

Solid Waste Management

The City of Lincoln has entered into interlocal agreements with Lancaster County and all the villages and cities in Lancaster County, with the exception of Hallam, to serve as the lead agency for solid waste management in the County. The Public Works and Utilities Department, Solid Waste Operations in conjunction with the Lincoln-Lancaster County Health Department Environmental Division oversees the City and County's solid waste management programs. The City will be developing a Solid Waste Management Plan within the early years of the LPlan 2040 planning period.

Collection

The City of Lincoln does not have a mandatory residential waste collection policy. A number of independent private companies are licensed to provide waste collection services to area residents. Residents may also haul their waste to a small vehicle transfer station located at 5101 North 48th Street.

Three villages in the county — Bennet, Davey and Panama – operate solid waste transfer stations. Residents transport their waste to these facilities. All other communities in the county offer residential waste collection.

Disposal

The City of Lincoln's primary solid waste sanitary landfill is located at Nebraska Highway 77 (N. 56th St.) and Bluff Road, just north of I-80. This facility began operating in the late 1980's. It accepts approximately 800 tons of waste each day. The facility is projected to be at capacity near the year 2035 based on current generation rates and the projected population growth rate of 1.2 percent per year. Planning for expansion of the Bluff Road Landfill on City owned property just east of the existing site is anticipated. The City policy of public ownership, operation and financing of integrated solid waste management services is anticipated to continue during the planning period. The expansion into this additional landfill area has not been permitted by the State of Nebraska Department of Environmental Quality. A portion of Lincoln's and Lancaster County's waste is also being exported outside Lancaster County. This is the result of having acquired local waste collection companies and a landfill in Milford, Nebraska.

The City also operates a landfill for construction and demolition debris at 5101 North 48th Street. This facility is located on the site of the County's previous solid waste landfill, and it also hosts the small vehicle transfer station for the general public to bring waste to the landfill. The construction and demolition debris landfill is projected to have capacity through the year 2021. Thus, a new facility for handling construction and demolition debris will need to be sited during the planning period, starting in 2014. While this landfill should be completed and closed, the N. 48th Street transfer station and recycling areas are scheduled to remain.

Environmental Services

Lincoln's Solid Waste Operations and the Lincoln-Lancaster Health Department (Environmental Health Division) provide a wide assortment of integrated solid waste management services. These range from source reduction and pollution prevention to recycling and disposal. Many of these services are voluntary — that is, they are not specifically required by any federal or state regulations.

The City considers these services to be like any other utility, and recycling drop-off sites should be convenient to every resident in the community. Estimates are that the bio-solids, recycling, yard waste composting, and recycling programs, monitored from 1991 through 2001, have extended the life span of the city landfill by three years. If these current recycling programs were eliminated, the remaining life of the landfill would be shortened by an additional five years - closing in 2020 instead of the projected year of 2025.

Composting of lawn and garden debris helps reduce waste in landfills.

Development, maintenance and ultimate closure of the Bluff Road Landfill, as well as daily operations, are funded by a fee collected for disposal of wastes in the landfill. Other solid waste management programs are funded by a combination of user fees and an occupation tax assessed to refuse haulers collecting refuse in the city or in the county and utilizing the Bluff Road Landfill for disposal. These forms of financing for solid waste management are anticipated to continue during the planning period.

Students learn how paper is made with recycled materials at Earthfest.

The City manages 26 recycling drop-off sites in the city and county. Twenty one sites are located in the City of Lincoln, of which 16 are multi-material sites accepting newspapers, cardboard, mixed paper (junk mail, magazines), glass bottles, plastic bottles, tin cans and aluminum cans. All five sites outside of Lincoln are for multi-material collection. They are located in Bennet, Davey, Hickman, Panama and Waverly. Additional multi-material recycling sites should be obtained in each new development area to provide for convenient use by residents in growth areas. The growth of the population in the County will also require additional recycling sites in other towns in the County. Southwest Lancaster County would have the higher priority for new sites.

Other methods for the collection of recyclables, such as a community-wide curbside pick-up program, may become economically feasible during the planning period and will continue to be evaluated on a periodic basis throughout the planning period.

The reduction in greenhouse gas due to the Landfill Gas Collection & Control project is equivalent to removing 30,780 passenger vehicles from our roads.

Landfill Gas Collection and Control

Landfill Gas consists of about 50% methane and 45% carbon dioxide, with other trace gases resulting from biological decomposition of solid waste. Methane is of particular concern as a greenhouse gas since each unit of methane has an effect equivalent to 21 units of carbon dioxide. Construction is underway on the first phase of a Landfill Gas Collection and Control project to collect methane gas from the Bluff Road landfill and use it to generate approximately 27 million kilowatt hours of electricity per year. This is equivalent to the electrical usage of 2,250 households. The reduction in greenhouse gas is equivalent to removing 30,780 passenger vehicles from our roads. Future collection phases will be constructed as landfilling of waste continues until the landfill reaches capacity.

Strategies for Solid Waste Management

- Develop standards for future commercial and industrial development to ensure proper space for separation and handling of recyclables and solid waste. Investigate amending zoning ordinances to encourage new commercial centers to provide space for recycling drop-off facilities.
- Discourage future urban acreage developments in the area around the Bluff Road landfill and LES power generating operations, which are located between N. 56th and N. 84th Streets. Acreage development could impact the current and future landfill and LES operations.
- Develop a 20-year comprehensive integrated Solid Waste Management Plan for Lincoln/ Lancaster County.
- Create a county-wide integrated, efficient, environmentally safe and conservation-oriented recycling and waste management system. Promote and support markets for waste materials and recycled products.

- Minimize the use of energy in Solid Waste Management processes.
- Continue the development of the Landfill Gas Collection and Control Project.

Electric Service

The Lincoln Electric System (LES) is owned by the City of Lincoln. It is operated under the direction of an administrative board appointed by the Mayor and City Council. LES is revenue producing and self-supporting (i.e., no tax funds are used by the system).

LES provides electric service to the City of Lincoln and much of the surrounding area within Lincoln's three-mile planning jurisdiction. The LES service area includes the City of Waverly and the unincorporated villages of Cheney, Walton, Prairie Home, and Emerald.

The balance of Lancaster County, including cities and villages, is served by the Norris Public Power District.

Norris Public Power District (Norris) and Lincoln Electric System (LES) have a formal Joint Planning and Service Area Adjustment Agreement. This agreement establishes a "Joint Use Area" which is primarily east and southeast of Lincoln. LES provides all of the power, but both LES and Norris own facilities in the area. LES and Norris may amend this joint area in the future.

By the year 2040, the LES peak load is projected to increase by about 345 megawatts (MW) to a peak load of 1095 MW. LES will need to build new 115 kilovolt (kV) lines in growth areas in order to serve the new development. In addition, LES will need to build several new substation sites to serve these new growth areas.

Lincoln Electric System is actively involved in efforts to educate homeowners, builders, and businesses about energy conservation including publications, presentations and individual on site assessments.

Wind Energy

Lincoln Electric System currently operates two wind turbines in the county. LES will continue to pursue the development of wind and other renewable generation technologies to the extent they are feasible, economical, and consistent with LES power supply needs.

Strategies for Electric Service

- As LES plans new transmission line routes, it will continue its policy of examining multiple options and conducting public forums on proposed routes in order to minimize the impact of new lines as much as feasible.
- Continue, and amend as necessary, the Norris/LES Agreement which provides for cooperative planning and utility service in Lincoln and Lancaster County.
- Within the City of Lincoln, wherever feasible and affordable, continue a phased program to relocate overhead utility lines underground.
- Continue to encourage energy conservation practices in the City and County.

Renewable Energy Sources

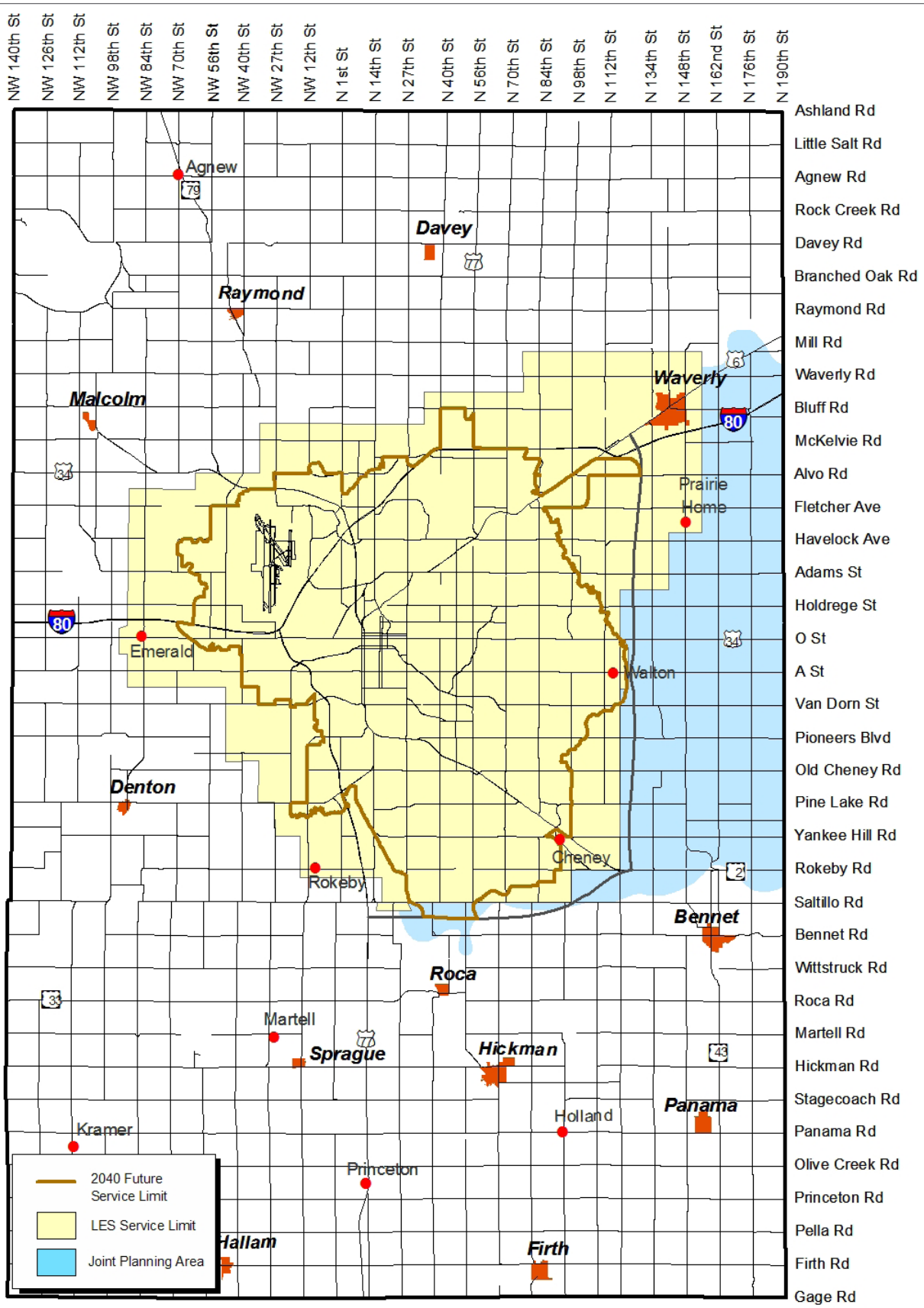
The renewable energy sources used by Lincoln Electric System in 2010 and their energy production quantities (MWh mega-watt-hours) are as follows:

WAPA Hydro Generation: 253,721 MWh

Elkhorn Ridge Wind Plant: 15,122 MWh

LES Salt Valley Wind Turbines: 2,452 MWh

LES is also projecting to receive 33,520 MWh of energy from the Laredo Ridge Wind Plant in 2011. The Laredo Ridge Wind Plant was not in service in 2010.



Map 11.3: LES Service & Joint LES/Norris Planning Area

- Continue to purchase efficient equipment (transformers, conductor, etc.) to reduce system energy losses and increase energy efficiency.
- Continue the LES Sustainable Energy Program to assist customers with purchasing efficient equipment (heat pumps, lighting, that will reduce system energy requirements.
- Continue to include, and increase where feasible, renewable sources of energy, such as wind and solar energy, in future planning of LES facilities and partnerships.
- Continue to investigate the development of Smart Grid technology to increase efficiency and allow consumers a higher degree of control over their energy usage.

Natural Gas Service

Blacks Hills Energy owns and operates natural gas and distribution systems in Lincoln and eight other incorporated and unincorporated communities in Lancaster County. The company serves about 94,000 residential, commercial and industrial customers in Lincoln and another 2,200 in Waverly, Walton, Cheney, Bennet, Firth, Panama, Hickman, and Holland.

Black Hills Energy transports natural gas to area customers through two major interstate pipeline systems which traverse the county - Northern Natural and Natural Gas Pipelines of America (NGPLA). Black Hills Energy is the only provider of natural gas services in the county.

Liquefied propane is the other major fuel used in Lancaster County. Several propane distributors serve town and rural customers throughout the county.

As the community and the nation grow, additional pipeline facilities will be required. Most of these lines are proposed and developed by private companies. The Health Department has expressed concerns about the location of current and future pipelines and their potential impact during an accident on adjacent residential land uses. However, pipeline locations are necessary and should be accommodated within the County in locations that will not impact public health.

Strategy for Natural Gas Service

- Residential land uses are discouraged from locating immediately adjacent to existing or planned pipelines.

Information Technology

Information technology is subject to rapid and dramatic change. The nature of the industry continues to push the limits of the technology. Various technologies converge to create new, integrated products and services. The concept of "telecommuting" portends a city where people may be able to work from most any site – including their own home. In the economy of the future, information is likely to become the primary product. This product can be "manufactured" at sites other than traditional factories and offices.

Wireless telecommunication is part of a global information revolution. The need for additional infrastructure to support wireless facilities is expected to increase in response to rising consumer demand and new applications. The City and County understand the importance of these technologies to the world of tomorrow and support the development of the infrastructure needed to further their use. A full range of cellular and wireless services, provided by a variety of carriers, is available in the city and county. See the *"Placemaking"* chapter for information on how wireless facilities should be located.

The City of Lincoln and Lancaster County promote the integration of information technology

throughout the community by their use of technologies in the business of local government. Examples of such activities include:

Public Internet Terminals. These terminals provide public access to the Internet for residents and visitors to Lancaster County. High speed lines and free access terminals have been placed in libraries, community centers, recreation centers, and senior centers.

City and County Websites. The City and County website now offer expanded opportunities to access government in the areas of employment, health and human services, planning and development, and general information assistance. The ability to conduct various government transactions online saves travel time and resources for citizens and government employees.

Advanced Audio and Video Equipment. An array of video equipment is used to broadcast local government meetings over a local cable channel as well as via the Internet.

Geographic Information Systems (GIS) Technology. City and county departments, in partnership with other agencies, have created an extensive system of digital geographic information that includes hundreds of layers of information on features such as natural resources, topographic features, land use, structures, floodplains, jurisdictional boundaries, and infrastructure. A broad assortment of digital imagery — i.e., photographs, permit and property information — is also included in this GIS information base.

Intelligent Transportation Systems. Information technology offers many opportunities for making better use of transportation facilities and services. Intelligent Transportation Systems (ITS) use computers and digital technology to get the most out of the community's investment in roads and other transportation facilities. This approach is described further in the *"Transportation"* chapter of the Plan.

In short, information technology will shape new patterns for how the community works, travels, plays, shops, and communicates. The challenge is to anticipate and adapt this evolving infrastructure in a beneficial way – a way that supports the future described in the LPlan 2040 Vision.

Strategies for Information Technology

- Support efforts to maintain, expand, and upgrade the community's information technology infrastructure.
- Explore efforts to increase access to information technology for all members of Lincoln and Lancaster County, especially within minority, low income, disabled, rural, and aging communities.
- Further the cooperation between the City and County and local universities and colleges in applying information technology throughout the community.
- Encourage the underground placement of existing wired facilities, thus supporting a more reliable information technology infrastructure.
- Promote regional cooperation in the formation of information technologies alliances.
- Endorse the on-going cooperation of City, County, and State governments to integrate information technology in the delivery of their services to the community.
- Investigate means for expanding the maintenance, development, and application of Geographic Information Systems data among public and private sector users.
- Consider ways to maximize use of the public rights-of-way and public easements that support multiple applications including information technology facilities. This can include consideration of right-of-way management for utility separation, coordination of work in the ROW, and compensation for usage.

- The City and County will work with government entities to facilitate access to broadband services including high speed internet, television, interactive television and similar future services. Techniques including, but not limited to, franchise and preferred service contracts should be explored. The City and County will work with legally mandated state and federal agencies in order to achieve these goals.
- Management of wireless facilities should provide flexibility and responsiveness that recognize the rapidly changing and highly competitive nature of the industry. Similarly, the placement and construction of such facilities needs to occur in a way that is compatible with the natural and built environment.

12 Plan Realization

This chapter looks at the means for bringing about the Vision described throughout this Plan and for ways to ensure that the community continues to view the Vision and the Plan as remaining current and pertinent to them.

Introduction

Implementing the Vision in this Plan begins when the Plan is formally adopted by the City and County. The Plan then becomes the community's guide for directing its resources and efforts toward making the common vision a reality. The ways to achieve this objective are further described below.

Land Use Plan and Growth Tiers

Land Use Plan

There is one land use plan for both the City of Lincoln and Lancaster County. This one land use plan is displayed in two figures for the purpose of permitting greater clarity of display within the Lincoln urban area. The first figure displays the entire Lincoln/ Lancaster County Land Use Plan. The second figure is an enlargement of the Lincoln urban area.

The land use plan displays the generalized location of each land use. It is not intended to be used to determine the exact boundaries of each designation. The area of transition from one land use to another is often gradual. The Comprehensive Plan also encourages the integration

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Community Involvement & Consensus: Keeping the Tradition Alive 12.9
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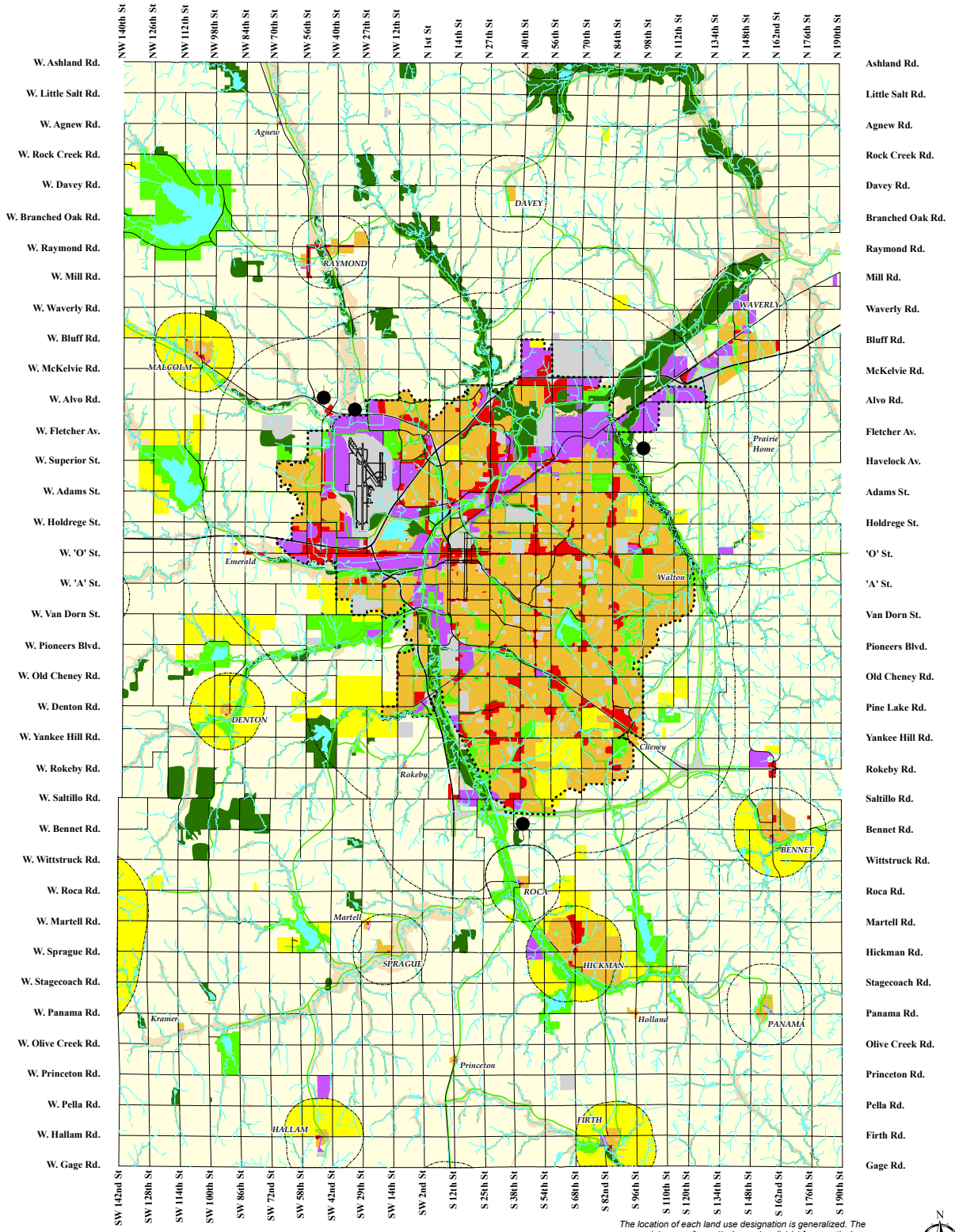


2040 LANCASTER COUNTY FUTURE LAND USE PLAN

- Agricultural
- Residential - Urban Density
- Residential - Low Density
- Potential Large Employer Opportunity Areas
- Commercial
- Industrial
- Public & Semi-Public
- Agricultural Stream Corridor
- Green Space
- Environmental Resources
- Lakes & Streams
- Future Service Limit

The location of each land use designation is generalized. The appropriateness of a particular zoning district for a particular piece of property will depend on a review of all of the elements of the Comprehensive Plan. Please consult other sources for exact locations of environmental resources such as wetlands, native prairie and floodplain. Not all of these resources are displayed on this figure.

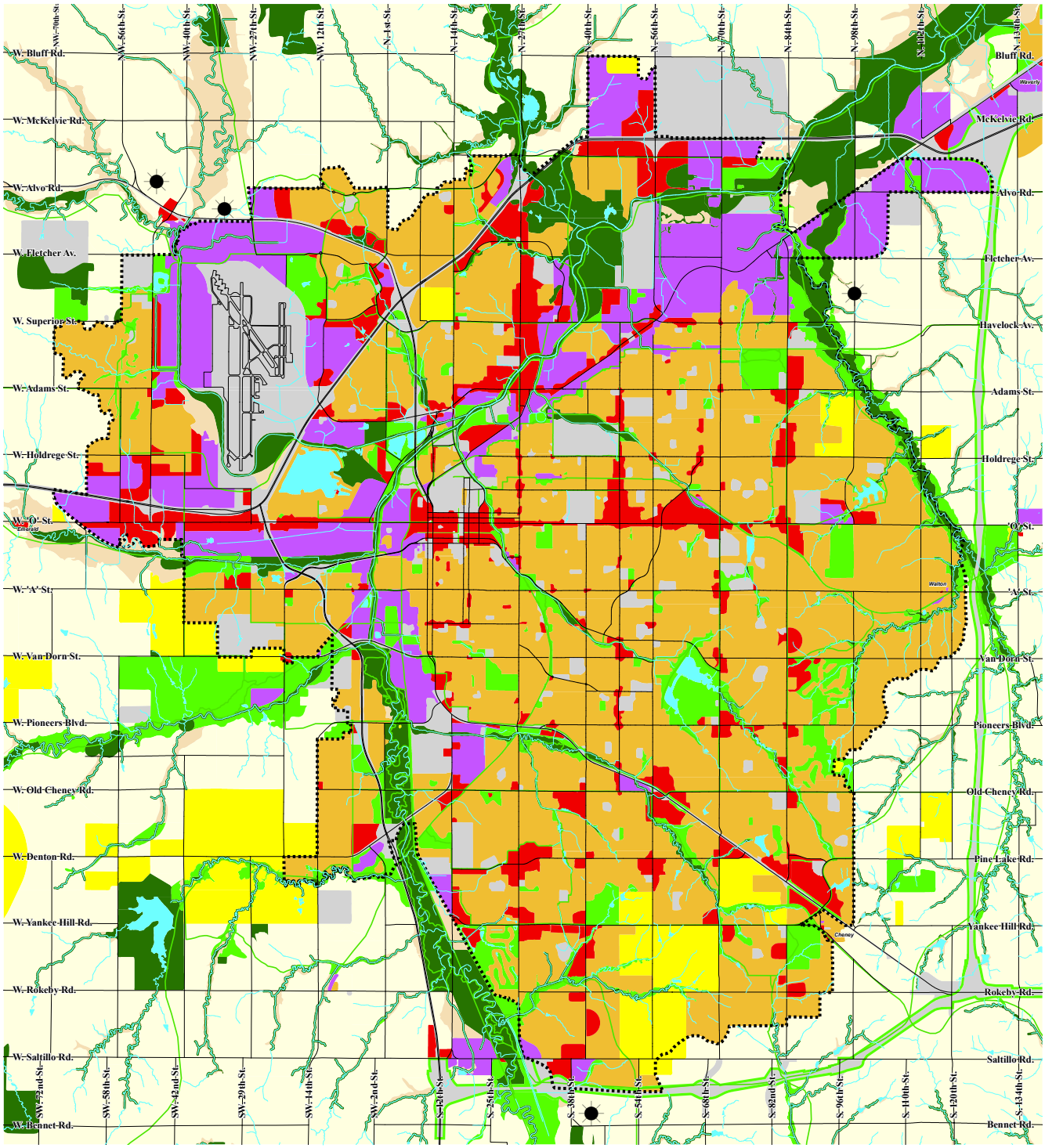
The incorporated town plans are displayed on this figure. In many circumstances the land use categories in the town plans were different from the categories used in the Lincoln Lancaster County Plan, so some adjustments were made for the purposes of this display. These communities and their specific adopted plans should be consulted as the source for decisions within their zoning jurisdictions.

N W E S

0 0.5 1 2 3 Miles

L Plan 2040

Map 12.1: Lancaster County Future Land Use Plan



2040 LINCOLN AREA FUTURE LAND USE PLAN

- Agricultural
- Residential - Urban Density
- Residential - Low Density
- Potential Large Employer Opportunity Areas
- Commercial
- Industrial
- Public & Semi-Public
- Agricultural Stream Corridor
- Green Space
- Environmental Resources
- Lakes & Streams
- Future Service Limit

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N W E S

0 0.5 1 Miles

LPlan 2040

Map 12.2: Lincoln Area Future Land Use Plan

of compatible land uses, rather than a strict segregation of different land uses.

Individual proposals for land use changes should be evaluated using best available information. Issues such as the presence of floodplains, effect on neighboring land uses, and preservation and protection of natural resources are among the considerations that should be reviewed in making specific land use decisions.

There is one land use plan for both the City of Lincoln and Lancaster County.

The land use plan for Lincoln and Lancaster County contains several general categories of land use types that are listed below:

Industrial. Areas where railroads, manufacturing, trucking and transportation facilities are the dominant land use, with some commercial activities.

Commercial. Areas of retail, office, service and residential mixed uses. Commercial uses may vary widely in their intensity of use and impact. Individual areas designated as commercial in the land use plan may not be appropriate for every commercial zoning district.

Urban Residential. Multi-family and single family residential uses in areas with varying densities ranging from more than fifteen dwelling units per acre to less than one dwelling per acre.

Low Density Residential. Residential areas, often referred to as acreages, having densities ranging from 1 to 5 acres per dwelling unit, with a typical density of 3 acres per dwelling unit.

Agricultural. Land principally in use for agricultural production. Agricultural land may be in transition to more diversified agribusiness ventures such as growing and marketing of products (e.g., horticulture, silvaculture, aquaculture) on site.

Public and Semi-Public. Areas of public or semi-public land use and/or structures that serve the general public. Only the largest facilities are shown on the land use plan. Highways and interstates are also included in this category.

Green Space. Public or privately-owned areas predominantly used for recreation, such as parks, golf courses, soccer or ball fields, and trails. Many green space areas also serve functions such as buffers between incompatible uses and as stormwater management areas. In some cases, privately-owned Green Space such as golf courses may also be appropriate to be considered for future Urban Residential development.

Lakes and Streams. This category includes the larger stream corridors, lakes, and ponds.

Agricultural Stream Corridor. Land intended to remain in open space, predominately in agricultural use, but that may also include parks, recreation fields, or parking areas when near future commercial, industrial, or public uses. These areas are mostly in the 100 year floodplain, outside of the existing Lincoln urban development.

Environmental Resources. Land and water masses which are of particular importance for maintenance and preservation, such as saline wetlands, native prairie, and some floodway and riparian corridors.

Future Service Limit. The land use plan also displays the future service limit for the City of Lincoln. Land inside this line represents the anticipated area to be provided with urban services within the planning period.

The Mixed Use Redevelopment Nodes and Corridors discussed in the *"Mixed Use Redevelopment"* chapter are generally intended for commercial areas, not residential areas. These areas are shown in that chapter of the plan.

The land use plan also displays the generalized land use plans for other incorporated places within the county. These include:

- City of Hickman Comprehensive Development Plan, adopted April, 2007
- City of Waverly Comprehensive Development Plan, adopted January, 2002
- Village of Bennet Comprehensive Plan, adopted December, 2006
- Village of Davey Comprehensive Development Plan, adopted August, 1977
- Village of Denton Comprehensive Development Plan, adopted February, 2006
- Village of Firth Comprehensive Development Plan, adopted June, 1969
- Village of Hallam Comprehensive Development Plan, adopted February, 2011
- Village of Malcolm Comprehensive Plan, adopted January, 2001
- Village of Panama Comprehensive Development Plan, adopted April, 1976
- Village of Raymond Comprehensive Plan, adopted May, 2000
- Village of Roca Comprehensive Development Plan, adopted October, 1976
- Village of Sprague Comprehensive Development Plan, adopted February, 1977

Individual plans are posted on the *Planning Department's website*.

Where land use designations in these plans are not identical to those used in the Lincoln/Lancaster County land use plan, adjustments were made to reflect the intended land use. Hickman and Waverly have also requested that certain areas beyond their one-mile planning jurisdiction reflect their goals for future development. When they generally agree with the LPlan 2040 land use planning principles, these requests are reflected in the land use plan.

At all times, individual towns should be consulted as the source for decisions within their zoning jurisdictions.

At all times, individual towns should be consulted as the source for decisions within their zoning jurisdictions.

The Planning Department will continue its policy of coordinating with other Lancaster County towns by sharing information, notifying them of activity near their jurisdictions, and continually updating the land uses identified in their individual comprehensive plans on the Lancaster County Future Land Use map.

Future Growth Tier Map

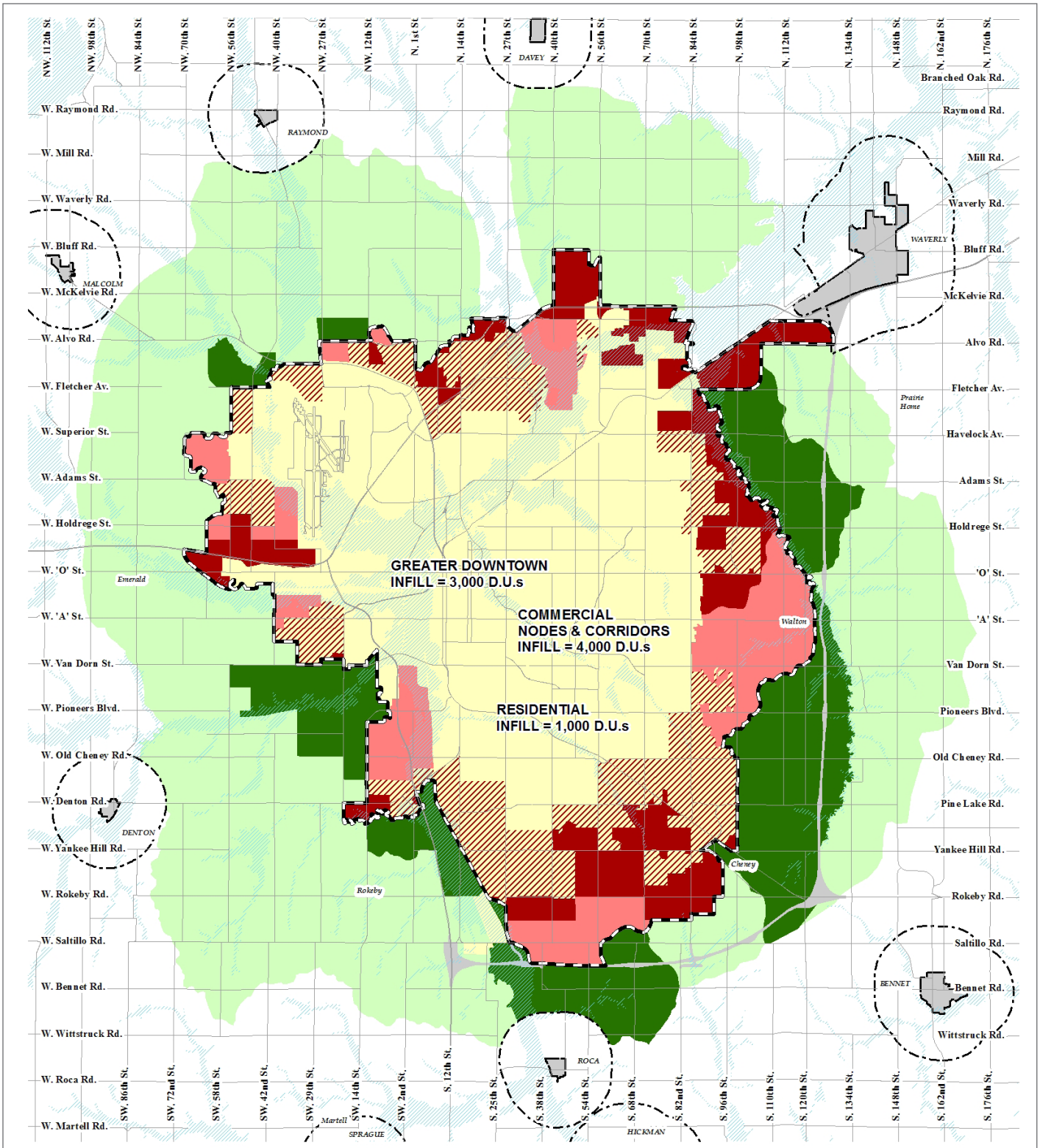
In order to facilitate a sustainable growth pattern, the Growth Tiers with Priority Areas map shows the phased growth anticipated over the next 50 years and beyond. The growth areas are broken up into four general regions: Redevelopment and infill in the existing city, and the Tier I, II, & III growth areas. Redevelopment and infill dwelling unit projections are noted in the yellow portion of the map. For a more thorough discussion of these projections, see the *"Mixed Use Redevelopment"* chapter of this Plan. Tier I includes three Priority Areas for phasing development as discussed below. Priority A, which is mostly within the existing 2011 city limits, is shown as red hatching over the yellow area, Priority B is shown in dark red, and Priority C in pink. Tier II is shown in dark green and Tier III in light green.

Tier I

Tier I reflects the "Future Service Limit," approximately 34 square miles beyond the 2011 city limits 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.

Setting Priorities

The top priority for infrastructure improvements is the existing city and areas that are currently under development. In order to provide for the orderly future growth of the city, additional land is



Map 12.3: Growth Tiers with Priority Areas

identified in Tier I as the next area for improvement. However, the community does not have the financial resources, nor is it necessary, to provide urban services to the entire Tier I area within the next few years. So within Tier I, the community needs to prioritize areas for infrastructure improvements.

Priority A of Tier I — 22.5 square miles

Priority A is comprised of undeveloped land within the City limits, as well as areas that are not yet annexed but which have approved preliminary plans such as preliminary plats, use permits, community unit plans, or planned unit developments. There are still significant infrastructure needs within the existing city and areas currently under development. The top priority areas are those which are within the city limits at the beginning of the planning period. In some cases, annexation agreements commit the City to the construction of certain improvements (arterial roads, water and wastewater lines) by a predetermined date, or commit the City to the repayment of their cost which may have initially been assumed by the developer. Some larger projects, such as the West Haymarket, will be ongoing throughout the planning period and will require significant infrastructure resources. Priority A serves as the "future urban area" for purposes of annexation per state statute, and these areas are appropriate for immediate annexation upon final plat approval. In general, commitments to serve the Priority A areas should be met before the annexation of new areas within Priority B.

Priority B of Tier I — 17.7 square miles

Areas designated for development in the first half of the planning period (to 2025) are generally contiguous to existing development and should be provided with basic infrastructure as they develop. Some of the infrastructure required for development may already be in place. Some infrastructure improvements may be made in the near term while others, such as road improvements that are generally more costly, may take longer to complete. In certain cases, areas in Priority B have special agreements that include some level of commitment to build future infrastructure. These areas move into Priority A upon approval of preliminary plans.

Priority C of Tier I — 16.5 square miles

The next areas for development, after 2025, are those which currently lack almost all infrastructure required to support urban development. In areas with this designation, the community will maintain present uses until urban development can commence. Infrastructure improvements to serve this area will not initially be included in the City's Capital Improvement Program (CIP), but will be actively planned for in the longer term capital improvement planning of the various city and county departments.

The principles for prioritization and the individual priority areas are described as follows:

Guidelines for Amending Priority Areas:

- Infrastructure should generally be provided in different directional growth areas, depending upon limited financial resources and if there is development interest in the area.

- The community should only approve development proposals that can be adequately served by the initial urban improvements such as electricity, water, sewer, pedestrian facilities and roads and by all urban improvements and services in the long term. Initially, roads may not be built to

the full capacity; for example, rural asphalt roads may continue to be used for some period, or a two lane urban street may be built and later expanded to four lanes with turn lanes when conditions warrant. Public safety services and schools may be provided to an area by facilities that are more distant and new facilities phased in over time.

- Generally, adequate infrastructure improvements should be completed in all Priority A areas where there is development interest prior to beginning infrastructure in Priority B and C areas.

- It is anticipated that there may be unique circumstances that may warrant consideration of development of land in Priority B prior to the full completion of improvements in Priority A. Once a year, during the annual review of LPlan 2040, proposals for changes from Priority B to A should be evaluated and considered. That review should consider the following items:

1. The project is contiguous to the City and proposed for immediate annexation, and is consistent with principles of the Comprehensive Plan.

2. The developer provides information demonstrating how the necessary infrastructure improvements to serve the area would be provided and financed. The City should contact other public agencies to obtain their report on the infrastructure necessary to serve the area, including utilities, roads, fire service, public safety, parks, trails, schools and library needs.

3. The impacts that development in the area will have on capital and operating budgets, level of service, service delivery and Capital Improvement Programs are addressed, including impact of financing, utility rates and other revenue sources and to what degree the developer is willing to finance improvements. In order to maintain a fiscally constrained plan, acceleration of one project may mean other planned projects must be removed from the list of future facilities.

4. There is demonstrated substantial public benefit and circumstances that warrant approval of the proposal in advance of the anticipated schedule.

- Growth into most of the Priority C areas is comparatively inefficient in terms of required capital investment as compared to the Priority B areas.

Tier II Areas

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. It shows areas where long term utility planning is occurring today and acts as a secondary reserve should Tier I develop faster than anticipated. Tier II should remain in its current use in order to allow for future urban development.

Infrastructure planning, especially for utilities such as water, wastewater and watershed facilities, can reach beyond the Plan's 30 year time horizon to 50 years and further. Water, wastewater and watershed master plans identify infrastructure, environmental issues and future project needs in undeveloped sub-basins. As new areas are proposed for transfer from Tier II to Tier I, these plans should be used to assist in guiding development.

The Plan's premise is that within the next ten years, if the anticipated growth expectations are realized, additional areas from Tier II will be added to Tier I. Such change would include amending the Future Service Limit accordingly to reflect the new 30 year planning time frame. Conversely, if growth is slower

or more dense than anticipated, the addition of new areas may not be necessary.

The balance between the efficient use of existing urban infrastructure and the provision of a sufficient supply of land to maintain an affordable lot supply is a delicate one, and one that should be carefully considered in this process. It is important that relevant data be maintained and critical analysis be conducted in any decision to increase the supply of Tier I land.

Tier III

Tier III provides an approximately 131 square mile area for Lincoln's longer term growth potential — beyond 50 years. This area is based upon the drainage basins located within the 3-mile extraterritorial jurisdiction, excluding the area identified as Salt Creek Tiger Beetle habitat. Little active planning of utilities or service delivery is likely to occur in the near term in Tier III. However, it should also remain in its present use in order to provide for future urban development.

Community Involvement & Consensus: Keeping the Tradition Alive

The City of Lincoln and Lancaster County have long encouraged the public to participate in local government activities. Keeping people knowledgeable about and involved in the Comprehensive Plan's implementation is crucial to ensuring its ultimate success.

A key to securing community interest in the planning process is early involvement. An emphasis should be placed on providing ample, "up front" participation. This includes having the community identify planning issues of concern to them and having them aid in setting up the process for so doing. It is important to have dialogues with many people and organizations of differing opinions with the aim of reaching community consensus. Every effort should be made to work with interested parties, to maintain civility and keep ties between groups and persons with different viewpoints, and to use the leadership of experts and appointed and elected officials.

Another part of the City and County's tradition of involving the public is having citizens regularly serve on boards and commissions. These groups address a wide variety of civic concerns. Meetings are kept open to all members of the community. Public hearings on key issues — such as Plan amendments, the capital improvement program, subarea studies, specific development proposals — are held as part of the continuing planning process. Public hearings and many other meetings of elected officials are televised over the community access stations (5-City TV) along with simulcasts over the Internet.

Interaction between LPlan 2040 and the Citizens

"Although LPlan 2040 is intended primarily to guide the physical development of our community, the results of such development are ultimately felt by individuals and their families. The planning process aspires to make this interaction between people and their physical landscape one in which all facets of our community can prosper, not only economically, but also intellectually, aesthetically, and spiritually. LPlan 2040 seeks to accommodate and encourage the participation of all citizens of the city and county in the making of public policies to implement the visions of the community. Comprehensive planning is a continuous process, requiring a continuing and frequent interaction between the governments and their constituencies."

LPlan 2040 Vision

Strategies for Community Involvement

- Encourage developers and others with planning proposals to make early contact with neighborhood groups and other interested parties. This will allow for a greater understanding of the issues and for time to seek resolution of contentious items.
- Maintain current mailing and contact lists of local neighborhood groups and home owner associations.
- Notify surrounding property owners, interested groups, and other appropriate agencies of formal development applications.
- Offer free Internet access on an on-going basis at public libraries, senior centers, and publicly owned locations of common assembly.

- Conduct periodic workshops and charettes throughout various locations in the city and county to solicit ideas for planning and public policy.
- Examine ways of simplifying the development regulations to encourage a broader understanding of planning concepts and their relevance to neighborhoods' and businesses' continuity and viability.

Land Use Administration

The planning process has long had at its disposal a number of administrative and regulatory tools for implementing comprehensive plans. Many of these reach back eighty to one hundred years. Some of the land use administration approaches to be used in plan implementation include:

- **Zoning.** Zoning is a legal means cities and counties use for deciding how land can be used, the intensity of those land uses, and the relationships between various land uses. Nebraska State law, as with most states, requires zoning to be developed in accordance with the community's adopted Comprehensive Plan. This is one of the primary reasons cities and counties have Comprehensive Plans. As a legal document, zoning is reflected both as a map showing the geographic boundaries of each district and a written ordinance detailing the uses and conditions of each district. For the City of Lincoln, the zoning ordinance is presented in *Title 27* of the Lincoln Municipal Code; while the County's zoning standards are contained in the *County Zoning Regulations*.
- **Subdivision.** A subdivision is the process of dividing land into lots and/or streets. While a variety of standards apply to where, when, and how the subdivision of land can happen, having an approved subdivision plat is a basic step in the development process. The City's subdivision code is found in *Title 26* of the Lincoln Municipal Code. For the County, these regulations can be found in the *County Subdivision Regulations*.
- **Design Standards.** Special site design or other conditions not otherwise covered in the zoning ordinance or subdivision standards are contained in a series of "*design standards*." These standards spell out unique characteristics that may apply to a type of development proposal. These include, for example, design considerations for childcare centers, trails, new construction in older, established neighborhoods and the downtown/Antelope Valley area.

Financial Resources

The provision of services is one of the primary responsibilities of City and County government. Financing these services without creating an undo financial burden for the taxpayer is, and will continue to be, a challenge. There needs to be a balance between new infrastructure in developing areas and the improvements and maintenance needs of the existing community. It is also important to remember that the initial cost of improvements does not reflect the ongoing maintenance and operations of those facilities.

Strategies for Financing Rural Infrastructure

- **Group new acreages in limited areas.** This will enable services to be provided more efficiently, such as minimizing the amount of paved roads, reducing and shortening school bus routes and providing more cost effective rural water district service.
- **Direct growth to cities and towns.** Direct and support residential, commercial, and industrial growth to incorporated cities and towns in order to maintain a tax base for the services and utilities in the towns, as well as to economize on the costs of services and utilities.

Strategies for Financing Urban Infrastructure

- **Take a Balanced Approach.** The community at large should provide more financing of maintenance and improvements in existing areas. Both new and existing developments should pay their fair share of improvement costs due to growth and maintenance. In general, improvements which are of general benefit to the whole community should be paid by the community, while improvements which are of special benefit to a specific area should be paid by that area.
- **Develop a Fair and Predictable System.** Distribute infrastructure costs fairly among all property owners who benefit from the improvements. The goal of the financing system is that costs should be known in advance of development. Property owners should participate in funding improvements in new areas at generally the same rate.

Ongoing maintenance and operations costs can be higher than an initial investment in structures and equipment.

- **Encourage Higher Densities.** Maximize the community's investment in infrastructure through well-designed and appropriately-placed density in residential and commercial development. Both for new development and redevelopment, an increase in well-designed and appropriately-placed density will decrease the amount of infrastructure necessary overall in the community.
- **Minimize Impact on Affordable Housing.** Infrastructure financing should not increase the cost of affordable housing in Lincoln.
- **Minimize Impact on Those Who Are Not Developing Land.** As much as possible, property owners should only be assessed or pay the improvement costs at the time they seek approval of development proposals or building permits. Financing mechanisms should be sensitive to property owners in an area under development who don't want to develop their land at that time, but should not encourage them to hold their property out of development indefinitely. Property owners need to be educated about growth and infrastructure plans to reduce the element of surprise and to foster more informed personal planning decisions.

- **Maintain Expanding System.** The addition of infrastructure and growth of the City requires attention to provide an adequate level of service. Expanding facilities adds financial maintenance needs for all city services.

Capital Improvements Programming

Capital improvements have historically been financed by general revenues, special assessments, user fees, revenue bonds, grants from Federal and State government, other local and state taxes and general obligation bonds. Capital projects can be broadly defined as new projects to meet additional needs of the community and rehabilitation of the built infrastructure. It is imperative that timely maintenance of capital improvements occurs to protect the City's and County's investment and minimize future maintenance and replacement costs.

As an implementation tool, the capital improvement programming process plays a vital role in guiding when and where the city, and even to some degree rural areas, grow. Capital improvements programming can be separated into two broad areas:

Public Sector Contributions

Capital improvements are generally defined as any improvements with a useful life in excess of 15 years. The direction and timing of these improvements have a powerful influence on the development of a community. Arterial roads, major water mains, trails, wastewater treatment and transmission lines, parks, recreational facilities, street lights, fire and police stations, libraries, government administration buildings, schools, electrical facilities, and sanitary landfills are all basic elements of what makes up a city. Hundreds of millions of dollars of public tax dollars and user fees are invested each year in these facilities. The public process used to determine where and when such investment occurs plays a fundamental role in determining how the LPlan 2040's Vision is achieved.

The City of Lincoln annually designates those capital improvements it plans to build over the next six years through the development of a six-year *Capital Improvement Program* (CIP). The first year of the City's CIP is termed the "Capital Budget," and it represents the list of projects formally approved by elected officials. However, in November 2010, City of Lincoln voters approved a charter revision to allow the City to adopt a 2-year budget cycle, and this is expected to be implemented beginning with the 2012-2014 budget cycle.

The City of Lincoln's Charter requires that before the City Council can approve a capital project it must undergo a test of "Comprehensive Plan conformity." This means that the Planning Commission or Planning Department must issue a report stating whether the proposed capital expenditure is consistent with the Comprehensive Plan. Should the project be found to be not in conformance with the Plan, the City Council can still approve the project. No equivalent Plan conformity standard is applied in the County's CIP process.

A companion document to the City's CIP, called the *Transportation Improvement Program* or TIP, is also prepared on an annual basis. This task is assigned to the Lincoln Metropolitan Planning Organization, a policy making board comprised of representatives from local government and transportation authorities that reviews transportation issues and develops transportation plans and programs for Lincoln and Lancaster County. The TIP gathers together in a single document those local, State and Federal transportation capital projects proposed for the next four years. These include improvements for streets and highways, airports,

railroad support facilities, trails, and public transit. Transportation projects must have a finding of substantial conformity to the Comprehensive Plan before they can be included in the TIP. The MPO's fiscally constrained Long Range Transportation Plan requires that all projects programmed must fall within the limits of funding that can be reasonably expected.

Lancaster County prepares an annual Road and Bridge Construction Program, commonly referred to as the "County 1 and 6 Program" because it includes the projects and programs for the first year and a more generalized list of projects going out 6 years in the future. The County 1 and 6 Program supports the projects identified on the Lancaster County Future Road Improvements map, which is a part of the MPO's Long Range Transportation Plan. This program identifies not only capital improvements but also maintenance projects such as grading and graveling of roads. Projects that use federal funding or are part of a regional system are included in the TIP.

Private Sector Contributions

Private investment is a significant part of the funding used to construct infrastructure in new developments. Most local streets, sidewalks, water, sanitary sewer, and stormwater facilities are built and paid for by the private developer, and impact fees contribute to the larger infrastructure components. Decisions made in the private sector play an important role in managing and guiding the expansion of the urban area. Expenditures from private sources are critical to furthering the growth of the community. Privately funded projects are also expected to conform to the goals and strategies of the Comprehensive Plan.

Strategies for the Capital Improvement Program

- The CIP should be utilized to provide a systematic and predictable forum for determining the timing of infrastructure improvements.
- Infrastructure improvements should continue to be implemented only in areas identified for development in the Lincoln/ Lancaster County Comprehensive Plan. One of the most important tools in financing is adherence to the physical plan for the community. Following the Plan for development and systematic improvements throughout Lincoln increases efficiency in construction and maximizes the community's investment.

Private investment is a significant part of the funding used to construct infrastructure in new developments.

- The top priority for the City's Capital Improvement Program (CIP) is to maintain existing infrastructure.
- Fully serving Tier I, Priority A areas is a priority.
- Infrastructure funding to serve the growing community relies upon adequate revenue from all sources, including gas tax allocation, wheel tax, impact fees, and water and wastewater fees.
- Explore innovative funding strategies and new sources.
- Use the CIP as a planning and programming guide.

Concurrency Policy

Public infrastructure — including transportation facilities, water, sewer, parks, schools, and libraries – is essential to the health, safety, and welfare of the community. In new growth areas, the most essential public infrastructure (such as electricity, water, sewer, pedestrian facilities and roads) should be made concurrently with that growth.

Some public infrastructure, such as water and sewer lines, is most efficiently built to serve the ultimate demand of the new area. Other public infrastructure, such as arterial roads, may be provided in proportion to the initial need, with later improvements added as growth proceeds. Still other services, such as schools and libraries, may be provided at more remote locations until the population to support a new facility is in place. Developing public infrastructure in this manner will protect the public health, safety and welfare of the community while efficiently using capital improvement funds.

Conversely, infrastructure should not be built or developed if it is not needed. Public resources are scarce and should be conserved and used efficiently. Development of infrastructure beyond the needs of the community is a waste of resources and is not beneficial to the community as a whole. Thus, some improvements, such as park land, must be obtained early in the process, but may not be fully improved until more development occurs. Land for other services such as fire and police stations or schools may also be obtained. This may also apply to road improvements, which in early stages can be adequately served by two-lane, offset, paved streets, after obtaining the needed future urban right-of-way, with additional lanes planned for but not developed until later when traffic demand warrants the improvements.

Annexation policy is a potentially powerful means for achieving many of the goals embodied in the Plan's Vision.

The key to a successful community is the concurrent development of infrastructure proportionate to the development and need of the community — a balance between the need for infrastructure and the need to conserve resources.

Annexation Policy

Annexation policy is a potentially powerful means for achieving many of the goals embodied in the Plan's Vision. Annexation is a necessary and vitally important part of the future growth and health of Lincoln. The annexation policies of the City of Lincoln include but are not limited to the following:

The provision of municipal services must coincide with the jurisdictional boundaries of the City – in short, it is not the intent of the City of Lincoln to extend utility services (most notably, but not necessarily limited to, water and sanitary sewer services) beyond the corporate limits of the City.

The extension of water and sanitary sewer services should be predicated upon annexation of the area by the City. City annexation must occur before any property is provided with water, sanitary sewer, or other potential City services.

The areas within Tier I Priority A that are not annexed serve as the future urban area for purposes of annexation per state statute and are appropriate for immediate annexation upon final plat. These areas have approved preliminary plans.

To demonstrate the City's commitment to the urbanization of land in Tier I Priority B, the City should annex land in Priority B that is contiguous to the City and generally urban in character, as well as land that is engulfed by the City. Land that is remote or otherwise removed from the limits of the City of Lincoln will not be annexed. Annually, the City should review for potential annexation all property in Priority B for which basic infrastructure

is generally available or planned for in the near term.

Annexation generally implies the opportunity to access all City services within a reasonable period of time. Voluntary annexation agreements may limit or otherwise outline the phasing, timing or installation of utility services (e.g., water, sanitary sewer), and may include specific or general plans for the private financing of improvements to the infrastructure supporting or contributing to the land uses in the annexed area. The annexation of large projects may be done in phases as development proceeds.

The character of existing residential areas should be respected as much as possible during the annexation process. When low density "acreage" areas are proposed for annexation due to the City's annexation policy, additional steps should be taken to ease the transition as much as possible, such as public meetings, advance notice and written explanation of changes as a result of annexation. In general, many aspects of acreage life may remain unchanged, such as zoning or covenants. However, any annexation of existing residential areas will include some costs that must be the responsibility of property owners.

Annexation to facilitate the installation of improvements and/or possible assessment districts is appropriate if it is consistent with the annexation policies of the Plan listed above.

Plans for the provision of services within the areas considered for annexation shall be carefully coordinated with the Capital Improvement Program of the City and the County.

Each town in Lancaster County will have its own procedures for annexation.

On-Going Comprehensive Plan Activities

While the Comprehensive Plan may have received formal approval, certain long-range planning tasks remain to be completed or continued as part of the Plan's implementation. These include:

- **Interagency Cooperation and Coordination.** Broad involvement of numerous public agencies and departments were used in the Plan's formulation. The cooperation and coordination of efforts with these groups needs to remain in place during the Plan's implementation.
- **Joint Planning Commission and Planning Department.** The City and County created a joint City-County Planning Commission and a single City-County Planning Department more than fifty years ago. This structure has served the community well over this period. It is intended that this structure remain in place as a means for furthering the implementation of the Plan.
- **City-County Common.** The City Council, County Board, and Lincoln Mayor hold a joint meeting each month to discuss issues of common concern to them. This group is known as the City-County Common. The Common provides a regular opportunity for the elected officials to discuss planning issues of joint interest to them.
- **MPO Officials Committee and Technical Committee.** Through the Metropolitan Planning Organization structure, the Officials and Technical Committees lend additional policy and technical oversight to the process. These standing groups meet on a regular basis to review, discuss, and approve matters relating to the area-wide transportation planning process. This includes the annual MPO Work Program, Transportation Improvement Program (TIP),

Annual Certification, Long Range Transportation Plan (LRTP) and other related studies and programs.

- **Subarea Planning.** The Comprehensive Plan provides broad guidance for achieving the community's stated Vision. Putting details to the Plan takes additional effort. One means of doing this is through the preparation of subarea plans. Subarea plans offer greater details about the intended future of an area of the community — including land uses, infrastructure requirements, and development policies and standards. Many of these subarea plans are prepared by the City-County Planning Department, while some are prepared by other agencies and departments. Subarea plans considered part of this Comprehensive Plan include:

- *Wilderness Park Subarea Plan*; February, 2000
- *NRGIS Greenprint Challenge*, August, 2001
- *City of Lincoln Strategic Plan for HUD Entitlement Programs*; FY 2010-2012, Urban Development;
- *Lincoln Water System Facilities Master Plan*, Public Works and Utilities Department; June, 2014.
- *Lincoln Wastewater Facilities Master Plan*, Public Works and Utilities Department; November, 2007.
- Watershed Master Plans:
  - *Beal Slough Stormwater Master Plan*, May, 2000.
  - *Southeast Upper Salt Creek Watershed Stormwater Master Plan*, 2003.
  - *Stevens Creek Watershed Master Plan*, 2005
  - *Cardwell Branch Watershed Master Plan*, 2007
  - *Deadmans Run Watershed Master Plan*, 2007
  - *Little Salt Creek Watershed Master Plan*, 2009
  - *Antelope Creek Watershed Basin Management Plan*, 2012
  - *South Salt Creek Watershed Master Plan,* 2014
  - *Haines Branch Watershed Master Plan,* 2014
  - *Middle Creek Watershed Master Plan*, 2014
- *Lincoln Public Schools 10 year Plan*, April, 2010
- *North 48th Street/University Place Plan: Neighborhood Revitalization & Transportation Analysis*, 2004
- *Lincoln Airport F.A.R. Part 150 Noise Compatibility Study*, 2003
- *Airport West Subarea Plan*, 2005
- *Downtown Master Plan*, 2005 (including the 2012 *Downtown Master Plan Update*)
- *Transit Development Plan*, September, 2007
- *Antelope Valley Project*, 1999
- *West Haymarket Integrated Development Plan*, July, 2009
- *The Implementation Plan for the Conservation of Nebraska's Eastern Saline Wetlands,* 2003

As part of the Annual Plan Status Report process, the Planning Director should complete a yearly review of all subarea plans that become five years of age and older. This review would be for the purpose of determining the continued viability and relevance of those subareas plans to the Comprehensive Plan and the long range planning process.

- **Human Services Planning.** Explore points of common concern and emphasis between LPlan 2040, the future land use plan, and the Community Services Implementation Plan (CSIP). Enhancing the coordination of these endeavors should be initiated and completed.

Annual Review of the Plan

Approximately one year following adoption of the Comprehensive Plan and on an annual basis thereafter, the Planning Director will prepare a report entitled the Annual Review of the Comprehensive Plan. Such report may include new and pertinent information about the community; changes in the Plan's underlying assumptions or

any other factors affecting the health or welfare of the community. Such report may include specific proposals to amend the Plan.

This report and its review by the Planning Commission will be closely coordinated with the Commission's deliberations on the City of Lincoln's Capital Improvement Program (CIP).

As part of the Annual Review process, the Planning Department will review growth trends to determine if adjustments need to be made in the Plan. If trends deviate from the assumptions in this Plan, the Planning Department will prepare and bring forward recommendations to accelerate or delay the extension of infrastructure to Priority B and C areas.

Plan Amendments

The Plan is the community's collective vision. Yet, change is inevitable. New technologies and new community needs will arise during the planning period which were not foreseen during the Plan's development. Jobs, housing, transportation, goods and services will shift over time. The amendment process to the Plan must accommodate and help manage the inevitable change in a way that best promotes, and does not compromise, the community's core values, health and well being. The Plan amendment process must be an open and fair process, utilizing sound planning, economic, social and ecological principals.

Amendments to the Plan may be submitted in writing to the Planning Director by any group or individual at any time during the year. The Planning Director may elect to forward the Plan amendment request to the Planning Commission upon submission, or wait to include the request in a compilation that is reviewed by the Planning Commission once each year as part of the Planning Department's annual review of the Plan.

Plan Update Process

The Federal Highway Administration (FHWA) requires that communities maintain a fiscally constrained Long Range Transportation Plan (LRTP) that is updated every 5 years and embodies at least a 20-year planning horizon in order to receive federal transportation funds. The Lincoln MPO's 2040 LRTP is a companion to the *"Transportation"* chapter in the 2040 Comprehensive Plan. By the year 2015, the community will need to begin the process to update the LRTP, and potentially the Comprehensive Plan to meet federal requirements.