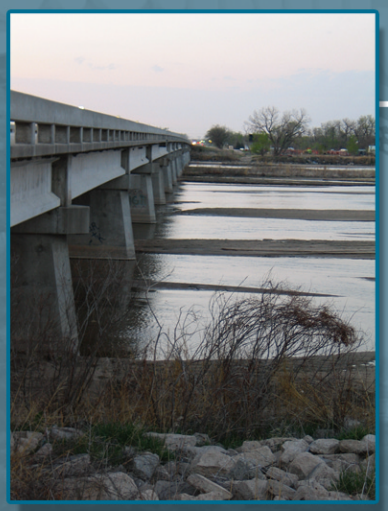
Prepared for
City of Columbus

Prepared by
Olsson Associates

Columbus

Comprehensive Plan Update

October 2005



The City of Columbus

OLSSON ASSOCIATES
ENGINEERS • PLANNERS • SCIENTISTS • SURVEYORS

TABLE OF CONTENTS

1.0 INTRODUCTION……1

1.1 PROJECT OBJECTIVE……1
1.2 STEERING COMMITTEE……2
1.3 TECHNICAL DOCUMENTATION……2
1.4 PLAN ADOPTION PROCESS……3
1.5 LEGAL BASIS FOR THE COMPREHENSIVE PLAN……3
1.6 THE COLUMBUS VISION……4

2.0 COMMUNITY PROFILE……7

2.1 HISTORY……8
2.2 POPULATION AND DEMOGRAPHICS……14
2.3 RACE AND CULTURAL ORIGIN……16
2.4 POPULATION GROWTH RATE……17
2.5 EDUCATION……18
2.6 ECONOMY……20
2.7 HOUSING……23
2.8 EMPLOYMENT……23
2.9 RECREATION AND AMENITIES……24
2.10 GOVERNMENT AND PUBLIC SERVICES……27

3.0 LAND USE……29

3.1 EXISTING LAND USE……29
3.2 NEIGHBORHOODS……30
3.3 FUTURE LAND USE……36
3.4 LAND USE CLASSIFICATIONS……43
3.5 GROWTH CENTERS……45

4.0 TRANSPORTATION PLAN……47

4.1 EXISTING TRANSPORTATION SYSTEM……47
4.2 TRANSPORTATION MODELING PROCESS……47
4.3 FUTURE TRANSPORTATION ALTERNATIVES……48
4.4 RECOMMENDATIONS……49

5.0 FUTURE FORM OF COLUMBUS……51

5.1 FUTURE LAND USE ALTERNATIVES—GROWTH AREAS……51
5.2 ANNEXATION POLICY RECOMMENDATIONS……52

6.0 IMPLEMENTATION……55

6.1 ISSUES……55
6.2 INDIVIDUAL CHAPTER REVIEW……56
6.3 REVIEW COMMENTS AND RECOMMENDATIONS……56

LIST OF ATTACHMENTS

Attachment 1: Overlay District Design Guidelines/Standards
Attachment 2: Buffer-yard Provisions
Attachment 3: Model Policy for Stormwater Management Systems

LIST OF FIGURES

Figure 1 Study Area
Figure 2 Existing Land Use
Figure 3 Future Land Use
Figure 4 Growth Area Centers
Figure 5 Neighborhood Planning Districts
Figure 6 Existing Zoning Districts

1.0 INTRODUCTION

The City of Columbus is strategically located on the north bank of the Loup River at its confluence with the Platte River in east-central Nebraska. The location of Columbus in the river valley was established in the 1850s to take advantage of the proposed route for the transcontinental railroad. Today, Columbus is the county seat of Platte County and a regional manufacturing center with a current population of nearly 21,000. A location map is shown in Figure 1.

Olsson Associates (OA) conducted the Comprehensive Plan Update project in association with the City of Columbus. Funding for the project was provided, in part, through the Nebraska Department of Roads (NDOR) Comprehensive Plan Assistance Program.

1.1 PROJECT OBJECTIVE

The primary objective of the project was to update the City's Comprehensive Plan. The current Comprehensive Plan was adopted in 1992. From the outset of the project, City staff, City Council, Planning Commission and project steering committee officials have emphasized development of a concise and flexible Comprehensive Plan that is easy to use. In addition to updating the Comprehensive Plan, key study objectives included developing an updated land use and transportation plan to guide future growth in the community. Development of a computerized, citywide transportation model, in accordance with NDOR standards, was a focal point of the land use and transportation planning process. Key deliverables of this project include:

- An Updated Comprehensive Plan document.
- Implementation Strategies Review Memorandum outlining recommendations for revisions to the Columbus Land Development Ordinance.
- A state-of-the-art computerized transportation model developed using TransCAD.
- A Long Range Transportation Plan (LRTP) with recommended improvements prioritized for the short-, mid-, and long-range time frames.
- A transportation and land use plan that are compatible with City and NDOR geographic information systems (GIS).

The process to update the comprehensive plan was completely integrated into the transportation planning process. It was imperative that these processes were linked because the relationship between transportation systems and land use underlies all activities related to comprehensive planning.

The following comprehensive planning activities formed the basis for updating comprehensive plan:

- Assemble, Document and Review Existing Information
- Data Collection
- Existing Conditions Analysis
- Plan Development
- Preferred Plan Alternative
- Implementation Strategies Review

The project also included a review of the current City Zoning and Subdivision Ordinances, as denoted by the final bulleted item above. This review was conducted specifically to evaluate consistency of the current ordinances and regulations with the adopted Comprehensive Plan. The results of this review are included in a separate report attached to this document.

1.2 STEERING COMMITTEE

A project Steering Committee was organized at the beginning of the project to assist City staff and provide oversight for the work of the consultant project team. The Steering Committee was selected to represent a wide variety of community interests. City staff and Steering Committee members are listed in Table 1-1.

The Steering Committee met a number of times over the course of the project. They provided guidance to the project team on land use and transportation planning issues and reviewed interim project materials. Steering Committee meetings were held on the following dates:

- March 6, 2003
- April 17, 2003
- May 15, 2003
- July 24, 2003
- October 1, 2003
- January 22, 2004
- April 22, 2004
- August, 2004

Table 1-1
City Staff and Steering Committee Members

Name	Affiliation
Joe Frei	City Administrator
Merlin Lindahl	City Engineer
Dan Curtis	Community Development Director
Joe Jarecke	City Council Member
Larry Marik	First National Bank & Trust
Larry Beiermann	Union Loan, Inc.
Marv Petersen	Century 21 Realty Team
Chuck Whitney	City Council Member
Harrison Cass	Superintendent, Columbus School System
Bruce Schneider	Columbus Resident
Kris Winter	Nebraska Department of Roads, District 3

1.3 TECHNICAL DOCUMENTATION

During the conduct of this project, interim material or technical documents were prepared for review by the Steering Committee. These items, which are listed below, were prepared in draft format to summarize technical progress and/or issues relevant to the project.

- Existing Transportation Conditions Technical Memorandum
- Issues and Opportunities Visioning Exercise
- Population Goals and Objectives
- Land Use Growth Scenarios
- Travel Demand Model Validation Summary
- Travel Demand Model Technical Documentation
- Travel Demand Model Assignment Plots

- Transportation Alternatives Summary

The above information, including comments received from the Steering Committee and revisions to address these comments, have been incorporated into the Comprehensive Plan Update and final transportation report.

1.4 PLAN ADOPTION PROCESS

The Comprehensive Plan Update documents the study process and presents land use and transportation plan recommendations, growth scenarios and development guidelines to use as a resource for decision-making. This draft final Comprehensive Plan Update following a review by the Steering Committee will then be presented for review and approval of the Planning Commission and City Council. Public hearings will be held with the Planning Commission and City Council meetings to provide opportunity for input from the public.

1.5 LEGAL BASIS FOR THE COMPREHENSIVE PLAN

Nebraska State Statutes govern the adoption and preparation of community comprehensive plans. Under state law health, safety, morals, or general welfare of the community are promoted through the adoption of zoning and subdivision ordinances. Zoning ordinances and other land use regulations recognize that people in a community must work together to share the responsibility for community actions and policies. These state statutes establish rules that govern how land is developed within a municipality and its extra-territorial jurisdiction.

According to Nebraska law, a city must first adopt a comprehensive development plan before it can put any land use ordinance into effect. This condition is set forth by statute so that land use decisions should not be arbitrary, but should follow an accepted and reasonable concept of how the city should grow. State statutes also require that a comprehensive development plan address the following issues, at a minimum:

- Land use. The planned distribution of activities and uses of land in the community.
- Transportation facilities. The planned distribution of roads, streets, airports, railways, bike paths and trails, etc. in the community.
- Community facilities. Recreation facilities, schools, public buildings, and infrastructure.
- Sanitary and improvement districts. Identification of sanitary and improvement districts, which are, or in the future may be appropriate subjects for annexation.
- Annexation. A general review of the standards and qualifications that should be met to enable Columbus to undertake annexation of such areas.

The Columbus Comprehensive Plan Update, then, provides the ongoing legal basis for the city's continued regulation of land use and development.

1.6 THE COLUMBUS VISION

"Visioning" is a process through which a community talks about the type of future it wants, and then decides how to achieve it. A "vision statement" is the end product of such a process. It depicts, in words, what the community seeks to become-how it will look, how it will function, how it might be different or better in ten or twenty years.

The thoughts and ideas of the Steering Committee and City Staff were refined by the project team to form a more focused view of the issues facing the city today and into the planning horizon. The following statements represent how the citizens of Columbus want their community to look and function in the next 20 or more years.

> "Our vision is the only limit to what we can hope to have in the future."
>
> *(Charles F. Kettering)*

Where We Live
We see a Columbus with a wide range of housing choices allowing for single-family, townhouses, and apartments. We see a contiguous community that efficiently uses the city's resources. We see a community with well-defined and well-designed neighborhoods for all income levels and age groups.

Downtown Columbus
We see a healthy downtown with attractive streets and well-maintained sidewalks filled with people and activity. We see a diverse array of shopping, dining, working, and cultural amenities housed in historic buildings with Frankfort Park as a focal point. We see a downtown, which is the social and cultural center of the community, and the first place where we want to take visitors. At night, we see streets filled with people and activity and the lights on in upper story apartment windows throughout the downtown area.

Economic Opportunities
We see a community of workers with good paying jobs, and a diverse local economy with employment in manufacturing, services, retail, and agriculture, among others. We see workers taking pride in their work and the prospect of advancement. We see a community that will continue to be a regional leader in employment, giving its citizens the quality of life they work hard for everyday.

On The Road
We see a community with " full-service streets" in which cars, trucks, pedestrians and bicyclists are equally at home. We see a roadway system that allows a driver the choice of number of routes to his or her destination. We see streets with ample sidewalks, large trees reaching over the street, and attractive pedestrian-scaled streetlights. We see well-planned neighborhoods, designed to encourage walking, biking and short trips from home to any destination, taking excess traffic and congestion from the, arterial Columbus streets in the city.

Where We Play
We see large community parks, neighborhood parks, and small pocket parks, all well distributed throughout the community. Larger community parks have clusters of playing

fields for organized athletic leagues. Neighborhood parks have multi-purpose fields for informal athletic events as well as areas for unstructured play. We see parks convenient to neighborhoods and schools as well as to office workers during their lunch hour, just as Frankfort Park is to downtown Columbus. We see parks that are easily accessible by pedestrians and bicyclists as well as by cars.

Water and Sewer
We see a high quality water supply system, sufficient for growth, well maintained, and financially self-supporting. Our water/ wastewater treatment facilities have been designed and strategically placed for the future to lead the planned growth of our community.

Schools
We see schools (public, private, parochial, primary and secondary education) that provide a quality education and are supported by strong parental and community involvement. Our schools are located in close proximity to neighborhoods so as to be natural gathering places for people to come together to educate community residents and to solve community problems.

Public Safety
We see police officers on the beat, getting to know the neighborhood kids, and their parents. We see a police department, which is committed to supporting the collective will and determination of the people to have a community free of drugs, violence and crime. We see a system of fire protection that will be efficiently located to provide the maximum amount of protection to the citizens of Columbus. We see an emergency medical service system that is able to respond on a moments notice giving those with life threatening illnesses or injuries the medical attention they require.

Summary

The Columbus Comprehensive Plan consists of six sections: 1) Introduction, 2) Community Profile, 3) Land Use, 4) Transportation, 5) Future Form of Columbus and 6) Implementation. These sections are discussed in more detail below:

- Section 1. Introduction: The first section of the Comprehensive Plan Update includes the targeted objective for this project. It also includes a brief overview of the process through which the plan was developed.
- Section 2. Community Profile: This section analyzes the various existing information from several different community categories to assist in understanding the community. This section consists of six chapters that address the City's History, Demographics, Economy, Housing, Recreational Amenities and Public Services. This information forms the basis for planning and decision making in Columbus now and into the future.
- Section 3. Land Use: The third section of the plan analyzes existing and future land use issues. These land uses define where people live, work and play. Conditions within the city are defined through the separation of the community into neighborhoods based upon major community features.
- Section 4. Transportation: The fourth section of the plan provides a brief description of the current and future transportation system in Columbus. It highlights the

recommendations of the transportation planning report that was integral to this planning process.

- Section 5. Future Form Columbus: This section introduces future growth areas and presents policies and recommendations for integrating future land use; transportation; public facilities; and parks, recreation and opens space. In addition, this section includes recommendations for annexation of future growth areas identified in the future land use plan.
- Section 6. Implementation. The implementation section addresses recommended changes to the city's planning implementation tools—the zoning and subdivision regulations.

2.0 COMMUNITY PROFILE

The City of Columbus has made the transition from a railroad town on the Union Pacific line to an agricultural service center to a dynamic full-service city. To understand this transition, it's important to examine the history of Columbus and to create a profile of the community today. The **Community Profile** is a statistical assessment and a comprehensive analysis of Columbus. It identifies important issues and planning topics and provides the framework for future planning and community development activities.

The data displayed in the **Community Profile** is from the most recent sources available. In particular, the U. S. Census 2000, the Columbus Chamber of Commerce, and *Columbus, Nebraska Industrial Facts* produced by the Loup Power District, the Nebraska Public Power District, and the Cornhusker Public Power District were indispensable sources of information about Columbus and Platte County.

The **Community Profile** examines the existing information from several different community categories to assist in understanding the community. These categories are:

History
Population and Demographics
Economy
Housing
Recreation and Amenities
Government and Public Services

2.1 HISTORY

1855
Territorial Governor Mark Izard signs a bill authorizing a charter for a ferry across the Loup River on the military road to Fort Kearney.

1856
A group of thirteen men meet in the old Douglas House at 13th and Harney in Omaha to discuss the founding of a new settlement somewhere along the rout of a proposed transcontinental railway. The group, mostly natives of Germany and Switzerland, became associated as the Columbus Town Company.

After arriving at the confluence of the Platte and Loup Rivers by oxen team, the Columbus Town Company founds the new settlement of Columbus on the north bank of the Loup River.

John Rickly and Charles Turner surveyed Land for the town of Columbus.

The Elk Horn and Loup Fork Bridge and Ferry Company found the Town of Pawnee adjacent to the claims of the Columbus Town Company. These competitors later agreed to consolidate their investments with the Columbus Town Company.

1857
Columbus Town Company authorizes John Rickly to open the first saw and shingle mill

National business leaders assemble in Columbus for a strategy meeting to discuss the implications of the construction of the Transcontinental Railway.

The first consignment of U.S. mail is delivered to the new Columbus settlement.

1858
The American Hotel is opened in Columbus.

1859
The population of Columbus is about 200 persons.

1861
Platte County has fewer than 800 residents.

1862
U.S. President Abraham Lincoln signs a bill providing for the construction of the first railroad to the Pacific Ocean by way of Nebraska.

1865
The Town of Columbus is incorporated by act of Legislature of the Territory of Nebraska.

Columbus Cemetery is established on 8 acres of town, near present 12th Avenue.

1866
The Union Pacific work crews enter Columbus and lay tracks leading westward.

1870
The Platte County Courthouse is completed at a cost of $18,000.

The population of the City of Columbus is 526 people.

1877
The ferry across the Loup River, which the city founders had envisioned, became a reality in the 1870s. This ferry moved a seemingly endless stream of immigrant wagons across the Loup River on their trip to the northwest and helped make Columbus a major outfitting post for the pioneers.

St. Bonaventure Catholic Cemetery is established east of town. The grain industry in Columbus handles more than 550,000 bushels, becoming the dominant agricultural hub in Central Nebraska.

1879
The Union Pacific land office opens in Columbus. The community holds its first high school classes in a rental First Congregational Church building.

St. Mary's Hospital is organized on land east of St. Bonaventure School. Dr. David T. Martyn arrived to open the first doctor's office in the town, and was the first physician to serve the hospital.

1880
The population of the City of Columbus is 2,131 people.

Construction of the Union Pacific Transcontinental Railroad through Columbus served to strengthen the city's role as an important outfitting station for wagon trains, a major business in Columbus.

Even as the era of wagon trains passed, railroads continued to play an important part in the early development of the community. Feeding in and out of the Transcontinental Union Pacific were branch lines to Norfolk, Spalding, and Albion to the north and northwest, and Lincoln to the southeast. These branch lines enabled Columbus to build a tremendous shipping trade in livestock and grain.

1881
The branch line of the Omaha, Niobrara and Black Hills Railroad opens, providing service between Columbus, Albion and Norfolk.

The first pork packing company is organized, located one mile east of town between the Union Pacific and the Burlington and Missouri Railroads.

1883
Columbus approved granting rights-of-way throughout town to the Nebraska Telephone Company.

During its early years, many historic personalities called Columbus home. U.S. Cavalry Major Frank North organized the friendly Pawnee Indians of the region to act as scouts and fighters against marauding Indian bands that threatened both the settlers and workers on the Union Pacific Railroad. Major Frank North met the legendary William F. "Buffalo Bill" Cody while serving in the U.S. Army.

Cody joined with Major North, Luther North, and other noted Indian fighters to organize and stage the first dress rehearsal of "Buffalo Bill's Wild West Show" in Columbus.

St. Bonaventure school is renamed St. Francis Academy and is converted into a formal active boarding school with more than 100 non-resident pupils.

1885
Columbus has 3000 residents.

The Columbus Water Works and Light Company is organized. The contract price of the system installed was $20,000. The first electric light burns December 23,1885.

1886
The Columbus Board of Trade, forerunner of the Columbus Chamber of Commerce is formed to promote the business and financial interests of the community.

The Columbus Land, Loan and Building Association is incorporated, creating the institution, which later became the Columbus Federal Savings Bank.

1888
The town grants a franchise to the Columbus Motor Railway Company to construct tracks on public streets to operate horse-drawn cars.

The Young Men's Christian Association (YMCA) opens a facility in Columbus.

1890's
Columbus businesses include a shoe factory, brewery, creamery, windmill factory, railroad shops, and various manufacturing enterprises. Local leaders envision a scheme to harness the immense hydraulic force of the Loup River for energy, but abandoned the idea, with no ability to deliver the electricity that might be developed.

1890
The population of the City of Columbus is 3,134 people. A severe drought and an economic recession grip the region causing great hardship.

1891
The Columbus Sewerage and Drainage Company is organized.

1892
Three Franciscan sisters from St. Mary Hospital established the Columbus East End Sewer Company to provide a vital needed improvement.

1893
Immanuel Lutheran Grade School is founded.

1898
The West End Sewer Company is formed.

A bond issue of $25,000 is approved to build a new public high school.

1899
The Union Pacific begins to lay double tracks between Omaha and Ogden, Utah. That same year, the city council approved an ordinance requiring the railroad to keep a watchman after 8 A.M. at the railroad crossings of 23rd, 25th, and 26th Avenues.

An occupation tax was adopted by the city council to meet the extra cost of all-night electric service.

1900
The first public library is opened in Columbus, located within City Hall on the southwest corner of 13th Street and North Street.

The population of the City of Columbus is 3,522 people.

1905
The First gas plant is constructed in Columbus.

1906
The Central National Bank is established, later to be one of the community's few banks to survive the Great Depression of the 1930s. The institution eventually became known as First National Columbus.

1908
The Columbus Heat, Light and Power Company is incorporated. This company was the predecessor to Consumers Public Power District, and which by mergers and acquisitions later became the Nebraska Public Power District.

1910
The population of the City of Columbus is 5,014 people.

1911
The federal government in Columbus at a cost of $65,000 erects the first Post Office building.

1912
Severe flooding on the Loup River engulfs the community.

The Evans Hotel opens. The four-story brick structure was constructed on a site facing Frankfort Square on the northwest corner of 13th Street and 27th Avenue.

1914
Paving of certain streets and a majority of important intersections began following approval or a $30,000 bond issue.

1915
Highland Park School is completed, located west of the meridian highway in the west part of the city.

1919
Field and Emerson Schools are constructed.

1920
The population of the City of Columbus is 5,410 people.

1922
Dr. Carrol D. Evans leads the construction of the Evans Hospital, later renamed Lutheran Hospital. The Hospital eventually was renamed Columbus Community Hospital.

1925
F.W. Woolworth Company heightens local commercial real estate interest when they obtain a 15-year lease in a downtown building. The lease set a new high mark for rentals in the city, of $230 per month for five years, increasing thereafter for each five-year period.

1925
The new Columbus High School building is dedicated.

The parish of St. Bonaventure purchased the Academy of St. Francis from the Franciscan Order. The school is converted to use by day pupils only, and is renamed St. Bonaventure School.

1930
The population of the City of Columbus is 6,898 people. The nation experiences an economic depression, with severe unemployment.

1930's
Development of Pawnee Park and golf courses is begun.

1932
President Herbert Hoover establishes the Reconstruction Finance Corporation to finance public projects that result in self-liquidation of financial obligations. Upon Hoover's electoral defeat later that year, Roosevelt announces that the RFC programs will continue under his administration.

Thirty-six Columbus businessmen meet in the Thurstony Hotel to plan to revive the concept of harnessing the Loup River for hydroelectric power.

1933
A modern steel truss bridge is completed across the Loup River on the Meridian Highway.

Governor Charles W. Bryan signs an enabling act permitting the establishment of public power districts in Nebraska. The act allowed the formation of the Loup River Public Power District, which began efforts to electrify farming areas with the assistance of the federal rural electrification program.

The first Board of Directors meeting of the Loup River Public Power District was held, with the new organization receiving grants and loans totaling $7,300,000 from the Federal Emergency Administration of Public Works. The funds are dedicated to implement wide-ranging construction projects to provide employment in a period of drought and economic depression. More than 1000 persons were employed to remove more than 12 million cubic yards of earth during construction of the canals, two powerhouses, regulating reservoirs, de-silting basin, and electric generating and transmission projects. The success of the effort emboldens Loup Power to the idea of forming a new district that could begin integration of the three large hydropower companies in the state (the Loup, the Central, and Platte Valley) by acquiring other electric utility companies, for the purpose of pooling manufactured current and revenues.

The new Meridian viaduct is completed (along present day 33rd Avenue which is aligned on the 81st Principal Meridian) eliminating the only grade crossing in the U.S. where the Lincoln and Meridian Highway crossed railroad tracks at the same point. The Union Pacific funded

half the construction cost of the viaduct, and agreed to eliminate the diagonal rail through the city, which would reduce the length of the viaduct. Federal funds provided the balance of the cost.

1934
Construction began on a diversion dam and 35-mile canal on the Loup River. Today this canal has two hydroelectric plants. Columbus is the hub of public power in Nebraska with the headquarters of Nebraska Public Power District, Loup Power District, Cornhusker Public Power District and Nebraska Electric Generation and Transmission Cooperative, Inc.

The Columbus Bank is established.

A new City Hall is built on the half block east of the Courthouse.

1935
Roselawn Memorial Cemetery is established along U.S. 30 northeast of town.

1936
Columbus native Walt Behlen and his brothers form the Behlen Manufacturing Company.

1939
The Consumers Public Power District, established to create one large publicly-owned power monopoly throughout Nebraska, sells bonds to obtain the lease purchase of its first private electric utility: a Columbus district division owned by Northwestern Public Service Company.

1940
The population of the City of Columbus is 7, 632 people.

Ten Columbus businessmen incorporate the Columbus Airport Company to establish a facility on 80 acres bounded on the south by U.S. 30 and the east by the Poor Sisters of St. Francis farm.

1941
The Loup River Public Power District moves into its new headquarters building in downtown Columbus, which it shares with Consumers Public Power District. Three decades later, the city will utilize the structure as City Hall.

The Brower Farm is donated to the people of Platte County for the promotion of agriculture. The 84-acre tract east of the town later became the site of the Platte County Agricultural Society Park.

1942
Local business leaders learned the federal government was proposing to build an aluminum extrusion plant in the West for the war effort. Columbus leaders learned American Brass Company was to choose the plant site, and eventually succeeded in being selected over Peoria, St. Paul and Denver. The proposed way plant was to be established on a 90-acre tract of land along Lincoln Highway, which was purchased from the Gottschalk family. By 1944, the war effort was at a level of success that American Brass announced that the need for the extrusion plant had past. The government declares the extrusion site as surplus.

1945
Boosted by rapid growth in metal manufacturing products, Behlen seeks a suitable location to expand and consolidate its operations. Columbus savings and loans executive Phil R. Hockenberger, Sr. conceived the extrusion site as ideal for Behlen, and suggested that Loup Public Power District offer to buy the land. It was hoped the federal government would give preference to Loup Power, a public body, in the sale of the surplus property. The power company's offer of $75 per acre was accepted, and a plat was drawn for seventy-two one-acre lots with streets, rail spurs and utility alleys.

1946
Columbus developed one of the first industrial parks in the nation. Due to aggressive economic development, Columbus is recognized today as "the most industrialized city per capita" in Nebraska.

1947
Behlen Corporation employs 185 people.

1948
The Columbus Manufacturers Exposition was held, representing 28 manufacturers and processors, who accounted for the employment of more than 750 persons. Over 10,000 spectators attended the event.

1949
A manufacturing official from Becton-Dickinson Manufacturing of New Jersey is sent to Nebraska to consider sites in Fremont, Grand Island and Beatrice for a possible branch manufacturing plant site. Nebraska industrial promoters showed sites in Fremont, which failed to meet the approval of the official, since they lacked assurances of paving, utilities, railroad and other features. On the way to Grand Island, the official was taken to the new industrial park in Columbus and was impressed. Continuing to Grand Island, he still favored Columbus, returning to Lincoln without going to Beatrice. The branch plant was constructed, and state legislation passed to prevent annexation of the site.

Late 1940's
Consumers Public Power District (forerunner to NPPD) seeks to convert the privately owned Nebraska Power Company, which operates the Omaha utility region, to a public power company. Blocked by statute from a direct purchase, and opposed by business, newspaper and public opinion in Omaha, they approached Omaha attorneys Francis Mathews, Seymour Smith, and Omaha real estate entrepreneur Ted Maenner, who with other interests formed a cooperative investors group to buy title to the Nebraska Power Company. The cooperative was able to raise funds by bonds, following which it granted a second mortgage on the utility to the Loup River Public Power District. The Loup District, ostensibly to protect its financial stake, gave the City of Omaha thirty days to form a public power district, or Loup would operate the property. The City of Omaha secured the creation of the Omaha Public Power District, thus fulfilling the goal of Columbus' electric power officials of a statewide public electric utility network.

1940-1949
Columbus gained thirteen new factories.

1950
The population of the City of Columbus is 8,884 people.

Voters approve a city bond issue to finance paving and expansion improvements to the airport.

1951
Dale electronics is formed, a local business that grew to national prominence in the manufacture and sales of electronic components.

1952
Williams Elementary School is built in the south central part of the city.

1956
The school district builds a new Columbus Senior High School, in the north central part of the community. The former high school building is operated as Columbus Middle School.

1957
Voters overwhelmingly approve a bond issue to expand the swimming pool at Pawnee Park, but reject an airport, funding proposal.

1958
Following the creation of Nebraska enabling legislation, the Columbus City Council votes to create an airport authority, which issued its own bonds to acquire land and extend the runway to 4,000 feet to accommodate commercial passenger aircraft. With no willing entrants, Columbus began a seven-year struggle to get a carrier to provide passenger service.

1960
The population of the City of Columbus is 12,417 people.

North Park Elementary School is built on a site north of the new high school. West Park Elementary is built on the west edge of the community. Williams School is expanded.

1962
The Loup River Public Power District holds a groundbreaking ceremony for Lake North, a man-made regional recreational lake located north of the hydroelectric impoundment known as Lake Babcock.

1963
Loup Power District opened Lake north four miles north of Columbus. The lake has 2,083 acre-feet of water and covers approximately 200 acres.

1965
Douglas & Lomason opens, manufacturing automotive seats and frames.

Lost Creek Elementary School is built on the far north edge of Columbus.

1965
In an era when federal regulation could mandate service to small communities and provide operation subsidies, Frontier Airlines begins commercial passenger service to Columbus.

1967
The agreements are signed completing the realignment of the Nebraska public power organizations. Consumers Public Power District joined with the Platte Valley Public Power and Irrigation and the Nebraska Public Power System to form the Nebraska Public Power District.

1968
Excel Corporation opens a major regional beef processing plant thirteen miles east of Columbus near Schuyler, eventually employing more than 1300 area residents.

By a more that 80% approval, Platte County voted to establish the Platte Community College as a local, two-year college. By the early 1970s, Platte Community College merged with the Central Community College, which also operates facilities in Grand Island and Hastings. The merger broadened the resources of the college, whose tax base was expanded to 25 counties.

1970
The population of the City of Columbus is 15,471 people.

1972
The levee on the north bank of the Loup River is completed, protecting Columbus from the recurrent floods that have plagued the community since it's founding more than one hundred years ago.

1973
The hotel and conference complex that later became the Columbus New World Inn opens as a Holiday Inn.

1974
The Columbus Municipal Airport begins construction of nearly a dozen hangers and small aircraft service buildings. Land acquisition begins for a planned relocation of 18th Avenue to create a required clear zone for the runway.

1975
Gerrard Park is developed in northwest Columbus.

1978
The Nebraska Department of Roads completes construction of a new four-lane viaduct on 33rd Avenue (the old Meridian Highway) across the Union Pacific tracks.

1979
With the federal law deregulating the airline industry, Frontier Airlines, Columbus' only carrier, ceased operations. The law provided operating subsidies for ten years for "essential air service" to affected communities. Pioneer Airways began operations under the subsidy program.

1980
U.S. 30 east of Columbus is widened and improved as a four lane divided highway.

The Population of the City of Columbus is 17,328 people.

1983
A severe flood engulfs Columbus as seven inches of rain, falls within two hours. The dormant channel of Lost Creek fills with water, flooding many residential areas of north Columbus.

1983-87
Major street reconstruction of 23rd Street west of 33rd Avenue is completed. This new street segment receives the designation of U.S. 81, from the northwest end of the city to 33rd Avenue. The formerly designed route was along Howard Boulevard.

The City builds a new Aquatics Center at a site on the Agricultural Society grounds.

1986
The federal government opens the Columbus Automated Flight Service Station in Columbus, a consolidation of six former weather observation stations in Nebraska, creating 50 new federal jobs at the Columbus Airport, with a payroll exceeding $2,000,000.

The economy of Columbus receives a needed boost, with a local unemployment rate of near 12% by the opening of Appleton Electronics, in the former Sperry-New Holland plant.

1987
A new modern bridge is completed across the Loup River.

1988
The Nebraska Department of Roads designates U.S. 81 as the primary north-south expressway in the State. Also elevated to expressway status was U.S. 30 between Fremont and Columbus.

1990
The City of Columbus completes a $5 million modernization of the community's wastewater treatment plant.

The population of the City of Columbus is 19,480 people, with more than 3,589 persons employed in the manufacturing, transportation and utilities sectors. Columbus' unemployment rate drops below 2%.

With the end of its subsidy, commercial flight service to Columbus ends. Industrial and corporate air traffic operations continue.

1991
The Columbus Quincentenary Bell Tower in Pawnee Park was officially dedicated as a lasting monument to the community's celebration of the 500th anniversary of Christopher Columbus' first voyage to the new world.

The City of Columbus opens Quail Run Municipal Golf Course, an 18-hole championship facility located on a 160-acre site southeast of the community.

The Nebraska Department of Roads completes a new Platte River bridge south of Columbus.

1992
U.S. 81 seven miles south of Columbus is improved as a four-land highway.

The City of Columbus begins to develop a new water supply with new well fields located north of the city near Lake Babcock.

1993
FlexCon begins construction of a plastics manufacturing plant.

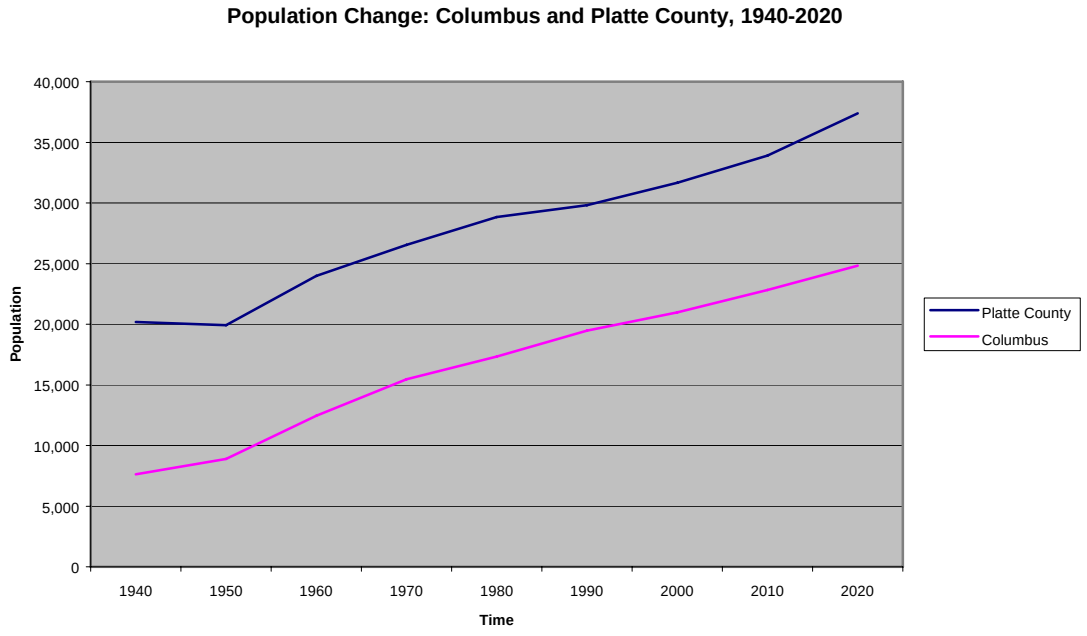
2000
A new arch, echoing the legendary Columbus landmark, was built in Pawnee Park, and plans are underway to erect two similar arches at the east and west entrances of the city.

2002
The Higgins Memorial is constructed in Pawnee Park.

2.2 POPULATION AND DEMOGRAPHICS

The population and demographic sections of the comprehensive plan sets the stage for many other sections of the plan. Information on current and future population is critical for planning future housing demand, land use patterns, economic develop and community facilities, like schools, roads and water service, for example. Population goals and objectives should be carefully researched and grounded in realistic expectations.

Graph 2-1



The gradual population decline and increasing urbanization of Nebraska's population has been a persistent trend for fifty years. Columbus and Platte County have displayed this trend. Since 1940, Columbus's population has grown by 174% while the county's population has grown by 56%. Graph 2-1 and Table 2-1 illustrate this point. Over the past 60 years Columbus has become home to an ever-increasing proportion of Platte County residents. However, recent population projections for both Platte County and the City of Columbus suggest that this trend of increasing urbanization in Platte County may have reached a zenith (see Graph 2-2).

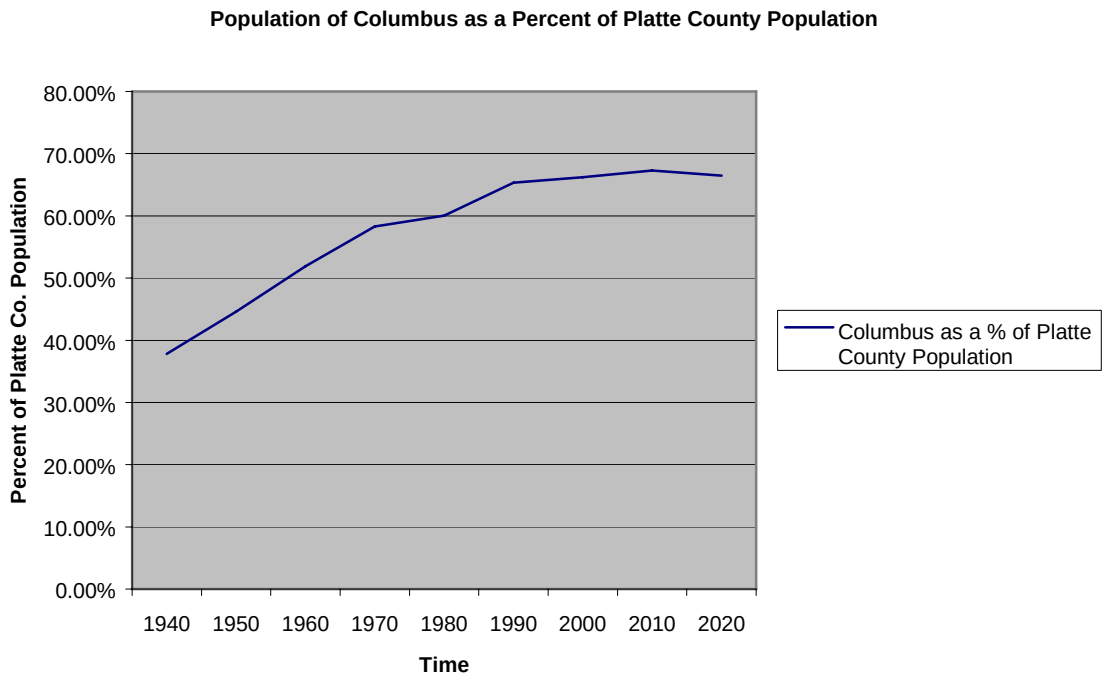
Table 2-1

Population Change: Columbus and Platte County, 1940-2020

	(Actual) 1940	(Actual) 1950	(Actual) 1960	(Actual) 1970	(Actual) 1980	(Actual) 1990	(Actual) 2000	2010	2020
Platte County	20,191	19,910	23,992	26,544	28,852	29,820	31,662	33,907	37,380
Columbus	7,632	8,884	12,457	15,471	17,328	19,480	20,971	22,823	24,839
Columbus as a % of Platte County Population	37.80%	44.62%	51.92%	58.28%	60.06%	65.33%	66.23%	67.31%	66.45%

City of Columbus growth: 2000 - 2020; 0.85% per year trend line analysis
Platte County growth: 2000 - 2010, 7.0%; 2010 - 2020, 8.0%
Source: Bureau of Business Research, University of Nebraska

Graph 2-2



The population and demographic information in Table 2-2 indicates a healthy birthrate over the past three decades despite the slower growth rate. This is evident because the percentage of the population under age 15 remained consistent during the past three decades; 1980, 24%, 1990, 25%, and 2000, 23%.

In general, Columbus has an aging population similar to national trends. The median age of 36 years in 2000 is consistent with the national average of 35.3 years. Furthermore, slightly more men than women live in Columbus, as has been the trend for the last three decades. Sixty percent (60%) of the Columbus population age 15 and over was married in 2000 and 24% was never married. This also is similar to national trends of 54% and 27% respectively.

Table 2-2
Population--Sex and Age

	1980	1990	2000
Under 5	1451	1614	1527
5 - 9	1434	1735	1585
10 - 14	1219	1579	1714
15 - 19	1583	1282	1640
20 - 24	1527	1106	1208
25 - 34	2749	3209	2610
35 - 44	1759	2747	3267
45 - 54	1642	1777	2643
55 - 59	839	819	939
60 - 64	732	801	773
65 - 74	1371	1511	1423
74 - 84	511	552	1184
85 +	511	748	458
Total	**17328**	**19480**	**20971**
Median Age	30	33	36
Female	9155	10183	10806
Male	8173	9297	10165
Female (%)	52.8%	52.3%	51.5%
Male (%)	47.2%	47.7%	48.5%

Source: US Bureau of the Census

2.3 RACE AND CULTURAL ORIGIN

Columbus residents are mostly white (92%) with people of Hispanic/Latino origin making up the largest minority group (7%). However, nearby Colfax County has a significant Hispanic population (26%) influencing Columbus and Platte County (see Table 2-3). Growth in this population was dramatic during the past decade; growing from 2.5% of the population in 1990 to 26% in 2000. According to the University of Nebraska's Bureau of Business Research, nearly 75% of Hispanic men and women living in Nebraska are under the age 35. This age group marks the primary child bearing years for women. The implications of this statistic are not certain but it is safe to assume that

the impact of Hispanic children on local school districts will be significant and command the planning efforts of local administrators.

Table 2-3
Race/Cultural Origin
(as % of population)

	Nebraska	Columbus	Platte Co.	Colfax Co.
White	87.3	91.6	92.0	73.0
Hispanic/Latino	5.5	6.7	6.5	26.2
African American/Black	4.0	0.5	0.4	0.1
Asian	1.3	0.5	0.3	0.2
Native	0.9	0.4	0.4	0.2
Other	1.0	0.3	0.4	0.3

Source: US Bureau of the Census

In Columbus, nearly 96% of residents were born in the United States and 92% speak only English. These statistics are nearly identical to the rest of Nebraska, while in the United States 87% of the population was born here and 82% speak only English.

2.4 POPULATION GROWTH RATE

Population is the major force behind housing, economy, employment and fiscal stability of communities. Historic population levels assist in projecting future levels, which in turn assist in determining the future need for: housing, retail, medical, employment and educational needs of a community. Table 2-4 represents the projected population growth for Columbus, based on three different growth rates; 0.5%, 0.85% and 1.0% per year. The rate of 0.85% per year is seen as a practical measure by which Columbus will grow over the life of the planning period. Projections provide a logical, practical estimate for the community to base development decisions. Population projections are only estimates and unforeseen factors may affect these projections significantly.

Table 2-4

City of Columbus
Population Projections, 2010 - 2020

	(Actual) 2000			
Straight Line	20971	22043	23171	0.5% per year
	20971	22823	24839	0.85% per year
	20971	23165	25589	1.0% per year

Columbus' growth rate of 8% from 1990 to 2000 is average when measured against the growth rate of comparable Nebraska cities outside of the Lincoln and Omaha metropolitan areas (see Table 2-5.). Columbus is the 10th largest city in Nebraska ranked between Norfolk with a population of 23,516 and Papillion with 16,363 residents.

Table 2-5

2000 Population of Comparable Nebraska Cities

	1990	**2000**	**Percent Change**
Columbus	19480	20971	8%
Fremont	23680	25174	6%
Hastings	22837	24064	5%
Kearney	24396	27431	12%
Norfolk	21476	23516	9%
North Platte	22605	23878	6%
Papillion	10372	16363	58%

Source: US Bureau of the Census

2.5 EDUCATION

Primary and Secondary Education

Two public school districts serve Columbus and the surrounding area; District 1 in Platte County, Columbus Public Schools, and Lakeview Community Schools. A wide array of private, parochial schools offer education opportunities in Columbus too. Scotus Central Catholic Junior-Senior High School provides secondary education and three Catholic elementary schools, three Lutheran elementary schools, and one Christian elementary school provide primary education.

According to school administration official, total enrollment in 2002-2003 was 5,716 students. School officials estimate that enrollment will remain near this level over the next five years. In 2000-2001 the average budget per pupil was $5,126 in Columbus Public Schools, $5,556 in Lakeview Community Schools (for 1999-2000), and $3,764 at Scotus Central Catholic Junior-Senior High School.

Community College

Columbus is part of Central Community College's 25-county service area and the location of one of the college's three campuses. The two other campuses are located in Hastings and Grand Island, along with the administrative offices. Total enrollment for the college was 27,836 students in 1999-2000.

The Columbus Campus offers 17 vocational-technical programs and 21 academic transfer programs designed for transfer to four-year colleges. The enrollment in 1998-1999 was 9,926 students. This enrollment includes more than 2,000 students who completed business, industrial and professional training provided by the campus for local employers. Furthermore, the Columbus Campus is a leader in designing customized training programs for business and industry.

The Columbus Campus is partnered with several four-year colleges and universities to offer select bachelors and masters degree programs. Courses and programs are offered on-campus through interactive telecommunications systems such as satellite, Internet, and video-conferencing.

Community Education Levels

In Columbus, nearly 85% of persons age 25 and over graduated from high school. Nearly 19% of them have a bachelor's degree or higher. Columbus residents education levels is similar to all Nebraska residents where nearly 87% graduated from high school and about 24% have a bachelor's degree. The national average is 80% and 24% respectively.

2.6 ECONOMY

The Columbus Plan of 1992 notes that Columbus made the transition from an agricultural service economy to an industry-based economy in the 1950s, building on the industrial infrastructure created by the large hydroelectric projects of the 1930s. Columbus has been building on that industry-based economy since that time. In 2000, the manufacturing sector employed approximately 35% of the work force in Columbus, Platte County and the Columbus labor market, the same percentage as in 1990.

Table 2-6

Employment by Industry in Platte County

	1990	2000	% change	% of total employment
Manufacturing	**5199**	**5925**	14%	35%
Non-Manufacturing	**9442**	**10863**	15%	65%
Construction/Mining	650	756	16%	5%
Transportation/Communication/Utilities	514	539	5%	3%
Retail Trade	2511	2889	15%	17%
Wholesale Trade	644	783	22%	5%
Finance/Insurance/Real Estate	525	584	11%	3%
Services	2001	2811	40%	17%
Government/Education/Health	2597	2501	-4%	15%
Total Non-Farm Employment	**14641**	**16788**	15%	100%

Source: *Industrial Facts*: Cornhusker Public Power District, Loup Power District, and Nebraska Public Power District

The economy and employment in Columbus is best exemplified through employment data from all of Platte County. Several large industrial areas in the Columbus area are not located within the City limits but within the County. This factor and the primacy of Columbus in Platte County make employment and industry data for Columbus and Platte County nearly one and the same.

Total non-farm employment in Platte County grew by 15% from 1990 to 2000. While manufacturing remained the dominant employment sector, many other employment sectors experienced strong growth trends too. In particular, the service sector employment grew by 40%, from 2001 employees to 2811. Retail trade continues to employ a large number of workers and wholesale trade increased by 22% over the decade from 644 to 783.

The strong industrial employment base in Columbus has a positive impact on the median household income in the City when it is weighed against comparable out-state

cities. Columbus' median household income of $38,874 was substantially higher than comparable cities outside of Nebraska metropolitan areas, as illustrated in Table 2-7.

The diverse industrial job base in the City and surrounding industrial parks shores the household income levels in Columbus up. As in 1990, the area hosts a diverse industrial base with nearly 30 manufacturing employers with over 25 employees. The major manufacturing industries produce electronic components, medical equipment and supplies, automotive parts, steel buildings, and processed food products.

The manufacturing industry in Columbus is supported by a diverse array of other industries. The government, retail trade and services industry employs nearly one-half (49%) of the area's work force. In addition, there are over 20 non-manufacturing industries with over 40 employees. The Columbus Chamber of Commerce has over 500 member businesses with the vast majority of those with less than 10 employees.

The 2000 Census reports that 28.5% of workers in Columbus are employed in management, professional or related occupations; 26.5% in production and transportation occupations; and 22.2% in sales and office occupations. On the other hand, only 1.9% is employed in farming occupations.

Eighty-one percent (81%) of workers in Columbus drive to work alone, while almost 10% carpool. Only 2% walk to work and nearly 1000 or 6.2% work at home.

Table 2-7

Median Household Income in Comparable Cities

	1990	**2000**	Percent Change
Columbus	$26,237	$38,874	48.2%
Fremont	$24,412	$36,700	50.3%
Hastings	$22,464	$35,461	57.9%
Kearney	$23,880	$34,829	45.9%
Norfolk	$24,935	$34,609	38.8%
North Platte	$27,962	$34,181	22.2%
Papillion	$42,796	$63,992	49.5%

Table 2-8 lists the largest manufacturing and non-manufacturing employers in Columbus, from data compiled in 2003.

Table 2-8

Ten Largest Manufacturing and Non-Manufacturing Employers
(full-time employees)

Manufacturing	
Becton-Dickinson	1118
Behlen Manufacturing	969
Vishay-Dale Electronics	667
EGS Electrical Group	605
CAMACO	600
Carneco	306
Minnesota Corn Processors	300
FLEXcon Company	217
Rockwell Automation	96
Columbus Hydraulics	78
Non-Manufacturing	
Nebraska Public Power District	498
Columbus Public Schools	403
Columbus Community Hospital	320
City of Columbus	140
Heartland Builders	136
Platte County	128
State of Nebraska	115
Loup Power District	107
First National Bank of Columbus	102
Double O Trucking	102

2.7 HOUSING

In 2000, there were 8,302 occupied housing units in Columbus. Sixty-nine percent (69%) were owner occupied and 31% were renter occupied. The average household size was 2.5 persons per household. There were 7,515 occupied housing units in 1990 and the average household size was 2.5 persons per household. The ratio between owner occupied and renter occupied households remained was approximately the same in 1990.

In Columbus, families, identical to state, occupy 67% of households and national trends reported in Census 2000.

Table 2-9

Comparative Housing Values: 1990 - 2000

	1990	2000	% change
Columbus	$52,800	$80,300	52%
Fremont	$44,000	$87,100	98%
Hastings	$44,200	$74,900	69%
Kearney	$53,700	$94,700	76%
Norfolk	$50,500	$83,000	64%
North Platte	$41,100	$75,500	84%
Papillion	$76,100	$126,100	66%

Columbus did not fare comparatively with other Nebraska cities in regard to housing values from 1990 to 2000 (see Table 2-9). The median housing value in Columbus in 2000 was $80,300, an increase of 52% from 1990. However, the increase of 52% was far below the increase of the closest comparable city—Norfolk increased 64% to $83,000. In comparable Nebraska cities outside of the metropolitan areas, the median housing value of $94,700 in Kearney was the highest.

2.8 EMPLOYMENT

Table 2-10

Platte County
Total Employment and Employment Projections, 1990 - 2020

(Actual) 1990	(Actual) 2000	(Actual) 2003	2010	2020	
15178	17294	16951	17553	18451	0.5% per year basis for 2010, 2020

Source: Bureau of Business Research, University of Nebraska

Columbus is, above all, a center for jobs. The diversity of the city's major industries and the relatively high demand for its products has maintained the city's job base and economic vitality. In addition, the presence of strong industries and plentiful industrial land provides a good basis for further economic development. The strength of Columbus's economy is illustrated through its employment projections (see Table 2-6).

2.9 RECREATION AND AMENITIES

Parks

Columbus has 13 parks covering 350 acres. Park facilities include picnic tables, fireplaces, shelters, and playgrounds. The Columbus Park Department maintains the public parks and operates golf courses and the Aquatic Center. There are 43 acres of parkland per 1,000 persons in Columbus.

The signature park in Columbus is Pawnee Park covering 202 acres in the southwest part of the city. Pawnee Park offers the following list of recreation and leisure attractions:

- Two large group picnic shelters
- Memory Meadows and Civic Forest
- Lagoon and one-half acre lake
- Ice skating in the winter
- Lighted tennis courts
- Horseshoe pits
- Picnic tables with cooking grills
- Sand volleyball courts
- Four playground structures
- All-weather track -- 8-lane, 400 meter
- Lighted, 1200 seat baseball diamond
- Lighted, 2,200 seat stadium with football field and track

Other city and regional parks are:

City Parks

- Airport Park
- Aquatic Center—Olympic-size indoor pool with diving areas and locker facilities.
- Berne Square Park
- Bradshaw Park Softball Complex—Four-diamond softball complex with two football fields and restrooms.
- Buffalo Square Park
- Centennial Park—Three-diamond, lighted baseball complex with a batting cage and horseshoe pits, basketball court, playground and restrooms.
- Fountain Square Park
- Frankfort Square Park
- Gerrard Park—Six-diamond, lighted softball complex, tennis courts, basketball court, playground and restroom.
- Glur Park

- Gruenther Park
- Hanover Square Park
- Wilderness Park Soccer Complex—41-acre park with ten soccer fields and restrooms.

Loup Power District Parks

- Lake North Park—200-acre recreation area offering a full array of water-based recreation activities and 2 miles of beaches.
- Loup Park/Lake Babcock—40-acre wooded recreation area with hiking, camping and outstanding wildlife.
- Powerhouse Park—Five-acre Park adjacent to the Columbus Powerhouse offering fishing, picnicking, and a playground.
- Tailrace Park—Ten-acre Park located 3-miles east of Columbus offers fishing and a scenic natural setting.

The following is a list of recreational activities and the location of these attractions:

- Archery—Centennial Park
- Bicycling/Hiking/Walking—Two Lakes Trail, Volksmarch, and city-wide trail system
- Boating—Lake North
- Bowling—Two bowling alleys
- Camping—Agriculture Park, Lake North, Loup Park, Powerhouse Park, Tailrace Park, and private campgrounds
- Fishing—Lake Babcock and Lake North
- Golf—Four courses: one private 18-hole course, one public 18-hole course, and two public 9-hole courses
- Horse Races—Live thoroughbred racing 20 days per year and year-round simulcast racing
- Hunting—Seasonal hunting around Columbus for pheasant, quail, rabbit, squirrel, deer and prairie chicken
- Miniature Golf—One 27-hole course
- Racquetball—Four indoor courts and one outdoor court
- Skating—Inline hockey and center and seasonal ice skating
- Swimming—The Aquatic Center, one at the country club, and one at the YMCA
- Tennis—Sixteen lighted courts and two indoor courts, and one outdoor court at the YMCA
- Theaters—One six-theater complex

Key recreation facilities in Columbus that offer recreational opportunities and facilities include the Columbus Family YMCA and the Columbus Aquatic Center, owned and operated by the City of Columbus.

Community Events

The City of Columbus, Platte County and many community organizations offer dozens of community events throughout the year. These events range from art shows and music contests to motorcycle rallies and hot rod and classic car shows. Some the featured events are:

- Farm Show in January
- Lawn Chairs on the Square in June - August
- Platte County Fair in July
- Columbus Days in August, and
- Santa's arrival in November.

A complete list of events and activities is updated regularly by the Columbus Chamber of Commerce and is available on the Internet at www.thecolumbuspage.com.

Arts, Culture and History

The arts, culture and history are important community assets in Columbus. There are several active community artists and associations that sponsor activities related to the arts, theater and music. The Art Gallery is located in the lower level of the Columbus Public Library and is sponsored by the Columbus Area Arts Council. The Platte Valley Playhouse is a community theater organization that offers six shows annually. The Friends of Music is a community concert association that sponsors three to five local concerts annually featuring national and international artists.

Columbus has a rich historic past from its original settlement by the Pawnee to European settlement along the Overland Trail to modern development on the main line of the Union Pacific Railroad. Downtown Columbus is one of Nebraska's largest continuously used business districts where there are over 100 buildings constructed between the late 1800s and the mid 1900s.

Columbus hosts seven structures on the National Register of Historic Buildings and many historic markers, murals and memorials. All contribute to the preservation of the history of Columbus and Platte County. The Columbus Chamber of Commerce, the Platte County Visitors Bureau and the Platte County Museum, operated by the Platte County Historical Society, are excellent sources of up-to-date information concerning the history of Columbus and Platte County.

2.10 GOVERNMENT AND PUBLIC SERVICES

Columbus is the County Seat of Platte County. Platte County has 18 townships and is governed by a seven-member Board of Supervisors. The historic Platte County Courthouse is located on the square in Downtown Columbus and houses most of the County offices, law enforcement and judicial facilities. Platte County employs nearly 150 persons and provides a wide array of governmental services from property assessment to law enforcement to motor vehicle licensing.

The City of Columbus is a first class city in Nebraska. The City has a mayor-council form of government with a full-time city administrator. City Hall is located in Downtown Columbus and houses the administrative offices for most city departments. The Mayor and eight City Council members are elected to alternating four-year terms. Appointed City officials and department heads include:

- City Administrator
- City Clerk/Assistant City Finance Director
- City Attorney
- City Engineer
- Chief of Police
- Fire Chief
- Finance Director/City Treasurer
- Community Development Director
- Property Superintendent
- Library Director
- Human Resources Director

The City of Columbus provides a wide range of governmental and community services to its residents. The responsible City departments and services include:

<u>Fire Department/Emergency Medical Services (EMS)</u>

Twelve full-time firefighters and 76 volunteer members provide fire protection and EMS to Columbus. Thirty-six are registered as Emergency Medical Technicians-Ambulance (EMTA) and 29 are certified for defibrillator use (EMT-AD).

<u>Police Department</u>

The Columbus Police Department employs 35 full-time officers and 12 support staff. The department has a fleet of 17 vehicles, operates the regional 911 emergency telephone system, and provides Drug Awareness Resistance Education (DARE) and Gang Resistance Education and Training (GREAT) to local students.

The department reported that the crime rate per 1,000 persons in Columbus was 27.3 in 1999. Comparable crime rates for the state and nation in 1999 were 41.3 and 42.7 respectively.

Public Works/Engineering

Streets—The Public Works Department is responsible for 137 miles of streets in Columbus. Nearly 126 miles of City streets are hard-surfaced with concrete or asphalt. The Department reports that 75% of the streets have curbs and 60% have sidewalks. The transportation section of the Comprehensive Plan will address the street and transportation system in Columbus in detail.

Water—The municipal water system in Columbus operates a well field of 14 wells with a combined pumping capacity of 16,000 gallons per minute and a storage capacity of 5.3 million gallons. The water system operates two water treatment plants with the capacity of 3 million and 10 million gallons per day.

Water is supplied to residential, commercial and industrial customers inside and outside the city limits. *Columbus, Nebraska Industrial Facts* reports that ample groundwater is available for industrial use in the Columbus vicinity and that, typically, a 150-foot well will produce 1,500 gallons per minute.

Sewer—The City operates and maintains a sanitary and storm sewer system. The activated sludge treatment plant has a daily capacity of 4.5 million gallons while average daily flow is 3.2 million gallons. Sanitary sewer service is provided to residential, commercial and industrial users within city limits.

Planning and Zoning—The Community Development Director and the Planning and Zoning Commission administer planning, zoning and building regulations in Columbus. The role of zoning and subdivision regulations will be examined in greater detail in the implementation section of Comprehensive Plan.

Columbus Public Library

The Columbus Public Library is located in a 30,000 square foot building in Downtown Columbus. The library houses a broad collection of books, videos, periodicals and other media. The library facility offers many services to the community including conference and meeting rooms, computer and office services, teleconferencing and Internet access.

Other Facilities

The City of Columbus also offers many services to area senior citizens at the Senior Center. In addition, the Columbus Animal Shelter provides animal control services for the City.

3.0 LAND USE

3.1 EXISTING LAND USE

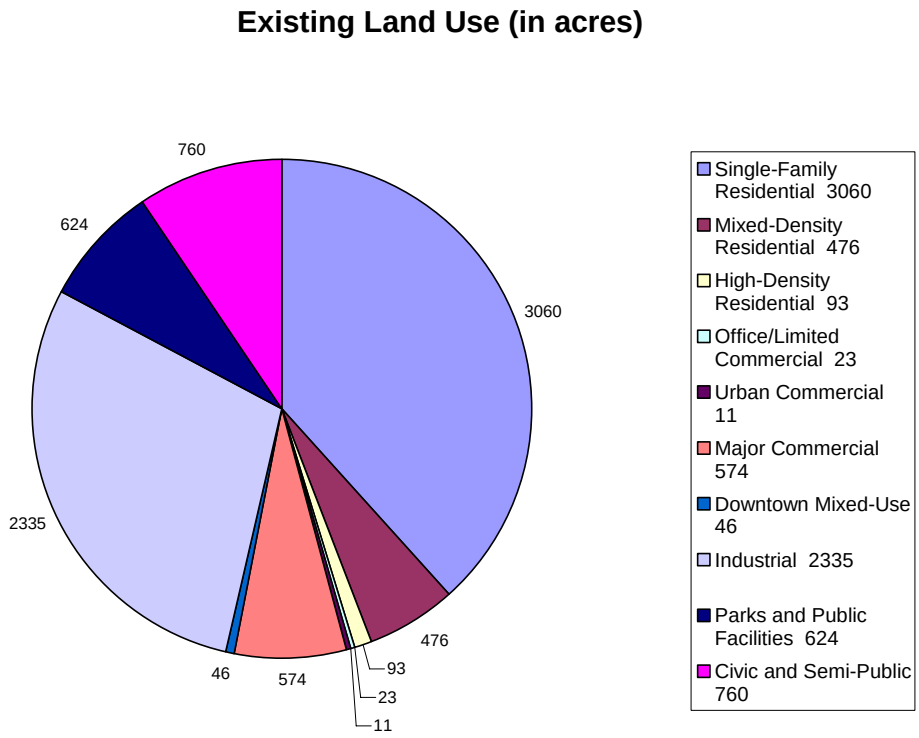
What is Land Use? Land use defines where people live, work and play. Land use patterns shape the nature of socioeconomic data by reflecting urban and non-urban activity through population, employment, dwelling units and school enrollment. Some uses represent areas with a greater intensity of urban activity such as residential, commercial, industrial, institutional or recreational land uses, while some uses represent less intense activity such as agriculture and open space.

In general, Columbus' land use pattern is largely suburban/urban in nature. However, the city is also the location of one of the largest manufacturing centers in the region, making Columbus a vital part of the regional economy. The predominant use of land within the planning area is residential. The great majority of these residential uses are Single-Family Residential, which make up 38.24% of the total land use. Mixed-Density Residential and High-Density Residential make up a much smaller portion of total land use accounting for 5.95% and 1.16% respectively. Most of the residential development is located within the city limits of Columbus. Commercial development is concentrated on the Highway 30 and Highway 81 corridors. Commercial uses are a significant element of the Central Business District (CBD), with neighborhood commercial areas throughout the city. Industrial activity is a significant land use in the area, although the bulk of Industrial activity is located to the east of the city and outside of city limits. The rest of Industrial uses are found within Columbus city limits and are located along the UPRR line that runs through the city. Public uses consist of parks, schools, churches, service clubs, fire halls, city water and sewer operations, post office and other similar public uses identified on the Existing Land Use Map (see Figure 2). Major natural resources related land uses in the planning area consist of agriculture areas and floodplain areas. These also are identified on the map.

Table 3-1 and **Graph 3-1** represented below give the total land use of development patterns for the City of Columbus.

Table 3-1		
Single-Family Residential	3060	38.24%
Mixed-Density Residential	476	5.95%
High-Density Residential	93	1.16%
Office/Limited Commercial	23	0.29%
Urban Commercial	11	0.14%
Major Commercial	574	7.17%
Downtown Mixed-Use	46	0.57%
Industrial	2335	29.18%
Parks and Public Facilities	624	7.80%
Civic and Semi-Public	760	9.50%
Total	8002	

Graph 3-1



3.2 NEIGHBORHOODS

In order to discuss Columbus in a more detailed manner it is appropriate to divide the city into different sections or neighborhoods. Major streets, such as 23rd Street or 33rd Avenue, which carry major highways that bisect the city, often define neighborhood districts. In other areas, major community features such as Pawnee Park, the Union Pacific corridor, or the Platte County Agricultural Society grounds define the inter-city boundaries of Columbus.

In addition, more subtle factors also help to define planning districts. These include such characteristics as age of housing, housing types and densities, neighborhood concerns, and accessibility of services. It is important that the districts be understood as community organizers and not community dividers. The nine Columbus neighborhoods, (which we have identified for planning purposes) their approximate boundaries, and general characteristics are as follows:

Northwest
North Central
West
Midtown
Wagner Lakes
South
Southeast
East Central
Northeast

These neighborhood planning districts are illustrated in Figure 5.

Northwest
The Northwest neighborhood of Columbus is defined as the area north of 23rd Street (US 81), west of 33rd Avenue, south of the proposed north arterial, and east of 63rd Avenue.

The predominant land use in the area is single-family residential with high-density zones adjoining the UPRR and commercial areas. An unconnected, single-family subdivision is located along 33rd Avenue to the north of the neighborhood. The Northwest is the city's most diverse residential area, comprised of housing built in the post-WWII era. This mixed-density neighborhood has substantial tracts of vacant, unplatted land. Contiguous growth of residential land uses in this neighborhood is recommended as this neighborhood area continues to grow.

Commercial activity is located, almost entirely along 23rd Street and 33rd Avenue. Commercial growth efforts should focus on the redevelopment and reuse of existing, vacant stores and tracts of land. Growth of new commercial land use is recommended to the west of 63rd Avenue and along 38th Street around Columbus Community Hospital. The area around the hospital should be reserved for medical office and medical services primarily, with additional ancillary commercial services, as the market demands.

There is limited to no industrial activity located within this neighborhood. No industrial land use growth is recommended for this area.

This neighborhood is home to one community park; Gerrard Park, a 40-acre recreational area with 6 tennis courts, 5 softball fields, 3 restrooms, one soccer field, one basketball court, and a playground.

North Central
The North Central neighborhood of Columbus is defined as the area north of 23rd Street, east of 33rd Avenue, west of Columbus Municipal Airport, and extending ½ mile north of 38th Street.

North Central Columbus is a post-WWII neighborhood that is relatively mixed in terms of the price range for existing housing. Single-family residential is a major land use in this area. There are two high-density residential zones located on Monastery Road. Growth of residential land uses are recommended north of 38th Street.

Commercial activity is located along 23rd Street. Commercial growth is recommended at the intersection of 33rd Avenue and the proposed north arterial.

No industrial growth is recommended for this area.

There are three community parks—Glur Park, Airport Park and Wilderness Park. Both Glur Park and Airport Park are located within the north central residential area, while Wilderness Park is located ½-mile north of the leading edge of residential development. Glur Park is a 6-acre facility with a midget football field, lighted tennis court, and playground equipment. Airport Park is a 2.7-acre facility with playground equipment and picnic tables. Wilderness Park is a 26-acre park with 10 regulation soccer fields, restrooms, a concession stand, and the Wilderness Park Trail.

Columbus High School, the administration office, and ancillary facilities are located in the south central section of this neighborhood. This facility is the only public high school serving the community inside the city limits.

Northeast
The Northeast neighborhood of Columbus is defined as the area north of 23rd Street, east of Columbus Municipal Airport, south of the proposed north arterial, and west of East 29th Avenue.

The Northeast is a developing neighborhood with existing large, vacant tracts. There are two single-family subdivisions, the first adjacent to 5th Avenue and the second adjacent to 23rd Street. Also, two unconnected, single-family subdivisions are located within the Northeast near the canal and 23rd Street. Contiguous growth of residential land use is recommended throughout this neighborhood.

The only commercial uses in the area are located along 23rd Street and 3rd Avenue. Contiguous growth of commercial land use is recommended along the 23rd Street corridor. Commercial growth in the Northeast will include a new major commercial center and the planned construction of a Walmart Super Center. Future commercial growth should focus on the area immediately north of this area.

Industrial activity is located on 23rd Street near the canal and is in the far eastern portion of the area. No industrial growth is recommended for this area, except for redevelopment or infill development of land currently identified for industrial uses.

West
The West neighborhood of Columbus is defined as the area west of 33rd Avenue, south of 23rd Street (US 81), north of the UPRR line, and east of 63rd Avenue.

The predominant land use in the area is residential with the population density falling from mixed-density in the east to single-family in the west. The housing stock in West Columbus is mixed in terms of price range for existing housing. In certain areas of the neighborhood, substantial rehabilitation needs are evident. Redevelopment of existing residential land use is recommended in this neighborhood.

This area is ringed at the north and east edges, along 23rd Street and 33rd Avenue, with commercial activity. Within this neighborhood, some commercial activity also exists where Howard Boulevard bisects West Columbus Street. Redevelopment of commercial land uses is recommended for this area, however, new commercial uses should be scaled to blend with the existing structures, materials, setbacks and be aesthetically compatible to the surrounding residential and public land uses.

Industrial activity is located to the south and northwest of the neighborhood and is adjacent to the UPRR. No industrial growth is recommended for this area.

Three community parks serve the area. Gruenther Park is a 1-acre facility with tennis/basketball courts and a playground. Bradshaw Park is an 11.5-acre facility newly donated to the city, and is currently home to four baseball fields, one midget football field, one regular football field, restrooms and a concession stand. Fountain Square is a 1-acre facility with a basketball court and a playground.

The City's Central Maintenance Facility is located in the north part of the neighborhood. This facility houses the city's maintenance functions for streets, sewer and water operations.

Midtown

The Midtown neighborhood of Columbus is defined as the area south of 23rd Street, north of the UPRR, east of 33rd Avenue, and generally west of 12th Avenue.

The predominant land use in this area is residential with population density falling from mixed-density in the southwest (near the downtown) to single-family in the north and northeast. This is the most populous neighborhood in the city, containing older homes with a diverse mix of price ranges. Redevelopment of existing residential land use should be accomplished through architectural characteristics that will present a unified appearance and compatibility throughout the neighborhood.

Commercial activity in the area is located, for the most part along 23rd Street and 33rd Avenue with smaller pockets located in the central and western areas of Midtown. The majority of the Central Business District (CBD) is located in Midtown. Redevelopment of existing commercial land use is recommended for this area.

Industrial activity is located in the northeast part of the neighborhood, and along the UPRR. No new industrial growth is recommended for this area.

There are two parks that serve the midtown area. Hanover Square is a 1.72-acre park with a tennis/basketball court and a playground. The symbolic heart of the community, Frankfort Square; is a 1.72-acre park with a performance stage, War memorial, and park benches.

Public facilities are located throughout Midtown. This area is richly endowed with major community institutions and facilities. The City Hall, Police Station, Library, Senior Center, and Platte County Courthouse are all located within the Midtown neighborhood.

East Central

The East Central neighborhood of Columbus is defined as the area east of 12th Avenue, south of 23rd Avenue, north of the UPRR, and west of East 14th Avenue.

Single-family residential is a major land use in the area. There is a small area of high-density residential adjacent to 23rd Street. This area contains some of the newest, most expensive housing in the city, in the Christopher Cove Subdivision. Redevelopment of existing residential land use is recommended for the area.

Commercial activity is located adjoining 23rd Street. Redevelopment of existing commercial land use is recommended for the area as well as in-fill, new commercial development.

Industrial activity is located in the eastern portion of the area. Growth of industrial land use could be accomplished through the redevelopment and further development of existing industrial land use areas.

The East Central neighborhood is home to the Platte County Agricultural Society grounds. This facility is used for a number of recreational activities such as horse racing, agricultural shows, and other local events.

Wagner Lakes
The Wagner Lakes neighborhood of Columbus is defined as the area south of UPRR, west of 33rd Avenue, and north of the Loup River.

The predominant land use in the area is single-family residential. This area is experiencing a unique cycle of redevelopment, as modest seasonal cabins are demolished and replaced by permanent modern homes. There is a small area of high-density residential to the northeast of the neighborhood. Further redevelopment of existing residential land use is recommended for this area.

There are limited commercial and industrial uses located within the Wagner Lakes area. No growth of either is recommended for this area. However, redevelopment of the existing commercial land uses along 33rd Avenue is strongly encouraged.

The neighborhood and the entire community are served by Columbus' largest community park, Pawnee Park. This 100-acre park is Columbus' showcase recreational facility, the site of active recreation fields, civic displays and mature cottonwood trees overreaching lagoons and picnic areas. The park is home to Memorial Football Stadium, an all-weather track, softball/soccer field, 4 tennis courts, 6.5-acre lake and a large picnic shelter. Plans are underway for the construction of a new water park in Pawnee Park

Van Berg Golf Course, located just west of Pawnee Park, is a 9-hole public course serving Columbus. The course, established in the 1930s covers 50 acres. A masonry pro-shop and storage building, both built in 1975 provide the necessary services to the course's clientele.

South
The South neighborhood of Columbus is defined as the area south of the UPRR, north of the Loup River, east of 33rd Avenue, and west of 12th Avenue.

The predominant land use in the area is residential with population density falling from mixed-density residential in the northwest to single-family residential in the southeast. South Columbus is an extremely mixed residential community in terms of age, price range, and density of housing. This district contains the oldest housing stock in the city. Certain areas of the neighborhood exhibit substantial rehabilitation needs. The sparsely populated south end of the neighborhood contains a large number of platted, un-built lots. Redevelopment of existing residential land use is recommended for this area.

Commercial activity is located along 33rd Avenue and in the southern most portion of the CBD area. Redevelopment of existing commercial land use is recommended in this area.

There is limited industrial activity located in the northwest of the neighborhood. No industrial growth is recommended for this area.

There are three community parks located throughout South Columbus; the largest is East Pawnee Park. East Pawnee Park is a 34-acre facility with a fishing/boating lake, a large picnic shelter, a basketball court, and a playground. Berne Square is a 1.72-acre park with a softball field and concession stand. Buffalo Square is a 1.72-acre park with mature trees, a lighted tennis court with basketball goals and playground equipment.

The city's water tower and water plant storage facilities are located in the South neighborhood. The city's wells are also located in this neighborhood. Plans to expand the city's wells have already begun in an area north of Columbus along the south end of Lake Babcock.

Southeast

The Southeast neighborhood of Columbus is defined as the area south of the UPRR, north of the Loup River, west of East 14th Avenue, and east of 12th Avenue.

The Southeast is a newer, predominantly single-family residential neighborhood with substantial tracts of vacant, unplatted land. Three high-density residential areas are located throughout Southeast Columbus. Residential growth is recommended for land in the area between 3rd Avenue and East 14th Avenue.

Industrial activity is located along the UPRR and in the northeast part of the area. It is recommended that new construction of Industrial uses be located within areas already served by infrastructure and zoned for Industrial uses.

Centennial Park is the only public park located in this neighborhood. This is a 20-acre facility with 3 baseball/softball fields, two tennis/basketball courts, a handball court, an archery range, a picnic shelter, and a playground. Quail Run Golf Course is located in the south part of this neighborhood. This 18-hole, 160-acre facility was established in 1991. The course includes a clubhouse, pro-shop, and a maintenance building.

There are two public facilities located in the Southeast. A fire station is in the northwest corner of this neighborhood. Also the city's waste-water treatment plant is located west of Quail Run Golf Course.

3.3 FUTURE LAND USE

The Future Land Use map (see Figure 3) for the community is a guide to assist local, county, and regional agencies and officials in decisions relating to day-to-day planning, zoning, land subdivision, and public improvement issues. From time to time, the plan should be reviewed and, when necessary, revised to respond to changing needs of the community.

Economic, political, environmental, and social climates are constantly changing and these changes impact the built environment. To be effective, a comprehensive plan must be based on sound planning principles that encourage a workable plan, which can be implemented by the community. The Future Land Use map and supporting text that follow are based on the fundamental planning principles summarized below:

Guiding Principles for Columbus

Guiding Principles for Residential Land Uses

- Affordable housing should be distributed throughout Columbus, to be near employment centers and to provide housing choices in every neighborhood.
- Preserve existing affordable housing and promote the creation of new affordable housing.
- Preserve and protect existing housing stock for use by future generations.
- Provide for a broad range of housing options, from the most affordable to the most expensive. These should be located throughout the community and include efficiency apartments, single-family “starter” homes, downtown loft apartments, country estates, and assisted living units.
- Avoid new residential development in environmentally sensitive areas such as floodplains, wetlands and well fields.
- Encourage convenient access to neighborhood services—stores, schools, and parks—from residential areas.
- Many activities of daily living—stores, parks, schools, and employment centers—should be within walking distance (1/2 mile) of Residential land uses.
- Streets, trails and sidewalks should be interconnected to provide multiple transportation options within and between neighborhoods.

Guiding Principles for New Neighborhoods

The guiding principles for new neighborhoods are a combination of principles identified in this section and the principles for other sections too, such as commercial or existing neighborhoods. A neighborhood is more than housing. Great neighborhoods combine many elements including housing, parks, commercial activities, and the environment together in one place.

The guiding principles for new neighborhoods in Columbus are:

- A mixture of housing types including single-family homes, duplexes, townhomes, apartments and elderly housing within the neighborhood area

- Similar housing facing each other—single-family face single-family, townhomes face townhomes, and changes to different uses occur at the rear of lots
- Parks and open spaces are within walking distance (1/2 mile) of most residences
- Multi-family and elderly housing should be located nearest to commercial areas
- Provide pedestrian opportunities such as shorter block lengths, sidewalks on both sides of streets, and pedestrian connections to public uses—schools, churches, and parks—and to commercial areas.
- Incorporate public use (e.g. churches, schools, and parks) as neighborhood centers and promote shared uses like city parks and school playgrounds.

Guiding Principles for Existing Neighborhoods

The guiding principles for existing neighborhoods are based on the preservation of the quality existing housing stock in Columbus. Existing neighborhoods represent significant historical private and public investments that residents benefit from today. The following principles are intended to be a guide to the redevelopment and preservation of these neighborhoods.

- Promote the preservation, maintenance and renovation of existing housing throughout the city, with a special emphasis on low and moderate-income areas.
- Maintain and enhance infrastructure and public services in existing neighborhoods.
- Encourage a mixture of compatible land uses and housing types in neighborhoods, but keep similar uses on the same block face—single-family facing single-family and change to different uses at the rear of lots.
- Commercial parking lots should not intrude into residential areas where the block face is predominately residential.
- Require new or in-fill development to be compatible with the character of neighborhood and adjacent uses—parking at the rear, similar setback, height and land use.
- Encourage retention of single-family housing types.
- Encourage historic preservation and rehabilitation of key neighborhood buildings—schools, churches, and historic homes.
- Maintain small parks and open spaces within walking distance (1/2 mile) of most residences.
- Retain public uses—schools, parks and churches—as neighborhood centers.
- Maintain existing street patterns.

Guiding Principles for Rural Residential Areas

Past acreage and rural residential development has presented many practical dilemmas—conflicts with agricultural practices, impact on school districts, volunteer fire departments, and the Platte County road network. Additional problems arise when a

growing city annexes rural areas—incompatible infrastructure systems, higher property taxes, and changes in school districts.

The following principles are intended to be a guide to the development of rural residential areas.

- Promote different housing types and choices through the use of different minimum lot sizes and cluster housing options.
- Preserve areas for the future urban growth of Columbus and maintain those areas in agricultural uses.
- Promote rural residential development where rural water and sewer systems are available—adjacent to existing rural residential development.
- If rural water and sewer are not available, promote the use of sanitary improvement districts to fund the development of community water and sewer systems.
- Encourage rural residential development to build infrastructure compatible with standards used in Columbus.
- Avoid new development in environmentally sensitive areas such as floodplains, wetlands and well fields.

Guiding Principles for Commercial and Industrial Land Uses

The guiding principles for commercial and industrial development should be used as a guide based on two objectives: 1) to provide flexibility to the market in selecting future commercial and industrial locations, and 2) offer neighborhoods—both residential and commercial—a level of predictability regarding the future location of new developments.

The guiding principles for commercial and industrial development are:

- Promote locations within the Columbus City limits or within established industrial parks
- Avoid locating in environmentally sensitive areas such as floodplains, wetlands and well fields—except in areas of existing commercial and industrial zoning.
- Locate where urban services and infrastructure are available or planned in the near future
- Locate in sites supported by adequate road capacity—commercial and industrial development should be linked to the implementation of the transportation plan (e.g. development should occur along the new North Arterial roadway, at key intersections.
- Compatible with existing or planned residential development
- Accessible by various modes of transportation—freight, rail, automobile, pedestrian
- Physically linked to adjacent development, although undesirable traffic impacts on adjacent residential areas should be avoided
- Encourage development to aesthetically enhance entryways when located on such corridors at Highway 30 and 81
- Develop with cluster or hub concepts that incorporate shared parking, easy pedestrian access and movement, minimize impacts on adjacent uses and create unique places

- Contain a mixture of commercial and/or industrial land uses such as offices, retail, services and general commercial; light industrial and warehousing may be integrated into the development in specific circumstances
- New or established commercial development should not encroach upon, or expand into, existing neighborhoods.
- Buildings and land uses at the edge of commercial development should be compatible with adjacent residential uses—buildings with more intensive uses should have greater setbacks
- The most intensive uses such as restaurants, car washes, convenience stores and drive through facilities should be located nearer to major streets or roadways and furthest from residential areas

Guiding Principles for Downtown

Downtown Columbus continues to serve as the central location for financial, government and cultural activity in the region. Downtown is the largest, most compact concentration of commercial development in the City. It's the location of many new and long-standing businesses, City and County government, and it includes Frankfort Square, one of the finest town squares in Nebraska.

While general retailing in downtown has declined over the past two decades, many small retailers and service businesses have moved in to fill the void. Downtown now serves as an incubator for new and small businesses in the City. Those businesses are surrounded and supported by several banks, City and County government, cafes and restaurants, offices, car dealerships, limited industry and nearby schools.

The guiding principles for downtown seek to preserve and enhance the unique atmosphere that exists in Downtown Columbus.

- Strengthen the downtown retail environment through public and private improvements
- Increase the economic reward for building and property owners downtown by encouraging a mix of land uses—live work units, upper floor apartment and light industrial/warehousing along the UPRR.
- Promote community activities downtown
- Encourage private investment through public investment in public infrastructure—streetscape, lighting, sidewalks, Frankfort Square improvements

Land Use Compatibility Guide: Key for Rating

The Land Use Compatibility Guide rating system was created from the guiding principles noted earlier in this section. This rating system is recommended to serve as a guide for making land use decisions in Columbus. The following 5-point scale is a description of the compatibility characteristics of land uses. These descriptions, along with the Land Use Compatibility Matrix, which displays the scores based on the adjacency of proposed land uses, are the foundation for making land use decisions in Columbus.

Land Use Compatibility Scale

5: Identical to pre-existing land uses or totally compatible. Development should be designed consistent with good planning practice.

4: The proposed use is basically compatible with the pre-existing adjacent use. Traffic from higher intensity uses should be directed away from lower intensity uses. Building elements and scale should be consistent with surrounding development.

3: The proposed use may have potential conflicts with existing adjacent uses, which may be remedied or minimized through project design. Traffic and other external effects should be directed away from lower-intensity uses. Landscaping, buffering, and screening should be employed to minimize negative effects. A Planned Unit Development may be advisable.

2: The proposed use has significant conflicts with the pre-existing adjacent use. Major effects must be strongly mitigated to prevent impact on adjacent uses. A Planned Unit Development is required in all cases to assess project impact and define development design.

1: The proposed use is incompatible with adjacent land uses. Any development proposal requires a Planned Unit Development and extensive documentation to prove that external effects are fully mitigated. In general, proposed uses with this level of conflict will not be permitted.

Table 3-2

Proposed Land Use	Agricultural District (AG)	Rural Residential District (RR)	Single-Family Residential District (R-1)	Urban-Family Residential District (R-2)	Multiple-Family Residential District (R-3)	Mobile Home Residential District (MHR)	Office District (O)
Agricultural District (AG)	5	5	4	3	2	2	1
Rural Residential District (RR)	5	5	4	3	2	2	2
Single-Family Residential District (R-1)	4	4	5	4	3	3	3
Urban-Family Residential District (R-2)	3	3	4	5	4	4	4
Multiple-Family Residential District (R-3)	2	2	3	4	5	5	5
Mobile Home Residential District (MHR)	2	2	3	4	5	5	5
Office District (O)	1	2	3	4	5	5	5
Limited Commercial District (LC)	1	1	2	3	4	4	5
Urban Commercial District (UC)	1	1	2	3	4	4	5
Central Business District (B-1)	1	1	2	3	3	4	5
General Commercial District (B-2)	1	1	2	3	3	4	5
Limited Industrial District (ML/C-1)	1	1	1	1	2	2	4
General Industrial District (MH)	1	1	1	1	1	1	3
Civic	3	3	3	3	4	4	4
Utilities	2	2	2	2	2	2	4

Proposed Land Use	Limited Commercial District (LC)	Urban Commercial District (UC)	Central Business District (B-1)	General Business District (B-2)	Limited Industrial District (ML/C-1)	General Industrial District (MH)	Civic	Utilities
Agricultural District (AG)	1	1	1	1	1	1	3	2
Rural Residential District (RR)	1	1	1	1	1	1	3	2
Single-Family Residential District (R-1)	2	2	2	2	1	1	3	2
Urban-Family Residential District (R-2)	3	3	3	3	1	1	3	2
Multiple-Family Residential District (R-3)	4	4	3	3	2	1	4	2
Mobile Home Residential District (MHR)	4	4	4	4	2	1	4	2
Office District (O)	5	5	5	5	4	3	4	4
Limited Commercial District (LC)	5	5	5	5	4	3	3	4
Urban Commercial District (UC)	5	5	5	5	4	3	2	5
Central Business District (B-1)	5	5	5	5	4	3	2	5
General Commercial District (B-2)	5	5	5	5	4	3	2	5
Limited Industrial District (ML/C-1)	4	4	4	4	5	5	2	4
General Industrial District (MH)	3	3	3	3	5	5	1	3
Civic	3	2	2	2	2	1	5	2
Utilities	4	5	5	5	4	3	2	5

3.4 LAND USE CLASSIFICATIONS

Another tool to use in making land use decisions is an examination of land use classifications, the common characteristics for each classification, and potential features for optimum locations for such uses. The following analysis is a brief summary of the land use classifications identified in the existing *Columbus Plan* and in the Columbus zoning regulations. The analysis may be useful to decision makers as they consider the relationship of existing and future land uses.

Agriculture and Open Space

The characteristics are as follows: 1) generally in agricultural or open space use; *2*) agriculture will remain the principal use during the planning period; 3) extension of urban services is unlikely during the foreseeable future.

The features and locational criteria are as follows: 1) these areas should remain in primary agriculture use; 2) Urban encroachment, including large lot subdivisions, should be discouraged; 3) primary uses through the planning period will remain agricultural; 4) typical zoning would be AG agricultural.

Flood Area

The characteristics are as follows: 1) restrictive of prohibit uses which are dangerous to health, safety, or property in times of flooding or cause undue increases in flood heights or velocities.

The features and locational criteria are as follows: 1) Require that uses vulnerable to floods, including public facilities which serve such uses, be provided with flood protection at the time of initial construction; 2) protect individuals from buying lands which are unsuitable for intended purposes because of flood hazard; 3) assure that eligibility is maintained for property owners in the community to purchase flood insurance in the National Flood Insurance Program when identified by the Federal Insurance Administration as a flood prone community.

Single-Family Residential

The characteristics are as follows: 1) restrictive land uses, emphasizing single-family detached development, although unconventional single-family forms may be permitted with special review; 2) civic uses are generally allowed, with special permission for higher intensity uses.

The features and locational criteria are as follows: 1) primary uses within residential growth centers; 2) should be insulated from adverse environmental effects, including noise, smell, air pollution, and light pollution; 3) should provide a framework of streets and open spaces; 4) typical densities range from 1 to 6 units per acre; 5) typical zoning is R-1.

Mixed-Density Residential

The characteristics are as follows: 1) restrictive land uses, emphasizing housing; 2) may incorporate a mix of housing types, including single-family detached, single-family attached, townhouses, apartments, and a combination of duplex uses; 3) civic uses are generally allowed, with special permission for higher intensity uses.

The features and locational criteria are as follows: 1) applies to established neighborhoods of the city which have diverse housing types, and in developing areas that incorporate a mix of development; 2) developments should generally have articulated scale and maintain identity of individual units; 3) develop in projects with

adequate size to provide full services; 4) tend to locate in complexes, but should include linkages to other aspects of the community; 5) typical maximum density is 6 to 10 units per acre; 6) innovative design should be encouraged in new projects; 7) typical zoning is R-2.

High Density Residential

The characteristics are as follows: 1) allows multi-family and compatible civic uses; 2) allows integration of limited office and convenience commercial within primarily residential areas.

The features and locational criteria are as follows: 1) Locate at sites with access to major amenities or activity centers; 2) should be integrated into the fabric of nearby residential areas, while avoiding adverse traffic and visual impacts on low-density uses; 3) traffic should have direct access to collector or arterial streets to avoid overloading local streets; 4) requires Planned Development designation when developed near lower intensity uses or in mixed use developments; 5) developments should avoid creation of compounds; 6)attractive landscape standards should be applied; 7) typical density is in excess of 10 units per acre; 8) typical zoning is R-3.

Office-Limited Commercial / Neighborhood Business District

The characteristics are as follows: 1) includes a range of low-impact commercial uses, providing a variety of neighborhood services; 2) includes low to moderate building and impervious coverage; 3) may include office or office park development; 4) should not include retail businesses.

The features and locational criteria are as follows: 1) should be located at intersections of major or collector streets; 2) should avoid a “four corners” configuration, except within neighborhood business districts; 3) development should emphasize pedestrian scale relationships among businesses; 4) uses should be limited in terms of operational effects; 5) good landscaping and restrictive signage standards should be maintained; 6) good pedestrian/bicycle connections should be provided into surrounding areas; 7) the dominance of automobiles should be moderated by project design; 8) typical zoning is O or LC.

Major Commercial

The characteristics are as follows: 1) includes a variety of commercial uses; 2) establishes larger buildings and parking facilities than limited commercial uses.

The features and locational criteria are as follows: 1) should be located at intersections of arterials or other major streets; 2) should avoid a “four corners” configuration; 3) traffic systems should provide alternative routes and good internal traffic flow; 4) negative effects on surrounding residential areas should be limited; 5) good landscaping and restrictive signage standards should be maintained; 6) good pedestrian/bicycle connections should be provided into surrounding residential service areas; 7) buffering from surrounding uses may be required; 8) typical zoning is MC or B-2.

Central Business District

The characteristics are as follows: 1) traditional downtown district; 2) includes mix of uses, primarily commercial, office, upper level residential, and warehousing/industrial uses; 3) primary focus of major civic uses, including government, cultural services, and other civic facilities.

The features and locational criteria are as follows: 1) establishes mixed use pattern in the traditional city center; 2) recognizes current development patterns without permitting undesirable land uses; 3) district may expand with development of appropriately designed adjacent projects; 4) new projects should respect pedestrian scale and design patterns and setbacks within the overall district; 5) historic preservation is a significant value; 6) typical zoning is CBD or B-1.

General Industry

The characteristics are as follows: 1) general industry provides for a range of industrial enterprises, including those with significant external effects.

The features and locational criteria are as follows: 1) general industrial sites should be well-buffered from less intensive use; 2) sites should have direct access to major regional transportation facilities, without passing through residential or commercial areas; 3) developments with major external effects should be subject to Planned Development review; 4) typical zoning is MH.

Parks-Public Facilities

The Characteristics are as follows: 1) includes parks and recreation facilities, airports, golf courses, city and county buildings that act as centers for community recreational activity.

The features and locational criteria are as follows: 1) may be permitted in a number a different areas; 2) individual review of proposals requires an assessment of operating characteristics, project design, and traffic management.

Civic

The characteristics are as follows: 1) includes schools, churches, libraries, and other public facilities that act as centers of community activity.

The features and locational criteria are as follows: 1) may be permitted in a number of different areas, including residential areas; 2) individual review of proposals requires an assessment of operating characteristics, project design, and traffic management.

3.5 GROWTH CENTERS

The guiding principles, the land use compatibility tools, and the land use classification analysis for Columbus are designed to help city leaders realize a future form for Columbus which will best accommodate the growth of all aspects of the community—residential, commercial, industrial, recreation, etc. The recommended Growth Centers (see Figure 4) should be implemented in a way which will maintain and enhance community character defined through the guiding principles.

The following areas of the community have been identified as the primary growth centers based on the current economic, political, environmental, and social climates that in Columbus. These areas will provide the land needed for about 90 percent of the projected population growth for Columbus, over the next 20 - 25 years. The remaining 10 percent, if not more, should be accommodated in current built-up areas, vacant lots, and redevelopment areas. Proper infrastructure, public facilities and other amenities should be incorporated to make these areas both feasible and attractive.

The four Growth Centers include:

- *Southeast Growth Center*. This growth center is defined as the area east of 12th Avenue, south of 8th Street, west of East 14th Avenue, and north of the Loup River. This growth center is primarily residential with the potential for a neighborhood commercial center southeast of 8th Street and 3rd Avenue. Southeast growth represents a redirection of residential development patterns and will help to distribute traffic loads equally around the city. A new elementary school; a bikeway between the city center and Tailrace Park; and recreational improvements along the Loup River will need to be completed as residential growth warrants.
- *Northeast Growth Center.* This growth center is defined as the area east of 3rd Avenue, south of the proposed north arterial, west of East 29th Avenue, and north of 23rd Street. This growth center can accommodate a regional commercial center as well as significant housing development. New development must be integrated with existing small subdivisions in the section of land between 23rd and 38th Streets, and 3rd Avenue and East 14th Avenue. The proposed north arterial will be the impetus for future commercial and residential development throughout this area. New schools, parks and other public facilities will need to be built as the neighborhood grows.
- *North Central Growth Center.* This growth area continues development that has occurred north of 38th Street and between 18th and 48st Avenue (or in-between the Airport and the hospital). Development in this area will primarily be residential with the possibility of commercial use along 38rd Street and along the new north arterial at key intersections (e.g. 26th Ave, 33rd Ave., 45th Ave, etc). Wilderness Park will need to be improved to better serve this growing neighborhood.
- *Northwest Growth Center.* Residential growth for this area will be concentrated west of 48th Avenue, north of 23rd Street and south of the Loup Canal. Commercial nodes should be located along 48th Avenue and Hwy 81.

4.0 TRANSPORTATION PLAN

4.1 EXISTING TRANSPORTATION SYSTEM

The Columbus transportation system can be characterized as a grid network, which is bisected by US Highway 30 (23rd Street) and US Highway 81 (33rd Avenue). Howard Boulevard is the only exceptions to the grid network as it runs diagonally on a northwesterly alignment through southwest Columbus. Other primary north/south roadways include East 14th Avenue, 3rd Avenue, 10th/12th Avenue, 18th Avenue, 23rd Avenue, 26th Avenue, and 48th Avenue. Other primary east/west roadways include 8th Street, 13th Street, 14th Street, 15th Street, 17th street and 38th Street.

The existing street network and functional classification system for Columbus is shown in Figure 3-1 of the Final Transportation report, and amendment to this document. Roadway functional classification describes how a particular roadway is intended to function with respect to capacity, speed, mobility and level of access provided. Higher functional classifications provide greater capacity, higher speeds, and limited access. Lower functional classifications provide lower capacity, lower speeds, and higher levels of access to adjacent properties.

Freeways and expressways represent the highest functional classification, capable of moving large volumes of traffic at high speeds with limited access from cross streets. Major arterials are also intended to move relatively large volumes of traffic at high speeds (typically 40-45 mph) with limited conflicts from side street and adjacent properties. Minor arterials, while similar to major arterials, typically have lower speeds (less than 40 mph), less capacity, and more direct access to adjacent properties. In developed urban areas, major arterials are typically spaced at one-mile intervals. Minor arterials, in some instances, may be spaced at 0.5-mile intervals from other arterials. Collector and local streets round out the functional classification system. Collectors provide access from neighborhoods to the arterial street system. Even on collector streets, it is desirable to limit direct driveway access to the extent possible.

Refer to the Final Transportation report for a more in depth look at the Existing Transportation System.

4.2 TRANSPORTATION MODELING PROCESS

The major impetus for comprehensive planning update process was the development of a computerized transportation model for Columbus. The transportation model was developed using TransCAD modeling software, version 4.5. The model was developed using the 2001 transportation network and estimated 2001 socioeconomic data (residential dwelling units, number of employees, square feet of office or retail development, number of students, etc.). The transportation model is a representation of the area's transportation facilities and the travel patterns using these facilities. The traffic model contains inventories (location, posted speed limit, number of lanes, parking characteristics, etc.) of the existing roadway facilities and residential and non-residential land use data by traffic analysis zones (TAZs).

The transportation modeling process consists of several steps including estimation of daily vehicle trips by TAZ based on the land use data, distribution of vehicle trips by

TAZ, and then assignment of vehicle tips to the street network. The transportation model assignments are then compared to current traffic counts. When the traffic assignments match the existing traffic counts within acceptable ranges of error the model can be used to test future year scenarios. These scenarios may be either land use of transportation network modifications. Future traffic volumes can then be estimated using the model to aid in making planning or programming decisions.

The Columbus transportation modeling process included the following steps:

- Development of 2001 transportation roadway network
- Determination of 2001 land use data
- Trip generation – generation of vehicle trips for each land use
- Trip distribution – geographical distribution of vehicle trips between origin and destination TAZ
- Trip assignment – assignment of traffic volumes to specific roadways

Refer to the Final Transportation report for a more in depth look at the Transportation Modeling Process.

4.3 FUTURE TRANSPORTATION ALTERNATIVES

A number of potential transportation alternatives were evaluated for the Columbus area. Alternatives were developed based on the existing conditions analysis, existing or projected transportation model results, and discussion and input from City staff and steering committee members.

Transportation alternatives were generally identified to accomplish one of the following goals:

- Improve roadway segments with unacceptable operations (i.e., level of service D operation)
- Widen existing roadways to provide additional through lane or turn lane capacity
- Improve a roadway to provide better compliance with the desired roadway functional classification
- Provide roadway connections that do not exist today to improve overall circulation and network continuity
- Provide major transportation improvements such as bypass roadways or railroad viaducts that are needed to ensure an effective transportation system in the future.

Based strictly on projected future year traffic volumes, major transportation improvements were not required to address existing capacity deficiencies. However, a number of these alternatives may have merit to improve traffic flow in specific locations throughout the City and to ensure long-term success of the City's transportation system.

Each of the alternatives were used, independently in the modeling process to assess the apparent usefulness of that suggested transportation improvement

The transportation alternatives are as follows:

- Alternative 1 – Widen 8th Street to a 3-Lane Section
- Alternative 2 – 15th Street and 17th Street as a One-Way Pair
- Alternative 3 – Railroad Viaduct on 3rd Avenue and 23rd Avenue
- Alternative 4 – Railroad Viaduct on 12th Avenue and 23rd Avenue
- Alternative 5 – Arterial Roadway North of the River
- Alternative 6 – 38th Street Extension between 18th Avenue and 3rd Avenue
- Alternative 7 – 63rd Avenue Extension from Shady Lane Road to US Highway 30
- Alternative 8 – 27th Street Extension Between 18th Avenue and 3rd Avenue
- Alternative 9 – Railroad Viaduct on 10th Avenue
- Alternative 10 – South Arterial Bypass Roadway
- Alternative 11 – Far Southeast Bypass Roadway
- Alternative 12 – Far West Bypass Roadway

The Transportation Plan report for the gives a detailed description of each alternative improvement as well as a brief discussion regarding the expected traffic and land use impacts associated with each alternative. Traffic volume assignment plots for each alternative are included in the Appendix of that report.

4.4 RECOMMENDATIONS

Recommended transportation improvements have been identified and divided into short term (0-5 years), mid-term (6-15 year), and long-term (16-25 years) time frames. These improvements area summarized in Tables 6-1, 6-2, 6-3 and illustrated in Figures 6-2, 6-3 and 6-4 of the Transportation Plan report. Note that there are numerous recommendations regarding implementation of 3-lane roadway sections, while traffic volumes may not warrant such an improvements for many years, if ever, it is important that these corridors be included in the Transportation Plan for the right-of-way preservation and to provide important planning information to the community.

In addition to the specific transportation recommendations, the following general transportation system recommendations are provided:

- Corridor preservation should be a priority for all future roadways classified as collector or above to ensure adequate right-of-way is reserved for future roadway construction and/or widening. Typically, at least 100 feet of right-of-way should be preserved for arterial roadways and 80 feet of right-of-way for collector roadways. This will provide adequate width for the roadway, sidewalks/trails, utilities, and green space. It is also a good practice to provide 120 feet of right-of-way within approximately 700-1000 feet on each approach of major arterial intersections to allow for dual left-turn lanes and exclusive right-turn lanes.
- Direct driveway access should not be allowed on any future arterial roadways. It should be limited to the extent possible on collector roadways. In particular, strict access management should be implemented on the North Arterial including frontage roads to eliminate or reduce direct driveway access.
- Future traffic signals, particularly along US Highway 30 and 81, as well as other major arterial roadways should ideally be spaced at ½-mile intervals and, at a minimum, no closer than ¼-mile apart.

- Unsignalized median openings on divided highways such as US Highways 30 and 81 should ideally be spaced a minimum of 1/8-mile intervals
- Access management should be a priority along all major arterial roadways. Every effort should be taken to improve existing access management deficiencies. For new development along divided roadways, roadways should not be allowed within 300 feet of major, signalized intersections.
- Continuous collector roadway networks should be developed to supplement the arterial roadway system. In undeveloped areas, a collector roadway master plan should be developed to ensure dedication of right-of-way when development occurs and the ability to maintain continuity throughout the community.
- Roundabouts are an excellent alternative to traffic signals for many intersections in Columbus. For similar traffic conditions, roundabouts typically offer greater capacity and substantially fewer accidents. It is recommended that roundabouts be considered, as appropriate, for future intersections where four-way stop control or signalization are being considered. Roundabouts would likely work well for most intersections off the state highway system. In particular, they would be good alternatives at existing four-way stop intersections such as 8th Street/26th Avenue, 8th Street/12th Avenue, 8th Street and 18th Avenue, or 33rd Avenue/ 38th Street.

5.0 FUTURE FORM OF COLUMBUS

The complexity of the land use/transportation issue is influenced by two key factors. First, the relationship between land use and transportation is reciprocal: land use patterns affect travel decisions and travel decisions affect land use patterns—community form. Second, the activity patterns of businesses and households change independently of land use and transportation in response to changing values, jobs, age, income and preferences—community function. Great effort must be taken to try to better understand this relationship.

This relationship underlies all activities related to the future form of Columbus, which is the focus of this chapter of the comprehensive plan update. Any number of projects commonly thought of as transportation planning—a bypass roadway, transit service for persons with disabilities, the location of a highway interchange—have implications for land use. The focus of this planning process was to recognize this relationship and to develop a plan that incorporates these elements into recommendations for future land use and transportation systems.

The following is a summary of future land use recommendations based on this analysis. In addition, this chapter contains a recommendations for policies or guidelines for annexation of future growth areas into Columbus, as required by planning statutes in Nebraska.

5.1 FUTURE LAND USE ALTERNATIVES—GROWTH AREAS

The driving force behind the future land use recommendations for Columbus has been the idea of contiguous growth for all land use categories—residential, commercial, industrial and public. All areas recommended new growth are adjacent to existing developments, which will help the city of Columbus to create a more compact, efficient community form. The positive fiscal impact of making infrastructure improvements for new development in this manner, warrant this ideal. Building in a contiguous manner will allow for the creation of interconnected, walkable neighborhoods that provide for the everyday needs of families near the home, therefore, reducing the need for a large number of long distance trips throughout the city.

The guiding principles and the land use compatibility rating system found in the Future Land Use section of this report outlines the recommended standards that Columbus should follow in order to insure that the future form of the city meets these ideals.

While contiguous growth has driven the location of future land uses, transportation planning and infrastructure improvements may dictate the timing of development in each Growth Center. A schedule for the completion of the city's roadway improvements will mirror the build out of the community's Growth Centers. Subsequently, city leaders can be assured that improvements in the city's roadway capacity will be in place at the same time new homes and businesses are built in the area.

As mentioned before the Growth Centers for Columbus are as follows:

- Northwest
- North Central
- Northeast
- Southeast

In the short term (0-5 years) planning period, the transportation planning recommendations will promote development in the northern growth centers, with the North Central Growth center as the focal point. Local arterial street expansions and the construction of the proposed north arterial roadway are the main reasons for this northerly expansion of Columbus. The Southeast Growth Center should see only limited growth over the first five years of the planning period. This development is in addition to the redevelopment and infill development of areas already within the city limits.

In the mid term (6-15 years) planning period, the focus of new developments should again, be in northern Growth Centers. The completion of the proposed north arterial should help spur growth in the Northwest and the North Central Growth Centers while the expansion the 3rd Avenue will help to handle the increased development of the Northeast Growth Center. As in the short term planning period, growth in the Southeast Growth Center should be limited, and areas within the city limits should see redevelopment where necessary.

In the long term (16-25 years) planning period, new development should occur in the Northwest and the Northeast with a decreased focus on the North Central due to the assumption that this Growth Center will be nearing build out levels. Growth in the Southeast will be limited. Due to the far-reaching scope of this section of the plan, revisions may need to be made in order to accommodate new or unexpected conditions within the entire Columbus planning area.

5.2 ANNEXATION POLICY RECOMMENDATIONS

<u>Columbus should implement an annexation policy that incorporates areas of future community growth.</u>

The Growth Area recommendations for Columbus are predicated on regular community growth, generated by a sound economy and continuing economic development efforts. The recommendations call for urban/suburban style development in areas currently beyond the corporate limits. As a result, sound community growth will require significant annexation to accommodate land needs during the planning period.

In addition, annexation in advance of development may be needed to assure implementation of the Columbus Plan. Currently, the City of Columbus exercises zoning and subdivision authority within a 2-mile extraterritorial area outside its corporate limits. This provides the City with the ability to grow incrementally through annexation of new development. However, a policy identifying objective criteria for and probable areas for annexation would help decision-makers address annexation decisions. Areas considered for annexation should meet at least one of the following criteria:

1. *Areas with significant pre-existing development.* Areas outside the City that already have substantial commercial, office, or industrial development are logical

candidates for annexation. In addition, existing residential areas developed to urban densities (generally more than 2.5 units per acre) should be considered for potential annexation.

2. *A positive cost/benefit analysis.* The economic benefits of annexation—including projected tax revenues—should compensate for the additional cost of extending services to newly annexed areas. The cost of providing municipal services to development contiguous to the City is relatively marginal. However, the capital and operating costs for such services related to outlying and low-density areas may be relatively high.

   The following financial analysis, structured for a 10-year study period, should be considered for probable areas of annexation. Should the analysis yield a break even result, the economic criteria may be considered justification for annexation.

   a. Identification of tax revenues from existing and probable future development in areas considered for annexation.
   b. Calculates the costs and financing features for public improvements necessary to serve newly-annexed areas.
   c. Calculates the added annual operating costs for urban services, including public safety, recreation, education, and utility services, offered within proposed annexed areas.

3. *Public services.* Public service issues can provide rationale for annexation. Areas for consideration should include:

   a. Parcels that are surrounded by Columbus, but remain outside of its corporate limits. In these situations, City services may provide enhanced public safety with improved emergency response times.
   b. Areas served by municipal infrastructure.
   c. Areas to be in the short-term planning period by planned improvements, including trunk sewer lines and lift stations.

4. *Land use control.* Since the City exercises land use control within its 2-mile extraterritorial area, special consideration may be given to annexing specific areas to extend that area of jurisdiction to include potential growth areas where land use control may benefit the health, safety and welfare of the community. For example, the City may want to protect the rural character of the land or to ensure that low-density development meets urban standards.

5. *Community cooperation and unification.* While difficult to quantify, the segregation of areas residents who live outside the corporate limits may prove detrimental to the sense of community in the Columbus area. Maintaining and creating a common commitment to features like educational institutions, recreation facilities, employment centers and transportation systems may be important considerations for annexation. Some areas around Columbus that may meet these criteria include:

   a. Ag Park

b. Industrial-zoned land adjacent to the city limits but not included in Loup Power industrial parks
c. Lakes
d. Canal
e. Ag land northwest of Quail Run Golf Course
f. Land north of Van Berg Golf Course and West Pawnee Park

6.0 IMPLEMENTATION

The City of Columbus is updating the Columbus Plan, the comprehensive plan adopted in 1992. As part of the update process, the City, in cooperation with the consultant team, is reviewing its existing Land Development Ordinance (LDO) to identify barriers to growth and development, along with potential solutions for addressing those barriers. In addition, the City is reviewing the LDO for sections inconsistent with the City's administration and enforcement efforts.

1. Update Process

Working with the consultant team, the City conducted the review at the same time the comprehensive plan update was completed. The LDO update process included the following elements:

- Issue collection
- Ordinance review
- Issue summary
- Consistency with comprehensive plan summary, and
- Identification of potential solutions.

2. Report Organization

This section is a summary of the update process. It contains a list of issues gathered through steering committee meetings, one-on-one meetings with City staff, input from the Board of Adjustment, and interpretation of comments, ideas and desires gained by the consultant team throughout the planning process.

Based on the issues and information gathered during the process, the consultant team reviewed the LDO and identified those sections that may be subject to change to allow the implementation of the comprehensive plan update and to alleviate the City's administration and enforcement efforts. The report contains two tables noting where changes are appropriate.

The final section of the report contains recommendations for changes to the LDO in appropriate sections noted in the tables. The main emphasis of the recommended changes is to promote the implementation of the comprehensive plan update and to promote the efficient administration and enforcement of the LDO. It is important to acknowledge that the comprehensive plan update is the basis for the LDO and for growth and development of the City of Columbus.

6.1 ISSUES

The City of Columbus Land Development Ordinance (LDO) is an interesting and sometimes complicated document. In this process, we attempted to focus on the issues identified by the City staff, steering committee, and the development community as most relevant for updating the LDO. A list of the issues identified as problematic, confusing or in need of review includes:

- Procedural process—submittal requirements, review process, public hearings, etc.

- Density standards and definitions, particularly for Two-Family Residential
- Standards for setbacks, bufferyards, rear yards and alleys in residential and commercial zoning districts
- Standards for home-based businesses
- Signs, including billboards, especially definitions, setbacks, spacing and size standards
- Stormwater regulations, in commercial parking areas and residential subdivisions
- Accessory buildings
- Variances, especially time limitations when not acted on, and
- Standards for annexation.

The general public view of land development regulations is always interesting and varied. While many folks are not clear about the purpose of the comprehensive plan or local development policies, most folks always understand that the zoning ordinance is directly applicable to their property and their neighbor's property. Frequently, people want to solve big picture issues by changing the zoning ordinance so that it works to better suit their needs or the needs of a specific project. It's obvious by looking around Columbus and by talking to area residents, that the LDO is sufficiently handling big picture issues. Big projects like the recently approved shopping centers in the east part of town, the new hospital on 38th Street, the expansion of B.D. in east Columbus, and the quality residential areas developing on the north side of the city are examples of a working regulatory guide.

The need, as evident in the review process, is to revise the LDO in strategic areas to improve it. To address problems, perceived or real, and to make the LDO easier to use and understand for the general public, the development community, City staff, the Planning Commission and the City Council.

The issues in the list above were obtained mainly from discussions with City staff, the steering committee and developers, as well as observations of the consultant team. It appears there is a disconnect between reading the document and its actual application. This is evident in the activities of the Board of Adjustment and the administration and enforcement problems City staff is experiencing.

6.2 INDIVIDUAL CHAPTER REVIEW

Based on the issues discussed above, the following tables (see Tables 6.1 and 6.2), one for the zoning regulations and one for the subdivision regulations, identify specific sections or provisions that should be amended to better implement the comprehensive plan. Please note that some sections are labeled "no change" and, as a result, are not addressed in this report. A more detailed explanation of the recommended changes will be included in the next section of this report.

6.3 REVIEW COMMENTS AND RECOMMENDATIONS

The following comments and recommendations reflect a review of the LDO by the project team. The recommendations outline potential ways to correct problem areas in the regulations or potential ways to streamline the implementation of the Comprehensive Plan. The comments and recommendations do not include specific language to use to modify these regulations, unless otherwise noted.

General Comments

1. The page numbering system contained in the Table of Contents for both sets of regulations does not accurately reflect the number systems used in the documents. As a result, the Table of Contents is a poor reference guide to finding needed articles in the documents.

   The Table of Contents for both the zoning and subdivision regulations should be reviewed completely and revised or renumbered to accurately reflect the regulations, as they are included in the Land Development Ordinance document.

2. The Board of Adjustment (BOA) made a recommendation to the Comprehensive Plan Steering Committee at their January 19, 2004 meeting regarding variances granted by the BOA. The BOA recommended "that a rule be included (. . . in the City Code) that variances granted by the Board of Adjustment if not acted upon or used within two years of the date of approval, shall be null and void".

   This recommendation should be reviewed by the City Attorney. If some form a statute of limitations is legal and appropriate, based on the opinion of the City Attorney, the Community Development Director, in cooperation with the City Attorney, should prepare a recommendation for an amendment to Article 12-9 (Powers and Duties of the Board of Adjustment) of the Land Development Ordinance.

   If such an amendment is legally problematic, the City staff should work with the BOA to review and analyze recent decisions and develop recommendations to change zoning regulations to better deal with such trends or problem areas in the zoning regulations.

Recommendations for the Zoning Regulations

A. Article Two: Definitions. Add definitions for "home-based business" and "home office" to differentiate them from the commonly used term "home occupation". Recommended definitions which may be amended to the Zoning Regulations are:

   Home-based business: Any business, occupation, or activity undertaken for gain within a residential structure that is incidental and secondary to the use of that structure as a dwelling unit.

   Home office: An accessory use in which work for compensation is undertaken, including, but not limited to, receiving or initiating correspondence, such as phone calls, mail, faxes, e-mail; preparing or maintaining business records; word and data processing; and telephone, mail order, and off-premise sales.

B. Article 4-6: Zoning Map. The roles and responsibilities for adopting and updating the Zoning Map should be changed from the City Engineer to the Community Development Director. It is strongly recommended that the Zoning Map be amended annually.

C. Article Five: Special and Overlay Districts. The City staff and project Steering Committee have expressed concern about the type and character of future development in the area adjacent to the new Columbus Community Hospital and along the proposed North Arterial.

It is recommended that two new overlay districts should be developed: a North Arterial Corridor Overlay District and a Hospital Area Overlay District. The design guidelines or standards for these critical areas should be studied in greater detail and should be crafted to meet the specific needs for each area. It is recommended that the City form a committee consisting of staff, City Council members, Planning Commission members, and property owners to develop goals for the affected areas. The goals will drive the development of specific guidelines and standards for new development in the proposed overlay district areas.

A recommended Overlay District Guidelines/Standards document is attached (see Attachment 6-1) to this document for your review. It contains several sets of criteria for residential development, non-residential development, transportation systems, and land uses that may be applicable to these areas of Columbus. This document provides a good starting point for the development of these overlay districts.

D. Article 6-3.d. Two-Family Residential. The primary issue for two-family residential is appropriate separation from the other dwelling unit on the lot. In addition, the requirement for driveway access to the second unit is sometimes problematic.

Emerging trends in planning and urban design indicate the increasing demand nationally for greater density in urban residential areas. This demand is created in part by aging populations in many towns and cities, a characteristic that is present in Columbus. The concept of two dwelling units on a single lot should be maintained in Columbus.

The LDO currently permits two-family dwellings by right in R-1, R-2, O, and UC zoning districts. It is recommended that this practice remain in effect in Columbus. One recommendation to alleviate problems with the current regulations include amending zoning requirements to permit a second dwelling unit in the form of Granny Flats, dwelling units located in or on the second floor of garages or accessory buildings, which may serve as a practical solution to meet the market need for second units on single-family lots. Such units should meet the setback requirements for accessory buildings and may front on alleys. In addition, the height requirement for accessory buildings would have to be increased to 2 stories.

E. Article 8-4. Bufferyard Provisions. The concept behind bufferyards is based on the Euclidian zoning ideal that land uses should be separated. Landscaped bufferyards provide a minimum separation between more intensive land uses, such as industrial, and less intensive land uses, such as multi-family residential.

As recent zoning and land use trends call out the desire for more mixed-use style development, current bufferyard requirements become problematic or even undesirable to implement. This trend, along with the desire to offer developers and the City more flexibility in implementing these provisions, is good rationale for changing current requirements. It is recommended that Article 8-4 be amended and replaced with new bufferyard requirements noted in Attachment 6-2.

F. Article 9-3. Schedule of Off-Street Parking Requirements. The amount of land devoted to automobile use is considerable and, as a result, parking regulations deserve a great deal of attention. The review of the Off-Street Parking Requirements yielded no apparent problems for the City. However, it is advisable to review these requirements every two years or so for problems or issues which may arise in their administration and enforcement. This review should be based on records and development proposals considered by the City during the review period.

   One specific recommendation is to use the term Accessible Parking instead of the term Handicapped Parking in section 9-5. The City Attorney should review use of this language for compliance with the Americans with Disabilities Act of 1990 to determine if Accessible Parking is a better alternative term.

G. Article 10-2. Sign Regulations. Sign regulations are typically one of the most complicated parts of zoning regulations. Signs serve numerous purposes for businesses, government and the community at large. These purposes are surpast only by the type and number of signs used in our communities. As a result, the review of sign regulations on a regular basis is critical to keeping the regulations up-to-date with community needs and sign industry trends. One recommendation is to review sign regulations every two years, alternating with a review of parking regulations noted paragraph G.

   It has been the experience of many communities that the politics of sign regulations is at least as problematic as the politics of zoning regulations. Some communities have chosen to completely separate their sign regulations from zoning regulations, as a result. These communities set up sign regulations as separate chapter in the City Code to alleviate some of the contentious issues often generated in the review of development and redevelopment within the city.

   Some critical areas of the sign regulations to review include the definitions section and the setback requirements. Of particular interest in Columbus is the definition of signs that may be used for home-based businesses, their use, number, size and location. In regard to setback requirements, the current regulations are problematic in some commercial districts in that they force sign locations far into the parcel when measured from the property line. The result is a conflict with parking requirements.

   Specific recommendations to deal with the sign-related issues noted above include: 1) amending the sign code to prohibit detached signs in zoning districts RR, R-1, and R-2, 2) amend the sign code to prohibit signs for home based businesses, 3) limit the maximum height of a detached sign to thirty (30) feet,

and 4) require a pre-application conference for sign permit applicants to head off set-back and site design issues related to the potential location of signs.

H. Article Twelve: Administration and Procedures. The review of this section of the zoning regulations involved interviews with real estate and development representatives in Columbus. The industry representatives indicated that while the regulations were not onerous and did not hinder the development of their projects, the development review process was hard to follow and did not conform to a specific schedule.

The recommendation from these industry officials is to add a schedule or time line element to the development review checklist for this process. Another recommended requirement is adding a pre-submittal review meeting with staff. This additional step may go a long way in heading off any future problems with the review process by identifying expectations, differences of opinion, and scheduling expectations early in the process. The result should produce benefits to the City by streamlining the process and acknowledging City needs up front. The benefits to developers include cost savings for engineering and design services.

City of Columbus Land Development Ordinance
Zoning Regulations

Page	Section	Comment
Article One: General Provisions		
1-1	Title	No change
1-2	Jurisdiction	No change
1-3	Purpose	No change
1-4	Consistency with Comprehensive Plan	No change
1-5	Conflicting Provisions	No change
1-6	Relief from other Provisions	No change
1-7	Severability of Provisions	No change
Article Two: Definitions		
		Amend: see recommendations
Article Three: Use Types		
3-1	Purpose	No change
3-2	Determinations	No change
3-3	Agricultural Use Types	No change
3-4	Residential Use Types	No change
3-5	Office Use Types	No change
3-6	Civic Use Types	No change
3-7	Commercial Use Types	No change
3-8	Parking Use Types	No change
3-9	Industrial Use Types	No change
3-10	Transportation Use Types	No change
3-11	Miscellaneous Use Types	No change

Article Four: Zoning District Regulations		
4-1	Purpose	No change
4-2	Establishment of Districts	No change
4-3	Application of Districts	No change
4-4	Hierarchy	No change
4-5	Development Regulations	No change
4-6	Zoning Map	Amend: see recommendations
4-7	Interpretation of District Boundaries	No change
4-8	Vacation of Streets and Alleys	No change
Article Five: Special and Overlay District		
5-1	General Purpose	No change
5-2	**PUD-Planned Unit Development District Purpose**	No change
5-3	Permitted Uses	No change
5-4	Site Development Regulations	No change
5-5	Access to Public Streets	No change
5-6	Application Process	No change
5-7	Adoption of District	No change
5-8	Amendment Procedure	No change
5-9	Building Permits	No change
5-10	Termination of PUD District	No change
5-11	**ED-Environmental Resources District Purpose**	No change
5-12	Procedure for Adoption	No change
5-13	Adoption of District	No change
5-14	Building Permits	No change
5-15	**HD-Historic District Purpose**	No change
5-16	Procedure for Adoption	No change
5-17	Adoption of District	No change
5-18	Building Permits	No change
5-19	**FP/F-Floodplain/Floodway Overlay District**	No change
5-20	Purpose	No change
5-21	Ordinance	No change
5-22 to 5-35	Reserved for Future Use	Amend: see recommendations
5-36	**A-Agricultural Overlay District**	No change
5-37	Purpose	No change
5-38	Application of District	No change
5-39	Permitted Uses	No change
5-40	Pre-Existing Zoning	No change
5-41	Adoption of District	No change
Article Six: Supplemental Use Regulations		
6-1	Purpose	No change
6-2	Agricultural Uses	No change
6-3	Residential Uses	Amend: see recommendations

6-4	Civic Uses	No change
6-5	Commercial Uses	No change
6-6	Industrial Uses	No change
6-7	Home-Based Businesses	Amend: see recommendations
6-9	Accessory Uses	No change
6-10	Outdoor Storage	No change
Article Seven: Supplemental Site Development Regulations		
7-1	Purpose	No change
7-2	Setback Adjustments	No change
7-3	Height Exceptions	No change
7-4	Exceptions for Creative Subdivisions	No change
7-5	Fence Regulations	No change
7-6	Appeals	No change
Article Eight: Landscaping, Screening, and Performance Standards		
8-1	Purpose	No change
8-2	Applicability	No change
8-3	Landscaping Requirements	No change
8-4	Bufferyard Provisions	Amend: see recommendations
8-5	Screening Standards	No change
8-6	General Provisions	No change
8-7	Performance Standards in B-2 and ML/C-1 Districts	Amend: see recommendations
Article Nine: Off-Street Parking		
9-1	Purpose	No change
9-2	General Applications	No change
9-3	Schedule of Off-Street Parking Requirements	Amend: see recommendations
9-4	Parking Facility Location	No change
9-5	Handicapped Parking	Amend: see recommendations
9-6	Off-Street Parking Design Standards	No change
9-7	Off-Street Loading	No change
9-8	Parking for Personal and Recreational Vehicles	No change
Article Ten: Sign Regulations		
10-1	Purpose	No change
10-2	Definition of Terms	Amend: see recommendations
10-3	General Regulations	Amend: see recommendations
10-4	General Regulations: Basic Design Elements	No change
10-5	General Regulations: Other Design Elements	No change
10-6	Additional Regulations for Downtown Business District	No change
10-7	Specific Regulations for Zoning Districts	No change
10-8	Measurement of Sign Setbacks	Amend: see recommendations
10-9	Permitted Signs Types by Zoning District	No change
10-10	Permitted Signs by Numbers, Dimensions and Location	No change

10-11	General Permit Procedures	No change
10-12	Repair or Modification of Nonconforming Signs	No change
10-13	Discontinuance of Nonconforming Signs	No change
Article Eleven: Nonconforming Development		
11-1	Purpose	No change
11-2	Regulations Additive	No change
11-3	Nonconforming Lots	No change
11-4	Nonconforming Structures	No change
11-5	Nonconforming Uses	No change
Article Twelve: Administration and Procedures		
12-1	Purpose	No change
12-2	Site Plan Review Procedure	No change
12-3	Special Use Permit Procedure	No change
12-4	Amendment Procedure	No change
12-5	Extension of Extra-Territorial Jurisdiction	No change
12-6	Building Permits and Certificates of Occupancy	No change
12-7	Schedule of Fees	No change
12-8	Board of Adjustment	No change
12-9	Powers and Duties of Board of Adjustment	No change
12-10	Appeals from the Board of Adjustment	No change
12-11	Duties of Building Official, et al	No change
12-12	Severability Clause	No change
12-13	Complaints Regarding Violations	No change
12-14	Penalties	No change

Recommendations for the Subdivision Regulations

A. Article Two: Definitions. A definition of Administrative Subdivision should be included in the subdivision regulations. A recommendation for this definition is"

   "A division of a lot, tract, or parcel of land into two or fewer lots, tracts, parcels or other divisions of land for sale or development, which may be approved or denied by City staff."

B. Article Three: Procedures and Administration. Similar to the Administration and Procedures section of the zoning regulations, the procedural checklist for the subdivision regulations should be revised.

   One particular amendment to this article deals with submittal requirements for a final plat. In particular Article 3-4.e.4. should be amended to include a new section with the following language: *After the final plat is approved, the applicant shall provide the City Engineer with twenty (20) copies of the plan and an electronic version of the plat in AutoCAD or another format identified by the City*.

Another recommended amendment to Article 3-4.e.4. should include the requirement for a separate public hearing for consideration for annexation of the approved final plat. Recommended language for the amendment may include: *If the subdivision (identified in the final plat) is to be annexed to the City, the City shall hold a separate public hearing to determine if the City is legally and fiscally able to annex the subdivision*.

Table 3-1: Application Requirements. This table should be amended so that the following information is not required for a preliminary or final plat for a Major Subdivision:

1. Topography at one-foot contours (Final)
2. Existing site drainage system (Final)
3. Improvements and Construction Information (Preliminary and Final)
4. Proposed utility infrastructure plans (Final)
5. Construction details as required (add to Preliminary, delete from Final)
6. Road and paving cross-sections (Final).

C. Table 5-3: Curb, Sidewalk, and Right-of Way Requirements. This table should be amended to include the following requirements:

1. Urban street: cartway width should be changed from 24 feet to 33 feet.
2. Collector street: cartway width—minimum of 41 feet, curb is required, sidewalk is required, sidewalk set back of 4 feet, and 66 feet of ROW required.

D. Article 6-2. Water. Section 6-2.b.4. This section should be amended to require that all property *shall be within 300 feet of a fire hydrant*.

E. The City staff has been researching and developing comprehensive stormwater management practices for the City and has presented such recommendations to the City Council. It is recommended that the City formalize the recommendations and amend the subdivision regulations to include such regulations.
Adequate drainage in urban areas has been proven as a necessary component in maintaining the health, safety, welfare, and economic well being of a community. Drainage is a regional feature and impacts all parcels of land. As a result, it is important to develop a drainage management policy that balances private and public considerations through the use of nationally recognized best management practices.

A model policy for stormwater management in Columbus is attached (see Attachment 6.3). It is recommended that the City staff, Planning Commission and City Council review this ordinance, make changes as needed and adopt it.

City of Columbus Land Development Ordinance
Subdivision Regulations

Page	Section	Comment
Article One: General Provisions		
1-1	Title	No change
1-2	Authority and Purpose	No change
1-3	Relationship to the Comprehensive Plan	No change
1-4	Jurisdiction and Applicability	No change
1-5	Amendment	No change
1-6	Fees	No change
1-7	Enforcement	No change
1-8	Penalties	No change
1-9	Interpretation, Conflict, and Severability	No change
Article Two: Definitions		
		No change
Article Three: Procedures and Administration		
3-1	Purpose	Amend: see recommendations
3-2	Administrative Subdivisions	No change
3-3	Minor Subdivisions	No change
3-4	Major Subdivisions	Amend: see recommendations
Article Four: Subdivision Design Categories and General Standards		
4-1	Purpose	No change
4-2	Site Design and Constraints	No change
4-3	Subdivision Design Categories and Rules	No change
		No change
Article Five: Circulation System Design		
5-1	Purpose	No change
5-2	General Standards	Amend: see recommendations
5-3	Street Hierarchy and Design	No change
5-4	Alleys	No change
5-5	Lighting and Wiring	No change
Article Six: Public Improvements and Infrastructure		
6-1	Purpose	No change
6-2	Water	Amend: see recommendations
6-3	Sanitary Sewer	No change
6-4	Storm Water Management	Amend: see recommendations
6-5	Easements	No change
6-6	Dedications	No change
Article Seven: Improvement Guarantees		
7-1	Purpose	No change
7-2	Application	No change
7-3	Notification of Completion and Acceptance by City	No change

SAMPLE OVERLAY DISTRICT DESIGN GUIDELINES/STANDARDS

The following criteria and policies are the basis of a recommended format the city could employ in coordination with the Comprehensive Plan and other design manuals and policies. The criteria can be used to define the expectation of high quality design projects within a specific corridor/district.

SITE DESIGN:

General

1. Public and private spaces such as squares, plazas, landscaped streets, greenways and parks shall be woven into the pattern of development. Public accessible pedestrian connections or linkages shall be required between all public and private spaces.

2. Multi-story buildings with noteworthy architectural design should be located on prominent sites, such as on high points and at the termination of street vistas to serve as landmarks.

3. Development that maximizes the opportunity to preserve and access natural and scenic areas is expected.

4. Streams and flood plains should be protected and maintained as open space, greenways and parks. Protection of these resources serves the dual purpose of preserving scenic vistas in the corridor.

5. Natural physical features, including existing vegetation and mature trees should be preserved and incorporated into new developments. Replacement of existing trees and vegetation is expected when it is removed to accommodate development, except for those areas that are heavily wooded where additional plantings are not necessary.

6. Stormwater detention areas shall be designed to create high quality focal points or entrance features.

7. The internal transportation network of any development shall be designed to accommodate all modes of transportation and must consist of a network of interconnecting streets and blocks with respect to the natural landscape. The internal transportation network shall provide alternate routes to every designation, diffusing automobile traffic and shortening walking distances.

8. Numerous linkages (both vehicular and pedestrian) between properties shall be incorporated into the design of development plans, unless prevented by topography or other physical conditions. Development plans that provide for minimal or no access to adjoining properties shall not be approved.

9. Streets should terminate visually with important buildings, vistas of open spaces, water features, or other distant topographic features.

SITE DESIGN:

Residential

1. Pedestrian oriented, mixed-use developments are expected. Conventional, use-segregated development patterns are not desirable.

2. Creative and unique development patterns are expected. Conventional "cookie-cutter" subdivisions that do not respect the natural landscape or topography and do not create a sense of "neighborhood" are not desirable.

3. Large expanses of one housing style or type (e.g. single-family, garden style apartments, duplexes) are not desirable.

4. Land use plans with a variety and mixture of housing types, including single-family, duplex, townhouses, and apartments are expected. As much as possible, different housing types should be mixed into the neighborhood to meet the diverse needs of residents with varied ages and incomes.

5. "Traditional Neighborhoods" are encouraged in appropriate locations. This design element includes:

    a. A mixture of housing residences (large and small), outbuildings, small apartment buildings, shops, offices, public services and civic buildings and other nearby employment opportunities interwoven within the neighborhood, all within close proximity.

    b. A variety of housing types mixed throughout the neighborhood.

    c. Residential areas designed in a manner so that residents are generally located within a 5-minutes walking distance (or approximately ¼ mile) of a "neighborhood center" and/or an elementary school.

6. Neighborhood designs must encourage walking to destinations in the area. Street layouts must not be so circuitous and lacking connections between streets that residents are forced to drive.

SITE DESIGN:

Nonresidential

1. Pedestrian amenities should be incorporated into plans to provide relief from exposed environments, break up large expanses of pavement, and provide areas of interest and interaction. These amenities should include or be combined with transitional open space areas, signature landscape areas, or pedestrian connections.

2. “Neighborhood” retail centers should be located at the major entrance to a neighborhood or within a neighborhood to be integrated with the residential area, rather that located at arterial street intersections.

3. Nonresidential developments shall be designed so that buildings face internal access roads and create a strong street edge. Such developments should be integrated with residential areas, rather than designed to back into surrounding residential areas.

4. The design of fast food restaurants, convenience stores, and other auto-oriented businesses shall include safe and equal access for pedestrians and other modes of traffic. Businesses shall be oriented and designed in conjunction with the larger development area for purposes of providing services to nearby residents and businesses.

5. Parking lots shall be heavily landscaped and screened from view or located where not visible from public streets. In urban or “traditional neighborhood” development designs, buildings should be located closer to the street (street oriented) with parking lots located on the sides or rear of the building, or within parking structures.

6. Decorative lighting styles and fixtures are encouraged. Parking lot lighting shall be low level in nature with pole heights not to exceed a maximum of 25 feet. Light fixtures shall have a cut-off or beveled prism type that directs light toward the ground to reduce off-site impacts.

ARCHITECTURAL:

General

1. Building massing and form, as well as the use of architectural elements such as colonnades, canopies, walkways, street-level display windows, lighting, and a variety of building materials should create human scale. Site design features around the building exterior should further reinforce human scale.

2. Service and mechanical areas shall be entirely screened from view.

Residential

1. Residential structures are expected to be of higher quality design and appearance.

2. Multi-story and mixed-use residential buildings are strongly encouraged.

3. In single-family and two-family dwelling areas, it is expected that such dwellings will include a variety of garage placements and orientations to avoid monotonous rows of garage doors visible from the street. Such variety should include a mixture of front, side and rear loaded garages, attached and detached garages.

4. A front porch or stoop is strongly encouraged on single-family and two-family dwellings.

5. Buildings with multiple dwelling units are expected to include porches, varied rooflines and varied facade depths to create variety and individuality of dwelling units within a building.

6. Freestanding garages and carport structures for multiple dwelling unit buildings shall be designed to be integral with the building design or sited so as to avoid long monotonous rows of garage doors and building walls.

Nonresidential

1. Multi-story buildings for office, research and other activities are strongly encouraged.

2. Generally, architectural styles and themes shall remain similar and harmonious throughout the development area. This does not mean that all buildings or complexes must look identical, rather each should have similar qualities and architectural elements.

3. Individual “corporate image” architectural design elements and colors shall be incorportated only as secondary elements to the development and not as the dominant element. Such elements should be consistent and blend with the larger development area.

4. Building materials should be similar to the materials of structures in the area. However, dissimilar materials may be permitted when incorporating other characteristics such as scale, form, architectural detailing and color to make the building compatible with the area.

5. Materials requiring low maintenance are recommended over high maintenance materials. For instance, materials with integral coloring are recommended over materials that require painting.

6. Mirrored or reflective glass on buildings must be designed to minimize glare on the adjacent street. Masonry (brick, stone, stucco) for detailing is expected on such buildings.

7. Commercial/retail buildings larger than 25,000 square feet in size shall be designed with noteworthy architectural features to create “human scale” and to avoid a “big box” appearance. In many instances, such a design may create the appearance of multiple tenants, storefronts, and entrances.

8. Loading docks and other service areas facing the street or other public areas shall be prohibited, unless incorporated into the building design and screened or located in a manner not to be readily visible.

LANDSCAPE / COMMUNITY APPEARANCE:

1. Each highway interchange and/or major intersection should be distinctive with its own easily recognizable and attractive identity. These areas should be treated as gateways to the community. Special landscaping, architectural or public improvements are expected in these areas.

2. Landscape design treatments are expected to be used to unify, enhance and harmonize the corridor with the adjacent scenic area. Care shall be taken to avoid any planting that might create hazards to personal safety or traffic operations.

3. Massed plantings should be placed at bridges, gateways and interchanges for emphasis.

4. Fences visible from the corridor or streets are expected to be decorative in type or include exterior landscaping facing the roadway to minimize potential negative impact from extensive or monotonous rows of fences. Chain-link fencing shall not be approved.

LAND USE RESTRICTIONS:

1. Planned zoning and/or mixed-use zoning districts shall be required.

2. Development phasing may be imposed until area roadways are improved to a level acceptable to the City Engineer/City Traffic Engineer to accommodate anticipated traffic volumes. Traffic studies may be required for development prior to approval of rezoning or final development plans and final plats.

3. Strip commercial development and individual pad sites for freestanding businesses not otherwise designed to be compatible with the character of development desired for the area shall not be approved.

4. The following uses shall not be approved:

    a. Distribution centers or other warehousing operations requiring large numbers of trucks, <u>except in designated areas along the corridor</u>.

    b. Dealers or businesses with outdoor display of automotive, recreational vehicle, motorcycle, boat, construction equipment, farm equipment, and other similar miscellaneous motor vehicles and equipment for sale, rent, or lease.

    c. Truck stops

    d. Lumber yards

    e. Mini-storage warehouses

    f. Billboards

    g. Outdoor storage yards of any kind

h. Heavy and intensive industrial uses

i. Any other uses deemed by the governing body to be incompatible with the character of the area.

5. Telecommunication towers and equipment shall be located on or within a structure; shall be an architectural component of the building; or shall be designed as a sculptural element. Freestanding towers shall not be permitted.

BUFFERYARD PROVISIONS

a. **Function and materials*.*** Bufferyard provisions shall provide a year-round visual screen in order to minimize adverse impacts from adjacent land uses. It may consist of fencing, evergreens, berms, rocks, boulders, mounds, or combinations thereof to achieve the same objectives.

b. **When required*.*** Every development, that scores a 1, 2, or 3 on the Land Use Compatibility Scale contained in Section 3.3 of this document, shall provide sufficient buffering when topographical or other barriers do not provide reasonable screening or when the Planning Commission determines that there is a need (1) to shield neighboring properties from any adverse external effects of a development; or (2) to shield the development from negative impacts of adjacent uses such as streets or railroads. In high-density developments, when building design and siting do not provide privacy, the Planning Commission may require landscaping, fences, or walls to screen dwelling units for privacy. Buffers shall be measured from side and rear property lines, excluding driveways.

c. **Amount required.**

1) Where more-intensive land uses about less-intensive uses (a score of 1, 2, or 3 on the Land Use Compatibility Scale), a buffer strip twenty-five feet in width shall be required.
2) Parking lots, garbage collection and utility areas, and loading and unloading areas should be screened around their perimeters by a buffer strip a minimum of five feet wide.
3) Where residential subdivisions abut higher-order streets (collectors or arterials), adjacent lots shall front on lower-order streets, and a landscaped buffer area shall be provided along the property line abutting the road. The buffer strip shall be a minimum of twenty-five feet wide or wider where necessary for the health and safety of the residents. It shall include both trees and shrubs.

d. **Design.** Arrangement of plantings in buffers shall provide maximum protection to adjacent properties and avoid damage to existing plant material. Possible arrangements include planting in parallel, serpentine, or broken rows. If planted berms are used, the minimum top width shall be four feet, and the maximum slide slope shall be 2:1.

e. **Planting specifications*.*** Plant materials shall be sufficiently large and planted in such a fashion that a year-round screen at least eight feet in height shall be produced within three growing seasons. All plantings shall be installed according to accepted horticultural standards.

f. **Maintenance*.*** Plantings shall be watered regularly and in a manner appropriate for the specific plant species through the first growing season, and dead and dying plants shall be replaced by the applicant during the next planting season. No buildings, structures, storage of materials, or parking shall be permitted within the buffer area; buffer areas shall be maintained and kept free of all debris, rubbish, weeds, and tall grass.

Model Policy
for
City Stormwater Management Issues

A. Encourage voluntary implementation of Better Management Practices (BMPs) using structural and non-structural measures

1. Utilize both structural and nonstructural BMPs for the stormwater management program addressing long-term stormwater quality enhancement. Select BMPs for implementation in site-specific projects or basin master plans that are effective, reasonable, and cost-effective.

2. Encourage implementation of voluntary nonstructural BMPs: use of appropriate vegetation to reduce the need for fertilizer, pesticides, and irrigation; provisions of incentives to set aside more open space; preservation of more riparian zone or other environmentally sensitive areas that required by local, state or federal regulation; preservation or re-establishment of riparian vegetation.

3. Encourage implementation of voluntary structural BMPs; intentional creation of temporary ponding areas on parking lots and in landscaped or turfed open areas of building sites during the design process; maximize use of pervious surfaces in the constructed environment; disconnection of impervious areas from the storm drain system; use of constructed wetlands; incorporation of permanent pools and other water quality enhancement features into storage facilities.

4. Provide explicit guidance documents on design, installation, and maintenance of BMPs and provide education so reviewers, developers, contractors and inspectors understand the purpose and function of BMPs.

5. Develop a management program to control pollutants as required for Municipal Separate Storm Sewer System (MS4) National Pollutant Discharge Elimination System (NPDES) Permit compliance.

B. Implement a joint program between the City and the NRD to review and enforce StormWater Pollution Prevention Plans (SWPPP) on all construction sites 3 acres or greater that will be designed by qualified erosion control designers and utilize appropriate structural and non-structural BMPs.

1. Draft and execute interlocal agreements with the NDEQ to allow review and approval of NPDES Notice of Intent (NOI) and StormWater Pollution Prevention Plan (SWPPP) submittals by the NRD.

2. Require submittal and approval of NPDES NOI and SWPPP before land disturbance or vegetation removal activities occur on any site greater than 2.0 acres. If the SWPPP is prepared by and carries the seal of a licensed Professional Engineer, Architect, or Landscape Architect; or is prepared by an International Erosion Control Association Certified Professional in Erosion and Sediment Control (CPESC) it shall be given automatic approval. However, if the SWPPP is prepared for someone other than those listed about the NRD shall review the SWPPP, and after review notify the landowner/land developer of approval or denial within seven

(7) days after receipt of the SWPPP. If the SWPPP has been denied, it may be revised and resubmitted for approval. If the approval or denial has not been received within such seven (7) day period by the landowner/land developer, the SWPPP shall be deemed approved.

As one condition of approval, require a construction schedule, which indicates installation of as many of the BMPs as are feasible before any land disturbing activity is conducted, including site grubbing. The schedule will also indicate a plan to limit exposure of disturbed land to the shortest reasonable period of time.

3. Monitor and enforce compliance with NPDES Permit Requirements.

   A. Cross-train selected building and safety personnel, public works inspectors, and NRD staff to check for appropriate implementation and maintenance of BMPs during each visit to construction sites. Establish City authority to suspend all project site work (with reasonable advance notice to cure) if BMP implementation and maintenance are not in good order.

   B. NRD and/or City will periodically perform construction site observations to check proper implementation and maintenance. In accordance with NRD/City/NDEQ inter-local agreement, periodic inspection of construction sites will be made.

4. Develop and fund an appropriate BMP information and education program for the public, contractors, builders, engineers and developers.

   A. Provide annual erosion and sediment control continuing education courses to promote public awareness and to provide training for contractors, designers, developers, and enforcement personnel in application, implementation, and maintenance of construction site BMPs.
   B. Modify the Building Permit to provide information to builders and owners about responsibilities they may have under the NPDES Permitting program to implement, preserve, or maintain BMPs.
   C. Prepare a BMP informational handout and a presentation for use at trade shows, schools, neighborhood associations and civic group meeting.

C. Minimize Localized Flooding by encouraging better design of subdivisions to create and protect overflow routes for run-off from major storm events.

1. Formalize the City monitoring of stormwater system performance in developed areas to identify problem areas. Analyze and develop retrofit solutions where possible and appropriate. Provide technical support to assist homeowners and neighborhood officials in recognizing and resolving local problems.

2. Continue minor system design based on 5-year to 10-year frequency storms depending on the design application. During design, determine the hydraulic grade line for all enclosed systems to confirm that inlets act as inlets, not outlets. Use the 100-year return frequency storms for design of the major system in all new developments.

3. Runoff from major storms (i.e., 1% chance of recurrence, a.k.a. 100-year storms) should pass through a development without flooding buildings or homes. Overland flow routes must be provided using streets, swales, and open space, etc. current design standards provide guidance to design the minor system (inlets, pipes and small channels) but need refinement to complement the design standards required to address major storms.

4. Require stormwater flowage and maintenance easements that prohibit placement of structures, fences, change of grade, elevation, or contour without written consent of the City Engineer. All easements for storm drainpipe should be minimum of 30 feet wide. In situations where the Project Engineer can clearly demonstrate that an easement less than 30 feet is adequate, the City may consider such a request. Easements for storm drain pipe and surface water flowage shall be used where a drainage way must be maintained to carry stormwater flow in excess of the storm drainpipe capacity. The easement cross-section must accommodate the depth and width of flow from the 100-year storm. The width must also be designed to allow for access of maintenance equipment. Implement a program to assure proper construction and maintenance of easement flow capacity.

5. Subdivision grading plans should show setback lines for a proposed development. Grade lots to drain from setback lines to street or perform analysis to show that not doing so will not result in flooding form the major storm. Grade lots so buildable area will be outside the limits of the area flooded by the major storm, for the upper-most inlet location to the downstream project limits. Provide design nomographs for street right-of-ways and channel capacities in the Drainage Criteria Manual to facilitate determination of water surface limits. Flood level information considered or generated during the development design process will be made available for use by builders in the Building and Safety Department permit process and subsequent prospective buyers.

6. Require that elevational difference between the finish floor and low opening of new buildings and the top of curb at the upper lot like (or lot line adjoining drainage elements) be indicated on the Building Permit application. Compare this information to available flood level information before approval. As a statement to the Building Permit Application which indicates by signing the application the applicant has taken into account available information when setting finish floor and low opening levels.

7. Provide public right to inspect private stormwater facilities and perform necessary maintenance to assure proper operation. Determine how public costs incurred to accomplish necessary maintenance will be recovered.

D. Minimize Flooding Along Tributaries and Drainage ways

1. Regulate developments in Federal Emergency Management Agency Flood Insurance Study (FIS) delineated floodplains in accordance with the current floodplain regulations.

2. Through the watershed master planning process, develop approximate 100-year projected future conditions flood profiles for main stem and tributary channels corridors that are between the limits of detailed study by FIS and the boundary of the uppermost 150-acre sub-basin. Once the master plan flood profiles have been accepted by the City, regulate new development along the channel areas so the lowest opening in new buildings is protected from the flood profile.

3. In watersheds where FIS floodplains have not been delineated and where flood prone areas have not yet been determined through the watershed master planning process, regulate new development so the lowest opening of adjacent new buildings is protected to one foot above the calculated 100-year flood profile.

4. In all watersheds where a FIS floodway has not been delineated, development shall preserve a corridor with a minimum width equal to the channel bottom width equal to the channel bottom width, plus 60 feet, plus six times the channel depth. The corridor width will be centered on the channel and be delineated along the channels with drainage areas exceeding 50 acres.

5. Regulate new development so it does not occur within minimum corridors. Riparian vegetation within the identified flood corridors shall be preserved to the maximum extent practicable, or acceptably mitigated, during the development planning and construction processes. Encroachments of the riparian vegetation will be permitted to provide for OM&R, channel improvements, stormwater storage facilities, public parks, pedestrian/bike trails, other recreational uses, utility crossings, streets and driveways, and other public purposes.

6. Flood corridors delineated during development of land shall be legally described and recorded.

7. To preserve riparian characteristics of channels, design channel improvement or stabilization projects to minimize use of visible concrete, riprap, or other hard stabilization materials.

8. Design culvert or bridge structures which cross the channel to convey a 50-year frequency peak flow rate (for projected future conditions) without over-topping the roadway and without increasing the 100-year flood level (even under overtopping conditions) unless a flood storage easement upstream of roadway can be obtained.

E. Improve the design and construction of stormwater storage (detention/retention) facilities and, when appropriate, use regional storage facilities.

1. Where feasible, use strategically located regional stormwater storage facilities to reduce flow peaks from major storm events. Evaluate downstream impacts of regional facilities. Select regional facility sites and reserve required land before development occurs, when possible. Develop funding mechanisms to allow joint investment by benefited parties in regional facilities. These facilities will be constructed, operated and maintained by the City or NRD. Require on-site detention storage unless the master planning process or a regional analysis has

shown that the detention requirement can be transferred to a regional stormwater storage facility, which is determined to be of regional benefit to the storm drainage system by the City and NRD. Due to the fact that stream channel degradation is a major cause of stormwater related water quality problems, on-site detention facilities may still be necessary to provide maintenance of receiving stream channel stability, maintenance and water quality enhancement.

2. Design on-site and regional stormwater storage facilities with adequate access and sediment storage right-of-way to facilitate maintenance.

3. Design on-site and regional stormwater storage facilities with adequate access and sediment storage right-of-way to facilitate maintenance. Include sediment trapping fore bays and maintenance-friendly measures in stormwater storage designs.

4. Use the actual hydrologic conditions encountered on the site to determine peak rates for existing conditions.

5. Require submittal of hydraulic design calculations of outlet works to document that major and minor storm peak flows will be attenuated to existing conditions. To promote channel stability, require on-site stormwater storage facilities to also attenuate 2-year peak flow rates to existing conditions.

6. Require that record drawings of stormwater storage facilities be provided to the City.

7. Unless private maintenance of on-site stormwater storage facilities is acceptably performed, provide necessary maintenance with government forces. Equitably allocate costs incurred to responsible parties.

Model Policy
Stormwater Management Systems Design Procedure

I. Project Startup Feasibility Analysis

A. Identify goals, objectives and issues
1. Floodplains and other drainage ways
2. Erosion and sediment control and stream channel stability
3. Wetlands and wildlife
4. Stormwater management goals an objectives
5. Adjoining stormwater systems
6. Probable future development

B. Collect basic data
1. Topographic information
2. Survey and boundary data
3. Soils and geologic data
4. Utilities
5. Hydrologic and hydraulic data
6. Regulatory data
7. Previous studies
8. Evidence of historic flooding
9. Projected land use
10. Existing floodplain maps

II. Planning and Preliminary Engineering Design

A. Prepare or obtain development plan
B. Develop conceptual stormwater management plan alternatives
C. Prepare preliminary design
1. Select runoff method based on area
2. Determine design storm frequencies
a. Major storm
b. Minor storm
3. Locate outfalls and assure adequate outfall capacity
4. Obtain rainfall, or
5. Evaluate run-on, or
a. Master planned basins
b. Non-master planned basins
6. Identify natural drainage-ways
7. Delineate sub-basins
8. Calculate run-of for pre and post development conditions, or
9. Refine conceptual alternatives
10. Perform drainage calculations, or
11. Determine preliminary conduit and open channel size
12. Select storage facility type
a. On channel
b. Off channel
c. Regional
d. “Wet”

e. “Dry”

13. Determine Preliminary storage facility volume
14. Define preliminary design
    a. Drainage pattern and flow rates
    b. Preliminary system layout
15. Check flood risk on upstream and downstream properties due to proposed development

III. Final Engineering Design

A. Review all preliminary work and check with goals, objectives and issues defined in I-A
B. Obtain final street grades and geometrics
C. Coordinate
    1. Water
    2. Sewer
    3. Paving
    4. Public utilities
D. Hydraulically design the storm drain systems
    1. Street and intersection design, or
        a. Determine street classification(s)
        b. Determine street capacity for minor and major storms
        c. Compare street conveyance capacity with grading plan
    2. System Layout
        a. Location requirements
        b. Manhole spacing
        c. Grade and cover/Structural loading
    3. Hydraulic design of storm drain conduit (establish HGL)
        a. Closed conduits
        b. Pressurized conduits
        c. Structures
        d. Outfalls
    4. Storm drain inlets
    5. Location and spacing
        b. Types
            (1) Curb inlets
            (2) Grate inlets
            (3) Special purpose inlets
    6. Culverts and bridges
        a. Determine overtopping frequency
        b. Perform hydraulic analysis
        c. Energy dissipation/outlet treatment
        d. Analyze debris control
        e. Structural loading
    7. Drainage-ways (open channels)
        a. Select channel type
        b. Hydraulic analysis
        c. Channel stability analysis and design
E. Stormwater storage facilities
    1. Environmental and water quality considerations
    2. Determine storage and outlet characteristics
        a. Storage requirements including sediment accumulation

b. Basin configuration
c. Embankment criteria
d. Spillway sizing and performance during extreme events
e. Outlet performance
f. Operation maintenance
g. Trash Racks

F. Water quality enhancement
1. Develop water quality control strategy
2. Select site control measures
a. Structural BMPs
b. Non-structural BMPs
3. Implement water quality management measures

G. Develop erosion and sediment control (ESC) plan
1. Identify soil erosion factors
2. Develop ESC strategy
3. Select BMPs
4. Design BMPs
5. Prepare Stormwater Pollution Prevention Plan (SWPPP)
6. Submit SWPPP

H. Economic and safety considerations

IV. Submittals and Review

V. Construction Phase
A. Obtain approvals and permits
B. Site observation
C. Prepare record drawings

VI. Operation and Maintenance Phase

Glossary of Key Terms

Urban Area: Land associated with, or part of, a defined city or town. This manual generally applies to urban or urbanizing, rather than rural areas.

Floodplain Planning/Floodplain Management: Technical and nontechnical studies, policies, management strategies, statutes and ordinances that collectively manage floodplains along rivers, streams, major drainage ways, outfalls, or there conveyances. The federal government normally plays a major role in floodplain planning and management, whereas in urban stormwater management and design, local governments dominate the decision-making process.

Major Drainageway: A readily recognizable natural or improved channel that conveys runoff that exceeds the capacity of the minor drainage system, including emergency overflow facilities.

Outfall Facility: Any channel, storm drain, or other conveyance receiving water into which a storm drain or storm drainage system discharges.

Major System: The portion of the total drainage system that collects, stores and conveys runoff that exceeds the capacity of the minor system. The major system is usually less controlled than the minor system, and will function regardless of whether or not it had been deliberately designed and/or protected against encroachment, including when the minor system is blocked or otherwise inoperable. It may be collinear with, or separate from the minor system. It should be noted that there are those who object to the use of the terms “major” and “minor” to describe portions of the drainage system, perhaps because these terms imply that the minor system is less important. Other terms (primary system, convenience or basic system, overflow system, major/primary drainage ways, subordinate system, etc.) have been suggested. Major/minor are used in this manual because they seem to be the most widely used terms.

Minor or Primary System: The portion of the total drainage system that collects, stores and conveys frequently occurring runoff, and provides relief from nuisance and inconvenience. This system has traditionally been carefully planned and constructed, and normally represents the major portion of the urban drainage infrastructure investment. The degree of inconvenience the public is wiling to accept, balanced against the price it is willing to pay, typically establishes the discharge capacity or design recurrence frequency of a minor system. Minor systems include roof gutters and on-site drainage swales, curbed or side-swaled streets, stormwater inlets, underground system sewers, open channels and street culverts.

Storm Drain: Often buried pipe or conduit, typically referred to as storm sewer that conveys storm drainage, also includes, curb and gutter, grate and curb inlets, swales, open channels and culverts.

Special Structures: Those components of urban drainage systems that can be thought of as “features” or “appurtenances” such as manholes, inlets, energy dissipaters, transitions, channel slope protection, detention ponds and dams, and outlet works.

Stormwater Detention: The temporary storage of stormwater runoff in ponds, parking lots, depressed grassy areas, rooftops, buried underground tanks, etc., for future release. Used to delay and attenuate flow, normally drained between storms.

Stormwater Retention: Similar to detention except the facility may have a permanent pool of water or wetland that does not drain between storms.

Master Drainage Plan: The plan that an engineer/designer formulates to manage urban stormwater runoff for a particular project or drainage area. It typically addresses such subjects as characterization of site development; grading plan; peak rates of runoff and volumes of various return frequencies; locations; criteria and sizes of detention ponds and conveyances; measure to enhance runoff quality; salient regulations and how the plan addresses them; and consistency with secondary objectives such as public recreation, aesthetics, protection of public safety, and groundwater recharge. It is usually submitted to regulatory officials for their review.

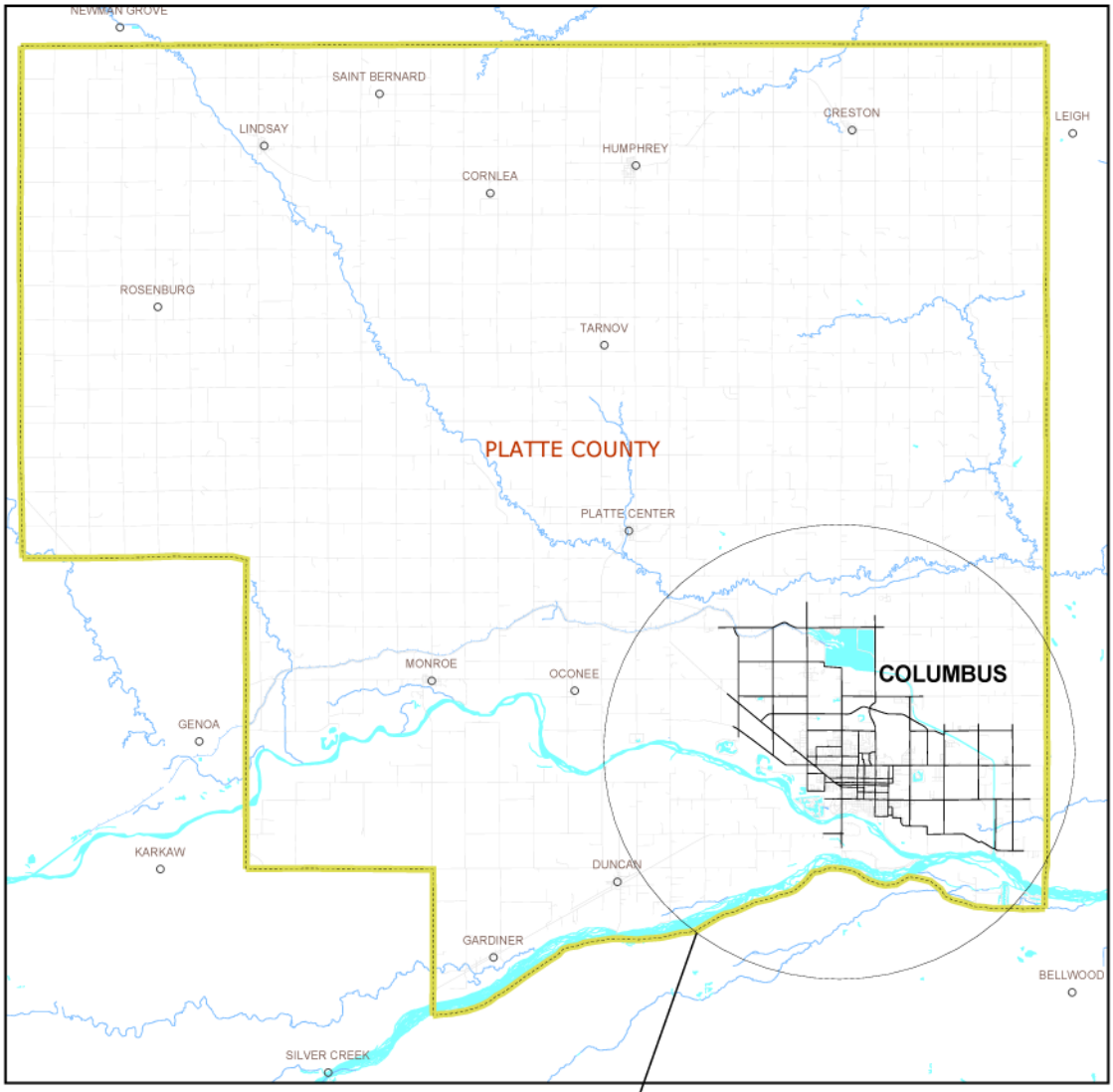
"Standard-based" Design: Design of urban stormwater management facilities based on some specified set of regulatory standards. An example is the stipulation in local drainage policies that culverts for a given subdivision all be designed to pass the 100-year flood before road overtopping.

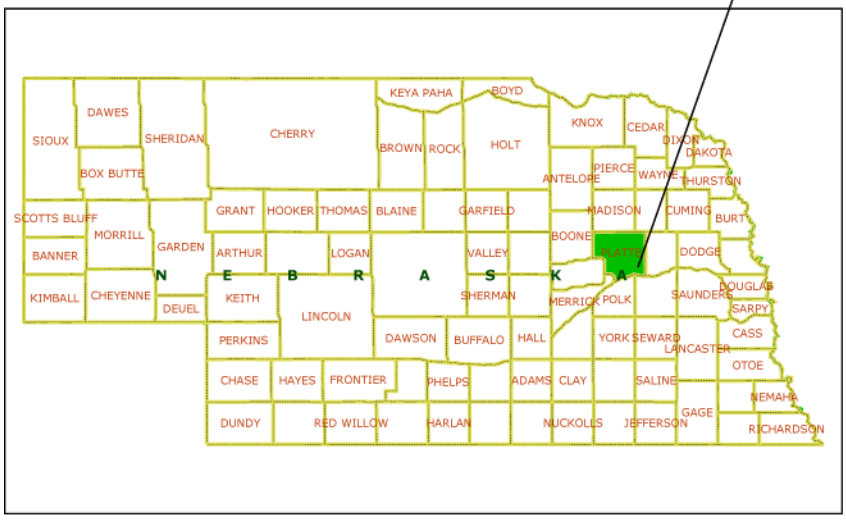
"Risk-based" Design: Design of urban stormwater management facilities not only on the basis of local standards, but also on the basis of the risk (cost) of the flow exceeding a selected design. Virtually all stormwater management projects have some component of risk, which is, inherit in selection of a design return frequency. Risk may also account for special upstream or downstream hazards that would be posed by adherence to some recommended standard. For example, the designer of culverts in a subdivision might choose to upsize particular storm drains from a 10-year to a 50-year basis to protect properties, or to make other provisions to secure emergency discharge capacity.

Multiple-Purpose Facility: An urban stormwater facility that fulfills multiple functions such as enhancement of runoff quality, erosion control, wildlife habitat, or public recreation, in addition to its primary goal of conveying or controlling runoff.

Conveyance Structure: A pipe, open channel, or other facility that transports runoff from one location to another.

Drainage Criteria: Specific guidance provided to the engineer/designer to carry out drainage policies. An example might be the specification of local design hydrology ("design storm")





CITY OF COLUMBUS

Comprehensive Plan

Study Area

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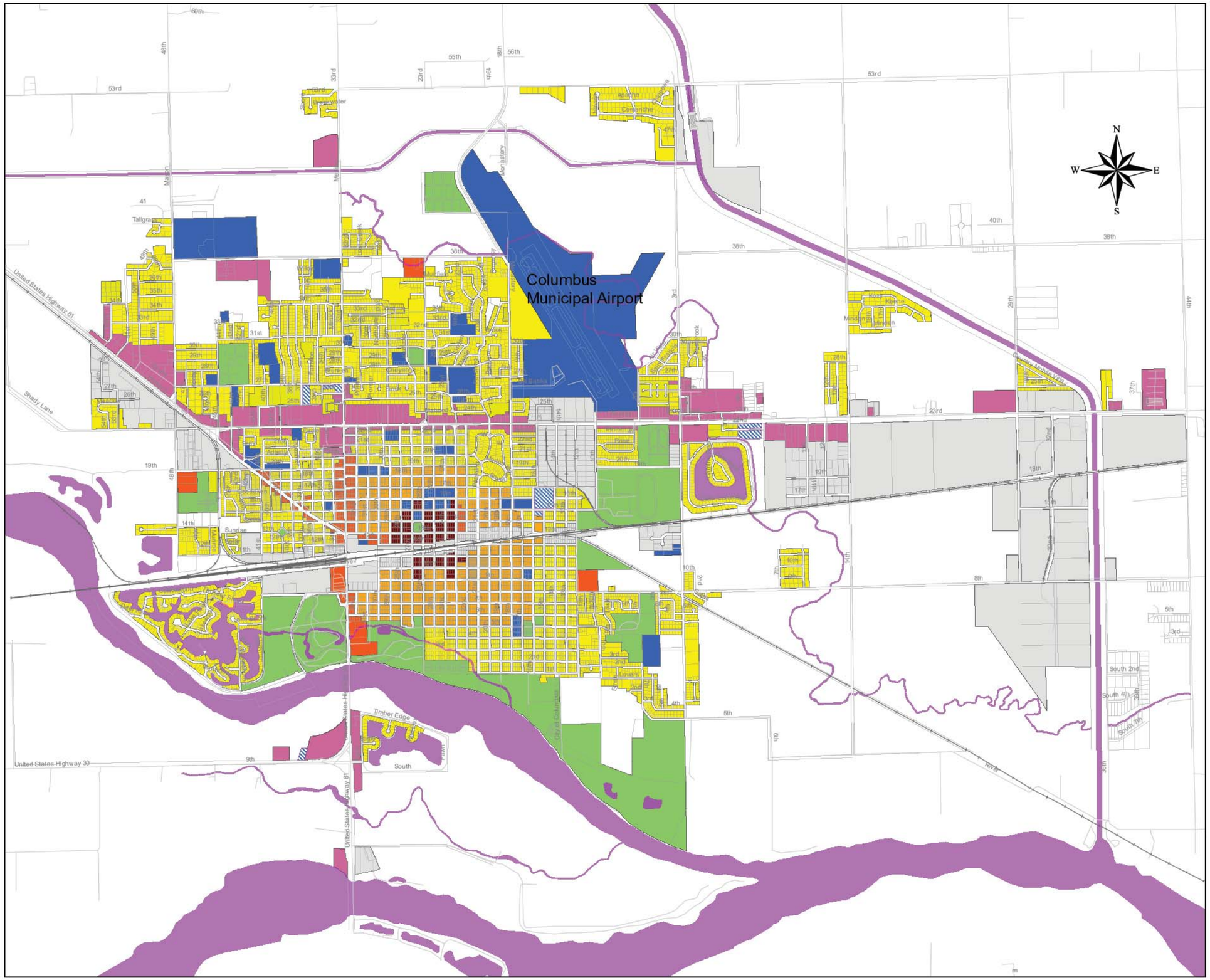
Figure 1



CITY OF COLUMBUS

Comprehensive Plan Update

Existing Land Use

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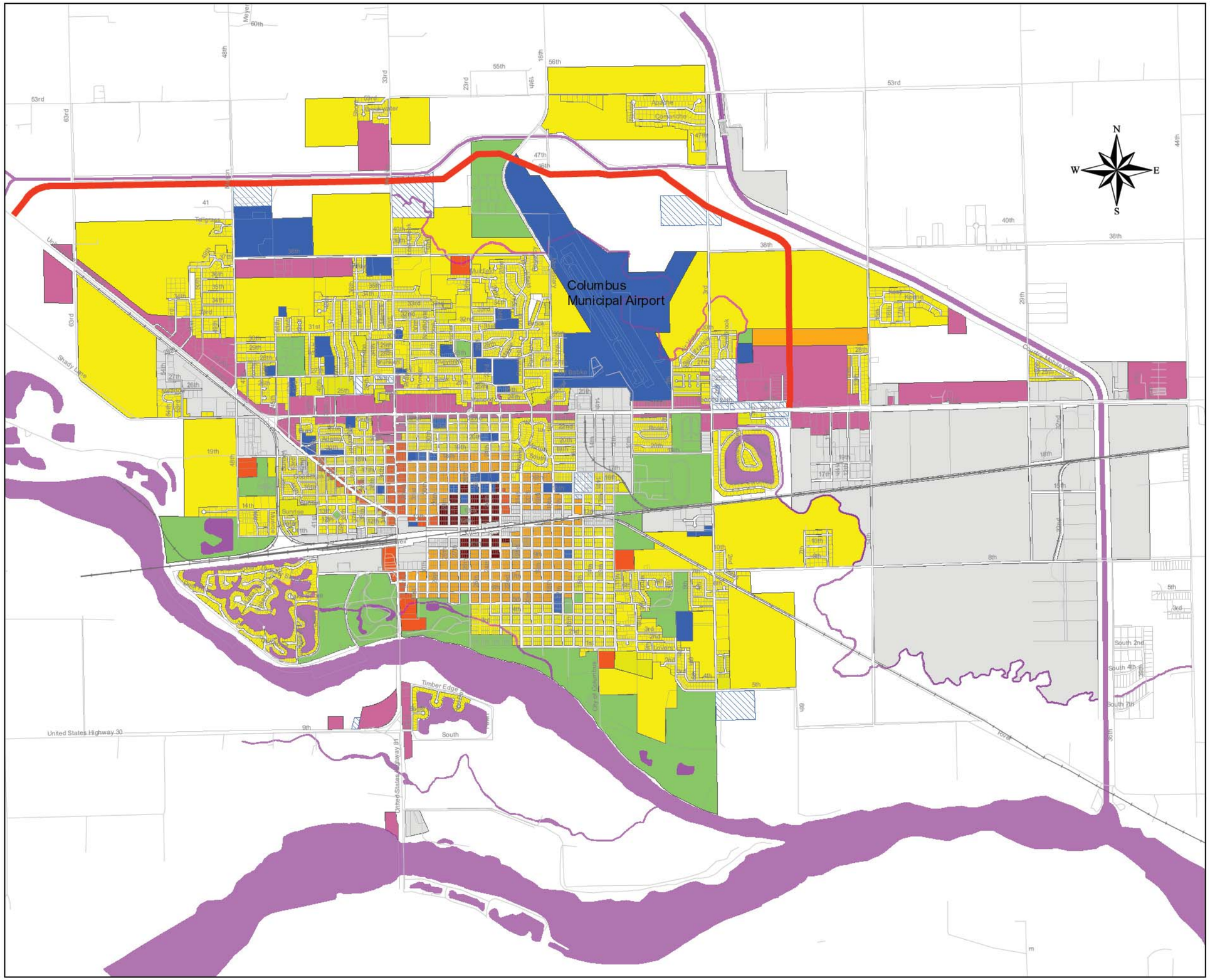
Figure 2



Future Land Use

- Single Family Residential
- Mixed-Density Residential
- High-Density Residential
- Office & Limited Commercial
- Urban Commercial
- Major Commercial
- Downtown Mixed-Use
- Industrial
- Parks & Public Facilities
- Civic & Semi-Public
- Flood Plain and Agriculture
- North Arterial Roadway

0 0.25 0.5 1 1.5 Miles

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Future Land Use

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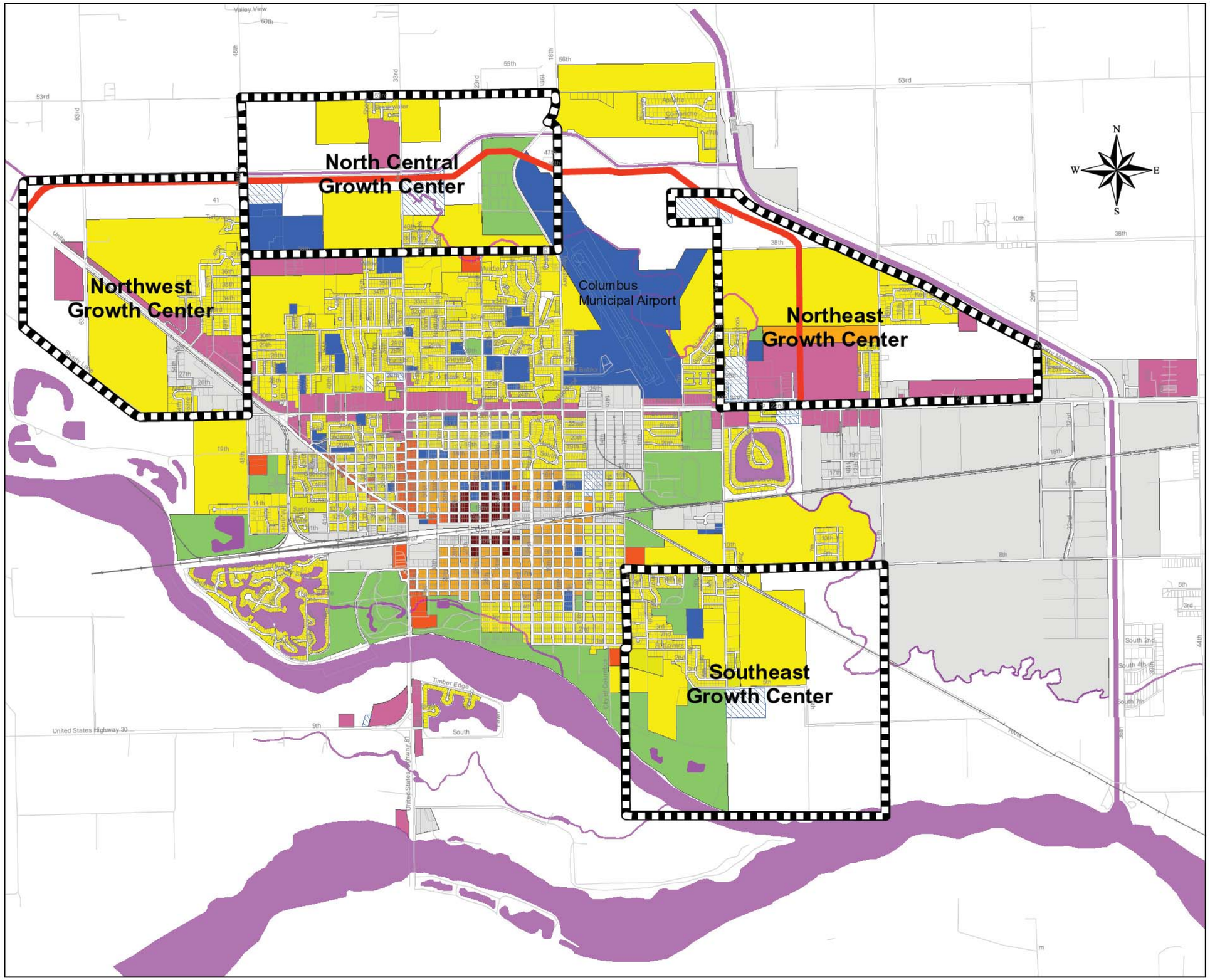
Figure 3



City of Columbus Future Land Use

- Growth Area Centers
- Single Family Residential
- Mixed-Density Residential
- High-Density Residential
- Office & Limited Commercial
- Urban Commercial
- Major Commercial
- Downtown Mixed-Use
- Industrial
- Parks & Public Facilities
- Civic & Semi-Public
- Flood Plain and Agriculture
- North Arterial Roadway

0 0.25 0.5 1 1.5 Miles

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Growth Area Centers

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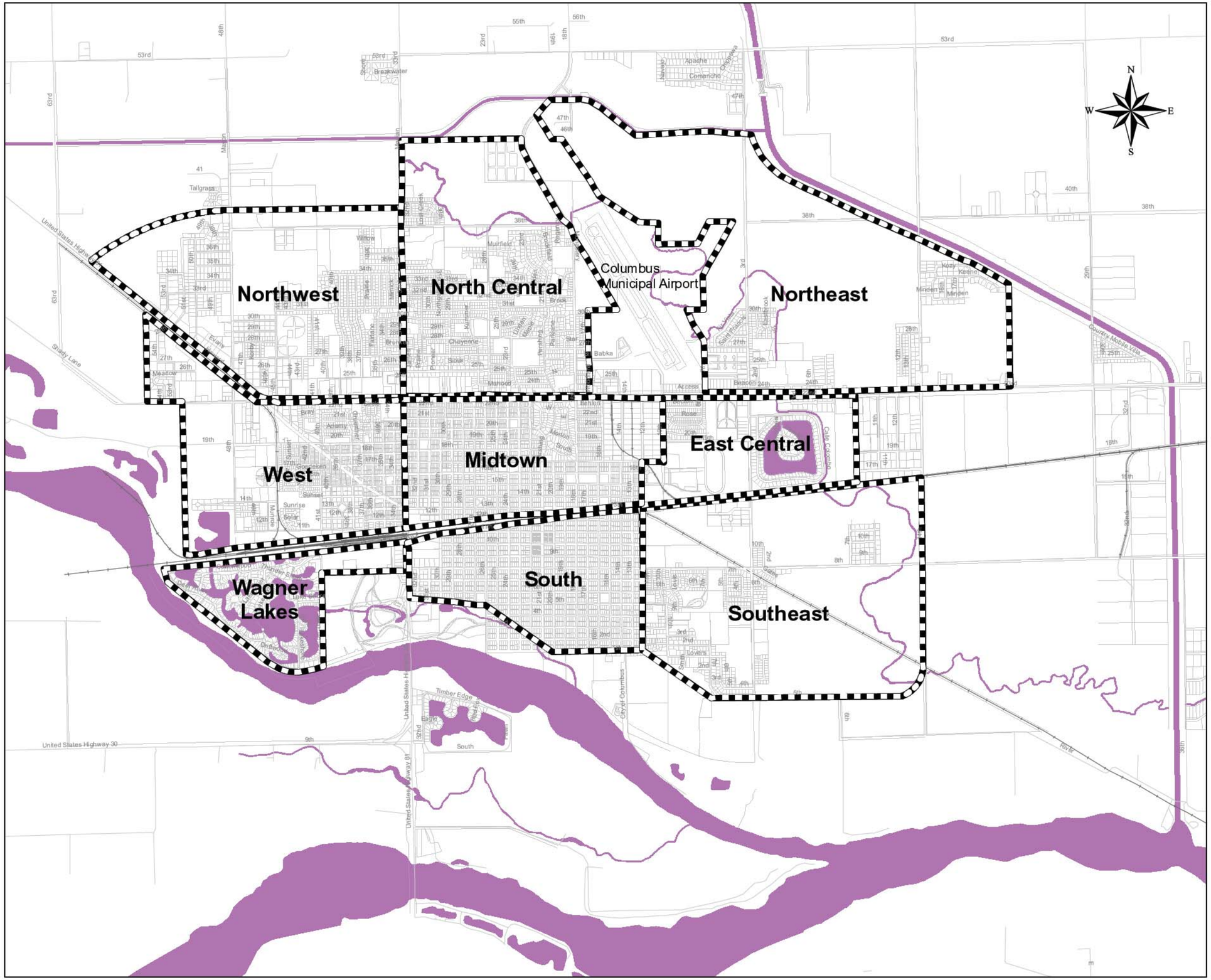
Figure 4



Neighborhood Planning Districts

Neighborhood Planning Districts

0 0.25 0.5 1 1.5 Miles

CITY OF COLUMBUS

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Neighborhood Planning Districts

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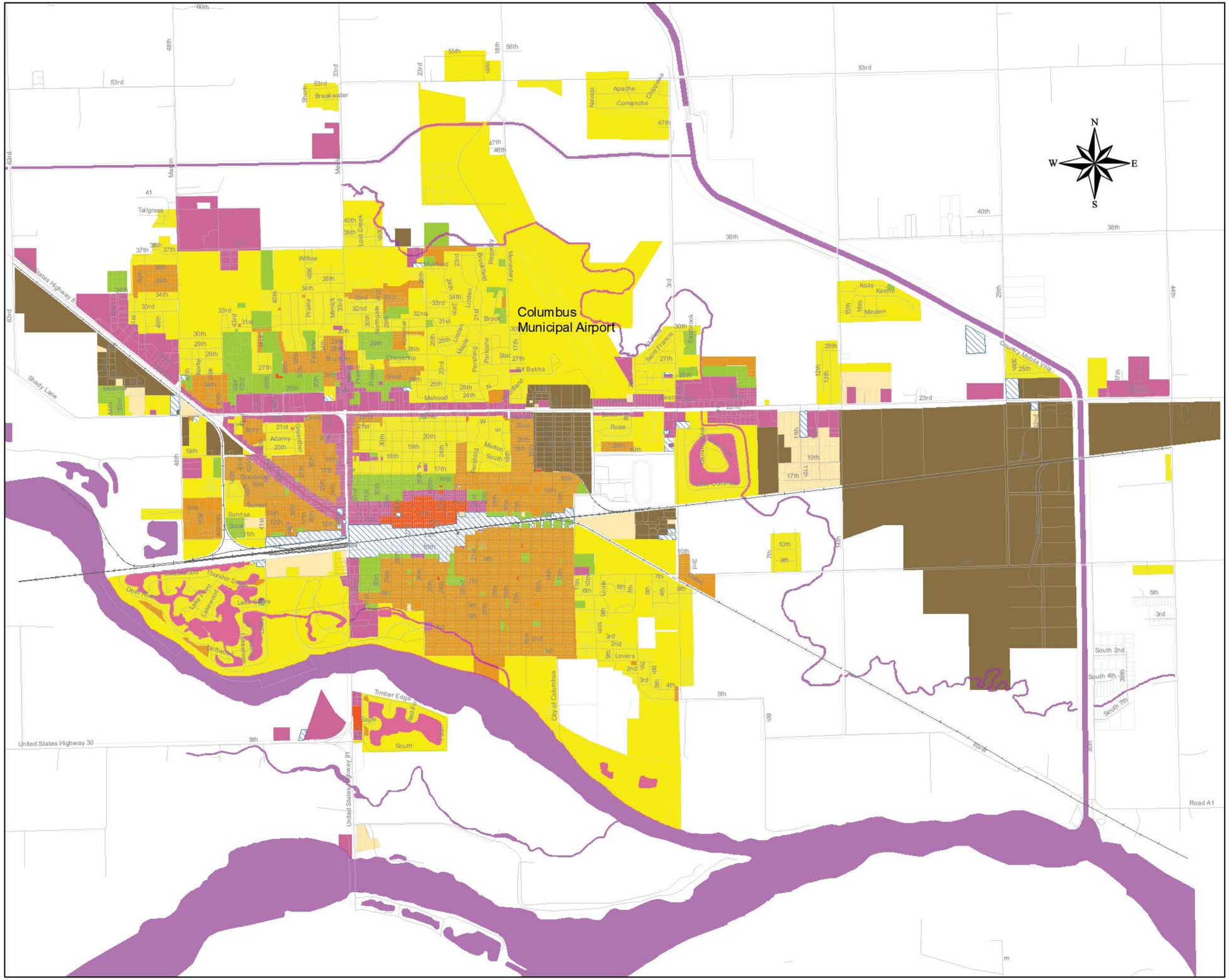
Figure 5



R-1
R-2
R-3
C-1
B-1
B-2
M-H
M-L
RR

0 0.25 0.5 1 1.5
Miles

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Existing Zoning Districts

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Figure 6