

Chapter 15.03

**NORTH PLAINS COMPREHENSIVE PLAN
PLANNING INVENTORY**

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15.03.000 PLANNING INVENTORY

15.02.010 NATURAL CONDITIONS

15.03.011 Setting and History

1. Description of Location

- North Plains is located in the north western portion of the Tualatin Valley near the edge of the Tualatin Drainage Basin.
- It is about 2 miles south of the rolling hills of the Tualatin Range.
- The topography in the area which is generally flat with a gradient toward the southeast.
- The terrain includes several intermittent drainageways generally flowing south and east to McKay Creek.
- North Plains is located about 4 miles north of Hillsboro, the County seat, and is about 19 miles westerly from Portland.
- It is situated on Highway 26, a major regional corridor linking Portland with the coast.

2. History

- North Plains is one of several small communities dispersed in the predominantly agricultural areas of central Washington County.
- The City was platted in 1910 by a predecessor of the Spokane, Portland, and Seattle Railway to serve as a processing and shipping point for locally grown farm and forest products.
- North Plains was incorporated June, 25, 1963.
- Subsequent annexations have added small amounts of land mainly to the eastern edge of the City.
- In 1982, North Plains contained about 350 acres and an estimated population of 890 people.

15.03.012 Climate, Geology and Topography

- North Plains has what can be characterized as a moderate valley type of climate.
- Temperature extremes are rare and usually short in duration. Winters are mild and the frost-free season is usually between 160 and 250 days. Hillsboro and Forest Grove each reported about 170 frost-free days in 1978. There are few days with temperatures below 20 degrees and about 10 days below 28 degrees. An average year has 10 days with temperatures above 90 degrees.
- Soil temperatures as measured at the North Willamette Experimental station near Canby averaged 55.9 degrees in 1978 with extremes ranging from 97 degrees in August to 31 degrees reported in December.
- Rainfall is sporadic during all seasons. The principal rainy season is from mid-November through March. Forest Grove and Hillsboro each reported 32.7 and 26.4 inches respectively during this period. Yearly averages are 45.8 and 38.1 inches for these cities.
- The weather reporting stations at Hillsboro and Forest Grove are closest to North Plains. North Plains' climate probable results from a mixture of the open valley climate affecting Hillsboro and the foothills climate of Forest Grove.

Mean Annual Temperature	52.4 degrees	52.2 degrees
Summer Avg. Temp. (April-Sept.)	60.7 degrees	43.8 degrees
Winter Avg. Temp. (Nov-March)	43.2 degrees	43.8 degrees
Average Annual Rainfall	45.8 inches	38.1 inches
% in Winter (Nov-March)	71%	71%
% in Summer (April-Oct)	29%	29%

- Winds are seldom a problem in the North Plains area. Average wind velocity is about 8 mpg. West and northwest winds are predominant during the winter rainy months; southern and eastern winds are predominant in the summer months.
- Alluvial valley fill and simiconsolidate sedimentary rock underlie the North Plains study area.
- Surface material includes unconsolidated, fine-grained deposits of silt, sand, and gravel. Ground water occurs in unconfined conditions.

- Yield from water wells is usually sufficient for domestic purposes, and in rare cases it is ample for irrigation of small acreage. Typical well depths are from 50 to 150 feet.
- Columbia River Basalt is between 300 and 400 feet below the surface of the valley soils at North Plains.
- Ground water in pressurized aquifers is typically found in the basalt formations.
- The topography of the North Plains study area is characterized by the flat lowlands of the Northwestern portion of the Tualatin Valley.
- Streams, valleys, such as McKay Creek, are typically 20 feet below the main plain.
- The average elevation of North Plains is 200 feet. It gently slopes from 210 feet in the northwest portion of the City to about 190 feet in the southeast (See Topography Map, Exhibit Page - 1).
- The elevation rapidly falls to about 170 feet along McKay Creek along the east side of the City.

15.03.013 Forest Resources

1. Commercial

- There are no commercial timber growing lands in the North Plains planning study area
- Forest products are processed in the City: saw milling, lumber milling, and some fabrication.

2. Non-Commercial

- The major non-commercial forest resources in North Plains are east of the city and form visual buffers along Highway 26 on the southern edge of town.
- Stands of hardwood and various conifers also line McKay Creek and related drainage ways.

Timber resources in and adjacent to North Plains are so minimal as to make Goal 4 inapplicable. Wind and visual buffer aspects will be treated in other parts of the Plan and the Zoning Ordinance.

15.03.014 Open Space, Scenic, Historic and Natural Resources

1. Open Space

- Because of the space requirements for septic systems, implemented by DEQ prior to the sewer system, many houses in North Plains are on lots ranging from 1/4 to 1/2 acre; some are even larger. The City's sewer system allows for land divisions down to 5,000 square foot lots.
- This gives the City itself an extremely open and spacious quality.
- Usable open space is less than is otherwise apparent because of:
 - a. Periodic wetness and flooding of certain areas;
 - b. Lack of integrated pedestrian circulation system; and
 - c. Lack of maintained recreation areas in many portions of the City.
- The several year-round and intermittent waterways, including McKay Creek present excellent opportunities for usable open space within North Plains.
- Surrounding countryside presents abundant open space, ranging from orderly crop land, orchards, and truck farms to natural habitats found along waterways and in isolated tree stands.
- Potential construction of public sewer system will decrease open space within the City since housing could be placed on 5,000 square foot lots.

There are no structures or sites of historic importance located within North Plains. The nearest historic site, the Walker Blacksmith Shop on West Union Road, is located immediately east of the City limits and therefore is not under City jurisdiction.

2. Fish and Wildlife

- McKay Creek supports a variety of resident game fish including rainbow trout (*Salmo gairdneri*), cutthroat trout (*Salmo clarki*), largemouth bass (*Micropterus salmoides*), yellow perch (*Perca flavescens*), and bullheads (*Ptychocheilus oregonensis*) are the principal non-game fish.
- Black-tailed deer (*Odocoileus columbianus*) are found in the agricultural and woodlands throughout the year.
- There do not seem to be any fur-bearing animals of economic importance in the streams or on land. However, weasels (*Mustela erminea*), skunks (*Mephitis mephitis*), and nutria (*Myocaster coypus*) are to be found.
- The principal upland game birds in the area are ring-necked pheasants (*Phasianus colchius*), California quail (*Lophortyx californicus*), mourning doves (*Zenaidura macroura*), band-tailed pigeons (*Columba fasciata*) and ruffed grouse (*Dendragapus obscurus*).
- Several waterfowl species overfly the area in their migrations. There is no significant nesting of waterfowl in the area. The species who use the flyway for immigration are Canada Geese (*Branta canadensis*), mallards (*Anas platyrhynchos*), American widgeons (*Maraca americana*), wood ducks (*Aix sponsa*), and pintails (*Anus acuta*).¹

3. Vegetation

- The area around North Plains consists of bottom-lands. Principal crops are small grains, pasture, hay and some specialty crops. Interspersed with the farms are small tracts of timber. The vegetative cover on these tracts consists primarily of Douglas Fir (*Pseudotsuga menzini*), big leaf maple (*Acer macrophyllum*), dogwood (*Cornus stolonifera*), snowberry (*Symphoricarpos albus*), blackberry (*Rubus allegheniensis*), and Poison Oak. There are no known rare or endangered plant species.

4. Ground Water Resources

See discussion under Climate, Geology, and Topography.

¹ Environmental Assessment for United Sewerage Agency, Nero & Associates, July, 1977.

5. Historic Resources

When the Comprehensive Plan was acknowledged by the Land Conservation and Development Commission in 1981, the Plan identified the Walker Blacksmith Shop on West Union Road as the only historic structure in the North Plains area. The 1983 Plan amendment states: "There are no structures or sites of historic importance located within North Plains."

In 1983-84, researchers from the Washington County Museum identified three structures within North Plains for inclusion on the Washington County Cultural Resources Inventory. The three structures are:

- a. True Value Hardware/Knights of Pythias Friendship Temple (1914)
- b. Morrow's Lower Tavern/North Plains Commercial Bank (1911)
- c. Residence at 379 SW Kaybern (1911)

The information from the Washington County inventory is included in this section of the North Plains Comprehensive Plan (see following pages). The True Value Hardware/Knights of Pythias Friendship Temple and Morrow's Lower Tavern/North Plains Commercial Bank are cited as significant because there are two remaining commercial brick buildings which were built in the early 1900's, the years associated with land development and railway promotion. The home at 379 Kaybern is one of the early residences constructed during the railroad boom. The house is in excellent condition.

The Planning Commission has reviewed the Washington County inventory and met with the affected property owners. The Planning Commission concluded that all three structures are significant historic resources and a program is needed to resolve conflicts related to alternations and demolitions. (See Exhibit Pages 2-6).

Additional historic resources may be identified in the future and added to the City's official inventory contained in this section of the Comprehensive Plan.

6. Other Goal 5 Resources

Within the City limits /UGB of North Plains, there are no:

- Commercially valuable mineral and aggregate resources;
- Ecologically and scientifically significant areas;
- Outstanding scenic views and sites;
- Indigenous energy sources;
- Wilderness areas;
- Potential and approved Oregon recreation trails; and
- State/federally designated wild and scenic waterways.

15.03.015 Soil Constraints

- North Plains soils, like most of the Northern Tualatin Valley, can require special engineering techniques for building. The techniques can include artificial drainage, runoff control, extended sewage absorption fields or soil excavation. Data provided in this section is from the Soil Conservation Service, (S.C.S.) and is used in the Soil Constraint Matrix and Soil Map (Exhibit Pages 7-8).
- 83% of the area soils are the Willamette and Woodburn soil units. These soils are not as subject to soil engineering requirements and are relatively free of constraints to development. These soils are considered "primary buildable" (See Exhibit Page 7).
- The remaining 17% of the urban area is designated "secondary buildable" because it has some development constraints and costly engineering requirements. The Chehalis, Aloha, and Dayton soil units are subject to a high water table within 24" of the surface. Amity, McBee, Wapato, Cove and Verboot soil units are subject to flooding and possible high water table conditions.
- The soil constraint Matrix data is derived from "Soil Interpretations for Oregon" (OR - Soils - 1) and are explained as follows:
- Flooding is given in terms of frequency as none, rare, or common. Common flooding is considered a development constraint that is occurring under normal conditions as frequently as every 22 years. Flood plain information is also discussed under Natural Hazards.
- Water Table is given in terms of depth for seasonally high water. A water table within 24" of the surface is considered a development constraint to subsurface sewage disposal systems and other underground utilities and buildings.
- Shrink-swell potential is the relative change in volume to be expected in soil with change in moisture content. Shrinking and swelling of soils causes damage to building foundation, roads, and/or other structures.
- Use Constraint rates soil units by the capability to support particular types of development considering the above soil constraints. The soil restriction is given in terms of low, moderate or severe.

15.03.016 Natural Hazards

- Flooding is the most serious hazard in the North Plains area. The City is located within the 100-year flood plains of McKay Creek, located on the City's east boundary, and its unnamed tributary, which runs from northwest corner near the intersection of Wascoe Street and Gordon Road to the southeast corner at the intersection of Glencoe Road and Sunset Highway connecting to McKay Creek. Serious flooding is reported at least every other year.
- Flooding problems associated with the unnamed tributary are due in part to undersized culverts at Glencoe Road, 314th Avenue, and Pacific, Cottage, Commercial, Hillcrest and Wascoe Streets. While it is technically feasible to correct these problems, the City is not going to undertake a major drainage program at this time due to the high cost.

The U.S. Army Corps of Engineers has identified the elevations of the 100-year flood for both the creek and its tributary. Based on this data, Washington County has adopted a floodplain ordinance (No. 126) which essentially prohibits development in flood plain areas except where, after filling, construction can occur one foot above the flood elevation. However, filling permits are subject to stringent conditions.

- Based on Corps of Engineers' information, it has been calculated that the city has a total of 57.6 acres of land within the 100-year flood plain, about 51 acres in developed and potentially developable areas and the remaining 7 acres in local rights-of-way and state highway easements. Table 3-1 summarizes the location of the flood plain by zone.

Table 3-1
FLOOD PLAIN WITHIN CITY LIMITS/UGB*2 - 1983

Zone	McKay Creek	Unnamed Tributary	Total
R10	4.3	1.8	6.1
R7.5	-	3.3	3.3
R5	-	3.6	3.6
R2.5	5.4	9.5	14.9
C1	-	-	-
C2	-	6.0	6.0
M1	4.0	-	4.0
M2	.3	12.1	12.4
Other	2.6	4.7	7.3
TOTAL	16.6	41.0	57.6

* Expressed in acres rounded to the nearest tenth of acre.

** Includes rights-of way and state highway easements.

²Source: Jim Gilmer, City Engineer, 1983

15.03.020 PUBLIC FACILITIES AND SERVICES

1. Supply and storage

- The City of North Plains draws its domestic water from a single well located at the intersection of NW Commercial Street and NW 321st Avenue, just west of the central business district. The well currently pumps 500 gallons per minute (GPM), although an additional 125 GPM is available if a larger pump were installed. The City has a standby well at the same location and an abandoned well next to City Hall.
- Operating as a pressurized system, water is pumped from the ground into a storage tank, where it is chlorinated; it is then pumped directly into the distribution system via a hydro-constant pressure pump, which also has a capacity of 500 GPM. The present supply and pump system were installed in 1981.
- Present pumping requirements have been estimated at 270 GPM. To support the domestic needs of an additional 1000 people plus additional commercial and industrial development, it is estimated that pumping demand will be about 500 GPM by the year 2000, well within the capacity of the existing well. However, this does not include the addition of any water intensive commercial or industrial users.
- However, currently, the city lacks adequate storage. The State of Oregon recommends a maximum day and fire flow water storage capacity of about 750,000 gallons for the existing population of 750, using the formula: 300 gallons/day/capita plus fire reserves. At the present time, the city has two storage tanks with a capacity of 52,000 and 30,000 gallons respectively, for a total of 82,000 gallons. The current storage deficiency is estimated to be about 668,000 gallons and will exceed 918,000 by the year 2000. Lack of storage facilities and distribution pumping capacity significantly impair fire protection and adversely affect the city's fire rating.

15.03.022 Distribution

- Two-thirds of the distribution system was substantially rebuilt in 1969 when several new 4", 6" and 8" lines were installed. In 1981, the city replaced 880 feet of 2" pipe with 10" pipe on Main Street. Smaller undersized lines have been replaced on an as-needed basis. The city is developing a priority list for replacing remaining substandard lines.
- As few new distribution lines will be needed and some replacement will be required to bring the system to the size that matches the pumping capacity and can deliver the recommended fire flows.
- Due to an inadequate storage and distribution system, industrial development will be somewhat restricted within the city limits. Recognizing this serious constraint, the city now considers improvement of the city's water system to be an major priority.

15.03.023 Sanitary Sewage Systems

- In August 1983, the City of North Plains completed construction of its sanitary sewer collection system (see Exhibit 13). Constructed and operated by the Unified Sewerage Agency (USA), the system contains 41,000 feet of 12", 10", and 8" polyvinyl chloride (PVC) sewer pipe. Two 12" trunk lines are located along McKay Creek and its unnamed tributary. The system will serve the entire city with the exception of the extreme western and northwestern portions. A few home owners will be allowed to remain on septic tanks until sewer lines are extended.
- The sewage flows by gravity to the southeast corner of the city to a pumping station located near the intersection of Highland Court and Weight Road. From there it is pumped through to USA's west Hillsboro treatment facility, which has adequate capacity to accommodate the city's sewage for the foreseeable future.
- The system has the capacity to handle 490,000 gallons per day (GPD) average flow, of which 345,000 is reserved for residential use and the remaining 145,000 for commercial, industrial and community services uses.
- The collection system is sized to accommodate a total of 1,080 dwelling units, approximately 280 of which will be connected to the system in 1983. This leaves an excess capacity of 800 units. As noted in Urbanization, it is anticipated that a population increase of 100 people between 1980 and the year 2000 will generate the need for an additional 354 dwelling units. Therefore, the system has sufficient capacity to accommodate year 2000 residential demand.
- As noted on Table 2-3, complete development of the city's residential land would result in the construction of additional 1565 dwelling units, significantly more than can be accommodated by the present sewer system. While such intense development is unlikely, this does suggest that at some point beyond the year 2000 the city will have to increase the sewer system's capacity. This can be accomplished by increasing the size of the two trunk lines; Currently the pumping station has sufficient capacity to accommodate additional sewage flow.

15.03.024 Storm Drain

- North Plains has a limited storm drainage system that includes ditching and culverts that send storm water to the two major drainage ways on the south and east sides of town.
- Because of the generally flat topography of most of the City, stagnation problems result when storm water collects in low spots.
- North Plains has engaged in a fairly extensive ditching program in recent years, deepening and straightening its ditches throughout most of the low areas.
- The City has no plans to develop a storm drainage treatment system. Such a system would normally retain water during periods of high run-off for later release into the natural drainage ways system. The storm drainage system would intercept debris and pollutants (oil, chemical sprays, etc.).

15.03.025 Solid Waste Disposal

- Residential and some commercial solid waste is handled by Garbarino Disposal Services, Inc. of Portland. Washington County has granted Garbarino a collection franchise for the North Plains area (west of Rock Creek and north of Walker Road.) Fees are paid directly to Garbarino and households may sign up on an optional basis.
- Prices are subject to periodic renegotiation between the collector and the Washington County Commission.
- Over 75% of the City's households use Garbarino's service; the remainder have to dispose of solid waste individually. A disposal site (not a landfill) in Hillsboro can take non-putrefying solid waste. Landfills in Portland and Oregon City are the nearest places to take food and household garbage. Composting is popular for decayable waste. The Washington County Sanitarian indicated that illegal dumping is not a problem at the present time.
- Garbarino has three trucks and a garage serving the North Plains area at the present time. Outside of additional trucks, no capital improvements are planned to handle the increase in population expected by the year 2000.

15.03.026 Public Safety

- North Plains employs two full-time officers (Chief, Officer) who maintain an office in the City Hall building. In addition, the City has a varying number of reserve policemen.
- The officers maintain a City-wide patrol 7 days per week. The patrols are 16 hours on each weekend day and 8 hours on weekdays. The patrol cars are fully equipped with 2-way radios.
- The reserve officers are available for emergency and fill-in situations.
- North Plains' police services are comparable to the statewide standard of one full-time officer per 1,000 population.
- Detention and jail facilities are available through the Washington County jail located in Hillsboro, 4 miles away.

15.03.027 Fire Protection

- Fire protection is provided by the Washington County Fire District #2. The entire North Plains area is within the District.
- The station is centrally located in downtown North Plains on Commercial Street next to City Hall.
- Approximately 26-27 volunteers serve on the force. There are no full-time fire fighting personnel at this station.
- Equipment includes: 2 engines, one tank truck, one rescue unit, and one brush control truck.
- The Oregon Insurance Services Office rates North Plains as 8 on a 1 to 10 scale (1 being the highest). The Insurance Service Office estimates that a small city such as North Plains with light industrial activity should have a 5 to 6 rating to realize significant insurance savings and decreased fire losses.
- Of course, the City must ultimately balance the expenditures for fire prevention facilities (fire fighting equipment and water supply facilities) with the potential savings from lower insurance rates.
- North Plains' rating compares less favorable with both the Banks and Gaston ratings.
- The principal reason for the poor rating is the water supply problem (see section on water facilities). Both the amount that can be supplied and the pumped pressure are inadequate for fire protection during the summer months.

15.03.028 Educational Facilities

- The City of North Plains is within the North Plains Elementary School District #70. The district school is located in North Plains near the intersection of North Avenue and Gordon Road.
- There are two other elementary school districts within the North Plains planning study area. The area immediately east of North Plains is served by the West Union School District #1, while the land immediately south and west of the City is served by the Hillsboro Elementary District #7. Students in these districts attend school in the Helvetia area and Hillsboro area respectively.
- Junior High and High School students attend the Hillsboro Union District Schools in the City of Hillsboro. A second high school which will serve this area is now under construction on Glencoe Road north of Hillsboro.
- Each educational system is summarized below:

ELEMENTARY SCHOOLS:

1. North Plains Elementary School
Capacity approximately: 390
Present enrollment: 313

The school building was built in the early 1970's and occupies 15 acres in the northwest corner of North Plains. There are no immediate plans for capital improvements.

2. Hillsboro School District #7

Most students from the North Plains area attend the Bosco-Barnes School on 3rd Street in Hillsboro.

Capacity is:	650
Present enrollment is:	507

A new grade school is scheduled to be opened near the Hillsboro High School in the fall of 1980. The school district owns another site on Jackson Road in Hillsboro.

Since all the district's schools are in Hillsboro, students are regularly transferred when capacity at a particular school is reached.

3. West Union School District #70

A new school will open in the Fall of 1979 near the Rock Creek/Sunset Highway intersection to serve the North Plains area.

Capacity will be:	500
Expected enrollment is:	300

North Plains students attend the J. B. Thomas and J. W. Pointer Junior High Schools in Hillsboro.

Capacity of Thomas School is:	1,000
Capacity of Pointer School is:	800

SENIOR HIGH SCHOOLS

North Plains attend the Senior High School in Hillsboro. The school was designed for a capacity of 1,600 and presently 2,500 students are enrolled on a split shift basis from 7 am to 10 pm.

A new high school is scheduled to open in the Fall of 1980 with a capacity of 1,500. Capacity at both schools is expected to be reached by 1990.

The new high school is located on Glencoe Road and is expected to serve the North Plains area. The new school will have an auditorium and full athletic facilities except for a swimming pool.

COMMUNITY COLLEGE

North Plains is within the Portland Community College District (formerly the I.E.D.) offers a number of special educational services to the North Plains area.

1. Special education includes speech and hearing classes, vision training, and learning disabilities.
2. Testing: All achievement testing is administered by the E.S.D.
3. Migrant education: Classes in the North Plains School are conducted for Hispanic migrants.
4. Outdoor education: All 6th graders in the District are sent to outdoor camp for one week.
5. The E.S.D. also supplies each school with administrative services such as printing, data processing, teaching aids, and a film and resource library.

15.03.029 Library Services

- North Plains has no public library facility at the present time, and shares in the all-County Library Cooperative System.
- Since Washington County has no central library, the cooperative allows all County residents to borrow from any municipal or other public library in the County and the County reimburses the costs for non-City residents.
- Another service offered to North Plains residents is the Books by Mail Program. Each resident is mailed catalogues containing about 900 titles and may send for books, then return them to the central depot. The County pays for postage both ways.

15.03.030 Other Public Utilities: Telephone, Gas, Electrical

- US West Communications Telephone Company serves the City of North Plains. Much of the rest of western Washington County is served by the General Telephone Company. No major facilities expansion in the Study Area is now contemplated.
- Northwest Natural Gas Company supplies natural gas to the North Plains planning study area. No major facilities expansion in the Study Area is now contemplated.
- Portland General Electric supplies electrical power to the planning study area. No major facilities expansion in the Study Area is now contemplated.

15.03.031 Transportation Facilities

- North Plains is located 19 miles from Portland and 4 miles north of Hillsboro and is outside the contiguous metropolitan growth boundary. However, it is far from isolated due to a number of transportation advantages.
- The Sunset Highway (U.S. 26) is a major regional route connecting Portland with the coast. It forms the southern boundary of the existing City limits and is easily accessible via the Glencoe, Dersham, and Jackson Road interchanges. Highway 26 is a 4-lane, limited access route between Banks (7 miles west of North Plains) and downtown Portland. It connects with Interstate 405 and is listed on the State Bicycle System.
- Glencoe Road is maintained on the Federal Aid Secondary System (County) as a two-lane rural highway. It connects North Plains with Hillsboro, the County seat 4 miles south, and with the Dixie Mountain pass to the Columbia River Highway, about 12 miles north.
- Private automobile is by far the most widely used form of transportation in and around North Plains.
- Of the 10.94 miles of currently platted right-of-way in North Plains, 8.18 miles are improved and in use. Of that total, 4.24 miles or 52% is paved and in good condition, and an additional 36% is graveled. Most of residential streets in the south and west portions of town are hard packed gravel.
- The City adopted a general street policy in 1978. It ensures that all new residences are on adequate rights of way and road surfaces, considering both the present installation costs and future development potentials.
- At the present, Commercial Street and Hillcrest Street are the most important east-west streets through North Plains. 1983 ADT counts with the improvements were 3600 and 1300 respectively.
- Although the private automobile is the most practical and most common method of transportation, North Plains is served by a number of special transportation services these include: (from 1977 CRAG Study)
 1. Western Washington County Transportation Project; door to door, elderly and handicapped.
 2. Tualatin Valley Workshop; special trips for medical treatments.
 3. Washington County Welfare; C.S.D., limited services for welfare clients.
- North Plains is served by a variety of other modes of transportation. The following are the most prominent for planning purposes:

- The Burlington Northern Railroad contains a single track line through the center of North Plains connecting Banks with the Portland rail yards. At least 4-5 times a week two daily movements (one from and one to Portland) carry forest products and milled lumber as well as various seeds and produce from Portland. Burlington Northern maintains a storage siding at North Plains. The Dant & Russell pole yard also maintains a siding. As timber is harvested over the next 10 to 15 years in the Tillamook Burn region, this rail line will become increasingly active.
- The residents of the Air Acres subdivision, immediately south of Highway 26, maintain a landing strip complete with lights and wind socks. This is a private field, available to the public for emergencies only. It is 3,000 feet long and can accommodate small, general aviation aircraft.
- The Port of Portland operates the Hillsboro Airport about 5 miles from North Plains. The Hillsboro Airport is an FAA-approved general aviation airport with two runways (4,050' and 6,600' lengths) that accommodate prop and small jet traffic. Hangar space is available as well as repair and maintenance service.
- The Port of Portland's International Airport is located in Portland, about 35 miles from North Plains.
- North Plains, on Highway 26, is served by 5 common carriers. System 99 and Woodland Trucking (log hauling) operate on an interstate basis. Stewart Stiles, Tualatin Valley Transport, and Pacific Motor Trucking Company are local haulers.

15.03.032 Recreational Facilities

- North Plains enjoys a variety of recreational facilities within its City limit. There are about 6 acres of maintained playground and ballfield space plus 5 facilities that will accommodate indoor activities ranging from dances to arts and crafts.
- Compared to the recognized standards for Recreational Facilities (from the Urban Land Institute), North Plains is well equipped for its recreational needs.

<u>Type of area</u>	<u>Standard</u> <u>Acres Per 1,000 Pop.</u>
Playgrounds	1.5
Neighborhood Parks	2.0
Play fields	1.5

- The Community Center, City Hall area, and Elementary School provide these types of areas, with a combined total of 5.5 acres. (A description of each facility is included on the next page).

- The City in cooperation with local residents involved in "Project Tennis", has acquired funds to upgrade facilities on the Community Center grounds.
- Regional facilities such as swimming pools, stadiums, and specialized gymnasiums can be used in Hillsboro, 4 miles away.
- The open space of the surrounding countryside is used for a variety of outdoor recreational activities including hiking, fishing, off-road motoring, and horseback riding.
- Nearby McKay Creek Farms offers horse boarding, riding, and horse show facilities.

1. The Community Center

- Located at Hillcrest Street and NW 309th Avenue.
- Meeting Hall (approx, 200 capacity) needs repair and maintenance. Funded from the North Plains General Fund, it can accommodate dances, wedding receptions, and meetings.
- There is about 1 acre of area including a baseball diamond, good for softball and non-organized play, and a makeshift soccer field.
- Picnic Pavilion: Shelter and space for large picnic.

2. North Plains Elementary School

- Located on North Avenue near Gordon Road.
- Small indoor gymnasium suitable for grade school activities.
- Two outdoor baseball diamonds and soccer field on approximately 4 acres of maintained playing field.
- Playground and equipment for small children.
- The major disadvantage is that it is located in one corner of the City.

3. The City Hall Area

- Located on Commercial Street in central North Plains.
- Grassy, tree-lined space, approximately 1/2 acre, adjacent to City Hall. Equipped with picnic tables, water outlets, and horseshoe pits.

4. The Senior Citizen Center

- Located on Commercial Street in the middle of North Plains.
- Has a meeting facility for about 50 persons as well as a place for crafts and socializing and an adjacent community garden.
- Rehabilitation funding has been applied for from, the Block Grant program.

5. Churches

- Two churches in North Plains have meeting or other indoor recreational space.

15.03.033 Energy Use

- State level study is useful in pointing out energy trends. Only after these first overviews of research and analysis are done can the City of North Plains find its place in the maze of energy use and conservation.
- First the primary energy sources and users must be identified to then find how efficient they are or could be. Below are Oregon's three primary energy users: Transportation, Industry, and Residential. Together they are 67.4% of Oregon's current energy use. The table below shows what the major uses are for each of the primary users:
 - Residential: 15.7% of Oregon's total energy use, (space/water heating using 84.6% of this).
 - Transportation: 29.1% of Oregon's total energy use, (automobile/truck using 85% of this).
 - Industry: 22.6% of Oregon's total energy use, (lumber/wood/paper products using 55.3% of this).

OREGON DIRECT ENERGY
END USES OF ENERGY CONSUMPTION

Transportation	Private Automobile	23.4%		
Residential	Home Heating	13.4%		
Industry	Lumber and Wood	7.0%	Transportation	29.1%
-	Construction	8.1%		
Industry	Primary Metals	4.6%	Industrial	22.6%
-	Trade	4.2%		
Transportation	Trucks	4.0%		
-	Agriculture	2.5%	Residential	17.7%
Residential	Residential Hot Water	2.3%		

- Residential

- Fuel oil is the predominant fuel in home energy use, accounting for 69% of total residential energy use. The table below shows that electric use is 1,950,000 KWH annually, which breaks down to 30% use in space heat and 32% for water heating. Fuel oil use is 305,730 gallons annually, which is 100% in space heating. Natural gas use is 87% for space heat and 10% for water heating.

NORTH PLAIN'S RESIDENTIAL ENERGY USE BY TASK

	Space Heat	Hot Water	Cooking	Other	Total	Billion BTU/Yr.
Electricity - Million KWH/Year	.83 (30%)	.87% (32 %)	.23 (9%)	.80 (29%)	2.73	= 9.4
Fuel Oil - Thousand Gallons/ Year	305.73 (100%)	-	-	-	305.73	= 42.2
Natural Gas - Thousand Therms/ Year	80.39 (87%)	9.6 (10%)	2.79 (3%)	-	92.78	= 9.3

- North Plains is comparatively low in home energy use as is the average household income. Home energy waste is comparatively high because of the predominance of pre-1950 dwelling units. Pre-1950 dwellings tend to have little or no insulation. 93% of the existing housing is single family, 27% of these are pre-1950. 5% is multi-family, none of these are pre-1950.³

³Region Energy Analysis, CRAG, Report 2, June, 1977.

115.03.040 THE ECONOMY OF NORTH PLAINS

- North Plains is included in the Washington County Overall Economic Development Program. As such, it is eligible for the Federal EDA and State (Section 304 Grant Programs for public works and technical assistance funding.
- An OEPD was prepared and adopted in 1977 and is subject to annual update. A citizens' committee is responsible for the preparation and conduct of the Program.

The proximity of North Plains to the Sunset Corridor should benefit the local economy. The Sunset Corridor is a major employment center in the Portland area and includes the greatest concentration of high tech industries in the state. The high tech industries in the Sunset Corridor offer North Plains entrepreneurs the opportunity to provide supporting products and equipment to existing and developing businesses.

High tech employment in Oregon represents 20% of total manufacturing employment with over 40,000 workers. Approximately 77% of the workers are employed in the Portland area with the majority employed in Washington County.

Businesses include Tektronix, Intel, Floating Point, Epson, N.E.C., and others. A number of high tech industries have been identified as high growth industries by the Oregon Economic Development Department including:

- o Electronic computing equipment;
- o Semiconductors;
- o Electronic components;
- o Measuring and control instruments;
- o Industrial controls;
- o Telephone and telegraph equipment; and
- o Radio and TV communication equipment.

Opportunities exist for new businesses in North Plains to supply new high tech industries with products such as molded plastic parts including knobs and casings or services such as decal or silkscreen applications on parts. The advantages of a North Plains location for these types of businesses include lower land costs and rents than locations within the Sunset Corridor.

Additional growth industries identified by the state include:

- o Dehydrated food;
- o Upholstered household furniture;
- o Paper coating and glazing;
- o Periodicals;
- o Book publishing;
- o Engraving and plate printing;
- o Plastic materials and resins;
- o Drugs;
- o Plastic products;
- o Non-Ferrous rolling and drawing;
- o Aluminum castings;
- o Metal coating and allied services;

- o Machine tools, metal cutting;
- o Printing trades machinery;
- o Electronic coils and transformers;
- o X-Ray apparatus and tubes;
- o Transportation equipment, NEC; and
- o Surgical appliances.

Economic trend data provided by the Economic Development Department in 1987 indicate employment in high technology industries make up a major part of the Portland and Washington County labor force and economic base. The proximity of North Plains to major manufacturers in the Sunset Corridor indicates opportunity for attracting small manufacturers and warehousing businesses who are suppliers to or spin-off industries from the major manufacturers. The North Plains economy is currently dependent upon traditional resource industries (forestry and agriculture). Employment and capital investment increased at businesses and industries in North Plains between 1983 and 1987.

The City's 1987 buildable land inventory contained 12.5 acres of light industrial (M1) and 16.8 acres of General Manufacturing (M2) land. The (M1) land is almost all in one ownership. Based upon a conservation absorption of 1 acre per year the M1 land would provide for 12-13 years of growth for small industries. A large light manufacturing facility would quickly consume much of the inventory.

Based upon the trends and inventory described above, the City finds:

1. Agricultural and forestry industries will continue to be a major sector of the North Plains economy.
2. Small manufacturers and warehousing businesses who are suppliers to or spin-off industries from major manufacturers in the Sunset Corridor represent a significant economic development opportunity in North Plains.
3. The City has an need for addition light industrial land.

15.03.060 THE PEOPLE OF NORTH PLAINS

In 1980, the City of North Plains had 715 people with the following racial composition:

Table 3-2
RACIAL COMPOSITION

<u>Race</u>	<u>Percent</u>
White	90
Black	1
Spanish Origin	8
Other	<u>1</u>
TOTAL	100%

Source: 1980 Census

With regard to sex, 48.6% of the population was male and 51.4% female. Approximately 22% of the City's residents were 14 years and under, which is comparable for the county as whole. However, nearly 22% of the City's residents were 55 years and older compared to 16% for the county; the housing, transportation access and social service needs of this group deserve special attention.

While the City's population has fluctuated widely, it has maintained an average growth rate of 3% per year since its founding in 1910. However, in both 1981 and 1982, the growth rate increased to 3.3% despite the lack of a sewer system and poor economic conditions. Based on several factors described in the Population Projection section, the City has selected a future growth rate of 4.5%. This would result in a year 2010 population of 2343.

15.03.051 HOUSING SUPPLY

In 1980, North Plains contained 266 dwelling units which are described by type in Table 3-3. In addition, there were 43 units of migrant housing located at a labor camp on the east side of the City.

Table 3-3
EXISTING HOUSING BY TYPE

<u>Type</u>	<u># of Units</u>	<u>Percent</u>
Single Family	248	93
Multi-Family	12	05
Manufactured Family	<u>06</u>	<u>02</u>
TOTAL	266	100%

Source: 1980 Census; City of North Plains

As indicated in Table 3-4, nearly 25% of the housing stock is less than 10 years old. A majority of units were constructed during the 1940's and 50's when the City experienced significant industrial expansion.

Table 3-4
AGE OF HOUSING STOCK*

	<u># of Units</u>	<u>Percent</u>
1970-1979	60	24
1960-1969	29	12
1950-1959	71	29
1940-1949	75	30
1939 and before	<u>13</u>	<u>05</u>
TOTAL	249	100%

Source: City of North Plains

*Includes single-family dwellings only.

As detailed in Table 3-5, approximately 20% of the housing stock requires major structure repair or is otherwise unlivable, while the 45% is in excellent condition or requires only minor repair.

Table 3-5
HOUSING CONDITIONS*

	<u># of Units</u>	<u>Percent</u>
New or otherwise excellent	46	19
Minor repair required	64	26
Minor structural repair required	87	35
Major structural repair required	45	18
Abandoned or otherwise unlivable	<u>06</u>	<u>02</u>
TOTAL	248	100%

Source: City of North Plains

*Includes single family dwellings only.

15.03.052 PROJECTED NEED

Assuming an annual growth rate of 4.5%, the City of North Plains will have a year 2010 population of 2343, 1371 more than in 1990. Using the projected Metro 1995 household size of 2.45 person/household, this will result in additional demand for 560 housing units. Recognizing the need to provide a greater variety of housing types at affordable prices, the City wishes to encourage construction using the following ratio: 70% single-family, 20% multi-family and mobile home units than does the existing housing mix of 93%/5%/2%.

Currently, the City has nearly 79.0 acres of vacant residential land distributed throughout its four residential zoning categories. Based in calculations in the Urbanization section, approximately 86.0 acres of land will be required to meet the year 2010 demand; requiring an additional available supply 7.0 acres. Theoretically, if all vacant residential land was developed fully, the City could accommodate 584 dwelling units, resulting in 1,432 more people. If the annual growth rate were to remain constant, this "capacity population" would be reached in the year 2013. However, full development is unlikely.

15.03.053 HOUSING PROGRAMS

- North Plains is a participatory agency in the regional housing Opportunity Plan prepared by the Metropolitan Service District.
- The City is in the process of preparing its Housing Assistance Plan for submission to the Community Development Block Grant Program.
- In 1987, the Washington County Housing Authority constructed a 12-unit senior apartment building at 314th Avenue (5th) and Kaybern Street.
- However, a number of North Plains households, probably less than 10, currently receive Section 8 (rent supplements) housing assistance.
- North Plains is the site of a self-help housing project for migrant workers. La Raza Estates is a subdivision within the City limits, platted as 6 lots and built in 1974 using self-help techniques.

REMAINDER OF WASHINGTON COUNTY⁴

STATUS AND CONDITION OF ALL HOUSING UNITS

NORTH PLAINS AS A PERCENTAGE OF COUNTY⁵

Total Units in County = 55,400

Total Units in North Plains = 255

North Plains as a % of County: 0046

(Assumed: North Plains' housing conditions and assistance needs are the same as those of the remainder of Washington County).

1. Occupied Units		255
2. Substandard - Total		10
3. Suitable for Rehab		8
4. Owner Occupied		176
5. Owner Occupied - Substandard		7
6. Owner Occupied - Substandard - Suitable		6
7. Renter Occupied		79
8. Renter Occupied - Standard		3
9. Renter Occupied - Substandard - Suitable		3
<hr/>		
10. Total Housing Assistance Needs		32
11. Elderly or Handicapped		12
12. Families Needing Assistance		17
13. Large Families Needing Assistance(5+0)	03	
14. All Female Headed Households		08
15. All Minority Households		03

⁴ Washington County Minus the Cities of Beaverton and Hillsboro

⁵"Housing Opportunity Plan", Metropolitan Service District

15.03.060 EXISTING LAND USE

A discussion of existing land use and project year 2000 land requirements are presented in Urbanization. Major findings are as follows:

- North Plains contains 350 acres, approximately 337 acres of which is developed or potentially developable with the remainder devoted to local streets and federal highway easements. The City contains approximately 57 acres located in the flood plains of McKay Creek and its unnamed tributary.
- In 1987, only 129 acres, or 38% of the City's land is developed. This leaves nearly 208 acres available for future urban uses; however, 44 acres, or 21% of this are located in the flood plain, and are not generally available for development.
- The City will need approximately 45 acres of residential land to accommodate the additional 354 dwelling units anticipated by the 2000; this is only one-third of nearly 152 acres available. As a result, the City has enough residential land to last well into the next century.
- However, the City contains just enough commercial and insufficient industrial land to meet project demand; i.e. 15 and 31 acres respectively. This does not include a market factor, that is, the 25% to 50% oversupply of land needed to insure market choice and to keep prices from becoming artificially high. While the City has an abundance of vacant residential land, this is not suitable for commercial/residential development due to its location, existing or committed uses, and/or small lotting patterns.
- These findings support a need to expand the City's Urban Growth Boundary to add industrial land.