

Chapter Three

Existing Conditions

Pullman, located at latitude N 46°43'40" and longitude W 117°11'00", is situated in the southeastern part of Whitman County, Washington, in the heart of the agricultural region known as the Palouse (see Figure 1-1). The city occupies approximately eight square miles of land, with an estimated 1998 population of 25,070. It is the largest city in Whitman County.

LAND FORM

The rich farm land of the Pullman area originated as wind-deposited silt or loess, commonly known to geologists as the Palouse Formation. The source of this material was most likely from the silt and clay outwash from the ice sheets of the Pleistocene era. The hilly topography of the region is the result of erosion. These rolling hills surround narrow stretches of flat land, which define the area's drainage patterns. Ground elevations within the city range from approximately 2,300 feet to more than 2,700 feet above mean sea level.

The Pullman area contains eleven major soil types, as identified in the Soil Survey of Whitman County, Washington, prepared by the U.S. Department of Agriculture, Soil Conservation Service (1980). Most of these soils are well-drained, moderately deep, and moderately permeable. Of the area's soil types, the Thatuna silt loams with slopes greater than seven percent are identified as having the potential for severe erosion hazard. In addition, some areas with steep slopes may be considered as landslide hazard areas. Soils with limitations for building development are identified in Pullman's Growth Management Manual.

Missouri Flat Creek, Dry Fork Creek and Paradise Creek meet the South Fork of the Palouse River in Pullman. The drainage basin of the South Fork of the Palouse River is approximately 132 square miles, located north, east, and south of the city. The eastern boundary of this drainage basin is the crest of the Moscow Mountains in Idaho, at an elevation of approximately 5,000 feet.

Pullman is susceptible to periodic flooding, with the earliest of such recorded events occurring in 1884. The largest flood event since the settlement of the city occurred in 1910, when flood waters (estimated to be a 125-year event) destroyed bridges, buildings and streets in the downtown area. One-hundred-year flood events occurred in 1948 and in 1972, and smaller events happened more recently, in 1996 and 1997. Floodways and flood fringe areas are identified on maps prepared in 1981 by the Federal Emergency Management Agency for the National Flood Insurance Program. Figure 3-1 shows flood hazard areas.

Pullman, along with all of Whitman County, is identified in the Uniform Building Code of Washington State in Seismic Zone 2B, a medium-risk zone. There are no known faults

likely to create a seismic hazard within the city. Pullman also contains no mine or volcanic hazard areas.

AIR AND SURFACE WATER QUALITY

There is no data available relative to general ambient air quality conditions for the city of Pullman. However, the Pullman area is considered to be free from any excessive air pollution, except for seasonal smoke from field stubble burning and dust storms from cultivated fields.

Automobile traffic in Pullman is a potential source of air pollution emissions in Pullman. These emissions are carbon monoxide, hydrocarbons, nitrogen oxides, and particulates.

Local surface water quality has been adversely affected by agricultural and urban activities in the region. Up-river, mining, logging, and other operations have also exacerbated water quality. The South Fork of the Palouse River and/or its tributaries have exceeded federal water pollution standards for temperature, turbidity, nitrate concentrations, and coliform density. In response to this, the Palouse Conservation District in Pullman has initiated a local watershed planning effort by organizing a group of scientists, farmers, public officials, and interested citizens to identify problems and propose solutions.

Local wetlands can play an important role in improving surface water quality, as well as providing valuable habitat for wildlife and vegetation. Pullman's Growth Management Manual (GMM) protects the city's wetlands and associated buffer areas by either preventing their disturbance or requiring that their functions and values be replaced through mitigation measures.

Under the Washington State Four-Tier Wetlands Rating System, wetlands are ranked as Category I (highest quality) through IV (lowest quality). Although Pullman has no known Category I wetlands, the GMM does designate the following areas as Category II wetlands:

- South Fork of the Palouse River
- Missouri Flat Creek
- Paradise Creek
- Sunshine Creek
- Terre View Wetland
- Airport Road Creek

The city contains a number of Category III and IV wetlands as well. Known Category III and IV wetlands are well-dispersed throughout the city and new ones are continuously being identified as development is proposed for vacant properties

VEGETATION AND WILDLIFE

Within the city, there are four species of plants listed as endangered, threatened, or sensitive by the state of Washington. They are Palouse goldenweed, Spalding's silene, Palouse milk-vetch and Jessica's aster. A more detailed description of these plants can be found in the city's Growth Management Manual (GMM).

Plant species designated to be of possible local importance in the GMM are the Black Hawthorn/Snowberry plant community and the Idaho fescue/Snowberry plant community. These habitat areas are found in various locations throughout greater Pullman.

There are no state-designated endangered, threatened or sensitive fish or wildlife species identified in Pullman. Known wildlife habitats identified as being of local importance in the GMM are the city's parks and cemeteries, wetlands and their respective buffer areas, the Pullman-Moscow Regional Airport, and the city nursery area located near Douglas Drive. Animals (such as deer, beavers, and coyotes) and birds (such as pheasants, hawks, and owls) are plentiful in the region.

Designated plant and wildlife habitat areas in Pullman are protected through the provisions of the GMM in a similar manner to that described above for wetlands. The manual calls for protection of the resource either through preservation of habitat or compensatory action for displacement impacts.

LAND USE

The city features several types of land uses, varying in intensity from open space to industrial. Table 3-1 shows land use acreage by type in 1998, and Figure 3-2 shows where these land uses are located.

The urban core of the city began at the confluence of Missouri Flat Creek and Dry Fork Creek. This downtown center serves the residential areas that have developed on Pullman's four hills. Surrounding the city on all sides is prime agricultural land, regarded by many as some of the richest soil on the planet. As development has occurred in and around Pullman, agricultural uses have been displaced. It is anticipated that such displacement will continue to occur as development pressures persist.

Since its inception in 1890, Washington State University (WSU) has virtually defined the city's growth and development patterns. Nearly 50 percent of land within the city limits is owned or controlled by the university. In addition, many land use decisions in other areas of the city are directly or indirectly affected by WSU.

The city's residential areas have developed in a compact development pattern of single-family and mixed density areas. Pullman has a greater percentage of high density, multi-family residences than other cities of similar size in eastern Washington, primarily

in response to the market demands presented by students, faculty, and staff at WSU. There are more units of multi-family housing than single family homes.

Table 3-1		
Existing Land Uses within City Limits		
Land Use	Acres	Percent
Residential	1,413	37.2
Low Density	1,093	28.8
High Density	320	8.4
Commercial	242	6.4
Industrial	222	5.8
Parks and Open Space	86	2.3
Public	210	5.5
WSU	1,622	42.7
TOTAL	3,795	100.0
Source: City of Pullman (1998)		

Within the more recent past, increasing amounts of land have been devoted to industrial development. Also, for the first time, industrial development is occurring in areas located outside floodplains.

Some property within the city is utilized for agricultural purposes. However, the city has not designated any land to be of long-term commercial agricultural significance, as permitted under the provisions of the Washington Growth Management Act. There is also no property categorized as forestland in Pullman.

Mining is permitted as a conditional use in some industrial areas of the city. However, this activity is not considered to have any long-term commercial significance. Therefore, no mineral resource lands have been designated in Pullman.

Pullman includes vacant property sufficient to accommodate substantial growth within the city limits. Estimates of available land are shown in Table 3-2.

Acres of Vacant Land in 1998 by Land Use Category within City Limits	
	Acres
Low Density Residential	481
High Density Residential	434
Commercial	209
Industrial	359

TOTAL	1,483
Source: City of Pullman (1998)	

POPULATION AND DEMOGRAPHICS

The city's 1998 population was estimated at 25,070. This number represents an increase of 6.8 percent over the 1990 U.S. census count of 23,478.

The city estimates that, in 1998, the number of WSU students living in Pullman was 14,500 (comprising 58 percent of the total population). Of course, during semester breaks and throughout the summer months, the student population in town decreases markedly.

Due to the large contingent of university students in the community, Pullman's population is quite young when compared to other cities. About two-thirds of the city's population is 24 years old or younger. Approximately five percent of the population is 65 years of age or older. Through the 1990's, efforts have been made to retain more retirees in Pullman through the provision of appropriate housing and services.

1990 census figures show that per capita income in Pullman was \$9,375 and median household income was \$17,886. For the state of Washington as a whole, per capita income was \$14,923 and median household income was \$31,183. The income figures for Pullman are lower than those for the state primarily because of the substantial student population here.

The racial composition of the city's population reflects a largely homogenous, white population, which comprises approximately 88 percent of the total population. The largest non-white racial group is Asian/Pacific Islander, at 8.5 percent of total population. Blacks represent 1.9 percent of the population, while less than one percent are listed as Native American. Persons of Hispanic origin, regardless of race, comprise 2.3 percent of the population.

PROJECTED GROWTH

In the past, growth in Pullman has been very closely tied to growth at WSU. While WSU is expected to continue to be a major driver of change in the city, the trend in recent years has been to a diversification of the economic base. The WSU Research and Technology Park and Port of Whitman County Industrial Park are home to a variety of businesses building off the research and training of the academic community.

The Washington Office of Financial Management (OFM) prepares population and employment forecasts for each county and the state as a whole. State law mandates use of these forecasts as the basis for long range planning by local jurisdictions. Distribution of the forecast growth within the county is left up to the jurisdictions in the county. Whitman County is also in the process of updating its Comprehensive Plan, and

has identified the Pullman area as the likely focus for much of the growth in the county. Table 3-3 shows the historic and forecast growth for the county, city, and WSU.

As shown in Table 3-3, the projected population for Pullman in the year 2020 is 33,650. This figure is derived from the OFM forecasts mentioned above. It is important to note that accurate population projections are difficult to attain, particularly when the target date is 20 years or more into the future. There is now, and probably always will be, much debate about the likely extent of future growth in student enrollment at WSU and how that will affect the overall population in the community. Certainly, it is acknowledged that both student enrollment and city population in 2020 could be much lower than that forecasted in this plan. However, apart from state mandates related to the use of OFM's figures, it is considered prudent to use the projections shown in Table 3-3 for this Comprehensive Plan because anticipating the maximum growth scenario places the city in the best possible position to proactively prepare for its future.

ECONOMY

The predominant force in Pullman's economy is Washington State University. WSU is by far the largest employer in the city, with 6,340 full and part-time employees (including about 1,200 graduate student assistants); the city's total employment in 1999 is estimated to be about 12,000. Besides the Pullman residents who work at the university, WSU attracts a substantial number of employees from neighboring towns, including Moscow, Colfax, Clarkston, and Lewiston. A recent analysis found that 50 percent of WSU's classified staff and 18 percent of its faculty commute from homes located outside of Pullman. The influence of WSU provides great stability to the local economy, as major universities are not as susceptible as many private industries to fluctuations in the overall economy.

Table 3-3			
Historic and Projected Population and Enrollment			
Year	WSU Student Enrollment ¹	Pullman ²	Whitman County ³
1890	N/A	868	N/A
1900	389	1308	25360
1910	1016	2602	33280
1920	1911	2440	31323
1930	3270	3322	28014
1940	4035	4417	27221
1950	5446	12022a	32469
1960	6837	12957	31263
1970	14520	20509	37900

1980	16786	23579	40103
1990	15970	23478	38775
2000	17050	25773	42884
2010	23550	29070	48370
2020	23500	33650	55992

Source:

1 1890-2010: WSU Institutional Research Office; 2020: City of Pullman. based on WSU Institutional Research Office data (all figures represent fall enrollment for the Pullman campus).

2 1890-1990: U.S. Census; 2000-2020: City of Pullman, based on Washington Office of Financial Management forecasts for Whitman County.

3 1890-1990: U.S. Census; 2000-2020: Washington Office of Financial Management.

a The sizeable increase in Pullman's population between 1940 and 1950 is due to the inclusion of university students in the overall total, a policy of the U.S. Census Bureau which has continued since that time.

The community also understands the need to diversify its economy so as not to become overly dependent on any one entity. With the assistance of economic development organizations such as the Port of Whitman County, WSU Research and Technology Park, Pullman Chamber of Commerce, Palouse Economic Development Council, and Whitman County Business Development Association, the community has made great strides in facilitating the expansion of existing business and the recruitment of new industry. Growth of high technology firms in the city has been of particular significance. Currently, apart from the university, the largest employers in the city are Schweitzer Engineering Laboratories, the Pullman School District, Pullman Memorial Hospital, the City of Pullman, the Student Book Corporation, and two grocery stores: Dissmore's and Safeway.

Precise data for city employment are not available for jurisdictions the size of Pullman. However, employment information for Whitman County is illustrative in depicting the character of the local economy. The county's nonagricultural employment and average wages since 1970 are shown in Table 3-4. This table shows recent growth in manufacturing (59% increase between 1970 and 1996); retail and wholesale trade (81% increase); finance, insurance, and real estate (71% growth); services (99% increase); and government (53% growth). The average 1996 wage of \$23,480 ranks this county 14th out of Washington's 39 counties in this category. Due to the consistency of the local economy, unemployment in Whitman County is usually the lowest in the state. In 1996, the unemployment rate in the county was 2.3 percent, as opposed to 6.5 percent for the state as a whole.

Although they do not generate much in the way of continuing employment, two other significant factors in the Pullman economy are real estate holdings and agriculture. Because the majority of the city's residents are college students who tend to live in renter-occupied housing, much of the private property in Pullman is owned by landlords. It is estimated that about 350 acres of land in the city is developed with rental housing units. Collectively, this represents a substantial investment by a considerable number of local resident and absentee landowners. With respect to agriculture, Whitman County leads the state in the production of wheat and barley, and farm income constitutes about one tenth of all earned income in the county. Nevertheless, only about three percent of total county employment is involved in farming because local crops are capital rather than labor intensive.

Table 3-4				
Nonagricultural Employment and Average Wage in Whitman County, 1970-1996				
	1970	1980	1990	1996
Construction	460	220	230	380
Manufacturing	220	170	190	350
Transportation & Utilities	440	360	330	390
Retail & Wholesale Trade	1820	2350	2970	3300
Finance, Insurance & Real Estate	240	320	370	410
Services	920	1130	1770	1830
Government	7300	9120	10500	11140
	11400	13670	16360	17800
Average Wage	\$5442	\$13375	\$19185	\$23480
County Employment as % of State Employment	1.06%	0.85%	0.76%	0.74%
Source: Washington State Employment Security Department				

Retail sales in the city is another indicator of the health of the economy. Table 3-5 displays retail sales from 1993 to 1997 for Pullman as measured against the average of the top 50 Washington cities listed in the State Department of Revenue's Quarterly Business Review. (In 1997, Pullman placed 37th in retail sales among those cities registered in this publication). As shown in the table, recent retail sales in this community have grown at a much faster rate than that of comparable cities in the state. From 1993 to 1997, Pullman's retail sales increased by 52 percent; during that same period, the average retail sales of the 50 cities in this analysis grew by 24 percent.

Table 3-5
Taxable Retail Sales for Pullman and the Average Taxable Retail Sales of the Top 50 Washington Cities Listed in the Department of Revenue's Quarterly Business Review 1993-1997 (\$000)

Year	Pullman	% Change	Average of Top 50 Cities	% Change
1993	\$148,209	--	\$791,544	--
1994	\$186,107	25.6%	\$835,369	5.5%
1995	\$200,296	7.6%	\$863,717	3.4%
1996	\$214,673	7.2%	\$896,122	3.8%
1997	\$225,084	4.8%	\$978,743	9.2%

Source: Washington State Department of Revenue

The neighboring city of Moscow has, for some time, captured the bulk of the retail trade in the Palouse region. Many in the Pullman community would appreciate a better balance between the two cities with regard to shopping and entertainment opportunities. Recent commercial activity in Pullman indicates that progress is being made toward this objective.

HOUSING

A wealth of information has been gathered about the availability, condition, and cost of housing in Pullman. Two recent documents prepared are A Housing Availability, Affordability and Condition Assessment and Strategy for Pullman, Washington, prepared in January, 1997 by the Pullman Housing Task Force, and the Washington State University Ten-Year Housing Plan Final Report, prepared in 1995 by Ira Fink and Associates, Inc.

The Pullman housing market is driven by Washington State University. Housing for university students, faculty, and staff occupies about two-thirds of the city's housing stock. From the 1970's to the mid 1990's, pressures from university growth created an extremely tight housing market, where estimates of rental vacancies ranged from 1.2 percent to 3.0 percent. Industry standards suggest that a vacancy rate of five percent is considered "full occupancy" for rental housing, as this rate allows for the optimal operation of the free market. Homeowner vacancy rates in 1996 were low (estimated at 1.1 percent), creating a "seller's market," and keeping housing prices high. According to information from the Pullman Chamber of Commerce, the estimated 1995 average selling price for a three-bedroom home was \$118,000, while the estimated rent for an off-campus three-bedroom apartment was \$750. These prices are significantly higher than prices found elsewhere in Whitman County and much of eastern Washington.

Starting in late 1996, vacancy rates for both owner- and renter-occupied housing began to rise as residential construction projects continued and enrollment at the university

stabilized. This has had a moderating influence on single family home prices and apartment rents.

The average age of Pullman's housing stock appears to be relatively young, as compared to other Whitman County communities. According to 1990 U.S. census data, only 17 percent of the city's dwelling units were constructed prior to 1950. Nearly half (47.7 percent) of all units were constructed between 1970 and 1990. Owner-occupied dwelling units appear to be older, on average, than rental units.

The Planning Department estimates that, as of April, 1998, the Pullman housing inventory consisted of 2,620 single-family dwellings, 875 dwelling units in duplexes, 3,740 dwelling units in multi-family dwellings, 515 mobile homes, and 42 group quarters buildings (fraternities, sororities, and nursing homes). These figures exclude all residential units at WSU.

TRANSPORTATION

The movement of people and goods in a community is critical to all of its functions. In Pullman, various modes of transportation are available to serve those who live, work, or travel in the city. These different modes are described in the following sections.

Motor Vehicle Circulation

The vehicular transportation system in Pullman is dominated by trips to and from the university and the downtown, as displayed in the average daily traffic map (Figure 3-3). The city's topography defines its neighborhoods and traffic patterns. The street network includes many small grid systems with limited continuity between grids. The city's hills, rivers, and railroads restrict the continuity of streets between grid patterns.

Downtown Pullman is the area where the greatest investment in infrastructure has occurred. The streets, sidewalks, and parking areas (both on-street and off-street) are essential to the function of the area as a local and regional commercial and employment core. The downtown location, in a valley surrounded by residential neighborhoods, acts as a natural focus for commercial and civic activity.

The downtown street system experiences congestion from traffic, including a considerable amount of truck traffic, traveling through the city on state highways. This pattern of congestion makes living, shopping, or working downtown less convenient, and therefore less desirable. The relocation of through-traffic would benefit downtown merchants, shoppers, and residents.

There are three national or state highways that are located in the vicinity of Pullman. U.S. Highway 195, which connects Spokane to the Lewiston area, bypasses Pullman to the west. State Route (SR) 270 is a seven-mile state highway beginning at its intersection with U.S. 195 west of the city, traversing through downtown, and extending east to the Idaho border and the city of Moscow. SR 27 begins at its intersection with

U.S. 195 near the south boundary of Pullman and proceeds north through the center of the city to Palouse.

The city employs a "functional classification system" for its streets in compliance with state law. This system involves the designation of local roadways in a hierarchical arrangement to guide future use and development of these roadways and adjacent properties. Streets are classified as major arterials, secondary arterials, collector streets, and local access routes. This classification system directly relates to design standards adopted by the city. The "Transportation Plan" section of the Transportation Element (Chapter 7) includes a more detailed description of the above concepts and displays the city's Arterial Street Plan Map.

Pedestrian and Bicycle Circulation

Prior to the 1970's in Pullman, very little focus was placed exclusively on improvements for pedestrian or bicycle transportation. Sidewalks were installed adjacent to city streets, and informal paths were established where streets did not exist.

In 1974, the city developed a pilot project to test bikeway standards following recommendations by the 1971-1973 Pullman Bicycle Trails Committee. The project included a route along Grand Avenue, a WSU/downtown/Pioneer Hill loop, and establishment of minor bikeways along Stadium Way and Valley Road, on Military Hill, and on Sunnyside Hill.

In 1986, following a campaign by the Pullman Civic Trust, the Centennial Path was created to provide a link between the WSU campus and downtown along Reaney Way, Pearl Street, and Spring Street. An offshoot "Palouse Path Task Force" was formulated to encourage the development of a path in the Pullman-Moscow corridor, an effort that would eventually lead to the establishment of the Bill Chipman Palouse Trail. During this time, WSU also took an interest in improvements for nonmotorized transportation. For example, the Glenn Terrell Friendship Mall, a pedestrian way adjacent to Holland Library and the Compton Union Building, was constructed in 1994.

Building on this momentum, the City of Pullman adopted a Pedestrian/Bicycle Circulation Plan in May of 1996. This plan was prepared by the Ad Hoc Pedestrian/Bicycle Circulation Committee, with review by the Planning Commission, and adoption by the City Council.

In preparing this plan, an extensive amount of pertinent information was collected. Surveys conducted during the course of preparing the plan found that approximately 63 percent of the respondents walk outdoors every day and about 30 percent ride a bicycle at least once a week. Responses to questionnaires indicated that pedestrians, joggers, and bicyclists all tend to use arterial streets most often while traveling. An inventory of city sidewalks found that some of them were poorly maintained (uneven surfaces, overgrown vegetation, or seasonal accumulations of snow or gravel) or were discontinuous, thereby forcing pedestrians to walk in the street. The inventory of the

city's bikeways revealed several deficiencies, including narrow travel lanes, excessive grades, poor maintenance, and inadequate measures to prevent conflicts at street intersections.

The pedestrian/bicycle plan includes policies and standards related to improving nonmotorized circulation. The plan also proposes a network of pedestrian/bicycle routes throughout the city. A more thorough explanation of this plan, and a depiction of the Pedestrian/Bicycle Circulation Plan Map, is incorporated herein as part of the "Transportation Plan" section of Chapter 7.

In fulfillment of the pedestrian/bicycle plan, the city has effected a number of improvements related to nonmotorized travel in the community. In 1998, the city joined with several other jurisdictions in the area to complete the aforementioned Bill Chipman Palouse Trail between Pullman and Moscow. The city also recently constructed a path along North Grand Avenue between Turner Drive and Terre View Drive, installed a sidewalk along Spring and Crestview Streets near Lincoln Middle School, and added sidewalks where there were missing segments in the vicinity of Sunny Mead Way. Furthermore, the city upgraded an existing trail along NE Terre View Drive and worked with WSU student organizations to repair a number of deteriorated sidewalks on College Hill near the university.

In 1998, Pullman voters approved a bond measure designed largely to enhance the community's nonmotorized transportation network. This bond measure is funding the continuation of the Bill Chipman Palouse Trail from the southeast part of the city to the north end via the downtown. Additional sidewalk repair at various locations in town is also to be accomplished by means of this bond measure.

Transit Service

Pullman Transit is a city-owned transportation system which began operation in March of 1979. Pullman Transit provides fixed route service throughout the city. It also offers complimentary accessible Dial-A-Ride service, limited to senior citizens and persons with disabilities only.

Pullman Transit has contracts with WSU which allows all students, staff, and faculty to ride its fixed route buses simply by showing a university identification card. In addition, a contract with the Pullman School District allows qualifying elementary, middle, and high school students to ride Pullman Transit buses by showing a school district-issued pass. Pullman Transit also contracts with a local provider to offer taxi service to the community, including trips to the Pullman-Moscow Regional Airport.

Inter-city bus service is also available in Pullman. Wheatland Express operates routes between Pullman and Moscow, Link Transportation Systems offers service from Pullman to the Spokane Airport, and Northwest Trailways provides access to cities across the United States.

Pullman-Moscow Regional Airport

The Pullman-Moscow Regional Airport is a commercial service facility providing scheduled air carrier and general aviation service for residents and visitors in the Pullman/Moscow area. The airport is situated within the city limits of Pullman, east of the WSU campus. The location of the facility is shown in Figure 3-3. The airport has a total land area of approximately 162 acres, of which 119 acres are owned by the City of Pullman and the remainder is leased from WSU.

Air carrier activity encompasses commercial airline activity for transport of passengers or cargo. Regularly scheduled air carrier service at the Pullman-Moscow Regional Airport is provided by Horizon Airlines. General aviation activity consists of all civil aviation operations, except that of certified air carriers, and includes air charter, air taxi, aerial application, corporate, business, and recreational activity.

The airport is considered a regional facility and is operated by an Airport Board made up of representatives from Washington and Idaho. Airport Board membership includes the cities of Pullman and Moscow, the Port of Whitman County, Latah County, WSU, and the University of Idaho. The airport is operated pursuant to an interlocal agreement and an adopted master plan.

The use of the airport is constrained by several factors. The hilly terrain which surrounds the airport limits the airspace, making it difficult to implement a precision instrument approach system. Without such a system, aircraft cannot use the facility when visibility is poor, and passengers are often bused to alternate airports during the winter months. Also, some of the design features of the airport are substandard. For example, the separation between the runway and taxiway does not meet current Federal Aviation Administration specifications. The Airport Board will address these substandard conditions in a site selection/benefit-cost analysis in 2001.

Construction of facilities at or near the airport is problematic as well. WSU provides water service to the airport, with fire hydrants located on a ten-inch water main in the vicinity of the terminal building. However, the absence of water storage tanks in the area significantly limits fire suppression capabilities. Also, development of land in the vicinity of the airport must conform to federal and local rules regarding structure height (so as not to interfere with any aviation functions) and land use (certain noise-sensitive developments, such as residences or school classrooms, are prohibited).

Despite these limitations, the outlook for the airport is promising. Enplanements (revenue passengers boarding an aircraft) have doubled since 1981, and have remained relatively stable in the 1990's. According to the 1998 Airport Master Plan, a 143 percent increase in passenger boardings at the airport is expected between 1998 and 2013. Passengers on regional airlines, such as Horizon, have grown at almost twice the rate of major airlines over the past 20 years and forecasters predict this disparity will continue into the future.

Besides these encouraging trends, there are several other positive points to note in relation to the airport. The existing runway at the site has sufficient capacity to meet anticipated demand. With alterations now in the planning stages, the runway may be able to accept larger, charter airplanes on a non-regular basis. The Airport Board is pursuing the installation of a new, state-of-the-art, precision landing system to better accommodate aircraft in inclement weather. Several business owners in the city are seeking to develop new hangars at the site, demonstrating their support for the airport through their proposed investments. Also, the existing terminal, built in 1989, is an attractive, functional building, supplied with ample parking. The Airport Master Plan seeks to build on these and other assets of the airport.

The Pullman-Moscow Regional Airport is a critical component of the local economy. Maintaining the viability of this airport, through appropriate planning and financial support, is considered to be essential for the community.

Railroad

Rail service in the area plays a major role in importing machinery and raw materials, and exporting industrial and agricultural products. Two rail lines run through Pullman, generally entering from the north and exiting to the southeast. Formerly, one of these lines extended along the Pullman-Moscow Highway (SR 270), but that portion of the line has been abandoned and is now the route of the Bill Chipman Palouse Trail between Pullman and Moscow. Rail service in the area is limited to freight transport only. No local passenger service has been offered for some time.

Watco, Inc. of Pittsburg, Kansas operates two separate railroad entities in the Pullman area: Blue Mountain Railroad and Palouse River Railroad. These operators travel on a system of tracks that extend from Moscow, Idaho through Pullman to Marshall, Washington (near Cheney). There are several spurs in the system that access several of the smaller towns in the region.

Currently, one train makes a round trip from Colfax through Pullman to Moscow each Tuesday and Thursday. Occasionally, there is a Saturday run as well. At a maximum, there are six train trips through Pullman each week. Coal (for use by WSU's power plant) is by far the largest commodity transported by rail through Pullman, although grain, machinery, propane gas, and agricultural chemicals are also carried over local rail lines.

UTILITIES

Early in its history, Pullman became widely known for its artesian wells. Since that time, the city has relied upon groundwater sources for its drinking water. The deep aquifers that supply the city are generally of very good quality, exceeding federal water quality standards.

Pullman's water system is operated by the city's Public Works Department, and is managed pursuant to a water plan most recently revised in 1993. The city's water comes from five wells, which have a total capacity of 5,500 gallons per minute. Four of these wells are currently in active use, with the remaining well providing standby reserve. The water system includes nine reservoirs, with a total storage capacity of 6.3 million gallons. Because of the hilly topography, the system also includes eight booster pumps. WSU has its own water supply and distribution system, with usage comparable to the city's. The city and university systems are connected by valves that are closed during normal operations, but which may be opened for emergencies. The university's system also serves the Pullman-Moscow Regional Airport.

The city's average water use rate is approximately two million gallons per day, with a peak summer use rate of five million gallons per day. Pullman has joined efforts with WSU, Whitman County, the city of Moscow, University of Idaho, and Latah County to manage water sources and explore water conservation measures in response to the concern that the groundwater table may be declining by as much as two feet per year.

The city's wastewater treatment plant has a peak capacity of 8.6 million gallons per day (mgd), with an average flow of 3.29 mgd. Peak daily flow experienced in 1997 was 6.3 million gallons. The wastewater system operates under a current National Pollution Discharge Elimination System (NPDES) permit issued in 1995. It includes more than 62 miles of collection pipes, which range in size from 6 to 36 inches in diameter. The system is designed to take full advantage of Pullman's hilly terrain, requiring only two lift stations and 14 siphons to supplement normal gravity flows. The master plan for the sewer system was updated in 1999.

Pullman's storm drainage system is typical of most cities. It consists of natural and constructed conveyances, including detention ponds and underground settlement vaults, biofiltration swales, ditches, catch basins, pipes, and natural water courses such as Missouri Flat Creek, Dry Fork Creek, Paradise Creek, and the South Fork of the Palouse River. Storm drain systems are required by the city for all new land use developments. The design goals for storm water systems in the city are based on current Washington State storm water handling guidelines that require protection of adjacent properties; limitations on the rate of storm water runoff and the peak runoff volume; and provision of some level of treatment, such as settling in a detention pond or biofiltration in a grassy swale.

The city does not have a formal storm water management plan. However, city officials have recently disclosed their interest in the formulation of such a plan.

Electricity and natural gas in the area are provided by the Avista Corporation. Telephone service is provided by the GTE Corporation, and the Century Communications Corporation is the purveyor of cable television service to local residents. The community is in the beginning stages of examining its needs and capacity for wireless communication systems and other telecommunications infrastructure improvements.

SCHOOLS

The Pullman School District is approximately 200 square miles in size, encompassing the cities of Pullman and Albion and outlying rural areas. The district operates a number of facilities in Pullman, including three recently constructed or renovated elementary schools (Franklin, Jefferson, and Sunnyside), one middle school, one high school (which also currently houses the school district administrative offices), a transportation station, a maintenance shop, and the Pioneer Center community building.

The enrollment for the entire school system in 1998-1999 is approximately 2,290 students. Average class size for all grades is about 23 pupils. The district has programs designed to serve a full range of student needs, interests, and abilities. There are courses for the academically gifted, special summer programs, after-school enrichment programs, and an alternative education program for grades 9 through 12.

HEALTH CARE

Health care in the Pullman area is offered through Pullman Memorial Hospital, local physicians and other professionals, and numerous community businesses and organizations.

The Pullman Memorial Hospital is a 42-bed acute care facility located on the WSU campus. It is operated by the Pullman Memorial Hospital District, the boundaries of which coincide with the Pullman city limits. The hospital provides a wide range of services, including 24-hour emergency care; medical, surgical, and obstetrical services; radiology and mammography services; physical therapy; respiratory therapy; and educational programs. WSU Health and Wellness Services, also located within the hospital building, furnishes health care to the university students.

Over the years, the hospital district has noted a number of deficiencies associated with the existing hospital facility based on the rapidly changing methods of delivering medical care services and the building's location in the middle of a bustling university. Consequently, the hospital district is currently working toward the relocation of the hospital to a new location on Bishop Boulevard. The hospital district's vision is to combine the hospital structure with various other health care facilities to develop a "comprehensive medical community" at this site.

Local residents are served by nearly 60 physicians practicing in Pullman and Moscow. Physician specialties include internal medicine, radiology, pediatrics, obstetrics and gynecology, otorhinolaryngology, psychiatry, neurology, ophthalmology, orthopedics, and dermatology. Other professionals, such as dentists, optometrists, and chiropractors, are also well-represented here.

Certain private businesses in Pullman, most notably the Bishop Place assisted living facility and the Palouse Hills convalescent center, provide health care to elderly or disabled persons. Public and non-profit organizations in the area also offer various

kinds of health services to those in need. Examples of these organizations are the Whitman County Department of Health; Whitman County Counseling Services; the Community Action Center; Home, Health, and Hospice; and Alternatives to Violence.

CULTURAL AND HISTORIC RESOURCES

The community utilizes a number of local facilities for cultural events. At WSU, the Beasley Performing Arts Coliseum, Daggy Hall, the Compton Union Building, and other on-campus facilities host many events, such as concerts, plays, fairs, and lectures. In addition, the university features several museums and galleries open to the public. The city's Neill Public Library functions as a community center for learning and educational pursuits, such as book readings and informational seminars. Several public school buildings, most notably the high school, offer opportunities for cultural growth through ongoing events and programs. Also, there is a burgeoning effort to utilize the Gladish Building (formerly the high school) for cultural activities. A non-profit group composed of local residents acquired this property in the mid 1990's in an attempt to make it a community focal point for the performing arts, youth programs, adult enrichment activities, thematic festivals, and social gatherings. Many of these types of events are currently being conducted at the Gladish Building.

The history of Pullman is reflected in many of its existing buildings, particularly those found in the downtown area, on the WSU campus, and in some residential areas scattered throughout the city. These structures dating back to the city's early days are reminders of the culture and history of the region, and they contribute to the character of the community. Table 3-6 presents a listing of Pullman area buildings included on the National Register of Historic Places and properties outside the WSU campus designated as having local historic significance in past long-range planning documents of the city. In addition to individual historic properties, neighborhoods of significant historic interest exist in several sections of the city and documentation has begun on their role in Pullman's history.

Table 3-6 Pullman Historic Resources		
National Register of Historic Places		
Resource	Location	Year Listed
Thompson Hall	WSU Campus	1973
Stevens Hall	WSU Campus	1979
T.A. Leonard Bard	Old Moscow Highway	1986
Greystone Church	430 Maple Street	19889
William Swain House	315 W. Main Street	1994
Gladish Building	115 NW State Street	1998
Locally Significant Historic Properties		

Resource	Location	Year Built/Established
BN Railroad Depot	330 N. Grand Avenue	1910
Capital Financial Services Building	105 N. Grand Avenue	1896
Corner Drug Store Building	225 E. Main Street	1890
Farr (Pioneer) Cemetery	Fountain Street	1880
Farr House	320 Park Street	1891
Flatiron Building	105 E. Main Street	1908-1910
Chew House	760 Reaney Way	1900
I.O.O.F. Cemetery	West Main Street	1880
Old Post Office Building	245 Paradise Street	1930
Pullman Memorial Association Monu.	E. Main Street at Spring Street	ca. 1950
Reaney Park	Reaney Way	City's oldest park
UP Railroad Depot	225 N. Grand Avenue	1938
Woodcraft Park	South Street	One of city's oldest parks
Source: City of Pullman (1998)		

National Register of Historic Places and properties outside the WSU campus designated as having local historic significance in past long-range planning documents of the city. In addition to individual historic properties, neighborhoods of significant historic interest exist in several sections of the city and documentation has begun on their role in Pullman's history.

PARKS AND RECREATION

The city owns 13 parks, nine of which are currently developed. Also, the city owns and maintains two plazas downtown. Together, these facilities offer a wide variety of recreational opportunities to community members. The city's Public Services Department annually develops a full range of recreational programs to facilitate the use of these open space areas. In addition to parks and plazas, the city operates two public cemeteries in town. All of these facilities are described in Table 3-7.

Other public entities in town supply recreational facilities as well. WSU manages an extensive amount of property devoted to athletics, including multiple gymnasiums and play fields. Many of these facilities are available for use by the general public, although highest priority for access is provided

to WSU students, staff, and faculty. The Pullman School District also maintains a substantial number of gymnasiums, athletic fields, and playgrounds within the community. Some of these facilities are used for both school district functions and city

recreational programs by means of joint use agreements. For example, the city and school district shared in the cost of constructing the gym at Sunnyside Elementary School, and an agreement between the two agencies allows for the joint use of the facility.

As previously described in the "Pedestrian and Bicycle Circulation" section of this chapter, the city is in the midst of developing a pathway system in the Pullman area. The Bill Chipman Palouse Trail which links Pullman to Moscow is heavily used by walkers, bicyclists, joggers, and rollerbladers. The city is currently in the process of extending this trail and constructing others due, in large part, to its interest in creating more recreational opportunities for local residents and visitors.

The city has had a long-standing interest in developing another community center to supplement the activities conducted at the existing City Hall/Community Center building. In the early 1990's, attention was directed toward the establishment of one sizeable facility that could accommodate all of the various recreational, cultural, educational, and social functions envisioned in a community center. In the mid 1990's, the city shifted its focus somewhat to consider proposals for community center activities in dispersed locations throughout the city. The development of the Pioneer Center (originally Franklin Elementary School) into a limited recreation service facility is in keeping with the city's revised emphasis.

Table 3-7				
Pullman Parks, Recreation Facilities, and Open Spaces				
	Location	Size	Facilities	Activities
Reaney Park	Reaney Way	1.6 acres	Outdoor pools, playground, gazebo, picnic tables, barbecue	National Lentil Festival, summer concert series, swim meets
Sunnyside Park	Cedar Street	25 acres	2 ponds, waterfall, baseball diamond, 2 tennis courts, volleyball, walking trails, garden plots, barbecue area with picnic shelter, frisbee golf course	Independence Day celebration
Kruegel Park	South Street	8 acres	2 tennis courts, volleyball, playground, baseball diamond, football field, soccer field, barbecue area with picnic shelter	Easter Egg hunt
Lawson Gardens	Derby Street	13 acres	Formal gardens, gazebo, reflecting pool	Rented for weddings

McGee Park	Lybecker Street	3 acres	Playfields, basketball court, baseball diamond, playground, barbecue area with picnic shelter	Space utilized as childcare facility play area
Military Hill Park	Larry Street	23 acres	Playfields, 6 tennis courts, 2 baseball diamonds, playground, aquatic center, jogging path, barbecue area with picnic shelter	High school baseball and tennis
Harrison Tot Lot	Harrison Street	0.3 acre	Playground, family picnic area with barbecue	
Woodcraft Park	South Street	0.8 acre	Shaded picnic area	City and High School softball leagues, youth soccer and football
City Playfield	Riverview Road	9 acres	3 softball fields, jogging track, exercise station, volleyball, batting cage, picnic area	
Gannon Park	Jackson Street	0.3 acre	Open space	
Terre View Park	NW Terre View Drive	3 acres	Not yet developed; proposed facilities: Paths, shelter, playground, passive nature scape	
Spring Street Park	Spring Street	2 acres	Not yet developed; proposed facilities: skateboard park, shelter, ice rink	
Itani Park	SW Crestview Street	7 acres	Not yet developed	
High Street Mall	E. Main Street	0.3 acre	Benches	Chamber of Commerce Saturday Public Market in summer
Cougar Plaza	Grand at Olsen	0.1 acre	Donor monuments, cougar statue	
City Cemetery	Fairmount Road	20 acres	Cemetery plots	
I.O.O. F. Cemetery	W. Main Street	3 acres	Cemetery plots	

Pullman RV Park	Riverview Street	1 acre	24 RV spaces, utility hook-ups; park open April-November	
Source: City of Pullman (1998)				