

Rolla Comprehensive Plan Update, 2005

TRANSPORTATION MEMORANDUM 1/18/2005

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 Table 1. 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.

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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.

TABLE 1
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

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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 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.

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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.