

Rolla 2020 Comprehensive Plan Update



“...a bridge to the future”

City of Rolla
Community Development Department
2005

Adopted by Ordinance: January 17, 2006

The cover photograph is of the wooden footbridge crossing the BNSF railroad track between 3rd and 4th Streets. A bridge has been provided at this location from the earliest days of Rolla following the introduction of rail service immediately before the Civil War. The bridge is an appropriate symbol of the *Rolla 2020* Comprehensive Plan Update effort in that it represents Rolla's past linking to the future.

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Comprehensive Plan Application

The principle purpose of the *Rolla 2020* Comprehensive Plan Update is to provide policies that guide the physical development of Rolla over the next fifteen years. These policies can be looked to by citizens and by all levels of government in planning for growth. Specifically, the Plan will be used by governmental leaders to help make decisions about proposed ordinances, infrastructure investments, and actions related to the physical development of the community.

The Plan format generally presents a “**goal**”, followed by “**guiding principles**” and “**policies**” connected to one another with an increasing degree of detail under certain topics or headings, such as “Land Use and Growth Management”. Each of these components is defined as follows:

Goals represent the results that the City hopes to realize over time, perhaps within the planning horizon of the Plan, except where interim time periods are stated. Whether expressed in terms of numbers or only as a general direction for future change, goals are not guarantees or mandates.

Guiding Principles provide a more detailed explanation and direction for implementation, but are similar to goals in that their progress towards fulfillment is not easily measured. The guiding principles represent transition statements between goals and policies.

Policies should be read as if preceded by the words “*it is the City’s general policy to*”... A policy helps to guide the creation or change of specific rules or strategies (such as development regulations, budgets or program area plans). City officials will generally make decisions on specific City actions by following ordinances, resolutions, budget, capital improvements plans or program/facility plans that themselves reflect relevant Plan policies, rather than necessarily referring directly to this Plan. Implementation of some policies may involve a range of local government activities over time, so one cannot simply ask whether a specific action or project would completely fulfill a particular policy. For example, a policy that the City will “*support or encourage*” a particular action indicates that the action will be treated as important, not that it will take precedence in every associated local government decision.

Most policies use the words “*shall*” or “*should*”, “*ensure*”, or “*encourage*”, and so forth. In general, such words should be read to describe the relative degree of emphasis that the policy imparts, but not necessarily to establish a specific legal duty to perform a particular act, to undertake a program or project, or to achieve a specific result. Whether such a result is intended must be determined by reading the policy as a whole and by examining the context of other related policies in the Plan.

Some policies may appear to conflict, particularly within the context of a specific situation as viewed from different perspectives of persons whose interests may be in conflict on a given issue. A classic example is the often referenced friction between policies calling for the preservation of the environment and policies that promote economic development. Because Plan policies do not exist in isolation, and must be viewed in the context of all potentially relevant policies, it is largely in the application of those policies that the interests which they represent are reconciled and balanced by the legislative and executive components of local government.

To the extent that a conflict may arise between an existing policy and those found in this Plan, the Comprehensive Plan will generally prevail. Policies that are used in the application of existing development regulations shall continue to be followed until those rules are made consistent with the Plan, pursuant to City and State law governing change.

Glossary of Terms

Abutting – Having property or district lines in common, or being separated from such common border by a right-of-way or easement.

Adult Day Care Home – A home-based business designed to provide care and supervision to meet the needs of typically non-related, functionally impaired adults for periods of less than twenty-four hours, in a place other than the adult's own home.

Affordable Housing – A sales price or rent within the means of low-or moderate income households as defined by state or federal sources. Lenders define it as a house payment no greater than 28 percent of gross income for owners and 30 percent for renters.

Average Daily Traffic (ADT) – The average number of vehicles to use a particular location on a road in a twenty-four hour period.

Berm – A mound of earth typically two to six feet high used to screen undesirable views or incompatible uses, usually with landscaping materials.

Blighted Area – An area characterized by deteriorated and/or abandoned buildings and other improvements, inadequate or missing public infrastructure, land with debris, litter, junk vehicles/equipment or improper backfill, lack of sanitation facilities, adverse environmental nuisances/contamination, areas subject to flooding, obsolete subdivision layout, and areas with a lack of private investment.

Buffer Yard (zone) – Any object or technique that minimizes the incompatible characteristics of adjacent uses. These might include distance, green space, landscaping, berms, and fences.

By Right Use – A land use permitted in a zoning district without further conditions or review by the governing body.

Capital Improvements Program (CIP) – The CIP is a multi-year scheduling of major public improvements. The scheduling is based on studies of fiscal resources available, and includes the systematic evaluation and prioritization of specific improvements to be constructed for a period of one to 10 years in to the future.

Chapter 353 – Refers to Chapter 353, Redevelopment Corporations Law, as found in the Revised Missouri Statutes.

Cluster Development – A development pattern, usually for residential purposes that groups pr clusters units in an area rather than spreading the units throughout the land as in conventional development. The area not utilized for development is set aside and maintained as common open space.

Commercial Activity Center (retail) – A concentration of service and/or retail business establishments located near the intersection of arterial streets or highways or adjoining such roadways.

Corridor – A strip of land usually bordering both sides an arterial street or highway of varying depths, generally considered to be influenced or impacted by the arterial street or highway.

Downtown – An approximately six block area in Rolla’s traditional center city generally bounded by Rolla Street and Elm Street, 6th Street and 12th Street.

Downzoning – A change in a zoning classification of land to a classification permitting development that is less intensive or dense.

Dwelling Unit – A structure or portion thereof used exclusively for human habitation designed for occupancy as a separate living quarter with cooking, sleeping, and sanitary facilities.

Easement – A right given by a property owner to another party for specific use of that land.

Economic Base – The system of production, distribution, and consumption of goods and services within a given area.

Enterprise Zone – An economically distressed area designated by the governing body and the State of Missouri for economic development offering various incentives for investment and job growth.

Excessive Slope - Land areas where the slope exceeds 35 percent.

Flood Plain – The channel and the relatively flat area adjoining the channel of a stream or river that has been or may be covered by floodwater.

Grade – The degree of rise or fall of a sloping surface.

Group Quarters – A building used as group living quarters for students or a religious order, for handicapped or elderly residents usually as an accessory use to an institutional use. Facilities may be a dormitory, nursing home, boarding house, fraternity/sorority house, convent, or other similar institutional function.

Historic Site – A structure or place of outstanding historical or cultural significance.

Holding Zone – A low density zone established as a transitional zoning classification for newly annexed land awaiting rezoning to a more permanent, desired use.

Incentive Zoning – The granting of additional development capacity in exchange for the developer’s provision of a public benefit, such as open space or parkland.

Infill Development – The development of new buildings on sites in substantially built-up areas.

Infrastructure – Facilities and services needed to sustain development.

Institutional Use – The use of land or buildings for a public or non-profit purpose and may include schools, places of worship, public hospitals, government buildings, parks, etc.

Insurance Service Office (ISO) – An independent organization used by the insurance industry to set fire insurance premiums.

Landscape – Plants materials, topography, and other natural physical elements combined in relation to one another and to man-made structures.

Low Density Residential – Single-family attached or detached housing, including modular units, with a land use density of less than one unit and up to seven units per acre.

Low/Medium Density Residential – Single-family attached/detached units, duplexes, and town homes, zero lot line homes, and similar types of small scale multiple family buildings with less than one unit and up to 10 units per acre.

Major Thoroughfare Plan – An element of a comprehensive plan that details the community’s long range plans for the provision of major roadways, such as collector, arterials, and highways.

Medium/High Density Residential – Small lot single-family, modular homes, duplexes, town homes, apartments, and manufactured home parks with densities ranging from 11 to 26 units per acre.

Mixed Use Development – The development of a tract of land, building, or structure with a variety of complementary and integrated land uses, such as, but not limited to, residential, office, retail, public, or manufacturing in a compact urban form.

Meramec Regional Planning Commission (MRPC) – An eight county non-profit council of governments providing planning and other services to the region.

Modular Housing – A dwelling unit that is designed to be made mobile on a temporary basis and constructed to provide a residence on a permanent foundation, but does not include mobile or manufactured homes/trailers or recreational travel vehicles.

Neighborhood Commercial – Commercial areas with businesses that primarily serve the adjacent neighborhoods and includes variety stores, clothing stores, food stores, drug stores, banks, personal service establishments, gas stations, small-scale professional service offices, doctors offices, etc.

Planned Unit Development – An area to be planned, developed, operated, and maintained as a single entity and containing one or more structures to accommodate retail, service, office, or residential uses intended to encourage innovative development and quality design through regulatory flexibility.

Right-Of-Way – An area of land acquired by direct purchase, subdivision dedication or condemnation and intended to be occupied by a roadway, railroad, utility, or other public purpose.

Rolla Regional Economic Commission (RREC) – A county-wide non-profit organization dedicated to promoting economic development in Phelps County.

Screening – A method of visually shielding one abutting or nearby structure from another by fencing, walls, berms, or landscaping.

Site Plan – A development plan showing the existing and proposed conditions, natural and man-made features of a site where development will occur.

Spot Zoning – Rezoning of a lot or parcel to benefit an owner for a use incompatible with surrounding land uses and that does not further the comprehensive plan.

Sprawl – Uncontrolled growth, usually of a low density nature, in previously rural areas and some distance from existing public infrastructure or services.

Strip Commercial Development – Commercial or retail uses, usually one-story high and one-store deep, that front on a major street in a strip or ribbon fashion.

Subdivision – The division of a lot, tract, or parcel of land into two or more lots for sale, development, or lease usually involving the submission of a plat or map of the development.

Tax Increment Financing (TIF) – A statutory tool to address the redevelopment of blighted areas that permits all or a proportion of the incremental increase in certain taxes generated by new commercial activities to be used to pay for site improvements and other expenses associated with an approved redevelopment plan for the area.

Townhouse – A residential dwelling unit which is connected by one or more walls to a series of similar units, usually sharing the same street frontage.

Transitional Use – A permitted land use of an intermediate intensity by level of activity or scale between a more intensive and less intensive use.

Urban-Scale – Development densities consistent with those currently found in the developed areas of Rolla by type of land use.

Wetland Area – Natural areas that are normally covered in water for all or part of the year, which result in a combination of environmental features that contain a wide variety of plants and wildlife.

Zero Lot Line – The location of a building on a lot in such a manner that one or more of the building's sides rest directly on a lot line.

Chapter 1: The Planning Process

Project Background

The *Rolla 2020* Comprehensive Plan Update planning process was initiated by City Council to complete an update of the 1996 Rolla Comprehensive Plan. It was particularly appropriate to revisit the 1996 Rolla Comprehensive Plan due to the passage of time (ten years since the plan was completed). The updated Plan amends the 1996 Plan, reflecting the growth and changing needs and conditions of the community. Another reason cited for pursuing an update concerned the 1996 Plan's failure to provide specific direction for policymakers concerning the physical development and long-term infrastructure needs of Rolla. The 1996 Plan did not adequately consider a large enough urban growth area beyond the 1996 corporate limits or evaluate growth opportunities.

The *Rolla 2020* Comprehensive Plan Update built upon recently completed Plan amendments and system plans, such as the Southside Development Plan (adopted as an element of the 1996 plan in March 2002) or the Parks, Recreation and Open Space Master Plan (completed in October 2003, but not adopted as an element of the Comprehensive Plan) and the newly adopted 10 year Capital Improvement Program. One objective of the assignment was to integrate the elements of these plans into a single, more usable document.

A second objective of the *Rolla 2020* Comprehensive Plan Update was to ensure that the long term needs of Rolla will be addressed, and that appropriate guidance is provided for future decision-making on issues such as land use, growth management, community design, natural resources and the environment, transportation, housing and neighborhood preservation, infrastructure and services, and economic development issues.

It is anticipated that the *Rolla 2020* Comprehensive Plan Update will provide policy guidance for at least the next fifteen years (2005-2020), although the Plan should be reviewed and updated as needed during the fifteen year planning horizon.

What is a Comprehensive Plan?

A comprehensive plan is an official document adopted by a city as a long-range policy guide for decisions about the *physical development* of the community. A plan is not a regulatory ordinance, but is used as a guide when ordinances, such as zoning or subdivision regulations, are revised and administered. Nor should a comprehensive plan become a detailed capital improvement program or contain a budget. It should be used, however, as an important point of reference during the more detailed capital improvement planning and yearly budget preparation process that must occur before capital improvements are constructed.

A comprehensive plan is not intended to solve all the myriad of socio-economic problems that confront a city and its residents, but it can contribute toward solving some of those problems. For example, a plan may not directly address strategies to reduce crime or illiteracy, but could provide guidance for efforts to develop affordable housing.

A plan can help improve decisions on development-related matters by providing a city with information on where and how much the community may grow, what are its priorities, what actions will help achieve community goals, and how all the elements relate to one another. The term “comprehensive” refers to the coverage of the plan for all portions of the city and all facilities that relate to matters of physical development.

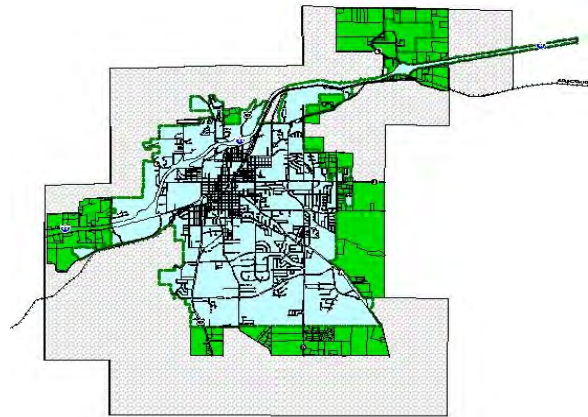
The Urban Growth Area

The *Rolla 2020* Comprehensive Plan Update encompasses an Urban Growth Area (UGA) of approximately 5.8 square miles, not including the 11.6 square miles currently within the Rolla City Limits (please refer to the attached map). The UGA represents the area in which urban-scale growth will be encouraged based on the present and expected future availability of necessary public infrastructure. The term “urban-scale” denotes development densities consistent with those currently found in the developed areas of Rolla (an approximate average of 14,569 square feet of land consumed for each new dwelling unit, including ROW). The concept also addresses a service level normally required for urban growth to occur, such as central water and sewer, improved street system, and other municipal-type services such as police and fire protection.

A number of factors were considered when defining the boundaries for the UGA. They included natural drainage basins, utility service corridors, community identity, existing development characteristics, and service delivery areas for police and fire, existing traffic access and circulation, the continuation of street patterns, water district boundaries, etc.

The Urban Growth Area (UGA)

The UGA reflects the additional space that may be needed to accommodate population growth and future land development needs of the community for a time period **including and beyond** the stated planning horizon of fifteen years. The maintenance of a healthy, competitive real estate market requires that sufficient land (2 to 3 times the land area “absorbed” over the next fifteen years) should be available for development in the Rolla or the UGA. Under no circumstances would the entire UGA necessarily have to be annexed into the City over the next fifteen or even twenty years to meet the growth needs of Rolla. The UGA cannot be used to predict exactly where or when growth will occur, just where it should be encouraged and supported.



The UGA designation is being proposed as a guide for public and private land use and infrastructure investment planning. From the public’s perspective, urban-scale development outside of the UGA should not be encouraged by the City through the extension of urban services, like connecting to the City’s sanitary sewage collection and

treatment system. The City has or will develop the capacity to provide urban-scale services such as police and fire protection as Rolla grows into the UGA.

Establishing a Rolla UGA will also assist in negotiating service area agreements with rural water districts and the rural electric coop. Ultimately, Rolla's leaders will determine when an annexation program is required and in the best interests of the community. The forethought represented by the UGA designation will form an important component of that planning process that may lead to annexation.

How to Use the Plan

This *Rolla 2020* Comprehensive Plan Update for the City of Rolla, adopted pursuant to the Revised Statutes of Missouri, Section 89.300 through 89.490, is the official policy guide for future land use decisions in Rolla. Missouri statutes provide for the formal approval of a plan by a City Planning Commission after at least one public hearing. The statutes grant wide latitude for items to be considered in the document; but include transportation, land use, public facilities and utilities location, and the re-planning of blighted or "degenerated areas". State statutes further require that a city must have an adopted plan in order to enforce zoning regulations.

The written goals, guiding principles and polices, along with the Future Land Use map, provide guidance for decisions affecting growth and annexation, the use and development of land, preservation of open space and the expansion of public facilities and services. The chapters and maps contained in the *Rolla 2020* Comprehensive Plan Update are interrelated and should be used along with other adopted elements of the Plan.

The Comprehensive Plan consists of written goals, guiding principles, policy recommendations, and maps, which should be used together when making decisions. It is recognized that this document should be reviewed periodically and revised as needed to reflect changing conditions and the aspirations of Rolla's citizens.

Planning Process and Public Participation

The successful development and implementation of the updated Comprehensive Plan is related to efforts to provide an opportunity for equal and fair representation and involvement by interested individuals and organizations. The potential constituency for the updated Comprehensive Plan is large, involving many property owners, investors, businesses, private utilities and government officials. Not everyone, however, is willing or able to participate in a plan preparation and review process. In practice only a limited number of interested persons will actually participate when traditional citizen involvement techniques; such as public hearings, workshops, open houses, etc. are used. Typically many of these individuals have personal interests or concerns they are pursuing. This reality does not release the City Council, Planning and Zoning Commission, or staff from an obligation to obtain citizen input from as broad a cross section of Rolla's residents as is practical.

The following paragraphs will outline the citizen involvement strategy employed to provide a balanced approach for the *Rolla 2020* Comprehensive Plan Update. The challenge was to develop

a participation program that stimulated citizens to come up with good, workable ideas and to encourage broad support for the Plan while reducing the influence of special interest groups.

Planning Advisory Committee:

The City Council, with Planning and Zoning Commission input, appointed a Planning Advisory Committee (PAC) consisting of Council/Planning Commission members and representatives from various community organizations; such as UMR, Rolla Area Chamber of Commerce, Rolla School District, Phelps County Regional Medical Center, businesspersons and individuals representing the development community, private utility companies and others. The responsibilities of the Committee were to:

- ❑ Identify a community Vision for Rolla's future and to keep this "big picture" in focus during the planning process;
- ❑ Be a consensus builder in the community;
- ❑ Serve as a guide and sounding board for staff during Plan preparation and review;
- ❑ Be an active proponent of the comprehensive planning process;
- ❑ Oversee the implementation of the citizen involvement strategy;
- ❑ Share knowledge of the area's assets and key issues;
- ❑ Attend the majority of Committee meetings and actively participate;
- ❑ Help articulate goals;
- ❑ Evaluate alternative policy statements and development scenarios;
- ❑ Review draft documents and offer feedback; and
- ❑ Commit to the successful implementation of the Plan.

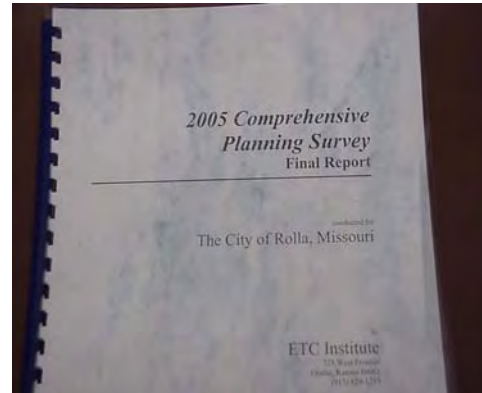
The PAC consists of 20 members, excluding staff. The committee met periodically throughout the Plan development and approval process. A "Technical Advisory Committee", consisting of key staff persons, such as the Public Works Director, Parks Director, Finance Department Director, City Administrator, and an RMU representative was also designated. This group assisted by addressing technical issues raised during the plan update process.



Citizen Attitudinal Survey:

The Rolla City Council has successfully used community attitudinal surveys to determine how the majority of Rolla's citizens felt about certain issues confronting their City. Previous surveys have been used to support actions taken by the City Council, such as the multi-million dollar capital improvements program election for street reconstruction. The advantage of the attitudinal survey approach is that it used a random, scientifically selected sample of Rolla residents to identify the prevalent attitudes or beliefs about the future direction of the community.

This information directly impacted the drafting of the Growth Vision statement and Development Values by the PAC and the subsequent goals, guiding principles, and policies.



Please refer to Appendix I for a summary of the survey findings. The City hired ETC Institute to conduct the random sample survey because of their extensive experience and to provide a strong level of confidence in the accuracy of the survey findings.

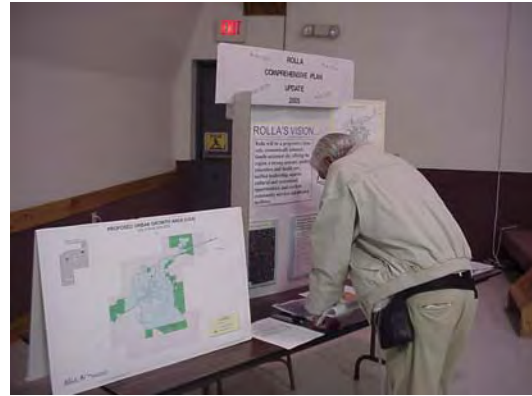
Public Information Program:

Staff utilized many techniques to help establish and maintain communication with Rolla citizens concerning the *Rolla 2020* Comprehensive Plan Update. A *Rolla 2020* Comprehensive Plan Update link was established and maintained on the City's web site providing access to all Plan related materials including maps and various project memoranda, and contact information for questions. Several articles were published in the City's quarterly newsletter during 2005. The newsletter is sent to all community households to advise citizens about the progress of the Plan update. Plan related material was also provided to the local media and were made available for review in the Rolla Public Library and other public places. The Rolla Daily News reported on Plan progress. Periodic project updates were provided by staff to the Planning and Zoning Commission and all meeting notices were posted. In addition, several times staff visited local radio and television talk shows to discuss the planning efforts and increase community awareness.

As a draft of the *Rolla 2020* Comprehensive Plan Update neared completion by the PAC, a 4-color tabloid size brochure was published and distributed to all Rolla households. The brochure featured the draft Future Land Use map, the Growth Vision, Development Values, and the goals and guiding principles used to frame the policies statements for each of the eight subject areas. Copies of the brochure made available at the Rolla Public Library, City Hall, and as handouts during the open houses and other community presentations.

Community Workshops and Open Houses

A series of community open houses or workshops were held throughout Rolla during the planning process. The open houses were locally advertised events designed to solicit public input into various proposed capital improvements and the *Rolla 2020* Comprehensive Plan Update. Citizens were given an opportunity to participate in plan development, to review project materials, and to convey questions and concerns to staff. Public hearings were held before the Planning and Zoning Commission and City Council as required by State statute and local ordinance.



Chapter 2:- Executive Summary: Growth Vision

Introduction

The Executive Summary consists of the Growth Vision for Rolla and related goals which provide the highest level of policy direction contained in the *Rolla 2020* Comprehensive Plan Update. It is intended to provide a broad understanding of the community's vision for future growth and development within the City and UGA. Chapters 4 through 11 of the Comprehensive Plan address each of the eight subject areas identified in the summary in greater detail, and should be referred to for detailed policy direction and additional information. The Growth Vision statement was drafted by the Planning Advisory Committee as a starting point for discussion following a strategic planning analysis process conducted by the Meramec Regional Planning Commission. The statement was then refined and validated through a series of open house meetings and discussions, including City Council. This served as the overall framework under which the goals, guiding principles, and policies of the Comprehensive Plan were developed.

According to visioning process participants, the qualities they desired most in a community were: safety, economic balance, quality education and health care and good public services. They believed that Rolla should maintain its place as the educational, cultural, health care and manufacturing/retail center of Missouri's south-central region. Participants believed that Rolla should build upon its location on I-44 and its proximity to Ft. Leonard Wood and UMR to expand its economic and cultural wealth. At the same time, participants wanted consideration for community appearance and functionality, a family-oriented atmosphere, and strong local leadership.

Growth Vision

The Rolla Growth Vision is based on the premise that the health of the community and the quality of life of its residents are not dependent on any one factor. The underlying approach of the Growth Vision is an understanding that the community must seek a balance between environmental, economic, and development considerations. Each of these components is interrelated and essential to the continued health and sustainability of the community. Viewed together, they provide a balanced and flexible overall basis for formulating the Growth Vision. The Growth Vision reflects the community's ideals for the future as follows:

Growth Vision

Rolla will be a progressive, clean, safe, economically balanced, family-oriented city, offering the region a strong economy, quality education and health care, unified leadership, superior cultural and recreational opportunities, and excellent community services and physical facilities.

Development Values

The following value statements, prepared by the Planning Advisory Committee as part of the visioning process, describe Rolla's aspirations and set the direction for the *Rolla 2020* Comprehensive Plan Update. The values demonstrate the general ideals to be sought for Rolla over the next 15 + years, building on the community's strengths and proposing changes when necessary. The vision statement and the development values provide a framework within which the evolution of the community might be consciously considered and intentionally guided.

Rolla's vision includes the following key development values:

A Coordinated and Efficient Rolla Growth Pattern

Rolla will have a compact and generally contiguous land use development pattern that makes the most efficient use of public infrastructure and services. The Plan will balance urban development with the conservation of the natural environment to

the extent feasible. Housing growth will generally be encouraged to the south and east. The City should make investments to encourage the reinvigoration of older areas where infrastructure and services are already present.

Preserve and Enhance Natural Resources in Rolla

Rolla residents feel strongly about conserving the area's natural features, resources, and scenic quality. The City should work to preserve and enhance its natural features that provide wildlife habitat, maintain environmental quality of its water resources, and enrich the lives of residents through education, observation, and outdoor

recreation opportunities. Parks and greenways should be used to link growth areas and activity centers, as well as fulfill needs for storm water management and as utility corridors. Preserving the community's natural features and resources will help maintain Rolla's identity and desirability as a place to live, work and play.

Efficient Use and Expansion of Rolla Public Facilities and Services

The availability of water, wastewater, power, fire protection, parks, schools, libraries and other utilities and services affects the safety and quality of life for Rolla residents and the economic stability of the City. The provision of these facilities and

services should occur concurrently with land development whenever possible. There should be a supportive relationship between the Rolla Comprehensive Plan, land use regulations, and the City's capital improvement program.

Active Community Involvement and Cooperation

City leaders should continue to foster coordination and cooperation between themselves and other governing bodies, City boards and commissions and local citizen

groups to promote a sense of community. The City should support opportunities for public participation in the community and capital improvement planning process.

A Balanced Multi-Modal Transportation System

Mobility, efficiency and safety are important components of a transportation system. The City will address current and future mobility needs through appropriate land use decisions and an efficient transportation system with connected local and regional roads that facilitate traffic flow through the City. The

Plan should integrate and coordinate the Major Thoroughfare Plan and the land use plan so that the street capacity improvements, road safety improvements, and alternative transportation modes can be efficiently provided along multiple public use corridors.

Stable, Cohesive Neighborhoods Offering a Variety of Housing Types

The City will support new development that contains a mix of land uses and diversified housing options, including housing that is affordable. The City will work to maintain the quality and character of established neighborhoods throughout the community. It will ensure that infill or redevelopment initiatives are compatible with existing neighborhoods and are appropriate in size,

design and use to preserve or enhance property values. New housing areas should be located where residents will have reasonable access to the full range of infrastructure, facilities, and services that are needed for healthy, livable neighborhoods.

Attractive, Functional Development that Promotes a Strong Community

Rolla residents pride themselves on the attractiveness and overall quality of their region and community. The City will encourage a higher standard of design for

new development to strengthen the physical appearance of the area as a quality living and business environment.

A Strong, Diversified Economic Base

The City will seek employment and commercial development opportunities that provide a variety of jobs, products and services to residents, and that make a

positive contribution to the community. It will also encourage development that will enhance and diversify the City's tax revenue and employment base.

Goals and Guiding Principles

The goals and guiding principles lead to the policy statements covering land use and other categories or topic headings found in the *Rolla 2020 Comprehensive Plan Update*, reflect the values of the community and its vision for the future growth and development of Rolla.

The intent of these goals and guiding principles is not to dictate specifically where, or at what rate, growth should take place. Instead, their focus is on ensuring that the growth that does take place is well planned and coordinated so that the quality of life for the entire community is preserved. They are intended to serve as a framework for the policy statements found in the Plan and to guide implementation efforts.

Land Use and Growth Management

Background and Intent

The City seeks to promote an urban development pattern that represents the sustainable use of land, energy, and other resources by encouraging orderly, contiguous growth while minimizing “urban sprawl”- the haphazard, dispersed extension of urban-scale density development located beyond the planned capacity for public facilities and services.

Goals and Guiding Principles

Goal # 1:

Promote land use and development practices that consider current and future economic and environmental impacts, ensuring the ability of future generations to meet their own land use needs in Rolla.

Guiding Principles:

- ❑ Provide adequate and appropriately located areas for industrial development, with special emphasis on technology intensive industries and the commercialization of technology from UMR.
- ❑ Review development regulations to provide more flexibility and cost reduction.
- ❑ Discourage strip commercial development and spot zoning. Encourage more compact and visually attractive development that incorporates landscaping, attractive signs, and other aesthetic amenities.
- ❑ Support the development of neighborhood scale commercial and office centers, preferably at the intersection of major (arterial or collector grade) streets, to serve the needs of local residents.
- ❑ Promote land use and development that meets the diverse needs of residents and protects existing investments, yet provides opportunities for individual initiative and housing choice.

- ❑ Promote cluster development and mixed use “planned developments” as an option to protect environmentally sensitive areas, provide for common, community open space served by a balanced transportation system with appropriate community services and facilities. In other words, the City will encourage quality development.



Goal # 2:

Promote the sustainable use of land and other resources by encouraging orderly, contiguous growth and minimizing low-density, dispersed development.

Guiding Principles:

- ❑ Establish a balance between contiguous outward growth and inward directed infill development, redevelopment, rehabilitation, and reuse projects, in order to promote the sustainable use of land, infrastructure, energy and other resources.
- ❑ Provide incentives for businesses, landowners, and the public sector to rehabilitate, redevelop, and revitalize the downtown and older, central core neighborhoods of Rolla.
- ❑ Strengthen and promote Rolla’s downtown and central core as the community’s primary location for financial services, office space, governmental services, and cultural amenities.

Goal # 3

Identify areas for future expansion of the City that can be serviced and are compatible with the expansion plans for the various utility and other service systems.

Guiding Principles

- ❑ Direct urban development into areas where basic services such as sanitary sewer, water supply facilities, and fire protection can be efficiently and economically provided.
- ❑ Incorporate into the City areas identified in the UGA that are or will become physically, socially, and economically a part of the City.

Mobility and Transportation

Background and Intent

Mobility, efficiency and safety are important components of a community's transportation system. Current and future mobility needs will be addressed through appropriate land use decisions as guided by the Comprehensive Plan. The City will Plan for an efficient transportation system with connected local and regional roads, ensuring that streets are designed to accommodate existing and future needs resulting from development.

Goals and Guiding Principles

Goal # 1:

Protect the public safety and welfare, reduce traffic congestion, ensure acceptable service levels, and conserve the functional integrity of the City and state-maintained roadway system. All of these components will be coordinated with consideration for the regional transportation network.

Guiding Principles:

- ❑ Plan for a balanced, multi-modal transportation system of streets, sidewalks, trails, and railroad to meet the mobility and economic development needs of the community.
- ❑ Promote street patterns that provide maximum safety and mobility for all modes of transportation, while preserving neighborhood integrity.
- ❑ Promote greater connectivity between different neighborhoods and commercial activity centers by providing appropriate access for automobiles, bicycles and pedestrians.



Housing and Neighborhoods

Background and Intent

A continuing goal of the City is to maintain the quality and character of existing neighborhoods throughout the community and to promote new neighborhoods that offer a variety of housing types at appropriate densities with amenities and services to support a range of household income levels. As an important means of meeting demand for housing variety and affordability, infill and redevelopment will also be promoted, so long as it can be achieved in a manner that is compatible with the character of existing development.

Goals and Guiding Principles

Goal # 1:

Foster the stabilization of Rolla's established, older core neighborhoods.

Guiding Principles:

- ❑ Maintain and protect affordable housing and neighborhoods in the older areas of Rolla, such as the Powell Addition area, the Shoe Factory Addition, the Great Oaks Addition and other areas immediately north and east of UMR/downtown Rolla.
- ❑ Identify and foster initiatives to maintain or enhance the quality of life in existing neighborhoods throughout Rolla.
- ❑ Encourage infill development and redevelopment in established neighborhoods that is compatible

with the use and scale of existing residences.



Goal # 2:

Ensure that new housing represents a variety of housing types and costs appropriate to the neighborhood.

Guiding Principles:

- ❑ Provide opportunities for a greater mix of housing types, which are appropriately located, scaled and designed in relation to surrounding neighborhoods.
- ❑ Support initiatives to develop new affordable housing.
- ❑ Provide an environment for each neighborhood that promotes safety

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and the well-being of residents, and preserves the natural environment. .

Goal # 3:

Ensure that housing sites suitable for residential development of all types are properly located in response to environmental constraints, to ensure connectivity and the availability of other community facilities and services.

Guiding Principles:

- ❑ Promote neighborhood design that allows for multi-modal connectivity between residential areas, commercial areas, parks and open space.
- ❑ Provide appropriate park space and recreation areas as a focal point in all newly developing neighborhoods.



Natural Resources and Environment

Background and Intent

The Rolla area's many natural features are a critical asset that must be preserved and protected. The boundaries defined by these natural features create a framework within which growth and development may occur, as well as the potential to establish natural linkages between neighborhoods. The City recognizes that the preservation of open space and natural features has an obvious connection to sound environmental stewardship and long-term health and safety concerns, but also impacts economic development and community livability.

Goals and Guiding Principles

Goal # 1:

Preserve environmentally sensitive areas, including flood plains, wetlands, key wildlife habitats, and property with steep slopes.

Guiding Principle:

- ❑ Continue to implement Rolla's storm water management program and related ordinances pertaining to the preservation of open space and the acquisition of park land.



Goal # 2:

Facilitate the incorporation of a system of open space corridors, buffers, and linkages into new development.

Guiding Principles:

- ❑ Continue to provide opportunities for the establishment of buffers between urban development and environmentally sensitive areas to reduce negative impacts upon the natural habitat and to protect water quality /reduce storm water runoff.
- ❑ Facilitate the creation of a system of open space corridors and trails, providing linkage between non-contiguous parks and environmentally sensitive areas.



Goal # 3:

Work with the development and business community to promote environmentally sensitive design and construction practices.

Guiding Principles:

- Provide incentives for developers who incorporate environmentally sensitive design such as increased landscaping and buffer areas, into their projects.
- Ensure that Rolla neighborhoods are not subjected to excessive noise, visual pollution or reflected lighting from adjacent development.

Goal # 4:

Recognize and reduce the threats to public health and the environment posed by the use, storage, manufacture, transport, release, and disposal of hazardous materials.

Public Facilities and Services

Background and Intent

The availability of water, wastewater, fire protection and emergency management services, police protection, schools, parks, and other utilities and services affects the safety and quality of life for residents as well as the economic stability of the City. The City shall promote a development pattern that provides for long-term development needs, while achieving a cost-effective provision of public infrastructure and facilities.

Goals and Guiding Principles

Goal # 1:

Urban level development should be planned for areas where basic infrastructure, such as transportation, sanitary sewer, water supply, and fire protection can be efficiently, safely, and economically provided, while maintaining quality services to the existing developed areas within the City.

Guiding Principles:

- RMU shall support a water resources development and management program that is consistent with the demands generated by the Rolla Comprehensive Plan Future Land Use map.
- Develop an adequate and safe system for the collection, treatment, and disposal of wastewater to serve current and future demand.
- Manage and control storm water runoff to prevent flooding, protect soils from erosion, prevent contamination of surface water, and minimize impacts to existing drainage infrastructure.
- Maintain a safe, effective and efficient system for the collection and processing of recyclable and transformable materials and for the safe disposal of residual solid wastes that cannot otherwise be recycled or transformed.
- Maintain sufficient electric and natural gas utility service availability consistent with the needs of a growing community.
- Maintain and expand comprehensive emergency services, including fire protection, law enforcement, and emergency medical services. Continue to develop Rolla as the center for a network of regional health care services.
- Assure that all households in Rolla have access to high-quality public education facilities.
- Cultivate the growth of cultural and artistic expression and appreciation in Rolla. Encourage the use of public arts through public and private investment to enhance both existing and new developments. Increase funding support for the Rolla Public Library to permit needed expansion and facility upgrades.

- ❑ Continue to provide new facilities and expand and renovate existing facilities, such as community and neighborhood level parks, trails, and resource-based recreation areas. This will enhance Rolla's year-round recreational opportunities.
- ❑ Create greater opportunities for Rolla to capitalize on the

recreational resources of the City and region through tourism and recreational based businesses. Encourage the growth of Rolla as an attractive location for regional sports tournaments.

Goal # 2:

Equitably distribute the cost for urban services over the areas that enjoy the benefit of such services and among the entities responsible for extending them.

Guiding Principles

- ❑ Develop efficient, sustainable and equitable methods of providing urban-scale services to support desirable new development in Rolla and the UGA.
- ❑ Consider the further use of special assessment districts that are suitable for urban development based on physical characteristics and service capability.



Regional Coordination

Background and Intent

The administration of the Comprehensive Plan and its component parts is the responsibility of the City Council, Planning and Zoning Commission, and staff. The City, however, does not exist in a vacuum. The City should continue to foster coordination and cooperation with other governing bodies, and promote opportunities for public participation in the community planning and development process.

Goals and Guiding Principles

Goal # 1:

Foster coordination and cooperation between the City and other governing bodies.

Guiding Principles:

- ❑ Coordinate the development goals and policies of the City and other governmental agencies within the region.
- ❑ Work to discourage the introduction of urban-scale residential and commercial development in rural, unincorporated areas of Phelps County that do not have reasonable access to street and utility systems and other services of adequate capacity that are normally considered vital to support urban-scale development.

Goal # 2:

Ensure and promote opportunities for public participation in the community and economic development planning process.



Guiding Principles:

- ❑ Facilitate a variety of public participation opportunities in the community planning process.
- ❑ Provide property owners, developers, investors, and the general public information to enable them to make sound economic decisions concerning their long range planning issues.

Historic Preservation and Urban Design

Background and Intent

Rolla's designated historic sites represent an important part of the area's character and contribute to the overall urban design of the community. The continued protection of these sites and the designation of additional sites as appropriate will continue to be an important community goal. In addition, the City will seek to improve the physical appearance of the community, particularly in relation to the City's entryways and public spaces.

Goals and Guiding Principles

Goal # 1:

Identify, protect, and enhance features that give Rolla a distinctive character, image, purpose and a means of orientation through the preservation of historic buildings/areas.

Guiding Principles:

- Encourage community education efforts to facilitate a deeper understanding and appreciation for local historic resources associated with important people and events. Exercise stewardship by preserving, protecting and enhancing significant publicly owned historic structures in Rolla, such as the Old Phelps County Courthouse and the Rolla Public Library building, using financial and other types of incentives to support owner initiatives.



- Encourage the adaptive reuse of historic structures to maintain their future economic viability. Encourage private ownership of historic properties wherever possible.
- Evaluate City codes in such areas as building, fire, and zoning to support historic preservation and adaptive reuse.

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Goal # 2:

Guide the appearance, scale, and location of urban development to enhance community character.

Guiding Principles:

- ❑ Develop public facilities that are exemplary in their design, execution, and maintenance, while demonstrating fiscal responsibility. Provide for community input in the design of significant public buildings and other facilities to enhance urban design and citizen involvement.
- ❑ Encourage design within the gateway corridors of the community



that creates an attractive, welcoming entryway into the City.

- ❑ Balance the community's desire for quality, compatible design, with private property rights and individual creative expression.
- ❑ Promote pedestrian friendly, human scale design within residential neighborhoods and commercial/office districts.
- ❑ Provide adequate open space/parkland in all future development.
- ❑ Encourage infill redevelopment that is compatible with and enhances the character of the surrounding neighborhood.

Economic Development

Background and Intent

Rolla's economy has historically been dominated by the government sector, with the large employment base provided by UMR, the Phelps County Regional Medical Center, USGS, School District, Ft. Leonard Wood, and others. While these entities will continue to play a vital role in the area's economy, the City will continue to seek greater diversity in employment opportunities for area residents, and a variety of jobs, cultural amenities, and services that make a positive contribution to the community.

Goals and Guiding Principles

Goal # 1:

Maintain and promote Rolla's role as a regional center for economic, educational, health care, and cultural activities.

Guiding Principles:

- ❑ Guide new technological, industrial, and commercial development to appropriate areas of the community.
- ❑ Provide opportunities for larger scale commercial developments at the intersection of major road corridors that are designed and scaled to be consistent with the surrounding land use, and to protect the integrity of Rolla's road transportation system.
- ❑ Encourage the development of new business and industry to take advantage of technology developed at or through UMR.
- ❑ Provide adequate levels of public services and infrastructure, including vacant land designated and prepared for industrial development, to further Rolla's economic development opportunities.

Goal # 2:

Promote a strong, diversified economy that provides a wide range of employment and career opportunities for current and future residents.

Guiding Principles:

- ❑ Continue to work with all levels of government and with various economic development organizations, including the business community, to cooperatively promote Rolla's strengths and opportunities for investment and job creation.
- ❑ Retain existing companies and encourage their expansion as the City's highest priority for economic development. Attract new companies to Rolla that will expand economic diversity using appropriate incentives to leverage private sector investment.
- ❑ Promote home-based, information technology based, entrepreneurial, and other non-traditional business models to help diversify Rolla's economic base.

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Chapter 3: Background

Introduction

Early in the planning process, the City conducted two surveys to identify and verify key issues and conditions that would form the foundation of the updated Plan. The first survey was a random sample attitudinal survey of Rolla residents conducted by ETC Institute (this survey was referenced in Chapter 1, page 5). The second issues identification survey was directed more towards the City Council, Planning and Zoning Commission, Planning Advisory Committee, key City staff, and community leaders. Both survey results contributed to a better understanding of community issues and responses. This chapter provides a summary of community issues, socioeconomic context, the physical opportunities and constraints in the Rolla area.

Community Issues

A summary of key issues was prepared to help respondents appreciate the diversity and complexity of issues and conditions that may have an impact on the future development of Rolla. The issues summary also focused the planning process on the relative key issues for each major element of the *Rolla 2020* Comprehensive Plan Update, as well as the physical, social, and economic consequences that required consideration.

Land Use and Growth Management

- ❑ Potential impact of Ft. Leonard Wood growth on development in Rolla, need to employ strategies to capture a reasonable share of this growth;
- ❑ Limited amount of developable and available land for commercial use in Rolla/lack of shopping opportunities;
- ❑ Limited amount of land suitable for industrial use inside the corporate limits;
- ❑ Underutilization of prime commercial locations due to blight/lack of access;
- ❑ Re-confirm the appropriate land use pattern for the Southside area, need for future commercial and service use locations;
- ❑ Protection of residential neighborhoods from the encroachment of incompatible uses, particularly large commercial uses;
- ❑ Plan for the annexation of land that can be serviced by the planned expansion of City road/utility systems and is cost effective in terms of needed infrastructure upgrades in existing developed subdivisions;
- ❑ Passed-over sites for infill development...efficient use of existing infrastructure in Rolla;
- ❑ Conflict with Water District territory adjoining Rolla... development impacted due to the inadequacy of District service and high cost for sewer and water supply, cost disadvantage for City to extend service;
- ❑ Imbalance between zoning designation and actual land use, particularly in Rolla's center city neighborhoods;
- ❑ Sufficient expansion room for major center city institutions, particularly UMR and PCRMC, the direction of growth for these institutions;

- ❑ Avoid vehicular congestion along new arterial road corridors;
- ❑ Continue downtown revitalization efforts, expand program to Rolla Street;
- ❑ Encouragement of commercial development to the Northwest of I-44;
- ❑ The impact of City regulations on development costs;
- ❑ Obsolete permitted uses in the zoning ordinance... add new uses, shift as necessary;
- ❑ Rolla's form of government – limits flexibility in the application of some land development regulations.

Mobility and Transportation

- ❑ Improve I-44 through Rolla, eliminate the dangerous “tunnel” effect between Vichy Road and U.S. 63 Highway;
- ❑ Replace/rebuild obsolete bridges;
- ❑ Better connections to I-44 for traffic now flowing through Rolla;
- ❑ Complete Southside arterial system/extend Lions Club Drive from State Highway CC to V;
- ❑ Traffic congestion along U.S. Highway 63;
- ❑ Extend the hiking/biking trail throughout Rolla as development occurs;
- ❑ Vehicle/pedestrian conflicts around UMR, need to provide safe means to cross over/under U.S. Highway 63;
- ❑ Parking congestion on streets around UMR and PCRMC;
- ❑ Upgrade, straighten and widen U.S. Highway 63 north of Rolla;
- ❑ Acquire proposed arterial street right-of-way in advance of development;
- ❑ Confusing public directional signage for visitors and residents;
- ❑ Public parking in the downtown with landscaping;
- ❑ Inadequate arterial roads as to width, open drainage ditches/no shoulder, lack of turning lanes, site distance problems...10th Street, Highway O, Little Oaks Road;
- ❑ A new interchange along I-44, west of the Kingshighway interchange to support commercial development.

Housing and Neighborhoods

- ❑ Non-local traffic traveling through neighborhoods;
- ❑ Affordable housing threatened by commercial encroachment;
- ❑ Use zoning to protect established neighborhoods more effectively;
- ❑ Lack of property maintenance in some areas of Rolla;
- ❑ Need to maintain a balance of available housing...for executives, multi-family, lower income;
- ❑ Housing stock is aging, encourage preservation targeted to older center city neighborhoods;
- ❑ Encourage new affordable single-family construction;
- ❑ Need for more dedicated seniors housing as the baby boomers age/more retirees move to Rolla;
- ❑ Too much density permitted in R-3 (multi-family) zoned areas, not enough off-street parking.

Natural Resources and Environment

- ❑ Preservation and enhancement of the natural environment in Rolla – open space, flood plain, wooded areas, etc.;
- ❑ Expand the hiking/biking trail system throughout Rolla...”lineal” parks;
- ❑ Reduce flooding during heavy rainstorms resulting from new development;
- ❑ Discourage development from occurring in environmentally sensitive areas, such as flood plains and areas with excessive slope (above 15+ percent slopes);

Public Facilities and Services

- ❑ Lack of developed neighborhood level parkland in the Southside;
- ❑ Parkland needs north of I-44;
- ❑ Undeveloped parkland currently throughout the system;
- ❑ Use open space resources efficiently...share open space by collocating schools and neighborhood parks;
- ❑ Additional athletic fields: specifically a full size soccer field, dedicated baseball field, and an adult/youth softball field;
- ❑ Maintain a tourist-oriented visitor’s park off of I-44 and Bridge School Road;
- ❑ Accommodate need for educational space (elementary school) in the Southside;
- ❑ Lack of coordination of urban expansion planning;
- ❑ Extension of fire protection services in the Southside;
- ❑ Fire protection services needed north of I-44;
- ❑ Additional public library space/ land and new building;
- ❑ Lack of adequate space for senior activities/services;
- ❑ Need for a community cultural center...possibly collocating with senior center;
- ❑ Consider a second recreation center or gymnasium facility in the south side... possibly collocating with a new school;
- ❑ Improve the reliability of electrical service delivery system-relocate and construct a bulk power station in north central Rolla area;
- ❑ Aging RMU electrical infrastructure;
- ❑ Reduce/eliminate flooding;
- ❑ Need facility for consolidated maintenance of City vehicles, training, and storage of materials;
- ❑ Existing solid waste transfer station is deteriorated.

Historic Preservation and Urban Design

- ❑ Preserve and develop greenbelts throughout the City, connecting subdivisions and preserving natural drainage areas and open space;
- ❑ Upgrade the appearance of Rolla, specifically its entryways and arterial road corridors;
- ❑ Consider site plan review requirement when re-zoning residentially zoned property to commercial and/or for all commercial development;
- ❑ More pedestrian friendly development;
- ❑ Improve UMR campus integrity for pedestrian use...consider street closings;

- ❑ Incorporate design elements that assist seniors and other individuals with mobility issues in new development;
- ❑ Consider stricter sign ordinance, more aggressive enforcement ...too many billboards!
- ❑ Infill development that is compatible with and enhances the surrounding neighborhood character;
- ❑ Too many overhead utility lines, should be placed underground along arterials for safety and aesthetic reasons;
- ❑ Protect residential areas that abut corridors using screening and other devices like landscape berms and walls;
- ❑ Screen parking lots when they abut residential neighborhoods.

Economic Development

- ❑ Lack of a diversified economic base;
- ❑ Keep pace with the demand for commercial land by zoning a sufficient amount of land in advance of commercial development needs;
- ❑ Lack of available industrial and warehouse land and building space in Rolla;
- ❑ Build on the advantages of UMR as a contributor to economic development, particularly for technology-related development;
- ❑ Opportunity to expand conference-related activity in Rolla at the Havener Center;
- ❑ Maintain Rolla's role as a regional center for retail and services;
- ❑ UMR's impact on downtown revitalization... school expansion toward downtown;
- ❑ Recognize and support the contribution of the arts to economic development;
- ❑ Assist existing businesses with planned expansions of their buildings and related facilities;
- ❑ Changing work patterns, more people working from their homes...regulatory issues?
- ❑ Keep a balance between employment growth and housing demand;
- ❑ Recognize the critical relationship between economic development and community quality of life issues;
- ❑ Potential for Rolla to attract retirees and retiree-related development;
- ❑ Identify and pursue redevelopment opportunities.

Demographic Trends and Projection

Population and Households

Rolla's population and households are constantly undergoing change as residents marry, have children and go through various life stages. In addition, people are continually moving to and from the community. By studying demographic trends a community can better understand the changes taking place and plan for the future needs of its residents. This chapter provides a perspective of the City's population growth trends and changes that affect Rolla today and into the future. Information about population and household trends provides a context for decision-making concerning land utilization and the nature and intensity of development to be encouraged. Most of the information presented in this section was derived through the U.S. Census of Population and Housing report, the annual estimates made by the Census Bureau, the Missouri Office of Administration, and several commercial data vendors such as Claritas, Inc., Woods & Poole Economics, and DemographicsNow. Table 1 describes Rolla's population growth and

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number of households for the years 1970, 1980, 1990, and 2000 with estimates through 2004. This information forms the basis for the population projections contained in this section.

TABLE 1
Population and Household Growth

	<u>1970</u>	<u>1980</u>	<u>1990</u>	<u>2000</u>	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>
Population								
Rolla	13,245	13,303	14,805	16,367	16,552	17,016	17,266	17,579
Phelps Co.	29,567	33,633	35,248	39,825	40,187	41,078	41,668	41,890
City/County Pop.								
Ratio	44.80	39.55	42.00	41.10	41.19	41.42	41.43	42.00
Population Increase								
Rolla	n/a	58	1,502	1,562	185	464	250	313
Phelps Co.	n/a	4,066	1,615	4,577	362	891	590	222
Percent Increase								
Rolla	n/a	.44	11.29	10.55	1.38	2.80	1.47	1.81
Phelps Co.	n/a	13.75	4.80	12.98	.91	2.22	1.43	.53
Households								
Rolla	n/a	4,501	5,578	6,514	6,546	6,669	6,707	6,938
Phelps Co.	n/a	11,529	13,277	15,683	15,791	16,105	16,279	16,705
Household Increase								
Rolla	n/a	n/a	1,077	968	32	123	38	231
Phelps Co.	n/a	n/a	1,748	2,406	108	314	174	426
Percent Increase								
Rolla	n/a	n/a	23.92	16.78	.49	1.88	.57	3.44
Phelps Co.	n/a	n/a	15.16	18.12	.69	1.99	1.08	2.62

Sources: U.S. Census Bureau Decennial Census and U.S. Census Bureau Population Estimates Program for 2001-2003, City of Rolla Community Development Department 2004 population estimate, Claritas, Inc. household estimates.

TABLE 2
Rolla/Phelps County Household Size

	<u>1970</u>	<u>1980</u>	<u>1990</u>	<u>2000</u>	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>
Avg. Household Size								
Rolla	2.78	2.95	2.65	2.51	2.21	2.19	2.19	2.19
Phelps Co.	2.95	2.92	2.66	2.54	2.38	2.38	2.37	2.37

Source: U.S. Census Bureau, Claritas, Inc.

Rolla has shown consistent population growth since 1980. Table 1 show that the population of Rolla has grown at an average annual rate of approximately 178 residents from 1980 through 2004. Since 2000 the average annual rate has been an astounding 303 new residents, based on U. S. Census Bureau estimates. There are essentially four factors that can influence population growth in a Rolla. Natural increase (the level of resident births over deaths) and migration represent the bulk of most population growth. In fact, migration was responsible for 85 percent of new County residents during the '90s. The average annual number of new residents attributed to

migration has actually increased to 552 during the first three years of this decade. The annexation of additional populated territory is the fourth factor and accounts for a relatively small proportion of Rolla's population growth. The decision to pursue annexation is influenced by the expense and complexity of Missouri's annexation statutes impacting municipalities.

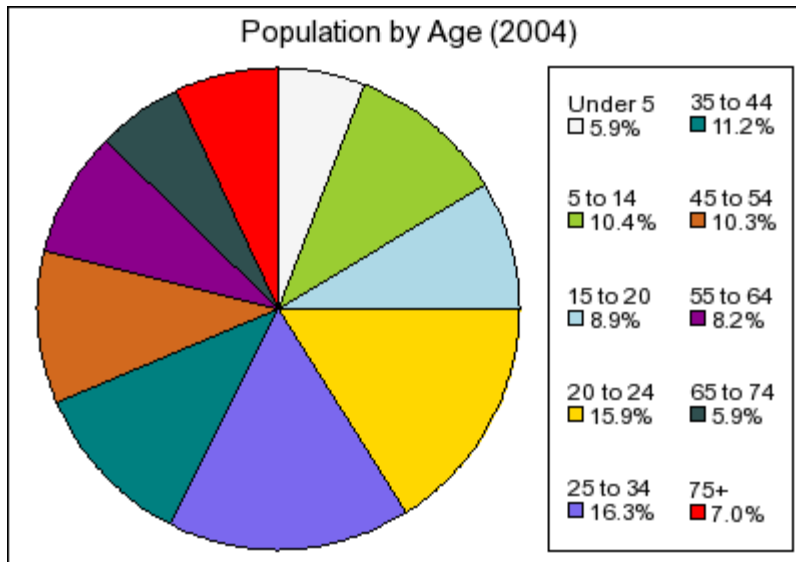
Household growth typically tracks population growth (a household includes all the people who occupy a housing unit, regardless of relationship). Households form the basis for housing demand, the single largest land use in virtually every community. Rolla's household growth has been steady with an annual average growth of 102 new households from 1980 through 2004, or 1.94 percent average increase per year. The annual rate from 2000 to 2004 was 106 new households. Persons residing in group-quarters, such as dormitories, fraternity/sorority houses, or nursing homes, are not counted as living in a household. In 2000 there were 1,745 individuals living in Rolla group-quarters. This fact may account for any apparent imbalance between population growth and household formation in Rolla. Nationally, as well as locally, average household size (Table 2) has been declining due to trends toward lower birth rates, higher divorce rates/delays in marriage, and increased longevity producing more single-person senior households.

Population Age

Rolla's population has continued to age, corresponding to state and national trends. The median age of the City's population, a commonly used measure, increased by one year from 27.7 in 1990 to 28.7 in 2000, and is expected to continue rising over the next 15 to 20 years due to the aging of the large baby-boom population cohorts. As a point of comparison, Phelps County's median age in 2000 was 34.9. The significant difference in rates between the City and County can partially be attributed to enrollment at UMR. The 2000 census found that Rolla's population between the ages of 18 to 24 represented 23 percent of the Rolla's population or 3,781 persons out of a 16,367 total. UMR's enrollment was 4,748 in 2000 and has grown to 5,407 as of 2004. Increasing enrollment, should current trends continue, will likely impact the demand for multi-family rental units and may necessitate the physical expansion of the campus over the next 15 years to accommodate parking and new or renovated building space needs.

Rolla's aging population may contribute to a need for more residential facilities catering to the special requirements and concerns of many seniors. By 2020, Phelps County is projected to have almost 9,000 persons above the age of 65 or 17.9 percent of total County population. An aging population will also consume increased medical services. Rolla's second largest institution (in terms of employment), the Phelps County Regional Medical Center, has undertaken a significant building expansion. PCRMC has also addressed traffic flow around its existing campus to support growth driven by an aging regional population.

Rolla



Population Projections 2005-2020

Preparing population projections is a critical early step in developing accurate land use forecasts. Understanding future population growth patterns for a community, particularly when combined with land utilization estimates, can assist public and private sector planners/developers in determining infrastructure needs and identifying community investment opportunities. There are a variety of projection methods available to planners. One of the simplest and most accurate methods for municipal short to mid-range projections (5 to 15 years) is the “step-down” technique. Use of the step-down projection technique relies on a population projection for a larger area, in this case Phelps County. The step-down method assumes an on-going proportional relationship. A second approach, the exponential method, will be used for contrast. The assumption behind the exponential population projection technique is that an area’s population will increase or decrease at a given rate each year.

The Phelps County projections used for the step-down method were derived from the Woods & Poole Economics, Inc. 2004 series. Woods & Poole is a nationally recognized leader in the provision of long-term county projections utilizing over 900 variables to complete national and regional forecasts and county projections. Woods & Poole combines economic factors, specifically employment and earnings projections, which become the principal explanatory variables used to estimate population and households. County projections are then prepared using a cohort survival model and net migration calculations to determine future age, sex, and race based on projected employment trends.

TABLE 3
Rolla/Phelps County Population Projections

	<u>2005</u>	<u>2010</u>	<u>2015</u>	<u>2020</u>
<u>Step-Down Method</u>				
Phelps County Projections	42,380	44,840	47,400	50,050
Rolla Projections				
Alternative 1 (41.43) Avg. of 2000-2004	17,558	18,577	19,638	20,736
Alternative 2 (41.69) Avg. of 1970-2004	17,668	18,694	19,761	20,866
Alternative 3 (44.00) Medium projection	18,647	19,730	20,856	22,022
Alternative 4 (45.00) High projection	19,071	20,178	21,330	22,523
<u>Exponential Method</u>				
Assume annual increase of 1.607 % Avg. annual increase from 1980-2004	17,861	19,343	20,837	22,566

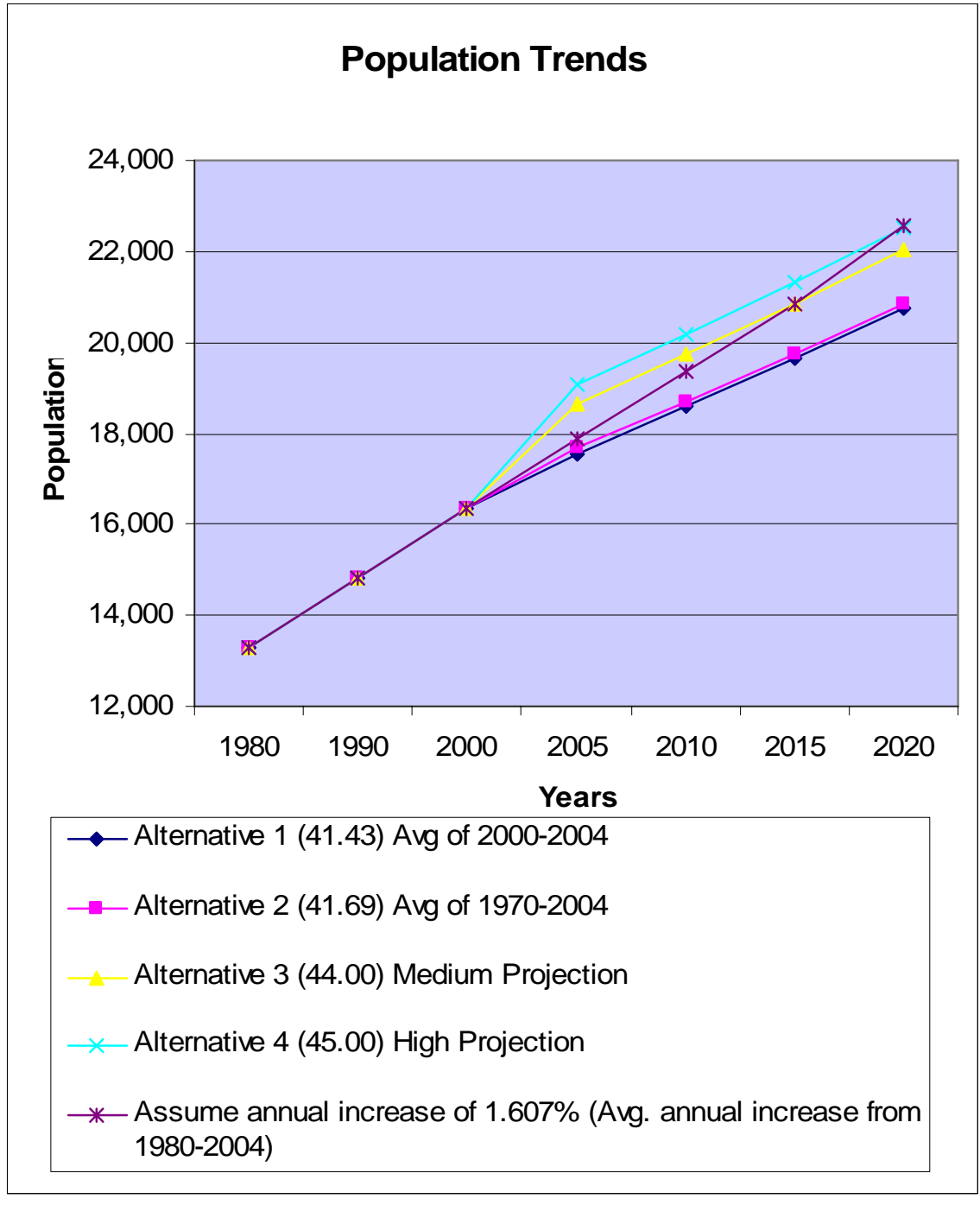
Sources: County projections Woods & Poole Economics, Inc., Projections – City of Rolla Community Development Department.

Assumptions: Making population and household projections is an art as well as a science, and even with the best information the future is difficult to accurately predict. The following assumptions provide a basis for offering population projections. It is assumed that there will be no large-scale economic, political, legal, or environmental crisis in the region that could impact Rolla's long-term growth. It is assumed that Rolla will have the necessary resources (water, power, land) and infrastructure to accommodate projected growth generally within the planning horizon of 15 years. It is assumed that Rolla's economic growth, in terms of jobs and income, will not deviate significantly from established levels over the past 20 years. It is assumed that Rolla will not undertake an annexation program involving significant population areas. To the extent that these assumptions vary over time, the rate of Rolla's population and household growth must be increased or decreased.

TABLE 4
Rolla/Phelps County Household Projections

	<u>2005</u>	<u>2010</u>	<u>2015</u>	<u>2020</u>
<u>Rolla</u>				
Household Annual				
Growth Rate				
(1.65%) 1980-2004	7,258	7,861	8,354	8,921
<u>Phelps Co.</u>				
Household Annual				
Growth Rate				
(1.65%) 1980-2004	16,981	18,428	19,999	21,704

Source: City of Rolla Community Development Department



Development Trends

Residential Development Trends

Housing consumes the largest share of land of all land uses and up until the 1990s its share had steadily grown. Unlike some land uses, such as many retail and manufacturing activities that have relatively rigid space requirements, housing needs can be accommodated along a wide variety of arrangements from single-family homes to high-rise apartments. Housing can often be sited in areas not suitable for large commercial or industrial uses due to terrain difficulties. This section examines residential development trends in Rolla relying on building permit records, U.S. Census data, commercial data vendors, and the Community Housing Assessment Team (CHAT) report dated April 10, 2002.

A review of residential building permit data in Rolla revealed some interesting trends (please refer to Table 5). Since 1995, housing development has consistently been strong, a reflection of the overall health of Rolla's economy and desirability as a community. Over this ten-year period a total of 1,421 new housing units have been developed in Rolla for an average of 142 units per year. Single-family structures comprised the largest component with an annual average of 65 units (46 % of the total), while multi-family housing accounted for an annual average of 55 units (39 %). Two-family or duplex development provided an average of 22 units (15 %). The average of 142 units multiplied by the current average household size (2.19 persons) yielded an annual population increase of 311. Factoring in a housing vacancy rate of 8.5 percent (based on current estimates), the actual population increase would be 285 persons – very close to Rolla's average annual population growth of 303 persons over the past several years. Annual housing construction levels varied, sometimes significantly, in response to normal market factors like interest rates, housing supply, and income growth.

TABLE 5
Housing Construction in Rolla, 1995-2004

<u>Year</u>	<u>Single-Family</u> Units	<u>Two-Family</u> Bldgs./Units	<u>Multi-Family</u> Bldgs./Units
1995	65	16/32	12/82
1996	81	11/22	13/52
1997	47	23/46	16/71
1998	71	2/4	10/48
1999	61	5/10	10/37
2000	66	5/10	2/8
2001	49	24/48	19/102
2002	59	9/18	9/36
2003	79	8/16	12/59
2004	71	8/16	14/55
Total	649	111/222	117/550

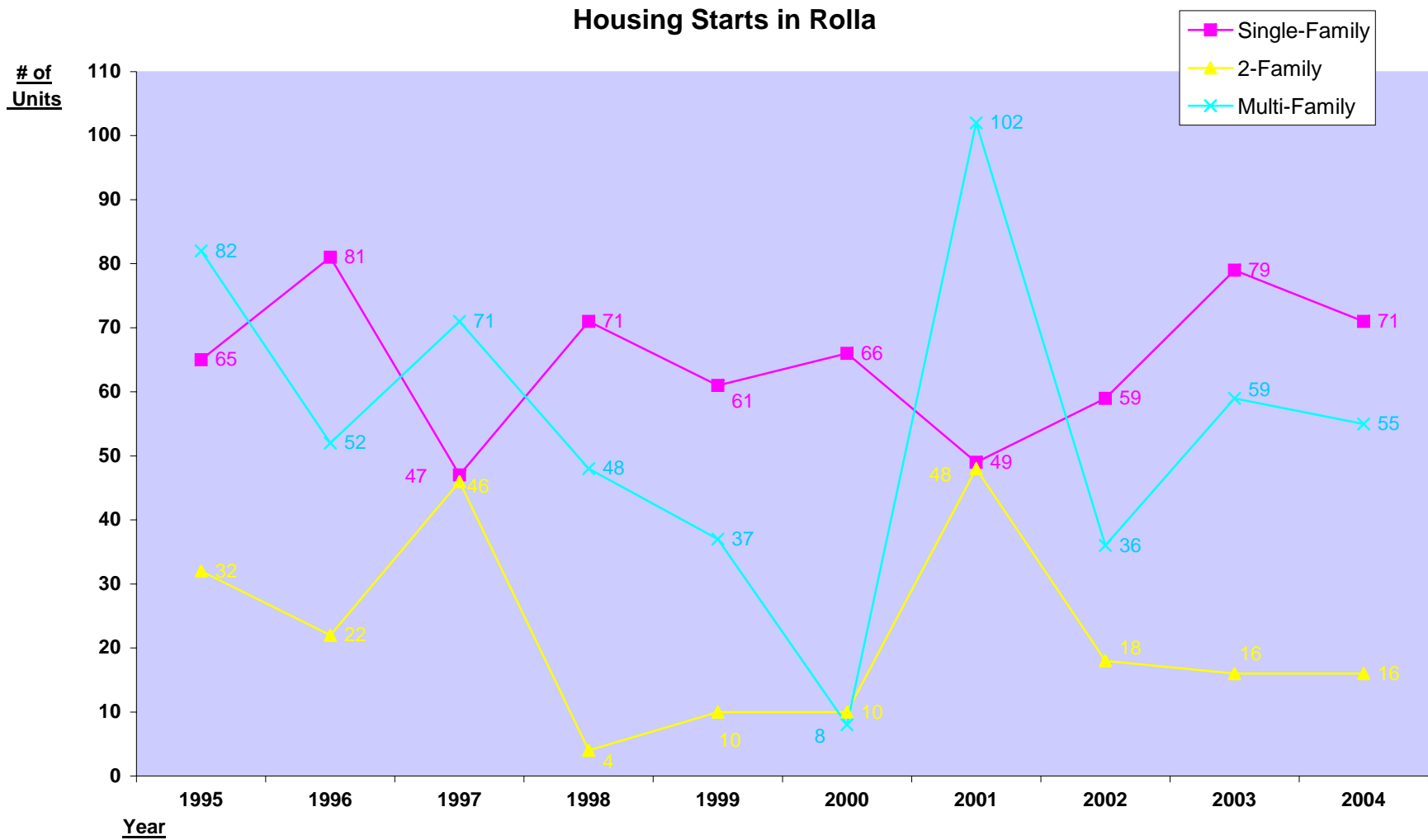


TABLE 6
Average Housing Construction Cost in Rolla, 1995-2004

<u>Year</u>	<u>Single-Family</u> Est. Cost/Yr./Unit	<u>Two-Family</u> Est. Cost/Yr./Unit	<u>Multi-Family</u> Est. Cost/Yr./Unit
1995	\$ 58,648	\$ 23,179	\$ 29,406
1996	\$ 70,062	\$ 47,227	\$ 37,645
1997	\$ 91,562	\$ 62,605	\$ 33,462
1998	\$ 96,579	\$ 49,936	\$ 43,943
1999	\$ 100,849	\$ 51,659	\$ 62,660
2000	\$ 107,418	\$ 49,134	\$ 57,151
2001	\$ 103,844	\$ 39,420	\$ 40,413
2002	\$ 115,294	\$ 73,684	\$ 36,469
2003	\$ 115,569	\$ 62,597	\$ 41,759
2004	\$ 136,629	\$ 89,176	\$ 70,171
10 Yr. Avg. / Unit	\$ 99,646	\$ 54,862	\$ 45,308

Source: City of Rolla Community Development Department.

The steady rise in housing construction cost is apparent from Table 6. These statistics generally do not reflect land or land preparation costs. The average unit cost for all types of housing was \$ 66,605. Increased construction costs make it more difficult for developers to supply new housing at costs within the affordability range of many Rolla households, therefore increasing the demand for rental units. The census statistics below indicate that the balance between owner and rental housing has been shifting over the past twenty years. This trend is expected to continue. The 2004 housing estimate was prepared by including the construction of 608 new units since 2000, reduced by demolitions/conversions of housing units (average of 9.4 units/year since 1990) to arrive at a total of 7,824 units. Vacancy rates have been declining in Rolla with a strong local demand for housing despite continued high levels of construction (please refer to Table 7).

TABLE 7
Rolla Housing Units/Home Ownership Status

	<u>1990 Census</u>	<u>2000 Census</u>	<u>2004 Estimate</u>
Total Housing Units	6,054	7,254	7,824
Owner Occupied	2,850 (47.1 %)	3,275 (45.1 %)	3,150 (44.0 %)
Renter Occupied	2,646 (43.7 %)	3,240 (44.7 %)	4,009 (45.6 %)
Vacant Units	559 (9.2 %)	749 (10.2 %)	665 (8.5 %)

Sources: U.S. Census and the City of Rolla Community Development Department.

To test the accuracy of the 2004 housing estimate, consider the following: Rolla currently has an estimated 7,159 occupied housing units that, if multiplied by the average household size of 2.19, would yield a population of 15,678 persons in 2004. The housing data does not include group quarters such as dormitories, fraternities/ sororities, or nursing homes. Therefore, using the 2004 population estimate of 17,579, minus the non-group quarter population (15,678), the total estimated inhabitants of group quarters would be 1,921. In 2000 Rolla had 1,745 persons living in group quarters arrangements. The growth in group quarter residents could easily and reasonably be attributed to increased enrollment at UMR recorded over the past several years.

Land Use, Land Absorption, and Zoning

Existing Land Use

The Community Development Department, with the assistance of the Public Works Department's Mapping Division, completed a comprehensive land use inventory for the City in September 2004. The land use survey was conducted using on-site inspections of property throughout Rolla, including data from the Phelps County Assessor, the R.L. Polk Directory, the City's geographic information system, and aerial photos. The purpose of the survey was to produce an accurate inventory of land utilization in Rolla to serve as an important database for the anticipated update of the City's 1996 Comprehensive Plan. The data from this inventory is presented in Table 7.

Rolla currently occupies 7,427 acres (11.6 square miles) of land. Approximately 4,745 acres or 64 percent are developed and 36 percent (2,712 acres) are undeveloped. Of the developed acreage, 1,717 acres (36.2 percent) are residential uses, 523 acres (11.0 percent) commercial/office, 169 acres (3.6 percent) are used for manufacturing, 459 acres (9.6 percent) for parkland, 672 acres (14.2 percent) utilized for public/institutional purposes, and 1,205 acres (25.4 percent) devoted to streets, highways, and railroad right-of-way.

The Rolla Land Use Map 2004 reflects a land use pattern typical of many American cities. Rolla's center city core serves as a hub consisting of a relatively dense mixture of commercial, institutional, and residential land uses on small lots. A large area of lower density housing fans out in a semi-concentric pattern from the core, representing the City's initial growth bands following WWII. Strip or lineal commercial swaths occupy areas along the arterial spokes, such as Highway 63, Kingshighway, and State Highway 72. Individual commercial activity centers, such as the Wal-Mart Super Center, are located along the arterial spokes, having displaced the downtown as the focal point of retail sales activity. The City's supply of newer, low-density housing lies beyond, separating the urban-scale subdivisions built generally after 1965 and the new subdivisions, open pasture or forest land on the fringe of the City.

Rolla's land use ratios are surprisingly similar to average city land use ratios, with one major exception (refer to Table 8). The standard land use ratio for manufacturing is 7-10 percent of total land use, according to an American Planning Association report, while Rolla had just 3.6 percent of its land area devoted to manufacturing. Rolla's reliance on public/institutional entities, such as UMR and Phelps County Regional Medical Center, for employment and economic activity might help explain this discrepancy. While it is not recommended to use average land use ratios as a model to forecast community land use needs, they do provide a useful perspective. It is always important to consider local factors that will affect future land needs, such as a planned expansion of a major employer in or near the community.

TABLE 8

Rolla Land Use Acreage, 1996-2004

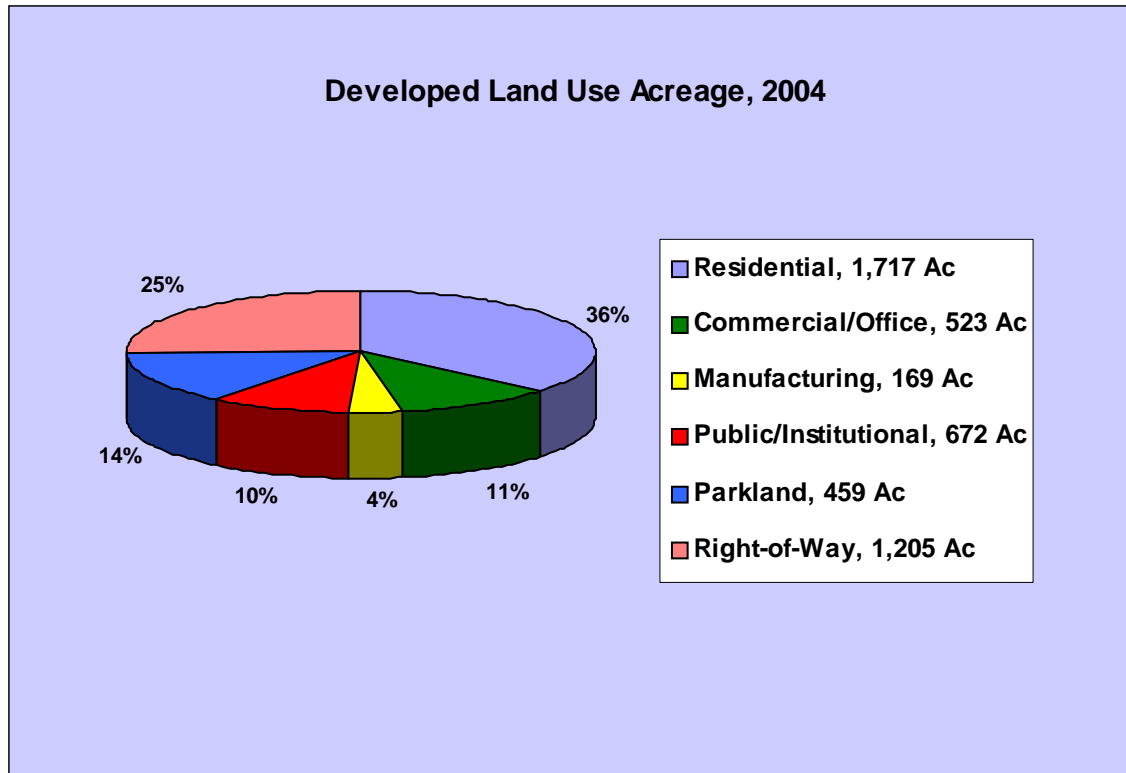
	<u>1996 acres*</u>	<u>% Total</u>	<u>2004 acres</u>	<u>% Total</u>	<u>Typical Ratios</u>
Residential	1,424	34.8 %	1,717	36.2 %	35-39%
Single-family	1,250	30.6	1,408	29.7	35-41
Duplex 2-family	40	1.0	56	1.2	N/A
Multi-family	134	3.2	253	5.3	N/A
Commercial/Office	485	11.9	523	11.0	5-7
Manufacturing	123	3.0	169	3.6	7-10
Parkland (Public & Private)	356	8.7	459	9.7	10-18
Public/Institutional	649	15.9	672	14.1	12-15
Right-Of-Way	1,051	25.7	1,205	25.4	20-26
Total Developed	4,088	100.0	4,745	100.0	
Undeveloped	2,952	(41.9%)	2,682	(36.1%)	
Total Acres	7,040		7,427		

* The land use figures for 1996 include the Southside Annexation Area of 1,352 acres.

Source: City of Rolla Community Development Department, Public Works Department, Revised Southside Annexation Plan of Intent, American Planning Association "PAS Memo, 1992".

Residential Uses

This category includes single-family residential (excluding mobile homes); two-family residential (duplexes); and multi-family residential (all structures with three or more dwelling units plus mobile home parks). In Rolla, as in most communities, residential land uses occupy the highest percentage of land. Rolla's relatively low population density per developed residential acre (10 persons/acre) is indicative of the low density housing types popular in smaller, less urban communities. In 2004 slightly over 36 percent of the City's developed land area was devoted to residential use – an increase of 1.8 percent above the 1996 figure. The percentage used for single-family development has declined over the past eight years from 30.1 percent in 1996 to 29.7 percent in 2004, while the two-family and multi-family ratios increased.



The land use ratio for single-family development should continue to decline due to a combination of economic, demographic, and regulatory trends that are decreasing effective demand for the traditional single family detached home. Increasing land and construction costs, along with slow household income growth, have reduced the number of prospective eligible homebuyers. Demographic changes, such as reduced household sizes and increased life spans, have further reduced the amount of living space needed for many households currently living in single-family detached homes. Increased regulatory measures, particularly related to environmental protection and water quality, have also added to the cost of single-family development making it less affordable. The result can be observed in Rolla particularly with the increase in the proportion of acres used for multi-family development.

Commercial/Office Uses

Commercial/Office uses total 11 percent of the City's developed area. This percentage is slightly above the 5 to 7 percent found in many smaller communities, and is probably attributable to the fact that Rolla is a regional commercial and service center. Commercial/Office uses are concentrated next to Rolla's arterial streets and in the center city along Pine Street. Rolla's primary commercial area lies next to south U.S. Highway 63. Over time the amount of land devoted to commercial uses have increased in most communities partially due to the introduction of parking regulations and an increase in average size of retail buildings.

One critical issue for Rolla's future is the scarcity of suitable, undeveloped land zoned for commercial or retail use. The redevelopment of deteriorated commercial buildings and substandard lots along some of Rolla's established arterial streets, such as U.S. Highway 63 and Kingshighway, may provide a partial solution. The annexation of adjacent tracts with retail potential to Rolla, particularly near the intersection of major streets, is another. Community

leaders must be willing to work with property owners to secure investment that generates sales tax receipts since the City depends so heavily on this revenue stream to fund government.

Manufacturing Uses

Most of the 169 acres currently used for manufacturing are located on Rolla's extremity in the Hy-Point Industrial Park; on the north side of Old St. James Road, near 18th Street, and west on Bridge School Road. The national trend most impacting manufacturing land allocation is the shift from manufacturing and other heavy industry to more of a service-based economy. This shift has led to the conversion of industrial buildings into other uses, such as office and commercial space. There is no evidence, however, that the conversion of manufacturing space has occurred to any significant degree in Rolla. If anything, Rolla lacks an adequate supply of suitable vacant industrially zoned land and has almost no vacant manufacturing-type buildings available for sale or rent.

Parkland Uses

The 2004 land use survey identified 459 acres of parkland. This statistic does not include playgrounds or athletic fields owned by the Rolla Public School District. School District property was not included in this calculation because it is generally not open to the public for recreation use outside of scheduled activities. Consequently, the total acreage available in Rolla may appear as though less land is available for parks than actually exists. Rolla's inventory of parkland has steadily increased over time through the addition of parkland given to the City through the subdivision ordinance's mandatory dedication requirement and through land acquisition by private sector entities. Between 1996 and 2004, 103 acres of parkland was added to the community. The Audubon Society's recent acquisition of the approximately 58 acre Tanager Art and Nature Center in northwest Rolla is a good example and a significant part of this addition. Rolla has been fortunate to have private not-for-profit sector organizations willing to help provide recreation space at no cost to the community.

Over time, the development of lower density single-family homes has impacted the use, therefore the types, of public parkland acquired and developed by the City. Most single-family homeowners in Rolla have their own private front and back yards. This explains why, in part, suburban areas typically have a lower percentage of land in the parks category. The emphasis is on the development of community or neighborhood-scale parks greater than 10 acres in area and the provision of biking and hiking trails to connect the recreation nodes. Higher residential densities will encourage this type of parkland development

Public/Institutional Uses

Examples of public/institutional uses include schools, churches, government buildings and other property, such as cemeteries. Most of Rolla's public/institutional uses are located in or near the center city and represent four primary users. They include the University of Missouri-Rolla, the Rolla Public Schools, Phelps County Regional Medical Center, and the City of Rolla. The percentage of land occupied by public/institutional uses increased moderately since 1996, following a national trend. Rolla's proportion of public/institutional uses actually declined when compared to other uses.

Right-Of-Way Uses

Rolla has over 1,200 acres dedicated for street and highway rights-of-way, including about 55 acres of railroad right-of-way. Land devoted to right-of-way uses consistently represents the second highest amount of acreage in cities, and Rolla is no exception. The amount of land used for right-of-way increases as the City's single-family housing stock grows. Rolla's percentage of

Rolla 2020

Comprehensive Plan Update, 2005

right-of-way increased since 1996 to just over 25 percent of the developed area indicating the continued necessity to build streets to accommodate new low-density residential subdivisions, many in the Southside Annexation Area. The trend towards increased development density may slow the demand for new street right-of-way.

Land Absorption Analysis

Land absorption analysis (the annualized rate at which land is used or “absorbed” in Rolla) is a useful initial step in the forecast of future land use. Rolla had an estimated population of 17,579 in 2004. Using developed acreage statistics from Table 8, Rolla had roughly ten persons per developed residential acre and 3.7 persons per developed acre in 2004. Rolla’s land absorption statistics are as follows:

TABLE 9

Rolla Land Absorption Ratios, 1996-2004

	<u>Population Per Acre</u>	<u>Land Absorption Ratio</u>
Residential	10.2/Acre	32.6 Acres/Year (Yearly Avg.)
Commercial/Office	33.6	4.2
Manufacturing	104.0	5.1
Parkland (Public & Private)	38.3	11.4
Public/Institutional	26.2	2.6
Right-Of-Way	14.6	17.1
Total Developed	3.7	73.0
Undeveloped	6.5	
Persons/Square Mile	1,515	
Persons/Acre	2.4	

Source: City of Rolla Community Development Department, Public Works Department, American Planning Association “PAS Memo, 1992”.

Zoning Study

Zoning is Rolla’s primary vehicle for influencing private land use and development decisions. Ideally, the zoning classification assigned to a given piece of property should support its existing land use. A proposed change in land use would, therefore, require a re-zoning review by City Council. For example, as property zoned Rural Residential District (R-R) is converted from a large lot configuration to the smaller lots permitted in R-1 (Single-Family District) zoned areas, it is appropriate for City Council to review this proposed action to minimize any adverse impacts.

Rolla 2020

Comprehensive Plan Update, 2005

Land speculation occurs when there is a significant imbalance between a property's zoning and how it is used. A good example of this is the commercially zoned property near the southeast corner of Rolla along Highway 72.

In general, Rolla's zoning pattern reflects existing land use, with some notable exceptions. The statistics on Table 10 and shown on the attached Rolla Zoning Map 2004 provide an analysis of zoning in Rolla.

TABLE 10
Rolla Zoning Study-2004

<u>Zoning Classification</u>	<u>Acreage by Category</u>	<u>% Total Zoned Land</u>
Rural Residential District (R-R)	952 Acres	15.2 %
Single-Family District (R-1)	2,258	36.1
Two-Family District (R-2)	228	3.6
Multi-Family District (R-3)	391	6.3
Government/Institutional District (G-I)	763	12.2
Office District (C-O)	10	.2
Neighborhood Business District (C-1)	163	2.6
General Retail District (C-2)	473	7.5
Highway Commercial District (C-3)	406	6.5
Center City District (C-C)	14	.3
Light Manufacturing District (M-1)	91	1.5
Heavy Manufacturing District (M-2)	445	7.1
Planned Unit Development (PUD)	59	.9
Total Zoned Land	6,253	100.0
Total Right-of-Way	1,174	
Total Acreage in Rolla	7,427	

Source: City of Rolla Community Development Department, Public Works Department.

The Center City Dilemma

Rolla's center city area has been zoned R-3 for decades, (please refer to the attached Center City Zoning map) probably dating back to the first use of zoning in Rolla. It was customary back then to "blanket" zone center city neighborhoods for multi-family use to recognize the transitional nature of these areas and the existing mixed uses that developed before zoning was introduced. The actual land use in the center city, however, remains predominately single-family (please refer to the attached Center City Land Use map).

Several developments have occurred recently that have caused some concern due to an imbalance resulting from unit densities and lot coverage that are not consistent with adjoining uses, but are permitted as a matter of right for R-3 zoned parcels. For example, the properties at 503-505 E.12th Street were redeveloped in a manner consistent with Rolla's R-3 zoning regulations. According to calculations, 503 E. 12th Street had a coverage factor of 28% (40% is the maximum) while 505 E. 12th Street had a coverage percentage of 39.8%. The obvious difference between these developments and their surrounding neighbors is readily apparent and may lead to further disinvestment as the existing single-family homes get older and deteriorate. Area property owners will continue to see more pressure for redevelopment projects, as demand remains high for rental units near UMR.

Down-zoning property can be done, but it is always difficult when investors have purchased property with the anticipation that they may ultimately redevelop at higher densities. This is the center city dilemma. Any solution will require City Council leadership.

Housing and Land Use Projections

Future housing supply within Rolla will be determined by a number of factors including population growth, the expansion of UMR and other important institutions, market forces, and land use policies adopted by the City. Housing demand calculations for Rolla are based on a declining number of people per household, an increasing ratio of non-household residents to household residents, a stable vacancy rate, and an increasing annual loss due to demolition/conversion of Rolla's aging housing stock. The exponential population growth estimate was used.

TABLE 11

15 Year Housing Development Projection, 2005-2020

	<u>2005</u>	<u>2010</u>	<u>2015</u>	<u>2020</u>
Rolla Population	17,861	19,343	20,837	22,566
(exponential estimate)				
Household Pop.	15,896	17,215	18,128	19,181
Group-Quarters Pop.	1,965	2,128	2,709	3,385
Average Population Per Household	2.19	2.19	2.16	2.15
Households	7,258	7,861	8,393	8,921
Projected Vacancy Rate	8.5	8.5	8.5	8.4
Housing Units Needed	7,875	8,529	9,106	9,670
Replacement Need	50	60	100	100
Cumulative Need	671*	664	617	589

* The cumulative need was calculated from the 2000 U.S. Census baseline year.

Source: City of Rolla Community Development Department.

The cumulative need statistic identifies the number of new housing units needed in Rolla at the end of a five-year increment after considering changes in the household population, household size, vacancy rates, and the replacement of demolished housing structures. The next step in the land use projection process is to translate housing unit demand into future residential acreage projections. The average area for all types of housing was 14,569 square feet per unit. The square feet per unit varied with the type of zoning. As expected, single-family zoned subdivisions, with their broad streets and larger lots, consumed the most land per unit while multi-family development and Planned Unit Developments (PUDs) used the least amount of land per unit. Table 12 shows Rolla's development patterns from 1990 through September 2004.

TABLE 12
Rolla Residential Development Patterns, 1990-2004

	<u>R-1 Single-Family</u>	<u>R-2 Two-Family</u>	<u>R-3 Multi-Family</u>	<u>PUD</u>
Projects	56 projects	4 projects	23 projects	12 projects
Total Units	950	55	608	735
Total Acres	486	16.7	203	79.6
Units per Acre	1.95	3.29	3.00	9.23
Square Ft. per Unit	16,713	13,226	14,544	4,717

Source: City of Rolla Community Development Department

Rolla's future residential land use need by acre was calculated assuming a proportional housing development pattern of 46 percent single-family units, 39 percent multi-family units, and 15 percent two-family units (based on the 1995 to 2004 construction trends). The cumulative housing needs statistic found in Table 11 for each five-year increment was then multiplied using the housing distribution percentages. Finally, the square foot per unit statistic found in Table 12 was used to project the estimated number of acres needed to meet housing demand during each five-year increment. The estimate of residential acres needed was then adjusted to reflect a subtraction of acres used for corollary land uses, such as street right-of-way, parkland, and storm water detention areas. An adjustment factor of 26 percent was used, based on the 2004 land use percentages.

The gradual decline in the number of new housing units and the reduced demand for development acres is a direct result of the projected increase in group-quarters population. Group-quarters residents are not included as household population – the building block of housing demand. Additional group-quarters housing will undoubtedly be required in Rolla over the next fifteen years, probably in the form of new facility space to accommodate a growing senior's population and dormitories, but this land use need is not reflected here. Group-quarter facilities are counted as part of the institutional land use category.

TABLE 13
Rolla Residential Land Use Projection, 2005-2020

	<u>R-1 Single-Family</u>	<u>R-2 Two-Family</u>	<u>R-3 Multi-Family</u>	<u>Total</u>
2005-2010	115.4 acres	22.2 acres	104.0 acres	241.6
2010-2015	107.3 acres	20.7 acres	80.5 acres	208.5
2015-2020	102.9 acres	20.0 acres	76.8 acres	199.7
Total	325.6 acres	62.9 acres	261.3 acres	649.8

Source: City of Rolla Community Development Department.

Non-Residential Land Use Projection

The 1996-2004 land use study found that non-residential development consumed an annual average of 40.4 acres in Rolla. Non-residential development included commercial/office uses, manufacturing, public/institutional, public/private parkland (i.e. BerJuan Park, The Audubon Nature and Art Center or Lions Club Park) and street right-of-way. Of the total non-residential acres used, commercial and manufacturing activities accounted for 12.3 acres on average per year.

The 1996-2004 land use study established, in addition to the annual land absorption ratios, population to acres developed ratios. The population/acres development ratios represent a useful tool for projecting future land use needs. The following projections for future non-residential land use are based on the assumption that the ratio of population to acres developed will be maintained. A reduction or increase in the population to developed land ratio will alter the projected amount of land used by category.

TABLE 14
Non-Residential Land Use Projections, 2005-2020 (acres)

	<u>2005-2010</u>	<u>2010-2015</u>	<u>2015-2020</u>	<u>Total</u>	<u>Avg./yr.</u>
Commercial/Off.	52.4	44.5	51.5	148.4	9.3
Manufacturing	17.0	14.4	16.6	48.0	3.0
Public/Institutional	67.4	57.0	66.0	190.4	11.9
Parkland	46.1	39.0	45.1	130.2	8.1
Right-Of-Way	115.3	97.6	113.0	325.9	20.4
Total	515.4	252.5	292.2	842.9	52.7

Source: City of Rolla Community Development Department.

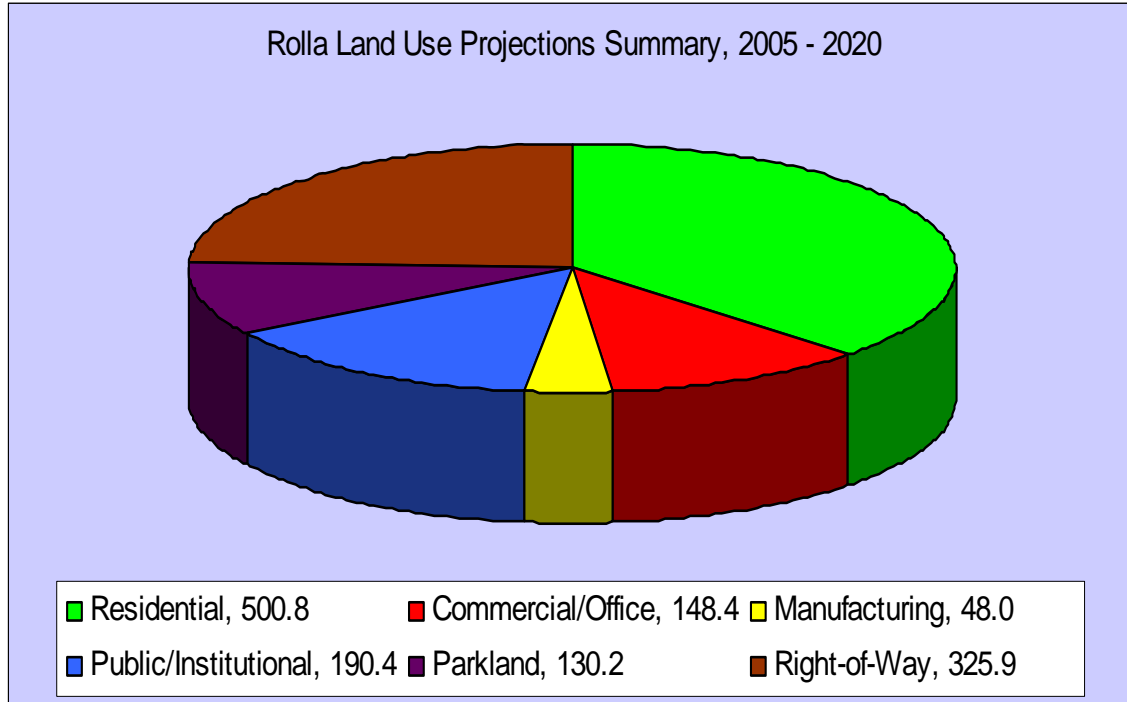
TABLE 15
Rolla Land Use Projections Summary, 2005-2020 (acres)

	<u>2005-2010</u>	<u>2010-2015</u>	<u>2015-2020</u>	<u>Total</u>	<u>Avg./yr.</u>
Residential	241.6	208.5	199.7	649.8	40.6
<i>Single-Family</i>	115.4	107.3	102.9	325.6	20.4
<i>Two-Family</i>	22.2	20.7	20.0	62.9	3.9
<i>Multi-Family</i>	104.0	80.5	76.8	261.3	16.3
Commercial/Off.	52.4	44.5	51.5	148.4	9.3
Manufacturing	17.0	14.4	16.6	48.0	3.0
Public/Institutional	67.4	57.0	66.0	190.4	11.9
Parkland	46.1	39.0	45.1	130.2	8.1
Right-Of-Way	115.3	97.6	113.0	325.9	20.4
Total	539.8	461.0	491.9	1,492.7	93.0

Source: City of Rolla Community Development Department.

Rolla's developed area will increase by 1,492.7 acres by 2020, or 93 acres on average over fifteen years, if the population and housing projection rates occur as anticipated. Housing and transportation needs will consume the largest proportion of the newly developed parts of the City at 975.7 acres or almost 65.4 percent of the total increase in land use.

Public and institutional uses that include all public property (except publicly-owned parkland) and private institutional uses such as churches, schools, nursing homes, and privately owned recreation areas will require a total of 190.4 additional acres. Commercial and industrial land needs will be satisfied over the next 15 years with an estimated 196.4 acres or 12.3 acres on average.



Land Development Capacity

This section will answer the following questions:

1. *Does Rolla have enough land within its current City limits to accommodate growth projected over the next fifteen years?*
2. *If not, at what point during the fifteen-year planning horizon will the initiation of an involuntary annexation program become advisable. The annexation of additional land would become necessary to maintain an adequate supply of vacant land for development without distorting the local real estate market. (The market distortion would result from a shortage of available land for development).*
3. *How much additional land would Rolla need to annex to accommodate projected growth?*
4. *Although zoning classifications can be changed, are there any imbalances between the existing zoning of vacant parcels in Rolla and the projected land needs by land use category?*

The first and second questions can be answered by considering existing land development totals in Rolla and land development constraints. “Constrained” areas consist of land located in the 100-year flood plain, land identified for use as flood detention ponds, and land with excessive slope or topography (35 percent grade or better). The following calculations were used to identify the amount of vacant land in Rolla found to be without significant development constraints (please refer to the attached development constraints map).

7,427	<u>Total acres in Rolla (2005)</u>
- 4,745	Developed acres, including right-of-way
2,682	
- 339	Acres/100-year frequency flood plain
2,343	
- 350	Acres with excessive slope 35 % +
1,993	
- 33	Acres set-aside for flood retention ponds
1,960	<u>Vacant acres</u>

Rolla had 1,960 acres of unconstrained vacant land available for development in 2005, based on the previous analysis. Of course, not all of the vacant, unconstrained land in Rolla will develop. Some owners will elect not to develop or sell their property for development over the next fifteen years - there are several examples of this in and around Rolla. It is assumed, for the benefit of the following analysis, that all of the unconstrained vacant land in Rolla will eventually be available for development during the planning period. It is also assumed that there will be no “large-scale” redevelopment of existing developed areas or annexations of vacant land (large-scale means forty or more acres).

Table 14 “Rolla Land Use Projections Summary, 2005-2020” forecasted that development within Rolla’s existing City limits will consume an estimated 1,492.7 acres for all use categories by

2020. Assuming 1,960 acres of vacant available land, Rolla would appear to have an adequate supply of land to accommodate projected growth over the next fifteen years within the existing City limits. Cities, however, consider annexation programs for a variety of reasons. One of the primary reasons for a growing community is to ensure an adequate balance is maintained between market demand and supply (availability) of land. A common land use planning guideline suggests that healthy real estate markets are maintained when at least a 2 or 3 to 1 ratio exists between the supply and demand for development land. In other words, if over the course of fifteen years (2005-2020) Rolla development will consume 1,492.7 acres, there should be at least 2,985.4 acres (1,492.7 x 2) available for development during the planning horizon to minimize land value inflation.

Using this methodology, Rolla's civic leaders would need to initiate an involuntary annexation program involving a "significant" (1000 acres or more) amount of land in the year 2013 to ensure that an adequate supply of development land is available by the target year 2015. It is assumed that it would take at least two years to accomplish an involuntary annexation program of this magnitude – although the required extension/upgrade of public infrastructure could take 5 years to complete.

[The year 2015 was determined to be the target year using the following calculations: Multiply the 2005-2015 acres consumed $1,000.8 \times 2 = 2,001.6$. Subtract the available acres in 2005, 1,960, from 2001.6 - yields a deficit of 41.6 acres in 2015.]

The third question asked how much additional land should be annexed by 2015. There are potentially many variables or considerations that could influence the answer to this question. A review of the UGA map and the projected demand for development land, however, would suggest that at least 1,500 acres could be annexed in large tracts of land probably to the south and east.

The final question addressed the balance between the amounts of land currently zoned by district and projected land use demand by category. Table 15 indicates that, in most cases, there exists a balance between the projected demand by land use type and available vacant acres by zoning district. It should be noted that land zoned Rural Residential was not included in the total residential demand because it is considered a transitional or "holding" classification until re-zoned for other more intense uses.

TABLE 16

Land Use Projections and Zoning of Vacant Land, 2005-2020

	<u>Land Use Demand</u>	<u>Vacant Land by Zoning</u>	<u>Surplus/(Deficit)</u>
Residential	649.8 acres	1,350 acres	700.2 acres
<i>Rural-Res.</i>	-----	582	-----
<i>Single-Family</i>	325.6	670	344.4
<i>Two-Family</i>	62.9	18	(44.9)
<i>Multi-Family</i>	261.3	80	(181.3)
Commercial			
/Office	148.4	291	142.6
Manufacturing	48	261	213.0

Source: City of Rolla Community Development Department.

Only the R-2 (Two-Family District) and the R-3 (Multi-Family District) reflected an imbalance or deficit between projected land use demand and current zoning.

Annexation History

According to the 1974 booklet “The Story of Rolla, Missouri”, three events coalesced leading to the founding of Rolla and its incorporation in 1861. The first action was the organization of Phelps County with Rolla as the County Seat. The second was the dedication of 50 acres by promoter Edmund W. Bishop to the County for the original town-site. The third event, and probably the most important of the three, was the construction of the Pacific Railroad with its temporary terminus in Rolla. A fourth early development of similar importance to the railroad, in terms of Rolla’s future economy, growth, and character, was the founding of the Missouri School of Mines in 1870 after an intense “bidding war” with several other communities. From the original 50-acre donation until 1928, the community added just 1,107 acres (please refer to Table 16).

A fifth event of significant importance to Rolla’s future followed in 1931 with the dedication of the transcontinental highway Route 66. Rolla’s economy added a new element as business districts grew to accommodate the traveling public. A review of the Rolla Annexation History map reveals a logical tendency for annexations to be influenced by improving transportation corridors. WWII and the baby boom generation that followed produced a need for more residential subdivisions and Rolla’s annexation pattern reflected community growth primarily to the east/southeast from the older parts of Rolla and south along U.S. Highway 63. From 1990 to the present, much of Rolla’s residential growth and annexation has been to the south.

TABLE 17

Rolla Annexation History

	<u>Area Annexed</u>	<u>Total City</u>
Original Town 1861-1902	206 acres	206 acres
1903 – 1928	951	1,157
1929 – 1948	625	1,782
1949 – 1969	1,530	3,312
1970 – 1989	1,950	5,262
1990 – 1999	1,929	7,191
2000 – 2004	237	7,427

Source: Rolla Community Development Department.

Chapter 4: Land Use and Growth Management

Background and Intent

Growth brings many benefits to Rolla; however, it also brings a number of impacts and costs. To help balance these impacts, City leaders seek to promote an urban development pattern that represents the sustainable use of land, energy and other resources by encouraging orderly, continuous growth that minimizes urban-scale sprawl development outside Rolla's corporate limits. This chapter identifies a series of goals and guiding principles that represent the community's values and its vision for the efficient use of land. The chapter also outlines key elements of the Rolla 2020 Comprehensive Plan Update and provides a land use summary table that defines the range of density, primary and secondary uses, and defining characteristics for each land use noted on the Future Land Use Map. Detailed land use and growth management policies are provided to expand on the goals and guiding principles. The policies offer direction for property owners, elected and appointed community leaders, and City staff and administrators in making decisions regarding the location, pace, and design of development within the City and UGA.

Goals and Guiding Principles

Goal # 1:

Promote land use and development practices that consider current and future economic and environmental impacts, ensuring the ability of future generations to meet their own land use needs in Rolla.

Guiding Principles:

- ❑ Provide adequate and appropriately located areas for industrial development, with special emphasis on technology intensive industries and the commercialization of technology from UMR.
- ❑ Review development regulations to provide more flexibility and cost reduction.
- ❑ Discourage strip commercial development and spot zoning. Encourage more compact and visually attractive development that incorporates landscaping, attractive signs, and other aesthetic amenities.
- ❑ Support the development of neighborhood scale commercial and office centers, preferably at the intersection of major (arterial or collector grade) streets, to serve the needs of local residents.
- ❑ Promote land use and development that meets the diverse needs of residents and protects existing investments, yet provides opportunities for individual initiative and housing choice.

- ❑ Promote cluster development and mixed use “planned developments” as an option to protect environmentally sensitive areas, provide for common, community

open space served by a balanced transportation system with appropriate community services and facilities. In other words, the City will encourage quality development.

Goal # 2:

Promote the sustainable use of land and other resources by encouraging orderly, contiguous growth and minimizing urban-scale sprawl development.

Guiding Principles:

- ❑ Seek a balance between contiguous outward growth in the City and UGA with inward directed infill development, redevelopment, rehabilitation, and reuse projects in order to promote the sustainable use of land, infrastructure, energy and other resources.
- ❑ Provide incentives for businesses, landowners, and the public sector to

- rehabilitate, redevelop, and revitalize the downtown and older, central core neighborhoods of Rolla.
- ❑ Strengthen and promote Rolla’s downtown and central core as the community’s primary location for financial services, office space, governmental services, and cultural amenities.

Goal # 3

Identify areas for future expansion of the City that can be serviced and are compatible with the expansion plans for the various utility and other service systems.

Guiding Principles

- ❑ Direct urban development into areas where basic services such as sanitary sewer, water supply facilities, and fire protection can be

- efficiently and economically provided.
- ❑ Incorporate into the City areas identified in the UGA that are or will become physically, socially, and economically a part of the City.



Growth Management Policies

GM 1: The City's role in Managing New Growth and Redevelopment

The City shall strive to achieve a balance between new, outward growth and redevelopment within established areas of the community by using its role as a provider of public infrastructure and services to guide private investment. The City shall also use incentives and other strategies to encourage infill development and neighborhood revitalization/re-investment.

GM 2: The Urban Growth Area

The UGA shall be used to delineate areas that are suitable for urban-scale development based on physical characteristics, service capability and growth visions for Rolla. The criteria for setting the boundaries of the UGA include:

1. Natural features such as ridgelines, stream ways, flood plains and topography;
2. Capacity for sewer service from a gravity flow system;
3. Economic capacity factors;
4. Land use needs for various activities and choices of lifestyle;
5. Growth priorities as established by the Comprehensive Plan and the 10 year Capital Improvement Program; and
6. Land use and transportation patterns as they exist and as projected under the Plan.

The limits of the UGA should be reviewed annually and adjusted as conditions warrant over time.

GM 3: Areas for Future Urban Expansion

Areas within the current City limits and the proposed UGA shall be evaluated and designated for future growth using the following development criteria:

1. Timing and availability of infrastructure, facilities and services;
2. Adequacy of fire protection;
3. Access to adequate roadways;
4. Contiguity with existing urbanizing areas;
5. Eligibility for annexation;
6. Existing environmental constraints;
7. The potential encroachment into the service territory of a competing utility; and
8. Market considerations.

Low density rural development should be discouraged in areas needed to satisfy future urban expansion needs of Rolla in order to retain the opportunity for future urban scale development.

GM 4: Annexation

The Rolla City Council shall encourage the orderly annexation of land from within the UGA boundary. The Rolla Planning and Zoning Commission may recommend, or the City Council may initiate, the involuntary annexation of an area when any of the following conditions exist (see Appendix II, Annexation Checklist):

1. Service to an existing area in the City or area to be annexed, would be improved;

2. To ensure the logical extension of future urban services or that adequate land is available for future urban development;
3. To incorporate existing urban development which is socially, economically, or physically considered a part of the City;
4. To annex all remaining land with highway frontage to prevent inappropriate and uncoordinated development; or
5. To implement the Growth Vision of the City.

GM 5: Annexation Process

Land proposed for voluntary annexation shall be zoned simultaneously as the annexation process is completed and classified for the existing or proposed use. The City Council will zone vacant, newly annexed ground, brought into the City involuntarily, as Rural Residential District. Developed land annexed involuntarily shall be zoned based on the policies found in the Comprehensive Plan.

GM 6: Infill and Redevelopment

The City will encourage infill development where deteriorated or obsolete structures have become detrimental to an area, where new uses can be accommodated on vacant properties, and in areas specifically identified for redevelopment. Projects may range in size from single residential lots to the redevelopment of multiple contiguous blocks within a neighborhood or commercial area. In all instances, the City shall work to maintain the character and viability of existing neighborhoods by protecting these neighborhoods from any adverse impacts of new, infill development wherever possible. Important design considerations include building scale, roof form, height, orientation, parking, lot coverage, and landscaping elements. These design considerations are particularly important when infill or redevelopment occurs within or adjacent to an established residential neighborhood, or when a change in use or intensity would otherwise negatively impact the established character of the surrounding area. For additional policies related to infill and redevelopment, refer to the Housing and Neighborhoods Chapter 6.

GM 7: Subdivisions

The following policies shall be used to guide subdivision development in Rolla and potential code revisions:

1. Work with the Phelps County Recorder of Deeds to ensure that all subdivisions of land have prior approval by City Council before they are recorded, as required under City ordinance and as required under RSMo Chapter 89.440-450;
2. Phased subdivision development shall be permitted as long as all necessary improvements are provided to sustain completed construction as if there were only a single-phase subdivision;
3. All new subdivisions of twenty-five lots or more shall provide at least two means of ingress and egress;
4. Subdivisions with street configurations that channel or provides shortcuts for non-local or non-residential traffic through neighborhoods shall be avoided if possible;
5. Subdivision lots too small for efficient development or that are inappropriately shaped so as to cause a hardship for potential development shall not be permitted;
6. Consider reducing the required pavement width for minor (local) streets from 30 feet from the back of the curb to 28 or 26 feet, perhaps limiting parking to one side of the street;

7. Eliminate the requirement that the Planning and Zoning Commission must review all final plats, as long as no significant modifications have been made to the plat once reviewed as a preliminary plat by the Commission; and
8. Residential lots shall not be permitted to front arterial streets unless the lot is at least 40,000 square feet in area with an adequate front yard setback of at least 50 feet. Reverse frontage lots may abut arterial streets provided that access is restricted to a minor or local street and that an adequate rear yard setback of at least 40 feet from the right-of-way is provided.

GM 8: Land Use Intensity – Relationship to the Street System

Single-family development (low intensity) is generally located with access to local streets with 50 feet of ROW utilizing collector streets of between 50 and 60 feet of ROW to “collect” the traffic in a neighborhood in order to funnel traffic to arterial roadways. Duplex, low-density multi-family residential development, office and office/retail developments should generally be located on collector streets.

High-density multi-family and commercial land uses should be located at the intersection of a collector or larger traffic volume road. This location provides direct access to a primary street, accommodating a larger volume of traffic from a more concentrated area. In addition, by locating businesses at the “nodes” created by the intersection of a collector with an arterial street, strip commercial development is discouraged. Preventing strip commercial development facilitates a more efficient and safer transportation system.

Industrial uses should also be placed where the traffic carrying capacity of the street system is fully developed.

GM 9: Land Use Intensity – Transitional Land Uses

Lower intensity land uses should be located so as to provide a transition between higher intensity uses. For example, two-family buildings or duplexes are often used to transition between single-family and multi-family or even commercial uses. Sometimes office development is used to provide a transition between single-family and commercial uses. Multi-family development makes a good transition between single-family/duplex development and high intensity transportation corridors or activity centers such as community/regional shopping centers. Planned Unit Developments (PUDs) are another tool that may be used to increase compatibility between otherwise conflicting uses by requiring buffer zones and other development restrictions (such as building height and increased set backs) to lessen adverse impacts.

Land Use Policies

URBAN RESIDENTIAL – ALL CATEGORIES

UR 1: Residential Design

The Comprehensive Plan encourages that new residential subdivisions shall be designed so as to integrate effectively with existing and future development using the following development guidelines:

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Comprehensive Plan Update, 2005

1. Low-medium density residential uses should be separated from adverse surrounding land use types such as industrial and commercial areas. Appropriate buffering includes opens space, streams, abrupt changes in topography, and landscaping and sight-proof walls.
2. Low-medium density residential lots should not front directly onto arterials, but should face local streets to minimize the number of access points on major streets.
3. Medium density residential uses may serve as a transition land use as well as serve to buffer lower-density residential from commercial uses.
4. Medium to high density residential lots should be accessible to arterial or collector streets so that traffic generated does not pass through less intensive land uses. They should be located where they will not overload existing or planned facilities and utilities.
5. Encourage a variety of residential densities and housing types for a broad range of incomes, provided the overall density, location, and building size meets applicable zoning standards;
6. Close access to a neighborhood or community-scale park and open space;
7. Access to a commercial/service center for local consumer needs;
8. A safe walkway system for internal circulation by pedestrians and cyclists;
9. Adequate access to all property, especially for emergency vehicles;
10. Limited, but efficient, vehicular routes from within the neighborhood connecting to major streets at its edge; and
11. Mobile home parks should be located on larger tracts, buffered by physical features (e.g. drainage ways, open space, other land uses).

UR 2: Neighborhood Focal Point

Neighborhoods should contain and be designed around a focal point that may include a neighborhood scale retail and services center, public and institutional uses, including but not limited to schools, daycare facilities, community centers, large churches, parks and open space. Depending on location, a single neighborhood center may serve several nearby neighborhoods.

UR 3: Multi-Modal Connectivity

Neighborhoods should be internally served by a system of collector and local streets, as well as sidewalks and pedestrian/bicycle pathways.

UR 4: Supporting Uses in Activity Centers

Non-residential neighborhood support uses should be located within planned activity centers, not scattered throughout the neighborhood or stripped-out along arterial or collector streets. The design of these supporting uses, which may include limited retail, service commercial, and offices should be compatible with the character and scale of the existing and proposed residential neighborhood. Centers should be located according to the criteria in the section on Neighborhood Commercial Centers (see NCC1-NCC7).

UR 5: Roadway Layout

Neighborhood collector streets and property access roads should follow the natural contours or topography to minimize slope disturbances, enhance scenic views, and

conserve natural features and vegetation to the extent feasible. Road access management shall be provided along all new collector and arterial streets to limit curb cuts and maintain traffic carrying capacity and safety. The City should participate in sharing the cost of constructing collector streets with subdivision developers.

UR 6: Incorporation of Natural Features

Neighborhood design shall include plans to protect and preserve natural features of development sites, such as mature stands of trees, wetlands, and drainage corridors as open space amenities that serve as identifying or character defining features.

UR 7: Zoning Policies

The following policies will be used to guide the application of Rolla’s zoning code and to propose potential ordinance revisions that will:

1. Consider increasing the minimum low density residential lot size standard from 6,000 sq. ft. to 8,000 sq. ft. to better reflect current development practice and community preference;
2. Create a new center city Multi-Family Zoning District (R-3b) to maintain the existing zoning pattern in the center city, but reduce overcrowding and residential density resulting from multi-family redevelopment/infill;
3. Require a buffer yard between new multi-family development and existing R-1/R-2 zoned areas;
4. Increase off-street parking requirements from 1.5 per unit to 2.0 to better reflect the demand for parking;
5. Create a separate zoning district for mobile home parks – remove residential mobile home parks from commercial districts, except where they are sold, provided the mobile homes are removed following the sale;
6. Require all re-zoning petitions involving multi-family development above one acre to be submitted with a site plan or as a PUD;
7. Protect adjacent lower intensity uses by using rear property lines, not streets, as the location of zoning district boundaries, wherever feasible; and
8. Update the list of “by right” uses associated with each zoning district to promote regulatory consistency and eliminate obsolete, inappropriate uses.
9. Add a provision in the residential uses to permit “Adult Day Care Homes”.
10. Add a section to permit zero-lot-line residential construction.

UR: 8 Urban Revitalization Incentives

The City shall utilize incentives for businesses and property owners to maintain and improve the downtown, aging commercial areas, and older, core neighborhoods. These incentives may include grant/loan funds from state or federal sources, targeted public improvements, the employment of redevelopment tools (such as Tax Increment Financing and Chapter 353 Redevelopment Corporations), property tax relief for eligible businesses, regulatory strategies such as concentrated code enforcement and conservation district planning, tax credits and Chapter 100 bonds.

RESIDENTIAL LOW/MEDIUM DENSITY (RLM)

RLM 1: Characteristics

The residential Low/Medium Density designation incorporates a range of single-family, duplex or two-family, and town homes. In appropriate cases this development category may include complementary neighborhood scale supporting land uses, such as retail, service commercial, and office uses in a planned neighborhood setting generally using small, stand-alone buildings. These types of non-residential uses must conform to the policies on Neighborhood Commercial Centers.

RLM 2: Appropriate Density Range

Densities in the Residential Low/Medium designation range from less than one dwelling unit/acre up to 10 dwelling units per gross acre and roughly 7 units per net acre.

RLM 3: Location

Residential Low/Medium Density areas within neighborhoods should be located where they have convenient access and are within walking distance to community facilities and services that will be needed by residents on a frequent basis, including schools, neighborhood scale parks, shopping areas, and other community facilities. Where topographically feasible, neighborhoods should be bounded by major streets (arterials and/or collectors) with direct connection to work locations, shopping, and leisure activities. Two-family development may serve as a transition between single-family and multi-family or even commercial development.

RLM 4: Variety of Housing Styles

Residential builders should help avoid monotonous streetscapes and be encouraged to use a variety of housing models and sizes in all new development, while staying within the overall density standards prescribed in the zoning ordinance. The zoning ordinance should be revised to permit the development of cluster homes and “patio” homes (zero lot line).

RESIDENTIAL MEDIUM/HIGH DENSITY (RHD)

RHD 1: Characteristics

The Residential Medium/High Density designation provides an opportunity for the development of higher density housing in neighborhoods found in both the center city and in more suburban settings. Rolla residents have shown a strong preference for limiting the development of higher density housing. However, given the growing cost of new low-density housing development, the demand for housing and Rolla’s demographic characteristics, encouraging new multi-family development that is sensitive to neighborhood compatibility concerns is a necessity.

RHD 2: Appropriate Density Range

Possible densities under this designation are 26 units per gross acre and approximately 13 units per net acre under current zoning standards.

RHD 3: Location

Residential Medium/High Density uses should typically be located near intersections of arterials and collector streets, sometimes providing a transition between commercial activity or employment centers and low-density neighborhoods. High-density development should not be positioned where the only access provided consists of local streets passing through lower density areas.

In a center city environment, high-density residential redevelopment or infill projects may not feasibly conform to this policy given the existing development pattern and zoning designations. High-density residential development may be accommodated once the regulations pertaining to multi-family district zoning have been modified to establish a separate center city multi-family district that reduces the maximum permitted lot coverage (or includes all impervious surfaces in the lot coverage calculation, not just the building footprint) and increases the amount of required off-street parking. In a downtown setting, residential high density may be combined with active non-residential uses in a vertically mixed-use building.

RHD 4: Parking Location and Design

Parking areas for Residential Medium/High Density development should be located behind buildings wherever feasible and shall be screened according to the provisions found in Sec. 42-227.

RHD 5: Cluster Development

Cluster development patterns should be used as a means of preserving scenic views and open space for common use. The use of cluster development provisions in Rolla's City Code should assist in the preservation of drainage channels, flood plains, and to conserve natural features and vegetation. Developers should use the cluster subdivision provision of Rolla's subdivision regulations where topographic features make development less desirable. These areas usually include embankments associated with flood plains.

COMMERCIAL – ALL CATEGORIES*C 1: Designate Commercial Areas According to Their Role and Function in the Region*

Three commercial designations are recognized depending on the area's scale, purpose, location and intensity of use. These include Community Commercial (generally includes the C-2 and C-3 commercial zoning districts), the Central Core for the downtown area, and the Neighborhood Commercial District frequently used services and goods.

C 2: Distribution of Commercial Services

Commercial centers should be distributed throughout the community to provide ease of access for residents and visitors and to minimize the need for cross-town vehicle trips when purchasing basic consumer goods and services.

C 3: Locate All New Community Commercial Uses in Planned Activity Centers

Community Commercial services should be concentrated and contained within planned activity centers preferably near the intersection of arterial and/or collector grade streets. Development of distinct commercial nodes will help preserve the residential character of some major street

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corridors, such as State Highway 72 between Walnut Street to King Drive and along the Lion's Club Drive, and help prevent adverse impacts from traffic conflicts caused by multiple commercial access points along a transportation corridor. Commercial activities, when grouped in cohesive centers result in more viable commercial areas compared to scattered or isolated single use commercial sites.

Activity centers provide a variety of services in a concentrated location to promote "one-stop shopping" that reduces the need for multiple trips. Each center has vehicular access points designed to minimize traffic congestion and maintain efficient traffic flow to and from the site. Although lot size and/or configuration along some arterials may warrant the use of a more linear commercial development pattern, this type of development should be discouraged in favor of more compact site designs.

C 4: Existing Linear Commercial Development

Existing linear or strip commercial configurations in Rolla, much of it found along the U.S. Highway 63 corridor, will continue to function and remain important contributors to Rolla's economy. The City should encourage the revitalization or expansion of current strip commercial development that will improve traffic flow, pedestrian mobility and safety, and upgrade streetscape quality when:

1. The project stabilizes and enhances the transition edge when adjacent to existing or future residential uses;
2. Primary site access can be provided from a major arterial street;
3. Required parking spaces, loading areas, and vehicular maneuvering can be accommodated on site;
4. Screening and buffering of adjacent residential properties can be provided on site;
5. Access points, parking, and landscaping can be consolidated;
6. Current or anticipated cross access between parcels and uses can be feasibly accommodated; and
7. Buildings and their associated activities, such as, but not limited to, loading zones and dumpsters, and be oriented away from adjacent residential uses, toward the interior of the site or towards adjacent similar uses.

Expansions of existing commercial areas into adjoining residential areas should only be supported when logical boundaries can be established for the expanded commercial use and when adjacent residential property can be appropriately screened and buffered. Commercial expansions or consolidations may be an appropriate means to preserve the vitality of established commercial areas if they can be undertaken without significantly impacting adjacent neighborhoods.

CC 5: Site Development Plans for Large Projects

The zoning ordinance should be amended to require that all large (one acre or more) commercial re-zonings shall be accompanied by a site development plan of enough detail to document building footprints, building coverage and other impervious surfaces, driveway locations, parking/loading area locations and layout, required landscape areas, etc. The site development plan will be adopted by ordinance and become part of the zoning record. This information will

help the Planning and Zoning Commission, City Council, and staff better understand the potential impacts of new commercial development and to discourage purely speculative zoning requests.

CENTRAL CORE DISTRICT (CCD)

CCD 1: Characteristics

The Central Core District is a special purpose designation for Rolla's traditional downtown and the surrounding area that have important historic, cultural, institutional, and economic importance to the broader community. The CCD generally includes a rectangular land area bounded by U.S. Highway 63 to the west, 2nd street to the south, Cedar Street to the east, and 12th Street to the north. The land use pattern in the Central Core District can be described as a complicated mix of commercial, residential, and institutional uses. The CCD should retain its role as the community's focal point for government services, various cultural venues, financial services, professional offices, support services, and as a location for niche retailing. The unique mixed use quality of the area should be encouraged because it promotes activity that in turn attracts more private sector investment.

CCD 2: Renovation and Reuse

The renovation and adaptive reuse of existing older underutilized structures, particularly in Rolla's traditional downtown, is strongly encouraged. The conversion of upper floors above commercial uses to office or residential uses should be supported as a means to reinforce the variety and vitality of the downtown environment. This activity must be undertaken in a manner that is consistent with City building and fire safety codes.

CCD 3: Public Investment Downtown

The City should continue to invest in streetscape and other design improvements downtown in order to improve traffic safety, enhance the appearance of the downtown, encourage increased tourism/economic development, and promote interactivity between UMR and downtown/central core businesses. Additional design elements might include an improved public way finding system, an expanded pedestrian circulation system, and more parking lot landscaping/signage. The City should plan additional streetscape upgrades east of the railroad tracks between 6th Street and 8th Street to better link the downtown with the evolving Cedar Street Cultural District.

CCD 4: Residential Conversions

The CCD has many residences that have been converted to a variety of non-residential uses. This conversion process is understandable since much of the area has been zoned commercially for decades. Many businesses do not require prime locations fronting on an arterial street – making older homes in the CCD an attractive investment option. Converting old residential structures to commercial uses can be viewed as an acceptable, even desirable, reuse of an otherwise deteriorating, obsolete building. The City, however, should work towards the eventual redevelopment and consolidation of these properties to allow new commercial development that will add to the community's tax base.

COMMUNITY COMMERCIAL (CC)

CC 1: Characteristics

Community Commercial Activity Centers (such as the Wal-Mart Super Center) provide a mix of retail and commercial services in a concentrated and unified setting that serves the local community and may also provide a draw for the surrounding region. These centers are typically anchored by a larger national chain store (85,000 sq. ft. or greater) that may provide sales of a variety of general merchandise, grocery, apparel, appliances, hardware, and other household goods. Centers may also be anchored by smaller uses, such as a grocery store, and may include a variety of smaller, complementary uses, such as restaurants, specialty stores, offices, and health services. The concentrated, unified design of a Community Commercial Center allows it to meet a variety of needs, thereby minimizing the need for multiple trips to other locations around the community. Strip commercial shall be avoided in favor of clustered development patterns.

CC 2: Activity Center Location & Size

Community Commercial Activity Centers should be located at the intersection of one or more major arterial streets, wherever feasible. They may be located adjacent to high density residential development, office, or smaller-scale commercial development with these uses serving as a transition to less intense land uses. Typical development sites require 10 to 30 acres.

CC 3: Redevelopment of Existing Strip Commercial Areas

Activity centers may be developed along major highway corridors (U.S. Highway 63/State Highway 72) as existing uses/buildings become obsolete and are redeveloped over time. The City shall encourage the redevelopment of existing, poorly functioning strip commercial areas, such as portions of Kingshighway, to lessen traffic conflicts and to support revitalization efforts by the private sector. The City should encourage the reduction of driveway cuts whenever feasible, the relocation of utility poles, and the elimination of excessive or obsolete commercial signage.

CC 4: Architectural Character

The City recognizes that, short of adopting mandatory architectural design regulations, there is little that can be done directly to require new or rehabilitated Community Commercial Activity Centers to meet even basic levels of architectural character and compatibility of scale with surrounding uses, pedestrian and bicycle access, and the mitigation of any negative visual impacts such as large, vacant building walls. The application of design considerations for “big-box” stores is particularly important. The City should take every opportunity, through various regulatory approval processes and development incentive programs, to achieve a basic level of architectural design to include, but not be limited to, the following:

1. Façade and exterior wall plane projections or recesses to address large, vacant wall expanses;
2. Arcades, display windows, enhanced entry areas, awnings, or other features along facades facing public streets to make the building to maintain scale;
3. Building facades with a variety of detail features (building materials texture, colors, and patterns); and

4. Use of high quality building materials-such as masonry.

CC 5: Parking Design and Layout

Uninterrupted expanses of parking should be avoided. The City should require all large commercial development parking areas to be broken into smaller blocks divided by and pedestrian walkways. Parking areas should be distributed between the front and sides of buildings, or front and rear, rather than solely in the front of buildings. The parking requirements found in the zoning ordinance should be revised to lessen the number of parking spaces mandated and, therefore, the amount of paved space needed to meet parking standards.

CC 6: Circulation and Access

Clear pedestrian connections should be provided through parking areas to building entrances that do not force pedestrians to compete with vehicular traffic for access. Driveways should be designed and signaled to effectively integrate with the surrounding street network to minimize potential conflicts with through-traffic.

NEIGHBORHOOD COMMERCIAL CENTER (NCC)

NCC 1: Characteristics

Neighborhood Commercial Centers are intended to provide a limited range of services that are convenient to, and serve neighborhood residents including uses like restaurants, movie rentals, drycleaners, drugstores, smaller specialty shops, retail and healthcare services, and professional offices for frequent use by residents. This land use category is currently represented by the C-1 (neighborhood commercial) and C-O (office) zoning districts. Neighborhood centers may vary in scale and character. Smaller, limited use centers may be capable of integration into an adjoining residential neighborhood with multiple means of access encouraged – pedestrian or bicycle; while larger neighborhood centers function more as stand-alone independent commercial service centers with ample amounts of conventional parking space and room for multiple stores. Mixed-use Neighborhood Centers, usually involving some type of housing, may be permitted in planned developments. Neighborhood Centers often serve more than one nearby neighborhood in order to maintain economy of scale.

The zoning ordinance should be revised to better address Neighborhood Commercial Center development by including new rules pertaining to customary hours of operation, maximum gross leaseable area permitted, further restrictions on outdoor lighting, signage location/size, and landscaping in order to help this type of development be more compatible with nearby residential development. A floor-area ratio of .25 should be established for single story uses to reduce lot coverage and permit more room for landscaping. At least 20 percent of the site should be devoted to landscaping.

NCC 2: Center Location & Size

Neighborhood Commercial Centers should generally be located at the intersection of arterial and collector streets. However, smaller centers with limited uses may be appropriate within a residential area at the intersection of two collector streets, or at the intersection of a collector and

a local street, provided they are designed to be compatible with the surrounding neighborhood and meet a minimum level of design criteria and buffering. Neighborhood Centers typically require a site of approximately 5 acres, but may vary, ranging from as small as 1-3 acres to as large as 10 acres depending on the size of the market area and the extent of mixed-use features. These centers comprise from 10,000 to 150,000 square feet of floor area.

NCC 3: Architectural Character

Neighborhood Centers shall be designed to be compatible with surrounding development. Building height and scale should be similar to structures nearby so that the center can more easily blend with its neighborhood.

NCC 4: Circulation and Access

Main entrances and driveways should be integrated with the street network to provide clear connections between uses and vehicles, pedestrians, and bicycles. Sidewalks shall be provided to link the center with the neighborhoods.

NCC 5: Parking Location and Design

Large, uninterrupted expanses of parking should be avoided where possible. Parking areas should be divided into smaller “blocks” by landscaping and walkways.

NCC 6: Transitions between Uses

Attractive transitions between different uses are particularly important for neighborhood commercial development due to the frequent close proximity of residential development. Transitions can be accomplished by stepping down the height of taller structures to meet resident roof lines, providing landscaped buffers or screening, or similar actions. The visual and functional impact of simply “walling” off residential areas from Neighborhood Commercial Centers should be avoided in favor of careful integration.

INDUSTRIAL (IND)

I: Characteristics

The Industrial designation is intended to provide locations for light and heavy manufacturing, warehousing and distribution, storage (indoor and outdoor), and a wide range of other industrial services and operations. Typically, heavy industrial uses involve more intensive work processes, and may involve manufacturing or basic resource handling and/or extraction. Design controls, whether imposed as a covenant or through regulations, are less restrictive and a broader range of uses allowed in Industrial areas.

I2: Location

Because of potential environmental impacts, Industrial areas should generally be located away from population centers or must be adequately screened or buffered. Traffic generated by industrial uses should not be required to pass through residential areas. Sites should have access

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to one or more major arterials or highways capable of handling heavy truck traffic. Industrial uses can typically be located in areas that also contain some highway-oriented commercial and hospitality uses. Industrial use locations are more restricted by topography than are most other forms of development, leading to the conclusion that proposed industrial sites should be designated for relatively level terrain of 8 to 10 percent slope or less.

I3: Screening

Outdoor storage and loading areas should be screened from view along all industrial area boundaries when adjacent to non-industrial uses and along public streets.

OFFICE/RESEARCH PARK (OFF/RP)

OR 1: Characteristics

The Office/Research Park land use designation is intended to provide concentrated areas of high quality/value employment, such as corporate offices, research and product development, and educational facilities in a planned, “campus-like” setting. Office/Research Park development may be fairly compatible with nearby residential uses because of the low intensity nature of on-site operations. Research parks often include limited prototype production capabilities, but are generally not regulated as manufacturing locations, even though research and development activities may often occur in more industrial settings.

OR 2: Location

Office/Research Park locations are often linked and are typically found in close proximity to institutions of higher education (like UMR) where basic research occurs. Park sites should have direct access to collector or arterial streets and should not funnel traffic through residential areas. Ideal Office/Research Park locations offer nearby recreational and commercial services to meet the needs of workers and visitors.

OR 3: Site Layout and Design

Where possible, Office/Research Parks should be designed to incorporate existing site features such as mature trees, ponds, and varied topography into project site plans and utilize extensive landscaping programs. Buildings should be arranged to form outdoor gathering spaces or common areas, similar in character to an academic campus environment, where human interaction may easily occur.

OR 4: Unified Architectural Character

Buildings within an Office/Research Park setting should have a unified architectural character achieved through the use of similar elements, such as rooflines, materials, colors, signage, landscaping and screening and other site layout details.

OR 5: Circulation and Access

Building entrances, outdoor gathering spaces, and parking areas should be linked with clear, direct pedestrian walkways. Office/Research Parks should be connected, whenever feasible, to City wide pedestrian and bicycle paths and other public open spaces.

OR 6: Outdoor Storage

The functions of an Office/Research Park facility should generally be completely contained within the building. Accessory outdoor storage facilities should be of limited nature, duration, and completely screened.

Distribution of Future Land Uses

Introduction

The *Rolla 2020* Comprehensive Plan Update identifies locations where different land uses may occur within the City and the UGA during the next fifteen years and where the City would support development of these uses through the expansion of public facilities and services (see Future Land Use map). The Future Land Use map is not intended to provide specific land use designations for individual parcels. Instead, it establishes broad guidelines for land use patterns and should be applied in combination with the goals, guiding principles, and policies contained in the Comprehensive Plan document. The land use categories contained in the Comprehensive Plan address several broad goals for the City that emerged during the planning process, including the identification of future growth areas and the encouragement of mixed-use development.

The *Rolla 2020* Comprehensive Plan Update encourages development to occur in a more compact fashion within the current City Limits and the UGA. It strives to provide a balanced mix of services, housing, and employment opportunities in appropriate areas located throughout the community. Overall, the Plan reflects the belief that residential development will increasingly occur at higher densities with a varied mix of housing types to maximize the efficient use of public infrastructure investment and to minimize the consumption of additional land for urban-scale development outside the UGA. Targeted investments in existing infrastructure improvements would be made in certain areas, such as the downtown and center city neighborhoods, to encourage new infill development and redevelopment.

Major residential development in the City would occur primarily in the south side area with the new Lions Club Drive serving as an arterial “backbone” for this part of Rolla. Infill development and redevelopment would be supported in identified core areas of the City. New commercial areas would be located to the west of Rolla along Interstate 44 and along the U.S. Highway 63 corridor, as well as in neighborhood centers to serve the emerging development areas in the south side. Industrial employment opportunities would continue to be concentrated in and around the Hy-Point Industrial Park area to the northeast.

An important component of the Comprehensive Plan Update is to incorporate where feasible a system of “green infrastructure”, an integrated system of trails and open space, into the urban

environment. The existing parks, linear trail and open space systems would continue to be expanded within the City limits.

Future Land Use Map

The Future Land Use map, a critical component of any comprehensive plan, provides the physical depiction of a development pattern used to guide and shape the location decisions made by elected officials and citizens in context with the vision, goals, guiding principles, and policies found in the Plan. The future land use pattern proposed respects historic and existing development patterns and proposes changes that will enhance Rolla's future viability as a focal point for regional economic development, health care, education, culture, recreation, and quality living. The following text describes and defines the land use designations of the Future Land Use map.

Land Use Category Definitions

The following information is intended as a quick reference guide to be used in conjunction with the Future Land Use map. Detailed criteria for the location, density, layout, desired character, and size of each category are provided to assist in understanding the rationale behind the future land use mapping effort.

Land Use Allocation

The Future Land Use map encompasses a 9,577.6 acre community (Rolla had 7,427 acres in 2004). Residential land allocations for "urban" density housing development comprise the largest proportion with 3,553.5 acres (37 percent). This percentage is consistent with the 2004 land use ratio of 36.2 for urban residential development. The commercial land use distribution proportion is 18 percent of total land area (1,726.8 acres) including the new land use category of Commercial/Mixed Residential land use. In 2004 the commercial ratio was 11 percent. The community commercial development category far outstripped all other commercial classifications on the map.

The Future Land Use map reflects more industrial land use than was recorded in 2004. At 13 percent in 2020, the area dedicated to industrial use increased considerably above the 2004 proportion of just 3.6 percent. On the other hand, the number of acres dedicated to public/institutional uses dropped to 6 percent (down from 14.1 percent in 2004). The acquisition of land for a new elementary school and other public uses could increase this total. Parks and open space declined from 9.7 percent in 2004 to 5 percent in 2020.

It is unlikely that the City will annex the total 2,150.6 acre UGA shown on the Future Land Use map as unincorporated land in 2005. Indeed, it is likely that some areas not shown on the map will be annexed. From a long range land use planning perspective, however, it is necessary to assume that the entire UGA may be annexed in order to provide guidance for the City, utility companies, and private sector investors.

Land Use Categories

RESIDENTIAL LAND USE

Land Use Category	Range of Density/Size	Uses	Characteristics
Rural Residential	Typically 40,000 square feet or greater in size	<i>Primary:</i> Large-lot very low density single housing <i>Secondary:</i> Permitted accessory structures and uses	Typically found in rural settings on the urban fringe. Lot size and layout varies. Often not served by urban-scale utilities or services until annexed. Large portions of the lot remain undeveloped, reinforcing rural character
Low Density Residential	Between less than one unit/acre up to seven units per net acre	<i>Primary:</i> Single-family attached/detached, modular housing <i>Secondary:</i> Permitted accessory structures and uses	Generally found in urban-scale subdivisions with typical individual lots around one-quarter acre in size. Subdivisions typically served by a full range of City utilities and services
Low/Medium Density Residential	Between less than one dwelling unit/acre up to 10 units per net acre	<i>Primary:</i> Single-family attached/detached, duplexes, and town homes. Small-scale multiple family buildings and condominiums may be permissible within required densities with a Planned Unit Development, or a mixed use district <i>Secondary:</i> Permitted accessory structures and uses	Mix of low to medium density housing types in a neighborhood setting
Medium/High Density	11–26 units per net acre	<i>Primary:</i> Small lot single-family, duplexes, town homes, apartments, and manufactured home parks <i>Secondary:</i> Complementary neighborhood-scale retail, service, commercial or office uses in Planned Unit Development setting	Mix of medium- to high-density housing types developed in a neighborhood setting. Residential uses may occur in combination with compatible, non-residential land uses located in planned neighborhood-scale centers (PUD). Uses may be vertically mixed in an urban setting but will typically be more horizontally oriented in more suburban settings

COMMERCIAL LAND USE

Land Use Category	Range of Density/Size	Uses	Characteristics
Center City	N/A	<i>Primary:</i> Variety of civic, cultural, commercial, professional, office and financial institutions <i>Secondary:</i> Variety of housing	The City Center represents the traditional downtown urban environment with compact development that is human-scale and pedestrian-friendly. Area is

		types including housing in upper floors	recognized as being important to preserving the historical character of Rolla. Large-scale developments are not compatible unless part of a planned redevelopment project designed to be in keeping with established character and scale of the Center City
Community Commercial	Typically between 10 – 30+ acres	<p><i>Primary:</i> Shopping areas providing a variety of general merchandise, grocery, apparel, appliances, hardware, lumber, and other household goods, may be anchored by larger national chain</p> <p><i>Secondary:</i> Smaller, complementary uses, such as restaurants, specialty stores (such as books, furniture, electronics, office supplies or apparel), professional offices and health services</p>	Mix of commercial services in a concentrated area that draws shoppers from Rolla and the greater region. Location and access along one of Rolla’s major transportation corridors generally required. Outside storage of goods for sale often needed. Although single-use highway oriented commercial activities will continue to occur, this pattern will not be encouraged in favor of planed commercial centers
Neighborhood Commercial	Typically around 1 – 3 acres, but may vary up to 10 acres	<p><i>Primary:</i> Convenience and personal services establishments providing locally-focused goods and services like grocery stores, small restaurants, movie rentals, drycleaners, drugstores, filling stations, smaller specialty shops, health services, and small-scale professional and business offices</p> <p><i>Secondary:</i> May include a medium- to high-density residential component if part of a :Planned Unit Development</p>	This area intended to provide a range of services targeted to meeting the frequent consumer needs of a limited area of Rolla. Goods are generally displayed internally. Developments are typically located along arterial streets, but not the primary highways, and may be integrated into the surrounding neighborhoods with pedestrian linkages desirable
Commercial Mixed Use	Generally 10 acres or greater	<p><i>Primary:</i> Commercial Mixed Use areas are similar in the types of land use permitted in the Community commercial classification in that they are targeted to larger-scale retail, commercial service, and office development. Limited research and development space might also be included under certain conditions, such as distance planned between conflicting land uses, landscaping, traffic circulation plan, building design and site layout</p> <p><i>Secondary:</i> The primary</p>	The Commercial Mixed Use area is envisioned for large tracts of land with good access and visibility from a federal or state designated highway. Residential uses are anticipated for land not set-aside for more commercial uses. The design of the Commercial Mixed Use area is intended to recapture some of the best features of small town development

		<p>difference is that the Commercial Mixed Use areas are projected to include some level of residential development – typically high-density apartments, but also may incorporate town home or other lower density development patterns. This type of development would only be permitted using the Planned Unit Development process</p>	
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EMPLOYMENT LAND USE

Land Use Category	Range of Density/Size	Uses	Characteristics
Industrial	N/A	<p><i>Primary:</i> Light and heavy manufacturing, warehousing and distribution, indoor and exterior storage, and wide range of other industrial services and operations</p> <p><i>Secondary:</i> Commercial and retail uses associated with highway traffic; particularly truck stops, convenience stores, restaurants, gas stations, automobile sales and service, motels/hotels, etc</p>	<p>Industrial Uses are generally considered the most intensive use of land because of operational impacts or functions. These uses provide employment opportunities and may be located along major transportation facilities. Ideally these uses should be located in planned industrial parks, although this is not a requirement. Uses typically involve more intensive work processes, and may involve manufacturing or basic resource handling</p>
Office / Research Park	N/A	<p><i>Primary:</i> High quality employment facilities, such as corporate office research and development and educational facilities in a planned “campus-like” setting</p> <p><i>Secondary:</i> Parking facilities and adjunct commercial service, retail and recreational uses</p>	<p>The Office/Research Park designation is intended to provide concentrated areas for office research facility development in a planned setting. Research activities typically take place indoors with some prototype production, as necessary. Other uses may include smaller office complexes consisting of a single building that are not located within a typical office park setting</p>

PUBLIC/INSTITUTIONAL LAND USE

Land Use Category	Range of Density/Size	Uses	Characteristics
Public / Institutional	N/A	<p><i>Primary:</i> Public/Institutional uses consist of publicly owned land and facilities, such as schools, government offices, fire stations,</p>	<p>Public/Institutional uses should have convenient access to arterial roadways and should be grouped together with neighborhood</p>

		hospitals, cemeteries, UMR, parking lots, etc. This category also includes facilities needed for essential public services like electrical substations, water and waste water facilities, and other similar uses	commercial centers or located near parks or intersections of pedestrian pathways. Some facilities must be located according to population and response time standards. Note: Churches are considered to be Semi-Public uses and are permitted in all zoning districts
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PARKS and OPEN SPACE LAND USE

Land Use Category	Range of Density/Size	Uses	Characteristics
Parks and Open Space	Varied	<i>Primary:</i> This land use category includes publicly owned developed and undeveloped land devoted to active and passive recreation uses, such as neighborhood- and community-scale parks, trail and pedestrian systems, or environmentally sensitive areas preserved by the City or other governmental entity for uses like wildlife sanctuaries or for storm water management	Parks and Open Space uses were recognized apart from other publicly maintained land because of the unique character of this type of land use. Uses range from extremely active sites such as athletic fields to areas preserved for wildlife habitat. Rolla's growing pedestrian pathway system will link much of the City together separated from established roadways

SEMI-PUBLIC LAND USE

Land Use Category	Range of Density/Size	Uses	Characteristics
Semi-Public	N/A	<i>Primary:</i> The purpose of this classification is to recognize land use types, typically used for religious, recreation, open space preservation, or wildlife habitat owned by quasi- or semi-public entities, such as churches, service clubs or other not-for-profit organizations. Facilities are open to the public, but are not part of a local government system. In Rolla such uses include the Lions Club Park and the Tanager Trails Ozark Nature Preserve owned by the Ozark Rivers Chapter of the National Audubon Society. Real estate owned and used for religious purposes constitute a major land consumer across the City	Semi-public land uses are found throughout Rolla and are generally not regulated as to location. Some of these land uses, particularly churches, can at times pose problems for residential areas due to periodic excessive traffic, noise and on-site activities. Consequently, this type of use should be encouraged to locate with access to major streets and with sites of adequate size to provide a buffer between low density/low impact land uses

Chapter 5: Mobility and Transportation

Background and Intent

Mobility, safety, and efficiency are important components of a transportation system. Current and future mobility needs will be addressed through appropriate land use decisions as guided by the Rolla 2020 Comprehensive Plan Update. The City, in conjunction with MoDOT and other governmental entities, will plan for an efficient transportation system with connected local and regional roads and future transportation alternatives – such as pedestrian pathways. In addition, the City will ensure that streets are designed to accommodate existing and anticipated capacity needs across the community. This chapter identifies a series of goals and guiding principles that represent the community’s vision for a future transportation system. Specific policies are recommended that expand on the goals and guiding principles to offer direction for property owners, elected and appointed community leaders in making well-coordinated land use and transportation decisions. Planned roadway connections are shown on the Major Thoroughfare Plan map at the end of this chapter.

Goals and Guiding Principles

Goal # 1:

Protect the public safety and welfare, reduce traffic congestion, ensure acceptable service levels, and conserve the functional integrity of the City and state-maintained roadway system. All of these components will be coordinated with consideration for the regional transportation network.

Guiding Principles:

- Plan for a balanced, multi-modal transportation system of streets, sidewalks, trails, and railroad to meet the mobility and economic development needs of the community.
- Promote street patterns that provide maximum safety and mobility for all modes of transportation, while preserving neighborhood integrity.
- Promote greater connectivity between different neighborhoods and commercial activity centers by providing appropriate access for automobiles, bicycles and pedestrians.



Policies

MT 1: Major Street (collectors and arterials)

The following policies apply to the major street system in Rolla:

1. Arterial street intersections should ideally be spaced no more than one mile apart to facilitate neighborhood planning and design, whenever topographic and other physical conditions allow.
2. Access to major streets shall be from intersecting minor or local streets, rather than private driveways, whenever possible.
3. Encourage commercial development that is part of a planned development project requiring an approved site plan so that access points, internal circulation, and parking may be better coordinated:
 - a. Utilize shared access points to minimize curb cuts and vehicular conflicts;
 - b. Eliminate existing curb cuts and prevent new curb cuts from being established closer than 100 feet from an intersection of collector streets and 150 feet on arterial streets;
 - c. Encourage shared parking.
4. Central medians should be incorporated into the design of new or upgraded major streets to limit crossing movements, whenever possible.
5. In newly developing areas, minor streets should intersect major streets at regularly spaced intervals of between 400-600 feet, thereby reducing the need for curb cuts.
6. Plan for the use of landscaping and street trees in central medians and along the sides of major streets.
7. Select and install street lights according to the planned design speed and intended use of the street.
8. Develop streetscape plans and, if needed, special corridor controls for Lions Club Drive and other new arterials to improve the street function and appearance, including traffic movement, signage, building and parking placement, landscaping, underground utilities, etc.

MT 2: Minor Streets

The following policy statements apply to Rolla's minor street system:

1. Minor street pavement widths should reflect the intended use of the street, corresponding to the traffic load and the planned land use of adjoining property. Minor streets should be no wider than necessary to serve their intended use.
2. The City should consider reducing pavement widths to 28 or 26 feet measured from the back of the curb.
3. The City should reduce the number of non-connecting minor streets throughout Rolla and, where needed, construct adequate turnaround areas on non-through streets.
4. Through traffic on minor streets should be avoided.

MT 3: Sidewalk System

The following policy statements pertain to the provision of sidewalks in Rolla:

1. Where no sidewalks are present in existing developed areas, sidewalks shall be provided on a priority basis to connect residential areas to major pedestrian destinations, such as parks and schools.
2. In newly developing areas, sidewalks shall continue to be required as an integral part of the community's basic infrastructure.
3. Sidewalk width shall be determined according to anticipated use, but the minimum sidewalk width shall be four feet.

MT 4: Trails System

Continue the incremental extension of Rolla's trails system as shown on the 10 year Capital Improvement Program and the Pedestrian/Bikeway Plan in order to link neighborhoods together with other parts of the community, particularly routes to schools, parks, and employment/service activity centers.

MT 5: Highway 72/I-44 Interchange

The Major Thoroughfare Plan should be revised as shown to reflect the proposed construction of a Highway 72/I-44 interchange located approximately one-half mile west of the Kingshighway/I-44 interchange. This improvement would open a large area consisting of several hundred acres on both sides of I-44 for potential commercial and industrial development, as depicted on the Future Land Use map provided in the preceding Chapter. Regional traffic flow emanating from areas south and southeast of Rolla would be greatly facilitated by providing another highway interchange at this location, while reducing traffic congestion caused by through traffic at key intersections in Rolla.

Future Roadway Network

Planned roadway connections are identified on the accompanying Major Thoroughfare Plan. The Major Thoroughfare Plan should be updated periodically as a guide for future land development planning and as means to identify necessary right-of-way acquisitions or reservations.

Chapter 6: Housing and Neighborhoods

Background and Intent

A continuing goal of the City is to maintain the quality and established character of existing neighborhoods throughout the community and to promote new neighborhoods that contain a variety of housing types and densities, with amenities, services and retail to ensure opportunities for a variety of household income levels. As an important means of meeting demand for housing variety and affordability, infill and redevelopment will also be encouraged, so long as it can be achieved in a manner that is compatible with the existing character of the neighborhood.

Goals and Guiding Principles

Goal # 1:

Foster the stabilization of Rolla's established, older core neighborhoods.

Guiding Principles:

- Maintain and protect affordable housing and neighborhoods in the older areas of Rolla, such as the Powell Addition area, the Shoe Factory Addition, the Great Oaks Addition and other areas immediately north and east of UMR/downtown Rolla.
- Identify and foster initiatives to maintain or enhance the quality of life in existing neighborhoods throughout Rolla.
- Encourage infill development and redevelopment in established neighborhoods that is compatible with the use and scale of existing residences.

Goal # 2:

Ensure that new housing represents a variety of housing types and costs appropriate to the neighborhood.

Guiding Principles:

- Provide opportunities for a greater mix of housing types, which are appropriately located, scaled and designed in relation to surrounding neighborhoods.



- ❑ Support initiatives to develop new affordable housing.



- ❑ Provide an environment for each neighborhood that promotes safety and the well-being of residents, and preserves the natural environment.

Goal # 3:

Ensure that housing sites suitable for residential development of all types are properly located in response to environmental constraints, to ensure connectivity and the availability of other community facilities and services.

Guiding Principles:

- ❑ Promote neighborhood design that allows for multi-modal connectivity between residential areas, commercial areas, parks and open space.
- ❑ Provide appropriate park space and recreation areas as a focal point in all newly developing neighborhoods.

Policies

HN 1: Mixture of Housing Types

Use land use regulations to enhance housing choices available with the development of a diverse range of housing types, densities, and price range intended to meet the needs of residents, particularly those with special needs such as the aged and the physically challenged. The City should encourage the use of innovative site plan techniques to deliver quality housing; such as zero lot line or patio homes, townhouses, cluster development (to take advantage of natural features) and other innovative designs for owner occupied and rental units.



HN 2: Regulatory Processes

Ensure that building codes and land development regulations (i.e. subdivision and zoning codes) are updated with consideration given to new, proven methods and technologies, to reducing development costs, increasing public safety, improve the appearance of housing areas, and improving energy efficiency. The City should adhere to the Comprehensive Plan to guide amendments to the Official Zoning Map and land development regulations. The City should evaluate its processes for notifying neighbors (currently done by letter, newspaper notice, and property posting) of re-zoning proposals to determine the adequacy of these means of communication.

HN 3: Affordable Housing

There is a growing concern about the availability of affordable housing for low and moderate-income households in Rolla (“affordable” is defined by lenders as a house payment no greater than 28 percent of gross household income – 30 percent for renters). The City should work with the private sector and non-profit agencies to ensure that sites that are potentially suitable for affordable housing are available in the City. These actions might include the sponsoring of grant applications, direct public investment, and regulatory flexibility to reduce development costs. This effort should include sites at a variety of scales to accommodate both small infill projects and larger redevelopment or “green field” housing projects. Innovative project design should be encouraged as well as the use of modular housing where appropriate.

In addition, the City should develop programs using federal or state grant funding to assist eligible homeowners with housing rehabilitation targeted to neighborhoods that have experienced disinvestment. The preservation of neighborhoods where much of Rolla’s affordable housing is found, particularly in subdivisions like Green Acres and Rolla Gardens areas along State Highway 72, should be a high priority for the City.

HN 4: Neighborhood Preservation and Development

Protect the character of residential neighborhoods from the encroachment of incompatible land uses and traffic patterns. Coordinate traffic and road development patterns to provide adequate access without subjecting neighborhoods to intrusive non-local, through traffic. Designate transitional types of uses, such as professional offices, higher density residential, and neighborhood-scale shopping services on major thoroughfares at the edges of residential neighborhoods.

Investigate methods for maintaining the predominant character of Rolla’s neighborhoods as single family by maintaining a balance between single-family low-density development and multi-family development. The proportion of single-family detached housing should be maintained at a minimum of 55 percent of the total housing stock (The ratio in 2004 was 59 percent). Continue to allow a range of housing options for all types of attached two-family (duplex housing) and multi-family housing units at 45 percent of total housing units in the City.

HN 5: Promote Coordinated Neighborhood Design

Ensure the compatibility and connectivity of adjoining neighborhoods with new development during the design and platting process. Key elements should include the identification of future roadway connections, pedestrian, park and open space linkages, and transitions between land uses or developments of varying development intensities.

HN 6: Planned Unit Development -Residential

Modify the zoning ordinance to require that all new multi-family developments on large lots (in excess of 1 acre) should provide on-site amenities, such as passive or active recreational areas/facilities and be submitted with a site plan or as a Planned Unit Development. In particular, site planning techniques should be applied to avoid the “barracks” or public housing appearance of many apartment and townhouse developments. Techniques include:

1. Providing public roads or private driveways that are separate and distinct from parking areas;
2. Connecting driveway access points to minor or collector streets, not arterials;
3. Locating buildings in close relationship to road or driveway frontage rather than at angles that result in unusable spaces between buildings;
4. Planning streets and driveways so that each building either faces the street/ driveway or open space rather than being designed with parking around all sides of the building. All private driveway and parking areas should have curbs and gutters.

HN 7: Incentive Zoning

When deemed appropriate by the Planning and Zoning Commission and City Council, offer multi-family developers density adjustments for creative site design, providing resident amenities such as swimming pools, and for preserving/protecting natural elements such as unique vegetation, flood plains, areas of excessive slope (35 % or greater) and other natural features. Add a provision to the zoning ordinance to permit incentive zoning for certain prescribed situations, such as enhanced development amenities and projects that address specific community needs (such as the construction of affordable housing). The City will continue to support the development that targets niche housing markets (e.g., retirement communities).

HN 8: Small-Scale Multi-Family Development

Use revisions to the zoning ordinance to restrict housing development density and lot coverage where multi-family development is undertaken on sites less than 1 acre in area. Establish a second multi-family zoning district classification that is applicable to smaller sites to reduce adverse impacts such as structural overcrowding, inadequate off-street parking, and excessive traffic generation. This new district may have lower permitted lot coverage and/or housing density standards. Continue to compute residential densities on a “gross” basis (the area of the entire site) provided that when required off-street parking areas are subtracted, the resulting net density does not exceed the housing density standard.

The City will encourage multi-family housing development that provides a smooth transition between adjacent single-family/two-family developments. A smooth transition can be achieved

through attention to setbacks, buffer yards, architectural design, site layout, and other site-specific details. The City's zoning ordinance should be amended to require the provision of a buffer-yard between multi-family development and single-family housing areas.

HN 9: Infill and Redevelopment

The City will encourage infill development and redevelopment on vacant or underutilized parcels where infrastructure and services are readily available and where it would foster the stabilization/preservation of an existing neighborhood. Infill and redevelopment should be undertaken in a manner sensitive to the established character of the area. **Infill** means the development of new housing or other buildings on scattered sites in a built-up area. **Redevelopment** refers to the replacement or reconstruction of buildings that are in blighted, substandard condition, or that do not make effective use of the land on which they are located. If properly designed, infill and redevelopment actions can help achieve quality mixed-use neighborhoods.

HN 10: Facilitate Neighborhood-Level Planning Efforts

Neighborhood-level land use planning efforts should be encouraged on an as needed basis to address development issues and concerns with potential impacts on neighborhoods. Such issues and concerns should not rise to the level of a city-wide or community problem.

Chapter 7: Natural Resources and Environment

Background and Intent

Urban growth represents the greatest challenge for the future preservation of existing natural areas, along with their functions and processes, in the environment of the City. There is an important interrelationship and link between the community and its associate natural environment. A well-functioning natural environment has economic, social, and health benefits for those living and working in Rolla. This chapter emphasizes the identification of natural features together with parks, open space and trails system that create a framework within which development may occur.

Goals and Guiding Principles

Goal # 1:

Preserve environmentally sensitive areas, including flood plains, wetlands, key wildlife habitats, and property with steep slopes.

Guiding Principle:

- | | |
|---|---|
| <ul style="list-style-type: none"> ❑ Continue to implement Rolla's storm water management program and related ordinances pertaining to | <p>the preservation of open space and the acquisition of park land.</p> |
|---|---|

Goal # 2:

Facilitate the incorporation of a system of open space corridors, buffers, and linkages into new development.

Guiding Principles:

- | | |
|--|--|
| <ul style="list-style-type: none"> ❑ Continue to provide opportunities for the establishment of buffers between urban development and environmentally sensitive areas to ❑ Facilitate the creation of a system of open space corridors and trails, providing linkage between non-contiguous parks and environmentally sensitive areas. | <p>reduce negative impacts upon the natural habitat and to protect water quality /reduce storm water runoff.</p> |
|--|--|

Goal # 3:

Work with the development and business community to promote environmentally sensitive design and construction practices.

Guiding Principles:

- ❑ Provide incentives for developers who incorporate environmentally sensitive design, such as increased landscaping and buffer areas, into their projects.

- ❑ Ensure that Rolla neighborhoods are not subjected to excessive noise, visual pollution or reflected lighting from adjacent development.



Goal # 4:

Recognize and reduce the threats to public health and the environment posed by the use, storage, manufacture, transport, release, and disposal of hazardous materials.

Policies

NRE 1: Corridors, Buffers, and Linkages

The City should use a variety of methods (both public and private) to facilitate the establishment of a continuous, permanent system of open space corridors using natural features like creeks, drainage channels and other environmentally restricted areas to the extent possible. Corridors should be identified during the subdivision or comprehensive planning process and should be used to provide linkages within and between non-contiguous parks, designated environmentally

sensitive areas, as well as neighborhoods or other development areas (activity centers). Buffer yards are used to provide a transition between different intensity uses. Wherever possible, the current width and shape of a naturally occurring stream corridor or drainage-way should be preserved in order to maintain its environmental integrity and avoid creating an “engineered” appearance.

NRE 2: Trails Network

The City should continue to develop a system of open space that is connected, continuous, and permanent. A portion of the current linear trail network follows the Dutro Carter Creek to Green Acres Park. The next phases will include the extension of the trail system along Lions Club Drive and Deible Creek, ultimately connecting to the Lions Club Park moving north to Green Acres Park to complete the circuit. The City should continue its efforts to extend the trails system by including pathways down Love and along Burgher Branches, adding tributary drainage channels and other pedestrian corridors to complete the overall community network as they become integrated into residential areas. The connection of Rolla’s system to a potential regional network of trails should also be pursued.

NRE 3: Environmentally Sensitive Site Design

Sensitive site design practices can minimize unnecessary physical and visual impacts upon surrounding properties caused by excessive removal of existing vegetation or severe roadway cuts and excessive grading of natural topography. Incentives should be provided for landowners to encourage the use of environmentally sensitive site development practices. Incentives that may be considered include:

1. Fast-track development plan and subdivision review and approval;
2. Fast-track building plan review and permitting;
3. Special density and other allowances as found in PUD-type developments;
4. Infrastructure support and cost sharing;
5. Establish wetland mitigation banks;
6. Technical help on how to preserve environmentally valuable resources; and
7. Create conservation easements.

Make any necessary utility crossings in an environmentally sensitive manner and any disturbances caused by such crossing should be reasonably mitigated to reduce adverse impacts.

Ensure that the planting of new trees and retention of existing trees is part of land development activities. Adopt and implement a City tree preservation ordinance.

NRE 4: Natural Hazards

Development shall be prohibited in areas where natural hazards have been identified that have the potential to endanger life and property. These hazards include steep slopes (35% or greater), floodways, and other special flood hazard areas. Development in flood plains should continue to be restricted. Flood plain land should be acquired for lineal park development and to control flood hazards that impact building viability.

NRE 5: Manmade Hazards and Nuisances

Rolla should continue to regulate private development projects and influence public investment decisions to reduce or eliminate any adverse impacts on the surrounding neighborhoods and community. The zoning approval process, in particular, remains one of the City's best strategies to prevent or reduce the adverse impacts of new development from the private sector. The City should implement, as needed, additional zoning-related regulations to address developmental impacts such as spill-over exterior lighting, noise and visual pollution, such as excessive commercial signage. Landscaping and buffer yard requirements should be strengthened.

Chapter 8: Public Facilities and Services

Background and Intent

The availability of water, wastewater, fire protection and emergency management services, police protection, schools, parks, and other utilities and services affects the safety and quality of life for residents as well as the economic stability of the City. The City shall promote a development pattern that provides for long-term development needs, while achieving a cost-effective provision of public infrastructure and facilities.

Goals and Guiding Principles

Goal # 1:

Urban level development should be planned for areas where basic infrastructure, such as transportation, sanitary sewer, water supply, and fire protection can be efficiently, safely, and economically provided, while maintaining quality services to the existing developed areas within the City.

Guiding Principles:

- ❑ RMU shall support a water resources development and management program that is consistent with the demands generated by the *Rolla 2020* Comprehensive Plan Update land use map.
- ❑ Develop an adequate and safe system for the collection, treatment, and disposal of wastewater to serve current and future demand.
- ❑ Manage and control storm water runoff to prevent flooding, protect soils from erosion, prevent contamination of surface water, and minimize impacts to existing drainage infrastructure.
- ❑ Maintain a safe, effective and efficient system for the collection and processing of recyclable and transformable materials and for the safe disposal of residual solid wastes that cannot otherwise be recycled or transformed.
- ❑ Maintain sufficient electric and natural gas utility service availability consistent with the needs of a growing community.
- ❑ Maintain and expand comprehensive emergency services, including fire protection, law enforcement, and emergency medical services. Continue to develop Rolla as the center for a network of regional health care services.
- ❑ Assure that all households in Rolla have access to high-quality public education facilities.
- ❑ Cultivate the growth of cultural and artistic expression and appreciation in Rolla. Encourage the use of public arts through public and private investment, to enhance both existing and new developments. Increase funding support for the Rolla public library to permit needed expansion and facility upgrades.

- ❑ Continue to provide new facilities, expand and renovate existing facilities, such as community and neighborhood level parks, trails, and resource-based recreation areas. This will enhance Rolla's year-round recreational opportunities.
- ❑ Create greater opportunities for Rolla to capitalize on the

recreational resources of the City and region through tourism and recreational based businesses. Encourage the growth of Rolla as an attractive location for regional sports tournaments.

Goal # 2:

Equitably distribute the cost for urban services over the areas that enjoy the benefit of such services and among the entities responsible for extending them.

Guiding Principles

- ❑ Develop efficient, sustainable and equitable methods of providing urban-scale services to support desirable new development in Rolla and the UGA.
- ❑ Consider the further use of special assessment districts that are suitable for urban development based on physical characteristics and service capability.



Policies

PFS 1: Consistency of Infrastructure Planning with the Comprehensive Plan

The City shall continue to prepare and update multi-year capital improvement program that are coordinated with the policies and future land use patterns that are found in the Comprehensive Plan. City capital improvement program shall also take into consideration and coordinate with the capital improvements proposed by RMU and other governmental entities, such as the school district, UMR, Phelps County, as well as private utility companies.

PFS 2: Facility Codes and Standards

All utility and service providers will review and adopt applicable new codes and standards to meet the needs of City residents and businesses. This action will establish minimum levels of service and provide basic quality levels for materials and equipment that will reduce future maintenance costs and service interruptions. These include standards developed by the American Public Works Association, the Missouri Department of Natural Resources, the Insurance Services Office, and others. In particular, new rules pertaining to the discharge of waste water will be addressed by upgrading the systems at Rolla's sewerage treatment plants.

PFS 3: Water and Sanitary Sewer Extension

The City will promote water and sanitary sewer service extensions to areas contiguous to existing development areas in Rolla to the extent that treatment and/or line capacity allows. Private sector developers or property owners shall pay for line extensions and service upgrades. The City and RMU should maintain the policy of not providing water or sanitary sewer service beyond the City limits unless an annexation and zoning agreement is concluded. Rolla's competitiveness for development should not be jeopardized by the extension of water and sewer service that facilitates urban-scale growth in unincorporated areas.

PFS 4: Electric Services

RMU shall continue to support the development of Rolla by expanding its electric service coverage to developing areas with new transmission lines and will increase service capacity of existing substations. The utility will relocate and construct a new bulk power station in north central Rolla to improve service reliability. Where feasible, existing and future transmission line corridors should be used for multiple purposes including transportation (street and trail) and other utility uses. Assure that as Rolla grows, electric service is provided under unified management by RMU.

PFS 5: Storm Water Management

The City should fully implement the recently formulated storm water management program to eliminate or substantially reduce flooding in Rolla. The City should view storm water and the proposed management facilities as multi-purpose assets. Storm water retention facilities should be incorporated as part of the City's open space system. The preservation and use of natural drainage patterns, wetlands, and drainage corridors as part of the storm water management system should be encouraged.

PFS 6: Communications

Continue to assure that Rolla residents and businesses are fully served by the “Information Super Highway”. Encourage private sector investment to improve Rolla’s communication system.

PFS 7: Public Schools

Statistics provided by the Rolla Public School District indicate that the development of a fourth elementary school in or near the City may be justified toward the end of this decade. The City should work closely with the Rolla Public School District to ensure that potential locations for a future elementary school site are coordinated with other community planning efforts pertaining to roads, the trail system, park land acquisition, land use, and utility development. During the planning period, the District should be encouraged to acquire the school site well in advance of need to minimize the impact of increasing land costs as the City continues to grow.

PFS 8: Fire Protection

Rolla’s 2001 Fire Protection Study recommended that the City should plan for the construction, equipping, and manning of a third fire station to improve response coverage in the developing south side. The study proposed that the new station should be located near the intersection of Lions Club Drive and Southview Drive. Further, once the third station is completed, the fire protection planners indicated that a replacement for fire station # 2 should be scheduled to improve fire response coverage to northwest Rolla beyond I-44. The current fire station # 2 with the Eugene Northern Community Center should be converted to other uses – such as a senior center.

PFS 9: Parks and Open Space

The City should improve and expand the park and open space system by implementing the following recommendations:

1. Acquire additional land near the intersection of Lions Club Drive and Southview Drive for a community-scale park of at least 25 acres;
2. Consider selling or trading some of the undeveloped “mini” green areas in Rolla for land more suitable for park and open space use;
3. Continue to link parks and other activity centers in the community by developing a greenway and/or trails system for all parts of Rolla;
4. Increase the availability of athletic fields; such as a soccer field (collegiate); dedicated baseball field, and an adult/youth softball field in Ber Juan Park;
5. Continue to seek strategic partnerships with other private and public sector entities to meet community needs by involving the development of recreation and open space assets, such as the Rolla Public School District, the Lions Club, and the Audubon Society; and
6. Increase the funding for the development and expansion of the Rolla parks and recreation system.

PFS 10: Public Libraries

The Rolla Library Board should begin planning for new public library facility of between 11,500 and 15,000 square feet located on at least a 1.5 acre site to better serve the needs of Rolla and Phelps County. The Board should develop strategic partnerships with local government, the business community, and other area organizations to explore funding and potential joint use options. Planning efforts should include potential re-use options for the current library building.

PFS 11: University of Missouri-Rolla

The City should encourage UMR administration and appointed leadership to coordinate campus master planning efforts with the Comprehensive Plan and other local planning activities. University growth should be focused toward the core or main campus, on land owned by UMR to the northwest, and to the area east of Pine/Rolla Streets north of 10th Street. Land currently used for the UMR golf course should also be considered as a unique development opportunity as a location for a University-related research park. The University should limit the acquisition of additional land to the west of U.S. Highway 63 to efforts to minimize pedestrian/vehicular conflicts on the highway and to avoid any negative impacts on the Powell Addition neighborhood.

PFS 12: Phelps County Regional Medical Center

PCRMC is not subject to City land use regulations. Nevertheless, the growth plans of this vital institution and the City should be coordinated to minimize traffic conflicts and to provide for future facility growth. The medical center has purchased property to the east of the current hospital campus and has plans to construct a medical office building on land currently owned by the hospital. PCRMC should limit, to the extent feasible, future land purchases to the west side of Joyce Avenue and should provide adequate landscaping and screening between the hospital property and the Powell Addition neighborhood once the acquired homes are removed. All parking areas should be paved with consideration given for storm water runoff and improved landscaping. PCRMC should work to improve communications with the neighboring single-family property owners to inform them about expansion plans and to seek their input.

PFS 13: Rolla National Airport

The Rolla National Airport is owned by the City and represents a significant economic development opportunity. The City should encourage actions by the RREC and private sector to market the airport for aviation-related business. City development regulations should be imposed through covenants to ensure quality and safe development occurs. The City should continue to coordinate planning and improvement efforts with the airport master plan.

PFS 14: Public Services Building and Yard

The City should initiate planning and development of a public service building and yard complex to promote efficiency by consolidating various functions. The facility should allow for the inclusion of a variety of public services: street maintenance, traffic control, solid waste collection/recycling, the animal shelter, parks and recreation maintenance. Public activities such as vehicle/equipment maintenance, training rooms, materials storage, locker rooms, and administrative offices shall also be included.

PFS: Phelps County Senior Center

It is a demographic reality that Rolla's population is aging as the large "baby boom" cohorts reach retirement age. Currently Rolla uses the Holloway House as a senior center. A second center functions as a nutrition site located separately at the Rolla Towers and is managed by the Central Missouri Area Agency on Aging (CMAAA). Rolla Towers is operated by the Rolla Housing Authority. The Rolla Housing Authority does not have a relationship with the nutrition site, other than to provide space.

The Holloway House is recognized by the community as not being suitable for most senior center activities (too many steps, small rooms, old facility, etc.). In addition, the space available is limited to accommodate expanded services, programs or users that will be required as the senior population increases. The City, in conjunction with the ABLE Commission, the Phelps County Commission, the Central Missouri Area Agency on Aging (CMAAA) and other senior service agencies, should establish a committee to explore funding alternatives, location, and size of a new Phelps County Senior Center.

Chapter 9: Regional Coordination

Background and Intent

The administration of the Comprehensive Plan and its component parts is the responsibility of the City Council, Planning and Zoning Commission, and staff. The City, however, does not exist in a vacuum. The City should continue to foster coordination and cooperation with other governing bodies, and promote opportunities for public participation in the community planning and development process.

Goals and Guiding Principles

Goal # 1:

Foster coordination and cooperation between the City and other governing bodies.

Guiding Principles:

- ❑ Coordinate the development goals and policies of the City and other governmental agencies within the region.
- ❑ Work to discourage the introduction of urban-scale residential and commercial development in rural, unincorporated areas of Phelps County that do not have reasonable access to street and utility systems and other services of adequate capacity that are normally considered vital to support urban-scale development.

Goal # 2:

Ensure and promote opportunities for public participation in the community and economic development planning process.

Guiding Principles:

- ❑ Facilitate a variety of public participation opportunities in the community planning process.
- ❑ Provide property owners, developers, investors, and the general public information to enable them to make sound economic decisions concerning their long range planning issues.



Policies

RC 1: Regional Coordination

The City shall coordinate its land use goals and policies with those of other governmental entities, such as UMR, Rolla Public Schools, Phelps County, and PCRMC, and identify areas requiring ongoing collaboration. Managing the impact of regional growth caused by development drivers such as Ft. Leonard Wood and the various public water districts and Inter County Electric, and coordinating this activity with Rolla's planned growth shall be a priority.

RC 2: UMR Coordination

The City shall work closely with UMR to coordinate on such issues as the location of new university development and related infrastructure and the provision of public facilities and services needed to support such growth, to ensure that future uses at UMR are mutually compatible with the goals and policies of this Comprehensive Plan and the mission of UMR.

RC 3: Phelps County Coordination

The City should work with the Phelps County Commission to initiate a process leading to the adoption of county-wide planning and zoning, subdivision regulations, and building codes so that development throughout the unincorporated portions of the County meet basic development standards.

RC 4: Citizen Involvement in Planning

The City shall solicit and encourage participation in the planning process from a variety of sources, including neighborhood-based groups, business and professional organizations, residents and property owners in land development decisions as well as services and facilities planning. Notification will be provided in a timely manner so they have an opportunity to participate and/or sponsor meetings.

Chapter 10: Historic Preservation and Urban Design

Background and Intent

Rolla's designated historic sites represent an important part of the area's character and contribute to the overall urban design of the community. The continued protection of these sites and the designation of additional sites as appropriate will continue to be an important community goal. In addition, the City will seek to improve the physical appearance of the community, particularly in relation to the City's entryways and public spaces.

Goals and Guiding Principles

Goal # 1:

Identify, protect, and enhance features that give Rolla a distinctive character, image, purpose and a means of orientation through the preservation of historic buildings/areas.

Guiding Principles:

- Encourage community education efforts to facilitate a deeper understanding and appreciation for local historic resources associated with important people and events. Exercise stewardship by preserving, protecting and enhancing significant publicly owned historic structures in Rolla, such as the Old Phelps County Courthouse and the Rolla Public Library building, using financial and other types of incentives to support owner initiatives.
- Encourage the adaptive reuse of historic structures to maintain their future economic viability. Encourage private ownership of historic properties wherever possible.
- Evaluate City codes in such areas as building, fire, and zoning to support historic preservation and adaptive reuse.



Goal # 2:

Guide the appearance, scale, and location of urban development to enhance community character.

Guiding Principles:

- ❑ Develop public facilities that are exemplary in their design, execution, and maintenance, while demonstrating fiscal responsibility. Provide for community input in the design of significant public buildings and other facilities to enhance urban design and citizen involvement.
- ❑ Encourage design within the gateway corridors of the community that creates an attractive, welcoming entryway into the City.
- ❑ Balance the community's desire for quality, compatible design, with private property rights and individual creative expression.
- ❑ Promote pedestrian friendly, human scale design within residential neighborhoods and commercial/office districts.
- ❑ Provide adequate open space/parkland in all future development.
- ❑ Encourage infill redevelopment that is compatible with and enhances the character of the surrounding neighborhood.



Policies

HPCD 1: Preservation of Historical and Cultural Resources

Buildings, districts, and sites of historical, architectural, or cultural significance shall be identified and protected. The City should consider adopting a Historic Preservation Ordinance that establishes a Preservation Commission to designate and work to preserve properties of historic, cultural or architectural significance in Rolla.

HPCD 2: Historic Preservation/Conservation Tools

Include a procedure in the Historic Preservation Ordinance for the temporary protection of significant historic resources threatened with demolition to allow time to seek alternatives to demolition. The preservation of historic buildings, districts, and sites by the private sector should be encouraged by the City through the application of appropriate federal, state and local incentive programs, the designation of landmark status, public improvements, and other tools. Conservation districts, as found in Chapter 42 of the Rolla City Code, should be applied in areas or neighborhoods that may not qualify as a local historic district, but that retain features that contribute to the quality of the community that should be protected from institutional encroachment.

HPCD 3: Promote Urban Design Quality

The City should encourage good urban design practices in order to help the community become more attractive and livable for existing and future residents. Consideration should be given to the establishment of development design standards for use by the public and private sectors in Rolla. Design standards may be citywide or may be intended for particular sub-areas of the community, such as the downtown. Standards should address improvements to the design of transportation corridors, neighborhood and business districts, and parks and open space systems.

HPCD 4: Transportation Corridor Design

Rolla should improve the appearance and function of major roadway corridors, such as I-44, U.S. Highway 63, Kingshighway, State Highway 72, and 10th Street, by applying reasonable design policies. The following actions should be taken:

City Gateway and Entryway Monuments

1. One of the more dramatic enhancements for Rolla's transportation corridors, especially for visitors, would be major city gateways or entryway monuments. The City, working with its development partners, should expand the existing system of City gateways and entryway monuments to welcome visitors, demarcate boundaries and establish a theme or image for the City.

City-Wide Pathfinder System

2. A city-wide "pathfinder system" would help visitors and residents find their way around the City and improve the community's image. The City should design and install a city-wide pathfinder sign system to advertise and make more visible Rolla's major public facilities and attractions.

Off-Premise Advertising

3. Off-premise advertising signs or billboards can be a major community image problem. The City should consider purchasing and removing some of the existing billboards in Rolla, particularly those that detract most significantly from the appearance of the community near gateways and along primary commercial corridors.

Overhead Utility Lines

4. Ideally, overhead utility lines should be relocated underground or, if that is not feasible, relocated to a less visible corridor. Some high-voltage overhead lines may be too expensive or impractical to locate underground. In that case, solutions should be explored to reduce the visual impact of lines by combining as many of the lines in as few locations as possible. The City and RMU should develop policies to minimize the visual impact of utility lines. These policies shall establish guidelines for relocating utility lines underground or to less visible corridors when engaging in streetscape improvements, road widening and/or revitalization projects. There should be discussions with the various utilities and property owners to determine relocation options and costs. Rolla's gateways and highway corridors should receive first priority for the reduction of overhead utilities, when feasible.

Street Lighting

5. Inconsistent street lighting detracts from the visual appearance of corridors and can be dangerous to drivers, bicyclists and pedestrians. The City should continue to require that each development and roadway have uniform lighting levels. Street lighting should be selected and installed according to the design speed and /or intended use of the street or area they serve. Where sidewalks are present or anticipated, pedestrian-scaled street lights should be preferred with no more than 600 feet of separation between light standards and at intersections.

Highway Corridor Landscaping

6. Highway corridors are designed for through-trips and carry large volumes of traffic. Improving the image of Rolla's primary highway corridors will greatly improve the appearance of the community. The City should evaluate and identify opportunities along the highway corridors where trees or shrubs could be introduced to improve the "edges" of the roadway. In particular, Rolla should coordinate landscaping improvement planning and implementation with the Missouri Department of Transportation, UMR, the Public Works Department and ACORN. Each responsible agency should accept that a high level of maintenance is part of any successful landscaping or public signage program.

Access Points

7. Multiple direct access points along highway commercial corridors create a sense of clutter, require more pavements, reduce the opportunities for landscaping and create potential traffic hazards. Although in many instances it may not be feasible to totally remove some access points, opportunities may exist to reduce multiple access points to a single property or to combine access with adjoining tracts to create a common access point. The city should limit the number of access points allowed along commercial corridors and consolidate existing access points wherever possible as new highways, arterials and collectors are built or widened.

Commercial Sign Systems

8. Most of Rolla's commercial areas contain a wild profusion of commercial and public signs juxtaposed in various combinations. The multiplicity of signs creates visual pollution and message overload, leading to the loss of effectiveness of each sign – thus an increase in the demand for commercial communication that further adds to the problem. Rolla should undertake a comprehensive revision of the sign code found in Chapter 42 with the intent of reducing the allowable sign area, height and number allowed. Whenever possible, the City should encourage the use of a coordinated sign system in commercial areas.

Street Trees

9. Trees, regularly spaced along residential streets, are an essential ingredient for shaping the appearance and image of a community by adding greenery, shade, and by contributing to the enhancement of neighborhood character. The City should prepare a Street Tree Plan which would address the retrofitting of existing streets and the planting of street trees for new development. All new residential and commercial development should be encouraged to include street trees according to the street tree planting plan. A program of tree planting should be part of the City's capital improvement program and annual budgeting process.

HPCD 5: Promote Accessible, Pedestrian-Friendly Community Design

Future residential and commercial development should be planned and designed to ensure that sites and land uses are linked by all modes of travel - autos, pedestrians, and bicycles. Within each site, development should be designed to accommodate pedestrians in a safe and convenient manner on a well-connected system of sidewalks, trails, and street crossings.

HPCD 6: Revise Design Standards Off-Street Parking and Loading Areas

Evaluate standards pertaining to off-street parking and loading areas to improve the appearance of Rolla by revising the zoning ordinance division relating to the location, access, and the number of required parking spaces per land use type.

HPCD 7: Revise design Standards for Screening and Fencing

Review and update sections of the zoning ordinance relating to the requirements for screening and fencing.

HPCD 8: Add Standards for Exterior Lighting

The purpose of this policy is to add standards that will prevent or reduce the spillover of light and glare on adjoining property from exterior lighting, excluding public street lights and seasonal displays.

Chapter 11: Economic Development

Background and Intent

Rolla's economy has historically been dominated by the government sector, with the large employment base provided by UMR, the Phelps County Regional Medical Center, USGS, School District, Ft. Leonard Wood, and others. While these entities will continue to play a vital role in the area's economy, the City will continue to seek greater diversity in employment opportunities for area residents, and a variety of jobs, cultural amenities, and services that make a positive contribution to the community.

Goals and Guiding Principles

Goal # 1:

Maintain and promote Rolla's role as a regional center for economic, educational, health care, and cultural activities.

Guiding Principles:

- ❑ Guide new technological, industrial, and commercial development to appropriate areas of the community.
- ❑ Provide opportunities for larger scale commercial developments at the intersection of major road corridors that are designed and scaled to be consistent with the surrounding land use and to protect the integrity of Rolla's road transportation system.
- ❑ Encourage the development of new business and industry to take advantage of technology developed at or through UMR.
- ❑ Provide adequate levels of public services and infrastructure, including vacant land designated and prepared for industrial development, to further Rolla's economic development opportunities.

Goal # 2:

Promote a strong, diversified economy that provides a wide range of employment and career opportunities for current and future residents.

Guiding Principles:

- ❑ Continue to work with all levels of government and with various economic development organizations, including the business community, to cooperatively promote Rolla's strengths and opportunities for investment and job creation.
- ❑ Retain existing companies and encourage their expansion as the City's highest priority for economic development. Attract new companies to Rolla that will expand economic diversity using appropriate incentives to leverage private sector investment.

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- ❑ Promote home-based, information technology based, entrepreneurial, and other non-traditional business models to help diversify Rolla's economic base.



Policies

ED 1: Diversified Economic Base

The City shall support maintenance and expansion of a diversified employment base within the Rolla/Phelps County area, reflecting manpower and labor force capabilities and emphasizing the expansion of technological and related industries, especially those emerging through programs at UMR and the Ft. Leonard Wood Tech. Park. Encourage the development of technology industry clusters where feasible.

ED 2: Existing Business Retention and Expansion

Assist in the retention and expansion of existing businesses through focused outreach and the utilization of support programs, such as the Enhanced Enterprise Zone program. The City should make necessary infrastructure investments and reduce, where possible, local regulations to facilitate private investment in Rolla. The potential economic impact of proposed regulations, procedures and policies on Rolla businesses, particularly small business, should be considered.

ED 3: Industrial Land Availability

The City and allied organizations shall seek to provide an adequate supply of both finished sites and raw land suitable for industrial development in a range of sizes to accommodate a variety of business types. The City should anticipate future infrastructure needs that will act to enable economic development of all kinds in Rolla, such as road and utility expansion, and work to provide them in a timely fashion as an essential strategy for supporting private job creating investment.

ED 4: UMR Research Park

Encourage and support the development of a research park near the UMR campus to assist in the development of technology-based industry in the Rolla area.

ED 5: Coordination and Public/Private Partnerships

The City and its economic development allies shall continue to coordinate with local businesses and community groups to promote the Rolla area for private investment. The City shall support regional economic development initiatives, such as joint marketing, that hold promise to expand Rolla's employment and tax base. Efforts shall be made by City leadership to identify and resolve issues and take advantage of opportunities leading to economic growth.

ED 6: Retail and Tourism Development

Capture a greater share of retail and tourist expenditures by providing opportunities to establish new tourist-related operations, facilities, and services. The City should encourage the development of a tourism oriented facility near the existing Rolla Visitor Center, commercial developments, such as a winery, bed and breakfast inns, and agricultural produce sales, and outdoor sports facilities.

ED 7: Jobs-Housing Relationship

The City shall use appropriate land use, zoning, and permit streamlining, and other development incentives/strategies to provide for and encourage housing types that are compatible with wage structures associated with existing and forecasted employment.

ED 8: Downtown Development

Support plans, programs, and public capital expenditures designed to stimulate the investment of private funding in the downtown area. Promote the downtown as an entertainment and cultural center.

ED 9: Community Conservation and Redevelopment

Use regulatory strategies and public infrastructure investment to conserve the physical and economic vitality of the City's older neighborhoods and commercial areas. Actively promote the redevelopment of blighted areas to promote the physical and economic enhancement of Rolla, as well as the health, safety, and welfare of its residents.

ED 10: Education and Training

The City should support the maintenance of the excellent public educational system and vocational training programs at all levels. Community leaders should recognize the connection between life-long learning through improved library resources and programs and economic development.

ED 11: Economic Health and Quality of Life

The City shall work with community organizations and the private sector to support historic preservation efforts, the provision of cultural amenities, arts programs, and other initiatives that enhance the quality of life, preserve our heritage, contribute to local tourism, and strengthen the economic health of the community. The City shall undertake design improvements targeted to

Rolla's entryways to eliminate or upgrade elements that detract from the physical appearance of the community, thus reducing the attractiveness of Rolla for private investment.

Chapter 12: Action Plan

Overview

Implementation is the process of putting the *Rolla 2020* Comprehensive Plan Update into action after adoption in order to achieve the stated vision for the community. Implementation is not the culmination of the planning process; rather it is part of the continual planning cycle of input, analysis, evaluation, plan development, and action. The Comprehensive Plan is a long-range plan; therefore implementation is typically incremental and cumulative. Implementation occasionally involves a large-scale project, however more frequently it involves small projects or activities undertaken by the City Council, Planning and Zoning Commission, staff, and other stakeholders. The Plan serves as a guide for policy decisions that will occur throughout the life of the Plan, and should be closely coordinated with the City's Capital Improvements Programs. The City should conduct periodic reviews of the highest priority actions identified in this chapter and revise them as necessary.

In order to implement the goals and policies of the *Rolla 2020* Comprehensive Plan Update, it will be necessary to identify the types of implementation strategies or actions that will be required. It is also necessary to determine, to the extent feasible, the priority and timing of the actions so the City and other stakeholders may allocate resources. The Action Plan matrix supplements this section by listing by identifying responsible parties and the relative priority of actions.

The Action Plan identifies a number of areas where the City's development regulations will need to be reviewed and revised as necessary, in order to be consistent with the goals and policies. These regulations include zoning, subdivision regulations, roadway standards, and development review procedures. Revisions to development regulations and standards should be undertaken soon after the adoption of the *Rolla 2020* Comprehensive Plan Update, since the recommendations and policies contained in the Plan are generally advisory in nature and most often implemented through various regulations and standards.

Summary of Priority Actions

The Action Plan identifies a number of immediate priority items that should be implemented as soon as possible, in order to ensure that the City's land use actions and decisions are aligned with the policies contained in the Plan. These are summarized below.

Growth Management/Land Use

The Comprehensive Plan places a strong emphasis on managing the location and timing of urban development, in order to ensure that new development can be accommodated with a level of infrastructure and public facilities and services typically available to Rolla residents, without significantly reducing the capacity of the City and other governmental bodies to meet current demands in the existing areas of the community. The following priority actions are recommended:

1. Maintain, Monitor, and Update the Urban Growth Area Boundary

The Comprehensive Plan recommends that the UGA continue to be used as the basis for determining areas that are suitable for urban levels of development. It is recommended that the City review the UGA annually or at least bi-annually, utilizing the criteria identified in this Plan (see Growth Management Policy GM 2) and any additional criteria that may be developed. The boundary may need to be adjusted on a periodic basis, as conditions in the community change over time.

2. Establish Priority Growth Areas

The UGA contains a large supply of land that will exceed the amount of development that will occur over the next 15-20 years. In addition, it will be difficult to provide the required level of urban services to all these identified growth areas at one time, if for financial reasons alone. Therefore, the Plan recommends that the City develop criteria to be used in establishing priority growth areas using the Future Land Use map as a guide (see Growth Management Policies GM 3 and 4). These areas should be closely coordinated with the City's Capital Improvement Program in order to ensure that infrastructure and other capital investments are made in a manner that supports the City's priorities.

Natural Resources and Open Space

During the preparation of the *Rolla 2020* Comprehensive Plan Update citizens of the community expressed, through their survey responses and other forms of comment, a strong desire to see implemented measures to protect environmentally sensitive areas from development. The majority of residents were pro-growth yet they clearly preferred development to occur in an environmentally responsible manner. To that end, the following actions are recommended:

1. Limit Development in Natural Hazard Areas and in Environmentally Sensitive Areas

The City should continue to implement strong measures to limit development in natural hazard areas (primarily in flood plains) and environmentally sensitive areas, such as areas illustrated in the Comprehensive Plan that have excessive slopes.

2. Dedicated Revenue Source for Open Space Acquisition and Protection

Many participants in the planning process expressed their desire to see more of the area's natural features and potential open space preserved as development occurs. Presently, the City requires the developers of residential subdivisions to dedicate land or provide funds used to acquire more park land. This requirement, however, generally does not generate enough revenue to allow the purchase open space located where desired or to make significant improvements to existing parks. The City should explore mechanisms for a dedicated revenue source for the purchase and/or protection of important natural areas and desired open lands, such as a dedicated sales tax. The use of conservation easements should also be considered.

Development Regulations

As noted in the Overview section of this chapter, one of the most important steps towards successfully implementing the Comprehensive Plan is to evaluate and revise the City's development regulations, as needed, so that they are consistent with the policies contained in the Plan. Some of the policies and recommendations will be difficult to implement without this important effort. The following is a list of priority actions for revisions to the City's development regulations:

1. Neighborhood Policies and Standards

The Comprehensive Plan acknowledges the importance of neighborhoods in Rolla. Development regulations, such as zoning and subdivision laws, should be carefully reviewed to identify requirements that could be modified to reduce development costs without compromising efforts to preserve the quality and character of existing and developing neighborhoods. Considerations include regulations that may impact infill and redevelopment projects; potential barriers to open space and pedestrian corridor connections; construction of affordable housing; and provisions for mixed-use development where appropriate (see item 2 below).

2. Mixed-Use Development

The Comprehensive Plan recognizes the potential positive application of mixed-use type development plans (generally involving commercial development and medium to high density housing) in order to improve community livability. While existing PUD regulations will accommodate mixed-use development plans, additional implementation tools may be needed.

Economic Development

An important goal of the *Rolla 2020* Comprehensive Plan Update is to help the City have a strong, diversified economic base that is capable of providing a variety of jobs and services to residents and expand the local tax base. The following priority action has been identified to accomplish this goal:

1. Maintain an Inventory of Available Sites with Services

The supply of sites or locations capable of supporting commercial or industrial development in Rolla has become increasingly limited and may impact the ability of this community to take full advantage of economic development opportunities. The City should encourage and support (through direct and indirect investments) its economic development partners in their efforts to expand development opportunities through the designation and/or acquisition of appropriate sites suitable for a variety of economic development uses. The City should review the Capital Improvement Program to ensure that the land supply and planned provision of infrastructure and services is coordinated with the Comprehensive Plan's goals and policies for economic development.

Action Plan Matrix

The decisions that will put the Comprehensive Plan into action come from a variety of sources – both public and private. They also come from a variety of perspectives; regulatory, financial, and strategic. The Action Plan Matrix provides a detailed list of the actions needed to implement the Comprehensive Plan by category. The matrix indicates the type of actions that will be required to implement the policies, the responsible party, and the priority of the actions to be initiated. City staff, elected and appointed officials will need to update this matrix on a continuing basis to keep the responsibilities and actions current.

The “**Responsibility**” column lists the primary actors that are or will likely be responsible for implementation activities, using the following code:

(CS)	City Staff
(E/AO)	Elected and appointed officials in Rolla, including the City Council, Planning and Zoning Commission, Library Board, Board of Public Works, etc.
(NGO)	Non-governmental organizations providing services and facilities for public benefit such as service clubs, churches, and the Audubon Society.
(C/N)	Individual citizens, citizen groups or task forces, neighborhood groups.
(D/LO)	Developers and land owners.
(B/I)	Businesses, industries, business organizations like the Rolla Area Chamber of Commerce.
(OGA)	Other governmental entities and agencies such as Phelps County, the Board of Education, state and federal government, special utility districts, fire district, etc.

The “**Priority**” column lists the four possible time frames for implementation actions: (1) – **Immediate Priority**, to be implemented with the adoption of the Plan or soon thereafter, within 0-2 years; (2) – **Medium Term**, to be initiated within 3-5 years; (3) – **Long Term**, to be completed within 5-15 years after Plan adoption; and (4) – **Ongoing**, these are actions that must occur continually.

The organization of the action matrix into implementation time frames suggests that some strategies are more important than others. This is an intended consequence of the matrix in that Rolla’s governmental, business, and civic leaders need to prioritize future actions to realistically address community needs.

TABLE 18: Action Plan

Strategy/Action	Responsible Party/ Parties	Priority
Land Use and Growth Management		
Growth Management		
Utilize identified criteria for the Urban Growth Area to: <ul style="list-style-type: none"> <input type="checkbox"/> Review and revise boundaries on a periodic basis and <input type="checkbox"/> Prioritize growth areas for new development of all kinds. 	CS, E/AO, OGA	1 & 4
Coordinate efforts to manage rural development located outside the UGA by: <ul style="list-style-type: none"> <input type="checkbox"/> Developing intergovernmental agreements with rural service districts; <input type="checkbox"/> Review areas for potential future expansion outside the UGA. 	CS, E/AO, OGA	1 & 2
Using the UGA and Comprehensive Plan as a guide, develop a City annexation plan or strategy for the future.	CS, E/AO	3
Identify potential redevelopment areas and create or employ incentives to encourage infill and redevelopment by the private sector in the established areas of the City.	CS, E/AO	2
Develop a Fiscal Impact Analysis model and utilize the <i>Annexation Checklist</i> found in Appendix 2 of this Plan to evaluate proposed annexations (voluntary or involuntary) to the City.	CS, E/AO	1
Conduct annual reviews of the Comprehensive Plan for relevancy and effectiveness.	CS, E/AO	4
Conduct a complete Comprehensive Plan and development regulation update every 5 years to ensure compatibility with the vision of the City.	CS, E/AO	3
Residential Land Uses		
Utilize the residential design guidelines found in Land Use Policy <i>UR 1</i> when evaluating residential development proposals	CS	4
Expand the pedestrian/bicycle pathway system in Rolla to include all neighborhoods and located, where feasible, in a lineal park.	CS, E/AO	1 & 2
Review and revise as necessary Chapter 42, Article II, Subdivisions, and Article III, Zoning, of the Rolla City Code to reflect policies of the Comprehensive Plan for: <ul style="list-style-type: none"> <input type="checkbox"/> Residential density standards; <input type="checkbox"/> Multi-family development in the center city; <input type="checkbox"/> Residential buffer yards between low and high density residential development; <input type="checkbox"/> Parking space amounts and location; <input type="checkbox"/> Mobile home park district; <input type="checkbox"/> Large lot multi-family development as a PUD; <input type="checkbox"/> Update the “by right” use lists for zoning districts. 	CS, E/AO, D/LO, C/N	1
Commercial Land Uses		
Amend the zoning ordinance to require large lot commercial re-	CS, E/AO	1

Strategy/Action	Responsible Party/ Parties	Priority
zonings to be submitted with a site plan with sufficient detail.		
Review and revise Zoning and Subdivision Regulations, as may be necessary, to ensure compatibility with Comprehensive Plan policies for: <ul style="list-style-type: none"> ❑ Mixed commercial/residential use development; ❑ Multi-modal connectivity between residential and commercial developments; ❑ Existing lineal commercial development; ❑ The Center City District; ❑ Neighborhood and community commercial areas; ❑ Promoting infill and redevelopment within established commercial activity centers. 	CS, E/AO, D/LO	1 & 2
Finalize and implement development standards for new commercial activity centers and redevelopment areas.	C/S, E/AO	2
Create incentives and explore facilitation tools, such as Tax Increment Financing, Community Improvement Districts, and Transportation Development Districts, for commercial infill and redevelopment projects, projects in the central core district, and new commercial/mixed use developments.	CS, E/AO, D/LO, B/I	1, 2 & 3
Employment Land Uses		
Review and revise all applicable City regulations to ensure compatibility with the Comprehensive Plan policies for Industrial development and for the establishment of an Office/Research Park in Rolla.	CS, E/AO, OGA	1 & 2
Undertake an evaluation of future potential industrial sites using the criteria contained in the Comprehensive Plan and other sources.		
Mobility and Transportation		
Review and revise Rolla's Subdivision Regulations and development standards for street construction, as may be necessary, to ensure that future road development conforms to the policies for arterials/collectors and minor streets.	CS, E/AO, D/LO	1
Coordinate with local, state, and federal agencies to identify and pursue funding sources to work towards the implementation of the Major Thoroughfare Plan.	CS	4
Implement the continuation of Rolla's trail system to link neighborhoods, commercial nodes, schools, and parks.	CS, E/AO	1 & 2
Implement appropriate traffic calming techniques to lessen the impact of through-traffic in Rolla's older neighborhoods.	CS, E/AO	2
Housing and Neighborhoods		
Revise the zoning ordinance to permit innovative site planning techniques, such as zero lot line or patio home development.	CS, E/AO D/LO	1

Strategy/Action	Responsible Party/ Parties	Priority
<ul style="list-style-type: none"> ❑ Determine if there are any barriers to achieving a mixture of housing types and densities in residential neighborhoods; ❑ Evaluate building codes and land development regulations with consideration given to new, proven methods and technologies to reduce development costs, increase public safety, and improve the energy efficiency for all development. ❑ Evaluate the neighborhood notification procedures for re-zonings to determine adequacy and efficiency. 		
<p>Encourage the construction of affordable housing by:</p> <ul style="list-style-type: none"> ❑ Working with private land owners to identify and maintain a range of available sites for affordable housing in the City, and facilitate development by applying for grants, using direct public investment for infrastructure, and permitting regulatory flexibility strategies, where appropriate and not detrimental to the public welfare. ❑ Working with non-profit organizations and developers to increase the supply of affordable housing; ❑ Preserving the existing affordable housing stock through the application of appropriate land use regulations and incentive programs to encourage rehabilitation. 	CS, E/AO OGA, D/LO, C/N	4
<p>Use the land use planning and zoning process to maintain the dominate character of Rolla’s neighborhoods by maintaining a balance between single-family and multi-family development at a ratio of roughly 55:45 percent.</p>	CS, E/AO	4
<p>Modify the zoning ordinance to require all new multi-family developments on large lots (e.g. in excess of 1 acre) to provide on-site amenities for recreation purposes and to be approved with a site plan or as a PUD.</p>	CS, E/AO D/LO	1
<p>Amend the zoning ordinance to allow the use of “incentive zoning” to reward multi-family developers with density adjustments in exchange for creative design, the provision of resident amenities, or the preservation of natural features such as flood plains, areas of excessive slope, etc.</p>	CS, E/AO D/LO	1
<p>Revise the zoning ordinance to establish a second multi-family zoning district applicable for smaller lots (less than one acre) to reduce overcrowding.</p>	CS, E/AO	1
<p>Revise the zoning ordinance to require the provision of a buffer yard between new multi-family development and single-family development.</p>	CS, E/AO	1
<p>Identify and foster initiatives to encourage infill and redevelopment in Rolla’s established neighborhoods that are consistent with sensitive to preserving the character of the neighborhood.</p>	CS, E/AO	1 & 2
<p>Natural Resources and Environment</p>		

Strategy/Action	Responsible Party/ Parties	Priority
Facilitate the establishment of a connected, continuous and permanent system of open space corridors and trails in Rolla by: <ul style="list-style-type: none"> ❑ Developing standards, criteria, and incentives that encourage environmentally sensitive design and the integration of corridors, buffers, and other preserved open space into new development proposals; ❑ Continuing to require the dedication of open space in new residential subdivisions; ❑ Exploring the use of conservation easements and other private sector tools for open space preservation. 	CS, E/AO D/LO	2 & 4
Expand the current trails network by including Love and Burgher Branches, adding tributary drainage channels and pedestrian corridors to complete the trails circuit throughout Rolla.	CS, E/AO	1 & 2
Incorporate a series of regulatory, administrative, and financial incentives to encourage environmentally sensitive site design practices for new residential and commercial development.	CS, E/AO	2
Research the feasibility of establishing a City tree preservation ordinance.	CS	1
Restrict development within environmentally sensitive and natural hazard areas by 1) identifying the location of these areas; 2) establishing criteria that prevent development from occurring in identified areas.	CS, E/AO	1 & 2
Public Facilities and Services		
Work to ensure that the City' Capital Improvement Program and other infrastructure investment plans adopted by allied governmental and non-governmental entities are consistent with the policies and strategies of the Comprehensive Plan. Specifically, coordination is required for: <ul style="list-style-type: none"> ❑ Planning the location of a fourth elementary school site consisting of 15 acres; ❑ Developing a third fire station in the south side and relocating fire station 2 to the northwest; ❑ Expanding the parks system consisting of additional open space corridors, athletic fields, and a community-scale park in the south side; and ❑ Evaluating the need for a new public library of between 11,500 to 15,000 sq. ft. and proposing an implementation plan to better serve the program and space needs of library patrons. 	CS, E/AO, OGA,NGO	2 & 3
In cooperation with UMR, develop a master plan for the potential conversion of the UMR golf course to a University-related research park.	CS, OGA, B&I	2 & 3
Prepare a neighborhood plan for the Powell Addition area to permit better coordination between residents, PCRMC and UMR in terms future development, traffic control, and flood control.	CS, E/AO, C/N, OGA	1

Strategy/Action	Responsible Party/ Parties	Priority
In conjunction with an overall economic development effort, develop a marketing program for the Rolla National Airport.	CS, B/I D/LO	2
Plan for the construction of a Public Services Building and Yard complex in Rolla.	CS, E/AO	1
Plan for the development of a Rolla Senior Center.	CS, NGO	2 & 3
Regional Coordination		
Identify Comprehensive Plan goals and policies that require ongoing collaboration and cooperation with other governmental bodies within the Rolla area regarding future land use and the expansion of services and facilities.	CS, E/AO, OGA	1 & 4
Participate in regional collaborative service initiatives, such as the Ft. Leonard Wood RCGA, the solid waste district, homeland security, hazardous materials management, etc.	CS, E/AO, OGA, B/I	4
Continue to work with other local agencies to utilize GIS and other emerging technologies for data sharing and cost savings.	CS, E/AO, OGA	1 & 4
Encourage Phelps County leadership to initiate a process leading to the introduction of county-wide planning and zoning, subdivision regulations, and building codes to promote the public welfare.	CS, E/AO, OGA	2
Historic Preservation and Urban Design		
Consider the adoption of a historical preservation ordinance that would establish a preservation commission to work to protect and preserve local properties of historical, cultural, or architectural significance. Inventory area historical and cultural resources in conjunction with this effort.	CS, E/AO, OGA	1 & 2
Encourage good urban design practices to improve community appearance and identity through the implementation of the “Transportation Corridor Design” actions outlined in the Comprehensive Plan, through the development of: <ul style="list-style-type: none"> ❑ A system of City gateway and entryway monuments and a City-wide pathfinder system; ❑ The removal of targeted bill-boards (off-premise advertising); ❑ A program to place overhead utility lines underground when feasible; ❑ A street lighting system that reflects the planned design speed of the roadway; ❑ A highway corridor landscaping program; ❑ Policies to reduce or consolidate access points along commercial street corridors and highways; ❑ A revised commercial sign code; ❑ A street tree plan and program for the City and developers. 	CS, E/AO, OGA, B/I	

Strategy/Action	Responsible Party/ Parties	Priority
Economic Development		
Monitor the supply of finished sites and raw land suitable for residential, commercial, office/research, and industrial uses and periodically review and update the Future Land Use map as appropriate.	CS, E/AO	1
Submit an application for the designation of an Enhanced Enterprise Zone in Rolla/Phelps County.	CS, E/AO	1 & 2
Acquire at least forty acres of land suitable for industrial development in or near Rolla, preferably in the Enhanced Enterprise Zone.	CS, E/AO, OGA, NGO	1
Encourage and support the development of a research park near the UMR campus (the existing 9-hole golf course) to assist in the attraction and development of technology-related industry to Rolla.	CS, E/AO OGA, NGO	1 & 4
Work with private developers to provide affordable quality housing, both rental and owner-occupied, that are compatible with the wage structure of the community.	CS, E/AO, D/LO,B/I	1
Encourage the development of a tourism oriented facilities near the Rolla Visitor Center, including a replacement for Buehler Park.	E/AO, NGO	2
Review zoning regulations to determine if they adequately provide for home occupations.	CS	1

Appendix I: 2005 Comprehensive Planning Survey - Major Findings

Introduction

ETC Institute conducted a survey for the City during January 2005. The purpose of the survey was to gather input from residents as a foundation of public input to help the *Rolla 2020* Comprehensive Plan Update process move forward. The survey was administered by phone to a random sample of 400 adult residents in Rolla. The overall results of the survey have a precision of at least +/-5% at the 95% level of confidence. The major findings of the survey are summarized on the following pages.

Major Findings

- Q4.** Residents were most satisfied with the overall appearance of city parks and access to parks/open space. They also indicated strong satisfaction with the quality of the City's electrical service (the ghost of the 2003 outage seems to be gone), the general appearance of their neighborhoods and the appearance of public buildings & spaces.

Residents were least satisfied with traffic flow and the condition of city streets. Traffic congestion along U.S. Highway 63 remains an issue. Twenty nine percent of the respondents were dissatisfied with street condition. This result was very surprising given the extensive road rehabilitation program the City has implemented over the past eight years. The response suggests the importance of on-going street maintenance.

The majority of respondents were satisfied with the enforcement of two key City regulations (zoning and property maintenance codes), but almost thirty percent had no opinion. This is not surprising since most Rolla residents have no contact with code enforcement until an issue arises.

- Q8.** The top four reasons residents originally decided to live in Rolla were: (1) overall quality of life, (2) low crime rate, (3) overall cost of living is low, and (4) availability of affordable housing.

Respondents were least influenced in their location decision because of Rolla's location near Ft. Leonard Wood or being close to other communities with employment opportunities, or access to shopping. People do not move to Rolla because of our quality shopping experience! Rolla is more of a focal point for employment rather than a "feeder" to other areas.

- Q9.** The top five reasons that residents said they plan to stay in Rolla were generally the same reasons they gave for originally moving to the community but in a different order: (1) availability of

affordable housing, (2) low crime rate, (3) overall cost of living is low, (4) overall quality of life, and (5) public schools.

The top three reasons residents indicated they might leave Rolla were: (1) a lack of professional opportunities, (2) lack of adequate employment, and (3) desire to relocate near friends and family.

- Q10.** Respondents ranked the appearance of new single-family housing units (70 %) and the mixture of housing types & styles (62.7 %) as something they liked most about Rolla's recent single-family residential subdivisions. They also valued wide streets, sidewalks and the general location of the developments.

They were least impressed with spacing (setbacks) between houses and, of course, the cost of new single-family homes. Respondents generally indicated a preference for low-density development.

- Q11.** More than three-fourths (77%) of those surveyed thought design guidelines and zoning controls were necessary. Only 3 percent of the respondents did not think they were necessary; 21 percent gave a neutral rating. (note: percentages exceed 100% due to rounding). Respondents also valued the ability to walk/bike in a neighborhood and to have a variety of housing choices. Preserving existing trees was an over-whelming favorite with 87 percent indicating they should be considered when planning new development.

Respondents were least interested in growth guidelines that would allow units to be built closer to the curb or to be in developments that were limited to persons their own age & economic level or where units were all similar in price and style.

Planned, mixed housing style developments seemed to have an edge with respondents.

- Q14.** Twenty one percent of those surveyed indicated they would prefer to own a home on a lot that was at least two acres; 27 percent indicated that they would prefer to own a home on a lot that was one-third of an acre or smaller. Still considered low-density, but 1,300 + sq. ft. lot is considerably less than the average single-family lot size of 22,000 sq. ft.

- Q15.** Respondents indicated that if they were going to purchase a new home, they would want to be the furthest away from restaurants, day care centers, and hairstylists/barbers.

Not surprisingly, survey respondents were more interested in living nearer to grocery stores and neighborhood-scale shopping centers.

- Q16.** The availability of parkland and outdoor recreation did not exceed the importance of lot size and cost for the majority of potential home buyers.

- Q17.** Survey respondents were asked to react to various statements concerning development in Rolla. The survey results suggest that, by super majorities, Rolla residents favor more commercial (particularly large retail businesses) and industrial development and feel that new commercial areas should meet higher design standards – although 63 percent felt that improvements to the appearance of commercial areas had been made over the past

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five years. A majority (52.4 percent) felt that Rolla was on the right course to manage growth, while only 16.7 percent disagreed with that statement.

The penchant for low-density development was further tested when 75 percent of the respondents indicated they didn't feel Rolla was too spread out. Almost 67 percent believed that Rolla had enough open space. It is uncertain if this finding includes City parkland.

- Q18.** Respondents were asked to consider commercial areas in Rolla. The strongest recommendation was for commercial building to incorporate more masonry and architectural design features, along with more landscaping.

Improvements were suggested for interior traffic circulation and walk ability to and from commercial areas.

- Q19.** The retail purchases that residents were most likely to make in Rolla included: groceries, restaurants, and appliances. More than 20 percent of the residents surveyed indicated they usually bought their clothing, books/music, and sporting goods outside Rolla.

- Q20.** Rolla's support for more commercial development was tested with this question. Nearly 70 percent of the respondents supported attracting more restaurants and retail development while encouraged the City to use incentives (such as TIF and special assessment districts) to accomplish this objective. A similar proportion favored incentives for industrial development. Sixty nine percent of those surveyed thought the City should give incentives to encourage the upkeep of neighborhoods.

Respondents were not as interested in increasing the number of multi-family units in Rolla – only 27.8 percent agreed with a statement that advocated more development of this type.

- Q21.** Only 5 percent of those surveyed thought the City should NOT encourage growth. More than one third (37%) thought the City should take a pro-growth position. Half (50%) of those surveyed thought the City should take a directed-growth position. Eight percent did not have an opinion. These results are consistent with earlier findings about growth management in Rolla.

- Q22.** The leading factors that might cause residents to leave Rolla included a lack of employment and professional opportunities. Again, this may help explain why such a large majority of residents support an aggressive economic development position by the City.

- Q23.** Seventy eight percent of those surveyed thought the City should not allow development in environmentally sensitive areas. Seventy six percent of those surveyed thought the City should invest to improve older areas of the City. Sixty nine percent of those surveyed thought the City should build a third fire station to serve southern Rolla.

Solid majorities supported the extension of State Highway 72 to connect to I-44 (55.8 %) and that Rolla should grow to the south and east (59 %), that a new public library should be built (56.2 % agreed) and that more parkland should be provided in Rolla (54.2 %

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agreed). It is apparent that the respondents differentiated between parkland and open space.

Issues that need more public education to increase resident support, based on the “Neither” response, were:

- *A new Rolla senior center should be developed (50.0 % agreed with that statement).*
- *Lions Club Drive should be extended to the east beyond Hwy 72 (51.1 % supported).*
- *A new south side elementary school should be developed garnered 42.4 percent approval.*
- *Improved RMU electrical service at 46.9 percent agreement.*
- *Support for co-locating a new recreation center with an elementary school reached only 37.8 percent.*
- *Just 35.3 percent of the respondents agreed that additional ball fields should be provided at Be Juan Park.*

Appendix II: Annexation Checklist

The following checklist has been prepared to assist in the evaluation of the feasibility of annexation for properties in the Rolla UGA and other contiguous areas. This checklist offers a series of questions to be answered and basic data to be collected for evaluation any time the City considers providing City services and utility support to areas adjoining the municipal boundaries where annexation is requested or may be required per existing City ordinance.

1. Background

Current Land Use (acres):

Proposed Land Use and Zoning:

Projected Development Potential (# of residential lots/dwelling units, sq. feet of commercial, office, and/or employment uses):

2. Rationale for Annexation (if Applicable)

Is the proposed annexation and use consistent with Comprehensive Plan Future Land Use map?

Is the proposed annexation contiguous to the current City limits?

Is the proposed annexation consistent with the annexation policies found in the Comprehensive Plan (see below)?

Chapter 4, GM 4: Annexation

The Rolla City Council shall encourage the orderly annexation of land from within the UGA boundary. The Rolla Planning and Zoning Commission may recommend, or the City Council may initiate, the involuntary annexation of an area when any of the following conditions exist.

1. Service to an existing area in the City or area to be annexed, would be improved;
2. To ensure the logical extension of future urban services or that adequate land is available for future urban development;
3. To incorporate existing urban development which is socially, economically, or physically considered a part of the City;
4. To annex all remaining land with highway frontage to prevent inappropriate and uncoordinated development; or
5. To implement the Growth Vision of the City.

Chapter 4, GM 5: Annexation Process

Land proposed for voluntary annexation shall be zoned simultaneously as the annexation process is completed and classified for the existing or proposed use. The City Council will zone vacant, newly annexed ground, brought into the City involuntarily, as Rural Residential. Developed land annexed involuntarily shall be zoned based on the policies found in the Comprehensive Plan.

Have properties in the proposed annexation area been served by City services and utilities in the past?

How will properties in the proposed annexation area benefit if annexation takes place?

How will the City be affected if the annexation takes place?

Is the annexation needed to protect areas of the City in terms of water supply, storm water management, traffic control, to maintain compatibility with existing or proposed uses, or other considerations?

3. City Infrastructure and Services Analysis

What are the initial or one-time capital expenditures associated with the proposed annexation?

- Potable water service (distribution lines, pumping stations, storage tanks, etc.):
- Sanitary sewer service (collection lines, lift stations, plant capacity, etc.):
- Electrical service (service lines, transformers, etc.):
- Streets (new or upgraded streets, traffic signals, etc.):
- Storm water drainage (storm sewer, etc.):
- Public safety services (manpower needs, equipment/vehicles, etc.):
- Parks and recreation (new facilities):

Are there any service issues for any City provided services or facilities associated with the proposed annexation?

4. District Issues

Are there school issues (capacity, etc.) associated with the proposed annexation?

Is the proposed annexation located within the service boundary of a special district (fire district, water/sewer district, electric coop., etc.)?

If so, what impacts will the proposed annexation have on these districts and/or future property owners or residents? What impact will the proposed annexation have on the City's ISO rating?

5. Cost Benefit Analysis

Will the proposed annexation/development result in a positive net fiscal benefit to the City?

If the analysis indicates that there will not be an estimated net fiscal benefit to the City, what mitigating factors should be considered (public safety, City limits clarification, extension of service to areas already within the City, etc.)?

Appendix III: Transportation Memorandum

The Street System

Rolla's street system is foundation of the City's public infrastructure. Street right-of-way (ROW) utilizes 1,205 acres, representing 25 percent of total land use. It is the second largest consumer of land behind residential uses. The street system influences the location, density, and pattern of development. The availability and capacity of Rolla's transportation system is closely linked to the attractiveness of an area for commercial development, the location of employment centers, and residential subdivisions. Often, the construction of a new arterial street, or a major reconstruction, modifies the accessibility of an area. Increased accessibility supports land development potential. Increased development leads to growth in trip production and travel demand. Rolla maintained 123.4 lineal miles of roadway as of 2004, up from 86.6 miles in 1991.

The street system should be designed as a continuous network with several classes of roads, each performing different functions. Each category of street should have ROW and paving widths suitable for its function and any improvements should be based on its use, as demonstrated in the expected traffic volume. Traffic volumes for 2005 are illustrated on the Average Daily Traffic (ADT) map. A ten-year comparison can be found on the table. For a community Rolla's size, the circulation system can reasonably be divided into three categories – minor or local streets, collector streets, and major or arterial streets.

Minor Streets

The purpose of the minor street system is to provide access to adjacent property owners. These streets need to be continuous and non-local traffic should be discouraged. Rolla currently requires minor streets to have a 50-foot ROW with 30 feet of pavement measured from the back of the curb. On-street parking is permitted on both sides. Lowering the pavement width required to 26 feet and restricting on-street to one side could reduce development and street maintenance costs. The City mandates that new development provide adequate off-street parking. Rolla maintained 87.2 lineal miles of minor roadway in 2004 (71 percent of total roadway), an increase from 60.2 miles in 1991.

Collector Streets

Collector streets move traffic from activity centers (like Ber Juan Park) and residential neighborhoods to arterial streets. Right-of-way of 60 feet with 34-foot pavement widths are required for Collectors under Rolla City Code. Collectors are designed to carry between 2,000 to 6,000 ADT and can sustain small commercial or office establishments when limited to intersections. Rolla's collector system includes Lanning Lane, Winchester Road, Olive Street, Vichy Road, Salem Drive, Soest Road, McCutchen Road among others.

Arterial Streets

Sound planning practice recognizes that the best way to accommodate traffic flow in a community is to concentrate most trips on a relatively few, direct and strategically located arterial streets designed to carry significant traffic volumes. Arterials carry traffic loads of 3,000 to 10,000 ADT or greater. In Rolla arterial roadways include U.S. Highway 63, State Highway 72, State Highway BB (10th Street), State Highway O (Pinetree/Forum Ave.), 18th Street and Old St. James Road. A new arterial, Lions Club Drive will be a limited access arterial street that will link Highway 63 and 72 across Rolla's south side. Rolla had 29.4 miles of arterial roadways in 2004. City development standards require arterials to have 80 feet of ROW with a minimum pavement width of 34 feet. The City typically builds arterial roads. Interstate 44 serves a larger regional function and has its own classification and standards.

Average Daily Traffic Count Trends

	<u>2002</u>	<u>2005</u>	<u>02-05 % Change</u>
<u>High Traffic Volume Locations</u>			
I-44 West side of Rolla	29,840	28,080	- 6 %
I-44 East side of Rolla	29,909	36,068	21 %
I-44 North of 63 Overpass	29,022	36,068	24 %
Highway 63/Keeton Road	11,017	11,023	0 %
Highway 63/Ft. Wyman	23,957	22,000	-8 %
Highway 63/2 nd Street	29,682	27,145	-9 %
Highway 63/7 th Street	24,542	22,169	-10 %
Highway 63/14 th Street	17,885	16,366	- 8 %
Highway 63 north of City Limits	8,663	8,299	- 4 %
State Highway 72/Rucker Ave.	13,363	13,740	3 %
State Highway 72/east City Limits	6,027	6,401	6 %
Forum Drive/18 th Street	10,092	11,335	12 %
Forum Drive/10 th Street	9,883	9,510	- 4 %
Kingshighway/Fairgrounds Rd.	14,934	15,256	2 %
Kingshighway/Martin Springs Dr.	15,056	15,129	0 %
Pinetree Rd./south of Soest Rd.	10,348	10,141	- 2 %
Tenth Street/Cedar Street	10,903	10,558	- 3 %
Tenth Street/Highway 63	9,040	9,409	4 %
Rolla Street/north of 5 th Street	3,201	3,693	15 %
Sixth Street/west of Main Street	8,696	10,758	24 %
Eighteenth Street/west of Sharp Rd.	8,835	12,667	43 %

Source: City of Rolla Public Works Department and MODOT.

Major Thoroughfare Plan

Since the development of the first Major Thoroughfare Plan found in the 1971 Comprehensive Plan, the City has experienced considerable development. With this development, a need for additional improved arterial and collector type roadways has arisen. The Major Thoroughfare Plan was revised in the 1996 Comprehensive Plan, although few significant changes were required. Critical improvements, such as the long anticipated Lions Club Drive and the northeasterly extension of this road to connect to Highway V/I-44 interchange, originally part of the 1976 Plan (referred to then as the “Far South Circumferential), were continued. Following the south side annexation effort, City Council adopted Ordinance Number 3464 in 2001 that revised and expanded the Major Thoroughfare Plan (please refer to Chapter 5 for the Major Thoroughfare Plan map).

The Major Thoroughfare Plan calls for four new cross town thoroughfares providing north-south routes and three providing east-west access.

North-South

1. Southview Extension
2. Lovers Lane Extension
3. Sally Road Extension
4. Lions Club Drive Extension

East-West

1. 18th Street Extension
2. Little Oaks Road Extension
3. County Road 5080/5120 Extension

For the purposes of reviewing the Major Thoroughfare Plan, it is assumed that the private automobile will continue to be the dominant form of transportation in Rolla. In other words, it is assumed that no mass transit system, public or private, will be established in Rolla over the planning period.

Carrying Out the Plan

Full implementation of the Major Thoroughfare Plan will require considerable public expenditure. The City, however, should take all necessary steps to assure that adequate ROW is obtained to develop a complete street system, before development diminishes construction feasibility. In many instances, coordination of new subdivisions with the Plan will assure dedication of sufficient ROW in appropriate locations. As new development occurs along existing streets, additional ROW should be obtained to provide for future widening of roads without damaging adjacent property. Developers of new subdivisions are expected to provide at least a portion of the costs because major streets serve abutting property as well as Citywide needs. The City Council should continue its efforts to fund the construction of vital arterial streets, such as Lions Club Drive, with revenues obtained through the use of local sales tax and state transportation funds.

Commuting Patterns

Rolla drivers commute to work considerably less time and distance when compared to their Phelps County and statewide colleagues. The 2004 estimates of commuting patterns prepared by Claritas Inc., showed that nearly three quarters (74.65 percent) of Rolla residents 16 years or older drove to work in less than 15 minutes. This finding suggests that Rolla workers are predominately employed by local businesses and institutions and do not travel beyond Phelps County for employment. At the other extreme, only 6 percent of the Rolla workforce, some 434 persons, drove more than 45 minutes to work.

Pedestrian/Bikeway System

Rolla currently maintains 66.5 lineal miles of sidewalks, including a pedestrian/ bikeway system as shown on the attached map. The City, over the past ten years, has invested considerable amounts of local and state funds in the development of a pedestrian/bikeway system that, to the extent possible, is separate from the street system. Plans have been proposed to further extend the “off-street” pedestrian/bikeway system to the south along Deible Branch associated with the construction of Lions Club Drive. The system would connect with the existing path system at the Green Acres Park.

Railways

The Burlington Northern/Santa Fe Railroad Company owns approximately 6 miles of railroad tracks through Rolla. There are major spurs in the downtown area from 6th to 11th Streets and north of town near Old St. James Road and west of Bridge School Road. The railway system in Rolla has always influenced adjacent land use, particularly heavy commercial or industrial uses. It is not anticipated that this system will be expanded in Rolla.

Airport

The City owns and operates the Rolla National Airport located approximately 12 miles north with access to U.S. Highway 63 in Maries County. The airport is located on 1,200 acres of relatively flat ground and could become an important regional economic development asset. The Federal Aviation Administration (FAA) has designated the Rolla National Airport as a basic transport facility that can accommodate all turbo-prop aircraft up to 60,000 pounds. The City has spent considerable amounts of money to maintain and upgrade the airport, although utility infrastructure is largely absent from the site. An Airport Layout Plan has been adopted for the Rolla National Airport guiding its improvement.

Appendix IV: Utilities and Facilities

Memorandum

Public Utilities Services

Rolla's growth is largely dependent on the provision of public utilities of adequate capacity and quality to accommodate projected development. Critical public utilities include providing safe drinking water, the collection and treatment of wastewater, energy distribution, storm water management, and solid waste management. The focus of this analysis will be the investment and actions required to continue providing these essential public utilities services as Rolla grows.

Sanitary Sewer System

The sanitary sewer system consists of two components, the wastewater collection system and wastewater treatment plants. Rolla has three wastewater treatment plants including the Southeast Treatment Facility (the City's largest capacity plant), the Southwest Treatment Facility, and the Vichy Road Treatment Facility. On average the plants process 3.35 MGD (Million Gallons/Day). Please refer to the Sanitary Sewer System map for the locations of these facilities.

The southeast treatment plant is located off Highway 72 near the juncture of Burgher Branch and the Dutro Carter Creek. This facility was upgraded in 2001 to increase the maximum capacity to 4.125 MGD. The plant serves an area totaling 8,015 acres, including a considerable portion of Rolla and the UGA. At present the southeast plant treats wastewater equal to 28,000 P.E. (population equivalents), and has the capacity to add 13,000 P.E. Rolla's potential growth to the south and east can be accommodated by this facility without additional expansion. However, the far southeast tip of Rolla and a corresponding portion of the UGA remain outside of the southeast treatment plant service area. Wastewater generated by development in this area may have to be pumped over the ridgeline using a force main and lift station until a new treatment plant is constructed further east along the Little Dry Fork Creek. A new southeast treatment plant improvement would likely become necessary beyond the planning horizon of this Plan.

The southwest plant, located off Martin Springs Drive near Beaver Creek and the Vichy treatment facility located near Spring Creek, serve considerably less population and area. Both plants currently have the capacity to treat .40 MGD and now serve 2,500 P.E. and 3,000 P.E., respectively. The Vichy plant service area covers 893 acres with the ability to add 1,000 P.E. to its present treatment load. The southwest treatment plant will be upgraded in 2006-2007 to expand capacity to .60 MGD. This facility serves 1,649 acres and can handle an additional 1,500 P.E. (working toward 7,000 P.E. after the 2006-2007 upgrades). Each plant can manage the growth anticipated in their respective service areas with existing and planned upgrades.

Electric Services System

The Rolla Municipal Utilities (RMU) is owned by the City of Rolla and provides electric service for residential and commercial customers within the corporate limits of Rolla. The electrical

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distribution system serves 8,329 customers for an average of 53 customers per lineal mile of line. There are 6,894 residential meters and 1,435 commercial electric meters. Commercial users, however, consume 70 percent of the average 828,632 kWh used each day, while residential customers use 30 percent. The distribution system is shown on the Electric Distribution System map. Electric power is presently purchased through the Missouri Public Energy Pool (MoPEP) that represents 26 cities in this state. MoPEP exists to procure power at competitive prices and is considering entering into the generation of power to secure electricity supplies for the future. Electricity is distributed through the Union Electric Phelps substation near the Hy-Point Industrial Park.

RMU will support the development of Rolla by increasing the capacity and area coverage of transmission lines as needed, will increase service capacity of existing substations, and will relocate and construct a new bulk power station in north central Rolla to improve service reliability.

Water Distribution System

Rolla is fortunate to have access to a more than sufficient supply of high quality underground water. The RMU water system currently has a well capacity of 13.5 MGD (million gallons/day) in 2005 with a total storage capacity of 6.95 MG. All wells have fluoridation and chlorination treatment equipment. RMU serves 5,761 residential meters (residential uses consume an average of 1.04 MGD) representing 41 percent of total consumption. There are 834 commercial meters—using an average of 1.14 MGD or 45 percent of total consumption. UMR and other entities use the remaining 14 percent. Total consumption averages 2.52 MGD. RMU can provide approximately five times the current average daily water usage.

The water distribution system could be expanded to 9,330 residential meters, an increase of almost 62 percent above current demand, (please refer to the Water Distribution System map). This existing capacity should be able to support projected City growth levels through the planning horizon.

Solid Waste Management System

For the foreseeable future, Rolla's non-recyclable solid waste will be sent to a landfill. Rolla faces the same issues as other communities throughout the nation in terms of solid waste management. Federal and state regulations impact landfill design and operation. Increased regulation leads to a shortage of approved landfill space and that increases the cost to communities. The availability of landfill space for Rolla's households and businesses is, therefore, the ultimate long-term capacity question for solid waste management. Rolla's growing recycling program will certainly help reduce waste volume and the need for more landfill space. However, Rolla currently generates 18,000 tons of solid waste annually, with an average of 1,800 to 2,000 pounds per household each year. Waste volume is projected to increase by 6 percent annually.

The City currently provides solid waste collection and disposal services within the corporate limits. It is assumed that this service responsibility will not change. The Phelps County Landfill Board operates a transfer station near Rolla east of the Hy-Point Industrial Park that collects

Rolla's waste for removal to a landfill. Rolla's solid waste is sent to the Black Oak Landfill near Hartville, Missouri. Rolla has a five-year contract with Waste Management Corp., the operator of this landfill. The Black Oak Landfill is projected to have a 20 + year lifespan at current and projected fill rates. Rolla's projected population and waste growth can be accommodated during the planning horizon at this facility. This conclusion is based on the assumption that Rolla will be able to successfully renew this contract.

Natural Gas Distribution System

Ameren UE provides natural gas service to Rolla. Most of the City is served through the "City Gate" located at North U.S. Highway 63 near the City limits. There are three smaller regulator stations serving the Hy-Point Industrial Park and the eastside of Rolla. The Natural Gas Distribution System map illustrates the existing gas line coverage in Rolla as of 2005. Ameren UE does not anticipate any capacity problems for maintaining Rolla's service levels for the projected growth of business and household customers.

Storm Water Management System

The terrain within the City limits is somewhat varied. Within the City gentle slopes generally exist to the east and south. Much of the land to the west and north in Rolla can be characterized as steep (10-15 % grade) to very steep (15 % grade or better). Three major channels drain storm water from Rolla. Spring Creek drains much of northwest Rolla to the north. Dutro Carter Creek and its tributaries (Burgher Branch, Deible Branch, and Love Branch) drain most of Rolla to the southeast leading to Dry Fork Creek. Little Dry Fork transverses the extreme southeast tip of Rolla and also flows to the east and Dry Fork Creek. Please refer to the Environmental Factors map to view the drainage channels, flood plains, and community topography.

Rolla requires that adequate site drainage and detention be provided for all new development. In 2002 the City adopted Chapter 15 of the Rolla City Code pertaining to the management of storm water and flood control. This code added regulations establishing a Land Development Permit process for all subdivisions and developments greater than one acre. The City requires the approval of Erosion and Sediment Control Plans and a Storm Water Improvement Plans. The primary requirement is that proposed development will not result in additional identifiable adverse flooding of other property or cause environmental degradation. An important component of this system is the requirement that "stream buffers" of at least 50 feet shall be preserved and restricted from development as permanent green zones. These buffers, while adding to the community's open space, will be purchased by the City using funds generated by development fees.

The City has aggressively sought to reduce or eliminate flooding by preparing an Open Channel Improvement Program. To implement this program, the citizens of Rolla have authorized the use of sales tax proceeds to fund regional detention basins and other improvements (please refer to the Environmental Factors map in Chapter 7 that illustrates the proposed locations for these facilities). By the end of 2006, the City will establish seven regional detention basins along the Deible and Burgher Branches as well as Spring Creek consuming approximately 33 acres. The total projected costs will be \$ 3 million. Once implemented, this flood control program will virtually eliminate present and future flooding in Rolla.

Telephone Service

Sprint provides a network of fiber optics throughout Rolla. This “backbone fiber optics” system enables households and businesses to utilize a variety of communication options. The backbone fiber optics provides higher transmission rates, reduced interference, higher quality transmission and many more lines in the same space occupied by older copper lines. This system, according to Sprint officials, has the capacity and can easily be expanded to meet the projected growth needs of Rolla.

Public Facilities

City government does not control many of the community facilities discussed in this section. Consequently, planning for these facilities must be undertaken with the recognition that improving coordination between local entities can promote efficiency and result in a superior outcome for residents of Rolla and the region. This section will address fire protection facility needs, parks, public education, library, and medical facilities.

Public School System

The Rolla Public School District # 31 serves a 198 square mile area including all of the City of Rolla except for a portion of the I-44 right-of-way east of the Highway V interchange. School district population equaled 26,759 in 2000, of which 63.7 percent or 17,049 lived in Rolla. The public school system currently operates three elementary schools (grades K-4), one middle school (grades 5-7), one junior high school (grades 8 and 9) and one senior high school. The district also has two vocational/technical buildings serving local as well as students from other districts. The total system enrollment for January 2005 was 4,047 students. The average enrollment over the past seven fall enrollment periods has been relatively stable at 4,089.

A school district’s enrollment will vary over time depending on many demographic and economic variables, some difficult to predict. Individual building use will likewise vary according to the same factors that include local birth rates, migration, resident aging, and city development patterns. The variance for elementary schools, in a system like Rolla’s where there is only one middle school, junior and senior high school, will be particularly influenced by new residential development. Much of Rolla’s residential growth has been in the south side (mostly single-family units) and in the northeast with multi-family construction. As a result, Wyman Elementary School maintained a high level of enrollment at 509 as of January 2005. Truman Elementary School, located on 18th Street, had 490 in January. When the Mark Twain Elementary School enrollment figure is considered (422 in January 2005) it is evident that the elementary school component of the Rolla Public School District may be nearing maximum capacity. The maximum enrollment capacity for elementary schools in Rolla is considered 500 students. Enrollments in excess of this number may lead to undesirable student/teacher ratios and classroom overcrowding.

The senior high (capacity between 1,200 to 1,300 students) had a January enrollment of 1,070. The junior high, with a maximum capacity of 720-750 and the middle school (capacity of 1,100) had enrollments of 647 and 909 respectively. The five-year enrollment projections for the middle

school, junior high, and senior high indicate that these facilities will have the capacity to support anticipated student load.

The Public Facilities map identifies the location of existing school and other public facilities. A one-mile radius around the elementary schools is shown to illustrate service coverage for each school. The map shows that a significant portion of Rolla's south side is not within the one-mile service radius of an elementary school. This fact alone may not fully support the need for a fourth elementary school to serve southeast Rolla. The statement is more compelling when the current building capacities are considered, particularly Wyman Elementary School, in conjunction with Rolla's projected student population growth.

By the 2006-07 school years, according to the projections developed by the Rolla Public School system, enrollment at Rolla's three elementary schools will exceed 1,500 for the first time since the 1996-97 school years. Enrollment levels are projected to reach 1,616 by the 2009-10 school years. A new south side elementary school may be justified by the end of this decade to keep class size down and reduce the need to bus additional students to Wyman and Mark Twain Elementary Schools. Most of Rolla's population growth will continue to occur in the south side as new subdivisions are developed. New single-family owner-occupied housing units tend to generate more pupils than other types of development.

Assuming a new elementary school is needed, what standards should be used to determine site size? The Missouri Department of Elementary and Secondary Education (DESE) suggest a minimum site of 10 acres plus 1 acre for each 100 students. Therefore, the Rolla Board of Education should consider acquiring at least a 15-acre site during the next few years. Acquiring the site in advance of need will reduce the impact of inflating land prices on the cost of the project and will allow the integration of facility planning between local governments, utility companies, and the development community.

Fire Protection System

The 2001 Fire Protection Study provided City officials with information necessary to guide decision-making concerning improvements to Rolla's fire protection services. The study made several recommendations concerning procedures and staffing, but was clear that a third fire station was needed soon to improve response coverage in the south side. Rolla currently has two fire stations (please refer to the Fire Protection System map). In order to improve response time and help lower fire insurance costs, a third station should be located in the vicinity of Lions Club Drive and Southview Drive.

The need for this facility will increase since much of Rolla's residential growth will be in the south side. The consultants stated that the timing for a third fire station should be linked to the growth of hydrants in the south side. Under current development trends in the south side, the new hydrant threshold of 74 would be reached by 2009. A fire station typically requires a 1.5 to 2 acre site (depending on training needs and collateral uses) and building areas of 5,400 square feet to accommodate one pumper/tanker, one ladder truck, and a crew of 12.

The study also recommended, once a third fire station is operational, that fire station # 2 should be relocated from its present location near downtown. The replacement site should be northwest

of the present location to be more accessible to the areas north of I-44. Relocation of fire station # 2 would enable the existing building to be used for other purposes, such as a senior center.

Parks and Open Space System

The Parks, Recreation and Open Space Master Plan prepared by Bucher, Willis & Ratliff was presented to City Council in September 2003. Although not adopted by City Council as an amendment to the Comprehensive Plan, the Master Plan provided an excellent assessment of Rolla's parks and open space system. The planning process used to prepare the Master Plan relied on a variety of techniques to arrive at a series of improvement goals covering the 10-year planning horizon envisioned in the Plan. These included workshops, focus groups, a community attitudinal survey, and public meetings.

The Rolla park system had 219 acres of parks at 28 different locations as of 2003. Rolla is blessed with two publicly available, but privately owned and maintained park and open space areas such as the Lions Club Park and the Audubon Art and Nature Center. These areas, when added to the City owned land, total 459 acres or 9.6 percent of Rolla's total land use. Not included in this figure is the University of Missouri Rolla's 70-acre golf course that is available for community use.

The Master Plan identified goals and findings pertaining to the future physical development of Rolla's park and open space system. They are as follows:

1. Additional parkland is needed in the south side of Rolla where residents do not have equitable access to the system. The consultants stated that the problem was not a deficiency of land in the overall parkland inventory. Indeed, based on the standard of between 7 to 10 acres of usable parkland per 1,000 residents, the City had a small surplus of 4.77 acres when using the 10 acres per 1,000 standard. If the City were to include the community park acreage provided by the Lion's Club, the City would further exceed standards by 160 acres. The problem was more an issue of land/facility distribution.

The area near the intersection of Lions Club Drive and Southview Drive was recommended in the Plan as a preferred location for a community-scale park. A community park of at least 25 acres capable of providing space for active and passive recreation activities was recommended. Part of this park could be acquired and used for storm water detention and as part of the buffer area required in flood plains. It may also be an ideal location for a third south side fire station.

2. There are 10 undeveloped parcels dedicated as parkland which total 17.93 acres. These "mini" parks do offer neighborhood-based open space, but are expensive to maintain and develop. Some of the less well-known undeveloped mini parks could be sold or traded to secure land more suitable for the park and open space system in the future.
3. Link parks and other points of interest in the community by developing a greenway and trail system. The existing trail system of 7.2 miles has been well received and utilized. Indeed, the continuation of this system was strongly supported by Rolla

residents based on the attitudinal survey. A major addition planned for this system would be the trail along Lions Club Drive and Deible Branch cutting diagonally across southern Rolla and extending to State Highway 72, ultimately completing the circuit by connecting to Green Acres Park as shown on the Pedestrian/Bikeway Plan map. Another trail addition could follow near Love Branch, along Burgher Branch including Coventry Park and to the east along 10th Street.

The trail system does not, at present, extend to northern Rolla. An additional trail improvement program should be developed in conjunction with the development of the Audubon Art and Nature Center, perhaps connecting to the City trail system south of the UMR campus at 10th Street.

4. The need for additional athletic fields; namely, a full size soccer field (collegiate); dedicated baseball field with infield grass, and an adult/youth softball field was suggested in the Master Plan. Ber Juan Community Park is the proposed location for these facilities. It should be noted that the Rolla Public School District has plans, in conjunction with several community service clubs, to construct a competition grade baseball and soccer field near the high school at what is referred to as the Bray Sports Complex adjacent to Ber Juan Park. These facilities would, of course, be owned and maintained by the school district and would not necessarily be available for public use or tournament play. The opportunity, however, of coordinating the use of the school district facilities with those planned for Ber Juan Park could have significant recreation and economic benefits for Rolla.
5. The Plan urged the continuance and expansion of strategic partnerships involving the development and use of park and open space assets. Partnerships between such entities as the Audubon Society, Lion's Club, the Rolla Public Schools, and volunteer groups such as ACORN (A Community Organized to Restore Nature) should be used to increase the recreation venue in Rolla. The Master Plan acknowledged the importance of improving the physical appearance of Rolla's entryways and street corridors – linking these improvements to efforts to upgrade the park and open space system.
6. The issue of funding City park and open space land acquisition efforts, as well as the investment of public resources for park improvements, remains an on-going concern. Rolla has relied upon several sources to acquire and develop its park and open space system, including local tax dollars, state and federal grants, the mandatory park dedication or fees in-lieu ordinance, and most recently through land purchased for storm water management. The Plan stressed the need to increase funding for parks and open space acquisition, development and maintenance.

The controversy around the potential sale of Buehler Park for commercial development has continued. The interest is due to the fact that this 3.2-acre park is located near the interchange of Kingshighway and I-44, increasing its value for commercial reuse. Buehler Park is an attractive although underutilized park, being isolated from Rolla's resident population and neighborhoods. It is too small to be considered a neighborhood park (minimum of 5 acres required) and too constrained by adjacent commercial and institutional uses to be expanded. Sale of this property for commercial use represents a unique opportunity to inject significant new dollars

into the park and open space system. However, as noted in the Master Plan, Buehler Park does serve a role as an entryway park and a place for tourists to visit. The acquisition and development of land, with less commercial value, near this interchange as a replacement tourist-oriented park, could be a reasonable compromise.

Public Libraries

The Rolla Public Library is located downtown at the intersection of Pine and 9th Street. The building was originally opened in 1915 as a U.S. Post Office and became the site of the public library in 1965. The library was expanded in 1983 and 1995 to total 8,000 square feet and with the current planned addition will have 10,500 square feet to accommodate programs and the 57,000 books, tapes, and other materials available for the library's patrons. The building sits on a 12,540 square foot lot; and cannot be further expanded because acquisition of adjacent properties would be prohibitively expensive. UMR has the 72,000 square foot Curtis Laws Wilson Library with 264,000 volumes. The general public may use the library with picture identification.

The role of libraries as repositories of books and other materials has evolved with the advent of the internet. Increasingly, major library collections are being digitized and made available to users without the need to physically visit a library. Traditional library functions will continue to be important services, but libraries of the future will likely resemble community centers with poetry readings, children's events, how-to classes, free internet access, art exhibits, language classes, etc. Building space needs and location should be influenced by this emerging reality.

There are some generally recommended standards from the Public Library Association to guide facility planning. There are also some national benchmarks. For example, in 1996 there were 2.8 books per capita in public libraries throughout the nation with a range of 5.2 in Maine to 1.5 in Tennessee (National Center for Education Statistics, March 2001). Rolla had 3.2 books per capita in 2005. The following table applies some of the standards to project Rolla's library space needs for 2005 to 2020.

Rolla Library Facility Needs, 2005-2020

	<u>2005</u>	<u>2010</u>	<u>2015</u>	<u>2020</u>
Rolla Population Estimate	17,861	19,343	20,837	22,566
Building Sq. Ft. Per Capita (0.65)	11,610	12,573	13,544	14,668
Acres Per 1,000 Residents (0.06)	1.08	1.14	1.26	1.32

Source: Public Library Association, City of Rolla Community Development Department.

The results of the calculations from the table would suggest that Rolla's leaders should begin planning for a new public library of approximately 15,000 sq. ft. on at least a 1.5-acre site to accommodate future growth. A second more traditional space planning guide, the "Public Library Space Needs: a planning outline from the Wisconsin Department of Public Instruction", used

space allocation standards by function to conclude that a total of 11,400 sq. ft. would be needed for a facility to serve a community of 22,000 population.

The apparent urgency of this need, however, is somewhat mitigated by the impact of UMR's Curtis Laws Wilson Library. The Rolla Public Library serves a diverse population base from the City and surrounding area that may not have ready access to the UMR library. The provision of an adequate public library with the space to offer a full range of modern library services is an important component of the quality of life. Once vacated, the current library building could have a number of adaptive re-use options such as a community arts center, local government offices, or private office space.

University of Missouri-Rolla

UMR is a strong; vital, component of Rolla's economic, cultural, and social infrastructure. The 249-acre campus, consuming much of Rolla's northwest quadrant, is certainly the single most important land user in the community. Beyond its impressive physical footprint, UMR's impact extends to such concerns as traffic flow, pedestrian safety, neighborhood preservation, urban redevelopment, housing development, urban design, etc. The direction of campus growth remains the City's main concern because that growth will influence the other issues. As a state institution, UMR is not subject to Rolla's development regulations, although there are many opportunities for the City and University to cooperate. Coordinating elements of UMR's 2004 and future campus Master Plans with Rolla's updated Comprehensive Plan is one of those opportunities.

Past University master plans have referred to the UMR campus as being "fragmented". The UMR campus actually has three components, the academic core where most of the classroom and administrative functions reside, the golf course property/Bullman Multi-Purpose Building, and the land area to the northwest of U.S. Highway 63 where various fraternities/sororities and campus support facilities are located (please refer to the Public Facilities map). Strategies to better unify the three areas have been an on-going challenge for campus planners. UMR does own a considerable amount of vacant land northwest of I-44 that could accommodate future campus growth. However, this area is remote from the main campus making it less desirable for most improvements.

The 2004 Master Plan presented an extensive list of building improvements, upgrades and demolitions that could take many years to complete. An impressive landscaping program was also presented. With the exception of the Residential College Building # 1 and 2, all of the improvements were planned for the core or main campus. The Plan identified "Potential Land Holding" areas. One Potential Land Holding area was shown to the west of 63 Highway between 11th Street, Poole Avenue, and University Drive. A second area was shown generally east of Pine Street between Elm, 14th and 18th Streets. The acquisition of land in the neighborhood to the west of 63 Highway, while helpful in the future to better link the fragmented components of the campus, might have a negative impact on the Powell Addition neighborhood and could increase vehicular/pedestrian conflicts on 63 Highway.

The presence of a major regional highway cutting through the campus has created traffic flow and pedestrian safety problems that UMR, in conjunction with MoDOT and the City, have been working to resolve. The improvements to University Drive and efforts to re-orient Rolla's

primary entryway from I-44 to the University Drive interchange is an example of good cooperation and sound economic long-range thinking.

Phelps County Regional Medical Center

The PCRMC is one of the leading regional referral centers in Missouri serving a population base of 150,000 (60-mile radius) with more than 1,300 full/part time employees in a 350,000 sq. ft. facility licensed for 232 beds. The hospital complex is located on 20.9 acres. In 2003 PCRMC completed a 72,000 sq. ft. expansion project and has released plans to add additional medical office space north of the hospital as well as develop a secondary entrance to the hospital property from 14th Street. The primary Comprehensive Plan objective would be to balance the hospital's need for more growth area and the Powell Additions resident's desire to maintain the integrity of their neighborhood from further institutional encroachment. PCRMC is not subject to City development regulations.

Rolla National Airport

The Rolla National Airport is owned by the City and is located approximately 12 miles north from Rolla on 63 Highway at the intersection of State Highway 28. There are 1,200 acres available for development. The airport, although located in Maries County, is considered in the Comprehensive Plan Update because it represents a significant economic development opportunity for the City and region. The City could impose development regulations through a covenant because Maries County does not have planning and zoning or building codes.

