COMPREHENSIVE PLAN

CAÑON CITY, COLORADO

RESOLUTION ADOPTING
MASTER PLAN

WHEREAS, the Planning Commission of Canon City, Colorado, has engaged and employed Oblinger-Smith Corporation, Consultants in Planning, Design and Development of Denver, Colorado, to prepare a Master Plan for the physical development of the City of Canon City, including any areas outside the boundaries of the City which in the judgment of the Planning Commission relate to the planning of Canon City, and

WHEREAS, pursuant to such engagement and employment the Planning Commission, representative of Oblinger-Smith Corporation and administrative personnel of the City have conferred, studied, discussed, restudied, rediscussed, drafted and redrafted the items to be included in such a Master Plan and the composition and compilation thereof, and

WHEREAS, as a result of the joint endeavors of the parties relative to the matters mentioned in the preceeding paragraph, a completely compiled preliminary Master Plan was presented to the Planning Commission by Oblinger-Smith Corporation under date of January, 1979, and entitled "Canon City Comprehensive Plan", and

WHEREAS, the aforesaid preliminary Master Plan was reviewed in detail by the Planning Commission, Oblinger-Smith Corporation representatives and administrative personnel of the City, resulting in a revision thereof dated October, 1979, which revised compilation appears acceptable to the Planning Commission subject to further revision, addition or deletions therefrom following a public hearing or hearings thereon, and

WHEREAS, Notices of Public Hearings were duly published notifying all interested parties of the time and place of the Public Hearing at which the Planning Commission would consider the adoption of a Master Plan of Canon City, and namely in the November 7 and 14, 1979, issues of the Fremont County Sun and the Canon City Daily Record giving notice of the public hearing to be held on November 27, 1979, and in the January 11, 1980, issue of the Canon City Daily Record, (the official newspaper of the County of Fremont, Colorado, for the year 1980) giving notice of public hearing to be held on January 29, 1980, and

WHEREAS, Public Hearings were duly held at the time and place designated in said Notices, namely, November 27th, 1979, at the hour of 7:00 p.m. and January 29, 1980, at the hour of 7:00 p.m., and

WHEREAS, following said Public Hearing, changes were made in the final draft of the Master Plan prepared by Oblinger-Smith Corporation, which changes or modifications have been incorporated in the book described below.

NOW, THEREFORE, BE IT RESOLVED that the Planning Commission of the City of Canon City, Colorado, does hereby adopt as the Master Plan, of the City of Canon City, Colorado, The Canon City Comprehensive Plan prepared by Oblinger-Smith Corporation, Consultants in Planning, Design and Development, of Denver, Colorado, dated October, 1979, with modifications made by said Planning Commission. The said Canon City Comprehensive Plan prepared by Oblinger-Smith Corporation as modified by said Planning Commission adopted by this Resolution, is printed on letter size paper (8 1/2 inches by 11 inches) fastened in book form by plastic spiral binding, and is comprosed of:

1. Certified copy of this Resolution
2. Title Page
3. Table of Contents, list of diagrams, and list of maps consisting of five (5) unnumbered pages
4. Text material and maps divided into fifteen (15) chapters to-wit:
   - I. Introduction, consisting of pages numbered 1 to 9, inclusive, which includes Map A (Location Map)
   - II. History, consisting of pages numbered 11 to 15, inclusive
   - III. Goals, Objectives and Policies, consisting of pages numbered 17 to 27, inclusive
   - IV. Development Standards, consisting of pages numbered 20 to 46 inclusive
   - V. Population Analysis, consisting of pages numbered 47 to 56 inclusive and Map C (Annexations to Canon City between 1970 and 1977) on an unnumbered page

5. Appendices

   1. Appendix A comprised of pages numbered A-1 to A-12 inclusive
   2. Appendix B comprised of pages numbered B-1 to B-6 inclusive

BE IT FURTHER RESOLVED, that The Planning Commission of The City of Canon City hereby directs and authorizes the Chairman of this Commission to affis his signature to the Title Page, and to Maps lettered B, K, M and T on ten (10) copies (each of which shall be an original counterpart).

BE IT FURTHER RESOLVED, that an attested original counterpart shall be certified by the Secretary to this Commission, to the Council of the City of Canon City, and to the Board of County Commissioners, of the County of Fremont and State of Colorado for their approval of this Master Plan hereby adopted by the Planning Commission.

BE IT FURTHER RESOLVED, that upon completion of the approvals aforesaid, and after the same have been attached to one of the original counterparts, it shall be filed with the County Clerk and Recorder of the County of Fremont and State of Colorado.

BE IT FINALLY RESOLVED, that the Secretary to the Commission, from time to time, is hereby authorized and directed to certify copies of this Resolution when attached to and made a part of the Master plan and to cause the signature of the Chairman of the Planning Commission to be affixed to the pages and Maps, indicated above, by the hand of said Secretary, and cause the seal of the City of Canon City to be affixed to each such certification.

STATE OF COLORADO)
)
COUNTY OF FREMONT)

CERTIFICATION

SHELLEY HILBERT does hereby certify:

That she is the duly appointed qualified and acting Secretary to the Planning Commission of the City of Canon City, Colorado.

That the above and foregoing Resolution Adopting Master Plan is a true, correct and authentic copy of said Resolution adopted by an affirmative vote of not less than two-thirds of the entire membership of said Planning Commission at a regular meeting of said Commission held on January 29, 1980.

IN WITNESS WHEREOF, I hereto set my hand and affix the Seal of the City of Canon City this ____ day of _____, 1980.

_____
Shelley Hilbert
Secretary to said Planning
Commission

CANON CITY COMPREHENSIVE PLAN
(MASTER PLAN)

Prepared by
Oblinger-Smith Corporation
Consultants in Planning, Design and Development
Denver, Colorado

October, 1979

Modified by the Planning Commission of Canon City, Colorado
prior to the date of its adoption on
January 29, 1980

The preparation of this report was partially financed through a Comprehensive Planning Grant from the Department of Housing and Urban Development, under the provisions of Section 701 of the Housing Act of 1954, as amended.

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I INTRODUCTION

The Canon City Comprehensive Plan represents the combined efforts of the Canon City Planning Commission, the City Council, City Administrative officials and staff, the Fremont County Commissioners, the Upper Arkansas Area Council of Governments, concerned citizens and civic organizations throughout the Canon City planning area and the staff of Oblinger-Smith Corporation, Consultants in Planning, Design and Development. The desire and need for a thorough planning program and a series of implementation tools that accompany this document was realized in 1977, as a result of recent and anticipated growth in the Canon City Area, combined with a wide assortment of existing facility, service and land use deficiencies. This planning program was funded from several sources including "701" Comprehensive Planning Assistance provided by the United States Department of Housing and Urban Development, State Energy Impact Funds allocated by the Colorado Department of Local Affairs and the General Funds of Canon City and Fremont County.

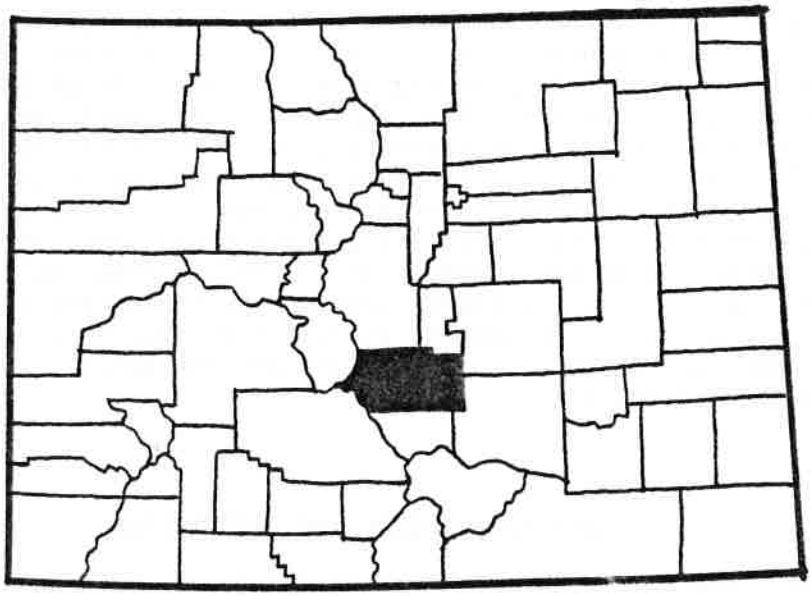
General Location and Description

Canon City, the County seat of Fremont County, is located at the mouth of the Royal Gorge in south central Colorado. The community is situated 45 miles southwest of Colorado Springs and 39 miles west of Pueblo, Colorado.

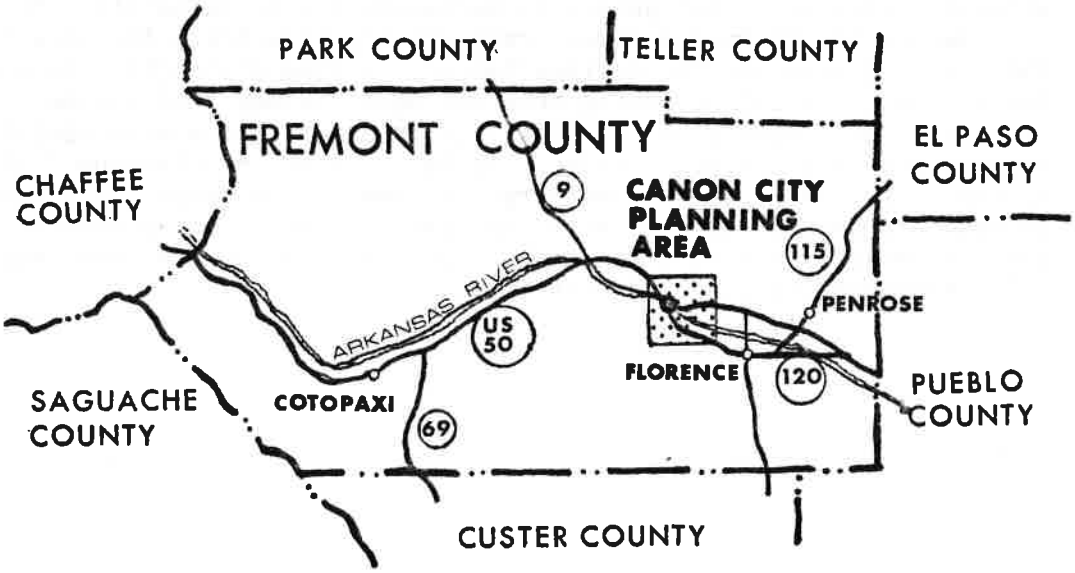
The corporate limits of Canon City currently contain approximately 7.4 square miles or 4,733 acres. However, a planning area containing approximately 35 square miles will be covered by the Plan since many of the land use, housing and community development problems in the Canon City area do not coincide with established corporate boundary lines. Thus, the Canon City Comprehensive Plan is intended to address planning related issues and problems within the City limits as well as expanding its scope to cover the unincorporated area that generally surrounds the municipality. Maps A and B, shown on the following pages, respectively illustrate the location of the planning area and the delineation of planning districts. As shown on Map B, the Canon City planning area has been divided into six municipal and eight unincorporated planning districts in order that a more specific geographic analysis can be provided. Table 1 lists the planning districts according to their commonly referred to names. The reader is strongly encouraged to become familiar with the names of the planning districts and their general locations since certain portions of the Comprehensive Plan will reference the planning districts.

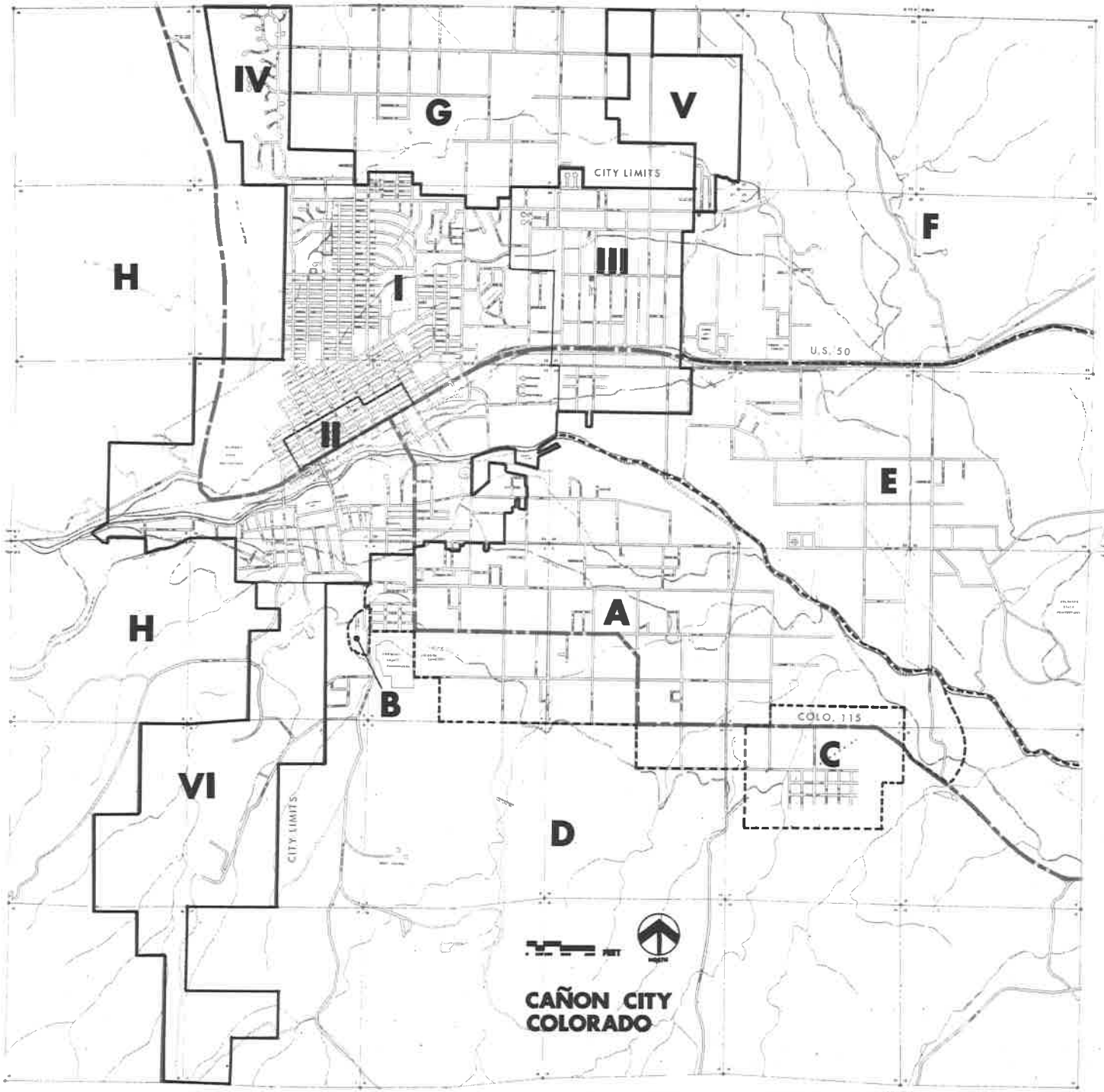
MAP A

LOCATION



COLORADO





PLANNING DISTRICTS

CANON CITY

- I CENTRAL CANON
- II CENTRAL BUSINESS DISTRICT
- III EAST CANON
- IV SKYLINE
- V ORCHARD PARK
- VI INDUSTRIAL PARK

UNINCORPORATED AREAS

- A LINCOLN PARK
- B PROSPECT HEIGHTS *
- C BROOKSIDE *
- D FAWN HOLLOW
- E FOUR MILE
- F FOUR MILE CREEK
- G PARK CENTER
- H WEST CANON

*STATUTORY TOWN

MAP B

The preparation of this map was partially funded through a grant from the Department of Housing and Urban Development, under provisions of Section 701 of the Housing Act of 1954, as amended.

PREPARED BY
OBLINGER-SMITH CORPORATION

TABLE 1
PLANNING DISTRICTS

Canon City	Unincorporated Areas
I - Central Canon	A - Lincoln Park
II - Central Business District	B - Prospect Heights
III - East Canon	C - Brookside
IV - Skyline	D - Fawn Hollow
V - Orchard Park	E - Four Mile
VI - Industrial Park	F - Four Mile Creek
	G - Park Center
	H - West Canon

Source: Oblinger-Smith Corporation, Consultants in Planning, Design and Development, 1978.

Purpose of Planning

Many cities, towns and unincorporated areas have expanded without plans to guide their extensions of urban and rural growth. With population levels and employment opportunities increasing, various developmental problems have emerged due to the lack of or the underutilization of governmental guidelines and controls. Thus, the purpose of planning is to evaluate existing needs and recommend ways and means to provide for those needs. Future urban and rural needs should be anticipated so that public facilities and services may be provided when they are required in the Canon City planning area. In order to accomplish this, it should be anticipated as accurately as possible how much and how rapidly Canon City and the surrounding environs will grow. The direction of probable growth should also be determined, as well as the kind of growth that is desired and likely to occur. Above all else, the planning process should provide guidelines for good community and rural development, as well as presenting recommendations for eliminating the undesirable features of a municipality or unincorporated area.

Purpose of Comprehensive Planning

A comprehensive plan is an official document adopted and adhered to by a local governmental jurisdiction which serves as a policy guide for both public and private decision-makers in terms of identifying and anticipating existing and future development needs, desires and problems. The main intent of this Comprehensive Plan is to show how the Canon City planning area has developed in the past, where it is today and what its future prospects

are. The Plan is also intended to arrive at official development policies for the physical, social and economic improvement of Canon City and surrounding environs. It must be remembered that a comprehensive plan is not a technically detailed document, but instead it indicates in a general manner how the governmental officials and citizens in the planning area wish their governmental jurisdictions to develop over the next twenty years.

The Plan is concerned with identifying how and where growth and development will occur throughout the Canon City planning area while simultaneously insuring that all natural and man-made resources are used in an optimum and efficient manner. The Plan delineates locally arrived at planning goals and objectives, examines existing developmental problems and issues, analyzes public facility and housing deficiencies and prepares a possible plan of action to correct the recognized deficiencies and to make the needed improvements. The final stages of the comprehensive planning process establishes developmental policies while simultaneously preparing and updating land use regulations and other needed implementation tools that will be called upon to alleviate the impact and severity of recognized problem areas. Essentially the comprehensive planning process establishes the character, quality and pattern of the physical environment for the activities of people, businesses and organizations throughout the planning area.

In general the purposes of comprehensive planning are: 1) to promote economic, social and cultural values which create a desirable environment for living; 2) to promote the health, safety and general welfare of the people; 3) to achieve an efficient and economical distribution of land uses; 4) to coordinate the use of land and transportation networks to facilitate the movement of people and goods; 5) to coordinate the development of Canon City with the development of unincorporated areas; and 6) to provide a sound basis for capital improvement expenditures.

The immediate value of the Comprehensive Plan may be realized with regard to considering improvements to the housing stock and transportation networks, fostering a diversified economy, identifying major capital improvement needs such as public building and utility improvements, defining policies for the preservation of the natural environment, and providing a basis for deciding zoning and subdivision matters. The Comprehensive Plan should also be useful to residents and elected officials throughout the planning area by providing information to facilitate improvement efforts, to protect and improve existing development, and to point out various opportunities for private as well as public action. Thus, a comprehensive plan is an instrument that will aid local governmental bodies in establishing long range, general policies for the physical development of the planning area which can be continually referred to in making public decisions that must be addressed every week.

In summary, comprehensive planning requires answers to several questions: what do we have; what is happening to change things; what can we do with what we have; what should we do; and how are we going to get it done? For all of these questions and many more, public elected officials are required to make decisions concerning the development of the Canon City planning area. In fact, elected officials chosen by the people are required to make decisions that affect everyone's life, but the overall success of that decision might be minimal if the people do not fully understand what will be accomplished

or why a particular change is needed. In order to make these often difficult and sometimes controversial decisions, elected officials need input not only from administrative experts, but also from interested citizens. Through citizen participation, local residents can advise local governmental officials and planning commission members of their desires and concerns. Consequently, the ultimate benefit of comprehensive planning lies in the fact that it provides a well conceived method of obtaining a future environment that is possible and desirable in the view of the planning area's residents.

The Planning Process

After the development of the Comprehensive Plan itself, there are two additional stages in the community comprehensive planning process. The second stage dealing with the implementation of the Plan is concerned with how best to go about reaching the goals and needs identified in the Comprehensive Plan. Whether or not these goals are achieved depends on community action, but the day-to-day decision-making of local public officials is an important part of community action. The implementation tools that have been used traditionally by municipalities are the zoning ordinance, subdivision regulations, housing and building codes and the capital improvements program.* Unlike the Comprehensive Plan, the zoning ordinance, subdivision regulations, and other regulatory tools are a direct expression of the municipality's statutory police power to place restrictions on certain types of human activity to protect the public health, welfare and safety. These ordinances and other implementation tools are normally written to reflect the thinking of the Comprehensive Plan so that there is a high level of consistency between the general guidelines and the implementation tools.

The third stage of community comprehensive planning centers on the evaluation, review and updating of the Comprehensive Plan and related documents and regulations. This stage is primarily an on-going activity which tries to answer questions such as: Is the community moving in the direction outlined in the Comprehensive Plan? Are new studies needed to more effectively carry out the Comprehensive Plan? Do the results of new studies indicate a need to make changes in the Comprehensive Plan or other planning-related tools? Because planning is predicated on change, changing circumstances and attitudes within the community require that the tools of planning change as well. The on-going planning process provides the capability to respond to changes in the community, thereby encouraging flexibility as well as continuity and consistency in local decision-making.

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*Other implementation techniques and tools have been developed such as the concept of planned unit development and the development of performance standards.

Implementation

Traditionally, it has been the implementation stage which has proven to be the stumbling block in community comprehensive planning. In response to the pressure and experiences of day-to-day decision-making, the longer-range goals of the Comprehensive Plan can easily be overlooked or the implications of a particular type of development may receive only a cursory analysis. Oftentimes it is not the immediate effects of any particular decision that produces unintended or undesirable consequences for the community, but is rather the cumulative impacts of those decisions over longer periods of time.

To correct some of the traditional weaknesses in comprehensive planning and to deal more effectively with persistent urban and environmental problems, new emphasis has been placed on implementation tools and strategies. This change, which has some far-reaching implications for smaller, urban areas such as Canon City, is discussed briefly in the following paragraphs.

Like other small towns located along or near the Front Range Urban Corridor, Canon City has experienced the impact, either directly or indirectly, of the urban and economic growth which has taken place along the Front Range. Urbanization has had the direct result of reducing both the political autonomy and physical isolation of the City which in the past had acted as a buffer against growth-related problems affecting land use, transportation, environmental protection and public facilities and services.

This surge of growth has also stimulated new approaches to solving growth-related problems. In response to these problems, not only have the traditional levels of government assumed new or expanded responsibilities, but new governmental entities have been created as well (for example, the Upper Arkansas Area Council of Governments, the Colorado State Land Use Commission, and the Federal Department of Energy). Because the solutions to many of these growth-related problems are seen to involve a number of different and often competing governmental jurisdictions, these regional, state and federal agencies have been established in part to coordinate the actions of the numerous separate governmental organizations. Canon City's involvement in the Eastern Fremont County "201" Facilities Plan is an example of this.

Canon City, which is on the outer fringe of the urbanizing centers of Colorado Springs and Pueblo, has been drawn slowly into the "sphere of influence" of these larger regional, state and federal agencies. More and more, the policies and decisions made at these larger governmental levels are affecting, directly or indirectly, local level decision-making. For example, State and federal legislation have set new standards or requirements for compliance by local governments in areas as diverse as water and air pollution, land subdivision and sand and gravel mining operations.

The emphasis on non-local policy-making has two important consequences for Canon City. First, the types of problems which local governments such as Canon City are asked to deal with are continually more complex, in many instances requiring sophisticated technical analysis. This places a greater burden on the local decision-makers who must analyze the issues and make decisions about complex and highly technical problems. Second, the standards

and requirements stemming from State and federal legislation many times require mandatory local compliance, thereby reducing the political autonomy of the local government.

For Canon City, this upward shift in policy-making is both a blessing and a burden. On the one hand, the policies in the form of legislative action represent new and useful implementation tools for community comprehensive planning. On the other hand, the policies tend to reduce local initiative in both defining problems and developing solutions to local problems.

Thus, much of the planning which takes place in the various State and federal agencies is concerned with the setting of policy and the development of programs to implement policies. Since general policy determination is a function of the legislative branch of government, there are a number of major planning policies embodied in State and federal legislation which are of importance to the Canon City area. Some of the more pertinent legislation is summarized below and on the following pages.

Colorado House Bill 1041 (HB 1041)

House Bill 1041 was enacted during the 1974 Session of the Colorado Legislature and at the time of its enactment represented a first step toward state-wide comprehensive land use planning. The major concept in the legislation, labeled as "Matters of State Interest", referred to specific kinds of areas or activities as follows:

Areas	Activities
Mineral resources areas	Site selection and construction of major new domestic water and sewage treatment systems
Geologic hazard areas	Major extensions of existing domestic water and sewage treatment systems
Wildlife hazard areas	Site selection and development of solid waste disposal sites
Flood hazard areas	Site selection of airports
Historical and archeological resource areas	Site selection of rapid or mass transit facilities
Significant wildlife habitats	Site selection of arterial highways and interchanges and collector highways
Shoreland of major publicly owned reservoirs	Site selection and construction of major facilities and public utilities
Areas around airports	Site selection and development of new communities
Areas around major facilities of a public utility	
Areas around interchanges involving arterial highways	
Areas around rapid or mass transit facilities	

By designating these areas or activities as "Matters of State Interest," local governments acquire the right to regulate the development of those areas or activities. HB 1041 has thus created a two-step process. Step one involves designation and the second step results in the issuance of regulations to guide subsequent development in the designated areas. Both steps require public hearings to allow community people and special interest groups an opportunity to express their views and to shape the details of local policy.

The legislation also created a role for the State government in initiating and coordinating the designation of "Matter of State Interest." For example, the Colorado Land Use Commission has been coordinating the publication of guidelines for the various areas and activities (such as geologic hazard areas, mineral resource areas, etc.) which will be available for the use of local governments in selecting and defining the boundaries of areas that represent "Matters of State Interest." These guidelines issued by the Commission do not have the force of law, but are rather intended to help local governing bodies in their decision-making. Although it has been the local governing bodies who alone have the power to designate and regulate "Matters of State Interest," the State has on occasion used its limited role to become involved at the local level.

Colorado House Bill 1529 (HB 1529)

Enacted in 1973, this legislation requires "Master Plans for Mineral Extraction" to foster mineral conservation by planning for possible future extraction and use. This Master Plan would help to insure that deposits of limestone, coal, sand, gravel and quarry aggregate would not be made inaccessible by permanent construction or by other types of land use activity.

Colorado Senate Bill 35 (SB 35)

With the passage of SB 35 in May of 1972, the entire area of subdivision regulation by Colorado County Governments was changed dramatically. This legislative enactment not only required that county subdivision regulations be adopted, but outlined the minimum procedures and standards which were to be incorporated into the regulations as well. Most of SB 35 was applicable only to counties, not to home rule or statutory cities and towns. One provision of the legislation which did apply to municipalities concerned "Major Activity Notice" (Section I, 31-23-225, CRS 1973). Under this provision, when a subdivision (or commercial or industrial activity) has been proposed which covers five or more acres of land, the municipality involved must send notice of the development to the Colorado Land Use Commission, the State Geologist, and the Board of County Commissioners adjoining the municipality.

Under SB 35, the term subdivision does not apply to the division of land which creates parcels of land each of which are 35 acres or larger. When the parcels are smaller than 35 acres, the subdivision must comply with the requirements of county subdivision regulations. As a minimum requirement, prospective subdividers must submit to the Board of County Commissioners "data surveys, analysis, studies, plans and designs" which address such considerations as the physical characteristics of the site, the type and size of development proposed, and the provision of basic water and sewage services.

701 Comprehensive Planning Assistance Program (U.S. Department of Housing and Urban Development)

The Comprehensive Planning Assistance Program (commonly known as the 701 Program) refers to section 701 of the Housing Act of 1954. While the specific objectives of the 701 Program have changed since its enactment, the basic goal of the program to provide financial support to local governments for local comprehensive planning has remained unchanged.

In order to make the 701 Program more effective in meeting this overall goal, a set of minimum requirements has been established which must be met by participants of the program if they wish to remain eligible for continued planning assistance funds for a much broader range of planning activities. The minimum requirements are broken down into three sections - a section of general requirements and two sections focusing on specific elements of comprehensive planning, the land use plan and the housing plan.

The first section pertaining to general requirements, requires an assessment of the environmental impacts of the Plan as well as an assessment of the consistency of the Plan with other pieces of major federal legislation (the National Historic Preservation Act of 1966, the Water Pollution Control Act Amendments of 1972, the Clean Air Act, and the Outdoor Recreation Program of the Land and Water Conservation Fund Act of 1965).

The sections pertaining to the minimum land use and housing elements generally require a statement of broad goals, annual objectives, a discussion of programs to accomplish those objectives and criteria to evaluate the programs so designed. The requirements in the land use and housing elements emphasize implementation procedures that will be effective in guiding major development decisions.

II HISTORY

The Canon City planning area is one of the richest historical areas in the State of Colorado. The area's historical heritage focuses on the migration of trappers, mountain men, explorers and pioneers along the Arkansas River Valley, building of railroads, homesteading, Indian battles with pioneers, establishment of towns, and finally the establishment of a strong agricultural, industrial and trade centered economy. Many historical artifacts that accompanied the settlement of Canon City and Fremont County are preserved in the Canon City Museum which is located in the City Hall and in the nearby Rudd House and Cabin. The Museum is operated by the Canon City Museum Association and there is also an active local historical society. Presently, 11,000 people visit the museum on an annual basis.

One of the earliest explorations of the area occurred in 1806, when Zebulon Pike (namesake for the famous Pikes Peak located in Colorado Springs) first viewed the Royal Gorge. In the pursuing years, Lieutenant John C. Fremont conducted five expeditions in the Canon City area searching for a feasible transcontinental railroad route through the Rocky Mountains.

In the late 1850's, Joaquin Miller, a poet, major, minister, judge, and adventurer in Canon City, tried to have the small settlement called Oreodelphia, for the gold and silver the miners hoped to locate. However, many of the residents were coal miners and voted for the name of "Canyon City". A reporter at the meeting used the Spanish canon spelling, using the tilde over the "n", and so it went on record in 1861.

In 1872, Canon City was incorporated. Within two years railroads came to the Canon City area, later getting into the famous litigation over the right-of-way through the passage of the Royal Gorge of the Arkansas River. The Denver and Rio Grande Western now holds the railroad right-of-way.

World scientists have been interested in the fossil remains of the Alantasaura discoveries near Canon City since 1878. Portions of the remains, as well as complete fossils of several prehistoric dinosaur types, are now preserved in the Museum of Natural History in Denver, the Peabody Museum and the Carnegie Museum of Natural History.

Presently, there are no historical places in the planning area that have been listed on the National Register of Historical Places. However, the Historical Society of Colorado has identified and briefly inventoried the history of notable trails, roads, parks, homesteads, hotels, mansions, cemeteries, and other places of historical and archeological interest in or near the planning area. A brief description of these places and their general location are presented in the following pages.

1. Barlow and Sanderson Stage Line

   (The precise location of the stage line through the Canon City planning area has not been identified)

   The last of the transcontinental stage lines, it was the final stagecoach carrier of overland mail to California. The Colorado portion of the line was placed in operation in 1872 at Kit Carson, Colorado and gradually the line moved westward through the State, eventually reaching Montrose, Telluride and Rico. The system was sold in 1884 to the Colorado and Wyoming Stage, Mail and Express Company.

2. Royal Gorge of the Arkansas River

   (10 miles west of Canon City)

   The Royal Gorge is owned and maintained by the municipality of Canon City and its scenic splendor was formed by the Arkansas River cutting through granite. Seen by Zebulon Pike in 1806, this narrow canyon was the cause for the Royal Gorge Railroad War, which was settled by the U.S. Supreme Court. The world's highest suspension bridge was constructed across the Gorge in 1929, and an incline railway was built to the bottom in 1931.

3. Shelf Road

   (From Canon City, up through Garden Park, to the gold fields of Cripple Creek)

   In the spring of 1892, a group of Canon City and Florence investors built a toll road to the gold fields of Cripple Creek. The road was very successful until the Eight Mile Creek Road (Phantom Canyon) was built and the Florence and Cripple Creek Railroad was completed.

4. Red Canons Park

   (10 miles north of Canon City via Shelf Road)

   This municipal park of 600 acres was reopened in 1951. The Park contains red sandstone formations similar to Garden of the Gods in El Paso County. It is located near dinosaur "diggings" of the 1800's and south of Shelf Road, a stagecoach road to Cripple Creek. The park was originally opened in 1921 and was purchased by Canon City in 1923, but it was closed in 1929 due to the lack of a good access road.

5. Dinosaur Quarry

   (North of Canon City on Garden Park Road)

   From this site, dinosaur skeletons have been removed and sent to many museums. A stegosaurus was discovered in the 1930's and it is located in the Museum of Natural History in Denver.

6. Gabriel Boen Oil Spring

(Five miles north of Canon City)

A visible oil seep on the east side of Oil Creek marks the location of the second oil claim in the United States (September 3, 1860). This claim by Gabriel Boen was also the first 160-acre claim in Fremont County, antedating the Homestead Law.

7. Rudd Homestead Cabin

(612 Royal Gorge Boulevard, Canon City)

Built between 1860 and 1862 by Anson Rudd, this homestead cabin was the first to have a board floor. It was visited by Chief Ouray, John Evans and other notables. Now part of the Canon City Museum, it may have been the birthplace of Anson Spencer Rudd, the first white child born in Canon City.

8. Rudd Stone House

(612 Royal Gorge Boulevard, Canon City)

Built in 1880 (1881) by Anson Rudd, pioneer, later county commissioner, sheriff and first warden of the State Penitentiary. The Rudd Stone House is now the property of Canon City.

9. Hotel Canon (Powell House)

(7th and Main Street, Canon City)

Built in Silver Cliff in 1878 and named the Powell House for one of the finders of the Silver Cliff Mine, this four-story brick structure was moved in pieces by freight wagons to Canon City in 1890 where it was bought by Henry White in 1892. He installed the first elevator in Canon City. The hotel has been known by many names.

10. McClure House (Strathmore Hotel)

(4th and Main, Canon City)

Built in 1874 by William H. McClure, this building originally housed the Fremont County Bank, as well as the hotel. It has served as a hotel continuously since its construction.

11. Wm. C. Catlin Homestead

(Located on Second Street in South Canon City)

The homestead is the site of the first brick house in the region. William Catlin brought his bride to the United States from England in 1849 and to Fremont County probably about 1860. He built the first brickyard in the region which supplied bricks for many of Canon City's early day buildings. Some of the ruins can still be seen on the Second Street side.

12. Sheetz House

(428 Greenwood, Canon City)

This structure was built in the late 1870's as a residence for Mr. M.M. Sheetz, from stone, probably quarried by prison convicts. It was operated as a private hospital in 1908 and the building now serves as an apartment complex.

13. Three Mile Springs - Indian Trading Post

(This historical site is located on the east side of Highway 50, just north of the entrance to Skyline Drive)

This two-story adobe house, now used as a storage building, served as an Indian trading post in the 1870's and 1880's. The trading post was originally operated by Edwin Nichols, whose grave is nearby.

14. George Rockafellow Site

(121 Main Street, Canon City)

This two-story adobe house was originally the home of George Rockafellow, (from 1872 - 1950) the first mayor of Canon City. Later bought as a residence for the penitentiary chief, it was damaged during a windstorm and replaced by the present residence of the penitentiary warden. The stone fence remains.

15. Hot Springs Hotel and Springs Site

(This historical site is located along the Arkansas River at the mouth of Grape Creek near Canon City)

This was the location of a 38-room, three-story hotel built as a health spa in 1873. Visited by train tourists who crossed a swinging bridge across Arkansas River, it was torn down in 1950.

16. St. Scholastica Academy

(615 Pike Avenue, Canon City)

This building,constructed in 1897, was located on the foundation of a previous building completed in 1881, the location of the Colorado Collegiate and Military Institute. Purchased by the Benedictine Sisters, it became Mt. St. Scholastica Academy in 1890. A dynamite explosion in 1892 left only a portion of the original building usable.

17. Soda Springs Site

(At the Colorado Penitentiary in Canon City)

The buildings covering this mineral spring were removed in 1950, and the spring itself is no longer there. It was popular with early explorers, Indian tribes and pioneer residents of Canon City. For a time, the mineral water was used to make ice cream sodas.

18. Greenwood Cemetery

(Located on Catlin Homestead southwest of Canon City)

The first grave is that of W.M. Davis who died in June 1865. In the 1870's the Catlins gave the ground around the Davis burial site to Canon City to start Greenwood Cemetery. Records of Greenwood burials begin in 1876.

19. Lakeside Cemetery

(Located south of Canon City)

The first burial was Francis A. Pressey, July 20, 1901.

III GOALS, OBJECTIVES AND POLICIES

Basic to the preparation of a Comprehensive Plan for Canon City and surrounding environs is a discussion of goals, objectives and policies that residents throughout the planning area desire. Since comprehensive planning serves as a guide to the present and future growth and development of the planning area, the establishment of locally oriented goals, objectives and policies is of vital importance to the overall success of the planning process. The formulation of goals, objectives and policies by Canon City area residents is a crucial element of the Comprehensive Plan since this planning effort attempts to create the type of environment which residents of the planning area desire-the attempt to achieve resident's goals and objectives.

The process of establishing goals began in the later part of 1977 when a preliminary statement of goals was developed jointly by Canon City governmental officials and the staff of the Upper Arkansas Area Council of Governments. These original goals were very general in nature and were distributed to residents in the Canon City planning area by means of newspaper deliveries, in a hope that a general attitude toward planning issues could be established. Unfortunately, the response to this survey was less than anticipated. In fact, of the 8,800 surveys distributed, only 299 were returned.

From examining individual responses to the survey, many people seemed to feel that the survey was biased and that answering the questions was an utter impossibility. However, in spite of the internal deficiencies of the survey and the corresponding low response rate, it is believed that the returned individual comments were useful in terms of identifying community problems and needs. An example of the goal survey, a tabulation of responses and some generalized citizen comments are located in Appendix A of this Plan. It should also be noted that some of the original language has been changed to summarize, correct and/or clean-up the returned responses.

The returned surveys and the corresponding citizen comments essentially establish the foundation for the development of the goals, objectives and policies contained within this element of the Comprehensive Plan. However, the original responses and comments have been refined and expounded upon by the staff of Oblinger-Smith Corporation after consultation with the City Council, Planning Commission Members, City and County Administrative staffs, community organizations and interested citizens. In fact, local resident participation in the development of goals, objectives and policies as well as citizen involvement throughout the preparation of the entire Comprehensive Plan was encouraged at all times. Thus, citizen participation was solicited to ensure that the Plan is fully consistent with the wishes and desires of local residents.

Before discussing the goals, objectives and policies which establish the framework of the Comprehensive Plan, a generalized definition of these terms is needed. Throughout this Plan a goal is defined as a desired condition while an objective is a desired level of achievement or measurable step toward the achievement of the goal. A policy generally means the method which should be applied to obtain a desired goal.

With these definitions in mind, goals, objectives and policies were developed for the following ten subject matters: 1) Overall Goals, Objectives and Policies of the Comprehensive Plan; 2) Citizen Participation; 3) Economic and Social Factors; 4) Natural Resources and Environmental Quality; 5) Natural Hazards; 6) General Land Use; 7) Commercial and Industrial Land Use; 8) Residential Land Use and Housing; 9) Public Facilities and Services; and 10) Transportation.

Overall Goals, Objectives and Policies of the Comprehensive Plan

Goal:

- To maintain and improve the community of Canon City and surrounding areas by making improvements that will provide a high quality living and working environment and at the same time protect the community's and the County's unique natural environmental settings.

Objectives/Policies:

- To promote cooperation between governmental jurisdictions at the local, State and Federal levels of government, through joint planning and coordination where possible.

- To improve and foster intergovernmental cooperation at the community, county, regional, state and federal levels of government.

- To apply for State and Federal assistance (grants, loans, services, technical information, etc.) as needed for community and County improvements.

- To continue to be a participating member in the Upper Arkansas Area Council of Governments (Colorado Planning Region XIII). The region is comprised of Lake, Chaffee, Custer and Fremont Counties. Cooperation among these governmental entities is desirable since they share many of the same problems and developmental opportunities.

- To achieve efficiency and economy in governmental fiscal affairs.

- To take all necessary measures that ensure the adoption and implementation of the Comprehensive Plan.

- To initiate the schedule of improvements delineated in the six-year Canon City Capital Improvement Program and to annually update and/or revise this Program.

- To enforce the Canon City building code, zoning and subdivision regulations and all other municipal ordinances and regulations and to update and revise these regulations when necessary. The City also encourages the County and the unincorporated residents throughout the planning area to adopt comprehensive zoning regulations and a building code, since the majority of land use and developmental problems are presently occurring outside of the City limits. In fact, coordination and cooperation among the City, County and special districts is a vital step for insuring that the recommendations and findings in the Comprehensive Plan are implemented.

- To guide the development and growth of Canon City and to provide unincorporated residents and businesses with adequate levels of public facilities and services. The City will gradually pursue an annexation program. However, it is the policy of the City that when existing public facilities (water and sewer lines, roads, etc.) are in need of improvement or expansion, that the annexed property owners be required to pay for the improvements in order that the associated costs are not borne by the taxpayers at large.

- To apply for State and Federal domestic assistance programs that can be utilized to help finance particular improvement projects that are identified through the planning process.

Citizen Participation

Goal:

- To develop a broad base of citizen participation and involvement in the decision-making aspects of governmental activity at the community and county level.

Objectives/Policies:

- To expand and maintain channels of communication among local residents, public officials and elected representatives.

- The Canon City City Council and Planning Commission strongly encouraged citizen participation in the formulation of this Comprehensive Plan and will continue to solicit citizen's opinions and desires on a wide variety of subject matters.

- It is the policy of Canon City that planning and land use regulatory tools will not be effective until the population at large is educated toward the disadvantages and advantages of such actions.

- To publish comprehensive planning related articles in local newspapers and broadcast community messages on local radio programs in the planning area that solicit citizen comments on a wide variety of planning issues. These forms of mass communication will also serve as a means for informing the public of the date, time and location of public meetings and hearings.

- To utilize citizen questionnaires (within local governmental financial and time constraints) to solicit citizen opinions on governmental and land use planning issues.

Economic and Social Factors

Goal:

- To maintain and foster a strong and balanced economic base of production while simultaneously ensuring that the social needs of all residents in the planning area are met.

Objectives/Policies:

- To provide more employment opportunities for all residents in the planning area.

- To attract new employers and new people to the Canon City planning area. Growth is desired by the majority of residents and simultaneously there is a strong desire to prevent out-migration trends which can result in a declining population and economic base. To prevent the possible out-migration of residents (especially young adults), better paying jobs and sound economic and social conditions need to be provided.

- To coordinate land use and development decisions with economic and social factors.

- To meet,through public and private programs, the problems and needs of the different socio-economic groups within the County. Socio-economic groups possibly requiring special programs include the young and the elderly, widowed persons, and low- and moderate-income families.

- It is the policy of governmental officials and planning commission members in the planning area that this Plan is just the first step in analyzing demographic and economic trends and that local governmental bodies will make an effort to maintain updated files on economic and social data.

- Local governmental bodies throughout the planning area will support and work closely with private enterprises and civic organizations in an effort to stimulate economic and population growth.

- Local governmental bodies will attempt to broaden the economic base of the planning area by encouraging the development of commercial activities and clean, nonpolluting industries.

- New industries in Canon City will be encouraged to locate in designated industrial areas.

- Canon City will continue to be a member of the Fremont County Economic Development Council which establishes a basis for commercial and industrial promotion and advertising.

Natural Resources and Environmental Quality

Goal:

- To maintain, improve and protect the quality of air, water and land resources.

Objectives/Policies:

- To improve solid waste disposal practices in the planning area and to discourage the dumping of solid waste materials in a hazardous manner adjacent to roads and urbanized development.

- To take all necessary measures that will help prevent the contamination of groundwater and the degradation of land.

- To promote the efficient use of energy resources in the planning area.

- To conserve water and to relate water resources and water facilities to desired land use patterns.

- To improve and protect existing fish and wildlife areas.

- To plan residential, commercial and industrial land uses only in locations where there is a sufficient water supply.

- To cooperate with State and Federal agencies conducting in-depth studies of water resources in the planning area and in the region.

- To work in a coordinated manner with private and governmental entities whereby water use conflicts can be eliminated, i.e., agricultural productivity versus domestic and recreational uses.

- Canon City will plan land uses that are consistent with the orderly development, use and conservation of renewable and non-renewable natural resources.

- Canon City will take all necessary planning and conservation measures to reduce land and water erosion in the planning area.

- It is the policy of community governmental officials to work in a coordinated manner with Federal and State agencies who have the technical expertise to monitor and help resolve air, water and land resource problems. Through the establishment of this policy, local governmental officials will make every effort toward meeting Federal and State environmental quality standards and regulations.

Natural Hazards

Goal:

- To minimize the loss of life and property from natural hazards.

Objectives/Policies:

- To identify, in this Comprehensive Plan, the general location and extent of natural hazard areas including floodplains, steep slopes and unstable soils.

- Development will be discouraged in or near natural hazard areas,unless mitigating measures are undertaken, in order to minimize the risk of injury to persons and the loss of property.

- Construction in floodplains and/or drainage areas, steep areas, geological fault areas, and other dangerous or undesirable building areas will be controlled through the enforcement of land use regulatory tools.

General Land Use

Goal:

- To achieve safety and convenience through the wise distribution and location of land use activities.

Objectives/Policies:

- To develop land use patterns that will work to maximize economic return, environmental protection, aesthetic satisfaction and human comfort and enjoyment.

- To accomodate all land use activities in such a manner that the adverse affects of one activity are minimized upon neighboring land uses.

- To conserve and protect all scenic, historical and archeological land and artifacts in the planning area for the benefit of existing and future generations.

- To discourage unsightly land uses such as unmaintained junk yards and dilapidated structures in the planning area. These unsightly land uses lessen property values and diminish overall community appearances.

- New development should pay for its own way and not represent a burden to the entire community.

- As growth occurs, areas contiguous to Canon City and to existing unincorporated developed areas should be developed first to avoid leapfrog development which results in the uneconomical and inefficient provision of community facilities and services.

- To work closely with State and Federal agencies who plan to alter their existing practices or intend to develop a facility or project that might impact the residents of the planning area.

- All ordinances which affect development such as subdivision and zoning regulations, housing and building codes, and any other land use related regulations will be continually reviewed to ensure that they incorporate the most modern and appropriate means of achieving the goals and objectives of the community.

Commercial and Industrial Land Use

Goal:

- To maintain and enhance the commercial activities in Canon City and within the unincorporated portion of the planning area through the preservation and enhancement of business areas by structural improvements, improvement of pedestrian walkways, improvement of vehicular access, provision of adequate parking, and removal of unsightly distractions such as abondoned commercial establishments and scattered salvage materials.

Objectives/Policies:

- To minimize any adverse effects of commercial development on adjacent local land uses and the local street system and traffic patterns.

- To insure that industrial areas are located so that possible external effects such as noise, traffic, dust, smoke, and vibration, etc., do not have an adverse affect on adjacent land uses.

- Promote clustering of commercial facilities and activities in order to discourage strip development.

- To work with local business associations and businessmen in order that a Central Business District improvement program will be developed and implemented.

Residential Land Use and Housing

Goal:

- To provide all people in the Canon City planning area with housing of good quality and of adequate size to produce a healthful and satisfactory residential living environment.

Objectives/Policies:

- To foster residential development in areas where the necessary public facilities and services can be provided economically and efficiently.

- Encourage the location of parks and recreational areas adjacent to residential land uses.

- To encourage the provision of a variety of housing types at a broad range of prices. Progress should be made toward the provision of low- and moderate-income housing in the planning area to assure adequate housing for lower income families and the elderly. However, it is the current policy of the City that the private sector of the economy will need to take the lead role in the provision of low income and elderly housing since the municipality is currently confronted with a large assortment of public facility expenditures.

- To encourage the upgrading of all substandard housing units through rehabilitation and redevelopment. Housing units in substandard condition should be improved to standard condition if it appears economically feasible to do so. If housing units are dilapidated and are not worth rehabilitation, the unit should be removed from the housing stock.

- To encourage the provision of additional good quality rental housing.

- To prevent discrimination in the provision of housing. If discrimination in the provision of housing occurs in Canon City, immediate steps will be taken to rectify the situation. Exclusionary or discretionary practices will not be included in any construction, land development,

or housing codes.

- To improve the economic condition in the planning area in order to provide opportunities for individuals to increase their incomes so they will be able to afford standard housing.

- To encourage citizen participation in the development and operation of all housing programs and projects.

- Every effort will be made to utilize available housing assistance programs for low and moderate income housing, although the City cannot make any financial commitments.

- Those residential areas of significant historic value should be identified and preserved through strict control of both public and private redevelopment activities.

Public Facilities and Services

Goal:

- To develop and maintain throughout the planning area a network of readily accessible public facilities and services sufficient to meet the current and projected future needs of local residents.

Objectives/Policies:

- To provide needed public facilities and services in an efficient and economic manner in order to protect and enhance the community of Canon City and its surrounding area through the encouragement of superior fire and police protection, medical facilities, educational facilities, parks, libraries, and utilities.

- To provide the highest level of public facilities and services in Canon City and within the surrounding area that financial resources will permit.

- To design and construct public facilities so that they adequately serve current needs and can be easily expanded to meet future requirements.

- To promote maximum cooperation between government jurisdictions in the planning area and throughout Fremont County, in order to provide public facilities and services which are advantageous and economically feasible, through joint planning and cooperation.

- To provide a full, balanced and readily accessible program of recreation facilities for persons of all ages, income levels and cultural backgrounds with special emphasis on programs and facilities for youth and the elderly.

- Through the Recreation District,provide more recreation opportunities for residents in the planning area, including swimming pools, ice skating rinks, and tennis courts.

- Through the Recreation District,maintain and improve existing park areas in the planning area.

- Through the Recreation District and the Canon City Parks and Forestry Department,encourage the acquisition of prospective open space, park and recreation lands in advance of development by either outright purchase, trade or required dedication as part of subdivision regulations.

- Through the close cooperation of the Recreation District and the City Parks and Forestry Department,promote the development of open space in such areas as drainages, floodways, hazard areas, public easements, wetlands and other areas less suitable for residential, industrial, or commercial development.

- Through the City Parks Department and the Recreation District,promote the development of greenbelts along the Arkansas River and around industrial areas for recreation and buffer zones.

- Through the City Parks Department and the Recreation District,develop a working relationship with Fremont County and other communities in the area in the development of a regional park and trail system.

- To provide public services in an efficient manner to protect the health, safety and welfare of residents in the planning area through the provision of superior fire and law enforcement protection.

- To acquire updated police, fire, ambulance and other needed public safety equipment.

- To strive to obtain lower fire ratings from the National Board of Fire Underwriters by improving response times, replacing undersized fire hydrant lines, updating fire equipment and participating in training programs.

- Examine the feasibility of constructing additional fire stations.

- Develop extended channels of coordination between the municipal police force and the County sheriff's center.

- Examine the feasibility of constructing a jointly owned and operated City - County law enforcement center.

- To strongly cooperate with the School District and the hospital to provide the highest level of educational and health facilities and services feasible within local financial resources.

- Encourage school district participation in the City planning process to insure the proper location and distribution of future school facilities.

- To upgrade community facilities (water, sewer, streets, etc.) to establish a base for attracting and handling new industries and businesses.

- To take all necessary measures which insure that water and sewer facilities precede and guide the location of new development.

- Encourage the consolidation of existing utility and service districts into larger, more compatible districts.

- To provide sanitary sewer facilities and services that meet and anticipate public requirements and which abate water pollution.

- To examine the capabilities and problems associated with the existing water, sewer and storm sewer systems and to implement improvement and expansion projects as needed.

- It is the policy of Canon City that the designed centralized sewage facility near Florence should be constructed. This regional facility is intended to combine the existing sewage disposal efforts of the Canon City, East Canon, Lincoln Park and Florence Sanitation Districts.

- To identify public building deficiencies and to develop a plan that will correct the deficiencies.

- Local governments throughout the planning area and public or semi-public districts, boards and commissions will work closely together to coordinate their work in order that existing and proposed land uses will recieve the highest level of public services and facilities that local financial resources will permit.

- Canon City and the County shall encourage cooperation and coordination in the provision of public services and facilities among themselves as well as with special district, State and Federal entities.

- Local governmental bodies throughout the planning area will make every attempt to install capital improvements with local financial resources. However, due to the magnitude of many of the needed capital improvements, Canon City will apply for State and Federal assistance.

Transportation

Goal:

- To achieve a well balanced transportation system including automobile, bus, railroad, air, pedestrian and bicycle.

Objectives/Policies:

- To achieve convenient, safe, and economical highway and street systems through proper functional classification, design, improvements and maintenance.

- To protect residential, commercial, industrial and public areas from undesirable and unnecessary traffic while at the same time providing proper access to these areas.

- To provide adequate on-street and off-street parking facilities particularly in the Central Business District of Canon City.

- Develop a working relationship with Fremont County in all areas of transportation planning including rail, air, bus, truck and automobile.

- To take all necessary measures that will minimize thoroughfare and rail conflicts.

- To develop a plan of action with the State Highway Department that will improve the existing access problems over the railroad tracks and the Arkansas River.

- To examine the feasibility of installing a public transit system. However, it is the policy of the City that all public transportation systems be self supporting, thereby not representing a burden to all the taxpayers.

IV DEVELOPMENT STANDARDS

Introduction

In any analysis of physical development conditions within communities, the comparison of existing and anticipated future conditions to generally recognized standards is a principal means by which possible existing deficiencies can be measured and future needs identified. Such standards utilized in this process have been developed from many different sources and are not intended to be rigid rules of development. Development standards represent principles and guidelines that have been found to correspond in most cases to present community development needs within the United States.

It is important to realize that deficiencies, and in some cases surpluses, revealed by the application of standards serve only as a general guide and serve to focus attention on an area that may otherwise be neglected. Additionally, it must be stressed that development standards for any given area should be modified to reflect the changing goals and objectives of the residents of the community, or of the governmental entity with jurisdiction for a particular area, as well as be modified to meet any other unique local attitudes or physical conditions.

The development standards hereafter presented are those commonly utilized among communities within the Midwest and Western United States. It is not intended that these standards should be applied to every community or to all situations, but primarily present a framework upon which a community can structure and design a system whereby present deficiencies and future needs may be measured in qualitative and quantifiable terms.

General Land Use Development

As growth occurs, areas contiguous to a community should be developed first to avoid leapfrog development which results in uneconomical and inefficient provision of community facilities, utilities and services. Additionally, modern development concepts and techniques should be encouraged, e.g., utilizing curvilinear street design as opposed to the traditional grid system, and as much as possible, future land use relationships should be determined on the basis of the planned unit development concept. Where possible, neighborhoods and communities should be defined through the use of open space and appropriate street system development.

Flood plains should be developed only to the extent that flooding will not result in great economic loss or danger to human life. Other hazardous areas, such as areas having unstable soils, should not be developed. Development of slopes in excess of 10 percent should be carefully evaluated. Gradients over 10 percent require noticeable effort to climb or descend. It is also more expensive to erect buildings on them since more complicated form and foundations and more difficult utility connections are required. Slopes between 4 and 10 percent are suitable for residential development. Slopes under 4 percent are usable for all kinds of intense activity. Slopes under 1 percent do not drain well unless they are paved and carefully finished. Gradients over 50 or 60 percent cannot be protected from erosion except by terracing. Roads are preferably kept at less than a 10 percent grade; a 15 percent slope approaches the limit that an ordinary loaded vehicle can climb for a sustained period.

Residential Development

Housing should be located in attractive and quiet areas which will provide each housing unit with convenient pedestrian/vehicular access to elementary schools, churches, shopping and recreation facilities. If practical, elementary schools and neighborhood parks should be located approximately in the center of single-family residential areas or in close proximity to intensely developed multi-family areas.

High density multi-family residential areas should generally be located near major streets to reduce internal neighborhood traffic. Additionally, location of high density residential areas in closer proximity to activity centers decreases traffic by encouraging walking and biking.

Wherever possible, housing units should not face or have direct access to major streets. Access to highways should be provided only by access on local and collector streets or service roads.

Commercial Development

Central Business Area

Where practical, the central business area of a municipality should have a compact, contiguous development pattern. Activities in the central business area should be limited to retail, office and service activities, along with compatible public facilities. Noncompatible activities should be encouraged to locate outside the central business area.

Vehicular access, internal circulation, and off-street parking should be enhanced in the community central business area. Public and private rehabilitation and redevelopment should, where practicable, attempt to achieve the original character of the structures in the area.

Service Commercial and Highway Commercial

These activities should not be located in the central business area. If possible, service commercial and highway commercial activities should be grouped together to achieve proper vehicular access and be located near major streets and roads.

Principle means of access to these areas should be provided by frontage or service roads rather than direct access from highways. If frontage or service roads cannot be incorporated, curb cuts serving these facilities should be minimized. Physical and visual screening of these activities from differing adjacent land uses should also be accomplished to minimize or negate adverse effects of these establishments, i.e., noise, light and unattractive exterior storage. Zoning regulations restricting the height, type and number of signs allowed in these areas should be strictly enforced.

The outside storage requirements of salvage yards and the accumulation of worn-out farm equipment at implement sales and repair establishments often create a blighting influence on adjacent land uses. Therefore, these areas should be screened by solid fences, six to eight feet in height, or evergreen plant materials. The height of salvage should not exceed the height of the fence or plant material.

Industrial Development (Including Extractive Industries)

Industrial uses should be located on land that is reasonably level, preferably land with not more than a 5 percent slope. Industrial development should be within easy commuting time of residential areas and accessible to major thoroughfares directly connected with housing areas.

Extensive manufacturers require large open sites for modern one-story buildings and accessory storage. Loading and parking areas should be provided at fringe and dispersed locations. Space requirements are usually 5 acres as a minimum, with some sites of 10, 25, 50, or 100 or more acres depending on size of community and economic outlook for industrial development for that particular sector. Intensive manufacturers require a variety of site sizes for modern one-story or multiple-story buildings and accessory storage, loading, and parking areas in close-in and fringe locations. Sites are usually under five acres in size.

Access to major streets and commercial transportation facilities should be provided in the most direct manner and in such a way that truck traffic does not pass through residential areas. Railways, as opposed to trucking services, generally handle high-bulk, high-volume, low unit cost material such as raw products like coal or lumber. Any future industrial areas accommodating manufacturing-type operations in and adjacent to the communities should be equipped with rail access to handle incoming materials that, in turn, are generally shipped by truck as manufactured products.

Industrial development should be contained within industrial parks or as part of a planned unit development. Future manufacturing establishments

should be constructed so that activities are confined within a closed building or in an open area screened from view from adjacent areas. In addition, establishments of this type should be operated in such a manner that activities and appearances do not adversely affect adjacent land uses. Compatability with surrounding uses includes the consideration of prevailing winds in terms of odor and dust, the noise, glare, or vibration created by the industry, the possibility of protective belts of open space or landscaping, maintenance of the building and site, and the removal of solid wastes.

The availability of utilities at or near the site such as power, water, and waste disposal facilities is another criterion of industrial development location. The industrial site with primarily manufacturing type establishments should be located so that municipal water and sanitary sewer systems can serve the site.

Concerning water supply, as a general guide, standard values used in the calculation of community fire protection requirements may be increased up to 25 percent for high fire hazard situations such as would apply to industrial activities involving processing, mixing, storage, or dispensing of flammable and combustible materials including chemical works, explosives, refineries, and paint shops. Regarding wastewater discharge, the development of industries generating large quantities of high-strength wastes must be evaluated in light of the community's wastewater treatment facilities. Pretreatment at the industrial site must be considered for wastes having strengths or characteristics significantly different from sanitary waste water.

Open Space and Outdoor Recreation/Parks

Park standards are used as guidelines in evaluating present park facilities and projecting future open space and park needs. Several national organizations and associations have studied park and recreation standards in great detail. The following specific standards presented in this report are based on standards developed by the National Recreation Association and the American Public Health Association. A generally accepted minimum standard agreed upon by these organizations for the total amount of park land required in a community is 10 acres of developed park area for every 1,000 persons. In addition, there are generally four types of parks necessary to adequately serve the residents of an area. These are: neighborhood parks; community parks; metropolitan parks; and regional parks. Generally, neighborhood and community parks should be provided by the local government, while metropolitan and regional parks must be provided on a metropolitan or region-wide level.

Neighborhood Park and Recreation Facility

Neighborhood parks and recreation facilities serve the smallest service area of the four types of parks. The radius of the service area of a neighborhood park should generally not be over one-half mile depending on the density of the population and physical features. In low density areas the service area could be greater than intensely developed areas.

Neighborhood parks should be developed at a minimum standard of two acres for every 1,000 persons. It is desirable to locate neighborhood parks near elementary school sites in order that the playground facilities provided by the school district or the city, or both, can be cooperatively developed with the neighborhood park at the most economical cost. If a neighborhood park is developed separately from a school site, playground facilities should be provided in a park of a total site size of five to eight acres. If the neighborhood park is located adjacent to an elementary school and total playground facilities are provided entirely on the school site, the size of the park can be reduced to two to three acres. The table below shows the recommended standards for neighborhood parks in these various types of situations.

TABLE 2

Neighborhood Park Standards

Park Facility	Age Group Served	Playground Use Age Group	Minimum Site Size	Service Area Walking Distance	Location
Neighborhood Park and Playground not adjacent to Elem. School	All ages	5-14	5-8 acres	1/2 - 3/4 mile	Centered within residential development away from heavy traffic streets
Neighborhood Park & Playground adjacent to Elem. School	All ages	5-14	3-5 acres	1/2 - 3/4 mile	Same as above
Neighborhood Park adjacent to Elem. School with Playground	All ages	5-14	2-3 acres	1/2 - 3/4 mile	Same as above

Source: National Recreation Association and American Public Health Association.

One type of specific recreation area which may be included in a neighborhood park is the tot lot or play lot. Play lots are designed for pre-school children, 5 years old or younger, and should contain a minimum of one-fourth acre per facility. At least one play lot should be provided for each 1,000 persons in densely developed areas. Facilities in play lots typically include sandboxes, slides, swings, climbing apparatus, paved areas for wheeled toys, and benches.

Another type of facility found in neighborhood parks is the playground. It primarily serves elementary school children from five to fourteen years of age. The minimum standard for neighborhood playgrounds is 1.5 acres per 1,000 persons. In addition to these active recreation facilities, the neighborhood park should also contain a small area for passive recreation.

Community or City-wide Recreation Facility

A community park and playfield serves up to 25,000 persons, primarily age 15 years and older and have recreational facilities for family groups. Community parks typically contain facilities for both passive and active recreation including a playfield, picnic areas, bandstands, swimming pools, large landscaped areas, walks, horseshoe pits, and shuffleboard courts, along with ample parking areas. Some of the larger playfields can be developed as athletic fields for organized sports and be utilized by teams and organizations on a scheduled basis.

Additionally, community indoor recreation centers are often found in community parks. The recreation centers can include a gymnasium, auditorium, indoor swimming pool, arts and crafts workshops, classrooms, and rooms for active games such as ping-pong and billiards.

Playfields (i.e., athletic fields) should be developed at a standard of 1.25 acres per 1,000 persons. Care must be exercised in the location and design of highly developed playfields to be used for organized sports since they may generate excessive noise and traffic at times. Also, lighted playfields may be objectionable to surrounding areas at night.

Community parks should be developed at a minimum standard of 1.75 acres per 1,000 persons and should be located adjacent to major thoroughfares to provide easy access. If possible, the portion of the park to be utilized for passive recreation should have an attractive natural appearance. If this is not possible, extensive landscaping should be undertaken to provide a pleasing natural area.

Metropolitan Park

Metropolitan parks serve up to 50,000 persons with a variety of both active and passive recreational opportunities. Metropolitan parks should be developed at a minimum standard of 5 acres per 1,000 persons.

Regional Park

The regional park recreational area consists mainly of natural areas and is usually less intensely developed than parks within urban development. These parks include scenic features and are often associated with large bodies of water. Picnic facilities, camping facilities, fishing, boating, and shelters are commonly provided in this type of area. The amount of land devoted to these facilities is dependent upon the unique needs of a city and the surrounding areas.

Pocket Parks

Pocket parks, similar in scale and size to playlots, are intended as passive seating areas as well as visually pleasing open spaces. These small green areas, typically one-fourth acre in size or smaller, should be located throughout a city within its park and open space system. These facilities should be in areas having high numbers of elderly and along major arterials to serve as waiting and rest areas for public and private modes of transportation. These spaces can be effectively used in core area situations to break the monotony of intense urban masses.

Open Space

Open space can be defined as an area having limited or no human development on it. The need for open space is dependent on several factors and varies between cities, towns, and even individuals. Therefore, it is difficult to prescribe exact standards for the provision of open space. There are, however, certain areas that could be designated as open space by local residents, depending on their needs and desires.

Many designated open spaces are natural landscapes and include areas around lakes and ponds, and areas adjacent to rivers, streams, and creeks. Unique areas might also be designated as open space: areas with unique vegetation, unique geological features, and animal habitats. Areas preserving views or vistas can be part of an open space system. Other areas serving as open space are floodplains and other hazardous areas. Open space might also be connected with recreational areas such as boating, hiking, picnicking, and backpacking areas.

Open space need not be a natural area, however, as it can be found in urban environments as well. Plazas, courtyards, and landscaped areas serve well as open space to decrease the impact of the built environment.

The open space in and around any community should be designated according to local or regional (as with large recreation areas) needs. Such spaces should be integrated and tied into one system. That is, the spaces should provide areas of different character, but should be linked together into one system.

Parking

Parking Lots

Parking may be provided in various ways: on the street (which is convenient but expensive and disturbing to moving traffic), in small parking bays, in large parking lots (which is the cheapest method but may be inconvenient or unsightly), underground, or in ramp structures or garages (the most expensive ways).

Parking lots can be laid out if the following dimensions for the modern automobile are kept in mind: each stall should be 19 feet long and 8 feet wide if attendants park cars, and 8½ by 20 feet if drivers park their own cars, or even 9 feet wide to give a sense of ample room. If front bumpers

cannot overhang the curb, then stall lengths may have to be increased by several feet. Stalls may be parallel, perpendicular, or at 30-, 45-, or 60-degree angles to the moving lane. Angled parking requires one-way traffic flow, which may be confusing. Aisle widths range from 12 feet for one-way lanes serving 30-degree and 45-degree parking to 22 feet for two-way lanes serving perpendicular parking. For efficiency, there should be stalls on each side of each moving lane. Dividers and curbs in a lot may hamper snow removal and the future rearrangements of the lot, however. The perpendicular layout is the most efficient, and 30-degree angle parking the least. As a rough guide, overall space requirements of large and efficient lots run from 250 square feet per car for attendant-parked lots in which cars are stored three or four deep to 400 square feet per car for generous self-parking. The maximum allowable slope in any direction is 5 percent, and the minimum 1 percent.

The circulation within large lots should be continuous, with dispersed exits and a minimum of turns. Lot entrances should be at least 12 to 14 feet wide if one-way. Lots may be screened with walls or planting or sunken a few feet to allow vision over them. For convenience, visual scale, and individual control over the car, it is preferable in residential areas not to allow parking in groups of over six to ten cars. Even in large lots serving commercial areas, it is desirable to keep the cars within 600 feet of their destinations, unless special transportation is provided.

A general rule of thumb for estimating the number of parking spaces needed at a facility is to divide the number of potential users of a facility by the number of persons per car and multiply by 400 square feet (400 sq. ft. per car).

The following table summarizes the minimum parking space standards required for various land uses.

TABLE 3
Parking Standards

Use	Number of Parking Spaces
Single Family Residential	2 spaces per dwelling unit.
Multi-family Residential	1½ spaces per dwelling unit.
Commercial	5½ spaces per 1,000 square feet of selling area.[1]
Motel	1 space per guest room.
Restaurant	1 space for every 2 seats.
Office	2.5 - 4 spaces per 1,000 square feet of gross leasable area.
Schools	15 spaces per 5 auditorium seats.[2]
Medical Facilities	1 space per 150 square feet of rentable area.
Industrial	1 space per worker.[3]

[1] Office space usage up to 20 percent of the gross leasable area can be added to the center without a noticeable increase in peak parking demand.

[2] Assuming the parking area can serve daytime student needs, night use of auditorium, and weekend use for athletic events.

[3] May need to be increased if there is more than one work shift.

Source: Community Builders Handbook

Streets and Roads

Roads are usually classified on a functional basis. This functional classification is a means by which roads and streets are grouped into classes according to the character of service they are intended to provide. There are six general functional categories of streets including interstate, expressway, major arterial, arterial, collector and local streets.

Interstate

Interstate consists of the federally designated national system of interstate and defense highways.

Expressways (Freeway)

The primary function of an expressway is to move large volumes of traffic over fairly long distances. Access is controlled on an expressway facility and is usually accommodated through the utilization of grade separated interchanges. An expressway is generally referred to as a freeway facility.

Major Arterial

Major arterials consist of, but are not limited to, federal aid primary and federal aid secondary highways. They are intended to provide continuous service through and between municipalities for long distance rural travel. These are major streets used to transport products in and out of municipalities.

Arterial Streets

Arterial streets primarily carry relatively high speed through-traffic, accommodate traffic moving considerable distances within a community, and accommodate traffic moving into and out of a community. Arterial streets should be spaced approximately one mile apart.

In general, four lanes for moving traffic should be provided on arterial streets. Access should be limited and parking should not be permitted. Large traffic generating activities should have access to arterials only by means of properly designed exits and entrances. Direct access to residential and commercial properties from an arterial street generates traffic movements which are undesirable for the functioning of arterial streets and may cause higher accident rates. Controlled access can be accomplished by: reversing lots so they back up to arterial streets and providing access to property with adjacent local streets; providing service roads, turning bays, and acceleration and deceleration lanes; employing good subdivision design with local street traffic utilizing collector streets for access to arterial streets.

As traffic volumes increase on arterial streets, the provision of median strips, turning bays, acceleration and deceleration lanes becomes more desirable. A landscaped median strip can greatly enhance the appearance of the street while at the same time reduce headlight glare and noise levels generated by large traffic volumes.

Collector Streets

The principal function of collector streets, as the name implies, is to collect traffic from local or residential streets and carry it to the arterial system. Collector streets serve neighborhood activities such as schools, churches, and parks and should be designed so they may serve minor traffic generating activities without carrying through-traffic. Adequate space for two lanes of moving traffic should be available at all times. If parallel parking is permitted on both sides of a collector street, width should be sufficient to permit the utilization of two parking and two driving lanes. Collector streets should be spaced from one-fourth to one-half mile apart in residential areas. Furthermore, it is desirable to prohibit curb cuts and direct access to properties contiguous to a collector street. Local streets should channel the traffic from a neighborhood to a collector facility.

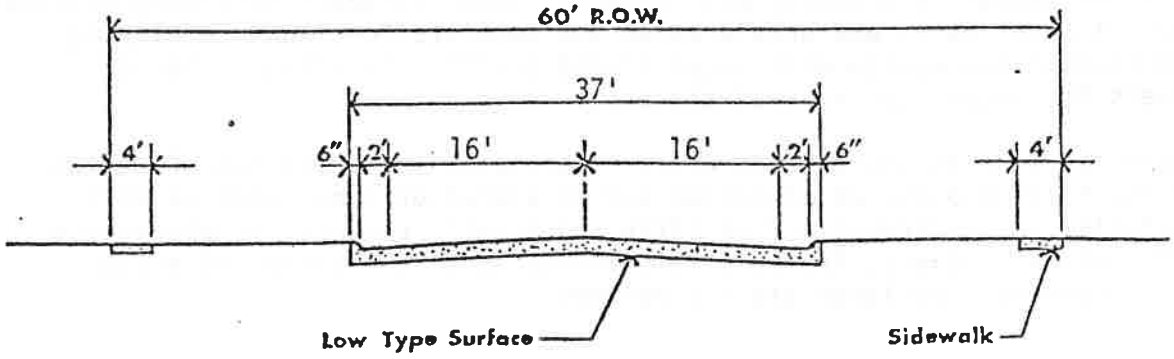
Local Streets

Local or residential streets are those streets with the primary function of providing access to abutting property. Through-traffic movements should be discouraged on local streets by avoiding a rigid grid pattern of streets and its characteristic four-way intersections. Studies indicate that limited access to subdivisions is safer than subdivisions utilizing a grid street system. When collector streets intersect arterials approximately every one-fourth mile and local streets do not intersect arterials, it has been proven that limited access to subdivisions with three-legged intersections results in many times fewer accidents per year than in grid system subdivisions with four-way intersections.

When existing major streets are improved or new streets are constructed, the design standards selected for that street should be related to the anticipated traffic volumes on the street, adjacent land uses, and the purpose of the street. Usually, when traffic volumes become higher than 700 vehicles per day a street begins to function as a collector facility. When traffic volume increases to over 2,500 vehicles per day, a street should be considered an arterial facility.

Table 4 summarizes the design criteria for each of the roads in the functional classification. Interstate highways and expressways are not included since they are governed by federal and State standards.

The following diagrams graphically illustrate the design standards presented in the table.



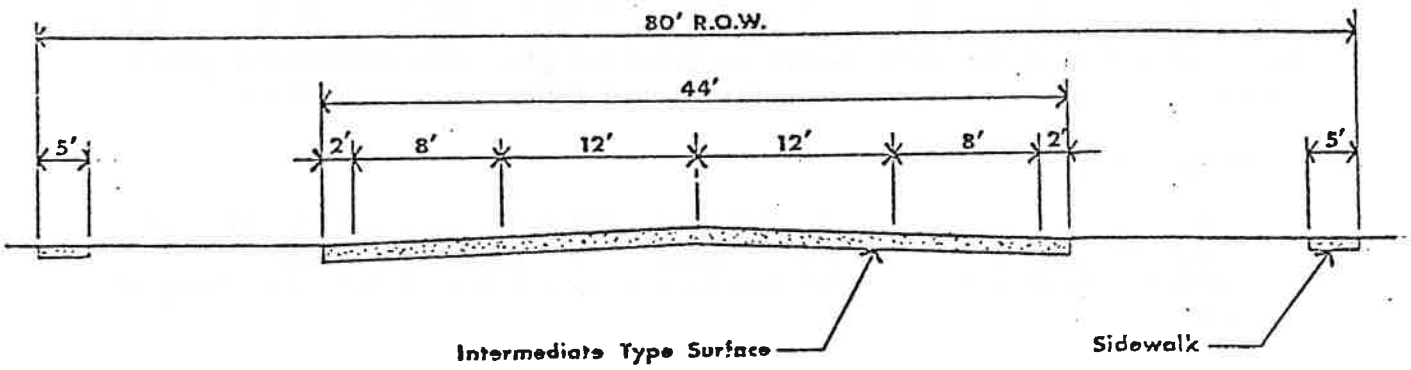
LOCAL

TABLE 4
Street Design Standards

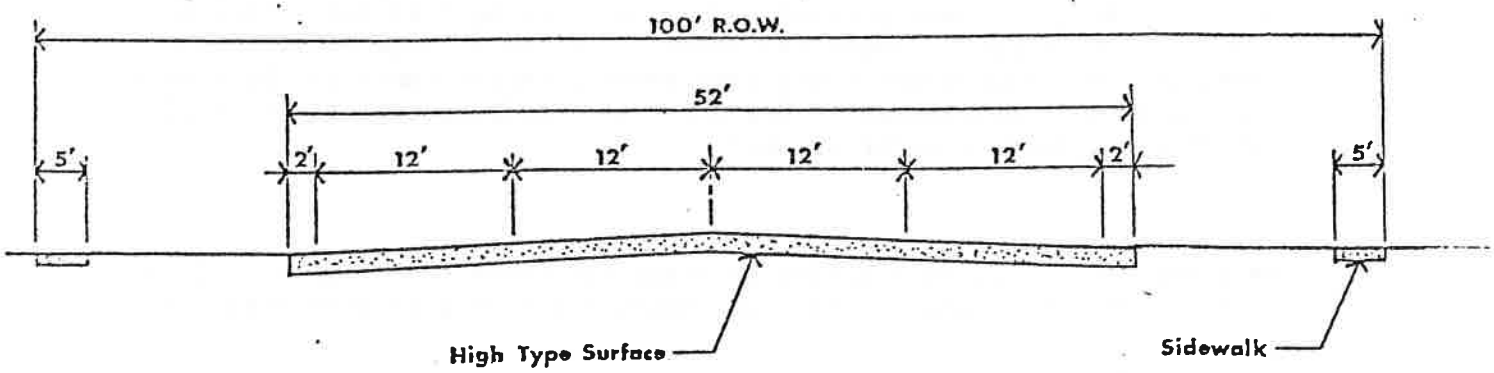
Design Factors	Type of Street: Local	Collector	Arterial
Right-of-Way (ft.)	60	80	100
Roadway width (ft.)[1]	37	44	52
Lane width (ft.)	16	12	12
Median width (ft.)	0	0	16-20
Maximum grade	8%	6%	5%
Spacing (miles)	As required	½-¼	1
Parking	Permitted	Prohibited if possible	Prohibited
Sidewalk width (ft.)	4	5	5
Speed (m.p.h.)	25	30	35-40

[1]May need to be increased in high density areas.

Source: Oblinger-Smith Corporation, Consultants in Planning, Design and Development.



COLLECTOR



PRINCIPAL ARTERIAL

Utilities

Determination of development water quantity demand, fire protection requirements, and the design of distribution mains, etc., should be based upon specific engineering studies. Likewise, design of storm sewers and sanitary sewer collection systems and treatment requirements should be determined by an individual analysis of each development. However, there are general standards regarding the provision of water systems, sanitary sewer systems, and storm sewers.

Water

Water lines leak or break frequently and therefore must be located in a public right-of-way. Water lines should be laid above sewer lines and where possible on the opposite side of the street or at a horizontal distance of 10 feet to prevent contamination of the water. Since this utility is the one most seriously affected by frost, water lines should be installed at a suitable depth to prevent freezing or breakage due to superimposed loads or earth movement. The layout of the system should be such that a minimum of 40 psi of pressure is provided throughout the system under all conditions of flow.

Water storage can be provided by pressure tanks, elevated or ground level storage tanks, and ground level reservoirs. Steel storage structures should meet current American Water Works Association standards concerning steel tanks, stand pipes, reservoirs and elevated tanks, where applicable.

Sanitary Sewer

Sanitary wastes, such as those from sinks and toilets, should be carried by a system leading to a central disposal plant where the sewage is converted into an effluent that can safely be discharged into some body of natural water.

Sewer lines should be installed at a sufficient depth to be free of breakage from traffic, ground movement, or freezing. Sewers should be designed and constructed to obtain mean velocities, when flowing full, of not less than 2.0 feet per second.

The use of septic tank disposal systems should be eliminated as much as possible in urban development areas. This can be done by extending municipal sanitary sewer service or by providing central facilities in rural subdivisions and communities currently without these facilities. Where soil and groundwater situations permit, septic tanks can be used in very low density development. Drain fields should be kept at least 100 feet from any surface water or well.

Storm Sewer

The storm sewage system provides drainage for storm runoff water. It is a substitute for natural surface drainage, and it may be unnecessary in

low-density development of less than 1 or 2 families per acre. It need not be a continuous system and can discharge into local streams, lakes, and gullies wherever this will not cause flooding or increased pollution. However, storm waters are not free of pollutants once they have run over disturbed land or through the debris and chemicals of streets or have picked up fertilizers and pesticides of fields. Large storm discharges must often be controlled or treated, and every effort must be made to decrease pollution at the source both by modifying the use of chemicals and by stabilizing the new earth surfaces. If natural water bodies or drainage lines are not available, it is possible to discharge into settling pits or overflow basins. These are made in pervious soil and must be large enough to hold water from the worst storm. They can be used to economize on the length of main needed to reach a stream, but they render a substantial piece of ground useless and are not very attractive.

Since the required pipe sizes are often large, the underground storm drainage system is expensive. Nevertheless, since the roofs and paved surfaces of residential developments usually interfere with existing surface flow and sharply increase the runoff, some kind of artificial drainage structures, however simple, are usually required to prevent flooding during storms. The storm system must be kept separate from the sanitary system to minimize the volume that must be treated in the sewage plant and to prevent the backing up of sanitary wastes.

The storm sewer lines should be located in the public right-of-way, but can run through easements separate from the right-of-way. Storm sewer lines should be covered deeply enough to prevent breakage and freezing. Lines must have a minimum slope so that the velocity of flow allows for self-cleaning.

Electric Power

Electric power can be distributed through wires located overhead on poles or underground in raceways. Underground distribution may be two to four times as expensive initially, but it reduces breakage, does not interfere with trees, and eliminates the clutter of poles. Breaks take longer to repair when underground and cause more disruption. The main difficulty lies in the transformers, which must be designed to disperse internal heat if put underground and which, if above ground, are bulky in residential areas. When power lines are located on poles on the street, they are useful for mounting streetlights, telephone lines, signs, and the like. The choice of putting pole lines on the street or at rear lot lines is usually dictated by whichever minimizes the length of secondary runs to users. Poles at the rear lot line are more difficult to service.

Telephone

Telephone lines can be located overhead on power poles if the voltage characteristics of the power lines are suitable. Otherwise, telephone lines can easily be laid in underground conducts or as buried cable. Advantages for overhead versus underground are the same as for electric power lines, but telephone lines can more easily be put underground.

Gas

Gas is piped underground in a system similar to the water distribution network. The principal problem is the danger of leadkage or explosion. Thus, gas lines should not be laid under or close to buildings except when entering them, nor should they be in the same trench with electric cable.

Interrelation of Utilities

In general, the location of all utilities must be considered together, avoiding cross connections, minimizing trenching, and keeping required separations between incompatible systems. Where curves or grades permit, it is desirable to keep utilities in a uniform location relative to the street and also to put them underneath a planting strip in order to prevent periodic digging in the road. In intensive development, where utility systems are numerous and of large capacity, it may save installation and maintenance cost if groups of them are placed in a common conduit.

Utilities should also be designed and constructed so that they adequately serve current needs and can be expanded to meet future requirements. Furthermore, utilities should be constructed to federal, State, and City standards. In new developments, the installation of water and sewer mains by developers should be required and, where possible, connected to municipal facilities. Treatment structures and related facilities such as pump stations, lift stations, and water storage tanks should be designed so that they are architecturally compatible with the surrounding land uses, and located so they do not conflict with existing or planned development.

Schools

Elementary Schools

Elementary schools should not be located adjacent to major streets or in commercial and industrial areas. Usually elementary schools should not be farther than one-half mile walking distance from a student's home. However, topographic barriers such as railroads and major thoroughfares will frequently determine the size of a school service area. If possible, elementary schools should be located in the center of a neighborhood adjacent to a neighborhood park. The elementary school should be near a collector street. The subdivision street system should be designed so that only local traffic uses the collector and local street system within the neighborhood. Students should not have to cross a major arterial street to reach school.

National educational standards indicate that elementary schools should be located on a minimum site of 5 acres with an additional acre for each 100 students. Educational consultants indicate that desirable enrollment for an elementary school should be approximately 500 students and that maximum enrollment should not exceed 650. Also, it does not appear to be economically feasible to operate an elementary school with less than 200 pupils. Utilizing these standards, elementary school sites should be 5 to 10 acres in size. Additional factors which should be considered in

school site selection include the adequacy of utilities and fire and police protection, existing land use patterns, existing zoning adjacent to school sites, and the anticipated development pattern in new areas.

Junior High Schools

Junior high schools (grades 7-9) should be located as closely as possible to the center of their service areas. A junior high school should be located near a major street due to the fact that more students are transported by vehicle to this facility because of increased enrollments and distances from home to school in the service area.

Junior high schools should be located on a site of 20 acres plus one acre for each 100 students enrolled in the facility. Desirably, a junior high school should not contain an enrollment of over 750 students as indicated by educators and educational consultants.

Senior High Schools

Senior high school sites should contain 20 acres plus one additional acre for each 100 students anticipated at the ultimate enrollment at the school. The senior high school should also be located near a major street and be centrally located in the district served. Recommended maximum enrollment for a senior high school is approximately 2,000 students with desirable capacity being 1,000 to 1,800 students.

Junior Colleges

Junior college sites should be larger than senior high school sites. Junior college sites should contain approximately 100 acres plus an additional 1.5 acres for each additional 100 students over 1,000 students anticipated to be enrolled. A junior college site should be near the center of the population it serves, be accessible to major streets, and located on a site which is away from noise and odor producing areas.

Fire Station

According to Special Interest Bulletin Number 76, National Board of Fire Underwriters, 1973, sufficient numbers of stations should be provided in a local community so that no point in a high value developed district within the community will be more than one mile in travel distance from an engine company or one and one-fourth miles in travel distance from a ladder company (if required). An exception is that a district requiring a fire flow of 9,000 gallons per minute or more should be covered at a reduced distance of three-fourths and one-fourth mile, respectively. In districts requiring a fire flow of less than 4,500 gallons per minute, these distances may be increased to one and one-half miles and two miles, respectively.

For commercial and industrial areas it is recommended that travel distances of one and one-fourth miles be utilized. An exception is that the central

business area should be within no more than three-fourths mile travel distance. Up to two miles can be utilized for planning purposes to serve single family residential areas.

If at all possible, the location of fire stations should be at major topographical ridge lines and at intersections of major thoroughfares. The following are additional locational guidelines:

- Fire stations should be located on collector streets near and leading into major streets.

- The station should not be on a heavily travelled street because of difficulty and danger in entering the traffic stream. The station should not be located near a major intersection or traffic light, because traffic may back up and block egress from the station.

- The station should not be located on a one-way street since these streets do not allow for maneuvering through intersections in heavy traffic and decrease the choice of direction for travel to a fire.

- Fire stations should be located in or near areas of relatively high population densities or adjacent to commercial areas. It is generally not desirable to locate a fire station in a concentrated area of high value due to internal vehicular congestion. It is easier to make fire alarm runs into a congested area rather than to make runs within it.

- The minimum dimensions of a fire station should be approximately 150 feet deep with frontages of 125 feet and 150 feet providing for 2 and 3 stall stations, respectively. A site of this size should be large enough to provide space for the building, parking, and some recreation and training.

- If possible, a site should be selected and a station located on the site so that ingress may also be provided at the rear of the station. Lack of a rear entrance to the station necessitates the backing of equipment through the front entrance.

- Parking for firemen's cars is sometimes overlooked. The station should maintain a parking area large enough to provide off-street parking for each fireman on duty and those firemen scheduled to respond to fires from that station. Additional yard space should be provided for company drills unless the station is adjacent to a park area.

Public Library

Community libraries are generally divided into two classes - neighborhood libraries and city-wide community level facilities. Neighborhood libraries are designed to provide only one part of a modern library service. The

neighborhood center typically does not maintain a comprehensive collection nor a professional staff. Floor area requirements range from approximately 2,000 to 3,000 square feet. Approximately 25 off-street parking spaces should be located in areas of intensive use, generally within close proximity to a commercial area. However, they could also be located within community shopping centers, perhaps in leased space.

As a community approaches higher population levels, a community library should be constructed. The community library is a relatively self-sufficient facility depending upon higher level central libraries only for specialized, minimal demand material. Area requirements for the community library range from 8,000 to 20,000 square feet of floor space. Approximately 15 to 120 off-street parking spaces should be provided on the site.

Because the community library is a major community facility, it is recommended that the facility be centrally located in the community. Another good location is in or near the central business area. The location should be such that the library is prominent and accessible to attract a large number of people. Remote areas should be avoided.

The library site should be level and suitable for a street entrance. It should be large enough to provide for expansion, service vehicles, bookmobiles, and landscaping. The site should be rectangular in shape since libraries function best with rectangular interiors. The library should be located near parking areas or provide an adequate amount of on-site parking spaces. Sufficient space for staff parking should be reserved.

Governmental Administration Buildings

Government offices must be accessible to the people who use them. A convenient location for the city hall is near the center of transportation and business activity, usually the central business area of a community. The city hall should be near other offices, both public and private, which it deals with frequently, but should not interfere with the efficient functioning of a business district.

A site with a suitable land value should be chosen. The site should allow ample off-street parking for both employees and the public. Development costs, availability of utilities, and adequate drainage are other site considerations.

A joint city-county building might also be considered. One advantage is that a joint location is convenient to the public and to governmental agencies that work with each other. Another advantage is that a single building can be constructed and maintained at a lesser cost than two separate buildings. One disadvantage is the lack of room for expansion. Problems connected with the equitable sharing of maintenance and administrative costs might also arise.

Another type of location for a city hall is within a civic center complex. A civic center is a distinct area, located at or near the center of a city,

within which are located a city's major administrative and cultural activities (museums, theaters, auditoriums). Advantages of this type of location include convenience for the public and governmental agencies, the reduction of heating and cooling costs if a single power plant is used, the possibility of sharing parking facilities, and the joint use of janitorial services, reference materials, and administrative machines. A civic center also provides an opportunity for imaginative civic design, but this can be a disadvantage if the center is poorly located or if some of the facilities are used infrequently. Other disadvantages lie in the fact that it is more complicated to plan a civic center than to plan a single building. Coordination among various agencies might also be difficult. Land acquisition costs may be higher because of the need for a single large site.

The location of a civic center will depend upon city size and land use intensity. Civic centers are typically located at the edge of the central business area to take advantage of the community's focal point of activity. The site should be well served by transportation facilities. The local street system should be studied since the assembly of a suitable site might necessitate the closing of streets. Major street improvements might have to be made to change traffic patterns.

V POPULATION ANALYSIS

Introduction

An examination of past, present and expected population levels that have or might affect the Canon City planning area helps establish the foundation for sound comprehensive planning practices. This chapter focuses on past population trends and distribution patterns, estimates current and future population levels and briefly describes some of the planning area's unique demographic characteristics.

Population Trends and Distribution Patterns

Table 5 below illustrates population trends for the planning area and Fremont County from 1960 to June of 1978.

TABLE 5
POPULATION TRENDS

	1960	Percent Change	1970	Percent Change	1975	Percent Change	June 1978
Canon City	8,973	2.6%	9,206	---	12,791	---	13,870
East Canon[1]	1,101	63.9%	1,805	---	---	---	---
Subtotal	10,074	9.3%	11,011	16.2%	12,791[3]	8.4%	13,870[4]
Unincorporated Portions of the Planning Area	4,050[2]	14.6%	4,664[2]	30.7%	6,070	5.8%	6,424[5]
Lincoln Park	2,085	43.1%	2,984	13.0%	3,373	7.7%	3,632[6]
Brookside	163	6.7%	174	19.0%	207[3]	6.3%	220
Total Canon City Planning Area	14,124	10.8%	15,655	20.5%	18,861	7.6%	20,204
Fremont County	20,196	8.6%	21,942	19.5%	26,226[3]	5.2%	28,000

[1]East Canon was annexed by Canon City in 1974.
[2]The figure does not include East Canon.
[3]State of Colorado, U. S. Bureau of the Census, Population Estimates and Projections, Series P-25, No. 654, May 1977.
[4]Based on 4,388 housing units multiplied by 2.5 persons per unit. The figure also takes into account approximately 2,900 people who reside in group quarters (the State Penitentiary, nursing homes, private schools, boarding houses.
[5]Based on 2,215 housing units multiplied by 2.9 persons per unit.
[6]Based on 1,297 housing units multiplied by 2.8 persons per unit.

Source: State of Colorado, U.S. Bureau of the Census, Number of Inhabitants 1960 and 1970; U.S. Bureau of the Census, Population Estimates and Projections, Series P-25, No. 654, May 1977; and Oblinger-Smith Corporation, Consultants in Planning, Design and Development, 1978.

As illustrated in the table, the population in the planning area and on a County-wide basis grew at a rather modest rate throughout the 1960 decade with substantial population increases occurring after 1970. It is estimated that Fremont County's population has grown by 6,058 persons over the last eight and one-half years with over three-fourths of this growth occurring within the Canon City planning area. Between 1970 and 1978, the population in the planning area increased by 4,639 persons which represents a 3.4 percent average annual increase.

The population residing within the corporate limits increased by 4,664 persons since 1970, although approximately 54 percent (2,514 persons) of this growth can be attributed to the annexation of several planning districts (East Canon, Skyline, Orchard Park and Industrial Park) and other small parcels of land. In fact, the geographic coverage of the City has increased by approximately 2,417 acres since 1970 and the annexed additions are illustrated on Map C. Therefore, after calculating the population increases due to annexation proceedings, it is estimated that natural increases and in-migration have accounted for 2,150 new residents. This trend essentially means that Canon City has grown by nearly 23.3 percent over the past eight and one-half years, excluding the population increases attributed to annexation. Also, when taking the affects of annexation into account, it is estimated that the population in the unincorporated portions of the planning area increased by 2,399 individuals since 1970. Therefore, with regard to the recent distribution patterns of growth, it is believed that the incorporated and unincorporated portions of the planning area are growing nearly at identical rates. It is also important to note that nearly two-thirds of the population in the planning area resides within the corporate limits while the remaining one-third lives in the unincorporated planning districts.

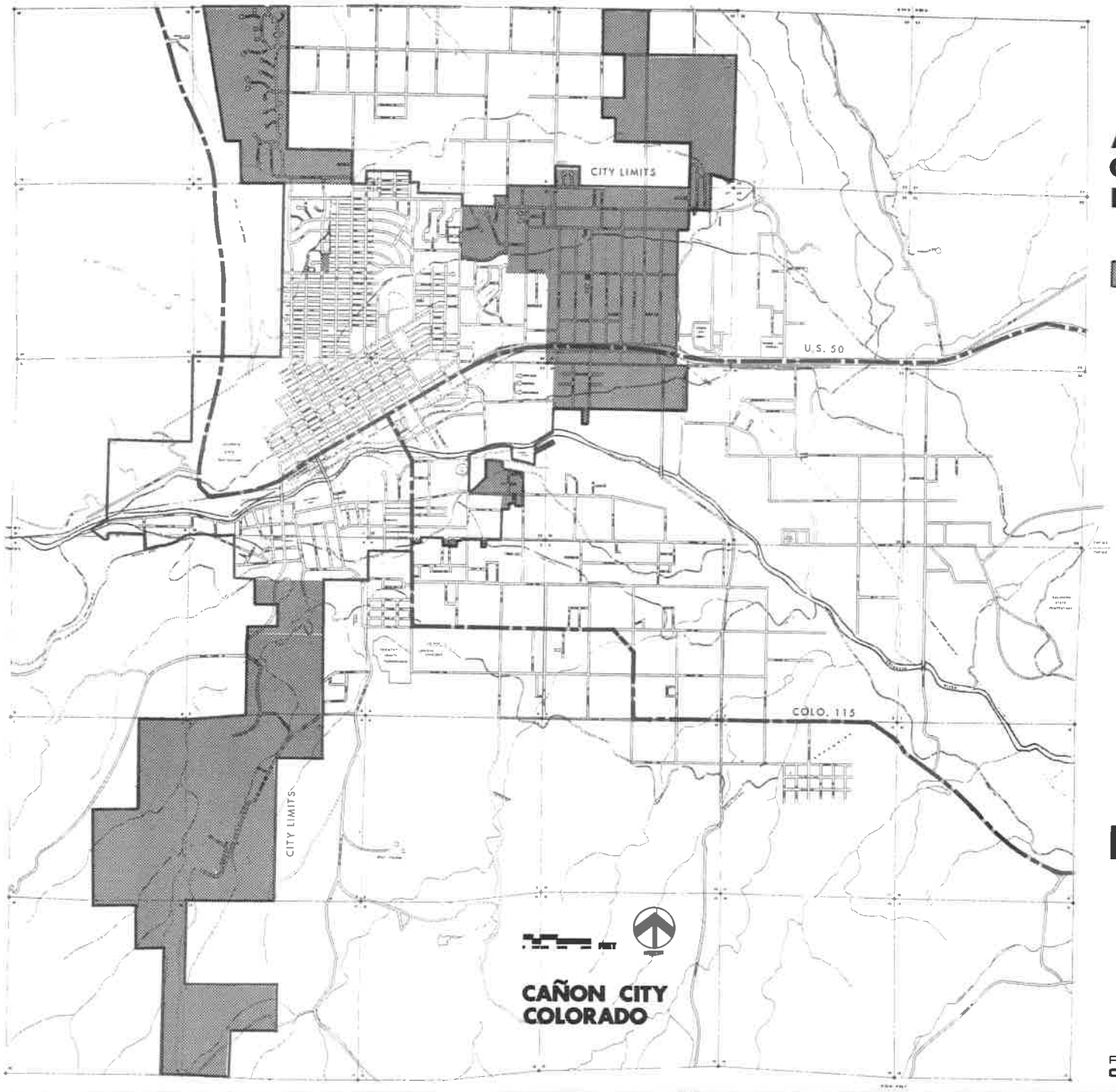
It should also be pointed out that the population in the planning area dramatically increases in the summer months because of tourism activity. According to the Chamber of Commerce's estimates, approximately 6,000 visitors either pass through or temporarily stay in the planning area on a typical summer day. Because of increased leisure time and the location of many recreational and scenic areas near Canon City, the number of tourists passing through the area will undoubtedly increase in the future.

Table 6 on the following page further substantiates the rapid rate of growth that the Canon City area has experienced in recent years through an examination of trends in utility hookups. As shown in the table, between 1970 and 1977 there were 1,479 additional water taps, 1,594 additional electrical meters, 1,832 additional gas meters and 2,908 additional telephones.

Population Characteristics

Age and Sex Composition

Table 7 illustrates the age and sex composition of Canon City and East Canon residents according to 1970 census statistics.



ANNEXATIONS TO CANON CITY BETWEEN 1970 & 1977

AREAS ANNEXED SINCE 1970

MAP C

The preparation of this map was partially funded through a grant from the Department of Housing and Urban Development, under provisions of Section 701 of the Housing Act of 1954, as amended.

PREPARED BY
OBLINGER-SMITH CORPORATION

TABLE 6
UTILITY SERVICE TRENDS

YEAR	WATER TAPS	ELECTRIC METERS	GAS METERS	TELEPHONES
1960	N/A	4,458	3,098	5,555
1965	N/A	4,636	3,989	6,361
1968	N/A	4,797	4,330	N/A
1970	3,878	5,136	4,829	7,968
1971	3,936	5,259	5,052	8,323
1972	4,003	5,533	5,472	8.938
1973	N/A	5,959	5,768	9,463
1972	N/A	6,156	6,166	9,724
1975	4,224	6,502	6,292	10,170
1976	5,195	6,627	6,444	10,483
1977	5,357	6,730	6,661	10,876

N/A - Not Available.

Source: The Association of Canon City Financial Institutions, An Economic Overview - 1977 and Oblinger-Smith Corporation, Consultants in Planning, Design and Development, 1978.

TABLE 7
CANON CITY AND EAST CANON
AGE AND SEX COMPOSITION, 1970

Age	Male	Female	Total in Range	Percent of Total	State-Wide Percent
Under 5	309	357	666	6.0%	8.5%
5-14	650	711	1,361	12.4%	20.7%
15-24	903	618	1,521	13.8%	19.1%
25-34	1,001	388	1,389	12.6%	13.2%
35-44	722	502	1,224	11.1%	11.6%
45-54	636	541	1,177	10.7%	10.6%
55-64	534	696	1,230	11.2%	7.8%
65 and over	1,019	1,424	2,443	22.2%	8.5%
TOTAL	5,774	5,237	11,011	100.0%	100.0%

Source: State of Colorado, U.S. Bureau of the Census, Enumeration District Summaries, 1970.

As shown in Table 7, there are more males in the community than females and the age category of 65 and over contains the highest percentage of the population. The Table also reveals that there was a steady decline in the age groups ranging from 25 to 54, indicating a small out-migration trend among those ages that usually constitute the majority of a community's labor force. Actually, a percentage increase does not occur until the 55 and older age groups are reached.

When making an age distribution comparision between the community and the State of Colorado as a whole, it is evident that the community contains fewer children and young adults (ages under 5 to 24) and considerably more elderly persons (ages 55 and over) on a percentage basis. Actually, only 32.2 percent of the community's population is under the age of 25 compared to 48.3 percent of the State's population. The community's population over the age of 55 represents one-third of the total population while on a State-wide basis only one-sixth of the population falls into this category. Thus, Canon City represents a retirement oriented community indicating that the elderly are undoubtedly in need of special housing, health care, transportation and recreation services and facilities. Presently, there are five nursing homes in the community containing 459 beds, although when considering the number of persons in their retirement years, the demand for nursing home accommodations surpasses the existing supply.

Income

Table 8 illustrates income distribution in Canon City and East Canon based upon the 1970 census.

TABLE 8
FAMILY INCOME CHARACTERISTICS, 1970

Income	Families Canon City	Families East Canon	Total Families	Percent Distribution	State-Wide % Distribution
Less than $1,000	27	0	27	1.1%	2.2%
$1,000 to $2,999	347	47	394	15.5%	6.7%
$3,000 to $4,999	439	153	592	23.2%	10.2%
$5,000 to $6,999	349	45	394	15.5%	12.4%
$7,000 to $8,999	310	65	375	14.7%	14.7%
$9,999 to $11,999	287	120	407	16.0%	20.0%
$12,000 to $14,999	149	41	190	7.4%	14.1%
$15,000 to $24,999	140	15	155	6.1%	15.4%
$25,000 to $49,999	13	0	13	.5%	3.6%
$50,000 or more	0	0	0	0%	.7%
TOTAL	2,061	486	2,547	100.0%	100.0%

Canon City Median Income $6,244.
State of Colorado Median Income $9,555.

Canon City families with income less than poverty level (301).
Families receiving public assistance (49).
Families not receiving public assistance (252).

TABLE 8 (continued)

East Canon Families with income less than poverty level (30).
Families receiving public assistance (0).
Families not receiving public assistance (30).

Canon City Families with female head of household (211).
Families with female head of household with income less than poverty level (62).

East Canon Families with female head of household (38).
Families with female head of household with income less than poverty level (10).

Source: State of Colorado, U.S. Bureau of the Census, Enumeration District Summaries for Canon City and East Canon, 1970.

As shown in the Table, over one-half of the population in the community earned less than $7,000 a year while on a State-wide basis less than one-third of the population fell in this lower income range. The community's median income for all families was $3,311 below the median family income for the State. The Table also shows that 331 families had incomes less than the poverty level and only 15 percent of these families were receiving public assistance.

Marital Status

Many times, widowed and divorced persons experience economic hardships in providing for themselves and their children. In Canon City and East Canon, according to the 1970 census, a total of 1,759 persons fell into these two categories. Table 9 on the following page illustrates marital status in the community and compares these trends with the State of Colorado as a whole.

Compared to the State on a percentage basis, the community has fewer single people, although there are more married, widowed and divorced persons. Of additional importance is the fact that of a total of 1,184 widowed persons in the community, 978 or 83 percent were women. Additionally it can be assumed that most of these women are elderly, indicating that many of these individuals may be in need of some form of public assistance.

Minority Persons

The number of minority persons within a community's population is an important factor since these persons may also require a special commitment from public bodies to assure them an adequate standard of living. According to the 1970 census, there were 265 Negroes living in Canon City and East Canon which represents 2.4 percent of the community's total population. In addition, five Indians and 11 other uncategorized minority persons were residing in the municipality. From examining these figures it appears that Canon City has a sizeable minority population, however, this trend is somewhat misleading since approximately 90 percent of the minorities are inmates at the State Prison. The census also reports that five minority persons were living in Lincoln Park.

TABLE 9
POPULATION 14 YEARS AND OVER
BY MARITAL STATUS AND SEX

	Male	Female	Total	Percent of Community	State-Wide Percent
Canon City -					
Single	1,092	543	1,635	21.7%	24.7%
Married	2,371	1,923	4,294	57.1%	63.6%
Divorced	413	128	541	7.2%	4.1%
Widowed	185	867	1,052	14.0%	6.3%
East Canon -					
Single	141	66	207	16.6%	24.7%
Married	431	447	878	70.1%	63.6%
Divorced	22	12	34	2.7%	4.1%
Widowed	21	111	132	10.6%	6.3%

Source: State of Colorado, U.S. Bureau of the Census, Enumeration District Summaries, 1970.

Population Estimates

In comprehensive planning, there is a definite concern with the future. Thus, the Canon City Comprehensive Plan is obligated to project future needs, forecast future conditions, and try to anticipate future trends. The task of examining the future in the Canon City planning area is rather difficult since the area is faced with a tremendous amount of uncertainity, a wide range of possibilities, and a constantly changing set of circumstances. In spite of these large uncertainities, and in spite of the chance of inaccuracy in anticipating the future, the estimates must be made.

Table 10 presents a series of recent population estimates that have been prepared for Canon City, Fremont County, East Canon, Lincoln Park, the Canon City planning area and for the regional area from Canon City to Florence. The projections were extracted from seven different sources with the time spans ranging from 1978 to the year 2000.

As shown in Table 10, there is a wide variation among the estimates, although all of the sources estimated rather large rates of growth throughout the planning area and Fremont County. The population estimates for Canon City range from 15,010 persons in 1978 to 25,800 persons (excluding East Canon) in the year 2000. The estimates for the planning area range from 20,210 persons in 1978 to 32,000 persons in 2000 while the County's population estimates range from 27,303 persons in 1978 to 57,730 persons in 2000. In some instances it is believed that the low estimations have already been surpassed while many of the higher range figures generally indicate that the

TABLE 10
EXAMINATION OF RECENT
POPULATION ESTIMATIONS

Population Projections by Source or Agency		1978	1980	1985	1990	1993	1995	2000
Fremont County Comprehensive Plan, 1976 [1]	Canon City		15,836	18,389	20,943			
	Fremont County		28,802	32,102	38,702			
Housing Inventory,[2] 1974	Canon City		15,836		20,943			24,084
	Fremont County		28,802		38,702			57,730
Colorado Division of Planning,[3] 1976 (High series)	Fremont County		27,753	29,831	32,701		35,950	39,676
M & I Consulting Engineers,[4] 1976	Canon City - City		14,500	16,000	19,100		22,000	25,800
	East Canon		2,500	3,500	3,900		4,500	7,500
	Lincoln Park		4,200	5,000	6,400		8,000	10,400
Arkansas River Basin 303 (e) Plan,[5] 1975	Canon City - City	15,010				21,880		
	Canon City - Urban	20,210				31,975		
	Fremont County	27,303				41,020		

(Table continued)

TABLE 10 (Continued)

Population Projections by Source or Agency			1978	1980	1985	1990	1993	1995	2000
Canon City Master Plan for Water System Improvements,[6] 1972	Canon City					Low - 11,300			
						High - 14,300			
	Canon City Unincorporated Area					Low - 15,700			
						High - 17,700			
	Canon City Planning Area					Low - 27,000			
						High - 32,000			
Eastern Fremont County 201 Facilities Plan,[7] 1977	Regional Area From Canon City to Florence	Low[8]		19,660	21,132	23,165		25,466	28,107
		High[9]		25,777	29,760	35,418		41,349	51,475

[1]The projections were developed jointly by the Upper Arkansas Area Council of Governments and the Fremont County Planning Office in 1976.

[2]The projections were developed by the Upper Arkansas Area Council of Governments in 1974.

[3]The projections are contained in a report entitled Colorado Population Projections, 1970-2000 which was developed by the Colorado Division of Planning's Demographic Section in 1976.

[4]The population projections were compiled in 1976 by M & I Consulting Engineers who conducted a population survey for each of the Sanitation Districts in the 201 Facilities planning area through the year 2000 as a part of the eastern Fremont County, 201 Facilities Plan.

[5]The 303 (e) Plan was completed by the Ken R. White Company, in December of 1975.

[6]The projections were prepared by M & I Consulting Engineers, Fort Collins, Colorado, 1972.

[7]The projections were prepared by Ecology Consultants Inc., Fort Collins, Colorado, May 1977.

[8]The low projections in the eastern Fremont County 201 Facilities Plan, assumes small industrial labor market expansion due to the possibilities of high transportation costs, strict land use regulations, high tax and utility rates, and new technologies demanding low labor supplies.

[9]The high projections in the eastern Fremont County 201 Facilities Plan, assumes large scale industrial attraction and expansion and a proliferation of urban development along the Arkansas River Valley from Canon City to Florence.

Source: Oblinger-Smith Corporation, Consultants in Planning, Design and Development, 1978.

Canon City planning area and Fremont County as a whole are likely to experience a dramatic influx of population in-migration due to industrial expansion and mineral extraction. The higher range population estimates are especially true of the figures developed in the Eastern Fremont County 201 Facilities Plan in May of 1977. This plan states that the high level estimation of 51,475 persons in the year 2000 is likely in the geographic area from Canon City to Florence. In terms of land use changes, the 201 Facilities Plan also reveals that there is a strong possibility of dense urban development along the Arkansas Valley.

These higher population estimates and the corresponding land use ramifications have strong implications since the governmental entities throughout eastern Fremont County are not prepared for this rate of growth in terms of fiscal and budgetary capabilities, land use regulations and public facilities and services. Actually, the majority of the public officials and citizens in the Canon City planning area do not desire the formation of a large metropolitan area. In fact, there is a strong local desire to take all necessary measures that will ensure that modest rates of growth occur in a planned and controlled fashion. This is not to say that the high population figures are unrealistic, but it does indicate that local residents are more concerned with the quality of their environment than with mere quantity.

Table 11 on the following page presents a series of low, medium and high population estimates that were prepared for the Canon City planning area. The estimates range from 1978 to the year 2000, utilizing five year planning increments. There was also no attempt to show the expected population changes in the respective incorporated and unincorporated portions of the planning area since annexation procedures are likely.

The low estimate assumes a 1.5 percent average annual population increase, or approximately 15 percent per decade. This rate of growth closely corresponds to the population trend experienced throughout the 1960 decade. Essentially, this estimation assumes less growth in the economy than was experienced from 1970 to 1978, particularly in the manufacturing, services and trade sectors. By using this low estimation rate, a population increase of 7,830 persons is expected in the planning area by the year 2000.

The medium population estimate assumes a moderate rate of growth similar to the population increases that have occurred since 1970. This projection assumes a 3 percent per year increase, or an increase of 17,389 persons by the year 2000.

The high estimations assume that many new large scale basic industries (manufacturing and mining processing activities) will locate in the planning area. The high estimation is based on a 5 percent average annual increase, or an increase of 38,897 persons by the year 2000.

Thus, the Table illustrates that the population in the planning area may range between 28,034 persons and 59,101 persons by the year 2000, depending on the rate of economic growth. However, the medium population projection is believed to represent the population increases that can reasonably be expected during the planning period and will be used for comprehensive planning purposes.

TABLE 11
CANON CITY PLANNING AREA
CURRENT AND FUTURE POPULATION ESTIMATIONS

	Low	Medium	High
1978	20,204	20,204	20,204
1980	20,814	21,434	22,274
1985	22,423	24,129	28,429
1990	24,156	27,973	36,283
2000	28,034	37,593	59,101

Source: Oblinger-Smith Corporation, Consultants in Planning, Design and Development, 1978.

In summary, growth is anticipated in all of the previously discussed population estimates and these trends could be interpreted as being somewhat overly optimistic. However, it is the contention of this Plan that growth will continue to occur in the planning area. It is also anticipated that a certain amount of public improvements will be made by the City and the County that will either directly or indirectly attract new economic and population growth.

VI ECONOMIC ANALYSIS

Introduction

The local economy is an important part of life within the Canon City area not only because it is a source of revenue and employment but also because it helps to shape the identity of the entire community. In many ways the vitality of the Canon City community is strongly affected by the health of the local economy. Aside from the more obvious contributions of a strong local economy such as job opportunities, the business areas also provide important focal points for interaction and community life.

For most general planning purposes, it is important to have an understanding of the structure and functioning of the local economy. Shifts in the local economy can be a signal of important changes taking place within the community, some of which can have significant implications for local planning. For example, the patterns in employment and business activity will have a strong influence on possible future population growth and the capability of the community to finance public improvements. Population trends and public fiscal resources in turn become major factors shaping land use planning.

Throughout this section, variations will be apparent in the data that has been used for analysis. These are the result of different statistical sampling techniques used by the agencies collecting the data. While the numbers from each source may not be identical, what is important for comprehensive planning purposes is the general direction and magnitude of change indicated by the data. Also where recent data was not available for Canon City specifically, data for Fremont County was used with assumptions made about its applicability to Canon City. Wherever this technique was used, the assumptions made in the step-down procedure have been clearly stated.

Employment

Where people work and in what kinds of jobs are important indications of the overall health of any local economy. Employment data can be useful in the analysis of the Canon City economy to assess the changing level of productivity of business and industry, the standard of living of Canon City residents and the demand of goods, services and housing within the area. The kinds of jobs in which people work is also an indication of the types of skills available in the labor force, the range and extent of which is very often an important consideration in the decision by business leaders to locate or start a business in a particular community.

The period of 1960-1970 shows some interesting changes in the Canon City labor force, summarized in Table 12 on the following page. While the overall population of Canon City increased slightly by 233 people or 2.6 percent, there was a decline in the total labor force of 91. Some of the decline can be attributed to the change in the minimum age used to define the work force (from 14 to 16 years of age), but there is nonetheless the indication that the economy of Canon City was unable to absorb new workers. This is further reflected in the 1970 unemployment rate of 5.6 percent which is higher than the rates of unemployment reported during the same period for both Fremont County (4.4 percent) and the State (4.2 percent).

TABLE 12
CANON CITY LABOR FORCE
AND UNEMPLOYMENT TRENDS

Year	Total Labor Force	Total Employed	Unemployed Persons	Percent Unemployed	Canon City Population
1960[1]	2559	2438	121	4.7	8973
1970[2]	2467	2330	137	5.6	9206

[1] 14 Years old and over
[2] 16 Years old and over

Source: Bureau of the Census, State of Colorado, General Social and Economic Characteristics for 1960 and 1970.

Table 13 on the following page also points to the overall decline in the number of workers, but identifies as well the sectors of the local economy in which there were changes in employment. During the period of 1960-1970, there was a significant decline in employment in the transportation, communications, and wholesale-retail trade sectors. To some degree counterbalancing these declines, the manufacturing, construction, and professional and related services sectors recorded a marked increase in employment. The deline in wholesale-retail trade is not surprising in view of the fairly high rate of local unemployment which would reduce the expendable income of local residents, thereby curtailing local purchasing power. What is significant, however, is the apparent shift of the Canon City economy toward the manufacturing and professional service-oriented sectors.

In 1960 the largest single private sector employer in the local economy was the wholesale-retail trade group, which employed 585 people or roughly 24 percent of the total labor force. By 1970, the professional service sector had expanded to about the level of the wholesale and retail trade sector as reported in that year and the manufacturing of durable goods had expanded the number of employees from 118 in 1960 to 164 in 1970, an increase of about 39 percent. Thus, in 1970, wholesale-retail trade and professional services accounted for about 45 percent of the labor force while manufacturing accounted for about 9 percent.

Specific employment data for the Canon City area is more difficult to come by after the 1970 Census. However, a general sense of changes taking place in the Canon City area can be obtained from labor force estimates collected and compiled for Fremont County.

TABLE 13
EMPLOYMENT BY INDUSTRY IN CANON CITY - 1960 - 1970

Industry Sector	#Employees[1] 1960	#Employees[2] 1970	Percent Change 1960-1970
Construction	154	168	+ 9.1%
Manufacturing	188[3]	201[4]	+ 6.9%
Transportation, Communications, Utilities & Sanitary Services	166	123	- 26.0%
Wholesale & Retail Trade	585	528	- 9.8%
Finance, Insurance Business & Repair Services	167	127	- 24.0%
Professional & Related Services	375	526	+ 40.3%
Public Administration	341	341	No Change
Other Industries	454	298	- 28.0%
TOTAL	2,430	2,312	- 4.9%

1 14 years old and over
2 16 years old and over
3 118 employed in the manufacture of durable goods
4 164 employed in the manufacture of durable goods

Source: Bureau of the Census, State of Colorado, General Social and Economic Characteristics 1960 and 1970.

Since Canon City is the major business activity center within Fremont County, a significant proportion of County-wide economic growth can be assumed to have taken place within the Canon City planning area. This is especially true for those types of businesses and industries which rely on higher population densities, close proximity to other businesses or easy access to major transportation facilities.

General employment trends within the County are suggested in Table 14 on the following page, which summarizes the changes in the numbers of people in the labor force from 1970 to April 1978. During this period, as can be seen in the table, the Fremont County labor force expanded from 6,868 to 10,467 people, an increase of about 65 percent, with the unemployment rate ranging from 4.1 to 6.9 percent. Despite this expansion, unemployment in the County has been consistently higher than the rate recorded for the State of Colorado as a whole.

TABLE 14
LABOR FORCE ESTIMATES FOR FREMONT COUNTY

Date	Total Labor Force	Total Employed	Total Unemployed	% Unemployed	% of State Unemployed
1970	6868	6565	303	4.4	4.2
Dec. 1974	8920	8517	403	4.5	4.1
Dec. 1975	8947	8229	718	8.0	6.9
Dec. 1976	9766	9083	683	7.0	5.9
Dec. 1977	10,225	9498	727	7.1	6.2
April 1978	10,467	9735	732	7.0	5.7

Source: Division of Employment and Training, Research and Analysis, State of Colorado, and U.S. Bureau of the Census, State of Colorado, General Social and Economic Charateristics, 1970.

TABLE 15
ESTIMATE OF NUMBER OF EMPLOYEES BY INDUSTRY-FREMONT COUNTY

Industrial Sector	Year [1] 1971	Year 1973	Year 1974	Year [2] 1975
Manufacturing	656	641	870	1,114
Mining	281	238	79	148
Agriculture	D*	D	D	315
Trade (retail & wholesale)	878	1,541	1,224	1,167
Transportation	188	219	171	341
Finance, Insurance & Real Estate	151	171	140	210
Service	764	843	988	1,193
Contract Construction	191	287	202	400
TOTAL	3,125	4,027	3,772	4,888

* "D" indicates figures withheld to avoid disclosure

Source: [1] U.S. Dept. of Commerce - County Business Patterns 1971,1973,1974.
[2] Colo. Dept. of Employment, Division of Research and Analysis - County Work Force Estimates - 1975.

Table 15 on the previous page presents data estimating the changes in the number of employees within the major industrial sectors of the County. There has been an overall increase in the numbers of people employed in each sector for the period 1971 to 1975, with significant increases in manufacturing, services and contract construction. These changes reinforce the shift that became apparent with the 1970 Census - that manufacturing and professional services have become increasingly important parts of the local economy of the Canon City area, supplementing the traditional core of wholesale and retail trade. The growth of professional services is related in part to the increasing number of older people living in the Canon City area who require special medical and health care services.

Because of the presence of the Colorado State Penitentiary in the Canon City area, the region has always had relatively high levels of government employment. As is shown in Tables 16 and 17 during the period of 1970-1974, government employment in Fremont County has increased from 1,095 people or 16.8 percent of the County's employed population in 1970 to 1,351 or 22.1 percent in 1974. Unlike the private sector, government employment depends directly on legislative policy-making and budgetary funding priorities. It appears that with the new construction and reorganization anticipated to take place in the State Prison complex, government employment may increase somewhat in the years to come. The new construction expected to take place at the Penitentiary complex would also have some short-term spin-off effects on the local economy which might include an increase in retail and wholesale activity as a result of the purchase of goods and materials related to construction and the additional income provided by new jobs.

TABLE 16
EMPLOYED POPULATION 16 YEARS OLD
AND OVER BY MAJOR INDUSTRY GROUP, 1970

Industry Group	Fremont County	
	Number	Percent
Agriculture, Forestry, Fisheries	239	3.7
Mining	198	3.0
Construction	536	8.2
Manufacturing	1,117	17.1
Transportation, Communication, Public Utilities	396	6.1
Wholesale Trade	97	1.5
Retail Trade	1,154	17.7
Finance, Insurance, Real Estate	140	2.1
Services	1,556	23.8
Government	1,095	16.8
Total Employed	6,528	100.0%

Source: Comprehensive Plan-1976-Upper Arkansas Area Council of Governments.

TABLE 17
NUMBER EMPLOYED BY MAJOR INDUSTRY GROUP,
FREMONT COUNTY, 1974

Estimated number employed	Number	Percent
Manufacturing	1,114	18.3
Mining	148	2.4
Agriculture	315	5.2
Trade (retail and wholesale)	1,167	19.1
Government (1974)	1,351	22.1
Transportation and Public Utilities	341	5.6
Finance, Insurance, Real Estate	210	3.4
Service	1,193	19.6
Contract Construction	263	4.3
Totals	6,102	100.0%

Source: U.S. Department of Commerce-County Business Patterns, 1974.

Income

Another indication of change within an economy is the level of personal income, both in terms of how much is being earned and from what sector of the economy the income is derived. Since data is only readily available for Fremont County, inferences about changes in income will have to be made for Canon City on the basis of this County data.

As can be seen from Table 18 on the following page, with the exception of agriculture, personal income has been increasing throughout the various sectors of the Fremont County economy. Part of this increase is due to inflation, but the percentage changes over the period 1970-75 are high enought to reflect real growth in the level of personal income. To estimate real growth in personal income, the following technique can be used. Assuming a 7 percent annual inflation rate, 35 percent of the increase per capita income over the 1970-1975 period can be attributed to inflation. But because per capita income increased by 50 percent during the same period, there was an overall increase in personal income of about 15 percent.

This increase in personal income is also reflected in Table 19 on the following page, which lists bank deposits reported for Canon City and Fremont County. During 1970-1975, bank deposits per capita in Canon City increased from about $2,875 to $3,830 in 1975, a rise of 75 percent. (Some of this increase must be attributed to increased commercial deposits as well.)

TABLE 18
PERSONAL INCOME BY MAJOR SOURCES
FREMONT COUNTY, 1970 - 1975

Industry Sector	1970	1971	1972	1973	1974	1975	%Change 70 - 75
Farm	$ 1,662	$ 1,264	$ 865	$ 753	$ 681	$ 972	- 58%
Manufacturing	4,652	5,449	6,998	6,658	8.664	9,464	+103%
Mining	D	D	D	D	D	D	-----
Contract Const.	2,114	2,051	3,093	3,631	3,961	3,377	+ 60%
Wholesale & Retail	4,708	5,557	6,562	7,383	8,164	8,783	+ 87%
Finance, Insurance	1,212	1,252	1,357	1,639	1,975	2,590	+113%
Services	5,836	6,478	6,321	7,607	8,577	9,677	+ 66%
Transp.,Comm., & Public Utilities	2,027	2,225	2,665	3,300	3,752	3,847	+ 90%
Other Services	D	D	D	D	D	D	-----
TOTAL	$23,602	$26,192	$30,230	$33,828	$39,263	$42,320	
Per capita income	$ 2,849	$ 3,042	$ 3,282	$ 3,572	$ 3,862	$ 4,271	+ 50%

[1] in thousands of dollars

Source: U. S. Department of Commerce, Bureau of Economic Analysis, Local Area Personal Income (1970-1975), Volume 5, Plains Region.

TABLE 19
BANK DEPOSITS FOR CANON CITY AND FREMONT COUNTY

Year	City	County
1950	$ 5,694,790	$ -
1960	12,627,034	15,233,000
1965	15,691,295	18,662,000
1968	21,415,996	24,981,000
1970	26,465,509	30,850,000
1971	32,874,000	37,527,000
1972	37,486,240	42,876,131
1973	41,830,837	48,499,599
1974	46,439,183	53,368,888
1975	48,965,993	58,161,777
1976	52,171,398	61,789,887

Source: Canon City, Colorado - An Economic Overview 1977. The Association of Canon City Financial Institutions.

Thus, taken together, the data on employment, personal income and bank deposits points to a general trend of expanding work opportunities and an increase of income in Canon City and Fremont County. The data from the population analysis chapter indicates that Canon City is becoming a retirement oriented community in addition to its expanding manufacturing base. In fact, Fremont County takes in about $14 million annually in Social Security benefits (a major portion of which is most likely spent in the Canon City planning area). The inflow of Social Security benefits and the upgrading of personal income has lead to an increase in the level of consumer expenditures for goods and services, the impact of which will be examined in the following section on retail trade.

Retail and Wholesale Trade

As the County seat and site of the Colorado State Penitentiary, Canon City has long been the traditional market center of Fremont County. As a result of this dominant position within the County and the distance of the City's major urban competitors, Pueblo and Colorado Springs, Canon City has always had a strong retail-wholesale trade core. The market position of Canon City has also been enhanced by tourist trade which is drawn to the area because of the Royal Gorge and the recreational opportunities of the Southern Colorado Rocky Mountains. The Canon City Chamber of Commerce estimates that about 6,000 tourists pass through the City on a typical summer day.

TABLE 20
WHOLESALE TRADE TRENDS

	Number of Establishments	Total Sales[1]
1963		
Fremont County	24	$4,223,000
Canon City	16	3,383,000
Remainder of County	8	840,000
1967		
Fremont County	25	8,002,000
Canon City	17	5,139,000
Remainder of County	8	2,863,000
1972		
Fremont County	25	10,338,000
Canon City	17	8,387,000
Remainder of County	8	1,951,000

[1]Sales include merchandise sold and receipts from repairs and from other services to customers.

Source: State of Colorado U.S. Beureau of the Census, Census of Wholesale Trade, 1967 and 1972.

Table 20 on the previous page presents data on wholesaling activity in Canon City and Fremont County. Trends in wholesaling trade, which include establishments or business activities primarily engaged in selling goods or merchandise to retailers, are an important reflection of the complexity of a local economy and its growth. Like retail trade, wholesaling is highly responsive to consumer demands, and increased wholesale sales would tend to indicate a growth in the overall consumption of goods and services. As can be seen in Table 20, while the number of wholesaling establishments remained constant in Canon City and Fremont County during the period 1963-1972, total sales increased from about $4,223,000 to about $10,338,000 - an increase of 145 percent. Wholesaling increased in Canon City by about 148 percent during the same period. Even with an annual inflation rate of 5 percent applied over the nine year period, the level of wholesale sales was still close to doubling. According to the U.S. Bureau of the Census, the number of wholesaling establishments in the County increased from 17 in 1971 to 22 in 1974 (see Table 21 below), indicating additional growth in the regional economy. Given Canon City's existing economic structure and access to major transportation facilities it is reasonable to assume that these additional wholesaling activities located somewhere within the Canon City planning area.

TABLE 21
NUMBERS OF ESTABLISHMENTS
WHOLESALE TRADE IN FREMONT COUNTY

Sector	1971	1973	1974
Wholesale Trade	17	20	22

Source: U.S. Bureau of the Census, Colorado County Business Patterns, 1973 and 1974.

Retail trade, defined as those businesses that sell goods or merchandise for personal or household consumption, is a direct measure of the economic vitality of a local economy. Increasing retail sales tend to be associated with increasing levels of expendable income, which in turn are related to rising personal incomes. In Table 22 on the following page retail activity for Canon City and Fremont County has been summarized. During the period 1963-1972, retail sales in Canon City increased from $14,041,000 to $27,912,000, an increase of over 50 percent (which includes a 5 percent inflation adjustment factor). Also the figures from this table show that Canon City was "capturing" between 70 and 75 percent of the retail sales in Fremont County. From the perspective of the Canon City economy, the relatively high "capture" percentages are important because it means that money is circulating locally and not being drained out of the community into other urban centers. As a result of its ability to capture a major portion of regional retail sales, Canon City benefits in at least two ways. First, higher retail sales produce higher sales tax revenues which can be reinvested into the community in the form of public facilities and improvements. The second benefit is largely a hidden one and is the result of what is known in economics as the "multiplier effect." The multiplier effect describes the impact of money spent in a particular economy like Canon Ctiy as it circulates within the community. Very simply, the multiplier effect means that a dollar spent in a local economy is generally worth more than the original dollar expenditure because it circulates within the community - from store owner to banker to other businesses.

TABLE 22
RETAIL TRADE TRENDS

	Number of Establishments	Total Sales[1]
1963		
Fremont County	258	$19,501,000
Canon City	159	14,041,000
Remainder	99	5,460,000
1967		
Fremont County	264	24,321,000
Canon City	181	18,695,000
Remainder of County	83	5,625,000
1972		
Fremont County	285	38,053,000
Canon City	196	27,912,000
Remainder of County	89	10,141,000

[1] Sales include merchandise sold and receipts from repairs and from other services to customers.

Source: State of Colorado, U.S. Bureau of the Census, Census of Retail Trade, 1967 and 1972.

More recent data on retail sales for the period 1973-1976 can be found in Table 23, which again show increases in retail sales of about 30 percent in Canon City (which includes a 7 percent inflation adjustment factor). Although the data from Tables 22 and 23 cannot be compared directly because they were taken from different sources, there is a strong indication nonetheless of significant economic growth in the retail sector of the Canon City economy. Again the more recent figures indicate that Canon City was capturing between 67 percent and 70 percent of County retail sales.

TABLE 23
RETAIL SALES FOR CANON CITY AND FREMONT COUNTY

Year	Canon City	County
1973	$39,293,211	$58,404,675
1974	43,175,326	63,272,224
1975	50,306,978	72,276,130
1976	59,108,489	84,713,927

Source : Colorado Department of Revenue
Division of Research and Analysis

More specific data on Canon City retail activity is contained in Table 24 at the bottom of the page. In 1963 Canon City had 159 retail establishments (Table 22) which expanded to 181 in 1967 and to 196 in 1972. Retail sales in 1967 and 1972 were greatest in the food store group, representing about 25-30 percent of all retail sales. The largest increase in retail sales during the period 1967-1972 was recorded in the general merchandise group (defined as department and variety stores which sell dry goods, apparel and accessories, furniture and home furnishings, small wares, hardware and food). This group nearly doubled its sales from 1967-1972, adjusted for inflation. Increased sales in this particular store group suggests a change in local buying patterns. This change may mean that with the increased costs of transportation, and the upgrading of income, local people have now become less dependent on the larger urban areas of Colorado Springs and Pueblo for some of the more expensive and less frequently bought consumer goods. Also, the growing number of older, retired people living in the area may have contributed to the change as well if it is assumed that they, as a group, are less mobile and less inclined to drive longer distances to make purchases.

TABLE 24
RETAIL TRADE BY STORE GROUP - CANON CITY (1967 AND 1972)

	1967		1972	
	Number of Establishments	Total Sales	Number of Establishments	Total Sales
Total Retail Sales	181	$18,695,000	196	$27,912,000
Food Stores	20	5,467,000	19	6,757,000
Eating and Drinking Places	29	1,177,000	35	1,890,000
General Merchandise	4	1,438,000	9	4,865,000
Apparel and Accessory Stores	8	(D)	10	(D)
Furniture, Home Furnishings & Equipment Stores	18	944,000	16	1,176,000
Automotive Dealers	17	3,610,000	12	4,013,000
Gasoline Stations	29	2,108,000	28	2,098,000
Drug Stores & Proprietary Stores	4	(D)	3	(D)
Building Materials & Hardware Dealers	8	795,000	11	1,652,000
Miscellaneous Retail Stores	36	1,277,000	53	2,972,000

(D) Withheld to avoid disclosure.

Source: State of Colorado, U.S. Bureau of the Census, Census of Retail Trade, 1967 and 1972.

Manufacturing

Wholesale and retail trade generally reflect the rise and fall of local consumer expenditures and, with the exception of the influx of tourist dollars, represent existing money circulating throughout community as a result of consumer purchases. "New" money to the community comes from such sources as tourism and locally manufactured goods which are sold outside of the immediate trade area. Many smaller communities such as Canon City are actively trying to develop a base of industrial and manufacturing activity. A more diversified economy, especially one with regional or national trade areas, tends to be less dependent on the cycle of local business activity, thereby providing the promise of stability during periods of economic decline. Thus because it represents a source of "new" money and a broader based economy, manufacturing has been traditionally viewed as an asset to a community.

Tables 25 and 26 present data on manufacturing in Fremont County. It can be assumed that most of the manufacturing firms listed for the County are located in the Canon City planning area. Employment trends within the manufacturing sector have been discussed earlier and show the development of manufacturing as a major employer and major source of personal income. Table 25 points to the significance of the manufacturing sector. The increases recorded in payroll, value of shipments and capital expenditures are indicative of growth in the manufacturing group and directly, and indirectly, contributed to the overall growth of the Canon City economy in the period 1967-1972.

TABLE 25
MANUFACTURING TRENDS - FREMONT COUNTY

	1967	1972
All establishments	26	28
Establishments with 20 or more employees	6	8
All employees	500	700
Payroll	$2.6 Million	$5.3 Million
Value added by manufacture	9.3 Million	18.2 Million
Cost of materials	4.2 Million	8.1 Million
Value of shipments	13.4 Million	25.9 Million
Capital expenditures	.4 Million	3.2 Million

Source: State of Colorado, U. S. Bureau of the Census, Census of Manufactures, 1967 and 1972.

As can be seen in Table 26 on the following page the number of manufacturing firms increased from 26 to 28 during the period 1967-1972, with the two new firms falling into the employment size category of 20 to 99 employees. The industrial sector to experience the most growth, increasing from 8 to 12 firms over the period, was the machinery group with losses recorded in the lumber and wood products group.

TABLE 26
DISTRIBUTION OF MANUFACTURING ESTABLISHMENTS BY
EMPLOYMENT SIZE AND MAJOR INDUSTRY GROUP IN
FREMONT COUNTY

	Total Establishments	Lumber Products	Food Products	Printing and Publishing	Stone and Glass Products	Machinery, Except Electrical	Transportation Equipment	Other Industries
1967								
Fremont County, Total	26	4	5	3	7	4	1	2
1 TO 19 Employees	20	4	5	2	4	3	1	1
20 TO 99 Employees	4	-	-	1	2	1	-	-
100 TO 249 Employees	2	-	-	-	1	-	-	1
1972								
Fremont County, Total	28	2	5	3	6	6	1	3
1 TO 19 Employees	20	2	5	2	2	5	1	2
20 TO 99 Employees	6	-	-	1	3	1	-	-
100 TO 249 Employees	2	-	-	-	1	-	-	1

Source: State of Colorado, U.S. Bureau of The Census, Census of Manufactures, 1967 and 1972.

Services

Another important component of the local economy of Canon City is the services sector which are those firms primarily engaged in providing a wide range of services to individuals and other businesses, including the following types of activities: motels, hotels, tourist courts and trailer parks, personal and business services. As is evident from Table 27, the numbers of services have increased in both Fremont County and Canon City. In addition to the increase in the numbers of service-oriented firms, total receipts have also risen over the whole period, but most dramatically between 1967 and 1972 when receipts nearly doubled.

TABLE 27
SELECTED SERVICE TRENDS

	Number of Establishments	Total Receipts[1]
1963		
Fremont County	135	$2,602,000
Canon City	94	1,296,000
Remainder of County	41	1,306,000
1967		
Fremont County	160	2,152,000
Canon City	109	1,545,000
Remainder of County	51	607,000
1972		
Fremont County	193	7,166,000
Canon City	146	4,029,000
Remainder of County	47	3,137,000

[1]The total receipts from customers for services rendered and merchandise sold.

Source: State of Colorado, U.S. Bureau of the Census, Census of Selected Services, 1967 and 1972.

The rise in the numbers and receipts of the services' group in Canon City can be related to a number of factors. First, the increases can be attributed to the influence of tourism in the region. With changing attitudes toward work and more leisure time, travel and recreation have become very important dimensions of the American lifestyle. The scenic beauty and outdoor recreation opportunities of the Canon City area undoubtedly contributed to growth of services in the local economy. Second, the increasing numbers of older, retirement-oriented people in the City has encouraged the development of new services, especially in the area of medical and health care. A third factor adding to the increase of services is the rise in personal income which means that people have more income to spend on such things as personal services and travel. The overall change in the complexity and diversity of the Canon City economy is a fourth factor contributing to the rise of business oriented services such as accounting and professional consulting services.

TABLE 26
DISTRIBUTION OF MANUFACTURING ESTABLISHMENTS BY
EMPLOYMENT SIZE AND MAJOR INDUSTRY GROUP IN
FREMONT COUNTY

	Total Establishments	Lumber Products	Food Products	Printing and Publishing	Stone and Glass Products	Machinery, Except Electrical	Transportation Equipment	Other Industries
1967								
Fremont County, Total	26	4	5	3	7	4	1	2
1 TO 19 Employees	20	4	5	2	4	3	1	1
20 TO 99 Employees	4	-	-	1	2	1	-	-
100 TO 249 Employees	2	-	-	-	1	-	-	1
1972								
Fremont County, Total	28	2	5	3	6	6	1	3
1 TO 19 Employees	20	2	5	2	2	5	1	2
20 TO 99 Employees	6	-	-	1	3	1	-	-
100 TO 249 Employees	2	-	-	-	1	-	-	1

Source: State of Colorado, U.S. Bureau of The Census, Census of Manufactures, 1967 and 1972.

Mining and Agriculture

Mining and agriculture are two sectors of the Fremont County economy which in the past have indirectly contributed to the local economy of Canon City. While agriculture has historically been a significant part of the regional economy, its future seems uncertain in view of the fluctuating prices of agricultural products, ever-increasing costs of labor, materials and machinery, and competition from urban growth for prime agricultural land and water rights. These pressures combine to make farming and ranching a more capital-intensive operation, requiring fewer workers and much larger acreages to remain competitive. Given the traditionally low agricultural production of farms in Fremont County, the cost and price pressures only add to regional agricultural problems.

What farming remains in Fremont County concentrates on dairy and beef livestock, and crop production of hay and orchard fruits. As can be seen from Table 28,the value of agricultural production in the County has been fairly constant since about 1965 indicating the inability of farm commodities to keep apace with inflation.

TABLE 28
VALUE OF PRODUCTION OF CROPS FOR
FREMONT COUNTY (dollars)

Year	All Wheat	Silage and Corn, Grain	Barley	Sorghum Grain	All Other Crops[1]	All Crop Value
1966	12,880	58,780	9,720	3,780	902,028	987,188
1969	23,660	78,440	18,680	730	910,484	1,031,994
1972	12,800	69,600	4,500	-----	719,700	806,600
1974	42,000	------	------	-----	960,200	1,201,700
1975 (est)	------	157,100	------	-----	1,041,800	1,215,200

[1] includes dry beans, rye, hay, potatoes, oats, broom corn, seeds, fruit and vegetables.

Source: Colorado Agricultural Statistics, 1965 - 1976, Colorado Department of Agriculture.

In Table 29 on the following page, hay production, which has been a mainstay in the County, has declined significantly both in overall tonnage and the value received for production.

Unlike agriculture, mining has come to assume an important position in the regional economy with the potential for some dramatic spin-off effects on the Canon City planning area. Table 30 on the following page summarizes mineral production for Fremont County over the period 1971-1976. These tables point to the increasing level of mineral production in the County, especially for cement and sand and gravel, most of which can probably be attributed to the operation of Ideal Cement Company/Ideal Basic Industries in Portland.

TABLE 29
HAY PRODUCTION* FOR FREMONT COUNTY

Year	Production (in tons)	Value (dollars)
1965	21,900	474,100
1966	27,450	649,500
1967	13,900	370,800
1968	14,750	365,900
1969	18,800	551,800
1970	18,020	566,600
1972	10,500	465,200
1974	10,900	-------

* includes all hay.

Source: Colorado Agricultural Statistics, 1965 - 1976, Colorado Department of Agriculture.

According to the Colorado Geological Survey, uranium will be the major mineral to be intensively developed in the County in the near future. The Cotter Corporation, located in the Canon City area, has been milling uranium for several years and plans to expand in the near future. Within the next 4 to 6 years Cyprus Mines plans to set up a mining and milling operation in the Tallahassee Creek area employing about 200 people. Cyprus Mines has estimated that there are approximately 31 million pounds of uranium ore in reserves in the Tallahassee Creek area. Expansion of mining activity will probably lead to greater retail sales in the Canon City economy as well as added pressures on the housing market.

Regional coal production may also increase slightly, although the Canon City field is not in as strong a competitive position as other fields in the State. Any increase in coal mining in the area will probably be limited to changes in local consumption.

TABLE 30
FREMONT COUNTY
MINERAL PRODUCTION, 1971, 1974, 1976

1971

Copper	$	54,875
Uranium		5,805,480
Berylium		22,500
Total	$	5,882,855
Cement		4,074,501
Sand & Gravel		62,128
Limestone		2,161,281
Dolomite		333,000
Stone		214,275
Clay		65,547
Ganister		16,129
Feldspar, Mica		34,818
Gypsum		253,856
Miscellaneous Nonmetallic		14,000
Total	$	7,229,535
Petroleum		91,508
Coal		1,410,425
Total	$	1,501,933
Total Production for County	$	14,614,323

1974

Cement	$	8,091,415
Sand & Gravel		417,176
Limestone		4,403,736
Dolomite		811,895
Ganister		92,869
Clay		60,403
Perlite		38,412
Feldspar-Mica		45,181
Gypsum		114,500
Total	$	14,075,587
Petroleum		156,136
Coal		1,503,908
Total	$	1,660,044
Total Production for County	$	15,735,631

(Table continued on following page.)

TABLE 30 (CONTINUED)

1975

Cement	$ 12,624,988
Sand & Gravel	152,402
Limestone	2,194,980
Dolomite	604,447
Stone	6,400
Clay	57,043
Ganister	68,378
Gypsum	152,000
Total	$ 15,860,638
Petroleum	194,813
Coal	1,548,312
Total	$ 1,743,125
Total Production for County	$ 17,603,763

1976

Cement	$ 14,673,064
Sand & Gravel	597,100
Limestone	4,502,474
Dolomite	609,889
Stone	85,206
Clay	98,980
Perlite	66,525
Gypsum	296,080
Ganister	19,120
Total	$ 20,948,438
Petroleum	194,062
Coal	1,379,803
Total	$ 1,573,865
Total Production for County	$ 22,522,303

Source: A Summary of Mineral Industry Activities in Colorado, 1971, 1974, 1975, 1976. Colorado Division of Mines.

VII NATURAL ENVIRONMENT

Introduction

The relationship of the natural environment to land use and future development has become increasingly important to many Colorado communities. As an understanding has grown about the complexity of the relationships between human settlements and the natural environment, conflicts between social and economic forces and the capability of the natural environment to support certain types of development have become evermore apparent.

As a preliminary step in addressing the inevitable conflicts between a community's growth and the natural environment, this section of the Comprehensive Plan will briefly discuss the various parts of the natural environment in and around the Canon City area. This information will then serve as a part of the overall decision-making process concerning future development or redevelopment in the Canon City planning area. Subsequent sections will deal specifically with environmental hazard areas.

An inventory of the specific characteristics and features of an area's natural environment is important for a number of reasons:

1. an inventory provides information to local citizens and public officials about the natural processes taking place within their community;
2. it can point out possible economic opportunities for the use of existing natural resources;
3. it can help to identify those factors which might constrain or enhance specific types of development;
4. the inventory encourages thinking about possible problems which might arise from the use of resources and land development.

Thus, with a greater sensitivity to the opportunities and constraints afforded by the natural environment, local citizens and public officials can make choices about future development which can enhance their community both economically and socially, while at the same time minimizing the impact of those choices on the environment.

Climate

Like several other Colorado Front Range communities, Canon City is situated on the borders of two major physiographic provinces, the Southern Rocky Mountain Physiographic Province and the Great Plains Physiographic Province. This combined with Canon City's location in a natural basin formed by a ring of low mountains and ridges has a significant influence on the environment in and around the City. This is reflected in the climate of the Canon City vicinity which is semi-arid with fairly distinct seasons. The extensive mountainous regions to the west contribute to the dryness of the climate by acting as a barrier to the moist Pacific air masses passing over the mountains. In passing over the mountains, the moisture is removed from the Pacific fronts, producing a dry, downslope air mass with little moisture for eastern slope areas.

Temperature

Characteristic of the semi-arid climate of the Canon City area are the seasonal temperature variations. While temperatures have been recorded at the extremes of +107°F and -30°F, the coldest month, January, and the hottest month, July, reflect average temperatures of about 51°F and 62°F, respectively. The frequent amount of winter sunshine and the rapid cooling of dry summer air contribute to the moderate temperatures (the mean daily temperature is about 55°F). The frost-free growing season averages about 164 days.

Precipitation

The scattered thundershowers that occur frequently in the Canon City area during the summer months from April through September are the major source of precipitation and floodwater as well. Nearly 80 percent of the annual average precipitation of about twelve and one-half inches falls between the beginning of April and the end of July. These summer thunderstorms are produced when extensive cold and relatively dry air masses from the polar regions draw warm, moist air masses upslope from the Gulf of Mexico. The combination of these two air masses often cause thunderstorms producing intense rainfall over short periods of time. This thunderstorm pattern, which can often be severe and isolated over limited areas, typically results in high peak flows and moderate volumes of water.

Wind

The prevailing winds in the Canon City area are predominantly drainage winds influenced by the topography of the Arkansas River Valley. These drainage winds flow generally down the Arkansas Valley, from the west or northwest at 10 to 15 miles per hour. On warm sunny days, the higher elevations of the Arkansas Valley to the north produce thermal air currents caused by a heating of the earth by the sun. In response to this thermal heating effect, the prevailing drainage winds often diminish by late morning and reverse direction to flow out of the planning area in a east or southeast direction. These southerly winds gradually diminish as the earth begins to cool with the onset of evening.

Because of Canon City's location in a basin surrounded by hills and mountains, the community tends to be sheltered from extreme winds which flow through areas farther from the mountains. This also tends to be the case with the chinook winds which are prevalent all along the Colorado Front Range during the fall, winter and spring months. The chinook winds may persist for periods of 12 to 48 hours with westerly winds averaging 30 to 40 miles per hour with occasional gusts exceeding 70 miles per hour.

Geology

A geologic description of a community or region typically takes into account the structural conditions and characteristics of the materials found at and below the surface of the earth. In this report, these are referred to respectively, as surface geology (soils) and subsurface geology (bedrock). Like other environmental factors, soils and bedrock have important implications for a community's future land use and development. The characteristics of different soils and bedrock formations present both opportunities and constraints for growth and development.

The purpose of this section on bedrock geology, and the following section on soils, is to describe the general geology of the Canon City area. With this general description, public officials and local citizens can become more aware of those geologic factors which may influence the pattern and types of future development in Canon City. It should be pointed out that the information contained in these sections is very general. Thus, there is likely to be significant variation in the geologic characteristics found at any particular site. What this general information can do, however, is point to potential danger areas - those geologic characteristics which are most likely to cause problems or constrain development and which might call for further in-depth analysis or special engineering studies.

Bedrock Geology

The bedrock geology of the Canon City area is fairly typical of the piedmont region of the Rocky Mountain front range in Colorado. The more recent mountain formation patterns to the west have uplifted older sedimentary formations along the foothills. These sedimentary rocks were formed long ago by mud, plant and animal life which had been deposited on lakes, streams, and inland sea bottoms. Over long spans of time these sedimentary deposits have undergone physical and chemical changes to become compacted and hardened, resulting in sedimentary rock. Particular evidence of these geologic forces can be found in the hogback ridges which form a visual backdrop to the Canon City area. The hogbacks, composed of beds of sandstone of sedimentary origin, were formed through a combination of uplift and erosion. These ridges, along with other geologic features, have defined the shape of Canon City and will likely influence the pattern of its future development as well.

The structure of the bedrock geology in the Canon City area is described in technical terms as the "Canon City embayment". Embayment is a geologic term which refers to an area which over time has sagged or settled while at the same time being overlain by deposits of sediment. These two forces acting together produce an area that contains a thick section or mantle of sediment (predominately alluvial deposits composed of sand, gravel and rock).

Some of the oldest sedimentary deposits are found in the hogbacks to the west of Canon City. There can be found the Dakota Sandstone and Morrison and Ralson Creek Formations as well as deposits dating farther back in geologic time. Of more recent formation is the Vermejo Formation located generally to the south of the City. The Vermejo Formation is composed of sandstone interlayered with shale and coal beds. Along the upper reaches of the many intermittent streams and creeks which drain into the Arkansas River can be found the Niobrara and Pierre Shale Formations. The Pierre Shale Formation, often gray in color, has a tendency to block the movement of ground-water and is frequently overlain by a soil with a high shrink-swell potential, often representing a problem for building foundations.

The most recent of the geologic occurences, apart from the on-going processes of erosion and weathering, are the large areas of sediment deposits underlying the Arkansas River and its tributaries. These deposits are known as the Post-Piney Creek Alluvium and are confined to the present channel boundaries of the Arkansas River and may reach eight feet in thickness.

Sediments and sedimentary rock are important sources of mineral and earth resources for an industrialized society. First, sedimentary formations provide materials essential to the construction of buildings and highways (for example, the sand and gravel found in the alluvial deposits along the Arkansas River). Second, they provide compounds such as limestone which are essential to the production of more complex chemical substances such as cement, fertilizers and acids. Last, these formations are the sources of hydrocarbon compounds - natural gas, coal and petroleum - which are the major sources of energy for the United States and most of the industrialized world. Gas and oil exist within the Pierre Shale Formation; and coal beds, some approaching sixteen feet in thickness, are found in the Vermejo Formation. For the most part, these energy resources within the Canon City area have been subject to limited exploration although they may be intensively developed in years to come as gas, oil and coal resources become more scarce. In addition, any major resource development would have direct and indirect influences on the growth and development of Canon City.

Soils

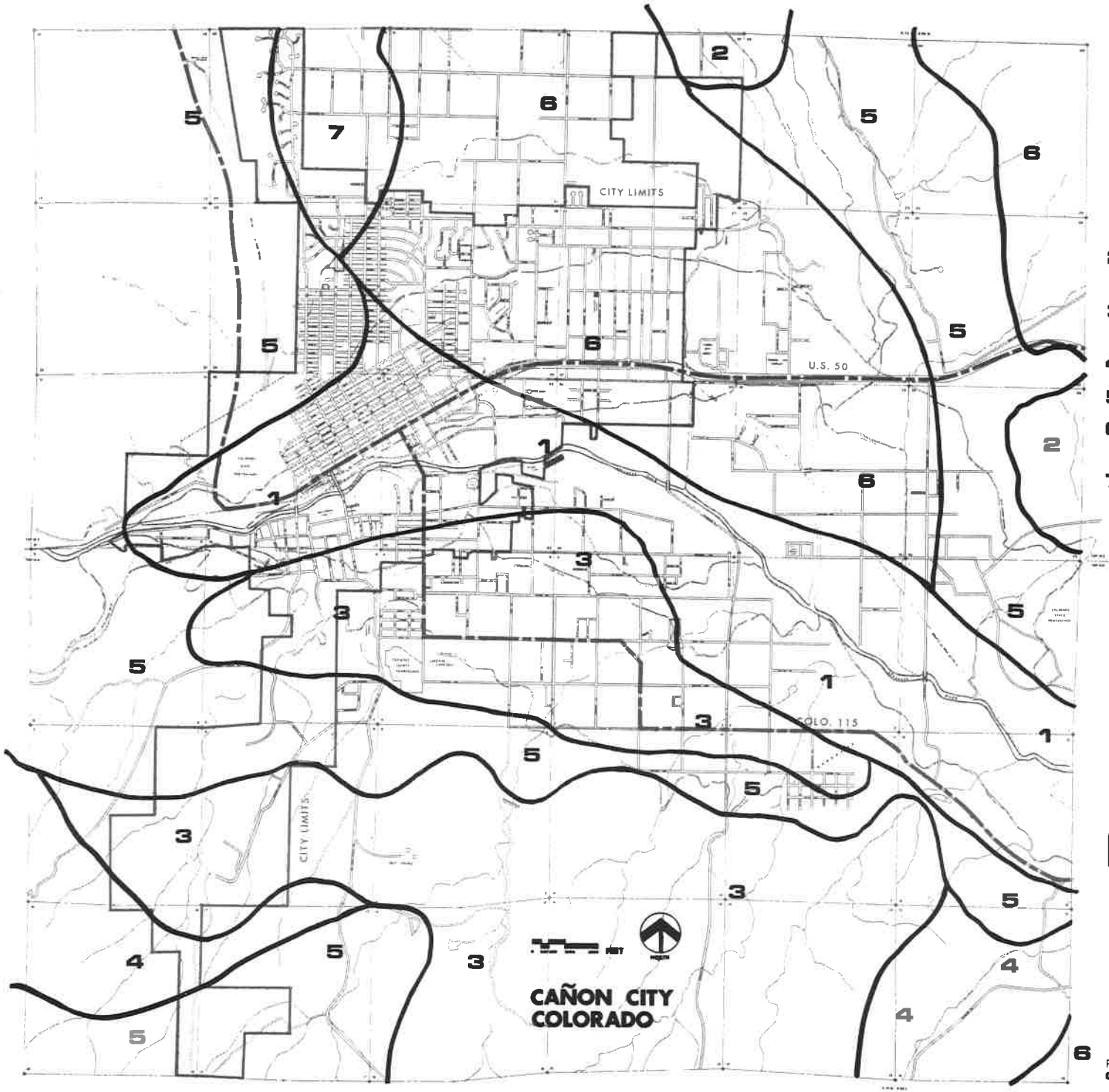
Soil is a complex substance found at the earth's surface. It is an ever-changing layer in which many complex chemical, physical and biological activities constantly take place. Because of its unique qualities and characteristics, soil is able to support a variety of plant and animal life, including the urban activities of man. Also because it is ever-changing, its thickness and characteristics vary from site to site, depending on the interaction of climate, biology, geology, and man-made influences.

There are three major geologic processes which affect soil: erosion and sedimentation; mass wasting; and runoff. Since development can accelerate these natural processes, it is important to understand the characteristics of soils so that the social, economic and environmental costs of development or redevelopment can be minimized.

Soils are classified according to their physical characteristics or properties, such as texture, color, permeability, etc. These characteristics are important in assessing the suitability of soils for development, and in particular, are important in determining the ability of the soil to permit water to pass through it (permeability) and to support the weight of buildings. However, as with other environmental considerations, soil characteristics can vary from site to site. These variations can have a significant effect on site engineering, so that while generalized statements can be made about soil characteristics, this information may not be specific enough for all types of development decisions.

Soils are often grouped into "associations" when they are found together in the same area. There are several basic soil associations found in the Canon City planning area and Map D illustrates the general location of the dominant associations. Table 31 summarizes several important characteristics of the soils and Table 32 identifies certain engineering properties of the soil associations. The terms in the tables to indicate soil limitations for certain types of uses are defined by the U.S. Soil Conservation Services as follows:

Slight, Good, Low - Relatively free of limitations or limitations are easily overcome.



SOIL ASSOCIATIONS

1 LAS ASSOCIATION

2 MANVEL-MINNEQUA-PENROSE ASSOCIATION

3 STONEHAM-VONA-HARVEY ASSOCIATION

4 WILEY-KIM ASSOCIATION

5 PENROSE ASSOCIATION

6 GAYNOR-SAMSIL-LIMON ASSOCIATION

7 NATRARGIDS-HAPLARGIDS-CAMBORTHIDS ASSOCIATION

MAP D

The preparation of this map was partially funded through a grant from the Department of Housing and Urban Development, under provisions of Section 701 of the Housing Act of 1954, as amended.

PREPARED BY
OBLINGER-SMITH CORPORATION

Moderate, Fair - Limitations need to be recognized, but can be overcome with good management and careful design.

Severe, Poor, High - Limitations are severe enough to make use questionable as well as economically unfeasible.

The significance of these various soil characteristics and properties will differ depending on existing or proposed land use. The tables are useful because they point out that different soils have different capabilities to absorb urban land uses. Another issue which will require much more intensive analysis at some point in the future is the suitability of soil for agricultural purposes. Thus, some soils will be more naturally suited for certain types of development and less suited for others. Limitations will not necessarily rule out development but may require that special design or engineering measures be adopted to overcome or minimize soil related problems.

Soil Association Descriptions

Las-Glenberg-Apishapa Association - Mapping Unit 1

The Las association is a deep, generally poorly drained soil that occurs in the floodplain of the Arkansas River.

Manvel-Minnequa-Penrose Association - Mapping Unit 2

The soils of this association are found in a relatively small area to the northeast of Canon City and are well drained. The Manvel association overlies sedimentary deposits of limestone and is composed of primarily loam or silty loam soils.

Stoneham-Vona-Harvey Association - Mapping Unit 3

The Stoneham association occupies much of the upland plains area of Lincoln Park and extends as well to the hillsides south of Lincoln Park. These soils are deep and well drained.

Wiley-Kim - Mapping Unit 4

This association is found in small areas in the southwestern and southeastern portions of the Canon City planning area. Consisting of deep and well drained soils, the Wiley association occupies the flatter or more gently sloping upland plains area.

Penrose Association - Mapping Unit 5

The Penrose association is composed of soils that are shallow and well drained and are found to the west and east of Canon City on steeper hills and upland breaks.

Gaynor-Samsil-Limon Association - Mapping Unit 6

The soils of this association occupy large, gently sloping and moderately steep land areas to the north and northeast of Canon City. The Gaynor soils are formed from clay materials with the surface soil ranging from a clay loam to a silty clay loam. Beneath the subsoil, also a silty clay loam and a bottom layer of soft shale may also be present.

TABLE 31 - SOIL CHARACTERISTICS

Soil Association Number, Name, and Major Components	Extent %	Slope %	Permeability	Depth to Seasonal High Watertable	Flood Hazard	Shrink Swell Potential	Frost Action Potential
(1) Las-Glenberg-Apishapa							
Las	35	0-3	Moderate	20-40	Common	Moderate	High
Glenberg	30	0-3	Mod. rapid	60	Common	Low	Low
Apishapa	20	0-3	Slow	10-30	Common	High	Low
(2) Manvel-Minnequa-Penrose							
Manvel	40	3-9	Moderate	60	None	Low	Low
Minnequa	20	3-9	Moderate	60	None	Low	Low
Penrose	20	3-9	Moderate	60	None	Low	Low
Minor Soils	20						
(3) Stoneham-Vona-Harvey							
Stoneham	50	0-9	Moderate	60	None	Low	Low
Vona	35	0-9	Mod. rapid	60	None	Low	Low
Harvey	10	0-9	Moderate	60	None	Low	Low
Minor Soils	5						
(4) Wiley-Kim							
Wiley	60	0-3	Moderate	60	None	Low	Low
Kim	30	0-9	Moderate	60	None	Low	Low
Minor Soils	10						
(5) Penrose							
Penrose	60	15-25+	Moderate	60	None	Low	Low
Rock outcrop	20	-	---	-	None	---	---
Minor Soils	20						
(6) Gaynor-Samsil-Limon							
Gaynor	35	3-9	Mod. Slow	60	None	Moderate	Low
Samsil	20	3-9	Slow	60	None	Low	Low
Limon	30	0-3	Slow	60	Rare	High	Low
Minor Soils	15						
(7) Natragids-Haplargids Camborthids							
Natragids	50	3-9	Slow	60	None	High	Low
Haplargids	30	3-9	Moderate	60	None	Moderate	Low
Camborthids	20	9-15	Moderate	60	None	Moderate	Low

Moderate, Fair - Limitations need to be recognized, but can be overcome with good management and careful design.

Severe, Poor, High - Limitations are severe enough to make use questionable as well as economically unfeasible.

The significance of these various soil characteristics and properties will differ depending on existing or proposed land use. The tables are useful because they point out that different soils have different capabilities to absorb urban land uses. Another issue which will require much more intensive analysis at some point in the future is the suitability of soil for agricultural purposes. Thus, some soils will be more naturally suited for certain types of development and less suited for others. Limitations will not necessarily rule out development but may require that special design or engineering measures be adopted to overcome or minimize soil related problems.

Soil Association Descriptions

Las-Glenberg-Apishapa Association - Mapping Unit 1

The Las association is a deep, generally poorly drained soil that occurs in the floodplain of the Arkansas River.

Manvel-Minnequa-Penrose Association - Mapping Unit 2

The soils of this association are found in a relatively small area to the northeast of Canon City and are well drained. The Manvel association overlies sedimentary deposits of limestone and is composed of primarily loam or silty loam soils.

Stoneham-Vona-Harvey Association - Mapping Unit 3

The Stoneham association occupies much of the upland plains area of Lincoln Park and extends as well to the hillsides south of Lincoln Park. These soils are deep and well drained.

Wiley-Kim - Mapping Unit 4

This association is found in small areas in the southwestern and southeastern portions of the Canon City planning area. Consisting of deep and well drained soils, the Wiley association occupies the flatter or more gently sloping upland plains area.

Penrose Association - Mapping Unit 5

The Penrose association is composed of soils that are shallow and well drained and are found to the west and east of Canon City on steeper hills and upland breaks.

Gaynor-Samsil-Limon Association - Mapping Unit 6

The soils of this association occupy large, gently sloping and moderately steep land areas to the north and northeast of Canon City. The Gaynor soils are formed from clay materials with the surface soil ranging from a clay loam to a silty clay loam. Beneath the subsoil, also a silty clay loam and a bottom layer of soft shale may also be present.

TABLE 32
ENGINEERING PROPERTIES
CANON CITY AREA SOILS

Soil Association Number, Name, and Components	Degree and Kind of Limitation for -- Septic Tank Filter-Fields	Sewage Lagoons	Dwellings w/o Basements
(1) Las-Glenberg-Apishapa			
Las	Severe	Severe	Severe
Glenberg	Severe	Severe	Severe
Apishapa	Severe	Severe	Severe
(2) Manvel-Minnequa-Penrose			
Manvel	Moderate	Moderate	Slight
Minnequa	Severe	Severe	Moderate
Penrose	Severe	Severe	Severe
(3) Stoneham-Vona-Harvey			
Stoneham	Moderate	Moderate	Slight
Vona	Moderate	Severe	Slight
Harvey	Moderate	Moderate	Slight
(4) Wiley-Kim			
Wiley	Moderate	Moderate	Moderate
Kim	Moderate	Moderate	Slight
(5) Penrose			
Penrose	Severe	Severe	Severe
Rock outcrop	Severe	Severe	Severe
(6) Gaynor-Samsil-Limon			
Gaynor	Moderate	Severe	Moderate
Samsil	Severe	Severe	Severe
Limon	Severe	Slight	Severe
(7) Natragids-Hapargids			
Camborthids			
Natragids	Severe	Moderate	Severe
Haplargids	Slight	Moderate	Slight
Camborthids	Severe	Severe	Severe

Source: U.S. Department of Agriculture, Soil Conservation Service, Fremont County Soil Survey.

Natragids-Haplargids-Camborthids Association - Mapping Unit 7

The Natragids Association occupies a relatively small area north of the City and are described as gently sloping to moderately steep soils on mesas and benches.

The major soil problems in the Canon City areas - shrinking/swelling soils, erosion-prone soils and ground subsidence - will be discussed fully in the environmental hazards section of the Comprehensive Plan.

Mineral Resources

Within the general area of Canon City deposits of various mineral resources have been identified, some of which may play a more prominent role in the future economic growth of eastern Fremont County. In addition to clay, stone, sand and gravel, and uranium, there is a sizeable coal field south of Canon City of about 36 square miles which is estimated to be underlain by 217 million tons of coal, with over 100 million tons recoverable from depths of less than 2,000 feet. Most of the coal produced in the area is used in steam electric plants in Canon City and Colorado Springs, and in institutions such as the State Prison at Canon City.

The Canon City area also contains oil deposits, identified as the Florence-Canon City field. As of January 1975, the field was estimated to have approximately 105,000 barrels in reserve. In 1974, oil production was at 19,000 barrels with a cumulative production as of January 1, 1975 of 14 and 1/2 million barrels.

Topography

Topography refers to the "lay of the land" and includes the shapes and elevations of basic landforms and geomorphic features of the area. For most planning purposes, topography is an important part in the assessment of possible soil erosion, mass wasting*, effects of development of runoff and potential aesthetic conflicts (for example, residential development on hillsides or large-scale mining operations).

As discussed earlier, the Canon City area is located on the border of two major physiographic regions and thus contains many of the landform features characteristic of both regions. To the south, west and north lie the Rocky Mountains while to the east, the great plains begin to unfold. The predominant series of foothills and hogback ridges roughly define the boundary between these two regions. Within the planning area, the elevations range from about 5,200 feet to 6,400 feet above sea level.

Another significant topographic feature of the Canon City area is the synclinal basin through which the Arkansas River flows. This basin was created by the uplift of the mountain regions to the west and north and by thrust faulting of the mountains to the southwest. Flowing down the mountain hillsides, intermittent and perennial streams have formed numerous valleys in the area with deep stream beds and gullies. The mesas which can be seen along both sides of the valley are the visible remains of lateral stream erosion of the recent geologic past.

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*Mass wasting is a geologic term referring to the unexpected downslope movement of soil and rock occurring under the influence of gravity (but without the influence of moving fluids) and includes such phenomena as soil creep, landslides, mudflows, etc.

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Source: U.S. Department of Agriculture, Soil Conservation Service, Fremont County Soil Survey.

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The hogbacks and hillsides of the Canon City area represent both an aesthetic amenity as well as a geologic constraint to various land uses because of their steep slopes. The hazards and implications of steep slopes will be more fully discussed later in the Comprehensive Plan, but it should be noted that these steep slopes are especially fragile areas, and once disturbed, can be subject to extreme erosion.

Water

Unlike the water-rich regions of the eastern United States, communities in Colorado are confronting the prospect of water demands that may in the near future exceed local supplies. Stimulated by economic growth over the past ten to fifteen years, many communities within the State already find it difficult to meet the water supply demands of its various residential, commercial/industrial and agricultural users. Throughout the State of Colorado, adjudicated water rights typically far exceed available supplies. This is especially true in the Arkansas River basin. Traditionally low annual precipitation coupled with growing demands makes this region one of the most chronically water-deficient areas in the State, and insufficient water supplies may become a major constraint to development in the Canon City area around the year 1995.

This section of the Comprehensive Plan will describe the surface and subsurface sources of water available within the Canon City area as well as providing information about the quality of those water sources.

Subsurface Water

The primary source of subsurface water (or groundwater) within the Canon City area is found in the alluvial deposits of the Arkansas River Valley, in particular the Post-Piney Creek Alluvial deposits adjacent to the river. Composed of sand, gravel and clay, this alluvium ranges in thickness from 10 to 60 feet. The water table in the valley alluvium ranges between zero and five feet below the surface of the land. This rise and fall is seasonal in pattern and is directly influenced by the volume of water flow in the Arkansas River and the amount of water diverted from the river for irrigation purposes.

Other sources of subsurface water are the sedimentary rock formations which underlie the area. Groundwater is available from the Pierre Shale and Trinidad Sandstone, as well as from the deeper Fountain Formation and the Entrada Sandstone.

There are also deep bedrock aquifers* that underlie the Arkansas Valley area. These are principally the sandstones of the Dakota Formation which average about 250 feet in thickness and underlie the valley at depths ranging from 800 to 2300 feet. The geologic forces acting on the Dakota Formation are sufficient in magnitude so as to allow water to flow to the surface of the valley.

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*An aquifer is a layer of sedimentary material which is porous and permeable thereby providing a large ground water storage reservoir through which water may easily move.

In some parts of the State groundwater is a major source of water for agricultural irrigation and municipal uses. This, however, is not the case in the Arkansas River Valley. In general the agricultural lands in the Canon City area are supplied by irrigation ditches which divert water from the Arkansas River and its tributaries. The volume of ditch-water has been sufficient in the past for crop production, although the high water table also contributes to overall productivity through limited sub-irrigation to the plant roots. While a few irrigation wells have been installed in the valley, these have been used primarily as stock and domestic water supplies. And municipal water supplies in the Canon City area are drawn directly from the Arkansas River system.

In general there appears to be an excess of groundwater in the Post Piney Creek Alluvium. In fact most of this alluvial area has either drainage ditches or tile systems to help reduce the level of the water table. The abundance of groundwater has created some local problems, particularly for certain types of development or land uses in the flood plains of the Arkansas Valley. The high water table may on occasion contribute to an overloading of sanitary sewer lines through the infiltration of groundwater. The blocking of this man-made drainage system has resulted in some basement flooding. Another problem results from the interaction of the highly saline soils and sedimentary formations in the area with the natural patterns of drainage. Alluvial groundwater flowing through the saline soils of the Canon City area tends to acquire a high salt content and becomes part of the fluctuating water table. As the water table rises toward the surface, groundwater is subject to evaporation leaving a residue of salt near the surface of the land. Over time the salts accumulate in the soils, resulting in a white alkali salt formation which reduces the arability of the land. Additional concentrations of salt may also occur as a result of periodic flooding.

Table 33 has been included below to suggest some of the possible groundwater yields in the Canon City area.

TABLE 33
GROUNDWATER RESOURCES

Source	Est. of Yield (Gals per min.)
Post Piney Creek Alluvium	150 to 800
Piney Creek Alluvium	10 to 50
Fort Hays Limestone (part of Niobrara Formation)	50 to 60
Codel Sandstone	30 to 50
Vermejo Formation	10 to 30
Trinidad Formation	20 to 50

Source: Eastern Fremont County 201 Facilities Plan, Vol. 2, Ecology Consultants, Inc., May 1977.

Surface Water

The Arkansas River is the principal source of surface water in the Canon City planning area. By the time the Arkansas reaches the western edge of the City, its drainage area encompasses approximately 3,100 square miles. The Arkansas River forms on the eastern slope of the Rocky Mountains and ultimately drains into the Mississippi River. It is within the Canon City area that the Arkansas begins to change from a mountain - to a plains-type stream. This change is signaled by the diversion of water for irrigation. This change also points out the fact that the flows of the river, from Canon City eastward, begin to decrease in relationship to the increasing size of its drainage area.

The Arkansas River has two important perennial tributaries in the area, Grape Creek and Four Mile Creek. While there are other intermittent streams in the area, Grape Creek and Four Mile provide the major tributary drainage from the south and north of Canon City.

As measured at the gaging stations in the Canon City area, the mean annual discharge of the Arkansas River is 722 cubic feet per second or 523,100 acre-feet per year, with flow extremes ranging from a high of 19,000 cubic feet per second to a low of 69 cubic feet per second. In 1962, the Frying Pan-Arkansas Project was authorized by the U.S. Congress. If completed, the project is expected to deliver 69,000 acre-feet of Colorado River basin water to the headwaters of the Arkansas River above Canon City. In 1975, the Frying Pan-Arkansas Project, when only partially completed, delivered 25,000 acre-feet to the Arkansas River. Despite this additional contribution to the Arkansas River the chronic water deficiency of the basin is not expected to be fully remedied in view of the projected growth and water demands of the area.

Water Quality

There is one important idea which lies behind the issue of water quality - there is no such thing as pure water in the natural environment. At any point within the overall hydrologic cycle water can pick up contaminants in the form of organic or inorganic substances. These contaminants, which come from man-made sources as well as occur naturally in the environment, can have a significant impact on human health and environmental quality.

Over the course of the last century, the impact of man and his activities has exerted more and more influence on the overall quality of water in the natural environment. With an increase in population, changes in land use patterns, advancement in the level of industrialization and the ever-increasing complexity of technology, have come an increase in water use. A by-product of these far-reaching changes has been a general decrease in the availability of clean water for the wide range of human uses.

An important measure of this change in water quality, and this applies to other parts of the natural environment as well, is its impact on the well-being of human life. But so far, knowledge about the complex inner-workings of the natural environment and the impact of man's activities on the natural environment is very incomplete. This problem is compounded by the ever-increasing complexity of our industrial and technological society.

However, some criteria have been developed which help to measure overall water quality. By and large, these criteria have become the basis of water quality standards in State and Federal water pollution control legislation.

Water Pollution

The quality of a body of water is determined by the composition of the earth material over which it lies, or in which it is located, and the content of the water which flows into the body from such sources as precipitation, surface and groundwater, urban runoff, and water from wastewater treatment facilities. For example, in the Canon City area, runoff from precipitation picks up minerals from the soil and rock outcroppings as it drains toward the Arkansas River. These minerals, such as water soluble calcium, magnesium sulfates and carbonates originate from the steeply up-tilted sedimentary deposits which over time have been gradually exposed by the erosive action of streams. In this way the Canon City embayment area becomes a significant source of dissolved solids for the Arkansas River. Thus, changes in water quality (or pollution when quality is deteriorating) can come from natural or man-made sources. Natural geologic and climatological processes are ongoing, causing a continuous weathering of soils and rock and the decomposition of organic matter. Eventually the end products of these processes - sediments, nutrients, and organic material - can be carried into rivers and lakes to become part of the aquatic ecosystem. The land use activities of man, ranging from intensive urban to less-intensive agricultural activities, can stimulate, and many times accelerate, the natural weathering and decomposition processes as well as adding a variety of man-made pollutants to water systems.

Water pollution, as it is generally understood, refers to the quality of water bodies which are affected by wastes produced by or associated with land use development. Two terms are commonly used to describe the basic sources of water pollution. Point sources refer to specific sources of pollution, such as sewage treatment plants or factories. Nonpoint sources, on the other hand, refer to general stormwater runoff, and includes natural and man-related types of pollutants.

Some of the major criteria by which water quality is measured and assessed are described in Table 34. As can be seen from this table, the issue of water quality is highly technical and complex.

A wealth of recent technical information is available about water quality in the Arkansas River Basin as a result of studies done in conjunction with an area-wide quality management plan mandated by the Federal Water Pollution Control Act of 1972*. In addition, the United States Geological Survey and the Colorado Department of Health have been monitoring and gathering data on various aspects of the Arkansas River for a number of years, and a number of reports are available to the public.

Instead of focusing on the technical issues of water pollution, the sections below will describe the more general problems associated with land use, development and water quality.

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*Arkansas River Basin, Water Quality Management Plan, Volume II. URS/ Ken R. White Company, 1975.

TABLE 34
PRINCIPAL WATER POLLUTANTS
AND WATER QUALITY INDICATORS

Water Pollutants

Pollutant	Source	Effect
Phosphorus (P)	Fertilizer, treated and untreated sewage detergents	Occurs predominantly as phosphate (PO) and serves as plant nutrient which can lead to eutrophication.
Nitrogen (N)	Fertilizer, treated and untreated sewage, the atmosphere	As dissolved nitrogen (N_2) at high concentrations is toxic to fish. As ammonia (NH_3) it interferes with drinking water chlorination. As nitrite (NO_2) and nitrate (NO_3) it is a plant nutrient and thus can lead to eutrophication. As NO_3 it can be toxic to humans.
Suspended Solids (SS)	Soil, street debris, sewage	Can reduce sunlight penetration and clog animal and plant surfaces thus reducing biological activity.
Heat	Nuclear generators, industrial plants	Can be toxic to fish at high levels while at lower levels, it can increase their susceptibility to disease and stress. Decreases dissolved oxygen (see table below).
Bacteria	Sewage effluents with high BOD content can induce bacterial multiplication (see below)	Some forms cause human diseases; many cause reduction in dissolved oxygen levels through biological degradation of waste (see below).
Other (e.g., metals, chlorinated compounds, exotic materials)	Industrial effluent, sewage additives from treatment plants, stormwater runoff from agricultural lands, etc.	Some are cancer-causing or otherwise toxic to man. Some are toxic to animals, especially fish and waterfowl.

Water Quality Indicators (in addition to pollutant levels)

Indicator	Description/Comments
Biological oxygen demand (BOD)	BOD is a descriptor of effluent content. It is the amount of oxygen required to completely oxidize a quantity of organic matter by biological processes. If the organic matter is being discharged into a body of water, then this is the amount of dissolved oxygen which will be depleted from the stream.

TABLE 34 (Continued)

Indicator	Description/Comments
Dissolved oxygen (DO)	Water bodies with high DO levels will have abundant plant and animal life (assuming that other necessary conditions exist). Low DO levels are often the result of the discharge of effluents with high BOD levels.
Turbidity	This is a measure of suspended solids (SS) concentration. High levels indicate high concentration of SS and, thus, low light penetration.
pH	This is a measure of acidity. High quality water can display a range of values depending on natural conditions. However, very acidic or very alkaline water will not support much life.

Source: Land Development and the Natural Environment, Dale L. Keyes, Urban Land Institute, Land Use Center, Washington, D.C., 1977.

Water Quality Problems

Since the Arkansas River is the major drainageway of the Canon watershed, the river inevitably becomes the focal point for surface water quality problems. As has been stated before, most of the problems which do appear are the result of the complex interaction of man and the natural environment.

The variations in seasonal precipitation patterns characteristic of a semi-arid climate have a direct influence on the volume of water flowing in the Arkansas River. With most of the river flow resulting from snow-melt in the high country, the Arkansas River has traditionally high flows during the spring which taper off significantly by the late summer months. Recorded flow extremes range from peak of 19,000 cubic feet per second to a record low of 69 cubic feet per second. The diversion of river water for agricultural irrigation above Canon City also contributes to the reduced flow of the Arkansas River during the summer months. It is during the late summer months of August and September when water quality conditions reach a critical level, because during that period river flows are low and the temperature of the river reaches its yearly peak. This means that the river is less capable of absorbing any pollution from point or non-point sources along its course because of its reduced dilution potential.

Non-point sources of pollution in the Canon City planning area originate with both urban and agricultural land use activities. The prevalence of irrigation for crop production, grazing, animal husbandry, and the use of septic and cess-pool waste systems means that water returning to the Arkansas from agricultural areas may carry various amounts of silt, nutrient salts from fertilizers, and residues of pesticides or herbicides - all of which have different effects on the aquatic ecosystem of the Arkansas River. Herbicides and pesticides tend to be toxic to aquatic life and may become concentrated in various forms of

aquatic plant life and may eventually be drawn up through the food chain. Increased siltation adds to the turbidity of the water as well as gradually upsetting the balance of life on the river bottom. Nutrient salts from fertilizers as well as mineralized salts from the soil reaching the river through runoff and the leaching of groundwater tend to encourage eutrophication* and increased salinity levels.

In the urbanized areas of Canon City the non-point sources of pollution derive from such sources as leaf litter, animal wastes, lawn fertilizers, residues from cars and trucks, and air pollution. In most cases, pollutants are carried into the Arkansas River through urban stormwater and street drainage.

Tables 35 and 36 respectively list point sources and the effluent quality of waste discharges into the Arkansas River in the Canon City area. The quality of the effluent produced by these facilities and businesses directly influences the water quality of the Arkansas River and periodically the existing sewage treatment facilities do not meet certain established State and Federal Water Quality Standards. As urbanization and industrial development expands (including a possible expansion of coal and uranium mining) increased levels of wastes are inevitable, thereby putting greater demands on sewage treatment facilities and the Arkansas River especially during the critical summer months. Because the volume of urban-related wastewater generally increases during the summer months, this places greater demands on the carrying-capacity of the river when its flows approach the seasonal low and is least able to absorb (without damage to the ecosystem) the additional loads of wastewater.

TABLE 35
POINT SOURCE DISCHARGES INTO
ARKANSAS RIVER WITHIN THE CANON CITY AREA

Source	Treatment Process
Canon City Sewage Treatment Plant	Trickling Filter (Secondary)
Canon City Water Treatment Plant	Full Process
Canyon Concrete	Settling Pond
Colorado State Penitentiary	Non-aerated Lagoons
Colorado State Penitentiary Slaughter House	Non-aerated Lagoons
Cotter Corporation	Settling Pond
Cutty's Campground	Aerated Lagoon
East Canon Sewage Treatment Plant	Activated Sludge (Secondary)
Lincoln Park Sewage Treatment Plant	Aerated Lagoons

Source: Arkansas River Basin, Water Quality Management Plan, Volume II, URS/Ken R. White Company.

*Eutrophication refers to a change in the level of nutrients available in a water body which leads to increased growth of algae and other aquatic plant life.

TABLE 36
POINT SOURCE EFFLUENT QUALITY

Source	BOD_5	TSS[1]	Residual Cl	Fecal Coliforms	NO3-N	NH3-N
Canon City STP[2]	24	35	0.2	6,400	0.24	4.7
Colorado State Penitentiary[3]	9.8	42	-	-	0.01	6.9
East Canon City STP	3.4	55	0.5	260,000	0.04	7.7
Lincoln Park Lagoon	83	116	-	-	0.18	2.2

[1]TSS equals total suspended solids.

[2]STP equals sewage treatment plant.

[3]Women's facility.

Source: Arkansas River Basin, Water Quality Management Plan, Volume II URS/Ken R. White Company.

Air Quality

The Canon City planning area is located in Air Quality Region Number 4, the determination of which was based on the following: existing air quality data; topographic and meteorological factors; population statistics and trends; extent and type of industrialization; and the amount of vehicular traffic.

Since Region 4 extends eastward and includes Colorado Springs and Pueblo, as well as sizeable areas of agricultural land uses, the air quality in the region reflects industrial- and auto-related pollutants and particulates from farming.

Vegetation

The gradual settlement and eventual urbanization of the Canon City area has had a significant impact on regional patterns of vegetation. For instance, the introduction of grazing has had the long term effect of altering the composition and productivity of native plant communities. The nomadic grazing patterns of native herds of antelope, bison and deer have been replaced by the more intense patterns of domesticated sheep and cattle. This change in the intensity of grazing has encouraged the increase of unpalatable forage species because the more palatable, active plant species are more heavily grazed. In this way, the vegetation now found growing in the Canon City region is the product of the interaction of natural and man-caused influences.

Canon City's location on the border of two major physiographic regions is reflected in the diversity of plant life found in the area. The local plant communities contain species from the eastern plains as well as from the western mountainous regions. In adapting to the semi-arid climate the plants are found to grow in different locations depending on various soil characteristics, the availability of water and temperature.

For most planning purposes, it is useful to look at groups of plants that share common environmental characteristics rather than to focus on individual species. These groups are often called plant communities and are distinguished by the dominant plants found in each grouping and by the physiographic characteristics of the sites in which the plants grow. In any kind of categorization scheme such as this there will be points of overlap. An example would be plant species which are found growing in more than one community. Also, the boundaries between the various communities may be readily distinct or very gradual depending largely on the topography of the growing area, exposure to the sun and wind, the amount, frequency, and duration of moisture, and various soil characteristics.

In the Canon City area there are seven fairly distinct plant communities. The following paragraphs will highlight the major characteristics of each community.

Grassland - Shrub Community

The Grassland-Shrub community is most predominant in the lower elevations of the Canon City planning area where the land is flat or gently rolling. Here can be found many low-growing shrubs, herbs, and grasses in soils that vary from shallow and loamy to gravelly or rocky. Because of this combination of topography and dominant vegetation, the grassland communities have been desirable as foraging and grazing areas. Thus the variety, composition and productivity of these communities are influenced both by soil and moisture differences as well as the past history of grazing or other land uses.

Unless disturbed by major environmental changes or disrupted by human intervention, plant habitats tend to maintain a balance among the various inhabiting plant species. Should specific plant populations be reduced, these are then replaced by other competing and often more undesirable species. Prior to the introduction of grazing, the Grassland-Shrub community was probably stabilized with a balance between native grasses and shrubs. But with intense grazing, the grasses have been gradually reduced, allowing new undesirable plant species to invade the area. The prominence of the cholla cactus, prickly pear and small soapweed indicate a history of overgrazing. The change in plant populations is important not only because it affects the productivity or usefulness of the land, but also because of the long-term effects on other factors such as erosion. In an area such as Canon City, where intense thunderstorms are not unusual, plant cover acts as a deterrent to soil erosion. A change in plant cover can lead to greater rates of erosion which can in turn influence flooding.

Juniper - Pinyon Grassland Community

The Juniper-Pinyon Grassland community occurs frequently in the Canon City area and is prominent along the higher ridges and hilltops. Although this community is similar in many respects to the shrub grassland community, it is distinguished by the presence of trees which lends a woodlands appearance

to the association. The proportion of juniper and pinyon in the tree stands tend to vary according to elevation and moisture availability. In the drier rolling plains east of Canon City the juniper is dominant while at higher elevations (5500 - 5600 feet), along the mesa tops and ridges, the proportion of pinyon pine increases due to the slightly wetter and cooler conditions.

The undergrowth vegetation in these woodland communities is similar to that of the surrounding grasslands. Unlike the grassland, however, the extent of the groundcover in the woodlands is influenced by the density of the trees. As the trees become more dense, the needles, pine cones and other organic matter from the trees are spread out over larger areas of the ground. This layer of material discourages undergrowth with the consequence of higher rates of erosion due to the lack of soil retention through plant root systems.

Saltbush-Rabbitbrush Community

The intermittent streams and eroded gullies which are a part of the Canon City area typically support another distinct plant community identified as the Saltbush-Rabbitbrush community. This community has been shaped by the seasonal variations in water supply and soil conditions found along the gullies and stream beds. The annual spring runoffs have created alluvial soil conditions which along with occasional periods of high summer runoff support this distinctive plant community. The dominant shrubs are the saltbush and rabbitbrush, but mountain maple and chokeberry can also be found along the streambeds which do not flood frequently or intensively.

Pinyon-Juniper-Mountain Brush Community

This plant community is found on the steep and rocky slopes of the hills and mesas surrounding Canon City. Because of this topographic position and strong rocky soils, deeply rooting shrubs and trees are the dominant plant species. The ground cover is much more sparse in this community than in other plant communities and tends to occur in widely spaced clumps. Mixed in with the scattered juniper and pinyon pine are a mixture of shrubs such as gambel oak, mountain mahogany, and mountain maple which are used by deer and antelope for browsing.

River Bottom Community

Along the banks and adjacent floodplains of the Arkansas River can be found the River Bottom community. The moderately moist soils of the river area support a dense woody vegetation composed of cottonwoods, Russian olive, willows and clumps of cattail. A variety of herbaceous species thrive also with orchard grass, western wheatgrass, cocklebur and wild oats among the most widespread.

Wetland Community

A number of small wetlands and marshes occur in the Canon City planning area. These habitats, found in low-lying areas along parts of the Arkansas River and in poorly drained alkaline soil areas north of the City, contain many of the same plants found in the River Bottom community. What is not found in the Wetland community, however, are trees and other types of woody vegetation. Unlike the River Bottom area where moisture availability is reasonably constant, the Wetland community typically has a fluctuating water table.

During the spring runoff, these low-lying areas become flooded for extended periods of time. Gradually throughout the summer, this water table drops until by late summer, these areas are quite dry. This variation in water availability discourages the growth of trees.

The wetland habitat does support a lush growth of herbaceous plants such as the Rocky Mountain iris, sedges, rushes, and horsetails. The smaller wetlands, which tend to dry up more quickly during the summer months, support a variety of grasses, while the larger wetland habitats, with longer standing bodies of water, encourage the growth of floating and submerged aquatic plants.

Agricultural Lands

The Agricultural Lands plant community is the community most directly influenced by the activities of people living in the Canon City area. These lands are located primarily on flat, low-lying terrain which includes significant portions of the Arkansas River floodplain. Much of this land area is regularly farmed and grain crops such as wheat, oats, barley, and corn, and pasture grasses such as timothy, alfalfa and sweetclover are cultivated.

Wildlife

Different plant communities support different types of animal life. The wildlife which live or migrate through the Canon City area are representative of species typically found in the pinyon-juniper and riparian - agricultural plant communities. Unique geologic and man-made features such as buttes, irrigation ditches, eroded gullies and farm ponds increase the local variety of habitats available to wildlife.

Animals occupy particular niches or places in the ecosystem which are related to specific types of vegetation or sources of food. Thus, the wildlife live and migrate through the area because the environment supports their existence. Small game animals and birds, waterfowl, and big game wildlife (for example, rabbits, pheasant, duck and geese, and deer), also make an indirect contribution to the local economy through hunting-related expenditures.

VIII NATURAL HAZARDS

The relationships between human activities and the natural environment are unquestionably complex. And it is this complexity that adds to the difficulty of making sound planning and land development decisions. However, there are parts of the natural environment where the cause and effect relationships between human activity and the natural environment are reasonably direct and clear-cut, although not necessarily predictable. In certain instances, these more obvious relationships constitute natural hazards and may impose severe limitations or constraints on different types of human activity. In fact, many communities have created special development controls, often as part of subdivision and zoning regulations,to assure proper consideration of these sites in order to assure the safety of residents, to minimize environmental damage and to reduce the unnecessary private and public costs which result from inappropriate development in hazard areas.

A natural hazard can be viewed as a phenomenon with highly adverse consequences to public health, safety or property. In the Canon City area there are three major types of natural hazards. Flooding is the first and encompasses the periodic flooding of the Arkansas River and the flash flood prone areas of East Canon and Lincoln Park. The second natural hazard is associated with soil conditions, the major problem of which are soils with a high shrink/swell potential. The third is the geologic hazards of steep slopes, rockfall zones and potential subsidence areas. The location of existing and potential natural hazard areas in the vicinity of Canon City are illustrated on Maps E and F.

In general the inappropriate use of land in a natural hazard area will result in excessive social and economic costs. Typically these unnecessary costs are reflected in high repair and maintenance costs for buildings, highways, utilities and other structures. These in turn represent a drain on scarce private and public monetary resources.

Geologic Hazards

Steep Slopes

Within the Canon City planning area, there are numerous sites where steep slopes may prove to be a constraint to various types of land use (refer to Map E). The steep slopes have generally been formed by the erosive action of the Arkansas River and its tributaries. Because this process of erosion has taken place over thick alluvial deposits composed of loosely fitting clays, sands, and aggregates, the remaining hillsides tend to be unstable, and once disturbed, they are subject to rapid erosion. The amount of ground cover and the steepness of the terrain are other factors which affect the susceptibility of any particular hillside to erosion.

In steep slope areas the removal of existing plant cover or a land disturbance of sizeable scale will likely increase the instability of the soils. Disturbance of the land through such activities as road cuts, utility trenches, site grading or the alteration of natural drainage can contribute to increased runoff, erosion or ponding. The subsequent loss of soil stability in these

areas can result in damage to those buildings or other man-made structures which have not been properly designed. Soil erosion can also have an effect on surface water quality by adding larger amounts of organic and inorganic materials to waterways, thereby contributing to the increased turbidity and mineral content of the water.

Rockfall Areas

Canon City's semi-arid climate, topography and geologic structure are major factors in the phenomenon of rockfall. Rockfall areas occur where there are outcroppings or cliffs of broken, faulted or jointed bedrock. The expansion and contraction of the rock material, stimulated by daily temperature extremes characteristic of a semi-arid climate and winter frost action, fractures exposed bedrock formations, causing pieces of rock to fall to the base of the cliff. Where rockfall is rapid, the result in geologic terms is the formation of talus slopes. While the existence of such talus slopes is a strong indication of potential rockfall area, the timing of rockfall cannot be predicted. In those cases where development in rockfall areas is unavoidable, proper engineering design and construction may be required to stabilize or divert potential rockfall in order to safeguard human life and property.

Potential Subsidence Areas

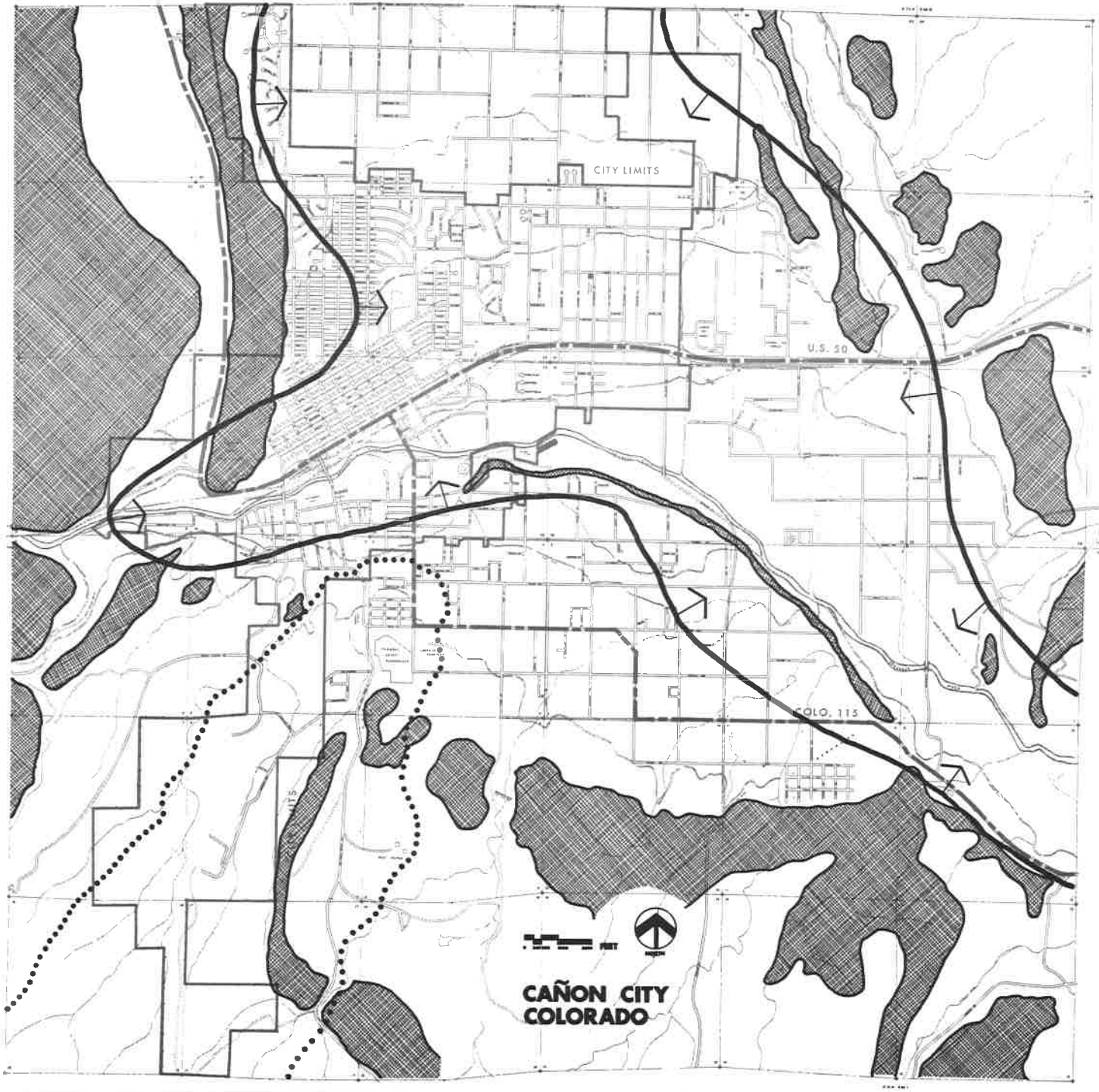
Another category of geologic hazard caused by land disturbance is subsidence, a sinking of the ground. Subsidence can take place following the removal of subsurface material or fluids such as coal, gas, or water. In general three factors influence the type and severity of subsidence: 1) the amount of subsurface material removed (which affects the degree of subsequent bedrock compression, settling or fracturing); 2) the depth between the surface of the ground and the place of removal; 3) the geologic conditions of the particular site.

Within the Canon City planning area, the major source of potential subsidence exists in the old mining areas which follow the coal beds of the Vermejo formation south of town (refer to Map E). During the late 1800's and early 1900's, coal was mined from this formation using underground methods of extraction. Although the depth and extent of the shafts of these abandoned mines is not known, the area should still be regarded as a potential hazard zone. Further detailed engineering would help to define localized areas of extremely hazardous subsidence as well as areas of slight to moderate subsidence potential which could support non-intensive types of development such as open space, parkland or agriculture.

Soils

Soil is the natural, ever-changing material found at the surface of the earth. Its characteristics are generally a result of complex environmental forces acting on existing geologic materials. The character of the soil in any landscape varies from site to site, depending on the nature and intensity of the factors that shaped its development.

Of the five major natural factors that affect the development of soil - climate, biological activity, topography, time, and existing geologic material - climate and geologic material have cast a distinctive mark on the soils of



NATURAL HAZARDS

SLOPES GREATER THAN 10%

POTENTIAL SUBSIDENCE AREA

SOILS WITH SHRINK/SWELL POTENTIAL

MAP E

The preparation of this map was partially funded through a grant from the Department of Housing and Urban Development, under provisions of Section 701 of the Housing Act of 1954, as amended.

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the Canon City area. Because much of the underlying regional geologic material is of sedimentary origin, clay minerals are a significant part of many local soil associations. In physical structure, a particle of clay is composed of many, submicroscopic plates compressed together. When exposed to water, particles of clay tend to expand as water molecules are absorbed between the plates of the particle. As more water is absorbed, the greater is the expansion between the clay layers; and the more clay minerals found in a particular area highly increases the likelihood of expansive soil problems.

This tendency of clay minerals to expand when exposed to water is more of a problem in arid and semi-arid regions such as Canon City than in humid climates. Unlike humid regions where seasonal changes in soil moisture are not pronounced, a semi-arid climate will have a widely fluctuating cycle of soil moisture, alternating between periods of extreme wetness (caused by intense summer thunderstorms, for instance) and periods of extended dryness. This variability of soil moisture results in a rather dramatic swelling and shrinking of clay latent soils which can cause extensive damage to buildings and structures not designed and engineered to accomodate such soil changes. Rock formations, such as the Benton shale formation are also subject to shrink-swell when saturated with water.

Soils with a high shrink-swell potential are not confined only to the Canon City area, but occur frequently throughout Colorado, especially along the Front Range. Becuase of this widespread condition and past economic losses, engineering design standards have been developed for foundations, drainage, landscaping and other facets of residential and large-scale construction. In order to minimize future social and economic losses through maintenance and repair costs, development which does take place in soil areas of high shrink-swell potential should be guided at the very minimum by established and enforced engineering design standards. The location of areas with a shrink-swell potential are also shown on Map E.

Flooding

Flooding occurs naturally as a consequence of the interaction of climate and geography and is the direct result of an uneven distribution of precipitation and runoff over a period of time. Topography, plant cover and soils help influence both the extent and intensity of natural flooding. The presence of human activity,however, can affect substantially the patterns and likelihood of natural flooding by bringing about changes in terrain, land cover (including vegetative and non-absorbant materials) and the location and design of land developments. Because flooding is an obvious threat to the health, safety, and welfare of a community, it is important to consider the potential impacts of development and land-use changes in flood prone areas in any overall land use planning process. While the natural environment is the direct cause of Canon City's history of flooding, it should be noted that the patterns, locations, and types of development in the area itself have added significantly to the possible damages and social and economic costs which are associated with periodic flooding.

There are two primary sources of flooding in the Canon City planning area including the Arkansas River and its tributaries and the perennial and intermittent creeks and arroyos. The general location of flood hazard areas are illustrated on Map F based on information obtained from the Federal Insurance Administration of the Department of Housing and Urban Development. The remainder of this chapter will highlight the specific characteristics of each flood source.

Intermittent Streams

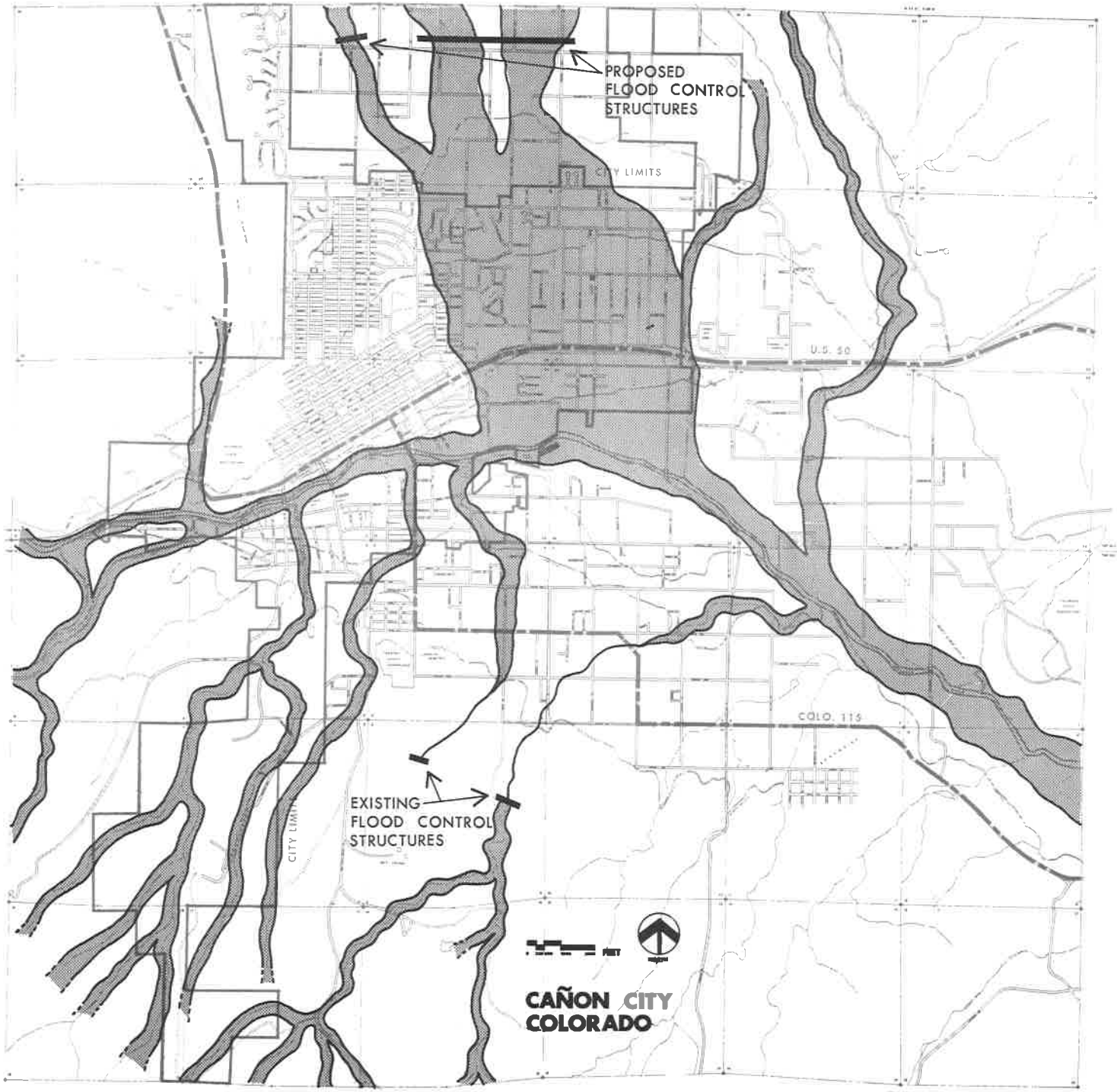
To understand the flash flooding which occurs in association with the intermittent streams and gullies in the area, it is important to keep in mind the relationship of precipitation patterns and plant cover. The semi-arid climate of the area produces fluctuations in the amount and intensity of precipitation, and this adds to the general sparseness of plant cover which in turn encourages a more rapid runoff of precipitation. These factors come into play especially during the summer thunderstorm season when intense, but short periods of rainfall produce relatively high volumes of water which quickly flow into the gullies and drain downslope.

This downslope movement of flood water has a significant impact on the Canon City area. Because of its topographic setting in a bowl-like basin, the City occupies a central position within the local watershed or drainage system. The Canon watershed comprises roughly the areas of Canon City, East Canon, and Lincoln Park and drains approximately 19 square miles of land area. This means that the surrounding intermittent creeks and arroyos tend to converge on the urbanized area. Thus, when the thunderstorms do occur, the City and adjoining areas are in the path of fast moving and potentially high volume flash flood waters. And because the terrain in the urbanized sections of Canon City is flatter and more gently sloping, these flood waters are prone to spread out, thereby spilling onto larger areas of land.

Another type of watershed flooding problem has been identified in the Lincoln Park area by the 1976 Fremont County Comprehensive Plan. According to the County Comprehensive Plan, the problem in this area is one of seasonal flooding caused by subsurface flow and irrigation water. It is believed that Lincoln Park may be situated above a fault, which disrupts the drainage of the area into the Arkansas River. The fault forms a subsurface basin which traps subsurface water and during the irrigation season, the subsurface flows are increased by irrigation water entering the drainage system. Eventually the basin fills up, bringing the level of subsurface water nearer to the surface of the earth resulting in reports of basement flooding.

In order to reduce the social and economic costs resulting from flooding and sediment damage to urban and agricultural lands and structures, a watershed flood control plan was authorized in 1969. This became known as the Canon Watershed Project. Between 1969 and 1972, two structures were built south of the Lincoln Park area to slow down the flow of flood water and to thereby reduce the size of the floodplain. The floodways and other flood control structures proposed for the northern portion of the watershed were not built since the necessary land rights could not be acquired. Consequently, the Canon City Watershed Plan was changed in 1974 since the proposed series of flood control improvements in the area north of Canon City and East Canon were not implemented.

But ironically during the summer of 1974, runoff from thunderstorms caused considerable flood damage in the north Canon City area, prompting a renewed interest in flood prevention. In June,1975, the Canon Watershed Project was reopened. With a focus on flood control for the northern segment of the watershed, the project was designed to reduce flood related damage in the



FLOOD HAZARD AREAS

FLOOD HAZARD AREAS

MAP F

The preparation of this map was partially funded through a grant from the Department of Housing and Urban Development, under provisions of Section 701 of the Housing Act of 1954, as amended.

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Red Canyon Draw area of East Canon. To date, this project is still under study and has become a highly controversial issue among many residents in the Canon City area.

The Arkansas River

The Arkansas River is the major water body in the Canon City planning area and has a past history of flooding. Unlike the Canon watershed area, however, the Arkansas River drainage basin above Canon City has a number of characteristics which tend to reduce the threat of river flooding. In fact, flooding from tributary creeks and arroyos within the Canon City area seems to present as great a potential for damage, on a year by year basis,as does the Arkansas River itself*.

The upper reaches of the Arkansas River basin act to slow the rate of runoff because of two primary factors. First, this area has a predominately forest type vegetation cover, with stands of trees and fairly extensive undergrowth which absorb precipitation. Second, the mountain ranges which are a major landform feature of the area serve as a barrier, preventing intense precipitation (except snow, which has a longer runoff period) from rapidly reaching the drainage basin. On the following page, Table 37 lists the maximum recorded rates of stream flow for the Arkansas River at various points along its course. A comparison of this data with the capacity of the Arkansas River channel at Canon City (estimated to be about 10,000 cubic feet per second) indicates that most of the flooding by the river is the result of summer thunderstorms having taken place along the downstream reaches of the drainage basin.

With the advent of spring, snowmelt in the high country increases the runoff into the Arkansas River. It is during the spring that the annual peak discharge of the river is typically recorded. Because of the longer period of time needed to melt the snow pack, the volume of snowmelt runoff rarely exceeds the capacity of the Arkansas River channel.

Thus, the Arkansas River has several characteristics which would seem to reduce its vulnerability to flooding, but the river should nonetheless be viewed with much caution and respect. Some degree of flooding by the Arkansas River is unavoidable. And the types of land use permitted along the river will affect substantially the extent of loss and damage brought about by flooding. For example, inappropriate development along the river channel or in the floodplain can increase the breadth of passing floodwaters by causing a diversion of the water flow around man-made structures. Debris from development can also be carried downstream to become entangled underneath bridges or overpasses thereby impeding the flow of floodwater and possibly increasing the extent of downstream flood damage. Sound planning practice would therefore encourage less intensive types of land use activity in flood hazard areas such as agriculture, open space, recreation, limited mineral extraction, or wildlife preserves while discouraging incompatible uses (such as solid waste disposal sites, flammable material storage, etc.) which would create hazards downstream.

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*Eastern Fremont County, 201 Facilities Plan, Volume II, Environmental Analysis ERT/Ecology Consultants, Inc., May, 1977.

TABLE 37

STREAM FLOW DATA IN THE VICINITY OF THE CANON CITY PLANNING AREA

Location	Drainage Area Sq.-Mi.	Maximum Recorded Discharge (cfs) Rate	Date	Comments
Parkdale, CO	2,548	5,880	June 22, 1947	8 river miles above Canon City
Canon City, CO	3,117	19,000*	August 2, 1921	West edge of Canon City
Fourmile Creek	434	4,260	July 11, 1951	East of Canon City, 0.6 miles above confluence with Arkansas River
Portland, CO	4,024	21,100	June 5, 1949	Approximately 12 miles east of Canon City

cfs = cubic feet per second

* Majority of flow from flash flood in Grape Creek Watershed.

Source: U.S. Geological Survey Water Data Report CO-75-1.

IX LAND USE

Introduction

This chapter presents a description and analysis of existing and anticipated land use patterns and associated problems that occur or might occur throughout the incorporated and unincorporated portions of the planning area. Basically, this section of the Comprehensive Plan is intended to serve as a policy guide for community and County officials and private decision-makers by identifying and anticipating existing and future developmental problems. It should also be noted that a major purpose of this Plan is to present an orderly and efficient arrangement of future land uses throughout the planning area. To accomplish this, a future land use map has been prepared, which can be found in Chapter XIV. This map and the accompanying analysis should be continually referred to as a guide to both day-to-day and long-range decision making.

The existing land use patterns in the Canon City planning area are the result of the economic and social motivations of individuals, businesses and public organizations who operate in the private land market. These numerous individual and community-level decisions have, in turn, been influenced by many different larger-scale factors, such as available technology, prevailing national and regional economic conditions, natural and man-made constraints, peoples' beliefs and perceptions, and past developmental decisions.

As in the past, the future arrangement, timing and density of land uses will largely depend on an assortment of individual and private business decisions. However, these developmental and land use decisions must also be viewed in the context of the public interest (health, safety and general welfare) of the population as a whole. Thus, this Plan is deeply concerned with promoting and protecting the public interest by examining the necessary public actions (governmental regulations, policies and decisions) that will assure liveability and sound development throughout the planning area. Above all else, the success of the Comprehensive Plan and any subsequent planning efforts will require not only the coordination of the various governmental bodies but also the cooperation of public and private sector decision makers.

Planning Concerns

Today, local governmental bodies in the planning area face no more pressing issues than those surrounding land development and the implementation of appropriate land use controls within their respective jurisdictions. Essentially, some very difficult and controversial questions must be addressed by local governmental bodies and interested citizens in the near future. Some of these questions include:

Is growth overrunning the capacity of public facilities and services?

Will new development pay its own way or will it represent a drain on the present taxpayers?

For environmental or other reasons should development be limited?

Can Canon City in fact determine, develop and guide its future growth or will it react to whatever stimulus occurs with little foresight?

What type of growth is the city willing to promote?

Can the City work with the County to control growth and expansion and eliminate inconsistent land use activities occurring in areas adjacent to the City?

Are the City and its residents willing to pay the price for added growth and development? Or will growth be promoted without much consideration given to its effects?

How willing is the community to regulate its growth in hazard areas and in areas where growth may not be advisable because of potential negative impacts?

Is the City willing to make major annexation proposals to gain better control over existing and potential development areas?

The questions could run on and on and most of them are as difficult to answer as they are important. However, these questions and many others have to be answered sooner or later if Canon City and Fremont County are going to have viable planning programs. In fact, if the City and the County do not prepare themselves to address planning related questions and issues on a day-to-day basis as a function of organized governmental activity, they will never really be able to effectively deal with their own growing pains. And undoubtedly, as time goes by, the developmental questions, pressures and concerns will increase and become more costly to resolve.

Growth Pressures and Developmental Problems

The reasons for initiating and pursuing a planning program for the Canon City area are many. Perhaps the most important reason is that of impending growth.

The State of Colorado has recognized that much of its future growth will occur along the eastern front range and there is little they can do about it. Canon City, though not on the front range proper, will be impacted by this front range growth.

In addition to growth on the front range there are other more locally oriented activities occurring in or near the planning area which will impact public facilities and services and add to the planning area's potential for growth. They include:

1) The regional sewage tretment facility proposed to be built east of the city of Florence. This facility will be sized to handle a population of 50,000 persons, over half of whom will reside in the Canon City Area.

2) The Florence Water System expansion project will provide a source of water for the area around Florence, the communities of Rockvale, Williamsburg, and Coal Creek, the Fremont County Airport and as far to the west as the community of Brookside.

3) Coal and mineral activity is on the upswing in Fremont County. Coal mines operating in eastern Fremont County are expected to increase as western coal demands increase. Uranium mining and milling is expanding at the Cotter Corporation south of Canon City and at Talahassee Creek to the west.

4) Recreation activity is expected to increase at the Royal Gorge, Pueblo Reservoir, Conquistador Recreation Area, and at other recreational areas near the planning area.

5) The development of industrial parks in Canon City, Florence, and just south of the Fremont County Airport may add to the job supply in the area. In addition, the planning area is centrally located and served by highly developed thoroughfare and railroad networks, which represents a stimulant for economic development and expansion.

6) The Fremont County Economic Development Council and the Canon City Chamber of Commerce is actively promoting industrial and business expansion. The local Chamber of Commerce currently has 340 members and the annual budget is approximately $50,000.

7) Currently planned large scale expansions at the Cotter Corporation and Western Forge will permanently employ approximately 150 additional persons in the near future. An additional 350 temporary construction jobs will also be created due to the major plant expansions.

8) It is anticipated that the International Organization of Odd Fellows (IOOF) will relocate its headquarters to Canon City in the near future. If so, IOOF will employee approximately 50 additional persons.

9) More employment will be generated within the next five years due to the planned expansion of the St. Thomas More Hospital.

10) The construction of a new maximum security prison in the planning area over the next 3 years will generate many new employment opportunities especially in terms of the temporary construction labor force.

11) The expansion of the existing colleges or new higher education facilities could add to the supply of skilled labor, making the area more attractive to industry which in turn will create jobs.

12) The Canon City area is still attracting retirees and the elderly. This trend is expected to continue.

As the pressures for growth increase public services, living space will undergo a strain in the planning area and some immediate planning concerns will emerge. The question is not whether the Canon City planning area will or will not grow, because it will. The question is rather whether or not the growth will be organized or disorganized, managed or unmanaged.

From the above discussion, it is evident that growth is highly anticipated throughout the planning area, although the mere projection of growth does not necessarily mean economic and social strength and prosperity. Growth will only be beneficial when the City and the County determine ways to maintain, balance and improve the use of land and resources in a controlled and coordinated manner. Economic expansion and population growth will force land use changes and this will undoubtedly directly or indirectly affect existing land use patterns and especially public facility and service requirements. In fact, land use patterns and public facilities and services have a strong interrelationship. The current and future patterns of development in the planning area are dependent on the location of existing and proposed public facilities and services. Simultaneously, the design, construction, maintenance, and cost of the public facilities is predominantly influenced by an assortment of development decisions and activities. With this relationship in mind, it is apparent that development decisions and trends establish the magnitude of the need for public facilities and services. For example, the purpose of the road network in the planning area is to provide a means for the safe and efficient movement of people and goods within and throughout the area and to tie together various residential areas with employment, institutional, shopping and recreational activities. In accomplishing this purpose, Canon City and Fremont County should carefully consider the location of existing and/or proposed development activities in terms of their accessibility to other activities. The intensity of any existing or proposed activity is also of ultimate importance since new employment centers or large scale residential areas will obviously generate high demands for public facilities and services. Based upon these interdependencies, it is only common sense that new residential areas in a particular segment of the planning area will necessitate the building of new streets, generating more traffic on existing traffic routes, more children attending schools, additional people utilizing parks, and generally more governmental expenditures and revenues.

The key to future land use planning is to allocate additional space for all the land use categories (residential, commercial, industrial, public and semi-public, parks and recreation, roads and streets, etc.) in a manner such that the governmental revenue generated from growth will cover the cost associated with additional facilities and services. In addition, the location of activities cannot be examined in an isolated fashion since a centralized pattern of development (an assortment of activities taking place in a small geographic area) will produce far different public facility and service needs than widely dispersed activity areas. To accomplish an economical system of providing public services and facilities, it has been proven time and time again that contiguous development projects are less costly than dispersed and unorganized developments. When new subdivisions, industrial parks or commercial establishments are scattered haphazardly, this can cause incompatibilities among land uses as well as making the provision of public facilities and services difficult and expensive. This scattered type of development is often referred to as urban sprawl. New development that is not adjacent (contiguous) to existing urban land uses is known as leapfrog development.

Urban sprawl and leapfrog development have already occurred in the planning area partially due to the lack of planning and adequate land use regulatory controls. In fact, some residents currently living inside the City

limits have stated that they would be hesitant to purchase property in the outlying areas because there are no public safeguards to protect their investments. On the other hand, some local residents perceive the unincorporated area as an ideal location for property speculation due to anticipated growth and a minimum amount of developmental regulations. These problems are further compounded since there are three sanitation districts, eight water districts and some individual water wells and septic tanks in the planning area, in addition to Canon City's municipal water system. Presently, there is a minimum amount of water and sewer system coordination, which consequently invites additional urban sprawl and in some cases makes annexation proceedings difficult since many of the utility lines in the unincorporated areas are antiquated and inadequately sized. Thus, the City and the outlying residents who desire annexation are often faced with a difficult decision in terms of who is responsible for financing the needed public improvements that accompany annexation. Will the necessary funding come from the City, the responsible special district or individual residents?

The lack of comprehensive planning, policy coordination, and inadequate land use regulatory tools throughout the planning area has created an assortment of existing and/or potential problems including (but necessarily limited to) the following:

The decentralized location of new businesses to the outlying fringes of the planning area is encouraging sprawl and strip commercial development.

The haphazard scattering of urbanized growth and the indiscriminate mixing of incompatible land use patterns in unincorporated but highly developed areas is negatively impacting community and neighborhood appearances and individual property values.

Burgeoning needs for energy, water and waste distribution and disposal.

Problems and delays in finding acceptable locations for new public improvements (especially public building locations and transportation arteries).

Conversion of productive agricultural land to other uses.

Loss of open space because of urban expansion.

Construction in hazardous locations.

Demolition of historical and archaelogical landmarks.

It is apparent from the above list that existing development and/or new development can impact the entire planning area. This is expecially true in terms of the economic impact of development - whether the added tax base will compensate for the added cost that the new residents impose on the community. However, public economics and fiscal matters are just a few of the issues involved since environmental concerns and personal costs also need to be addressed. For example, certain sections of the planning area, if not planned properly, may be inundated by floodwaters, other areas without stormwater sewers will also experience flooding and those residents living con-

siderable distances from the existing police and fire stations may experience personal as well as property damage. Residents also situated some distance from the urban center must spend more time and money travelling to work, to school and to go shopping.

In addition to this general discussion of planning problems, there are some other more imminent planning related issues that need to be addressed in the near future. A short description of these problems follows.

Land Use and Developmental Regulatory Tools

Presently, existing developmental codes, ordinances and regulations in both the incorporated and unincorporated portions of the planning area are not sufficient to control and guide future growth. The lack of comprehensive land use and regulatory controls are further compounded by the fact that Canon City and Fremont County have not developed a coordinated system of regulations which has essentially proliferated the magnitude of land use related problems. Actually, large scale subdivision activity, road development and individual zoning requests on County land near the City are shaping the future of the Canon City area to a much greater degree than is Canon City itself. The City, quite simply, has not until just recently been an active participant in shaping its own future development. Thus, it is highly recommended that the City begin to exercise its options in terms of influencing land use and development in and around the City if it intends to develop workable land use patterms.

In terms of existing regulatory tools, Canon City has adopted and enforces a building code and subdivision and zoning regulations, although all of these regulations will be updated and revised in 1979. In the unincorporated portions of the planning area, the County has adopted subdivision regulations and small parcels of land have been zoned. However, the County's zoning practices are not comprehensive since the designation of existing zoning districts are the result of groups of individual property owners requesting that their property be appropriately zoned. This practice constitutes what is commonly referred to as spot zoning which is consistently disapproved of by the legal and planning professions. The County has also not adopted a building code which increases the level of land use and housing problems.

It is important to the future of the planning area that compatible land use regulations be adopted and consistently enforced. As mentioned earlier, existing land use controls and zoning in the County are weak. A joint effort by both governments will be necessary to deal with area-wide planning and development. In addition, it is anticipated that Canon City will gradually expand its current planning and regulatory jurisdiction in order that local and area-wide development problems will be consistently addressed and resolved.

Annexation

Canon City currently annexes property into the City at the request of the owner if municipal water is to be provided by the City and if the land is

contiguous with the City limits. Because the City is confronted with annexation proposals on almost a daily basis, many public revenue and expenditure issues have been studied as part of the Canon City Annexation Study completed in early 1979. The basic dilemma facing Canon City and annexation can be summarized as follows:

> The City currently has one of the lowest mill levies in the State. Therefore, from a property tax point of view, residential annexations may not be economically advantageous to the City, especially when major public facility deficiencies exist in unincorporated areas. Thus, annexing property at the request of the owner may not be conducive to planning the long-range growth of the City.

North Canon Floodplain

The Soil Conservation Service (SCS) has identified areas in Canon City which are in a 100-year floodplain. The 100-year designation means that a flood of a given magnitude has a one percent chance of occurring each year and in general, a flood of that magnitude will occur in this area once in 100 years.

Areas identified by the SCS are primarily residential and more development is planned. The City Council has recently decided to install locally funded flood control improvements (refer to the section on public utilities in Chapter XI) in these areas, although the projects and associated costs are still controversial.

This plan recommends that structures be built in order to protect the investments, both developed and undeveloped, public and private, in these areas and allow for further development. It is also recommended that the City undertake additional studies that will determine where these other areas exist in the community and adopt regulations controlling their development.

This plan recommends that the structures be built in order to protect the investments, both developed and undeveloped, public and private, in the hazard zone and allow for further development. It is also recommended that the City undertake additional studies that will determine where other flood prone areas exist in the community and adopt regulations controlling their development to avoid future situations similar to the North Canon flood hazard area.

General Land Use Overview

The original impetus for the development and settlement of the Upper Arkansas region was the lure of mineral wealth. Early in its history, oil and coal fields were discovered in the Canon City area which, together with the extension of the Denver and Rio Grande Western Railroad, brought people to the area and encouraged the subsequent development of supporting commercial, manufacturing and agricultural activities.

The physical pattern of the old core of Canon City reflects the early influence of the railroad. Because of the gentle grades to be found along the river, the path of the Denver and Rio Grande Western Railroad as it approached Canon City roughly paralleled the course of the Arkansas River. The original grid-iron street layout was oriented to be perpendicular with the railroad

tracks which led toward the mouth of the Royal Gorge. This arrangement assured maximum access to the tracks which served as the major transportation link to the regional market. During the early period of Canon City's development, the movement of goods and people was limited to the steam powered railroads and horse-drawn wagons. Because most local modes of transportation were powered by animate forms of energy, a premium was placed on compactness and spatial concentration. As a consequence of these conditions, the pattern of land uses within the central core of Canon City reflects the limitations of earlier transportation technology, with the commercial and industrial areas abutting the railroad, the public and municipal buildings occupying a central position within the commercial core and with residential areas on the periphery.

The appearance of the internal combustion engine and the automobile lead to new possibilities for how land could be used. Because of the increased mobility provided by the automobile, spatial concentration was no longer necessary. The impact of the automobile was most evident after 1950, when commercial and industrial land uses, rather than locating near the railroad, began to spreadout locating near major highways, especially Highway 50. These new locations along major highways allowed for the movement of goods as well as ready access to potential customers. Thus,the long finger-like spine of commercial land uses first established by the alignment of the railroad was reinforced by the major highways that were built in the Canon City area. This pattern continues today, with strip commercial development gradually extending eastward along Highway 50. While such development may be convenient to people relying on the automobile as the major mode of transportation, the gradual spread and increased scale of commercial activity along the highway also is in direct competition with the older commercial area of central Canon City which lacks many of the amenities of the newer outlying shopping areas. Further decentralized strip commercial development could lead to the eventual decline of the Canon City CBD.

Not only did the railroad stimulate the basic pattern of land uses in Canon City, but together with the Arkansas River, it served to bisect the community. This is evident in the intensity and patterns of land uses north and south of the river. Also these differences are, in part, the result of Canon City's use of regulatory tools and the County's lack of development regulations. In the City limits, especially north of the Arkansas River, development has been somewhat more tightly focused, creating a pattern of contiguous land uses with few islands of undeveloped land. The State Penitentiary to the west and the Canon City Abbey to the east, by acting as major land barriers, appear to have discouraged, to some degree, a pattern of leapfrog development.

To the south, the predominant pattern is one of a linear strip residential development confined to the outer edges of platted subdivisions, with much of the interior land areas of the blocks remaining undeveloped. Highway 115, leading in a southeasterly direction to Florence, has exerted much influence on the overall direction of this leapfrogging strip residential development. Throughout the southern section there are scattered pockets of commercial and higher density residential land uses, creating areas of incompatible land uses.

Existing Land Use Survey

In April, 1978, a visual land use survey was completed for the Canon City planning area. This was done in order to obtain current information about the location, type and intensity of existing land uses. Since the Comprehensive Plan itself is concerned with identifying how and where future development should take place, a knowledge of the location, pattern and intensity of existing land uses is an indispensable first step in planning for future land uses. Furthermore, knowledge of existing land uses can lead to a more thorough understanding of the community's needs, especially about transportation and the provision of public facilities and services. During the course of the land use survey, each parcel of land was classified according to the following categories.

Residential

This category included all land on which the major structure served as one or more dwelling units. Hotels, motels, YMCA, YWCA, fraternal organizations, jails, hospitals or similar structures are not included in this category.

> Residential, Single-Family: Any parcel of land on which is located a single-family housing unit.
> Residential, Multi-Family: Any parcel of land on which there are two or more dwelling units in one or more residential structures. Housing for senior citizens is included in this category.
> Residential, Mobile Home: This includes mobile homes and mobile home parks or courts.

Commercial - Includes all land and buildings where products, goods, or services are sold or exchanged. Included are retail stores, business offices, hotels and motels, service stations, amusement establishments, service establishments, and junk yards.

Industrial - This category included land where the use involves the application of labor to materials to produce a product that is not normally sold to the ultimate consumer on the premises including manufacturing, processing, storage or similar activities. This category included wholesaling activities, and outdoor storage facilities for agricultural products.

Public and Semi-Public- Land or buildings occupied by agencies of the government, religious, or educational organizations or public utilities. Examples include schools, swimming pools, churches, city buildings, sewage treatment plants, post offices, fire stations, hospitals, museums, and libraries.

Park and Recreation - Land maintained either in a natural state or landscaped that is used for passive or active recreational purposes. Included are such uses as parks, golf courses, public swimming pools, and athletic fields. Playgrounds and athletic facilities associated with schools are included in the public category.

Vacant or Agriculture - Vacant includes all undeveloped land platted or unplatted without structures and land which is idle and generally non-productive. Agricultural land includes all land where the major use centers on cultivation or the keeping and/or grazing of animals.

The following sections will briefly describe the patterns and intensity of land uses found within each planning district. More specific land use information is illustrated on Map G.

Planning District I: Central Canon City

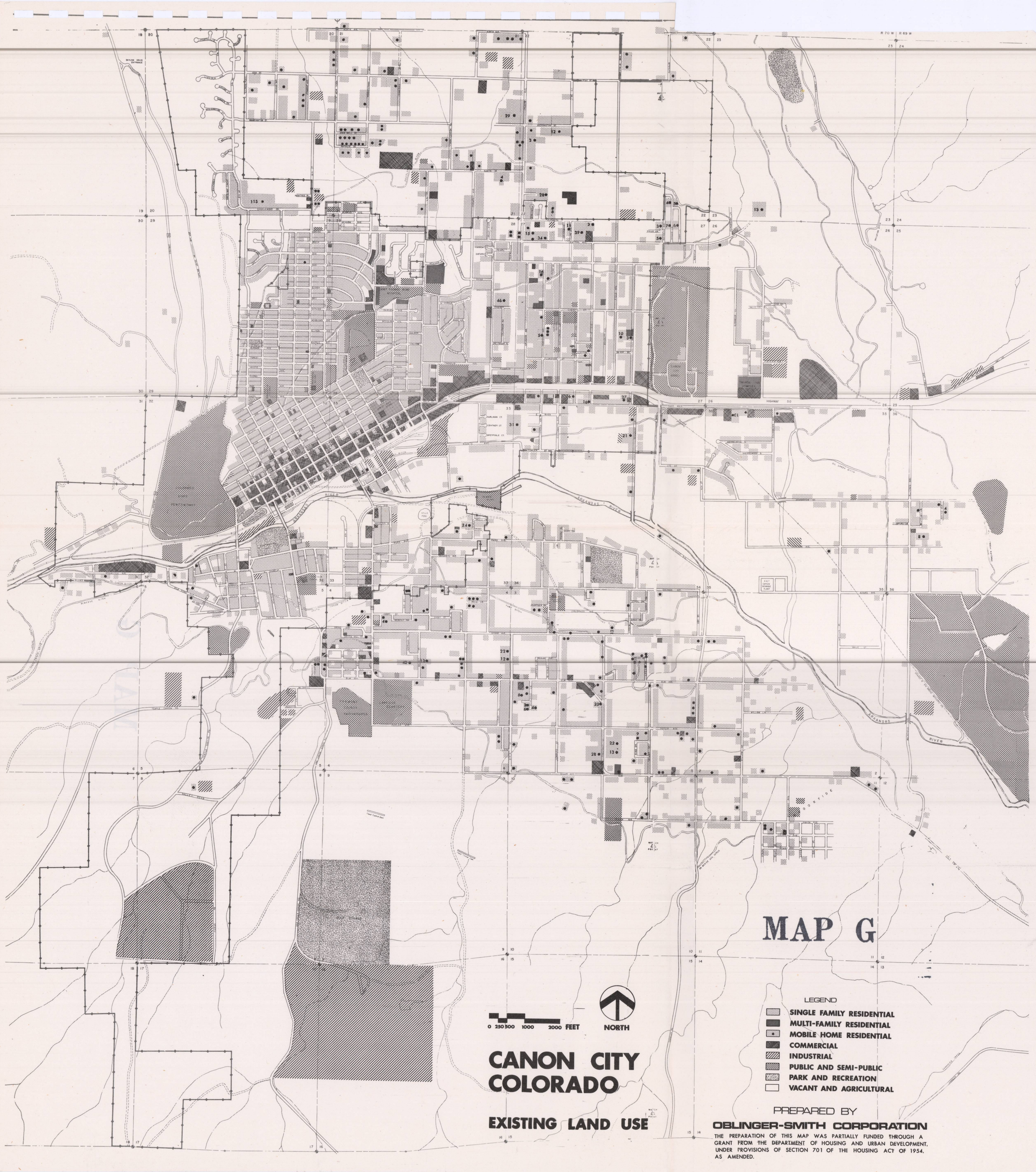
Because it comprises the original settlement area, the Central Canon City district (refer to Map G) tends to share many of the same problems found in other older urban centers across the United States: an aging housing stock, areas of conflicting and incompatible land uses brought about by social and economic changes, and areas of blighted or delapidated buildings. These problems tend to become more pronounced in the boundary areas between major land uses such as between the Central Business District (CBD) and the adjoining residential areas.

The predominant land use within District I is single-family housing, although there are signficant areas of land devoted to public and semi-public uses (the State Penitentiary, schools, and St. Thomas More Hospital). There are two major concentrations of single family housing in the district, the larger to the north of the CBD and a smaller area located south of the river, near Centennial Park. The district is also dotted with parks, small pockets of commercial land uses and multi-family housing. Along the railroad and the Arkansas River are located some of the City's oldest industrial areas, intermixed with commercial and residential land uses. Extending south along 9th Avenue (which becomes Highway 115) is a wedge of commercial development. Ninth Avenue is the principal access route into Central Canon City. The larger areas of vacant land are found at the periphery of the district, although there is also a large swath of vacant land lying generally within the floodplain of the Arkansas River. Within the built-up area of the Central Canon District there are several scattered vacant parcels along with three enclaves of unincorporated land.

Planning District II - Central Business District

As with most urban areas, the Central Business District (CBD) of Canon City is the commercial and civic core of the community. As the focal point of much community life, the CBD has an intensity of use not found in many other parts of the City. During the summer months, the level of activity increases with the influx of tourists passing through town on their way to the Royal Gorge and the mountains beyond.

Within the CBD, the predominant land use is commercial, with substantial areas used for public and civic activities (the Post Office, the Fremont County Court House, etc). Scattered throughout the CBD there are also parcels of residential uses (predominantly multi-family) and several vacant lots. At the outer boundary or frame of the CBD, there is the greatest mixture of land uses, with public, commercial and residential activities located side-by-side. This area of mixed land uses at the periphery of


MAP G
0 250 500 1000 2000 FEET
NORTH
CANON CITY
COLORADO
EXISTING LAND USE
LEGEND
SINGLE FAMILY RESIDENTIAL
MULTI-FAMILY RESIDENTIAL
MOBILE HOME RESIDENTIAL
COMMERCIAL
INDUSTRIAL
PUBLIC AND SEMI-PUBLIC
PARK AND RECREATION
VACANT AND AGRICULTURAL
PREPARED BY
OBLINGER-SMITH CORPORATION
THE PREPARATION OF THIS MAP WAS PARTIALLY FUNDED THROUGH A GRANT FROM THE DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT, UNDER PROVISIONS OF SECTION 701 OF THE HOUSING ACT OF 1954, AS AMENDED.
ARKANSAS RIVER
HIGHWAY 50
R 70 W
R 69 W

the CBD is often referred to as a transitional area - an area where the once predominant land use is gradually being altered by changing social and economic conditions within the community. The long term economic viability of the Canon City CBD may depend to a significant degree on resisting the trend toward commercial encroachment by defining boundaries for a compact central commercial core.

Planning District III - East Canon

The East Canon planning district (refer to Map G), annexed to Canon City in 1974, is predominantly a single-family residential area. Highway 50 cuts through the lower third of the district, dividing the area into two parts. Unlike the Central Canon District, this district contains numerous mobile homes, both north and south of Highway 50. For the most part commercial and industrial activities occur on sites along the highway and near the railroad, often adjoining residential developments. At the center of East Canon is an area of public land uses. Throughout the district, there are vacant parcels varying in size from a city lot to a full block or more.

Planning District IV - Skyline

Planning District IV - Skyline - is located at the base of the hogback formation which defines the western edge of the Canon City area. Skyline also forms the northwest corporate limits of Canon City. Much of the land in this district is currently vacant, although platted. The predominant land use is mobile home residential, with several sites being used for commercial and industrial purposes.

Planning District V - Orchard Park

Orchard Park (see Map G), forming the northeast corporate boundary of Canon City, is predominantly vacant land. At the southern edge of the district are small areas of mobile home residential land uses.

Planning District VI - Industrial Park

The last planning district within Canon City, Planning District VI contains several large parcels of land devoted to industrial use. The only other land uses within the district, aside from vacant and agricultural areas, are small areas of public and mobile home residential uses. The siting of the industrial land uses at the periphery of the Canon City area has created transportation access problems which are addressed in other sections of the Comprehensive Plan.

Planning District A - Lincoln Park

The first of the planning districts located in Fremont County but well within the influence area of Canon City is Lincoln Park. Mobile home and single family residential are the predominant land uses within the district. Multi-family, industrial, commercial, public and park lands are also found scattered throughout the area. Unlike other districts

in the Canon City planning region, Lincoln Park has no identifiable central area, and is loosely organized around Highway 115, with development occurring in a leapfrog fashion.

Planning District B - Prospect Heights

Prospect Heights (refer to Map G) is a small residential enclave located to the west of the Lincoln Park Planning District. Land uses in this district are residential, with single family more prevalent than mobile home.

Planning District C - Brookside

At the southeastern edge of the Canon City area can be found the small residential development of Brookside. In addition to the mixture of single family dwellings and mobile homes, the area is interspersed with small parcels of commercial and public land uses.

Planning District D - Fawn Hollow

Most of the land area of Planning District D - Fawn Hollow - is vacant or being used for agriculture. The northern boundary of the district contains a few scattered sites of residential land uses, both single family and mobile home. There is a small pocket of industrial, commercial and public land uses just to the southwest of the Brookside Planning District. Fawn Hollow, which is unincorporated Fremont County land, has three major activity centers, all located along Oak Creek Grade Road. The Fremont County Fairgrounds are situated at the northern edge of the district, and a large golf course and industrial area are located toward the south. Because of the close proximity of the Fawn Hollow industrial area to the industrial area in Planning District VI, the southeastern quarter of the Canon City Planning Area has the potential to become a major activity center should the industrial sites become fully developed. In order to protect and enhance the residential, recreational and aesthetic value of the southeastern area in general, some form of land use buffering (open space, for example) should be considered for the lands abutting the industrial parks.

Planning District E - Four Mile

The facilities of the Colorado State Penitentiary provide the major land use in the Four Mile Planning District (see Map G). Mobile home and single family residential development has taken place along the major accessways leading to the Penitentiary. Although there is some clustering of residential land uses, the predominate pattern is linear, encouraged by leapfrogging development. Much of the land along the Arkansas River and the floodplain is vacant as is the land northeast of the Penitentiary. Highway 50 forms the northern boundary of the Four Mile Planning District and contains an intermingling of mobile home, residential, commercial and public land uses. Industrial sites are also scattered throughout the district, some of which are near existing residential areas. Although not necessarily incompatible, mixtures of land uses can lead to declining property values and aesthetic conflicts.

Planning District F - Four Mile Creek

Lying at the extreme northeastern edge of the Canon City Planning Area is the Four Mile Creek Planning District. Because of its peripheral location, much of the land in this district is vacant or under agricultural use. The Canon City Abbey, in the southeastern corner of the district, seems to have acted as a temporary barrier to development pressures from East Canon. Aside from a few residential land uses scattered throughout Four Mile Creek, most single family residential development has occurred in the area of Glenmoor Road and Dozier Avenue. In this same locale are also two fairly large industrial sites and an area of multi-family housing. Along Highway 50, the southern boundary of the planning district, are a mixture of industrial, commercial and residential land uses.

Planning District G - Park Center

The Park Center Planning District (refer to Map G) has been rather intensively developed as a mobile home residential area, although there are single and multi-family units throughout the district. Residential land uses in Park Center are not clustered, but rather scattered and interspersed with industrial and commercial activities. Along South Street there is a large commercial site which could become a focal point for future development. Much of the land area in the district remains vacant or under agriculture use. Park Center is also the proposed site for flood control structures to retain runoff from Red Canon Draw.

Planning District H - West Canon

Most of the West Canon Planning District is undeveloped and because of existing environmental conditions such as rockfall areas and steep slopes is not suitable for development.

Future Land Uses

As has been stated earlier in this chapter, a major purpose of the Future Land Use Plan is to serve as a tool to guide local land use decisions that will produce orderly and efficient development within the community. To be effective, the Future Land Use Plan must identify sufficient areas of land to accommodate the variety of land use requirements brought about by economic and population growth.

Thus, the population forecasts and economic analyses carried out for the Canon City planning area are two of the major factors that are used to estimate future land use needs. In general, it is not possible to determine exactly when Canon City will achieve a projected population, but it can be stated that certain amounts of land for the various land uses will be needed to accommodate that projected population.

The population of the Canon City planning area was projected to reach about 37,593 people by the year 2000. The future land use estimates presented in the section below are based on this expected increase. It should be noted that this future acreage estimate is directly related to

the size of the population and not to the target year of the projection. It is possible that the Canon City area could reach this population level before the year 2000, depending on general economic conditions and local interest in promoting the growth of the planning area.

What the Canon City planning area will really look like by the year 2000 is, of course, unpredictable. The factors or variables which will influence future growth are listed below along with the assumptions made as part of the Future Land Use Plan contained in Chapter XIV.

Variables

Individual needs and preferences for types and location of housing.
The availability and location of public utilities and services.
The availability of different types or modes of transportation.
Unanticipated decisions by large scale employers to locate in the area.
The impact of the natural environment on the availability of developable land - especially topography and floodplains.
The web of public policies and community sentiment about growth, especially as reflected in land use regulatory tools (such as zoning, housing and building codes, subdivision regulations, environmental hazard areas, fragile natural habitats, and utility extension policies).
The health of the local economy.
Public fiscal policies, especially property assessments and taxation.
The vitality of local financial institutions.

General Assumptions

Growth will take place in the Canon City planning area.
No annexations will take place in Canon City in the short term.
Additional industrial and commercial development will occur in the planning area to attract new residents of the community and to stimulate the local economy.

Residential Land Use Projections

Based on the medium-range population forecast, there will be approximately 37,593 people living in the Canon City planning area by the year 2000. This represents an increase of about 17,389 people for which additional residential land will be needed. Using the present population density of 2.6 persons per dwelling unit, it is estimated that 6,688 additional housing units will be needed to accommodate this added population. The housing vacancy is less than 5 percent in Canon City and the occupancy of these units will probably not have any appreciable effect on overall future housing demands.

To convert this projected 6,688 housing unit demand into a land area figure, it is necessary to estimate the percentage of housing demand which will be accommodated by single-family structures, multi-family units and mobile homes. Also, because the population estimate is for the planning area as a whole, it is necessary to make some assumptions about how much residential development will take place in Canon City and how much will take place in the unincorporated portions of the planning area. For the purposes of this Plan, it is assumed that 30 percent of new residential development will take place within the present corporate limits of Canon City, while the remaining 70 percent will take place in the County portion of the planning area.

Because of rising land and construction costs and the increasing numbers of older, retirement-aged people moving into the community, it is assumed that multi-family housing (apartments, townhouses, and condominiums) will play a much larger role in satisfying future housing demands in Canon City. For the duration of the planning period, it is assumed then that 75 percent of the future housing demand will be accommodated by single-family housing, 15 percent of the demand by multi-family type units, and 10 percent by mobile homes. It is estimated that new housing units will be distributed as follows in Canon City:

(6,688 new housing units for the planning area)	(30 Percent)	=	2,006 housing units for Canon City
Single-family units	(75 percent)	=	1,506
Multi-family units	(15 percent)	=	300
Mobile home units	(10 percent)	=	200
TOTAL UNITS		=	2,006

Based on residential density standards of four housing units per acre for single-family development, seventeen housing units per acre for multi-family development, and seven units per acre for mobile homes, approximately 423 acres of land will be needed to meet future residential growth projections in Canon City. This acreage includes building lots and local residential streets, but does not include land for arterial streets, commercial land and land for parks, churches and other community facilities. This acreage figure relates to net new housing demand and will not be equivalent to the total amount of gross residential land needed for complete development.

For the unincorporated portions of the planning area, similar computations can be easily made. It is assumed that sixty-five percent of the housing demand will be accommodated by single-family type development, while twenty-seven percent and eight percent of the housing demand will be accommodated by mobile home and multi-family type development, respectively. It is estimated that new housing units will be distributed as follows in the unincorporated portions of the planning area:

(6,688 new housing units for the planning area)	(70 percent)	= 4,682 housing units.
Single-family units	(65 percent)(4,682)	= 3,045
Multi-family units	(8 percent)(4,682)	= 373
Mobile-home units	(27 percent)(4,682)	= 1,264
TOTAL UNITS		= 4,682

Based on the same residential density standards as used for Canon City (four housing units per acre for single-family, seventeen housing units per acre for multi-family, and seven units per acre for mobile homes) approximately 964 acres of land will be needed to meet future residential growth projections for the unincorporated portions of the Canon City planning area. Table 39 summarizes these future land use estimates for the planning area.

Commercial Land Use Projections

From the chapters on the Central Business District and the Economy of the Canon City area, it is apparent that the economic role of Canon City has been changing since the mid-1960's. Once relatively isolated and self-contained, the economy of Canon City has grown much more complex and has come to play an increasingly prominent role in the regional economy. It is anticipated that the economy of Canon City will continue to expand and diversify, creating additional land use demands for a variety of commercial activities.

In order to estimate future commercial land use demands, it is necessary to make some assumptions about where new commercial development will take place. For this study it is assumed that 50 percent of new commercial development will take place within the corporate limits of Canon City while the other 50 percent will take place in the unincorporated portions of the planning area.

With these assumptions in mind, and using the land use development standard of one acre per 100 people, it is estimated that the additional new population of 17,389 people in the planning area will produce a demand for 174 acres of new commercial land. Eighty-seven acres of this new commercial development is expected to take place in Canon City, with the other eighty-seven acres expected to develop outside the municipal limits of Canon City.

While some of this total commercial acreage will be needed in the Canon City CBD, there will also be demands for commercial space that are primarily highway-oriented in function. Included in this category of commercial uses are automobile sales and service, drive-in restaurants, motels, gas stations, and the like. Many of these activities require relatively large amounts of land and encourage considerable traffic. Therefore, such types of commercial activities should not be located in or near the Central Business District. Clustered sites along major streets away from the CBD provide the most suitable locations for these automobile-oriented activities.

Industrial Land Use Projections

Since the mid-1960's, the industrial and manufacturing sector of the Canon City area local economy has been growing significantly and this growth is expected to continue for the duration of the planning period.

Because of the varying space requirements of the many different types of industrial and manufacturing activities, it is difficult to assign a standard for land requirements to project future industrial land demand. One of the methods used to estimate future industrial land requirements is to apply an employee density standard which relates the number of employees per gross acre of industrial land for major types of industrial activities. According to the classification system used by the Urban Land Institute, there are three major types of industrial activity which are outlined in Table 38.

TABLE 38
INDUSTRIAL EMPLOYEE DENSITY STANDARDS

Industry Use Group	Type of Major Industry Group	Employees Per Gross Acre - 1980
1 - Intensive	Electrical Equipment and Supplies Transportation Equipment Instruments and Related Products Apparel and Other Textile Products Printing and Publishing	24
2 - Intermediate Extensive	Ordinance and Accessories Lumber and Wood Products Furniture and Fixtures Primary Metal Industries Fabricated Metal Products Machinery, Except Electrical Miscellaneous Manufacturing Industries Food and Kindred Products Textile Mill Products Paper and Allied Products Chemicals and Allied Products Rubber and Plastic Products	10
3 - Extensive	Stone, Clay and Glass Products Tobacco Products Petroleum and Coal Products Leather and Leather Products Wholesale Trade	8

Source: Industrial Development Handbook, Urban Land Institute, Washington, D.C.; 1975.

Most of the industrial activities in Canon City fall into groups 2 and 3, intermediate extensive and extensive. It is anticipated that this pattern and type of industrial activity will continue throughout the planning period thereby requiring large amounts of land per industrial sector employee.

If it is assumed that one-sixth of the total population increase forecasted for the planning period will be employed by the industrial sector, then approximately 2,900 new jobs could be generated. Applying the employemnt density standard for intermediate extensive and extensive industry groups (which ranges between 8 to 10 employees per gross acre), an industrial acreage demand of approximately 290 to 360 acres can be estimated. If it

is further assumed that 75 percent of the new industrial development will take place within the corporate limits of Canon City, then 220 to 270 acres of land will be needed in the City, with the remaining development occurring in the unincorporated portions of the planning area. This acreage demand is summarized in Table 39.

Public and Semi-Public Land Use Projections

The amount of land utilized for public and semi-public uses depends directly on the size of the population to be served. Discounting special type uses (such as federal government installations) which are difficult to project, the amount of public land needed can be projected from the population forecast.

Using the land development standard of 3 acres per 100 population, the additional 17,389 people will require approximately 522 acres for future public and semi-public land uses within the entire Canon City planning area. Assuming again that thirty percent of future residential development will take place in Canon City and the remaining seventy percent will take place in the outlying portions of the planning area, then Canon City will need approximately 156 acres for semi-public and public land uses with the remaining 366 acres estimated to be needed in the unincorporated portions of the planning area.

Park and Recreation Land Use Projections

For estimating future public park land requirements, the standards developed by the National Park and Recreation Association indicate that an urban area should generally maintain five acres of park land for each 1,000 people.

At the present time there are about 37 acres of developed park land within the Canon City planning area. If the standard of five acres per 1,000 people is used and an additional 17,389 people locate in the Canon City area by the end of the planning period, the amount of additional park land needed to meet new park space demands in the planning area would total approximately 87 acres. This figure is the estimate of park land needed to accommodate new population growth and does not include the land acreage needed to bring the existing park and recreation system up to the recommended standard of five acres per 1,000 people.

Public Rights-of-Way Projections

In typical urban areas, approximately 30 percent of the developed land area is devoted to street right-of-ways and transportation corridors. Thus, as a means of estimating the future land requirements for public rights-of-way, it can be assumed that 30 percent of the total additional land area required for the new population growth will be a realistic estimate of future right-of-way land requirements. In the Canon City planning area, a total of 2,530 acres is estimated to be needed to accommodate the future population forecast. To estimate public rights-of-way,30 percent of that total figure yields approximately 760 acres of which 290 acres can be allocated to Canon City and 470 acres to the unincorporated portions of the planning area.

Summary of Future Land Use Projections

A summary of projected land use requirements is shown in Table 39. The projections are based on the mid-range population forecast which estimates a total population of 37,593 for the entire Canon City planning area by the end of the planning period in the year 2000.

Conclusion

This chapter has pointed out the numerous land use and physical development problems which now face the citizens and local officials of Canon City. It is generally understood by the community that future population growth will tend to magnify existing problems in the absence of sound and coordinated land use planning. The goals and policies contained in the Comprehensive Plan address these various problems and issues and are intended to serve as the basis for land use decision-making carried out by the Canon City City Council and Planning Commission in their on-going review of development proposals. The Comprehensive Plan, along with other major documents pertaining to the Canon City planning area, will guide the deliberations of the local governing bodies as they assess the potential short- and long-range social, economic and environmental implications and impacts of development proposals.

The Comprehensive Plan also identifies criteria and standards by which to evaluate and guide physical development in the Canon City planning area. The general character of these development standards and criteria are backed up by documents and regulations concerning more specific areas of study such as air and water quality and County-wide soil surveys.

It is evident that much of the quality of life within the corporate limits of Canon City will depend on the patterns of growth and land use activities in areas of Fremont County adjacent to the City. The patterns will be influenced as well by City policies concerning annexation, the extension of City services and the planning and layout of the transportation system in the planning area. While the Canon City zoning regulations address the patterns and intensities of municipal development, no such regulatory tools or review mechanisms exist to guide the pattern, intensity and timing of development in the unincorporated sections of the planning area.

Thus, in view of the absence of coordinated land use regulatory tools, the most immediate task for Canon City is to develop a strong and effective working relationship with Fremont County to set the groundwork for coordination in area-wide land use planning. Because Canon City does not presently have a planning staff, the Planning Commission will have to assume most of the responsibility for this task. Longer term objectives should focus on the development of coordinated City and County land use regulatory tools and policies. Until the land use regulatory tools and policies are adequately coordinated, Canon City will have to use the Capital Improvement Program, the subdivision regulations, zoning ordinances and official maps as the basic means by which to measure and evaluate the progress toward housing and land use objectives.

TABLE 39
FUTURE LAND USE PROJECTIONS

Land Use	Canon City Additional Population	Canon City Development Standard	Canon City Additional Acres	County Additional Population	County Development Standard	County Additional Acres
Residential[1]	#Households[2]			#Households		
Single Family	1,506	4 households/ac	377	3,045	4 households/ac	761
Multi-Family	300	17 households/ac	18	373	17 households/ac	21
Mobile Home	200	7 households/ac	29	1,264	7 households/ac	181
Sub-Total	2,006		424	4,682		963
Commercial[3]		1 ac/100 people	87		1 ac/100 people	87
Industrial[4]		8 ac/industrial employee	270		8 ac/industrial employee	90
Park & Rec.[5]		5 ac/1,000 people	26		5 ac/1,000 people	61
Public & Semi-Public[6]		3 ac/100 people	156		3 ac/100 people	366
Sub-Total			539			604
TOTALS	2,006		963	4,682		1,567
Transportation Rights-of Way		30% of total additional acres	290		30% additional acres	470

[1]Assumes that 30% of new residential development takes place in Canon City; 70% in the County portion of planning area.

[2]To convert number of households into number of people, multiply number of households by 2.6 (e.g., (2,006 households)(2.6 people/household) = 5,216 people.) Also assumes that existing percentages of residential land use will continue in the future.

[3]Assumes that 50% of new commercial development will take place in Canon City; the remainder in the County portion of planning area.

[4]Assumes that 75% of industrial development will take place in Canon City; the remaineder in the County portion of planning area.

[5]Based on percentage of new residential development.

[6]Based on percentage of new residential development.

Source: Oblinger-Smith Corporation, Consultants in Planning, Design and Development, 1978.

X HOUSING

Traditionally, the provision of housing has been primarily the responsiblity of the individual. Consequently, certain segments of the population within the Canon City planning area and throughout Fremont County adamantly believe that only the private housing market should be pursued in terms of meeting the housing needs of local residents. Indeed, privately supplied housing has been adequate for meeting the needs of many citizens living in the Canon City planning area. However, many lower income individuals and elderly persons do not have the financial means to adequately participate in the private housing market. Therefore, public housing assistance from Federal, State and local governmental entities as well as private enterprise involvement may become necessary in order to insure that a decent home and a suitable living environment are provided for all citizens. This assistance may take several forms, including subsidized units, low interest loans, adequate regulatory and land use codes, and improved public facilities and services.

As shown throughout the remainder of this chapter, there is undoubtedly a need for housing assistance throughout the planning area. However, in the immediate future, Canon City will not be able to financially participate in the provision of public subsidized housing units. The municipality is currently confronted with many other pressing problems and a series of costly public facility improvements are needed. Regardless of the fact that the municipality cannot make a direct financial contribution, the City does recognize that a series of steps need to be gradually undertaken in order that the needs of lower income families and the elderly be met. Thus, it is the current policy of the City that all housing programs, both public and private, that do not necessitate the expenditure of municipal funds, will be supported. Therefore, it is presently believed that the planning area's efforts toward public assisted housing projects can best be organized and implemented over the short term by Fremont County and the Upper Arkansas Area Council of Governments as well as direct involvement by the private sector of the economy.

General Purpose and Criteria

The purpose of this housing element is to aid the Canon City and Fremont County Planning Commissions, City Council members, the Fremont County Commissioners, and the staff of Upper Arkansas Area Council of Governments through: 1) clarifying the existing housing situation throughout the planning area by studying housing characteristics, identifying housing problems, and relating those issues to housing goals, objectives, and policies; 2) providing governmental officials and interested citizens with a description of actions that can be undertaken to improve the housing situation. To accomplish these functions, the housing element must be based on the following criteria.

Relationship to Other Plans

Although this housing element is directed toward the implementation of the housing plan, it must be realized that housing is only one of many aspects

that must be considered in comprehensive planning for Canon City and surrounding environs. A housing plan must be consistent with plans for public services and facilities as well as with the economic and population potentials of the planning area.

Governmental Intervention

It is becoming apparent that governmental intervention into the provision of housing is necessary, and it is therefore the responsibility of local, regional, State and Federal governmental entities to take whatever steps are necessary to insure adequate, standard housing for all residents.

Recognition of Unique Needs

The housing needs in the planning area will be considered with respect to the area's demographic and economic characteristics. As discussed in this section, the planning area has a combination of conditions which make its housing needs unique from those of many other areas. Thus, the housing plan for the planning area is necessarily different from other housing plans for any other geographic area or community.

Achieving adequate housing for all the present and future citizens in the planning area requires more than the preparation of a Comprehensive Plan. Recommendations contained in the Comprehensive Plan must be implemented. Thus, specific actions must be taken to overcome the planning area's housing problems in a manner that is supported by community residents and realistic in terms of local financial resources.

Low Income and Minority Needs

Specific attention should be given to the needs of low-income persons, minority groups and the elderly, because these groups typically have the most difficulty in obtaining adequate housing. This is not to say that the housing needs of all the citizens of the planning area should not be considered. Essentially, any local housing market should provide a balanced housing supply of various price ranges, types and sizes whereby all individuals, regardless of age or income, have an opportunity to obtain safe and decent housing.

Review of Housing Goals, Objectives, and Policies

Before examining the planning area's housing problems and needs, a review of locally arrived at housing goals, objectives and policies is warranted. A discussion of the housing goals, objectives, and policies follows and this initial step is intended to set the overall parameters of the housing plan. Thus, future efforts in maintaining and improving existing and future housing development in the planning area should be directed toward achieving the following goal, objectives and policies.

Goal:

To provide all people in the Canon City planning area with housing of good quality and of adequate size to produce a healthful and satisfactory residential living environment.

Objectives/Policies:

To foster residential development in areas where the necessary public facilities and services can be provided economically and efficiently.

Encourage the location of parks and recreational areas adjacent to residential land uses.

To encourage the provision of a variety of housing types at a broad range of prices. Progress should be made toward the provision of low- and moderate-income housing in the planning area to assure adequate housing for lower income families and the elderly.

To encourage the upgrading of all substandard housing units through rehabilitation and redevelopment. Housing units in substandard condition should be improved to standard condition if it appears economically feasible to do so. If housing units are dilapidated and are not worth rehabilitation, the unit should be removed from the housing stock.

To encourage the provision of additional good quality rental housing.

To prevent discrimination in the provision of housing. If discrimination in the provision of housing occurs in Canon City, immediate steps will be taken to rectify the situation. Exclusionary or discretionary practices will not be included in any construction, land development, or housing codes.

To improve the economic condition in the planning area in order to provide opportunities for individuals to increase their incomes so they will be able to afford standard housing.

To encourage citizen participation in the development and operation of all housing programs and projects.

Every effort will be made to utilize available housing assistance programs for low- and moderate-income housing, although the City cannot make a financial commitment.

To participate in the United States Department of Housing and Urban Development Small Cities Program in order that housing rehabilitation efforts and associated public facility improvements in certain identified areas in Canon City can be implemented.

To support and encourage the private sector of the economy (notably contractors and financial institutions) to become increasingly involved in the provision of low- and moderate-income housing.

All orginances and regulations which affect development--subdivision, zoning, housing (if and when such a code is adopted), and construction codes--will be continually reviewed to ensure that they incorporate the most modern and progressive means of achieving the goals and objectives stated in this section.

The City and the County, within their financial capabilities, will support all area-wide attacks on existing blight and the prevention of blight, using a balanced program of all private and public resources available, including code enforcement, neighborhood rehabilitation and redevelopment.

Those residential areas of significant historic value should be identified and preserved through strict control of both public and private redevelopment activities.

Identification of Housing Needs by Local Residents

In 1975, the Upper Arkansas Area Council of Governments conducted a housing survey in the Canon City planning area to ascertain what local residents felt were the most presssing housing problems and needs. Approximately 715 persons were contacted in the house-to-house survey and most households responded partially or fully to the questionnaire. The results of this survey are shown in Table 40.

The Table generally indicates that local residents identified four housing problem areas where solutions and/or alternatives are desired. The problems included:

1. The lack or rental units (especially moderately priced units).

2. The inability to purchase a housing unit due to the unavailability of moderately priced units, high interest rates, and large down payments.

3. The lack of designated mobile home parks.

4. The lack of housing accommodations for the elderly and low-income families.

More specifically, the survey showed that many citizens felt that the type of housing they desired was not available while approximately 68 percent of the people surveyed stated that there are definite housing problems in the planning area. In addition, 26 percent of the respondents to question 5 indicated that the housing problems affected them personally in one way or another. The responses to question 15 are also interesting since 66 percent of the responding renters indicated that they would like to buy a home and 66 percent (response to question 16) would consider an older home but homes were not available or the costs were too high (response to question 18).

The survey also attempted to determine whether or not residents were aware of Federal and State housing assistance programs and the results showed that 40 percent of the respondents were not aware that any assistance programs existed (response to question 19); but only 27 percent (response to question 20) expressed an interest in participating in programs if they qualified for assistance. As revealed in the last questions of the survey and from discussions with local residents, there seems to be considerable controversy surrounding the need and desirability of participating in Federal and State housing programs throughout the planning area. Essentially,many local resi-

TABLE 40
RESULTS OF THE HOUSING ATTITUDE AND NEED SURVEY
IN THE CANON CITY PLANNING AREA, 1975

1. Is the type of house you want available?
   Yes 587 No 92

2. Do you feel there are problems in housing?
   Yes 384 No 184

3. In what areas?

Mobile Home Park	51
Rental Units	234
Private Home Ownership	144
Housing for the elderly	106

4. Do you own or rent?
   Own 557 Rent 146

5. Do the problems affect you personally?
   Yes 146 No 367

6. Is your monthly payment in excess of 25% of your total monthly income?
   Yes 85 No 462

7. How would you rate your unit?
   Good 415 Adequate 270 Inadequate 46

8. Homeowner satisfaction with present housing:
   Satisfied 421 Not satisfied 54

9. Homeowner desire to improve present situation:
   Yes 234 No 303

10. Problems encountered in obtaining present home:

Availability of homes	54
Interest rates	29
Down payment	31
No problems	419

11. Did renter experience difficulty in finding a rental unit:
    Yes 69 No 66

12. For what reason?

Rents too high	66
Units not available	51
Inconvenient location	20

13. Utilities included in rent:
    Yes 24 No 79

(Table continued on following page)

14. Description of rental unit:
Adequate 86 Inadequate 41

15. Would renter prefer to:
Continue renting 47 Buy a home 88

16. Would renter consider buying an older home?
Yes 82 No 41

17. Renters attempting to buy a home in the area:
Yes 52 No 82

18. Problems cited in attempting to buy a home:

Lack of homes to buy	13
Inflated costs	21
Interest rates	11
Down payment required	25

19. Awareness of Federal and State home assistance programs:
Aware 452 Unaware 230

20. Interest in participating in Federal and State home assistance programs:
Yes 147 No 529

Source: Upper Arkansas Area Council of Government, Housing Survey, 1975.

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dents strongly believe that publically subsidized housing is contrary to the private market system while others have perceived the critical need for the implementation of some form of subsidized housing.

Background Information

The majority of the background information contained in this housing element has been compiled from statistics prepared by the United States Bureau of the Census for the years 1960 and 1970. The census represents the most readily available and reliable data source for this study, since little updated statistical information on housing has been collected on a County or community basis over the past eight years. The only significant updated housing report was prepared by the Upper Arkansas Area Council of Governments in June of 1976 and portions of that report have been utilized in the preparation of this housing element. Thus, the background information presented here provides only a general analysis of the current status of housing in the Canon City planning area. However, the demographic and housing characteristics presented for the year 1970 are still believed to be generally indicative of the housing situation since substantial changes have not occurred over the last eight years.

For analytical purposes, the housing information presented in this section pertaining to Canon City and East Canon has been combined where possible due to the annexation of East Canon in 1974. Other annexations (notably Planning Dis-

tricts IV and V) have also increased the City's housing stock and the great majority of these additional units are located in relatively new subdivisions or in mobile home parks where sound housing conditions are dominant. It should also be noted that in many instances, a concise description of the housing situation in the unincorporated portions of the planning area is not presented since the necessary statistical information is not available on this geographic basis. In spite of this data deficiency, some housing information is presented for Lincoln Park (Planning District A), Prospect Heights (Planning District B), and Brookside (Planning District C) and it is assumed that the available housing information for these three unincorporated areas is generally characteristic of the prevailing housing trends in the other unincorporated planning districts.

To insure a complete understanding of the information which follows, the term housing unit is defined. As stated in the 1970 Census of Housing, a "housing unit" is a house, an apartment, a group of rooms, or a single room occupied or intended for occupancy as separate living quarters. Separate living quarters are those in which the occupants do not live and eat with any other person in the structure. The occupants may be a single family, one person living alone, two or more families living together, or any other group of related or unrelated persons who share living arrangements. However, persons living in group quarters are not generally included in the definition of a housing unit. Group quarters are living arrangements containing five or more persons not related to the person in charge. Group quarters are located most frequently in institutions, boarding houses, military barracks, school dormitories, fraternity and sorority houses, nursing homes and hospitals.

Population and Income Characteristics

In terms of population and economic characteristics, elderly, minority, widowed, female head-of-households, and low-income persons often experience the most difficulty in obtaining adequate housing. Table 41 summarizes some key 1970 population and income information for Canon City.

TABLE 41
KEY POPULATION AND INCOME CHARACTERISTICS
FOR CANON CITY, 1970

Category	Canon City	East Canon	Total Number of Persons	Percent of Population
Population	9,206	1,805	11,011	100%
Elderly				
(65 and over)	2,130	313	2,443	22.2%
Ages 55 to 64	1,002	228	1,230	11.2%
Minority Persons	315[2]	6	321	2.9%
Widowed Persons	1,052	132	1,184	10.8%

(Table continued on following page.)

TABLE 41 CONTINUED
KEY POPULATION AND INCOME CHARACTERISTICS
FOR CANON CITY, 1970

Category	Canon City	East Canon	Total Number of Persons	Percent of Population
Female Head of Household	211	38	249	2.3%
Lower Income Persons[1]				
Less than $3,000	2,065	250	2,315	21.0%
$3,00 to $6,999	2,537	630	3,167	28.8%
Persons with Income less than Poverty level[1]	1,341	192	1,533	13.9%

[1]Assuming three persons/household average size for lower income families. This category also includes unrelated individuals 14 years old and over.

[2]The great majority of minority persons are inmates at the State Prison.

Source: State of Colorado, U.S. Bureau of the Census, Enumeration District Summaries, and Oblinger-Smith Corporation, Consultants in Planning, Design and Development, 1978.

As illustrated in the Table, assuming the 1970 figures are still generally indicative of community trends, over 22 percent of Canon City's population are elderly, 10.8 percent are widowed persons and 2.3 percent are female head-of-households. In terms of lower income persons, the Table reveals that an estimated 5,482 persons are members of families or unrelated individuals that earn less than $7,000 a year and that approximately 14 percent of the population has an income below established Federal poverty levels.

Similar population and economic characteristics are prevelant in the unincorporated portions of the planning area and Table 42 summarizes some of the key population and income characteristics for Lincoln Park, Prospect Heights and Brookside.

In these three unincorporated areas, 15 percent of the population is elderly, 5.2 percent are widowed persons, 1.9 percent are female head-of-households, 45 percent of the population earns less than $7,000 a year and approximately 13 percent of the population has an income below established poverty levels.

TABLE 42
KEY POPULATION AND INCOME CHARACTERISTICS
FOR SELECTED UNINCORPORATED PLACES, 1970

Category	Lincoln Park	Prospect Heights	Brookside	Total Number of Persons	Percent of Population
Population	2,984	38	174	3,196	100%
Elderly Persons					
(65 and over)	436	15	30	481	15%
(Ages 55 to 64)	346	10	35	381	11.9%
Minority Persons	5	0	0	5	.2%
Widowed Persons	146	10	10	166	5.2%
Female Head of Household	56	0	5	61	1.9%
Lower Income Persons [1]					
Less than $3,000	472	12	40	524	16.4%
$3,00 to $6,000	874	10	30	914	28.6%
Persons with Income level less than poverty level[1]	388	4	20	412	12.9%

[1]Assuming three persons/household average size for lower income families. This category also includes unrelated individuals 14 years old and over.

Source: State of Colorado, U.S. Bureau of the Census, Enumeration District Summaries, and Oblinger-Smith Corporation, Consultants in Planning, Design and Development, 1978.

By examining the figures in Tables 41 and 42, it is apparent that a large number of people living in the Canon City planning area may not be capable of paying high rent, purchasing new housing or they lack the financial resources to substantially rehabilitate their existing homes. In addition, many of these residents are undoubtedly spending a large percentage of their incomes on mortgage payments or on rent which generally means that there is less money available for other living expenses such as clothing, food, entertainment, utility bills, and transportation. In the case of the elderly, these individuals often have no means of affording adequate housing because inflation has greatly reduced the buying power of their savings and fixed incomes.

In terms of socio-economic trends between 1970 and 1978, the only notable change is believed to have occurred in the category of lower income persons. The number of lower income persons has probably decreased somewhat due to expanding economic opportunities in the planning area. Regardless of the precise numbers of lower income, elderly, minority and widowed persons, the figures contained in Tables 41 and 42 indicate that the Canon City planning area is desperately in need of some form of publically assisted housing programs. It is also important to note that the figures in the tables should not be combined to give a total of persons possibly requiring housing assistance because the six categorical groups are assumed to overlap; i.e., some elderly persons are most likely widowed and in a low income household as well.

Findings contained in the Upper Arkansas Area Council of Governments, 1976 Housing Report also substantiate the fact that many residents in the planning area and throughout Fremont County are low income and elderly persons who are eligible for Federal and State housing assistance. More specifically, the COG Housing Report stated that:

> "According to the Department of Housing and Urban Development (HUD) 1970 special census tabulation for Fremont County with median income adjusted to 1975 values, approximately 5,408 elderly and non-elderly households in the County are below 80 percent of the median adjusted income and would be eligible for Federal housing assistance. This is about one-fifth of the County's total population. Of this number (5,408), 1,700 households or 31 percent of the population live in what HUD has termed inadequate living conditions. The alleviation of these existing inadequate conditions should be the first priority in any program the County decides to undertake."

Housing Mix

Table 43 illustrates changes in the housing mix in Canon City between 1970 and 1978.

In 1970, the residential character of Canon City was predominately single-family with 78.5 percent of the community's housing stock falling within this category. There were also 668 multi-family units which represented 17.7 percent of all housing units and only 3.8 percent of the housing stock was mobile homes. In the ensuing eight years between 1970 and 1978, the housing mix in Canon City dramatically changed with mobile homes increasing while single-family units declined and multi-family units nearly stabilized on a percentage basis. In fact, during the eight-year time span, 482 additional mobile homes were situated within the City limits. Undoubtedly, a large percentage of these recorded mobile home increases are a result of annexations. However, the changes in the housing mix also reveal that many families cannot afford single family housing units and that available rental housing units and especially mobile homes are the only available alternatives.

TABLE 43
CANON CITY HOUSING MIX 1970-1978[1]

Type of Structure	1970 Canon City Number of Units	1970 East Canon Number of Units	1970 Total Number of Units	1970 Percent of Total	April 1978 Canon City Number of Units	April 1978 Percent of Total
Single Family	2494	473	2967	78.5%	3464	72.4%
Multi-Family	643	25	668	17.7%	820	17.2%
2 Unit Structures	(149)	(0)	(149)	(22.3%)	--	
3 and 4 Unit Structures	(163)	(0)	(163)	(24.4%)	--	
5 to 49 Unit Structures	(220)	(25)	(245)	(36.7%)	--	
50 or more Unit Structures	(111)	(0)	(111)	(16.6%)	--	
Mobile Homes	17	129	146	3.8%	499	10.4%
TOTALS	3154	627	3781	100.0%	4783	100.0%

[1]Housing mix for total occupied and vacant year-round housing units.

Source: State of Colorado, U.S. Bureau of the Census, Enumeration District Summaries and Oblinger-Smith Corporation, Consultants in Planning, Design and Development, 1978.

Table 44 presents the existing housing mix in the unincorporated portion of the planning area.

TABLE 44
HOUSING MIX FOR UNINCORPORATED AREAS, 1978

Type of Structure	Number of Units	Percent of Total
Single Family	1429	64.5%
Multi-Family	171	7.7%
Mobile Homes	615	27.8%
TOTAL	2215	100.0%

Source: Oblinger-Smith Corporation, Consultants in Planning, Design and Development, 1978.

The Table shows that approximately 28 percent of all housing units are mobile homes and that there is a minimum supply of multi-family units. It is also important to reveal that in the unincorporated areas, mobile homes are generally scattered and highly intermingled with other types of residential and commercial land uses.

Currently, there are 1,114 mobile homes in the Canon City planning area and all of the planning districts except the Central Business District (Planning District II) contain mobile home units. The wide dispersal of mobile homes is actually encouraged since there are currently no thorough mobile home regulatory devices in terms of zoning regulations or mobile home developmental codes. However, the previous East Canon zoning ordinance did specify the location of a Mobile Home Park District. Also in regards to mobile home distributions, the heaviest concentrations are in East Canon (Planning District III), Lincoln Park (Planning District A) and Park Center (Planning District G), with approximately 75 percent of all mobile homes being situated in these three areas.

As mentioned earlier, increases in additional mobile homes in Canon City between 1970 and the spring of 1978 amounted to 482 units, although a substantial proportion of this recorded increase can be attributed to the annexation of East Canon and other areas. However, excluding those mobile home additions due to the annexation proceedings, it is generally believed that over 200 additional mobile homes were situated within the City limits between 1970 and 1978.

Increases in additional mobile homes in the unincorporated portion of the planning area between 1970 and 1978 are impossible to quantify since there is no consistent mobile home licensing system and 1970 mobile home data is not available. Despite this data deficiency, it is believed that new mobile home activity surpassed single family and multi-family construction in the unincorporated portions of the planning area.

The tendency toward mobile home living further signifies that many families and individuals do not have the financial resources or they do not desire to purchase the traditionally preferred single family housing unit. Unless unforeseeable economic and social events occur, it is anticipated that the prevailing local housing market combined with changing life styles will continue to increase the trend toward more mobile home housing development.

The recent increase in mobile home development to meet low cost housing needs in the Canon City planning area warrants special recognition. The last decade has seen the rapid growth of the mobile home industry. Thus, it is expected that this trend will continue during the planning period, at least until other forms of industrial housing such as prefabricated and modular units and public housing enter the low cost housing market.

It is important to realize that the regulation of mobile home development will be necessary as the dependence on mobile homes to meet housing needs continues to grow. Uncontrolled mobile home development often results in unsafe, displeasing forms of development as well as possible adverse effects on the tax base of an area.

It is generally accepted as good development practice that mobile homes should be located in mobile home parks. This practice enhances mobile home development in the following ways: 1) design standards may be more easily controlled; 2) a central management mechanism is provided which makes enforcement procedures easier; 3) special services required by mobile homes (i.e., storm shelters) may be more economically provided; 4) the possibility of lower tax revenue created by the relocation of mobile homes is greatly reduced; and 5) mobile home parks provide an opportunity for pleasing design of low cost housing while at the same time minimizing effects on surrounding property values.

In short, mobile homes may be considered as "horizontal apartments" requiring medium density development to contribute their share to the tax base and requiring some special services which are most economically provided in mobile home parks.

Another housing mix related issue pertains to the limited supply of multi-family housing. Multi-family units currently account for approximately 14 percent of the planning area's housing stock, although the vacancy rate is low and rental prices are typically higher than what can be afforded by low-income and elderly persons. According to Fremont County's Housing Outreach Coordinator, the lack of low and moderately priced rental units is the most paramount housing problem confronting the planning area. Thus, it is evident that the demand for rental units is presently exceeding the supply and that subsidized rental units may be needed.

Table 45 illustrates new residential building activity and housing demolitions in Canon City between 1971 and 1977.

TABLE 45
NEW BUILDING ACTIVITY AND DEMOLITIONS IN CANON CITY
BETWEEN 1971 AND 1977

	Residential Permits	Valuation	Units Demolished
1971	29	$ 486,000	--
1972	69	1,207,500	--
1973	97	1,884,505	10
1974	79	1,788,000	7
1975	64	1,322,500	3
1976	89	1,707,000	4
1977	132	2,875,130	1
TOTALS	559	$11,270,635	25

Source: Canon City Building Inspection Department and Oblinger-Smith Corporation, Consultants in Planning, Design and Development, 1978.

As shown in the Table, 559 residential units were constructed in the seven-year period and the corresponding valuation increased by over $11 million. Therefore, it is assumed that between 1971 and 1977, the average valuation of a dwelling unit excluding mobile homes was $20,162. The peak construction year was 1977 when 132 units were constructed at a valuation of $2,875,130.

A total of 25 dwelling units were also demolished between 1971 and 1977, which essentially means that 534 new units were actually added to the City's housing stock. In summary, when combining the 534 new residential structures with approximately 1,095 annexed dwelling units and additional mobile homes, the City's housing supply increased by 1,629 units between 1970 and 1977.

Housing Ownership and Occupancy

Table 46 provides an analysis of housing ownership trends in Canon City and East Canon between 1960 and 1970. The Table shows that owner and rental occupied units increased while vacant units decreased over the 10 year period. More precisely, over this 10-year period, there were respectively 103 and 79 additional owner and renter occupied units in Canon City while vacant units decreased by over 50 percent. A similar trend is apparent in East Canon with 201 additional owner occupied units and 54 additional renter occupied units being recorded while vacancies decreased by nearly 42 percent. The Table also reveals that throughout the 1960 decade, there was a tendency toward larger increases in renter occupied units compared to owner occupied units and that the overall vacancy rate was substantially lowered.

When combining the figures for Canon City and East Canon for the year 1970, 6.2 percent of the housing stock was vacant and of more importance only 134 units or 3.4 percent of the housing stock was readily available for purchase or rent. These low vacancy rates indicate that the demand for housing was beginning to exceed the available supply.

Current information on housing ownership and occupancy is not available, although according to local financial and realty offices, the community's vacancy rate is extremely low due to expanded job opportunities and the in-migration of new residents. It is therefore assumed that Canon City's current vacancy rate ranges somewhere between 2 and 3 percent which further signifies that the housing market in Canon City is tight. In most communities a normal and desirable vacancy rate is somewhere in the vicinity of 5 percent. Regardless of the exact number of vacant units in the community, all existing vacant units, particularly those not on the market for sale or rent, should be carefully observed to assure that they receive the necessary maintenance that will prevent deterioration and dilapidation.

Table 47 illustrates 1970 housing ownership and occupancy patterns in Lincoln Park and Brookside.

The Table indicates that there was more of a tendency toward owner occupancy in the unincorporated portion of the planning area than in Canon City and that the vacancy rate was extremely low. This is of course assuming that trends in these two planning districts are characteristic of the unincorporated portion of the planning area as a whole.

TABLE 46
CANON CITY AND EAST CANON
HOUSING OWNERSHIP AND OCCUPANCY TRENDS

Canon City Occupancy	1960 Number of Units	1960 Percent of Total Units	1970 Number of Units	1970 Percent of Total Units
Owner Occupied	1837	57.3%	1940	61.5%
Renter Occupied	921	28.7%	1000	31.7%
Vacant	449	14.0%	214	6.8%
For Rent	(233)		(91)	
For Sale	(34)		(32)	
All Other	(182)		(91)	
TOTALS	3207	100.0%	3154	100.0%
East Canon Occupancy				
Owner Occupied	293	75.5%	494	78.8%
Renter Occupied	57	14.7%	111	17.7%
Vacant	38	9.8%	22	3.5%
For Rent	NA		7	
For Sale	NA		4	
All Other	NA		11	
TOTALS	388	100.0%	627	100.0%

NA - Not Available

Source: State of Colorado, U.S. Bureau of the Census: General Housing Characteristics, 1960 and 1970.

TABLE 47
HOUSING OWNERSHIP AND OCCUPANCY
FOR SELECTED UNINCORPORATED AREAS, 1970

Occupancy	Lincoln Park Number of Units	Lincoln Park Percent of Total Units	Brookside Number of Units	Brookside Percent of Total Units
Owner Occupied	830	85.2%	56	83.6%
Renter Occupied	128[1]	13.1%	6	8.9%
Vacant	16	1.7%	5	7.5%

(Table continued on following page)

TABLE 47 CONTINUED
HOUSING OWNERSHIP AND OCCUPANCY
FOR SELECTED UNINCORPORATED AREAS, 1970

	Lincoln Park		Brookside	
Occupancy	Number of Units	Percent of Total Units	Number of Units	Percent of Total Units
For Rent	(0)		(5)	
For Sale	(5)		(0)	
All Other	(11)		(0)	
TOTALS	974	100.0%	67	100.0%

[1]Sixteen of these units were occupied without payment of cash rent.

Source: State of Colorado, U.S. Bureau of the Census, Enumeration District Summaries, 1970.

TABLE 48
ROOMS PER UNIT,[1] 1970

Number of Rooms	Canon City Number of Units	East Canon Number of Units	Total Number of Units	Percent of Total
One	94	7	101	2.7%
Two	167	19	186	4.9%
Three	358	54	412	10.9%
Four	746	168	914	24.2%
Five	874	202	1076	28.4%
Six	531	97	628	16.6%
Seven	210	59	269	7.1%
Eight or More	173	21	194	5.2%
TOTAL	3153	627	3780	100.0%

Canon City Median, All units	4.7
Canon City Median, Owner occupied units	5.1
Canon City Median, Renter occupied units	3.7

[1]Includes all occupied and vacant year-round housing units.

Source: State of Colorado, U.S. Bureau of the Census: General Housing Characteristics, and Enumeration District Summaries, 1970.

Housing Size

Tables 48, 49 and 50 showing Rooms per Unit, Persons per Unit and Overcrowded Units provide some insight into the adequacy of existing housing units in terms of living space. Table 48 shows that in 1970 approximately 71 percent of the housing units in Canon City and East Canon contained five rooms or less and that the average housing unit contained 4.7 rooms. Generally, the Table illustrates that many of the housing units in Canon City are not large and do not provide an abundance of living space, although they may be adequate for the number of persons living in each individual housing unit.

TABLE 49
PERSONS PER HOUSING UNIT IN CANON CITY
BETWEEN 1960 AND 1970[1]

Number of Persons	1960 Number of Units	1960 Percent of Total	1970 Number of Units	1970 Percent of Total
One	679	24.6%	858	29.2%
Two	1015	36.8%	1084	36.9%
Three	412	14.9%	343	11.7%
Four	314	11.4%	298	10.0%
Five	189	6.9%	194	6.6%
Six	85	3.1%	90	3.1%
Seven	36	1.3%	38	1.3%
Eight or More	28	1.0%	35	1.2%
TOTALS	2758	100.0%	2940	100.0%

1960 Median for all occupied units 2.2
1970 Median for all occupied units 2.1

[1]Based on all occupied units.

Source: State of Colorado, U.S. Bureau of the Census, General Housing Characteristics 1960 and 1970

Table 49 illustrates the number of persons per housing unit in Canon City for the years 1960 and 1970. As shown in the Table, there were fewer persons per housing unit in 1970 compared to 1960. In 1960, approximately 61 percent of all housing units contained one or two persons, while in 1970, 66 percent of the housing stock fell into this category. These figures reveal that a large percentage of the housing units in Canon City contain small families or single individuals and that the number of rooms per unit discussed in a previous section may in many cases be adequate in terms of living space. The trend of smaller household sizes is likely to continue since single people and childless couples have been and are likely to continue to be attracted to Canon City by existing and new employment opportunities. Because of a reduction in household size, new residents entering the City will most likely require more hous-

ing units. Thus, more one and two person households are likely in the future and this trend will undoubtedly affect the overall demand for housing units.

Table 50, Overcrowded Units, provides a more detailed analysis of the adequacy of living space in the planning area.

TABLE 50
OVERCROWDED OCCUPIED UNITS IN THE CANON CITY
PLANNING AREA BETWEEN 1960 AND 1970

Canon City Persons Per Room	1960 Total Housing Units	1960 Percent of Total	1970 Total Housing Units	1970 Percent of Total
1.00 or less	2606	94.5%	2809	95.5%
1.00 - 1.50	110	4.0%	101	3.4%
1.51 or More	42	1.5%	30	1.1%
TOTALS	2758	100.0%	2940	100.0%
East Canon				
1.00 or less	310	88.6%	588	97.2%
1.00 - 1.50	25	7.1%	12	2.0%
1.51 or more	15	4.3%	5	.8%
TOTALS	350	100.0%	605	100.0%
Lincoln Park				
1.00 or less	589	89.8%	897	93.6%
1.00 - 1.50	48	7.3%	51	5.3%
1.51 or more	19	2.9%	10	1.1%
TOTALS	656	100.0%	958	100.0%

Source: State of Colorado, U.S. Bureau of the Census: General Housing Characteristics, 1960 and 1970, and Enumeration District Summaries, 1970.

In 1970, based on the standard of over one person per room to indicate overcrowded conditions, 3.5 percent of all occupied units in Canon City, East Canon and Lincoln Park were somewhat overcrowded, and one percent were seriously overcrowded containing more than one and one-half persons per room. These figures indicate that there were fewer overcrowded units in the Canon City planning area than in the State of Colorado as a whole. In 1970, the State reported that 5.2 percent of all housing units contained between one and one-half persons per room and 1.8 percent of all units contained more than one and one-half persons per room. When examining the geographic distribution of overcrowded conditions, it appears that the occurance of overcrowding is more prevelant in the unincorporated areas (Lincoln Park, etc.) of the planning area. Actually, overcrowded housing conditions in Lincoln Park closely paralleled the State-wide percentages in 1970.

The Table also reveals an improvement in overcrowded conditions in Canon City, East Canon and Lincoln Park between 1960 and 1970 since there were 50 fewer overcrowded units reported over this 10 year period. However, it is still believed that overcrowded units exist in the Canon City planning area. These living conditions should be alleviated as soon as possible since the effects of overcrowding can range from unpleasant to unhealthy living conditions.

Housing Value

Housing value is not absolutely indicative of the quality of housing, however, values do provide a generalized indication. As illustrated in Table 51, the value of owner occupied housing in Canon City substantially increased between 1960 and 1970.

TABLE 51
VALUE OF OWNER OCCUPIED HOUSING IN CANON CITY
BETWEEN 1960 AND 1970[1]

	1960		1970	
Value	Number of Units	Percent of Total	Number of Units	Percent of Total
Less than $5,000	215	12.5%	122	6.7%
$5,000 - $9,999	779	45.2%	648	35.4%
$10,000 - $14,999	516	29.9%	561	30.6%
$15,000 - $19,999	112	6.5%	292	15.9%
$20,000 - $24,999	56	3.2%	102	5.6%
$25,000 or More	46	2.7%	105[2]	5.8%
TOTALS	1724	100.0%	1830	100.0%
Median Value	$9,200		$11,100	

[1]Limited to one-family homes on less than 10 acres and no business on property
[2]Of the 105 units, 29 units had a value of $35,000 or more.

Source: State of Colorado, U.S. Bureau of the Census: General Housing Characteristics, 1960 and 1970.

In 1960, only 12.4 percent of the housing units had a value of over $15,000 while in 1970 27.3 percent of the housing units fell into this statistical range. The median value of an owner occupied housing unit in 1960 was $9,200 and the median climbed to $11,100 in 1970. Unfortunately, the value of housing in Canon City is not as promising when it is realized that in 1970, on a State-wide basis, 62 percent of all housing units had a tabulated value of over $15,000 and that the median value of an owner occupied housing unit was $17,300. The recorded housing value increases in Canon City and on a State-wide basis are partially due to new construction, home improvements, and property assessment changes, but undoubtedly inflation accounted for the majority of the increases in valuation.

In 1970, 42.1 percent of all tabulated owner occupied housing units in Canon City were valued at less than $10,000. This represents a high percentage of lower valued occupied housing since the State as a whole reported that only 15.7 percent of all housing units had a value of less than $10,000.

Table 52 shows the value of owner occupied housing units in East Canon, Lincoln Park and Brookside for the year 1970.

TABLE 52
VALUE OF OWNER OCCUPIED HOUSING
FOR SELECTED AREAS, 1970

	East Canon		Lincoln Park		Brookside	
Value	Number of Units	Percent of Total	Number of Units	Percent of Total	Number of Units	Percent of Total
Less than $5,000	17	4.6%	23	3.4%	0	--
$5,000 - $7,499	24	6.6%	36	5.4%	10	26.3%
$7,500 - $9,999	53	14.5%	101	15.1%	9	23.7%
$10,000 - $14,999	127	34.7%	238	35.6%	19	50.0%
$15,000 - $19,999	76	20.8%	199	29.8%	0	
$20,000 - $24,999	26	7.1%	32	4.8%	0	
$25,000 - $34,999	30	8.2%	34	5.1%	0	
$35,000 - $49,999	9	2.4%	5	.8%		
$50,000 or more	4	1.1%	0		0	
TOTALS	366	100.0%	668	100.0%	38	100.0%

[1]Includes only those units where values have been tabulated.

Source: State of Colorado, U.S. Bureau of the Census, Enumeration District Summaries,1970.

In East Canon and Lincoln Park, owner occupied housing units tended to have a higher valuation than in Canon City while in Brookside there were no units with a value of over $15,000. The higher recorded valuations in East Canon and Lincoln Park are due to more recent residential construction in these two planning districts compared to slower new construction trends within the 1970 corporate limits. In essence, East Canon and Lincoln Park represented high growth areas especially since vacant and moderately priced residential land within the corporate limits was relatively scarce in 1970.

Monthly housing rent does not always indicate the quality of housing in an area. However, considering the return on an investment that an owner must have, the level of rent does give some indication of the general level of housing value. Table 53 illustrates that like the owner occupied trends previously discussed, rent levels escalated between 1960 and 1970. The Table also reveals that in 1970 approximately 40 percent of the rental housing units in Canon City received rents of less than $60 per month, and another 30 percent received less than $80 per month.

TABLE 53
TRENDS IN MONTHLY GROSS RENTS IN
CANON CITY BETWEEN 1960 AND 1970

	1960		1970	
Rent	Number of Units	Percent of Total	Number of Units	Percent of Total
Less than $40	169	18.3%	111	11.1%
$40 - $59	330	35.8%	285	28.5%
$60 - $79	270	29.3%	299	30.0%
$80 - $99	76	8.4%	124	12.4%
$100 - $149	24	2.6%	115	11.5%
$150 and Over	0	--	10	1.0%
No Cash Rent	52	5.6%	55	5.5%
TOTALS	921	100.0%	999	100.0%
Median Rent	($56)		($64)	

Source: State of Colorado, U.S. Bureau of the Census, General Housing Characteristics, 1960 and 1970.

Overall, in 1970 the monthly rent of approximately four-fifths of the renter occupied units in the City was under $100 per month with the median monthly rent being $64. Rent levels in Canon City are actually lower than rents on a State-wide basis. In 1970, the median rent for housing units in the State as a whole was $97. Thus, when comparing rent levels between Canon City and the State as a whole, it is apparent that rental units in Canon City are priced well below the prevailing State-wide rates.

Table 54 illustrates similar monthly gross rent trends in East Canon and Lincoln Park for the year 1970. On a percentage basis, rents in these two areas were typically higher than within Canon's corporate limits, but these areas also recorded a high occurrance of lower priced rental units.

TABLE 54
MONTHLY GROSS RENTS IN
EAST CANON AND LINCOLN PARK, 1970

	East Canon		Lincoln Park	
Rent	Number of Units	Percent of Total	Number of Units	Percent of Total
Less than $40	0	--	10	8.9%
$40 - $59	17	17%	18	16.1%
$60 - $79	24	24%	34	30.4%
$80 - $99	18	18%	20	17.8%
$100 - $149	41	41%	30	26.8%
$150 and over	0	--	0	
TOTALS	100	100%	112	100.0%

Source: State of Colorado, U.S. Bureau of the Census, Enumeration District Summaries, 1970.

Since there are no publically subsidized rental programs in the Canon City planning area, the dominance of lower priced rental units would most likely reveal that a high percentage of the planning area's rental properties are older structures that are most likely in need of some form of structural modifications, major repairs and routine maintenance. It should also be noted that the sole presence of low rent property does not indicate that citizen's housing demands for lower priced living accommodations are currently being met. As mentioned earlier, the demand for lower priced rental units is believed to be in excess of the existing supply. Thus, with the high demand for lower priced rental property, landlords are currently given little incentive to improve an existing unit's physical condition.

Age of Housing

Table 55 illustrates that over 50 percent of the housing units in Canon City and East Canon were built prior to 1939. This generally indicates that a high percentage of the housing units in the existing corporate limits may be periodically in need of structural, plumbing, and electrical repair, and even complete renovation.

TABLE 55
AGE OF HOUSING UNITS[1]

Age	Units in Canon City	Units in East Canon	Total Units	Percent of Total
1970 to 1978	---	---	559	12.9%
1965 to 1970	193	123	316	7.3%
1960 to 1964	188	89	277	6.4%
1950 to 1959	501	157	658	15.2%
1940 to 1949	289	64	353	8.1%
1939 or earlier	1983	194	2177	50.1%
TOTALS	3154	627	4340	100.0%

[1]Based on total occupied and vacant year-round housing units.

Source: State of Colorado, U.S. Bureau of the Census, Enumeration District Summaries, 1970.

The age of housing units in Lincoln Park and Brookside are shown in Table 56. The Table does not give a complete age description since new housing construction and mobile home relocations between 1970 and 1978 in these two unincorporated areas are not known.

TABLE 56
AGE OF HOUSING UNITS IN
SELECTED UNINCORPORATED AREAS[1]

Age	Units in Lincoln Park	Percent of Total	Units in Brookside	Percent of Total
1965 to March 1970	138	14.2%	9	15.8%
1960 to 1964	179	18.4%	0	--
1950 to 1959	224	23.0%	4	7.0%
1940 to 1949	43	4.4%	0	--
1939 or earlier	390	40.0%	44	77.2%
TOTALS	974	100.0%	57	100.0%

[1]Based on total occupied and vacant year-round housing units.

Source: State of Colorado, U.S. Bureau of the Census, Enumeration District Summaries, 1970.

The Table does reveal that a relatively high percentage of the housing stock in Lincoln Park and especially in Brookside was constructed prior to 1939, although from examining the results of the housing condition survey, it does appear that many of the housing units in Lincoln Park are relatively new housing units. As discussed earlier, housing units located within Canon City's 1970 corporate limits are typically older than the housing stock in Lincoln Park and East Canon. This simply indicates that East Canon, Lincoln Park and most likely some of the other surrounding planning districts represent existing and potential areas for new subdivision activity and residential expansion.

Housing Conditions

Perhaps the best indication of the quality of housing in the planning area is provided by an analysis of building conditions. A housing condition inventory of the planning area was undertaken in April of 1978. The external condition of each unit was evaluated according to the following three categories:

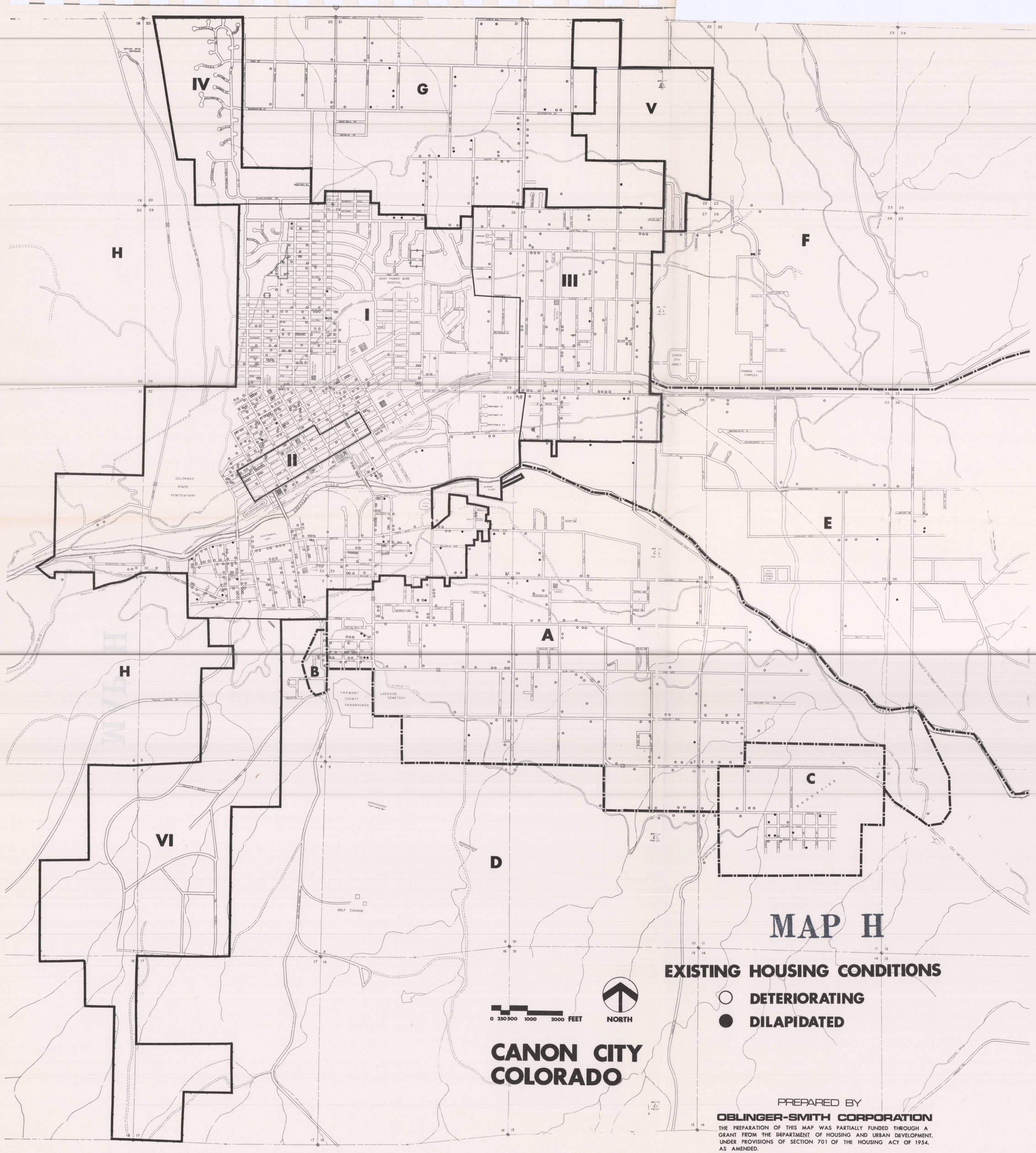
Sound - Those units requiring routine maintenance and repair, but which have no obvious defects or defects which are slight and can be corrected during the course of regular maintenance.

Deteriorating - Those units requiring rehabilitation. These residences are in need of more repair than would be provided through routine maintenance. Examples of rehabiliation needs include installing plumbing, repairing roofing or siding, repairing a chimney or porch, correcting sagging exterior stairs, adding gutters or vents, and replacing windows and doors that are out of alignment.

Dilapidated - Those units which have severely cracked or crumbling foundations, sagging or rotting floors, walls which lean or are out of alignment, and other major structural deficiencies. These structures may be beyond practical, economical repair.

The Housing Condition Map (Map H) and Tables 57 and 58 respectively illustrate the results of the housing conditions survey for the incorporated and unincorporated portions of the planning area. Single family and multi-family housing conditions are respectively presented for the six incorporated and eight unincorporated planning districts along with housing condition summaries. The number of mobile homes in each planning district is also tabulated, although no attempt was made to evaluate their physical condition. Before examining the housing condition map and the corresponding tables, it should also be noted that an attempt was made to evaluate all structures objectively by observing external conditions. Interior housing conditions were not observed, however, experience has shown that interior conditions are usually similar to or worse than the observed exterior conditions.

As illustrated in the summary segment of Table 57, 81.4 percent of the 3,889 surveyed single family and multi-family units in Canon City are classified as sound while 723 units (18.6 percent of all housing units surveyed) are classified as either deteriorating or dilapidated. There are also 499 mobile homes located in the City limits with the majority of these units situated in Planning Districts III and IV.


IV
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SAINT THOMAS MORE HOSPITAL
CANON CITY ABBEY
RAMADA INN COMPLEX
COLORADO STATE PENITENTIARY
ARKANSAS RIVER
CENTENNIAL PARK
SEWAGE PLANT
FREMONT COUNTY FAIRGROUNDS
LAKESIDE CEMETERY
GOLF COURSE
BROOKSIDE
MAP H
EXISTING HOUSING CONDITIONS
DETERIORATING
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0 250 500 1000 2000 FEET
NORTH
CANON CITY
COLORADO
PREPARED BY
OBLINGER-SMITH CORPORATION
THE PREPARATION OF THIS MAP WAS PARTIALLY FUNDED THROUGH A GRANT FROM THE DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT, UNDER PROVISIONS OF SECTION 701 OF THE HOUSING ACT OF 1954, AS AMENDED.

TABLE 57
CANON CITY HOUSING CONDITIONS - 1978

Planning District	Type of Housing Unit	Number of all Units by Type	Percent of Housing Type	Sound Units	Percent Sound	Deter. Units	Percent Deter.	Dilap. Units	Percent Dilap.
Planning District I	Single Family[1]	2704	88.5%	2221	82.1%	462	17.1%	21	.8%
	Multi-Family	275	9.0%	210	76.4%	65	23.6%		
	(Sub-Total)	(2979)	(97.5%)	(2431)	(81.6%)	(527)	(17.7%)	(21)	(.7%)
	Mobile Homes	75	2.5%						
	Total Units	(3054)	(100.0%)						
Planning District II	Single Family[1]	66	37.3%	43	65.2%	23	34.8		
	Multi-Family	111	62.7%	66	59.5%	45	40.5%		
	(Sub-Total)	(177)	(100.0%)	(109)	(61.6%)	(68)	(38.4%)		
	Mobile Homes								
	Total Units	(177)	(100.0%)						
Planning District III	Single Family[1]	615	65.2%	519	84.4%	92	15.0%	4	.6%
	Multi-Family	39	4.1%	28	71.8%	11	28.2%		
	(Sub-Total)	(654)	(69.3%)	(547)	(83.7%)	(103)	(15.7%)	(4)	(.6%)
	Mobile Homes	289	30.7%						
	Total Units	(943)	(100.0%)						

TABLE 57 CONTINUED
CANON CITY HOUSING CONDITIONS - 1978

Planning District	Type of Housing Unit	Number of all Units by Type	Percent of Housing Type	Sound Units	Percent Sound	Deter. Units	Percent Deter.	Dilap. Units	Percent Dilap.
Planning District IV	Single Family[1]	77	40.1%	77	100.0%				
	Multi-Family								
	(Sub-Total)	(77)	(40.1%)	(77)	(100.0%)				
	Mobile Homes	115	59.9%						
	Total Units	(192)	(100.0%)						
Planning District V	Single Family[1]	1	5.0%	1	100.0%				
	Multi-Family								
	(Sub-Total)	(1)	(5.0%)	(1)	(100.0%)				
	Mobile Homes	19	95.0%						
	Total Units	(20)	(100.0%)						
Planning District VI	Single Family[1]	1	50.0%	1	100.0%				
	Multi-Family								
	(Sub-Total)	(1)	(50.0%)	(1)	(100.0%)				
	Mobile Homes	1	50.0%						
	Total Units	(2)	(100.0%)						

TABLE 57 CONTINUED
CANON CITY HOUSING CONDITIONS - 1978

Planning District	Type of Housing Unit	Number of all Units by Type	Percent of Housing Type	Sound Units	Percent Sound	Deter. Units	Percent Deter.	Dilap. Units	Percent Dilap.
Canon City Housing Summary	Single Family	3464	78.9%	2862	82.6%	577	16.7%	25	.7%
	Multi-Family[1]	425	9.7%	304	71.5%	121	28.5%		
	(Sub-Total)	(3889)	(88.6%)	(3166)	(81.4%	(698)	(17.9%)	(25)	(.7%)
	Mobile Homes	499	11.4%						
	Total Units	(4388)	(100.0%)						

[1]The multi-family category does not include nursing homes and private school boarding units, although all of these units are sound.

Source: Oblinger-Smith Corporation, Consultants in Planning, Design and Development, 1978.

TABLE 58
HOUSING CONDITIONS IN THE UNINCORPORATED
AREAS THAT SURROUND CANON CITY - 1978

Planning District	Type of Housing Unit	Number of all Units by Type	Percent of Housing Type	Sound Units	Percent Sound	Deter. Units	Percent Deter.	Dilap. Units	Percent Dilap.
Planning District A	Single Family[1]	896	69.1%	733	81.8%	152	17.0%	11	1.2
	Multi-Family	30	1.5%	6	30.0%	14	70.0%		
	(Sub-Total)	(916)	(70.6%)	(739)	(80.7%)	(166)	(18.1%)	(11)	(1.2)
	Mobile Homes	381	29.4%						
	Total Units	(1297)	(100.0%)						
Planning District B	Single Family[1]	11	73.3%	4	36.4%	7	63.6%		
	Multi-Family								
	(Sub-Total)	(11)	(73.3%)	(4)	(36.4%)	(7)	(63.6%)		
	Mobile Homes	4	26.7%						
	Total Units	(15)	(100.0%)						
Planning District C	Single Family[1]	54	85.7%	36	66.7%	11	20.4%	7	12.9%
	Multi-Family								
	(Sub-Total)	(54)	(85.7%)	(36)	(66.7%)	(11)	(20.4%)	(7)	(12.9%)
	Mobile Homes	9	14.3%						
	Total Units	(63)	(100.0%)						

TABLE 58 CONTINUED
HOUSING CONDITIONS IN THE UNINCORPORATED
AREAS THAT SURROUND CANON CITY - 1978

Planning District	Type of Housing Unit	Number of all Units by Type	Percent of Housing Type	Sound Units	Percent Sound	Deter. Units	Percent Deter.	Dilap. Units	Percent Dilap.
Planning District D	Single Family[1]	20	83.3%	12	60.0%	8	40.0%		
	Multi-Family								
	(Sub-Total)	(20)	(83.3%)	(12)	(60.0%)	(8)	(40.0%)		
	Mobile Homes	4	16.7%						
	Total Units	(24)	(100.0%)						
Planning District E	Single Family[1]	153	80.1%	128	83.7%	22	14.4%	3	1.9%
	Multi-Family								
	(Sub-Total)	(153)	(80.1%)	(128)	(83.7%)	(22)	(14.4%)	(3)	(1.9%)
	Mobile Homes	38	19.9%						
	Total Units	(191)	(100.0%)						
Planning District F	Single Family[1]	132	45.7%	121	91.7%	9	6.8%	2	1.5%
	Multi-Family	136	47.0%	136	100.0%				
	(Sub-Total)	(268)	(92.7%)	(257)	(95.9%)	(9)	(3.4%)	(2)	(.7%)
	Mobile Homes	21	7.3%						
	Total Units	(289)	(100.0%)						

TABLE 58 CONTINUED
HOUSING CONDITIONS IN THE UNINCORPORATED
AREAS THAT SURROUND CANON CITY - 1978

Planning District	Type of Housing Unit	Number of all Units by Type	Percent of Housing Type	Sound Units	Percent Sound	Deter. Units	Percent Deter.	Dilap. Units	Percent Dilap.
Planning District G	Single Family[1]	148	46.5%	85	57.4%	50	33.8%	13	8.8%
	Multi-Family	15	4.7%	3	10.0%	12	80.0%		
	(Sub-Total)	(163)	(51.2%)	(88)	(54.0%)	(62)	(38.0%)	(13)	(8.0%)
	Mobile Homes	155	48.8%						
	Total Units	(318)	(100.0%)						
Planning District H	Single Family[1]	15	83.3%	14	93.3%	1	6.7%		
	Multi-Family								
	(Sub-Total)	(15)	(83.3%)	(14)	(93.3%)	(1)	(6.7%)		
	Mobile Homes	3	16.7%						
	Total Units	(18)	(100.0%)						
Housing Condition Summary for the Unincorporated Area	Single Family[1]	1429	64.5%	1133	79.3%	260	18.2%	36	2.5%
	Multi-Family	171	7.7%	145	84.8%	26	15.2%		
	(Sub-Total)	(1600)	(72.2%)	(1278)	(79.9%)	(286)	(17.9%)	(36)	(2.2%)
	Mobile Homes	615	27.8%						
	Total Units	(2215)	(100.0%)						

[1]The multi-family category does not include nursing home and private school boarding units, although all of these units are sound.

Source: Oblinger-Smith Corporation, Consultants in Planning, Design and Development, 1978.

Also in relationship to distribution, Planning Districts I and II contain the highest percentage of single family and multi-family units which are either deteriorating or dilapidated. The Table also reveals that only Planning Districts I, II and III contain multi-family living accommodations and when compared to single family units, deteriorating housing conditions are consistently more prevalent in the multi-family units.

Table 58 shows that in the unincorporated portions of the planning area, sound units accounted for 79.9 percent of the 1,600 single family and multi-family units surveyed. There are also 322 units classified as either deteriorating or dilapidated and the highest occurance of housing blight is in Planning Districts A (Lincoln Park) and G (Park Center). There are also 615 mobile homes in the unincorporated portions of the planning area which represents 27.8 percent of the total housing stock. The largest mobile home concentrations also occurred in Planning Districts A and G.

Table 59 compares the results of the 1978 housing condition survey with 1960 housing condition data for Canon City and East Canon.

TABLE 59
TRENDS IN HOUSING CONDITIONS

	1960				1978	
	Canon City Units	East Canon Units	Total Units	Percent of Units	Canon City Units[1]	Percent of Units
Sound	2644	359	3003	83.5%	3166	81.4%
Deteriorating	422	27	449	12.5%	698	17.9%
Dilapidated	141	2	143	4.0%	25	.7%
TOTALS	3207	388	3595	100.0%	3889	100.0%

[1]The tabulation does not include mobile homes, nursing home units, or other group quarter living arrangements.

Source: State of Colorado, U.S. Bureau of the Census, Detailed Housing Characteristics, 1960 and Oblinger-Smith Corporation, Consultants in Planning, Design and Development, 1978.

Actually, a straight line comparison of housing conditions between 1960 and 1978 is difficult to delineate because of sampling differences. However, regardless of the exact amount of change, the Table does show a declining housing condition trend over the 18 year period. This generally means that new construction and private rehabilitation have not kept pace with the amount of unmaintained units. The Table is somewhat more encouraging when it is realized that a substantial proportion of all dilapidated units were either structurally upgraded or removed from the City's housing stock between 1960 and 1978.

Private Market Conditions

Currently, private initiated construction, home purchases and housing rehabilitation in the planning area are financed locally by one bank and three savings and loan institutions. Prevailing interest rates range between 9 3/4 and 10 1/2 percent depending upon the amount of down payment. Loan originiation fees account for an additional one and one-half percent and typical closing fees range between $200 and $300.

The cost of housing has actually increased considerably over the past eight years since housing loans generally ranged between 7 3/4 and 8 1/4 percent in 1970. Thus, increased interest rates, combined with the increased cost of labor and materials and other inflationary factors, have substantially prohibited certain segments of the population from improving their individual housing conditions.

Trends in private market conditions were also examined by the Upper Arkansas Area Council of Governments in 1976 through interviews with two local realty companies. The results of these interviews are tabulated in Table 60.

TABLE 60
PREVAILING MARKET CONDITIONS

QUESTIONS	RESPONSES	
	Local Realty Co. Number 1	Local Realty Co. Number 2
A. New house price range	$25,000 to $55,000	$21,400 to $40,000
B. New house median price	$35,000	$30,000
C. Used house price range	$7,500 to $40,000	Variable
D. Used house median price	$24,000	Variable
E. Most requested price	$25,000	$25,000
F. Preference in housing	Conventional (mobile home last resort alternative)	Conventional (mobile home as alternative)
G. Financing availability	FHA, VA, conventional (financing more readily available out of town)	FHA, VA, conventional (financing more readily available out of town)
H. Conventional interest rate	9% with 10% down	9% new house 20% down 9% used home 30% down
I. Rental market status	Little is available in the rental market; subsidized rental units needed.	Need rental units; demand exceeds supply.

Source: Upper Arkansas Area Council of Government, 1976.

The Table reiterates the point that additional rental units are needed and new and used homes are not readily available in price ranges affordable to the average resident.

Statement of Problems

Based on the conditions identified above as well as other conditions known to exist in the Canon City planning area, it is believed that the following problems have arisen in the attempt to provide standard housing, both in quality and of adequate size, for many of the citizens in the planning area.

Cost of Housing

The fact that the cost of land, labor and materials and interest rates have risen significantly over the past several years presents a problem to achieving adequate housing because of the low incomes believed to exist in the planning area. Low income families and the elderly cannot afford monthly mortgage payments required for new housing or the cost of rehabilitation associated with existing housing. These problems will not go away by themselves, especially since interest rates and the cost of land, labor, and materials will probably continue to rise.

Housing Market

Insufficient vacant housing presents a problem to citizens desiring to purchase new housing as well as individuals who wish to move to the planning area. The problem is intensified by the fact that available rental property and especially lower priced rental units are also insufficient. Presently, inadequate supplies of reasonably priced single family and multi-family units are encouraging the proliferation of mobile homes.

Size of Housing Units

A relatively large percentage of the housing units in the planning area contain a minimum amount of living space both in terms of the number of rooms and the size of rooms. According to housing standards, only approximately four percent of the housing units in the planning area are believed to be overcrowded. However, additional living space may be desirable in many other units.

Age of Housing

In general, as the housing unit ages, it becomes less liveable as a result of both physical deterioration and technical obsolescense. Renovation of much of the existing housing stock in the planning area is essential since a large percentage of the housing stock is believed to be 40 years old or older.

Condition of Housing

Approximately 20 percent of the housing supply in the planning area requires some form of rehabilitation. Some of these housing units are dilapidated and are not worth extensive rehabilitation.

Non-Discrimination

There does not appear to be any evidence of racial discrimination within the local housing market. While the location and type of housing is a function of income, it does not appear that exclusionary or discretionary practices operate in

the provision of housing. However, with increasing demands for lower-cost housing, Canon City may become the primary site for such housing developments because of the extent and proximity of services and facilities. To discourage an unreasonable concentration of lower-income housing within one particular area, a policy should be worked out between Canon City and Fremont County regarding the dispersal of lower-cost housing throughout the planning area.

Incompatible Land Use Relationships

Some of the housing in Canon City and especially in the unincorporated portion of the planning area is improperly located adjacent to commercial and industrial activities. Such a mixing of land uses on an unplanned basis furthers deterioration by reducing individual incentive for proper housing repair and maintenance. In addition, the mixing of incompatible land uses severely lessens the overall property values of homes.

Statement of Obstacles

Before meaningful solutions can be found for the problems just discussed, the obstacles to these solutions must be identified.

Economic Conditions

Low incomes in the planning area combined with relatively high housing costs hinder rehabilitation and new housing construction which are essential steps for upgrading the existing housing supply. In the short run, one or several Federal and/or State subsidized housing programs for the elderly and low-income families could partially alleviate the shortage of standard housing. However, over the long run, it is believed that the ultimate solution is to increase the economic opportunities throughout the planning area and thereby increase the annual income of the area's citizens.

Individual Incentive

For a variety of reasons, many families do not place a high priority on maintenance of their housing. Unless the desire for better housing is instilled in each individual family, superior housing will not be achieved. Many individuals can be encouraged to maintain their housing through efforts of public officials and interested citizen groups. This effort may take the form of a clean-up/fix-up campaign.

Code Enforcement

Canon City has not adopted modern housing and construction codes, and no building codes are administered in the unincorporated portions of Fremont County. This mechanism for achieving standard housing is desperately needed in the unincorporated portion of the planning area and will be only effective if the codes are strictly enforced. It is recognized that strict enforcement may create financial hardships to some individuals, and it is therefore recommended that all available non-local assistance be utilized in alleviating this short-term financial hardship.

Inadequate Land Development Codes

The existing zoning ordinance and subdivision regulations utilized by Canon City are outdated and do not provide for the flexibility required to achieve modern development techniques. The land use related problem is also compounded by the fact that the County does not maintain comprehensive zoning regulations with only small parcels of land currently being designated into zones. The County's existing practice is commonly referred to as spot zoning. Thus, the existing land development codes in Canon City and especially within the unincorporated portions of the planning area are inadequate. The most practical solution to this deficiency is for the City and County to work in close conjunction with one another in order that a coordinated series of regulatory tools can be mutually agreed upon, adopted and most importantly enforced.

Statement of Planning Activities

In recognition of existing housing problems and the possible impact of future development, on-going housing programs in the planning area need to be continued and new plans and programs desperately need to be formulated. Over the past several years, the Community Services Administration's winterization and handyman services represented the only publically assisted housing programs in the planning area. The programs are administered by the Upper Arkansas Area Council of Governments. The winterization program allows low-income individuals and families, including the elderly, to lessen the impact of the high cost of energy by making necessary home improvements that will help reduce energy consumption. The program enables lower income families to have their homes winterized (attic insulated, windows caulked, and doors weatherstripped) at no charge. Presently 170 homes have been winterized in the planning area at an average cost of $400 per home. The handyman service also represents a popular program since it enables lower income senior citizens to acquire assistance with heavy household repairs in order that they can continue to live in their own homes. The handyman program supplies labor at no charge to approved applicants, but each applicant must supply the repair materials.

An existing housing project is the conversion of the old St. Thomas More Hospital into 60 rental housing units for the elderly and handicapped. The project is being funded through the Federal Department of Housing and Urban Development's (HUD) Housing Assistance Program for Lower Income Families (Section 8) and the Colorado Housing Finance Authority is responsible for the program's administration. These payments are used to make up the difference between the maximum rent paid to the sponsor for a dwelling unit and an occupant's required contribution toward the rent.

The sponsor of the hospital project is a profit motivated contractor based in Denver and remodeling is expected to begin in the spring of 1979. The contractor intends to employ local residents and sub-contractors as much as possible and a total of 200 people will be employed throughout the duration of the project. The project is expected to be ready for occupancy in the fall of 1979. When completed the project will accommodate somewhere between 80 and 100 elderly and/or handicapped persons.

This particular project will not house non-elderly lower income families and individuals since the funding for such a project is currently not available. However, the project sponsor revealed that a marketing study has been completed indicating that there is definitely a strong demand for non-elderly housing in the planning area. The sponsor is also interested in constructing a non-elderly lower income housing project in the planning area within the next few years, based upon the contingency that the necessary Federal funding would be available. Thus, it is strongly recommended that public officials in the planning area should establish close correspondence with the current sponsor and the Colorado Housing Finance Authority. In this manner, a profit motivated company could substantially be of assistance in meeting the housing demands of lower income families.

Another potential private-sector initiated housing program pertains to the issuance of a tax exempt Industrial Revenue Bond by an interested national insurance company. If the Bond is approved by the Fremont County Commissioners, approximately five million dollars of mortgage funds will be available to eligible families and/or individuals at below the prevailing interest rates. Essentially, families and/or individuals that earn less than $20,000 a year can qualify. However, the interest rate will only be approximately 1½ percent below the prevailing market rate indicating that the program will mainly apply to moderate income groups. This type of program will undoubtedly create a filtering effect since participating families will purchase new and/or existing houses and in return this will encourage existing and/or other potential home owners to upgrade their housing condition. Overall, the program is expected to create the need for 100 to 150 new housing units over a one to one and one-half year period.

Canon City has recently submitted a preapplication to the Department of Housing and Urban Development in an effort to receive a Small Cities Community Development Block Grant. If the City is eventually approved, under the Comprehensive portion of the program approximately $1.5 million in Federal funds would be appropriated to the municipality. These funds would be utilized for housing rehabilitation projects and public facility improvements in two presently identified locations in Canon City.

The primary identified assistance area (Segment A) is located between the Arkansas River and Highland Avenue and between Colburn and 2nd Street in the southwestern corner of Planning District I. The other area (Segment B) is generally located in the northwestern corner of the Central Business District (Planning District II) and encompasses the four blocks between Greenwood and Macon and from 1st Street to 5th Street. The occurrance of substandard housing units is prevalent within these two areas and the general identification process was based on the fact that Planning Districts I and II contain the highest percentage of the housing supply in the City limits that is either deteriorating or dilapidated. If the program is implemented, individuals and families in both segments will be eligible for low interest housing rehabilitation loans. In addition, the City would utilize a portion of the grant to install road, water and drainage improvements in Segment A while the public improvements in Segment B would focus on water line replacements.

Future Housing and Planning Activities

The planning area's need for additional housing programs to achieve high quality housing in the future for all residents is established by the background information contained in this housing element. All current and future residents in the planning area should be interested in upgrading existing substandard housing units in order that a safe and attractive living environment is provided. In addition, planning activites should be continued to insure that low and moderate-income families and the elderly are provided with an opportunity to improve their existing housing situations.

Currently, it is difficult to assess the exact number of households in the planning area that are eligible for housing assistance, although a generalized indicator is provided by a housing report entitled, "Colorado Household's Needing and Qualifying for Housing Assistance" prepared jointly by the Colorado Division of Housing and the Colorado Housing Finance Authority in March of 1978. This report estimates that in 1977 there were 1,570 lower income households and 390 moderate income households in Fremont County that were eligible for housing assistance. Thus, assuming that 65 percent of these eligible households are located in the planning area, it is estimated that approximately 1,300 households are currently eligible for some form of housing assistance. It is also estimated that nearly two-thirds of the eligible participants are members of elderly households.

The March, 1978 report also developed household eligibility projections for the year 1982. The projections reveal that eligibility for housing assistance will increase by approximately 8 percent between 1977 and 1982. Therefore, citizens in the planning area can anticipate a continuation of housing related problems in the near future, unless some additional housing projects and programs are implemented.

It is suggested that the following planning activities and housing programs be investigated and initiated where possible over the next several years. It should be recognized that these activites will possibly need to be modified each year based upon the review of housing goals, objectives and policies, the success of the previous year's programs, and the availability of programs.

First Year

- Adopt the Comprehensive Plan including the housing goals, objectives and policies.
- Continue participation in the existing housing programs previously mentioned and to expand the programs where possible.
- To undertake a locally initiated program that would continue to encourage the removal of all dilapidated housing units since these structures represent eyesores to community appearance and are fire and health hazards.
- Initiate an annual clean-up/fix-up program.
- A detailed building inspection program of substandard units should be initiated at the local level. This inspection should provide for identification of specific deficiencies, an estimate of improvement costs and aid in obtaining public financial assistance for housing improvements as required.
- Continue to encourage the private sector of the economy to become engaged in the provision of low-income and elderly housing.
- Examine the feasibility of adopting a housing code.

- To upgrade and revise Canon City's land development codes (including the zoning ordinance and subdivision regulations).
- Examine the feasibility of Fremont County adopting and implementing zoning regulations and a building code similar to Canon City's regulations.
- To develop a locally adopted six-year public improvement program.

Second Year

- Review the previous year's programs and revise them as necessary.
- Review the housing goals, objectives and policies and update them as necessary.
- Submit the appropriate applications for non-local assistance for low income and elderly housing and for rehabilitation of substandard units where a local match is not requried, and if approved, begin improvements.
- When grant or loan programs are approved, their availability should be publicized and personal contact made with potential recipients.
- Where needed, grant programs related to housing, such as water and sewer grants, should be investigated and applications should be submitted.
- Support the continuation and expansion of the existing housing programs.
- Sponsor the annual clean-up/fix-up program.
- Remove additional dilapidated structures.
- Review all developmental proposals to insure that all local regulations are met.
- Follow the recommended codes, making any necessary revisions.
- Detailed building inspections of substandard units should be continued.
- Continue to encourage the private sector of the economy to become involved in the provision of low cost housing.

Third through Fifth Years

- Review the previous year's programs and revise them as necessary.
- Review the housing goals, objectives and policies and update them if necessary.
- Follow the recommendations of the capital improvement program where possible.
- Continue removing dilapidated structures.
- Continuation of the annual clean-up/fix-up program.
- Continuation of application and promotion of non-local assistance programs.
- Detailed building inspections of substandard units should be continued.
- In 1982 or 1983, the Comprehensive Plan including this housing elements should be updated.

Housing Programs

Various housing programs are available from both Federal and State agencies. The Department of Housing and Urban Development and the Farmers Home Administration are major federal resources for housing programs while the Colorado Housing Finance Authority and the Colorado Division of Housing are major State-level resources. Listed below are the titles of the various housing programs available:

Title	Administering Organization
Housing Demonstration Grants and Technical Assistance Program	Colorado Division of Housing of the Department of Local Affairs

Loans-to-Lenders Program	Colorado Housing Finance Authority
Section 515 Rural Rental Housing Program	Farmers Home Administration of the U.S. Department of Agriculture
Section 502 Rural Housing Loan Program	Farmers Home Administration
Rental Assistance Program	Farmers Home Administration
Section 8 - Housing Assistance Payments Program - Existing Housing	U.S. Department of Housing and Urban Development
Section 8 - Housing Assistance Payments Program - New Construction and Substantial Rehabilitation	U.S. Department of Housing and Urban Development
Low-Rent Public Housing Program	U.S. Department of Housing and Urban Development

XI PUBLIC FACILITIES AND SERVICES

Introduction

One of the primary purposes of the Comprehensive Plan is to help assure that essential public facilities and services are provided for the citizens throughout the planning area. This concern includes an investigation and analysis of park and recreation facilities, police and fire protection, education and health facilities, public utilities and municipal buildings. Recommendations concerning these facilities are based on existing conditions and needs and future population and land use projections.

Many of Canon City's existing public facilities and services are generally inadequate or they will reach their functional capacity in the near future. There are also highly developed areas within and especially outside the City limits that are currently not served with a full range of public facilities and services (storm drainage facilities, central water and sewer systems, parks, adequate fire response times, paved roads and curbs and gutters, etc.). This is not to imply that all residents outside of the City limits desire or are willing to fund these types of urban oriented services, but it does indicate that when these infrastructure elements become necessary and desired, they will be costly to provide since scattered and unplanned development has already occurred. The assortment of existing facility deficiencies and inadequate service areas will be compounded since new residents and businesses are anticipated to place greater demands on the City, County and special districts. This existing condition has evolved slowly over the past several decades due to a fragmented governmental and service structure, inadequate planning and coordination, limited local revenue sources and the general failure to systematically and gradually implement capital improvement projects.

Many local governmental officials and citizens throughout the planning area are beginning to realize that the overall level of public facilities and services are nearing a critical stage and something has to be done especially since additional growth is impending. As a first step, local governmental bodies in the planning area are strongly encouraged to follow the recommendations in this chapter which are intended to help upgrade and expand the existing public facilities and services. However, it must be remembered that the following analysis is general in nature and further detailed investigations will be necessary prior to the initiation of certain improvement projects.

To also help ensure that future improvements are pursued on a priority basis and are realistic in light of prevailing public financial conditions, a six year capital improvement program for Canon City has been prepared. Based on existing conditions and anticipated needs, the improvement of public facilities and services will be undertaken on a gradual basis and in some instances financial assistance will be required from Federal and State agencies. Above all else, before many of these improvements can be installed, the City and County need to begin informing the public-at-large about the actual severity and scope of the needs in order that additional taxation and bond issues will have a better chance of being accepted.

Parks and Recreation

Many people from many different places use the park and recreation facilities located in the Canon City area. Both residents and non-local people take advantage of the picnic areas, recreation facilities and quiet beauty of the parks. However, over the last decade increasing numbers of local and non-local users have created demands for park and recreation areas that oftentimes exceed the capacity of the existing facilities.

A number of factors have contributed to this increased demand for park space and recreation facilities:

- The growth in the local population has meant that, numerically, there are more people living in the area with a potential demand for park and recreation facilities;
- Tourist and other types of non-local traffic have been increasing over the past decade which has generally added to the already high seasonal demand for park facilities; and
- With rising incomes, shorter work weeks and more two-parent working households, recreational and athletic activities have become an important part of many peoples' lifestyle.

Park and recreation areas have thus come to serve a wider range of community passive and active recreational needs. But parks are important in other ways as well. The design and landscaping of most of urban parks act as a counterpoint or buffer to the typical patterns and intensities of the human, built environment. In other cases, parks and open space protect fragile or sensitive environmental habitats, such as along river bottom lands, marshes, or desert areas. And particularly for a community such as Canon City, park and open space areas can protect the vistas and beauty of the surrounding hillsides and mountains.

Existing Parks and Recreation Facilities

As with most larger urban communities, park and recreation facilities in the Canon City Planning Area are provided through the auspices of both the public and private sector. The largest proportion of park and recreation facilities are provided through three public agencies - the Canon City Parks and Forestry Department, the Canon City School District and the Metropolitan Recreation and Park District.

Canon City owns and maintains two distinct types of park areas. The first, the mountain parks, are extensive, primitive parks covered by juniper and pinon. The three parks in this category - Royal Gorge, Red Canon, and Temple Canyon - are located outside the municipal limits and have picnic shelters and restroom facilities. Table 61 summarizes the location, size, and facilities available at each of the mountain parks. Of the three, Royal Gorge is probably the best known of the parks. The spectacular natural beauty of the Gorge combined with the world's highest suspension bridge and steepest inclined railway make Royal Gorge Park a major tourist attraction.

The other major type of park area provided through the municipal Parks and Forestry Department is the urban park. These vary in size and function, with some parks serving as small vest-pocket parks to larger neighborhood parks like Centennial Park containing extensive active and passive recreation areas. At present, Canon City has about 20.5 acres of irrigated turf parks located primarily in the older sections of the City. Table 61 summarizes the general location, size and existing facilities at each of the City parks.

The Metropolitan Recreation and Park District (MRPD) is a special district with limited independent taxing powers. As a special district, the MRPD has no formal organizational ties with the City Department of Parks and Forestry, although both agencies share some common purposes and goals. The mandate of the MRPD is to serve the park and recreational needs of all citizens living within its boundaries which extend well beyond the municipal limits of Canon City. The MRPD is governed by a board of directors who set policy with technical and administrative support provided through the District's Executive Director and staff.

The MRPD is responsible at present for two major facilities. First, the District owns and operates a large neighborhood-type park in the southern section of the Canon City area called Rouse Park. Designed as a multiple purpose recreation area, Rouse Park has lighted ball diamonds, a playground, and a site for tennis courts proposed for construction in the future (refer to Table 62). The other major facility under the management of the District is the outdoor swimming pool located near Canon High School.

Aside from managing and developing park areas, the MRPD is also responsible for organizing recreation programs. Because the District has little facility space of its own, most of the programs are held in various public buildings throughout the Canon City area, thus requiring careful scheduling and coordination with other governmental agencies. The range of programs available through the District is wide, extending from arts and crafts to different types of organized athletic activities. The programs are also designed to provide all age-groups with as an extensive choice of recreational activities as possible.

The other major public agency providing park and recreational facilities is the Canon City School District RE-1. As part of each of the school sites, open space has been provided to accommodate the many physical education and outdoor activities of the students. Playgrounds and land based field recreation areas for football, baseball, soccer and track are the principal activities served by the school district's four elementary schools and two secondary schools.

The major private sector recreational facility in the Canon City area is the Shadow Hills Golf Club. The Club has a nine-hole golf course in addition to a swimming pool and club house.

Problems and Potentials

As with the other community facilities and services in Canon City, park and recreation areas have begun to experience the pressures and added demands brought about by population growth. And with significant growth anticipated in the future, the demand for park space and recreational facilities is unlikely to diminish.

TABLE 61
CANON CITY PARKS
OWNED AND OPERATED BY THE CITY OF CANON CITY

Name	General Location	Size	Equipment
MOUNTAIN PARKS			
Red Canon Park	15 miles north of Canon City	600 acres	picnic tables, shelters, grills, restrooms
Royal Gorge Park	10 miles west of Canon City	5,120 acres	picnic tables, shelters, grills, and restrooms
Temple Canyon Park	southwest of Canon City	640 acres	picnic tables, shelters, grills & restrooms
CITY PARKS			
Rudd Park	12th St. & College Avenue	3.7 acres	public swimming pool across the street, assorted playground equipment, restrooms, tennis courts and picnicking facilities
Centennial Park	4th St. & Griffin Avenue	8.0 acres	shelters, picnic tables, grills, playground equipment, tennis courts, and an all-purpose court
Veterans Park	2nd St. & River St.	4.7 acres	playground equipment, restrooms & picnic facilities
Margarette Park	5th St. & Whipple Avenue	1.9 acres	picnic facilities
Magdalene Park	5th St. & Hazel Ave.	.74 acres	limited picnic facilities
Greydene Park	8th St. & Hazel Ave.	.46 acres	limited picnic facilities
Depot Park	9th St. & Royal Gorge Avenue	.83 acres	limited picnic facilities
TOTAL		20.5 acres	

Source: Canon City Parks and Forestry Department Inventory Records and Oblinger-Smith Corporation, Consultants in Planning, Design and Development, 1978.

TABLE 62
PARK AND RECREATION AREAS
METROPOLITAN RECREATION AND PARK DISTRICT

Name	General Location	Size	Equipment
Rouse Park	Park Avenue & Linden Avenue	16 acres	lighted ball diamonds, playground, & tennis courts (proposed)
TOTAL		16 acres	

Source: Canon City Metropolitan Recreation and Park District, and Oblinger-Smith Corporation, Consultants in Planning, Design and Development, 1978.

Before about 1970, Canon City's growth was fairly gradual, allowing for most community facilities to keep pace or accommodate the new level of service demand brought about by development. But since 1970, the pace of residential and commercial development, in addition to territorial annexations, has been speeding up, with the consequence that many public facilities have not been developed to serve the new residents. This has been especially the case with park and recreational areas. In many of the newer residential areas at the fringe of Canon City, there are no parks within easy walking or traveling distance.

Most of the parks which presently serve area residents are located in the older core of Canon City, creating an imbalance in the distribution of park space. If Canon City develops in the same general pattern as other urban centers, with older people, childless couples, and young people living near the CBD and young families living in the newer suburban areas, then a continued imbalance of park development will deprive some of the most active park users of needed and accessible space. The existing imbalance of park locations also tends to increase traffic congestion as people have to drive longer distances to use the available facilities. The locations of city parks are indicated on Map I.

In some cases already, the lack of designated recreation areas has lead to the spontaneous use of land areas for recreational activities. This is particularly evident at the foot of the hogback near Skyline Drive where dirt-bikes have created a network of trails for riding. As with any type of land use, a potential recreational site needs to be studied carefully to determine whether the proposed activity is suitable given the nature of existing nearby development and the capability of the site environment to absorb the impacts associated with the land use activity. Major issues at the dirt-bike trails are rider safety, the prolonged effects of biking on the stability of the soils and hills (erosion control) and the possible nuisance effects of noise and dust on nearby residences.

Based on the information contained in Tables 61 and 62, public park space in the Canon City Planning Area totals about 36.5 acres, not

including facilities available through the private sector, the school district, and the Canon City mountain parks. As a way of estimating the adequacy of the existing amount of park space as well to estimate future space requirements for parks and recreational facilities, planning standards are used which relate the number of acres needed to serve a given level of population. For most park planning purposes, the standard of 5 acres per 1,000 people provides a workable basis for evaluation.

In the chapter on population, it was estimated that the current population for the Canon City Planning Area was 20,204 people. And by the year 2000, using the medium projection, it was estimated that the population of the planning area would increase to about 37,593 people. Table 63 summarizes the amount of park space needed to serve these two levels of population, using the standard of 5 acres per 1,000 people. As can be seen from the table, the planning area presently needs about 100 acres of park space to serve the local, permanent population. However, the existing acreage of park space amounts to 36.5 which means that the area lacks about 65 acres of needed park space. By the year 2000, it is estimated that the planning area will need about 188 acres of park land to serve the community.

TABLE 63
PARK SPACE NEEDS: EXISTING AND FUTURE
CANON CITY PLANNING AREA

Year	Population Estimate	Existing Park Space	Estimated Park Space Needed to Serve Population[1]	Comments
1978	20,204	36.5 acres	101.0 acres	Planning area needs approx. 65 additional acres to serve present population.
2000	37,593		188.0 acres	

[1]Based on the standard of 5 acres per 1,000 people.

Source: Oblinger-Smith Corporation, Consultants in Planning, Design and Development, 1978.

It should be stressed that the 101 acres of needed park are for the entire planning area. Within the corporate limits of Canon City, approximately 69.4 acres of park space are needed to serve the existing population. Subtracting the existing park space of 20.5 acres yields approximately 49 acres that should be added to the City's park system to meet present demands. The needed acreage figures, both present and future, could also be reduced to account for the City's mountain parks. However, it should be stressed that the park space estimates

EXISTING COMMUNITY FACILITIES

- SCHOOLS
- PUBLIC AND SEMI-PUBLIC BUILDINGS
- PARK AND RECREATION AREAS
- PENITENTIARY FACILITIES

MAP I

PREPARED BY
OBLINGER-SMITH CORPORATION

are for developed park areas containing facilities such as tennis courts, playgrounds, playfields, and other facilities not provided in the mountain parks. Therefore, the acreage figures contained in Table 63 could be reduced somewhat to reflect the recreational demand being met by the mountain parks.

Recommendations

It is evident that Canon City will be faced with very significant public expenditures over the next 10 to 15 years to upgrade basic municipal services. Water, sewer, drainage, and public safety services (police and fire) will require major capital investments during the course of the planning period. In view of the necessity for these capital improvements, it is unlikely that much local money will be available to finance new park and recreation facility construction. The recommendations which follow are based on the assumption that local park and recreation monies will be very limited for most of the planning period.

General Recommendations

- It is recommended that public and recreation park planning become a more coordinated activity involving the major agencies of the City of Canon City, the Canon City School District and the Metropolitan Recreation and Park District. Because of the prospects of limited local financing, shared facilities and resources will become more important in the years ahead.

- It is recommended that future park and recreation facility planning be coordinated with the funding priorities of those federal and state agencies able to provide general financial support to local communities such as the State Division of Parks and Outdoor Recreation, and the U.S. Heritage Conservation and Recreation Service (formerly the Bureau of Outdoor Recreation). It is also recommended that specialized recreation facilities be planned in conjunction with available federal programs, particularly for older citizens in the community.

Specific Recommendations

- It is recommended that as new schools are planned or major additions to existing facilities are planned that the overall facility plans be designed to provide for the multiple use of playgrounds, ball fields and various indoor areas such as gymnasiums. Coordination and shared facilities will help to reduce the overall costs of park and recreation facility development.

- It is recommended that Canon City in cooperation with the Metropolitan Recreation and Park District, study carefully the feasibility of developing a network of hike-bike trails along the Arkansas River and its tributary drainageways. The drainage pattern of these watercourses has the potential to serve as the backbone of a system of parks, open spaces and trails. Economically, hike-bike trails are a low cost solution to recreation space needs. The existing native vegetation along the water courses would also help lower development costs.

- It is recommended that the Canon City subdivision regulations be revised to require more detailed and explicit guidelines applying to the reservation of land within a subdivision for parks and playgrounds. Included in these more detailed guidelines for parks and playground areas should be a discussion of general site requirements, minimum site sizes for various types of parks and location and access requirements. It is further recommended that when money is paid in lieu of reserving land for recreational purposes that this money be placed in a special fund earmarked specifically for park and recreation development.

- It is recommended that Canon City and the Metropolitan Recreation and Park District acquire, whenever feasible, undeveloped land in anticipation of future development. Staging of investments will help to reduce the overall costs of acquiring sites for parks and recreation facilities.

- Areas in need of park development are the East Canon area, Park Center and Lincoln Park.

Education and Health Facilities and Services

Even though the provision of educational and health facilities is not the responsibility of the governments of Canon City and Fremont County, this part of the Plan will examine the assets, problems and needs that are associated with these vital and costly service functions. An analysis of education and health facilities is important since all levels of government and the private sector need to cooperate with one another in order that productive and coordinated planning and implementation programs will evolve.

Educational Facilities

Residents in the planning area and the surrounding rural population are served by Fremont School District RE-1. The School District maintains senior and junior high schools and four elementary schools. The High School, Junior High and Washington Elementary are located in the central portion of Canon City while Lincoln Elementary is located along 4th Street in the southern portion of the municipality. Harrison Elementary is located in the East Canon area while McKinley Elementary is situated in Lincoln Park which represents the only school outside of the City limits (refer to Map I for the precise location of these educational facilities).

All of the schools, excluding the Junior High, are ideally located with single family homes representing the dominant surrounding land use patterns. The Junior and Senior High Schools and Washington Elementary are also located in close proximity to Rudd Park and the Recreation District's swimming pool complex which represents an excellent amenity, according to both recreation and education planning criteria. The Junior High's major land use oriented deficiency pertains to its location near the Central Business District with Main Street accommodating rather large volumes of traffic.

Table 64 provides a summary of the existing school facilities, including the respective grades served, the years the schools were constructed, the number of classrooms, current enrollment figures, pupil capacities and the general adequacy of the facilities.

As shown in the table, all of the schools are approaching or have surpassed their respective pupil capacities. The most critical overcrowded conditions occur at Harrison Elementary where the pupil capacity has been surpassed and temporary classroom facilities are presently being used. The educational facilities at the High School, Junior High and Lincoln Elementary are also rated as being in fair condition. The High School needs a 550 seat auditorium, additional classrooms, a mechanics shop, library and auxiliary gymnasium. Major remodeling is needed at the Junior High due to the age of the building while the major problems at Lincoln Elementary center on the lack of adequate classroom and auxiliary space. In addition to these expansion and/or remodeling needs, all of the schools need various mechanical, heating and electrical improvements that will help foster energy conservation. As illustrated in the table, McKinley and Washington Schools are in relatively good condition with additional storage space and special education areas representing the only existing needs.

TABLE 64
SUMMARY OF SCHOOLS IN DISTRICT RE-1

School Name	Grades Served	Year Constructed	Number of Classrooms	Present Enrollment	Pupil Capacity	General Adequacy
High School	10-12	1961	41	903	950	Fair
Junior High	7-9	1925[1]	45	859	950	Fair
Harrison	K-6	1912[1]	22	530	525	Fair
Lincoln	K-6	1951	16	339	350	Fair
McKinley	K-6	1951[1]	17	406	475	Good
Washington	K-6	1951[1]	23	503	575	Good
TOTAL			164	3,540	3,825	

[1]The latest additions and modifications to these schools occurred in 1969.

Source: School District Superintendent and Oblinger-Smith Corporation, Consultants in Planning, Design and Development, 1978.

The School District has attempted to make the necessary capital improvements at the High School, Junior High and at Harrison and Lincoln Elementaries, although the needed bond issue was defeated in 1977. Regardless of the result of the bond issue, an assortment of capital improvements are currently needed and as the planning area continues to grow, the associated problems will be gradually compounded.

In order to further document these facility needs, school enrollment trends and projections from 1972 to 2000 are illustrated in Table 65.

When comparing the years 1972 and 1978, it is revealed that 286 additional students are attending the public school system, although annual fluctuations are also common occurrences. In terms of anticipated future enrollments, low and high projections have been prepared. The low series assumes a very modest population increase throughout the School District while the high series closely corresponds to the population projections that have been utilized throughout the Comprehensive Plan. More important than the differences between these two projections, both series predict student population growth over the next 20 years. In return, it presently appears that the existing school facilities will reach their maximum pupil capacity somewhere between 1985 and 1995. As a result of existing conditions and anticipated growth, the School District will be required to implement a series of capital improvements that will expand and renovate the existing facilities.

TABLE 65
SCHOOL ENROLLMENT TRENDS
AND PROJECTIONS

Year	District - Total	High	Junior	Elementary
1972	3,254	707	808	1,739
1974	3,501	762	909	1,830
1976	3,577	826	946	1,805
1978	3,540	903	859	1,778

	Low	- High
1980	3,464	3,750
1985	3,477	4,102
1990	3,610	4,615
1995	3,802	5,026
2000	4,020	5,638

Source: School District Office and Oblinger-Smith Corporation, Consultants in Planning, Design and Development, 1978.

The following table illustrates the existing capital improvement priorities as designated by the respective schools.

TABLE 66
CAPITAL IMPROVEMENT PRIORITIES

A. Canon City High School

1. Auditorium
2. Vocational Auto Mechanics Complex
3. Additional Classroom Space
4. Auxiliary Gymnasium

B. Canon City Junior High School

1. Fine Arts Area
2. Remodel Vocational Building
3. Miscellaneous Remodelling

TABLE 66 (Continued)

C. Harrison Elementary School
   1. Replace Temporary Classrooms
   2. Addition of Two Classrooms
   3. Enlargement of Resource Center
   4. Special Education Area

D. Lincoln Elementary School

   1. One Additional Classroom and Music Facilities
   2. Special Education Area
   3. Additional Resource Center
   4. Custodial Storage
   5. Restroom
   6. Energy Conservation Measures

E. McKinley Elementary School

   1. Storage Space
   2. Special Education Facility

F. Washington Elementary School

   1. Special Education Area
   2. Storage Space

Source: School District RE-1, Facility Study, March 9, 1978 and Oblinger-Smith Corporation, Consultants in Planning, Design and Development, 1978.

In addition to actively pursuing the above delineated improvements, another elementary school may need to be constructed as the planning area grows. The School District presently maintains adequate parcels of vacant land in or near the Skyline, Orchard Park and Four Mile planning districts for this purpose. (Refer to the Future Facilities Map (Map J) for the precise locations of these properties.)

In addition to the six public schools, there are also five privately owned church schools and three pre-schools in the planning area. These private schools include Canon City Abbey, Saint Scholastica Academy, Canon City Christian School, St. Michaels and the Seventh Day Adventist School. Presently, the enrollment at these schools is approximately 600. The majority of the 300 students at the Abbey and Saint Scholastica come from areas all over the United States and from several foreign countries.

Residents in the planning area and throughout Fremont County are also fortunate to have post-secondary education and vocational classes offered by the Fremont Education Center and the College of the Canons. The Fremont Education Center is an extension of the University of Southern

Colorado in Pueblo and provides two-year accredited college curriculums. Most classes are held in the evenings and on weekends at the Canon City Junior High School. The College of the Canons is a non-profit organization that participates in the outreach program of the University of Southern Colorado. The College is located in the Canon City industrial park where some old Western Forge industrial buildings are used for administration and classroom purposes. This facility provides post high school courses in the sciences and vocational fields.

Adult education classes are provided by the School District during the evenings at the High School. These interest and vocational classes are extremely popular with approximately 400 participants attending the fall and spring sessions. The Canon City Metropolitan Recreation and Park District also provides interest classes at the South Canon City Hall.

Health Facilities

As with many other aspects of American life, the costs of health care have been increasing dramatically over the last decade. Rapid advances in medical technology, new areas of specialized knowledge and a growing awareness of the health-related impacts of a highly industrialized society together with inflation have placed tremendous pressures on existing health care facilities.

In order to more effectively manage the provision of health care services and at the same time attempt to reduce the overall cost of health care, region-wide health planning agencies have been slowly evolving. Health care facilities in Canon City are within the purview of two such agencies, the Colorado Department of Health and the Southeastern Colorado Health Systems Agency.

In years past, many of the issues with which these two agencies are involved currently might have been the responsibility of local government. But the technical nature of many health planning issues now requires a corresponding level of expertise to adequately examine the interrelationships between facilities, technological advances, patterns of medical care and organizational changes in the health care field. As a result, municipalities such as Canon City have assumed a limited and advisory role in health care planning.

Nonetheless, there are important issues related to health care planning that should directly involve the municipal government of Canon City. These are primarily land use issues. Like other major types of capital construction, hospitals and related medical facilities can exert a significant influence on the kinds of activity that take place in and around the facility. And because health care facilities are generally long-lived, they also have long-term influences on adjoining land uses.

But before addressing in more detail the land use implications of health care facilities, the section which follows will briefly describe the existing health care facilities in Canon City and any anticipated space or facility requirements needed to accommodate future population growth in the planning area.

In the chapter describing the local economy, it was pointed out that Canon City's role within the regional economy has been slowly changing since

the late 1960's. At one time small and fairly self-contained, the economy of Canon City has been gradually growing - in terms of the number and types of businesses operating in the area and in the increasing scale of its market influence in the region.

In much the same way, Canon City's role as a health care delivery center has also been expanding. This change is due in part to the City's growth both as a retirement community and as an emerging regional market center. The demand for specialized health care facilities and services for retirement-aged people has been paralleled by the demand for medical care services to serve a growing population. And from the point of view of providing the most economical services, the clustering of facilities and services in the Canon City area has provided the opportunity for some sharing of resources and facilities, thereby avoiding costly duplication of facilities and equipment.

The major medical facility in the Canon City planning area is the St. Thomas More Hospital and Progressive Care Center located northeast of the Central Business District near the intersection of Yale Place and Phay Avenue. In 1967 St. Thomas More Hospital employed 105 people, 8 of whom were active medical staff. During that same year, 1,839 patients were admitted to the hospital, while 3,148 emergency visits and 4,426 outpatient visits were recorded.

By 1977, the numbers recorded for these same areas had increased dramatically, mirroring the development of St. Thomas More as a major health care facility. In 1977, active medical staff had grown to 24, and the total number of employees had increased almost threefold to 302 people. The most significant increase took place in the number of visits recorded for outpatient services - 28,432. Hospital admissions increased as well to 2,854 and the number of emergency visits totaled 8,971. The changing scale and scope of medical and health care services is reflected also in the number of beds available which grew from 58 in 1967 to 180 in 1977.

The original structure of St. Thomas More Hospital was built in 1968 and a major addition was completed in 1974. The Hospital holds title to a significant amount of vacant property lying to the east of the present building. This property, which extends to 15th Street, was donated to St. Thomas More by the International Order of the Odd Fellows in 1967. In addition to a large site suitable for future expansion, the original hospital structure was designed to accommodate possible future vertical expansion of 2 stories.

At present St. Thomas More provides two distinct types of health care services. First, the facility provides primary acute care and secondary level care through the hospital unit containing 60 beds. In 1978 the hospital recorded a 94 percent occupancy rate. The other major portion of St. Thomas More is the Progressive Care Center, comprised of 15 rehabilitation beds and 105 skilled nursing beds for senior citizens. The occupancy rate for the Progressive Care Center was over 95 percent in 1978.

As the major health care facility in the Canon City planning area, St. Thomas More will undoubtedly need to expand in years to come to assure a wide range of quality health care services. Although any major expansion will be subject to review by the Southeastern Colorado Health Systems Agency, the City should maintain a good working relationship with the administrative staff of St. Thomas More in order to develop

expansion strategies that balance the interests of the surrounding community with the special interests of the institution. It would appear that based on conversations with the administrative staff of St. Thomas More future expansion will be both vertical and horizontal - vertical to provide more acute care space and horizontal expansion to provide more outpatient and administrative space. The Southeastern Health Systems Agency's Master Plan for region-wide health care planning has designated St. Thomas More as a major rehabilitation center. As a result,during the next 20 years, St. Thomas More will be gradually phasing out the existing 105 skilled nursing beds and converting them to rehabilitation beds to meet the changing service demands.

Because of Canon City's growth as a retirement community numerous health care facilities have been developed to serve older people in the community. Longer-care nursing homes are one of the most obvious. In addition to the Veterans Administration facility outside of Florence, there are 8 other nursing homes in Fremont County, and 5 within the municipal limits of Canon City. In Canon City, there are a total of 460 beds, with 105 of those located in the Progressive Care Center of St. Thomas More.

Although subject to state and federal licensing regulations and facility review, nursing homes are basically a private sector activity subject to the market pressures of supply, demand and changing consumer preferences and attitudes. With Canon City's continued growth as a major front range retirement community, the demand for nursing homes and related ancillary facilities will continue to increase during the planning period.

In addition to the medical facilities provided by the hospital, there are 7 doctor's offices in Canon City. The City is served by a private twenty-four hour ambulance service as well as the emergency rescue services of the Canon City Fire Department. Licensed air ambulance service is also available through the Fremont County Airport.

The emergence of Canon City as both a major retirement community and a region-wide health care delivery center raises some important issues for the future physical development of the area. The increasing demand for a broader range of health care services and facilities for all age groups will likely intensify in the years ahead.

With the likelihood of health care facility expansion in the future, the following recommendations are made:

- In view of Canon City's prospects for continued growth as a retirement community and its changing economic role within the region, locational and site development standards should be developed to guide the spatial distribution of hospitals, nursing homes and clinics.

- Because of the planned expansion of St. Thomas More Hospital (a facility master plan is presently being developed), the City should examine in detail the likely land use repercussions of such an expansion on the area surrounding the Hospital.

Public Safety Services

In the Canon City area, public safety services are comprised of two primary activities - fire protection and law enforcement. In a subsequent section, the buildings that house these two community services will be evaluated and recommendations made concerning future building requirements and improvements. This portion of the Comprehensive Plan will concentrate on the service component of each activity, analyzing the factors which contribute to or detract from the effective performance of the service. And, as elsewhere in the Plan, recommendations will be made concerning the existing levels of service and future service demands.

Law Enforcement

As with other community services and facilities, the geographic and population growth of Canon City has increased the demand for police services - both in the prevention of, and the response to, crime. Added to the growing permanent population is the annual influx of summer tourists which create special law enforcement problems.

The expanded scale of Canon City has had the effect of increasing patrol distances thereby requiring more police personnel to adequately patrol the larger land area. Growth has also, directly or indirectly, contributed to the increasing complexity of community life in Canon City resulting in the more frequent occurence of "urban" type problems - drug use, juvenile delinquency, vandalism, burglary and theft.

But before proceeding with an analysis of police services in Canon City, it may be helpful to quickly review the major functions of an urban police force. Overall, the primary function of police service is to maintain social order, which in the United States, is an activity circumscribed by numerous ethical and constitutional restrictions. Implied within this very general function are a number of more specific activities, the most important of which are: the protection of life and property against crime, the preservation of peace and order, the safe movement of traffic and the provision of emergency services.

The Canon City Police Department carries out these activities through an organizational structure consisting of three divisions: the patrol division, the detective division, and the services division. Since 1970, the number of police and civilian personnel to staff these divisions has grown significantly, reflecting the increased demand for criminal justice activities in the urbanizing Canon City area. In 1970, the Canon City Police Department had a staff of 13 commissioned officers. By 1978, the staff had been expanded to 22 commissioned officers in addition to 3 dispatchers and 10 volunteer reserves. By national averages, the current total number of police employees is adequate for the population size of Canon City. National averages for cities of 15,000 to 25,000 people show a figure of 1.5 police employees per 1,000 population. With the 1978 population of Canon City estimated to be 13,870, the total of 25 police department employees is above national averages.

However, standards or national averages should be used with some caution as the number of factors which can influence the adequacy of police

services will vary significantly from community to community. As Canon City grows in the future, the changing level of industrialization, the composition of the local population and community values and attitudes will influence significantly the staffing requirements of the police department.

Since the late 1960's when the federal government began to take an active role in the criminal justice system, the Canon City Police Department has gradually had the opportunity to benefit from a number of innovations made available through several federal agencies, the most important of which has been the Law Enforcement Assistance Administration (LEAA). In addition to providing money for in-service training and expanded cadet training, the LEAA has encouraged the use of more sophisticated technology by local police departments to increase the effectiveness of their various law enforcement activities. As an example, the Canon City Police now have a computer terminal in department headquarters which is part of a state-wide network called the Colorado Crime Information Center (CCIC). With the aid of the computer, local police officers have ready access to crime records and reports at both the local and state level.

At present, the Police Department has 7 cars, 3 unmarked and 4 marked units, which are adequate for the current level of operations. The only equipment inadequacy to be identified was firearms which will require the replacement of existing .38 caliber pistols with .357 magnums.

The Canon City Police Department serves as a communications center for law enforcement activities within Fremont County including the Fremont County Sheriffs Department, the Colorado State Patrol, and the State Penitentiary. Prison escapes or inmate disturbances are first reported to the Canon City Police Department and then relayed on to the appropriate agencies. Also,as the location of the CCIC terminal, the Department handles numerous in-coming requests for information.

Since Canon City is expected to grow for the duration of the planning period, the demands for existing and new types of police services should be expected to grow as well. But given the strong likelihood of restricted municipal budgets, demands for new or expanded services will have to be carefully evaluated and priorities set as to primary and secondary police functions. The continued growth of Canon City and the police service area will also require greater specialization within the Department thereby possibly creating the need for a new command structure. As a result of tight budgetary restrictions and increasing demands for service, the provision of effective police services will come to depend more and more on the quality of police management practices.

Relationships with Other Area Law Enforcement Agencies

As the site of the Colorado State Penitentiary, Canon City has over the years developed some special working relationships with the administrative and security staff at the penitentiary. Escapes and disturbances at the penitentiary typically lead to the involvement of the Canon City Police Department. For example, when there is an escape from the penitentiary, the Canon City Police Department automatically assigns three

officers to the case and if there is reason to suspect that the escapee has remained in Canon City, then a majority of the police force is mobilized for the search.

This support service to the Penitentiary is done without supplemental compensation from the State of Colorado. The construction of the new maximum security facility east of Canon City will in part help reduce the number of prison escapes, but some mechanism should be available nonetheless to compensate the local police force for time and staff resources directed away from local police activities.

Another potential problem concerns the development of residential, commercial and industrial areas at the periphery of the Canon City municipal limits. Crime prevention in these urbanizing areas will require the close cooperation of the Canon City Police Department and the Fremont County Sheriffs Department.

Recommendations

- Continue to seek non-local sources of funding for new equipment and communications systems to enhance the effectiveness of law enforcement activities.
- Continue to study the feasibility of shared facilities with other area-wide law enforcement agencies.

Fire Protection

Fire protection services in the Canon City area are provided through the Canon City Fire District. The fire protection district itself is composed of two distinct service areas - the area within the municipal limits and the outlying rural area. In total, the Fire Department serves an area of about 120 square miles with a population estimated to be about 22,000 people.

Like the police department and other community services, the growth of the Canon City area over the last decade has increased the demands for the services of the fire department. Operating out of a single station at the western edge of the City, the growing population and a spreading out of the built-up area has meant that the response time to locations on the eastern periphery has tended to increase. Increased traffic congestion along major thoroughfares as well as increased railroad traffic have also contributed to a general slowing of the fire fighter's response rate. Under present conditions, the response time to the Medium Security Penitentiary Facility at the extreme eastern edge of the fire protection district is about 10 minutes. Response times to the high value Central Business District and commercial areas along U.S. 50 vary between 2 and 5 minutes depending on traffic and weather conditions.

The Canon City Fire Department is currently staffed by 14 fulltime fire fighters with a standby volunteer force of 18. The major pieces of fire fighting equipment are two Ward La France pumpers rated at 1,000 and

1,500 gallons per minute respectively. In addition the department has a 65 foot aerial truck, and three other pumpers with pump ratings ranging from 400 to 750 gallons per minute. The department also has two vehicles available for use as emergency rescue units.

Unlike police services, very exacting standards exist by which to evaluate an area's fire fighting defenses and physical conditions. The evaluation or grading is based on an analysis of six factors which include in descending order of importance: the characteristics of the water supply; an evaluation of the fire department; the structural conditions of buildings in the service area; the adequacy of fire alarm systems; the extent and nature of fire prevention activities; and the adequacy of the building department and any existing building or housing codes.

On the basis of this evaluation a fire district is classified on a scale of 1 to 10, with one as the highest rating (or the fewest deficiencies) and ten as the lowest (or the greatest number of deficiencies). At present the Canon City Fire District is rated as a seventh class district although a re-evaluation is now under way with the possibility of the rating slipping to 10. A district's rating is very important to property owners because it has a direct and substantial impact on fire insurance premiums.

A major element in the grading of a district's fire fighting defense is the water system. Table 67 outlines the required fire flows for average cities with different populations. These figures have been calculated by the National Board of Fire Underwriters as the minimum flows necessary to adequately fight fires in the principal business districts of average municipalities. At present within the major built-up areas of Canon City, the required fire flow would be a maximum of 4,000 gallons per minute for a duration of ten hours. On the basis of the study of the water system completed in a later section of the Plan, the Canon City water system can provide this needed fire flow in most parts of the City. The treatment capacity of the water plant combined with finished water storage facilities are large enough to accommodate both the needed fire flows and consumption demands. And when the recommended improvements are made to the water treatment plant, the system will be adequate to provide the needed fire flows to serve the population growth projected to take place over the course of the planning period.

As will be noted in the later section on the municipal water system, there are several critical points within the existing system which reduce the fire flows. In the high elevation areas of the Cotter Corporation and Skyline Village, auxillary or booster pumps are used to increase line pressures and water flow. However, for fire fighting purposes these pumps are inadequate in size to provide the necessary fire flows. Also at various locations throughout the fire protection district fire hydrants are served by undersized pipes. According to prevailing national standards, fire hydrants should be served by 6-inch pipe as a minimum.

TABLE 67
REQUIRED FIRE FLOWS
FOR AVERAGE CITIES

Population	Gallons Per Minute	Million Gallons Per Day	Duration in Hours
3,000	1,750	2.52	7
6,000	2,500	3.60	10
13,000	3,500	5.04	10
17,000	4,000	5.76	10
22,000	4,500	6.48	10

Source: Fire Protection Handbook, Fourteenth Edition, 1976, National Fire Protection Association.

Aside from the improvements recommended for the water system, the other glaring deficiency within the fire department is the lack of an additional station to serve the major growth areas at the eastern edge of Canon City. This problem as well as locational criteria are discussed in greater detail in the subsequent section on public buildings.

Recommendations

- Implement the water system improvements recommended in the public utilities section of the Comprehensive Plan.
- Continue long-range budgeting practices and schedule the purchase of a new rescue unit by 1990.
- As part of the department's on-going facility planning, evaluate new staffing schemes that have been put to use in other American cities. An example is Scottsdale, Arizona where fire fighters have schedules which allow them to work as fire fighters and to work in other municipal jobs as well. This staffing arrangement has apparently increased productivity without increasing public expenditures for public services.

Public Utilities

Any urbanized area has the obligation of providing efficient systems for the collection and disposal of sewage, the distribution of water and the removal of storm water. By the very nature of these services, the planning for them must be coordinated. In addition to the basic need to provide for these services, Canon City and the unincorporated surrounding area must also develop certain administrative policies which are pertinent to the operational aspects of these services. Included in these policies is the extension of the water and sewer services to newly developed areas. The prudent extension of these services can lead to compact land development which means an economic savings to the planning area. On the other hand, the indiscriminate and uncoordinated provision of these services can

lead to scattered development which can result in an excess of water and sewer mains, undersized plant and distribution/collection facilities, environmental problems and unnecessary expenditures.

It must be remembered that Canon City's control over the extension of utility services within and outside the City limits represents a significant tool for effective land use planning. In essence, the denial of extending utilities into an area generally assures that only limited development of the land will occur in those locations. More importantly, the decision not to extend utilities to outlying areas increases the demand for developing those lands in close proximity to existing service areas and decreases the amount of capital expenditures required for serving future growth.

Water System

Presently, the Canon City municipal water system including raw water supplies, the treatment plant, distribution lines and storage facilities is in a relatively good condition to serve the existing demands throughout the planning area. In fact, over the past six years an assortment of capital improvements have been made to the system through funds generated by a grant from the Economic Development Administration, a general obligation bond and increased water usage rates.

The following table provides a summary of the water system including a description of the population and areas served; water rights; the transmission, treatment, storage and distribution facilities; financial arrangements, fire flow adequacy and current and projected water demands. A further analysis of the water system is contained in the report entitled A Master Plan for Water System Improvements prepared by M & I Consulting Engineers in December of 1972.

TABLE 68
SUMMARY OF CANON CITY AREA
WATER SYSTEM

I. Population Served

A. Within City Limits: 13,870
B. Outside City Limits: 6,000
C. Total Service Area: 19,870

II. Areas Served

A. Treated Municipal Water

1. Canon City and Lincoln Park
2. Outside Water Districts
   a. Four Mile
   b. Orchard Park Water Company
   c. North 15th Street
   d. Frank Maynard
   e. Prospect Heights
   f. Sherman Avenue Water Company
   g. Royal Gorge Flower Farm
   h. Brookside

TABLE 68 (Continued)

B. Untreated Municipal Water

1. Lakeside Cemetery, Shadow Hills Golf Course, Cotter Corporation

C. Off-System - Water Districts

1. Park Center - Utilization of wells and own distribution system

III. Water Rights

A. River Basin: Arkansas

B. Source of Water: Arkansas River, with irrigation water being provided by ditch companies and individual wells in the outside water district areas.

C. Appropriation Dates and Available Supplies

1. 1863 - 19.0 cfs
2. 1864 - 3.5 cfs
3. 1976 - 5.0 cfs (from April 15th to October 15th)

TOTAL 27.5 cfs or 17.7 mgd

D. Other Water Rights

1. Shares held in ditch companies - 2.95 cfs or 1.9 mgd

IV. Water System

A. Raw Water Quality: Acceptable

B. Raw Water Transmission System

1. River to diversion dam
2. Diversion dam to pond A (initial settling reservoir) via 30" transmission line
3. Pond A to treatment plant via 30" transmission line.
4. Six pumps with a capacity of 36 mgd and 3 standby pumps with a capacity of 10.6 mgd are installed to pump the water to pond A and the treatment plant.

C. Raw Water Storage Volume

1. Pond A - 48 mg (less 2 to 5 mg due to sedimentation)

D. Treatment Plant Operation

1. One primary settling basin (sedimentation)
2. One secondary settling basin (flocculation)
3. Twelve high rate sand filters with a theoretical capacity of 22 mgd
4. Two clear wells with a 3.5 mg storage capacity.

TABLE 68 (Continued)

E. Backwashing and Cleaning the Settling Basins

1. Discharge to backwash settling pond (Pond B)
2. Water to pond A for recycling
3. Solid waste to two drying beds

F. Finished Water Storage Volume

1. 3.5 mg at clearwells
2. 1.5 mg at elevated steel tank located northwest of the Central Business District
3. 4.0 mg at new concrete tank located in the southern portion of the planning area (Lincoln Park)

TOTAL 9.0 mg

G. Untreated Water Storage Volume

1. Cotter Corporation - 0.3 mg tank

H. Distribution System

1. Pump stations to reach high elevation areas
   a. Small industrial pump to serve Skyline Village (refer to Planning District IV)
   b. Small pump to serve Cotter Corporation (refer to Planning District VI)
2. Line sizes
   a. 20" to 1/2"
   b. The majority of old and undersized lines, and incompleted loops are located in the outside water district areas and in Lincoln Park.
3. Water pressure
   a. Almost all locations throughout the Planning Area excluding Skyline Village in the northwest and the Cotter Corporation in the southeast are being served with pressures above the minimum standard of 40 psi.
   b. The only other pressure problems periodically occur in the outside water district areas that utilize undersized lines.

I. Usage Statistics

	1971	1977
1. Maximum day (mg)	8.27	12.0
2. Maximum hour (mg)	14.0	18.0
3. Average day (mg)	3.1	3.5

J. Service Connections

1. Total	6,000+
2. Number Metered	6,000+

TABLE 68 (Continued)

V. Financial Arrangements

A. Tap Fee - $800.00 for 3/4" tap

B. Usage Fees

1. City Limits - $4.20 for the first 5,000 gallons plus $.38 for each additional 1,000 gallons.
2. Lincoln Park - $5.00 for the first 3,000 gallons plus $.60 for each additional 1,000 gallons.
3. Other users outside the City limits - $12.00 for the first 5,000 gallons plus $.88 for each additional 1,000 gallons.

VI. Fire Flow Adequacy

A. Fire Insurance Classification: 7

B. System Condition

1. Generally good in low elevation areas, although the 4" lines within the City that presently serve fire hydrants need to be replaced.
2. Fire flow is generally poor in high elevation areas.

VII. Current and Projected Water Demands

	Population	Maximum Day Demand
1970	15,665	7.9
1975	18,861	11.3
1978	19,870	12.0
1980	21,434	12.8
1985	24,129	14.4
1990	27,973	16.7
1995	32,428	19.4
2000	37,593	22.5

Source: Water Department; City Engineer; and Oblinger-Smith Corporation, Consultants in Planning, Design and Development, 1978.

As shown in the table, the major source of water throughout the planning area is supplied by Canon City. The only exceptions are in the Park Center area (Planning District G) where a special district utilizes groundwater as the supply source and irrigation wells are used in the unincorporated areas that surround the municipality. The eight outside water districts are currently responsible for the operation, maintenance and expansion of the distribution lines in their respective service areas.

The City's absolute water rights of 17.7 mgd should be sufficient until approximately 1993 when the demand is expected to be greater than the available supply. It should also be noted that the cemetery, golf course and Cotter Corporation presently use over 1 mgd of untreated water in the summer months and additional demands are expected over the pursuing years. The untreated water supplied to these areas presents no problems at the present time since the City's diversion rights are much larger than the demand for treated water. In the future, if the City's supply of raw water diverted to the treatment plant becomes critical, shares currently held in the South Canon and DeWesse Ditch Companies should be used to serve these areas.

In the immediate future, improvements need to be made to the raw water transmission system since the inlet pipes to Pond A are partially plugged, the initial settling basin needs to be dredged and an additional 30" transmission line needs to be installed from Pond A to the treatment plant. The existing pump station facilities appear to be adequately sized to serve the future population throughout the year 2000.

The treatment plant is currently operating sufficiently to meet existing demands, although a series of improvements are needed at the primary and secondary settling basins. The prevalent problems at these basins center on design deficiencies, lower capacities due to backwashing and downtime as a result of other factors. The theoretical capacity of the existing 12 sand filters is approximately 22 mgd. However, the actual operating capacity is 12 mgd (1 mgd per filter) due partially to the fact that non-uniform velocities in the secondary basin are hindering effective sedimentation. This existing 12 mgd capacity is not expected to be able to meet the maximum daily demand in 1980.

With the recent construction of the initial settling reservoir (Pond A) the need for the primary settling basin at the treatment plant has been eliminated. Thus, it has been proposed to install a flash mixer to add chemicals to the raw water before it enters the existing primary settling basin which would allow this basin to act as a flocculation area. In terms of making improvements to the secondary basin, it is recommended that design modifications be pursued which would change the area and magnitude of flows entering and leaving the basin. Since these briefly described improvements would be extremely costly, the City Engineer is presently examining a short term alternative solution which would merely change the existing flocculation distribution introduction point. After these necessary improvements are made at the treatment plant basins, then the future capacity of the sand filters should be adequate to meet the maximum daily demand until around the turn of the century. In the long term, it is also likely that the City will need to construct an additional backwash settling pond and several more drying beds.

As illustrated in Table 68, the existing storage capacity of treated water is 9.0 mg which is not sufficient in light of the fact that the existing maximum daily demand is presently at the 12.0 mg level. The City is also having difficulty with the new 4 mg storage tank in the Lincoln Park area since it is largely oversized compared to existing demand. Presently, the Water Department has to periodically close certain distribution line valves in order that the volume in the tank will fluctuate.

With these storage deficiences in mind, it is proposed that a new 8 mg tank and an 18" distribution line be constructed near the existing 1.5 mg tank in the northeastern portion of the planning area. In addition a new 1.5 mg tank and a 12" distribution line will need to be constructed in the far northern portion of Skyline Village. The existing undersized pump station will also need to be replaced before further development can occur in this area. These improvements along with a larger sized water main (16" to 20") from the proposed 8 mg tank to the enlarged pump station should alleviate the existing low residential and fire protection pressures in the Skyline area.

Capital improvements will also be required in the southwestern portion of the planning area as the Cotter Corporation and the surrounding area expands since the existing privately owned pump station and .3 mg storage tank will become inadequate. A new 2.7 mg storage tank, an enlarged pump station and a major 14" to 16" distribution line is proposed. Pressure reducing valves will also be needed due to the extreme elevation changes that exist throughout this area.

With the addition of these three planned storage tanks, this would provide a total storage capacity of 21.5 mg which should be adequate to feed the distribution system until around the year 2000. The enlarged pumping facilities in the northwestern and southwestern portions of Canon City, along with expanded distribution line loops and the gradual replacement of all undersized lines, should provide between 40 psi and 100 psi at all locations on the distribution system.

Until recently, Lincoln Park received distribution service through a water district, although the City is now responsible for the system's operation and capital improvements. Actually, the City's precedent of being completely responsible for the distribution and storage system in an unincorporated area does not represent a sound operational policy, since the municipality receives no tax revenue and has no control over the area's existing and future development patterns. The City relies on revenue generated from tap and usage fees to maintain and install improvements to the distribution system in Lincoln Park, although the current revenues generated are not believed to be sufficient to fund two needed major line expansion projects. A 11,260 foot - 8" line needs to be installed east along Park Avenue, south along the eastern edge of Lincoln Park, and back west along the southern edge of Lincoln Park completing a major loop. An additional 6,000 foot - 14" line is needed which would tie into the existing 12" line in the vicinity of 9th and Sell Avenue and extend south along 9th Street tying into the existing 16" line and the 4 mg storage tank. These major distribution improvements should keep pace with the increased demands that are likely to occur as a result of anticipated future development south of the Arkansas River.

The only other known large scale distribution project is located generally within the boundaries of the Four Mile Water District where a 18,060 foot-12" loop is needed. As future development occurs throughout the planning

area, additional 8" to 10" lines within the existing and proposed major loops will be required to complete the distribution system. It should also be revealed that a number of 4" lines within the City are presently serving fire hydrants. These lines need to be replaced since a 6" line is needed to satisfy the National Board of Fire Underwriters minimum design standards.

In order to insure that future water system improvements are implemented on the basis of the most pressing needs, the following priority list has been prepared. The priority list does not represent a description of all needs since many of the capital improvement projects will depend on the timing, location, type and density of future development patterns.

Recommended Schedule of Improvements

1. Replace undersized 4" fire hydrant lines. Estimated Cost: $500,000.

2. Make structural improvements at the primary and secondary settling basins including a flash mixer, the removal of the effluent weir on the primary settling basin, a 36" settling basin influent line, a settling basin effluent weir and a 14" basin dispersal line. Estimated Cost: $300,000.

   As a short term alternative, the City may desire to only change the flocculation introduction point. Estimated Cost: $5,000 to $10,000.

3. Construction of major 8" loop in Lincoln Park. Estimated Cost: $750,000.

4. Additional 1,700 foot - 30" transmission line from Pond A to the treatment plant. Estimated Cost: $136,000.

5. Install new pump station to serve Skyline Village (3-25 HP units). Estimated Cost: $40,000 to $50,000.

6. Construction of 18,060 foot - 12" loop in the Four Mile area. Estimated Cost" $325,000.

7. Construction of 6,000 foot - 14" line in Lincoln Park. Estimated Cost: $85,000 to $100,000.

8. Addition of new 8 mg storage tank and 18" transmission line. Estimated Cost: $800,000 to $1,000,000.

All of these improvements will need to be installed over the next 10 years, with the associated construction costs ranging from approximately $2.9 to $3.2 million. The City will be required to make 90 percent of these improvements since only the distribution project in the eastern portion of the planning area is the responsibility of the Four Mile Water District.

It should also be taken into account that the actual construction costs may be considerably higher since the cost estimates are shown in current dollars. To assist in the funding of these costly projects, it is recommended that the City apply for an additional grant from the Economic Development Administration. If the City is approved, the grant would fund approximately 50 percent of the total project costs.

In addition to pursuing the capital improvement projects, the City should consider the following recommendations. These recommendations are intended to help improve the operation and management of the water system.

1. Before annexing any property, the City should require that a water distribution inventory be prepared including a map illustrating the size and location of all lines and related facilities. The inventory should be funded by the applicable water district or outside user. The completed inventory information should be submitted to the City Engineer and City Council for review. When major capital improvements are revealed, the City should require the creation of a special improvement district or increased usage fees that are earmarked for capital expenditures as a prerequisite for annexation. The adherence to this policy will insure that the improvement costs will not be borne by the tax payers at-large.

2. Under no circumstances should the City retain responsibility for operating and improving a distribution system that is not located within the City limits. However, the City and the Water Districts should coordinate their planning efforts and prepare minimum distribution standards in order that an adequately sized and looped system will be developed.

3. The City should create a capital reserve fund for obtaining additional water rights when they become available.

4. In all subdivision developments, regardless of size, the developer should be responsible for installing the on-site water distribution improvements. The City should always enforce its current policy of requiring a minimum 8" distribution line.

5. Where appropriate, the City and the respective water districts should extend the distribution system to accommodate new growth, eliminate deadends by looping, replace inadequate mains and establish a strong constructive maintenance program.

6. To improve the financial, management and operational capabilities of the Water Districts and to help foster the coordination of capital improvement projects, the existing Districts are encouraged to consolidate.

Wastewater Systems

The provision, operation and maintenance of sewer facilities and services in the Canon City planning area is almost exclusively the responsibility of three sanitations districts. These districts include the Canon City Metropolitan Sanitation District, the East Canon Sanitation District and

the Lincoln Park Sanitation District. The State of Colorado also maintains separate facilities at the Men's Medium Security Penitentiary, Women's Prison and at the prison farms. Thus, the majority of wastewater in the planning area is centrally collected and treated, although septic tanks are currently being used in the Canon City industrial park, Park Center, Brookside and in other areas not situated within a sanitation district boundary.

The following table describes the sewer systems that are being utilized in the planning area and reveals existing operational deficiencies and financial arrangements.

TABLE 69
SUMMARY OF WASTEWATER SYSTEMS

I. Canon City Metropolitan Sanitation District

A. Type of Treatment:

Trickling Filter

B. Collection System:

There are approximately 30 miles of sewer line which range from 8" to 21" with a few 4" and 6" collectors. These lines are primarily vitrified clay pipe, some of which were installed prior to 1900.

C. Responsibilities:

1. The Sanitation District is responsible for operating and maintaining the trunk lines and the trickling filter wastewater treatment plant which is located in the southeastern portion of the City limits, directly south of the Arkansas River.

2. Canon City is responsible for the operation, maintenance and expansion of the sewer collection lines.

D. System Deficiencies:

1. Excessive infiltration occurs in certain sections of the sewer system and especially along the 15" to 21" trunk lines located immediately to the south of the Arkansas River. The majority of the infiltration is a result of old and cracked lines, soil conditions and a high groundwater table (extraneous water entering the system due to the surface flow of the Arkansas River and numerous ditches and creeks that cross the area).

2. There are approximately 100 manhole covers in the north side of Canon City that are perforated and some of these are in the flow line of surface water gutters. These perforated manholes create a problem during rainfall periods since stormwater is entering the sanitary sewer system.

3. The treatment plant is in relatively poor condition due to its age (1956) and need for additional maintenance.

4. The trickling filter method of wastewater treatment does not provide sufficient organic capacity to meet present effluent and water quality standards.

5. In the summer, increased domestic wastes are generated by tourism activity and infiltration. As a result of the plant's limited hydraulic capacity, untreated wastewater is discharged into the Arkansas River.

E. Financial Arrangements:

1. Monthly service charge: $1.31

2. Tap Fee: $200.00

3. Mill Levy: None

II. East Canon Sanitation District

A. Type of Treatment:

Contact stabilization - activated sludge

B. Collection System:

There are approximately 18.6 miles of sewer lines which are comprised of 8" and 12" clay pipe. The sewer system is 16 years old and is in good condition.

C. Responsibilities:

The Sanitation District is responsible for operating, maintaining and expanding the collection system and treatment plant in the eastern portion of Canon City. The treatment plant is located south of Highland Avenue and north of the Arkansas River.

D. System Deficiencies:

The design, capacity and operation of the plant is totally inadequate to meet existing and future sewer treatment demands. The performance problems at the plant are so severe that the Colorado Department of Health issued a Cease and Desist Order in 1977. In short, the lack of adequate operation and maintenance at the facility coupled with its design deficiencies and limitations has led to its present poor condition and performance.

E. Financial Arrangements:

1. Monthly service charge: $5.00

2. Tap Fee: $300.00

3. Mill Levy: 3.96

TABLE 69 (Continued)

III. Lincoln Park Sanitation District

A. Type of Treatment:

Two-cell aerated pond

B. Collection System:

The sewer lines in Lincoln Park are eight years old and are composed of approximately 15.1 miles of 8" to 24" pipe.

C. Responsibilities:

The Sanitation District is responsible for operating, maintaining and expanding the collection system in Lincoln Park and Prospect Heights. The aerated pond is located below the Men's Medium Security Prison and south of the Arkansas River.

D. System Deficiencies:

The wastewater ponds have been performing adequately, although this method of treatment does not consistently meet existing effluent standards.

E. Financial Arrangements:

1. Monthly service charge: $4.50

2. Tap Fee: $300.00

3. Mill Levy: 7.37

IV. Colorado State Penitentiary

A. Type of Treatment:

Separate wastewater ponds are used at the Men's Medium Security Prison, Colorado Women's Correctional Institute and the dairy and piggery industries located on the medium security grounds.

B. Responsibilities:

The State of Colorado is responsible for operating, maintaining and expanding the collection and disposal systems.

C. System Deficiencies:

The treatment facilities are currently loaded below capacity. However, there have been complaints by surrounding property owners concerning the operation of the ponds for the Women's Prison since obnoxious odors are created.

TABLE 69 (Continued)

D. Financial Arrangements:

The State currently funds these collection and treatment facilities.

V. Areas Outside Sanitation Districts

A. Areas outside of the major sanitation districts including businesses in the industrial park; Cotter Corporation; residents in Park Center; Brookside and the eastern portions of Four Mile; and other unincorporated residential areas utilize individual sewer systems and settling ponds (notably septic tanks, cesspools) for on-site treatment.

B. Responsibilities:

These individual systems are under the jurisdiction of the Fremont County Board of Health. As a method of regulating these individual systems, the Fremont County Board of Health has adopted and enforces Individual Sewage Disposal System Regulations.

C. System Deficiencies:

Performance problems of individual disposal methods in the planning area are a result of incompatible soil types and high water tables which may actually be polluting the aquifers and nearby domestic wells. Critical problems also surround the usage of individual systems in the Canon City industrial park and especially at the Cotter Corporation where potentially hazardous wastes are generated. These problems will also be compounded as future development occurs in or adjacent to these areas that use individual systems.

Source: Eastern Fremont County "201" Facilities Plan prepared by M & I Consulting Engineers in May of 1977 and Oblinger-Smith Corporation, Consultants in Planning, Design and Development, 1978.

To improve these critical wastewater treatment deficiencies the Eastern Fremont County "201" Facilities Sanitation Steering Committee has decided that a regional wastewater treatment facility located east of Florence is the most viable solution for meeting the current and projected needs throughout the planning area. The decision to retire the present treatment facilities of Canon City, East Canon, Lincoln Park, Florence and at the Men's Medium Security and Women's Prisons was based on cost effectiveness, financial, institutional and environmental considerations. In terms of tying these systems together, a new wastewater trunk line will be constructed along the Arkansas River from Canon City to the treatment plant. These regional facilities should be completed by 1983 with the total cost ranging from $10 to $12 million. The Environmental Protection Agency will fund approximately 75 percent of the total project cost with a 25 percent match required locally.

As shown in the table, the only major deficiencies in the existing collection systems occur within the boundaries of the Canon City Metropolitan Sanitation District. These problems mainly focus on extraneous water entering the sewer lines. Before corrective actions can be pursued, a detailed infiltration/inflow study needs to be conducted since the magnitude and location of the problem areas have not been adequately documented. Essentially this engineering study would identify the extent of needed rehabilitation improvements.

After the completion of this study, then the City and/or sanitation district would be in a position to begin the implementation of the needed improvements including cleaning the lines, telegrouting and excavating to repair and/or replace inadequate line segments. As a part of this improvement program, the City also needs to seal or replace the perforated manhole covers in the north side of the municipality.

To implement these improvements and to expand the system, it is anticipated that the City will need to expend somewhere between $40,000 and $60,000 annually for a least a period of 5 to 6 years. These costs are based on the assumption that the City will continue to be responsible for the maintenance, operation and expansion of the collection lines in the Metropolitan District.

The only other known capital expenditure pertains to the construction of a new interceptor on the north side of the Arkansas River which will tie into the interceptor to the proposed regional plant. Presently, it appears that the funding for this costly improvement will either be included as a part of the Federal grant or it will be the responsibility of the Canon City Metropolitan Sanitation District.

To insure that the existing and future sewer systems are adequate to serve the Canon City planning area, the City, the respective sanitation districts and the surrounding unincorporated areas should consider implementing the following recommendations.

1. Canon City and the Metropolitan District, with grant assistance from EPA, need to initiate an infiltration/inflow study in the near future.

2. Although not specifically addressed in the Eastern Fremont County "201" Facilities Plan, all households and businesses in the planning area should be eventually connected to the regional sewer system. Compared to the utilization of individual septic tanks, cesspools, and settling ponds, a central sewer system is environmentally safe, efficient and protects the health of existing and future residents.

3. To manage and operate the regional sewer system, the existing sanitation districts should be terminated and a consolidated and expanded Regional Metropolitan Sewage Disposal District should be formed. The existing sanitation districts and other special purpose districts are viable entities in the sense that they supply urban types of governmental services within and outside of the City limits. However, too many adjacent and overlapping districts have a tendency to fragment an urban area into small jurisdictions which in many cases hinders cooperative planning, design, management, operation and financing.

Presently, there are some obstacles to consolidation especially since some of the sanitation districts are servicing bonded indebtedness and the respective usage and taxation rates differ. Nevertheless, the respective governmental bodies should be able to devise a financing arrangement that will be equitable over the short term until these differences are eliminated.

4. Once the Regional Metropolitan Sewage Disposal District is created, a uniform sewer use ordinance and related design standards should be promulgated.

5. In the long run, the municipality of Canon City should be relieved of its responsibility of maintaining and expanding the collection lines in the existing Metropolitan District, since for all practical reasons this should be the responsibility of the proposed Regional District.

6. Land use controls should be adopted and enforced on a County-wide basis before the regional trunk line is installed. These controls would prevent scattered and incompatible development from occurring, especially along the Arkansas Valley from the planning area to Florence.

Storm Sewers and Flood Control Structures

One of the most critical, costly and controversial issues facing the Canon City planning area centers on the absence of an adequate storm sewer system and accompanying flood control structures. As discussed earlier in the Comprehensive Plan, extensive parcels of land throughout the planning area are situated in a series of drainage basins that are susceptible to periodic flash flooding due almost exclusively to precipitation generated by spring and summer thunderstorms. Actually, the construction of drainage collection networks is imperative over the next 20 years in order to protect existing and future developments, land and residents from potential flood damage.

Most of the existing flooding problems in the planning area focus on the Red Canon Draw area where flooding has occurred in 1906, 1921, 1929, 1930, 1934, 1935, 1947, 1948, 1954, 1955, 1956, 1957, 1959, 1961, 1965, 1966 and 1974. Most of the associated flood damages have occurred in the East Canon area with the 1974 flood causing about one-third of a million dollars damage. With the frequency and magnitude of this problem in mind, it is apparent that the City and County need to implement a series of coordinated flood zone regulations, flood warning systems, floodwater retarding structures, floodways and storm drains.

In terms of lessening the flood potential in the Red Canyon Draw area, it is recommended that the City participate in the construction of a series of dams in the northern portion of the planning area (see Map F). The cost of this project including floodwater retarding structures, floodways, conduits, dikes and related improvements would amount to approximately $5.5 million. However, the local match would represent approximately $900,000 since the Soil Conservation Service would fund 84 percent of the total project cost. Presently, the City has decided not to participate in

the SCS project since the legislative body and many residents believe that project does not represent a cost-effective solution compared to the benefits derived. As an alternative, the City has tentatively decided to locally fund the construction of an open channel floodway and retention ponds with these improvements being completed over a five year period. The impetus for this secondary course of action is a result of the Environmental Protection Agency requiring the City to improve the flood prone situation before federal funding will be appropriated for the construction of the regional sewer treatment plant.

The cost of the locally funded open channel is roughly estimated between $750,000 and $800,000 which may represent a slightly lower cost when compared to the local match that would be needed for the entire SCS project. Thus, the City will be expending nearly the same amount of funds with or without participating in the SCS watershed project. In short, the construction of the SCS improvements represents the best alternative in terms of a long range and comprehensive solution to the existing drainage problems.

In terms of the existing storm sewer system, only approximately 70 blocks in and around the general vicinity of the Central Business District are served with 12" to 36" subsurface lines that discharge into the Arkansas River. The majority of these lines are antiquated and undersized to meet the existing and future runoff needs within this area. In addition to this small subsurface network, the Fruitland, Hydraulic, Oil Creek and smaller ditches are presently being utilized as flow-ways to accommodate storm runoff. However, the ditches and related structures only have a capacity to handle normal volumes of irrigation water. The ditch companies in the past have closed the ditch inlets during thunderstorms in order that storm runoff can be accommodated, although this action has had the tendency to merely divert the runoff from one drainage basin to another. Actually, the flooding of the ditches has created damages to the ditches themselves, and has the potential of transporting storm water to areas that would not normally experience flooding. As a result of past and potential damages, the ditch companies are encouraging the City to install a subsurface storm sewer system north of the Arkansas River. Presently, the ditch companies are deeply concerned with the liabilities that may be created as a result of utilizing the ditches for storm drainage purposes.

To rectify the existing drainage deficiencies, it is recommended that the City should pursue the following schedule of improvements. More detailed information pertaining to these projects can be obtained from the Report on Storm Drainage Facilities prepared by M & I Consulting Engineers in October of 1974.

Recommended Schedule of Improvements

Phase I -

A. Description: Construction of flood retention ponds and an improved open channel floodway (beginning north of Central Street, extending southward parallel to East Circle Drive and Frazier Street and discharging into the Arkansas River).

B. Time frame: 1979 - 1984, Agreed to by City and EPA as follows:

(1) complete planning (including financing plan) prior to July 1, 1980.

(2) complete design of project by December 31, 1981.

(3) initiate construction by May 1, 1982.

(4) complete construction by December 31, 1986.

C. Estimated cost: $ 50,000

Phase II

A. Description: Construction of subsurface storm sewer system, generally north of the Hydraulic Ditch (major line along 9th Street - discharging into the Arkansas River with the eastern segment discharging into the proposed open channel floodway).

B. Time frame: 1983 - 1988

C. Estimated Cost: $3,120,000

Phase III

A. Description: Construction of subsurface storm sewer system within the central and east-central portion of Canon City. (The majority of this project would entail the replacement of the existing antiquated storm drainage system, utilizing the proposed 9th Street line and the floodway as the major discharge points into the Arkansas River).

B. Time frame: 1988 - 1993

C. Estimated cost: $2,400,000

Phase IV

A. Description: Construction of a subsurface storm sewer system in East Canon and an open channel floodway along Rhodes Avenue.

B. Time frame: 1993 - 1998

C. Estimated cost: $3,000,000

Phase V

A. Description: Construction of a subsurface storm sewer system in South Canon and Lincoln Park.

B. Time frame: 1998 - 2003

C. Estimated cost: $4,500,000

As shown in the improvement schedule, the total cost of installing an adequate storm drainage network ranges from $13.8 to $18.5 million over a 24 year period. In estimating the costs, an inflation factor has been applied in order that the associated costs are somewhat reflective of future monetary requirements. The respective time periods and costs for completing the various construction phases may need to be periodically extended in light of available funding sources and arrangements, although the schedule does provide a priority listing based on existing and expected needs. A discussion of possible funding alternatives is presented in the Canon City Capital Improvement Program.

In addition to this improvement schedule, it is recommended that the City adhere to the following guidelines:

1. The planning area should be divided into separate drainage basins in order that possible special assessment funding arrangements can be delineated.

2. All of the drainage improvements should be adequately designed and constructed based on engineering specifications in order that runoff will be transported directly to the Arkansas River. In the end result, the existing irrigation ditches and laterals should not be utilized for storm drainage purposes.

3. As a part of the City's subdivision regulations, the developer should be responsible for paying for and constructing all required storm sewers and related drainage facilities on the development site.

4. All street and related paving improvements should be designed at a minimum slope of .04 inches per foot in order to insure that the runoff will reach the storm sewer system.

5. The City should begin as soon as possible to purchase or obtain all land, right-of-ways and easements necessary for the recommended improvements in order that these known costs will not continue to escalate.

6. Within the near future, the City should retain an engineering consultant to begin the preparation of the final design specifications that are required for the implementation of the Phase I work element. An examination of cost saving alternatives should be included as a part of this study.

7. The City should immediately adopt and enforce minimum storm drainage design standards pertaining to all new development in order that the existing drainage related problems will not continue to be compounded.

Public Buildings

Every urban area has a need for public buildings in which to carry out a wide-range of governmental, cultural and recreational activities. In effect, public buildings are the architectural expression of services performed for the community, whether those services are necessary to safeguard the public health, welfare and safety (as in police and fire protection services) or whether the services contribute to the well-being and enhancement of community life. Because of their support of, and contribution to, the many aspects of community life, public buildings can become an integral part of how people perceive their community and the value they place on their involvement in the community.

As communities expand, the demands for more and varied public facilities and services increase as well. Particularly for most American communities, which place a high value on technological progress and economic growth, increases in the standard of living are often accompanied by rising expectations for public facilities and services. In growing communities, then, not only do the demands increase as a result of numerical changes in the population but the scope of those services tend to become progressively expanded.

Changes in the local economy and the composition of the community's population only add to the complexity of providing facilities and services. Different age groups and people from different social and economic backgrounds have differing values and life aspirations which community facilities and services are often asked to play a partial role in fulfilling.

Because the remodeling of existing public buildings or the construction of new buildings represents a sizeable investment of municipal tax monies, it is most important that renovation or new capital construction be well planned and designed to meet the needs of both the existing community and the anticipated needs of the future population. The purpose of this section is to analyze public buildings in Canon City and to evaluate their condition to meet the existing level of demands and possible future demands. Recommendations are then made to remedy the deficiencies.

To thoroughly evaluate any public building, it is necessary to keep a number of questions in mind:

- What are the services provided through the public building?
- Do the services require extensive face-to-face contact with the community?
- Are the services city-wide in scope or do they pertain only to certain geographical sections of the City or to certain members of the City's population?

- How does the location of the public building affect such factors as employee travel time, response time, and the overall effectiveness of administration, management or coordination with other municipal activities?

- How does the public building relate to the surrounding area?

- Does it enhance or contribute to a particular area?

- Does it reinforce a pattern of desirable activity?

- What are the implications of the building's location on the future direction, intensity or pattern of urban growth?

What these questions are intended to do is to point out the relationship between a public building and its direct and indirect impacts on the surrounding community. The evaluations which follow of Canon City's public buildings take into account both the efficiency of the building to provide needed services and the building's impact on the surrounding community. A detailed analysis of existing space use and estimated future space needs for the varous public buildings based on conversations with employees and professional judgement was included in the evaluations.

Municipal Building

The Canon City Municipal Building, built in the 1920's, is located at the corner of 6th Street and Royal Gorge Boulevard (U.S. 50). To the rear of the site is the Rudd Home and Rudd Cabin historical area. On the first floor of the Municipal Building are the offices of the City Administrator and the administrative departments of the City Engineer, Building Inspector, City Clerk, and Finance Director and other supporting staff. City Council chambers are also located on the first floor in the western wing of the building. A large open meeting room in the basement is used periodically by the Canon City Women's Club. Other rooms in the basement include restrooms, kitchen, storage, boiler rooms and an auxilliary meeting and storage room. Occupying the entire second floor of the Municipal Building is the Canon City Museum.

Each of the three levels of the building has approximately 3,000 square feet of usable floor space. When viewed in total, the basement and first floor of the Municipal Building are large enough to accommodate the space needs required by the present level of municipal services. The major space problems in the building arise less from total floor space available and more from the organization and partitioning of the available space.

There are, nonetheless, some very distinct space problems within the building. Many of the administrative staff expressed similar concerns about: the lack of a large, private conference room; the lack of accessible long-term storage areas; and the lack of adequate day-to-day storage for oversized and bulky items such as record books, maps, plats, etc. With the significant growth of the City over the past decade, the City Council meeting room is too small to accommodate large audiences and the room is not well organized to allow for easy audience and Council viewing of graphic and map presentations.

The existing location of the City Administrator, City Engineer, Building Inspector, City Clerk, Finance Director and supporting staff within the Municipal Building works well from an administrative and management point of view. The clustering of municipal activities in one building is a convenience to the community as well, allowing many City matters to be taken care of with one stop. It has been pointed out though that access to the building has become more difficult over the past few years with the increase in traffic along Royal Gorge Boulevard. Also, there is no traffic signal at the corner of 6th and Royal Gorge which makes pedestrian access from north of Royal Gorge Boulevard much more difficult, especially for many of the older people in the community.

Structurally, the Municipal Building is in good condition, although service components of the building either do not conform to the most recent changes in building codes or are functionally inadequate. The major problems are:

- the electrical system in the building does not conform to the existing code;
- the central stairwell area does not meet the required fire resistance standards for public buildings;
- the high ceilings of the building increase the volume of air to be heated or cooled and the present systems are overloaded and in need of replacement;
- overhead lighting is provided through mercury vapor-type units which have a slow recovery rate with any interruption in the flow of electrical current;
- access to the building is not sufficient;
- access to the building is not available for the handicapped nor are there a sufficient number of exits for evacuation of the building in the event of fire.

Recommendations: Municipal Building

The recommendations which follow for the Municipal Building are based on two time perspectives: the immediate future, a period of 1 to 5 years, and the longer-term, a period of 6 to 15 years. Because of municipal budgetary constraints, the short-term recommendations emphasize the renovation and remodeling of the Municipal Building to better accommodate the existing city-related activities which are housed there. The longer - term recommendations stress the desirability of developing a new civic center complex located north of Royal Gorge Avenue with the Municipal Building recycled as a cultural center containing the musuem, fine arts and possibly performing arts activities.

Short-term Recommendations

To solve the most pressing of the problems in the Municipal Building will require a combination of renovation and site acquisition.

A. Site Acquisition

1. In order to provide a larger site on which to make the needed improvements, it is recommended that the City acquire as soon as possible the two lots to the east of the Municipal Building and thereafter raze the residential and commercial structures which now occupy the lots.

B. Recommended Renovation and Site Improvements

1. To solve the problems related to handicapped access as well as to increase the amount of off-street parking available to visitors to the Municipal Building, it is recommended that the sites identified for acquisition be used principally for off-street parking and rampways.

   a. As is shown in Diagram A , the ramps should originate in the parking lot and lead gradually above grade to arrive at the level of the existing first floor.

2. To solve the functional space problems within the original structure, the following changes are recommended:

   a. The large meeting room in the basement, now used only periodically by the Women's Club, should be renovated and converted into a new City Council Chamber.

   b. The Finance Department should expand into the present City Council Chamber area as indicated in Diagram A.

   c. The City Mananger's office and the Administrative Secretary should be relocated in the former City Clerk's and Finance Director's offices.

   d. The City Engineer and support staff should occupy essentially the same space, with the Building Inspector relocating to the basement.

   e. A large conference room should be added to the first floor adjacent to the City Manager's office.

   f. Space for the Building Inspector, Zoning Administrator, possible Planner and a secretary should be provided on the basement level.

   It is further recommended that the following improvements be made so that the existing Municipal Building conforms to the most recent requirements of national building codes:

   a. The front stairwell area should be enclosed to provide for required fire resistance standards;

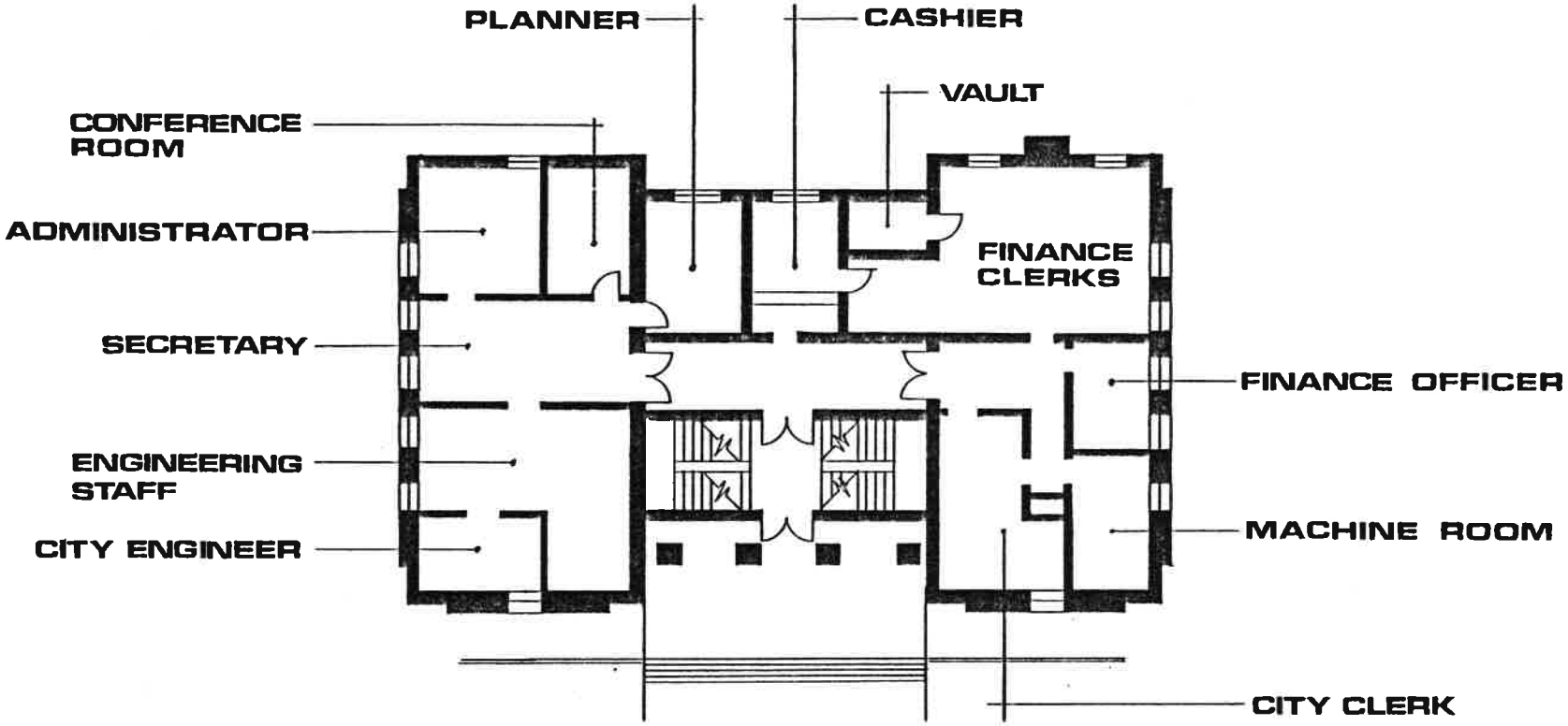
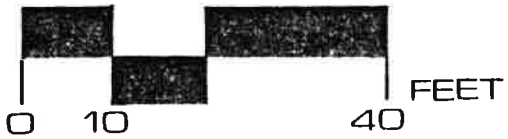


DIAGRAM A-FIRST FLOOR



CAÑON CITY MUNICIPAL BUILDING REMODELING PLAN

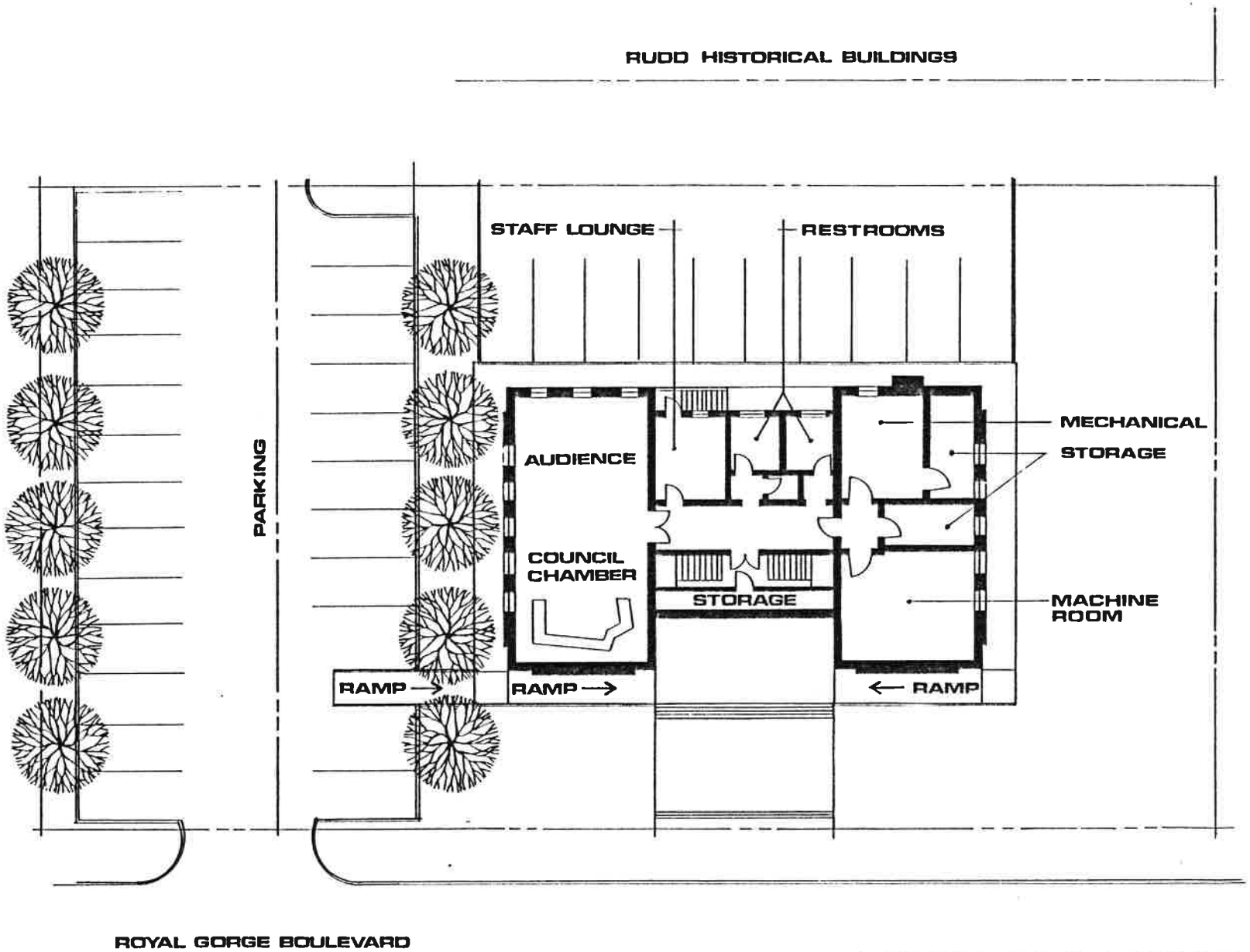


DIAGRAM A-BASEMENT

CAÑON CITY MUNICIPAL BUILDING REMODELING PLAN

b. The building should be completely re-wired and new lighting fixtures installed;

c. And new heating and ventilation systems should be installed.

Viewed as a total design solution for the problems identified for the Municipal Building, the recommendations outlined above have several advantages, some of which are:

- The handicapped entranceway provides access while at the same time being unobtrusive in design.
- An additional fire exit provides additional safety with a minimum amount of costly additional square footage.
- By moving the City Council Chambers to the basement, the existing first floor municipal offices can be expanded without disrupting their overall organizational pattern or working relationships.
- These recommended improvements will provide for the efficient and flexible reuse of the building when a new site is developed in the future for the Municipal Building.

Longer-term Recommendations

The recommendations which follow are long-range in character and are intended to be a part of the overall strategy for the economic revitalization of the Central Business District.

One part of the strategy for CBD revitalization will be to encourage new activity to take place downtown. Although some new activity can be expected to result from urban design-types of improvements (landscaping, new signage, etc.), a more important contribution will come from new activity centers such as new businesses and public buildings and facilities.

To stimulate new activity in the CBD as well as to demonstrate the City's commitment to a strong central commercial core, it is recommended that Canon City plan to relocate the Municipal Building over the next six to fifteen years. The new Municipal Building should be part of a civic center complex containing the new city hall, the Canon City Library and a new criminal justice center.[1] It is suggested that a site for the new municipal building be located north of the major traffic thoroughfare, Royal Gorge Boulevard, somewhere in the general area bounded by 3rd Street and 5th Street, and Main Street and Macon Avenue. This location near the western edge of the CBD would not only help to anchor this gradually declining portion of the CBD, but would also serve as a link to any future municipal reuse of the penitentiary facilities. Also, a location north of Royal Gorge will reduce the isolation and inaccessibility of the Municipal Building now created by high volumes of traffic along Royal Gorge Boulevard.

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[1] Recommendations for the Library and a new criminal justice center are discussed later in the narrative.

Public Library

Built in 1902 with funds from the Carnegie Foundation, the Canon City Public Library is centrally located near the corner of 5th Street and Macon Avenue just across the street from the U. S. Post Office. To the west of the library is a small tree-shaded park area. The building, constructed with rusticated stone, is structurally sound. The first floor, five steps above grade, is the primary library service space containing the book stacks and public work/study area. In total, there are approximately 3,400 square feet of public space (stacks and seating) and about 1,675 lineal feet of shelving. The library director's office is used for a number of library-related activities - staff lounge, kitchen, work area and supply storage - and is located on the first floor as well. In the basement are located the public bathrooms, furnace rooms and storage area. The attic also contains a storage room of about 360 square feet.

The Canon City Library is part of the larger Arkansas Valley library system and serves most of the Upper Arkansas region. In addition to the central building, the library offers bookmobile service with nine stops and provides library services to the City and County jails. Over the years, circulation at the library has been steadily increasing. In 1971 circulation for the library was recorded at 59,333, which by 1977 had risen to 76,630. To meet the growing demand for library services as reflected in the circulation figures, the Canon City Public Library has been acquiring substantial numbers of new books. Since 1971, the number of book volumes available to the public has increased from 19,617 to 42,201 in 1977, a growth of 115%. The increased demand for library services has placed additional pressures on the already too-small user and work spaces in the library. As a result, there are a number of major space inadequacies in the Canon City Library:

- the library user space is too small for the existing library service area;
- the library staff working space is inadequate (estimated to be about 16 square feet per employee);
- there is no adequate semi-private public meeting space available;
- off-street parking for the bookmobile, staff and library patrons is inadequate;
- because the main floor of the library is five steps above grade, stairs are required to enter the building, which do not allow ready access for handicapped people.

Recommendations: Canon City Public Library

Like the recommendations for the Municipal Building, the recommendations for the Canon City Library are geared toward the short-term and the long-term and are intended to be a part of the strategy for the revitalization of the central business district.

b. The building should be completely re-wired and new lighting fixtures installed;

c. And new heating and ventilation systems should be installed.

Viewed as a total design solution for the problems identified for the Municipal Building, the recommendations outlined above have several advantages, some of which are:

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[1] Recommendations for the Library and a new criminal justice center are discussed later in the narrative.

Short-Term Recommendations

A. Recommended Remodeling and Site Improvements

1. Because the present library site is centrally located and provides easy access for library users, it is recommended that the existing site and building be used as a basis for future expansion.

2. In order for the library to serve the growing number of library users, it is recommended that the present library be remodeled and that an addition of 4,400 square feet be constructed as outlined in Diagram B . In combination, the remodeled building and the new addition should be able to provide adequate library services for a future population of 25,000 people.

3. By expanding the library to the west onto City-owned property, the overall costs of remodeling can be held to a minimum and additional off-street parking can be provided to the rear of the site, adjoining the alley. The City should consider purchasing that portion of the site now owned by the newspaper and used as parking. Eventually off-street parking sufficient to accommodate 30 cars should be provided.

4. The design alternative proposed to reduce the library's space problems calls for the construction of a new building to be connected to the existing library by a lobby/entranceway (refer to Diagram B).

   a. The new building should become the primary library activity space, with the older building serving as a multi-purpose community space. In time, however, the library will have to expand into the older building to provide the additional shelving and book space needed to serve a larger population. By that time it is anticipated that a multi-purpose community space will be available either at the cultural arts building (the former municipal building) or at the new municipal building.

Longer-Term Recommendations

A. Site Acquisition

1. In order to provide an adequate area for long-term library expansion, it is recommended that the City acquire the property on the east, adjacent to the present library building. If municipal regulations restrict the use of park property for other than park purposes, then the property can be used for the recommended addition to the library.

B. Civic Center Complex

1. Together with the new municipal building and criminal justice center, the library will become an important element in the recommended Canon City civic center complex.

Police and Judiciary Building

The Canon City Police Department and Municipal Court share an old remodeled railroad station with the Canon City Chamber of Commerce.

The building is located at the busy intersection of Royal Gorge Boulevard (U. S. 50) and Colorado Highway 115. To the north of the building is a landscaped park area and located to the rear are the tracks of the Denver and Rio Grande Western Railroad.

The Chamber of Commerce occupies the eastern wing of the converted railroad depot and has office and meeting space totaling about 2,200 square feet. The judiciary has three functional areas - the Court Room, the Judge's chambers and the clerical office - which together occupy about 900 square feet. The Police Department puts to use about 1,700 square feet of first floor space for a variety of law enforcement activities.

The building, of solid masonry construction, is structurally sound. As with many other city departments, the police and judiciary have had additional demands placed on their services as a result of the area's population growth. With greater service demands and an increasing number of employees, work space has become inadequate. The major space problems in the building are as follows:

Municipal Court

- lack of jury room
- lack of adequate office space and long-term records storage space.

Police Department

- cells are inadequate in size according to the standards of the Colorado Department of Health
- lack of training room for on-going professional in-service training
- lack of adequate records storage space
- lack of adequate clerical working space, both for records-keeping and dispatching
- lack of muster/briefing room.

Recommendations: Police/Judiciary Building

The existing Police/Judiciary Building will not be sufficient in size to accommodate the long range space needs of Canon City's criminal justice system. To remedy this anticipated lack of space in the future, it will be necessary either to make significant additions to the existing building or to construct a new criminal justice facility. Until that decision is made, the interior spaces within the existing building can be modified so as to relieve, in the short term, the major space problems.

Short-Term Recommendations

To at least begin to remedy the major space deficiencies for both the Police Department and Judiciary, it will be necessary for the Chamber of

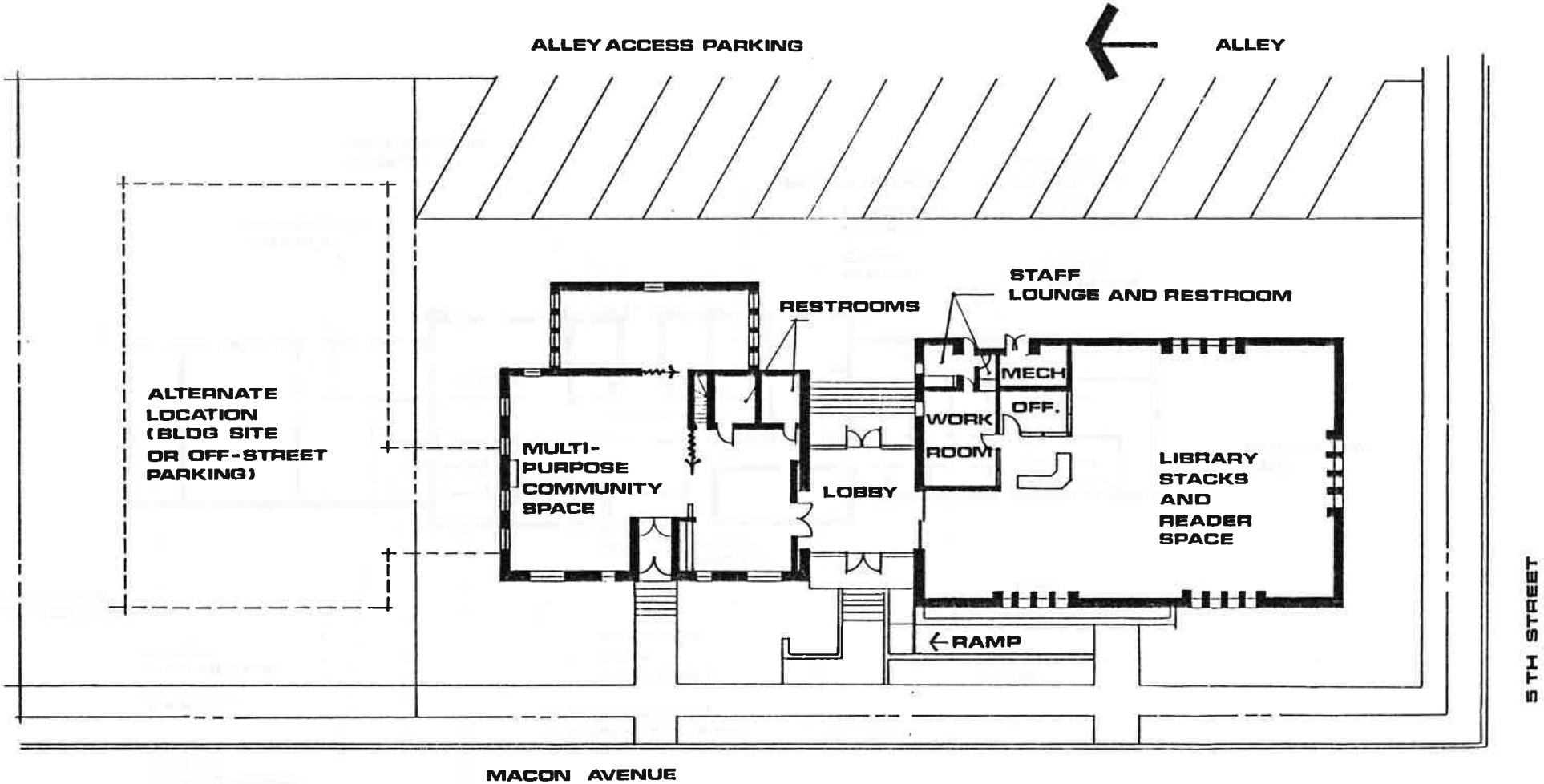


DIAGRAM B

CAÑON CITY PUBLIC LIBRARY EXPANSION PLAN

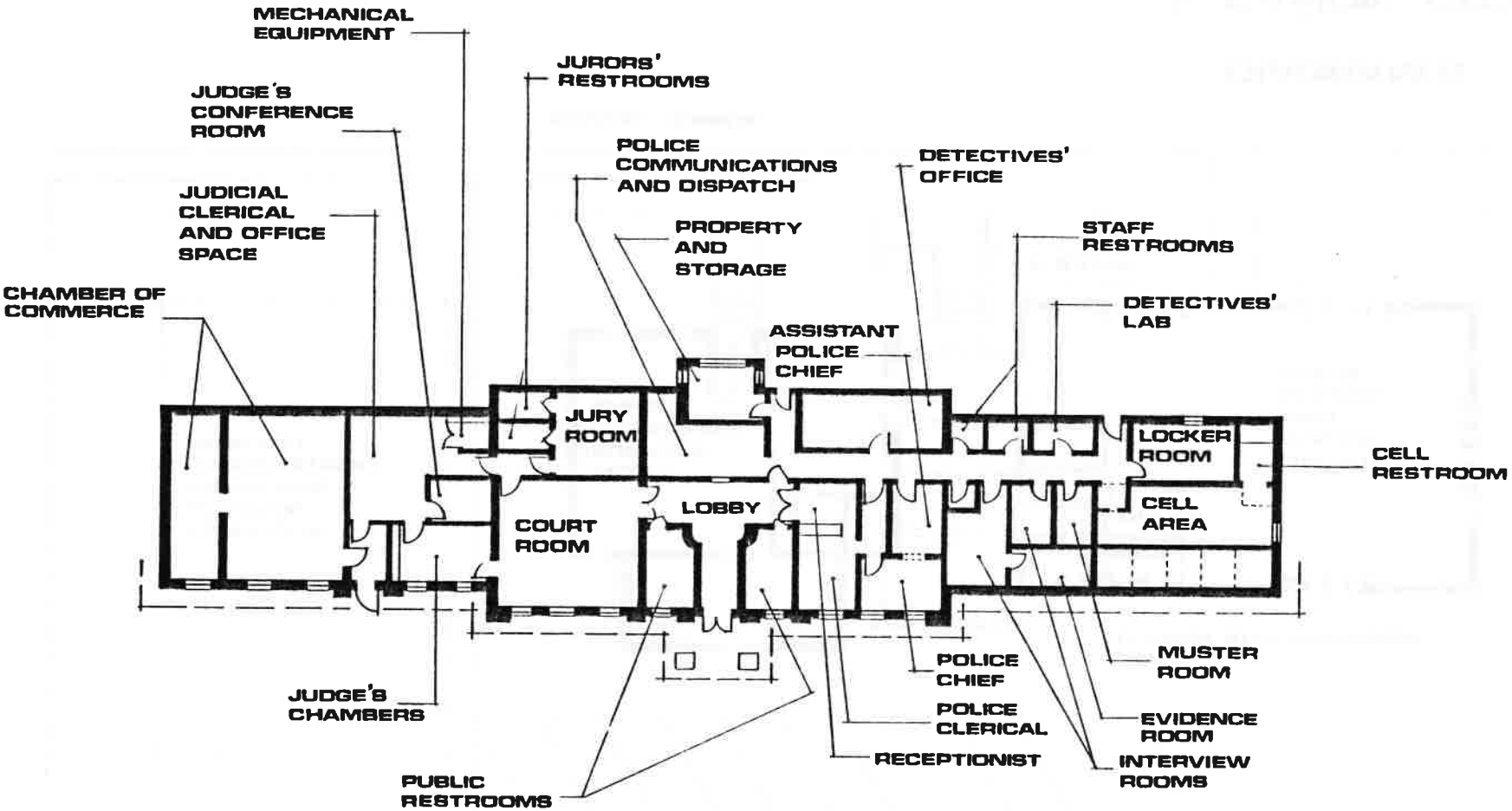


DIAGRAM C

CAÑON CITY COURT AND POLICE BLDG. REMODELING PLAN

Commerce to consolidate its activities into the eastern-most section of the building. This consolidation would reduce the Chamber's office space to about 900 square feet.

Once the consolidation has taken place, it is recommended that the following changes be made so as to most effectively use the available space:

A. Judiciary

1. As can be seen from Diagram C , it is recommended that the Municipal Court Room be moved from its present location in the western wing of the building to the eastern wing. The new space is comparable in size, allowing the existing Court Room furniture to be reused.

2. The existing clerical space and Judge's chamber should be remodeled and used as a jury room.

3. New clerical office space, a small conference room and the Judge's chamber should be built as illustrated in Diagram C .

B. Police Department

1. The space which formerly contained the Municipal Court Room should be partitioned to create separate, smaller office areas for the receptionist, clerical staff and Police Chief as shown in Diagram C .

2. The space that remains within the old Court Room area as well as the space formerly used as the Police Chief's office should be modified to meet the needs of the Police Department. This determination is best left to the Chief and his staff.

These recommendations which outline a program of limited remodeling for the Police Department and Judiciary have a number of advantages:

- The arrangement and remodeling of the office spaces provides for a greater separation of police and judicial activities. With a more complete segregation of the two departments, visitor traffic can be more effectively channeled, thereby creating fewer disruptions for visitors and staff alike.

- By using the old Court Room area as the primary location for Police administrative activities, a stronger spatial separation can be achieved between administrative and dispatch/communications operations. Without the separation, the noise associated with the operation of the dispatching equipment can be quite disruptive.

Long Term Recommendations

As was stated earlier in this section on public buildings, it is recommended that the City seek to build a new criminal justice facility that could jointly serve both municipal and county criminal justice activities. The growth anticipated for Canon City and Fremont County will increase the service and staffing requirements of both law enforcement agencies.

A shared facility can provide support services and equipment (such as laboratory investigations, etc.) to area-wide law enforcement agencies, thereby avoiding costly duplication of equipment and staff.

It should be re-emphasized that the joint city/county criminal justice facility is an important part of the civic center complex recommended for the downtown area of Canon City. Such a facility could serve as a magnet drawing into the central business district related activities such as legal offices and other professional services.

Fire Department
Water and Street Department

Fire Department

The Canon City Fire Department and the Water and Street Department occupy a large structurally sound building just east of the 4th Street Viaduct at Royal Gorge Boulevard. The building is built on a hillside, and is split level. The building site backs onto the railroad tracks to the south and the 4th Street Viaduct to the west.

The Fire Department serves a large two-part district of approximately 120 square miles. The central part of the district includes the predominately urban land within the municipal boundries of Canon City and the second part is the rural unincorporated areas at the periphery of the City. At present there are 14 full-time fire fighters, 18 volunteers, and seven pieces of fire fighting equipment in addition to several pieces of emergency equipment.

The location of the fire station at the extreme western edge of Canon City reduces the response time to the eastern sections of the fire district. The response time throughout the district is sometimes restricted due to traffic congestion along Royal Gorge Boulevard and limited access across the Arkansas River. With increases in rail traffic expected as a result of energy development west of Canon City, crossing the railroad tracks at grade may become more difficult in the months and years ahead. The possible delays brought about by rail traffic could further reduce the Fire Department's response time, particularly to those areas south of the Arkansas River. The possible impacts of increased rail traffic on the fire protection services are especially important in view of the age and deteriorating condition of the 4th Street Viaduct.

Within the fire station there are four principal functional areas. The major area is referred to as Station One and contains about 2,200 square feet of space devoted to equipment and vehicle storage, maintenance areas and office space. Station Two (1,800 square feet) is located west of Station One in a concrete block addition to the original structure and is used primarily for vehicle storage. Station Three, in the lower area of the building, contains about 500 square feet and is used to store the 65 foot aerial ladder truck. Above Station One is the dormitory area (1,800 square feet) for the fire fighters which includes a bunk room, kitchen, locker rooms, recreation and lounge areas and a covered patio used for storage.

Recommendations

To solve the most pressing of the problems of the Fire Department, it will be necessary to construct a new fire station. A new station will reduce the existing lengthy response times, thereby increasing the effectiveness of the life and property protection service of the Fire Department.

The existing fire station should be satisfactory for service to the western half of the fire district for the next five to eight years. However, it is recommended that a new site be acquired for an additional fire station. It is recommended that the site be located along Raynolds Avenue, south of U. S. Highway 50 as is shown on Map J . This location is most suitable for a new fire station because of the availability of large tracts of undeveloped land, its proximity to the high property value areas along U. S. 50 and its central position within the anticipated future growth area of Canon City.

It is further recommended that the site should not be less than one acre in size. A larger site of 1-1/2 to 2 acres would provide for more flexibility in the future, should expansion be necessary. A one acre site, however, is large enough for a two or three stall station, a utility area and parking space.

Careful monitoring of response rates should continue after the construction of the new station. Changes in future population densities and land use patterns will significantly influence the effectiveness of fire protection services. Should Canon City grow much faster than is projected, the construction of additional fire stations may be necessary to provide acceptable levels of service.

Water and Street Department

The Water and Street Departments share the building at the corner of 4th Street and Royal Gorge Boulevard with the Fire Department. Because most of the work that is done by the Water and Street Departments takes place out in the community, most of the building space needed by these departments is for limited shop activities and the storage of vehicles, equipment and material.

A major concern of both the Street and Water Departments is covered building space for vehicle and material storage. Covered building space has several advantages: during the cold weather months, covered storage space provides enough protection from colder temperatures to make it easier to start the diesel and gasoline engines of the City's various vehicles and covered storage space provides protection from the weather which may prolong the usable life of maintenance vehicles.

For both Departments, covered vehicular space is inadequate for the number of vehicles now in use. The Water Department, however, has the additional problem of inadequate areas for large, heavy and bulky water and sewer fittings and pipes. Because of the lack of adequate storage space, much time is needlessly spent in loading, unloading and rearranging water and sewer fittings which may have the result of reducing overall

department productivity. Tasks related to the storage and pick-up of parts, which under better conditions might require only one employee to perform, now require two or three employees working together. Most of the water and sewer fittings are presently stored in a shed-like structure underneath the 4th Street Viaduct.

Recommendations

For the next five to eight years, the Street and Water Departments should have adequate space at their existing building - provided a new fire station is built. Upon completion of the new fire station, at least half of the fire trucks now stored in the building would be moved. With the transfer of this equipment, additonal space should become available for use by the Street and Water Departments, especially if fire vehicle storage in station areas two and three can be eliminated completely.

As Canon City grows in the years to come, the service demands placed on the Street and Water Departments will grow as well. Although part of the work load of the Water Department may be reduced by the Regional Wastewater Treatment District, should the District take over the maintenance responsibility for sewage collection lines, space problems will nonetheless become more aggravated in the future for both departments. Therefore, it is recommended that during the next eight to ten years, the Street Department should be relocated onto the site of the new Maintenance Department building. The Water Department should then expand into the rest of the building, thereby remaining within easy traveling distance of the water treatment facility approximately one mile to the west.

City Maintenance Shops

At present Canon City's maintenance facilities are located in the old East Canon Hall complex on Cottonwood Avenue near the eastern edge of the municipal limits. On the site there are three separate buildings - the old municipal/community building, the maintenance garage and the paint/storage building. Only the rear one-third of the municipal/community building is used by the Maintenance Department as office and parts storage (approximately 225 square feet). The garage has three stalls with overhead storage space of about 450 square feet. The paint/storage building totals about 840 square feet.

The maintenance garage is inadequate in size for a number of reasons: the height of the overhead doors is not adequate to allow easy vehicle entry into the stalls (this is particularly a problem with the new and very large La France fire truck); the stalls are not large enough to carry on a number of maintenance activities at one time nor are there enough stalls to allow flexibility in maintenance scheduling.

The maintenance shop is surrounded predominantly by residential land uses. Although the adjoining area is not fully developed, a gradual in-filling of the vacant parcels has been taking place over the past several years. The zoning for the area in which the shop is located is designated as "Resident A" allowing for single-family and two-family dwelling units, limited agricultural activities and some types of public and semi-public land uses.

With recent population growth in Canon City, the workload for on-going maintenance of municipal vehicles and equipment has been growing steadily. These additional demands have pushed the existing working space at the shop to its functional limit. Given the nature of the work performed at the facility (with frequent engine noise, exhaust, traffic and unpredictable working hours), the present site is increasingly in conflict with the surrounding residential land uses.

Recommendations

The existing maintenance garage is inadequate to provide the level of service necessary to keep the City's fleet of vehicles running well. Because of the inadequate work space, there is little opportunity for developing flexible and effective maintenance schedules. Much time is spent shifting equipment from spot to spot which reduces the Department's overall productivity and increases maintenance time on each piece of equipment.

Particularly for a building type like a maintenance garage, it is of the utmost importance to have a site which is large enough to easily accommodate modular expansion. Changing technology in maintenance equipment may require larger and more sophisticated maintenance facilities. Therefore, it is recommended that Canon City acquire a site of up to five acres in size to house a new maintenance garage.

The recommended area for the building site is the industrially zoned area east of Ninth Street, between Royal Gorge Boulevard and Vine Street. This general area has good access to the major transportation corridors of Royal Gorge Boulevard and Ninth Street and is centrally located.

It is recommended that a new maintenance garage should be constructed. The garage should be at least 7,000 square feet in size with a minimum of four stalls and should be adjoined by at least 5,000 square feet of surfaced parking area. The garage should be located on the site so as to allow for easy future expansion.

After the construction of the new garage, East Canon Hall could be used as a long term municipal record storage building or for some other community activity space. Another alternative is to sell the property.

Parks and Forestry Department

The major buildings of the Canon City Parks and Forestry Department are located on a single site at the western edge of Centennial Park. The primary structure used by the Department staff is a large, uninsulated prefabricated metal building, approximately 4,200 square feet in size. Of this total square footage, about 120 square feet are devoted to administrative and office activities while the remainder is used for storage and employee workspace.

To the south of the main building is a single level concrete structure used to store some types of materials and equipment. This structure is long and narrow in width, measuring about 80 by 15 feet (or 1,200 square feet).

Unlike the maintenance shop site, the existing site for the Parks Department is large enough to allow for future building expansion. Thus the major space deficiencies are not at the site scale but relate to building space. The present size of the administrative office area of the Department is too small, particularly when desk and filing space is combined with the space occupied by a drafting table. The concrete structure is in poor condition and is unsuitable for any type of material requiring watertight storage. As a result, many of the fertilizers, pesticides and other agricultural chemicals used in the day-to-day activities of the Department are stored in the main building. Many of these substances are clearly hazardous to human health and should be stored in a structure well separated from employee workspaces.

Recommendations

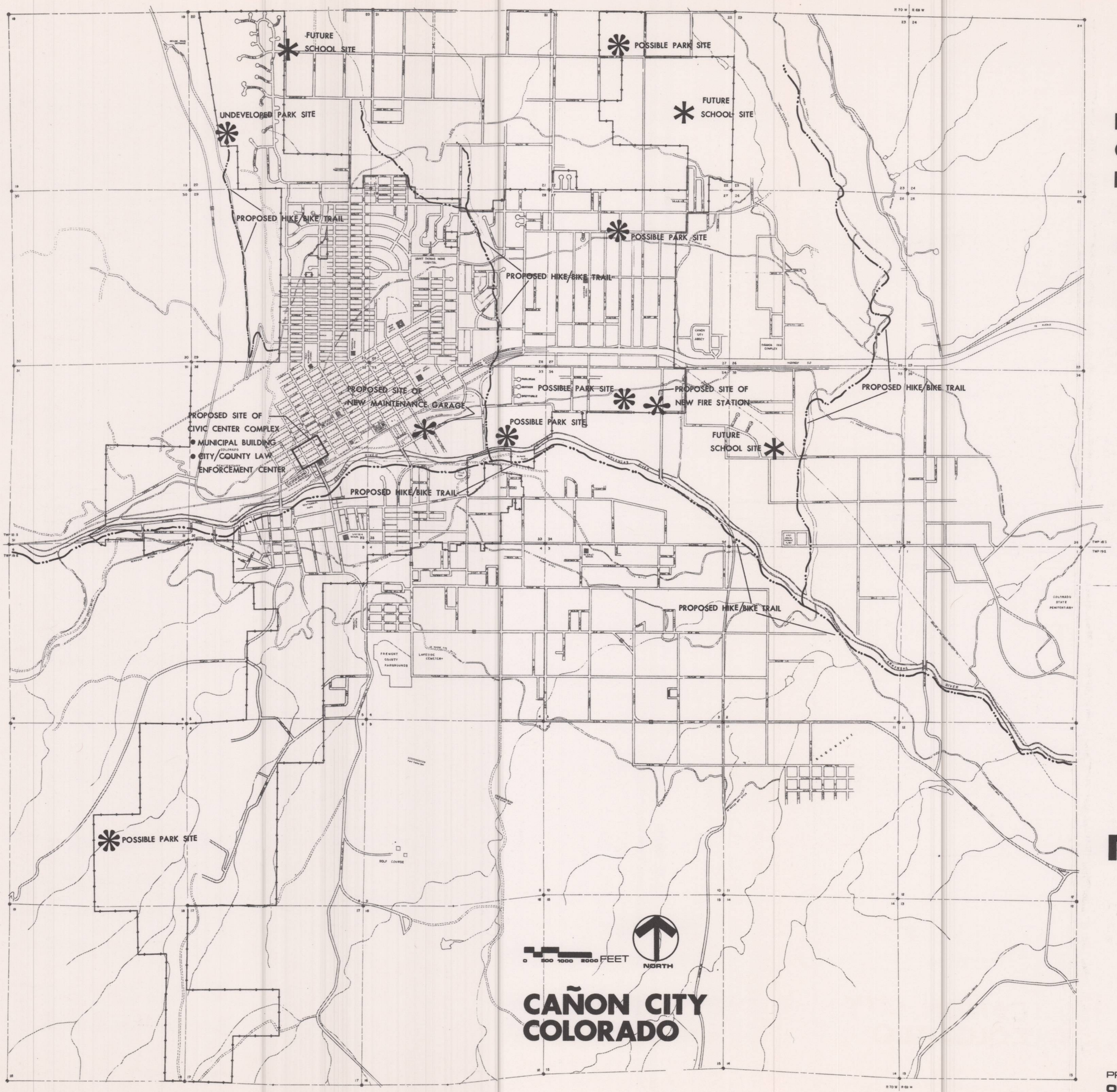
In the short-term, the existing Parks and Forestry Department building should be adequate for most types of departmental responsibilities. Aside from the need for an enlargement of administrative office space, the only other inadequacy concerns the storage of fertilizers, pesticides and other agricultural chemicals in the main building. In the near future, an additional storage shed should be constructed separate from the main building.

Fine Arts Building

The Canon City Fine Arts Building is located southwest of Royal Gorge Boulevard on 5th Avenue. Constructed of brick with a corrugated metal roof, the Fine Arts Building is in fair condition. Within the building there are three functional areas: work shop (800 square feet); classroom area (1,200 square feet); and an exhibition area with kitchen and bathroom facilities (1,600 square feet).

There are several space inadequacies in the present structure. Because of the arrangement of the functional spaces within the building, it is difficult to carry on a number of activities at one time without disturbance. Also, the basement underneath the exhibition room containing about 900 square feet is used as a storage area for art materials and projects, although moisture and seepage oftentimes damage some of the materials stored there.

At present, given the financial constraints faced by Canon City, it is unlikely that funds will be available in the near future for any significant alteration of the Fine Arts Building. It was recommended earlier in this section, however, to eventually construct a new municipal building and to recycle the existing city hall into a cultural arts center containing the museum, fine arts and possibly performing arts activities.



FUTURE COMMUNITY FACILITIES

- POSSIBLE PARK SITE
- PROPOSED PUBLIC BUILDING SITE
- FUTURE SCHOOL SITE
- PROPOSED HIKE/BIKE TRAIL

MAP J

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XII TRANSPORTATION

Introduction

Vehicular traffic is increasing on the highways and streets throughout the country. This is especially true in the greater Canon City area. Rising consumer incomes are permitting increased vehicle ownership which in turn influences increased vehicle usage. With more people driving more cars on the streets and highways it becomes very important to upgrade and maintain efficient traffic systems, particularly in urban areas such as the greater Canon City area, in order to reduce vehicular congestion and keep traffic accidents to a minimum.

The largest single traffic generator in the Canon City area is the Central Business District. If the easy movements of people and goods on a relatively few strategically located arterial streets can be accomplished expeditiously to and from the main traffic generators then traffic problems will be reduced as will the overall cost of street construction and repair.

The primary purpose of this study is to evaluate the existing major street system in the Canon City planning area and to formulate a recommended major thoroughfare plan for future arterial and collector streets to serve efficiently the growth areas which will result from the projected increase in the population and economy of Canon City. Other purposes of this study are to review the problems related with other modes of transportation including railroads, airports, bus and other transit systems. Street standards for major thoroughfares are also recommended in this element of the Plan.

Recognizing that population increases will continue to occur in the Canon City planning area and that vehicle ownership as well as vehicle usage will keep pace, it appears that serious capacity deficiencies on several key roadways will develop in the very near future if remedial steps are not taken soon. At this time, according to peak hour traffic counts taken by State Highway Department personnel on Royal Gorge Boulevard during August of 1977, the maximum capacity of this most important roadway facility was almost reached during the tourist season of 1977. Alternate solutions to this problem will be discussed later in this element along with vehicular/rail problems that could develop from increased railroad activity in the planning area. Since the street network is the major element of the transportation system, it is discussed initially.

Existing Major Street System

The existing major streets in the Canon City planning area are shown on the Major Street System Map. Shown are five functional classes[1] of roadways: freeway, principal arterials, minor arterials, collectors, and local streets. These types all serve specific purposes in an urban area and are defined as follows. The function of a freeway is to provide for the movement of high volumes of through traffic at relatively high speeds for long distances. Access is generally controlled and freeways provide no service to contiguous land uses. Arterial streets are also prime movers of traffic between various sections of a city and form a network of through streets.

[1]Classification system utilized by the Colorado State Department of Highways.

Service to abutting properties and access to same are secondary functions. The collector is a dual function street in that it collects traffic from local streets and carries it to the arterial system. Its secondary function is to serve abutting properties. Local streets have the primary function of providing access to abutting properties. Through traffic movements should be discouraged on this type of street facility.

Shown in the freeway class is that portion of U.S. 50 outside the incorporated area of the City. Principal arterials include Royal Gorge Boulevard (U.S. 50), and that portion of Colorado Highway 115 within the corporate limits of Canon City. Minor arterials consist of Main Street, a portion of 5th Street, 9th Street, 15th Street, Orchard, Dozier, Central, High, College Avenue, MacKenzie Avenue, Ash Street and a portion of Raynolds, Grand Avenue, 4th Street south of U.S. 50 and South 1st Street. Collector streets are indicated on the map and in most cases have been classified by function rather than the criterion of traffic volume. All remaining streets are classified as local streets.

Street Characteristics

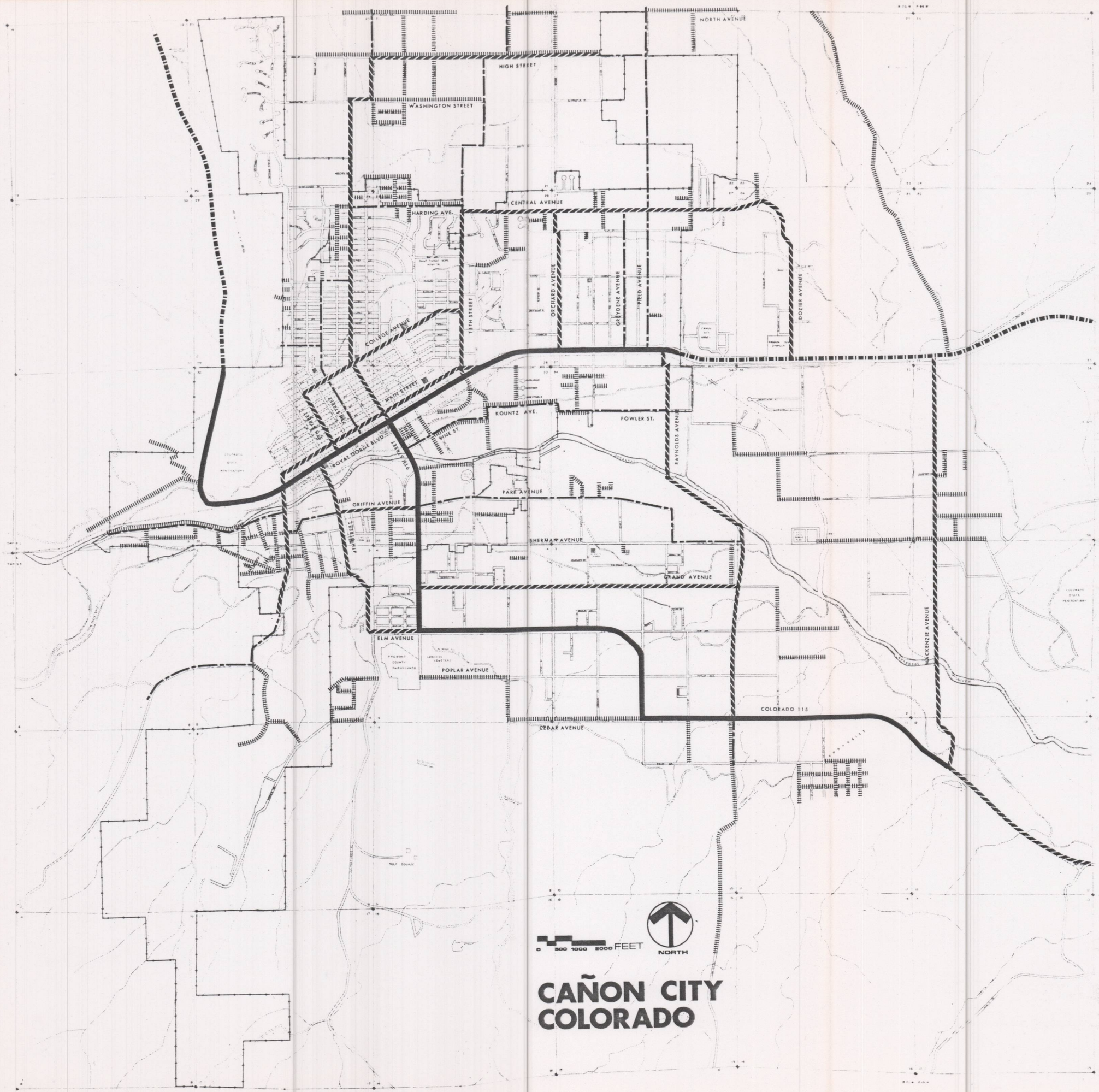
An inventory of the total existing major street system in the Canon City area was undertaken and the results are contained in tabular form as a technical appendix at the back of this document. Of primary concern in this inventory were the following characteristics of each roadway: width of the traveled surface, surface type and condition, presence of curb and gutter and parking restrictions. Unpaved streets are shown graphically on the Existing Major Street System Map.

Overall, that portion of the major street system that is paved is in good condition. Many had recently been resurfaced or a slurry seal applied and a large percentage of these streets had curb and gutter. It appears that the streets in that part of the community that is not densely developed are generally without curb and gutter and in some instances the edges of the paved roadway are starting to crack. It was noted that many streets did not have adequate pavement markings. Almost all of the streets south of the River have been constructed without curb and gutter and in general there is insufficient area along these roadways to accommodate parking. Although not always signed, it is usually apparent where parking is allowed and/or restricted on streets throughout the planning area.

Parking is a problem in the core area of Canon City and suggested solutions will appear in the plan portion of this element as well as the Central Business District Plan section.

Signalized Intersections

At the present time there are six signalized intersections in Canon City. Traffic actuated signals are located on Royal Gorge Boulevard; one at 16th Street and the other at the 9th Street intersection. The other four traffic signals are on Main Street at the 5th Street, 6th Street, 7th Street, and 9th Street intersections. Each of the Main Street installations consist of eight post-mounted signals - two on each of the four corners of the intersections. All signal heads have 8-inch lenses and the phasing is fixed time.



EXISTING MAJOR STREET SYSTEM

- FREEWAY AND EXPRESSWAYS
- PRINCIPAL ARTERIAL
- MINOR ARTERIAL
- COLLECTOR
- LOCAL (ALL OTHERS)
- UNPAVED STREETS

CAÑON CITY COLORADO

MAP K

PREPARED BY
OBLINGER-SMITH CORPORATION

All are set on a 60-second cycle with Main Street having 30 seconds of green time and 6 seconds of amber. This indicates that the cross streets have 18 seconds of green time and 6 seconds of amber. Since the signals are post-mounted on the corners, they tend to blend in with the other signing up and down Main and are sometimes difficult to see. It was also noted that these four Main Street signalized intersections were not synchronized with each other making a through movement improbable.

The traffic signal lights at Royal Gorge Boulevard and 9th Street are the responsibility of the Colorado State Department of Highways. Control of traffic is accomplished presently with fifteen signal heads, six of which are suspended on a cable across Royal Gorge Boulevard. Leading left turn arrows are provided for the westbound traffic on Royal Gorge Boulevard desiring to turn left on 9th Street, and northbound 9th Street traffic also has a leading left turn arrow onto Royal Gorge Boulevard. Eastbound traffic on Royal Gorge Boulevard is provided a right turn green arrow onto 9th Street when there is no conflicting traffic movement. The signalization for the left turns is traffic actuated and the leading left turn signals are set for a 20-second minimum and 35-second maximum green time.

The eight post-mounted signals on the four corners are equipped with 8-inch lenses and are sometimes difficult to see; however, the signal heads on the cable over the intersections all have 12-inch lenses and provide good visibility. The right turn green ball for eastbound traffic turning south on 9th Street also has a 12-inch lens. Right turn on red, if clear, is allowed at this intersection.

A total of thirteen signal heads are utilized to control traffic movements at the Royal Gorge Boulevard/East Main/Main Street intersection. The presence of the frontage roads, Rainbow Drive and Fremont Drive, at the intersection makes the signal timing and phasing much more complicated than it would normally be. The phasing at this intersection is as follows: both eastbound and westbound traffic on Royal Gorge Boulevard move at the same time. There are no left turn signals, either leading or following, for this east-west traffic. Next, the vehicles on Main and Fremont Drive move at the same time if cars are present to activate this phase. Next, Rainbow Drive traffic moves in both directions if vehicles are present to activate this signal phase. East Main vehicles moving northbound onto Royal Gorge Boulevard or through the intersection make up the last phase. The activated signals have a 35-second maximum green time for traffic coming from the frontage roads.

All signal heads at this intersection are suspended on cables over the intersection and in line with the lanes of traffic each controls. All lenses in all the signals are 8-inch except the four red balls in the four heads on Royal Gorge Boulevard. These four red balls have 12-inch lenses. "No Right Turn on Red" is posted in all directions at this intersection.

Traffic Volumes and Capacities

Traffic volumes in the Canon City area have been changing and growing as the population continues to increase. As new growth areas develop, traffic volumes shift from one major street to another, most gain but some lose; however, those facilities carrying large volumes of through traffic continue to show increases. Table 70 compares traffic counts taken by the Colorado

TABLE 70
TRAFFIC COUNT COMPARISONS 1973 AND 1977
AVERAGE ANNUAL WEEKDAY TRAFFIC

Street	1973	1977	Percent Change
Royal Gorge Boulevard			
East of MacKenzie Avenue	5,750	6,550	+12.2
West of MacKenzie Avenue	8,000	8,850	+ 9.6
West of Dozier Street	10,500	10,900	+ 3.7
West of Raynolds Avenue	11,000	12,900	+14.7
East of 15th Street	11,700	13,200	+11.4
East of 9th Street	13,800	15,400	+10.4
West of 1st Street	5,900	5,750	- 2.5
Skyline Drive Entrance	3,850	4,900	+21.4
College Avenue			
East of 12th Street	2,850	3,050	+ 6.6
Main Street			
East of 1st Street	2,050	1,250	-39.0
West of 7th Street	8,900	7,350	-17.4
East of 9th Street	8,000	6,900	-13.7
West of 15th Street	6,750	7,350	+ 8.2
East Main Street			
East of Royal Gorge Boulevard	1,250	1,850	+32.4
West of Raynolds Avenue	650	1,500	+56.7
Harding Avenue			
West of 15th Street	430	750	+42.7
Central Street			
East of 15th Street	1,650	2,050	+19.5
East of Orchard Avenue	1,450	1,700	+14.7
East of Field Avenue	1,150	960	-16.5
5th Street (North)			
Between Royal Gorge Boulevard and Main	2,250	3,350	+32.8
North of College Avenue	1,100	1,750	+37.1
7th Street (North)			
North of College Avenue	1,450	1,150	-20.7
9th Street (North)			
Between Royal Gorge Boulevard and Main	6,150	6,150	0
South of Harrison	3,950	5,150	+23.3
North of College Avenue	3,300	4,150	+20.5
Between Harding and Washington	1,000	2,850	+64.9
12th Street (North)			
Between Royal Gorge Boulevard and Main	1,000	1,250	+20.0

(Table is continued on following page)

TABLE 70 CONTINUED
TRAFFIC COUNT COMPARISONS 1973 AND 1977
AVERAGE ANNUAL WEEKDAY TRAFFIC

Street	1973	1977	Percent Change
15th Street (North)			
North of Main Street	4,000	4,750	+15.8
North of College Avenue	3,700	4,500	+17.8
Orchard Avenue			
North of Royal Gorge Boulevard	1,000	1,750	+42.9
North of Central Street	1,200	1,400	+14.3
Field Avenue			
North of Royal Gorge Boulevard	750	590	-21.3
South of Central Street	500	460	- 8.0
Between Central and High	700	590	-15.7
MacKenzie Avenue			
South of Royal Gorge Boulevard	2,650	2,750	+ 3.6
South of Grandview	2,650	2,650	0
North of Colorado 115 (Cedar Avenue)	2,400	2,350	- 2.0
1st Street (South)			
South of U. S. 50	1,950	2,000	+ 2.5
South of Riverside	1,350	1,350	0
4th Street (South)			
South of Viaduct	2,150	2,600	+17.3
South of Griffin Avenue	1,550	1,850	+16.2
At Highland Avenue	1,450	1,300	-10.3
South of Elm Avenue	1,350	1,950	+30.8
9th Street (South)			
South of River Bridge	12,400	12,500	+ 0.1
South of Griffin Avenue	9,150	9,250	+ 1.1
South of Grand Avenue	6,150	6,400	+ 3.9
Elm Avenue			
East of 9th Street	7,300	5,200	-28.8
West of Chestnut Street	3,950	4,600	+14.1
Chestnut Street			
South of Elm Avenue	3,400	3,650	+ 6.9
Cedar Avenue			
East of Chestnut Street	2,650	2,850	+ 7.0
East of Brookside	2,600	2,700	+ 3.7
East of MacKenzie Avenue	3,850	4,500	+14.4
Grand Avenue			
East of 9th Street	1,500	1,450	- 3.3
East of 12th Street	1,200	1,450	+17.2
West of Chestnut Street	630	1,000	+37.0

(Table is continued on following page)

TABLE 70 CONTINUED
TRAFFIC COUNT COMPARISONS 1973 AND 1977
AVERAGE ANNUAL WEEKDAY TRAFFIC

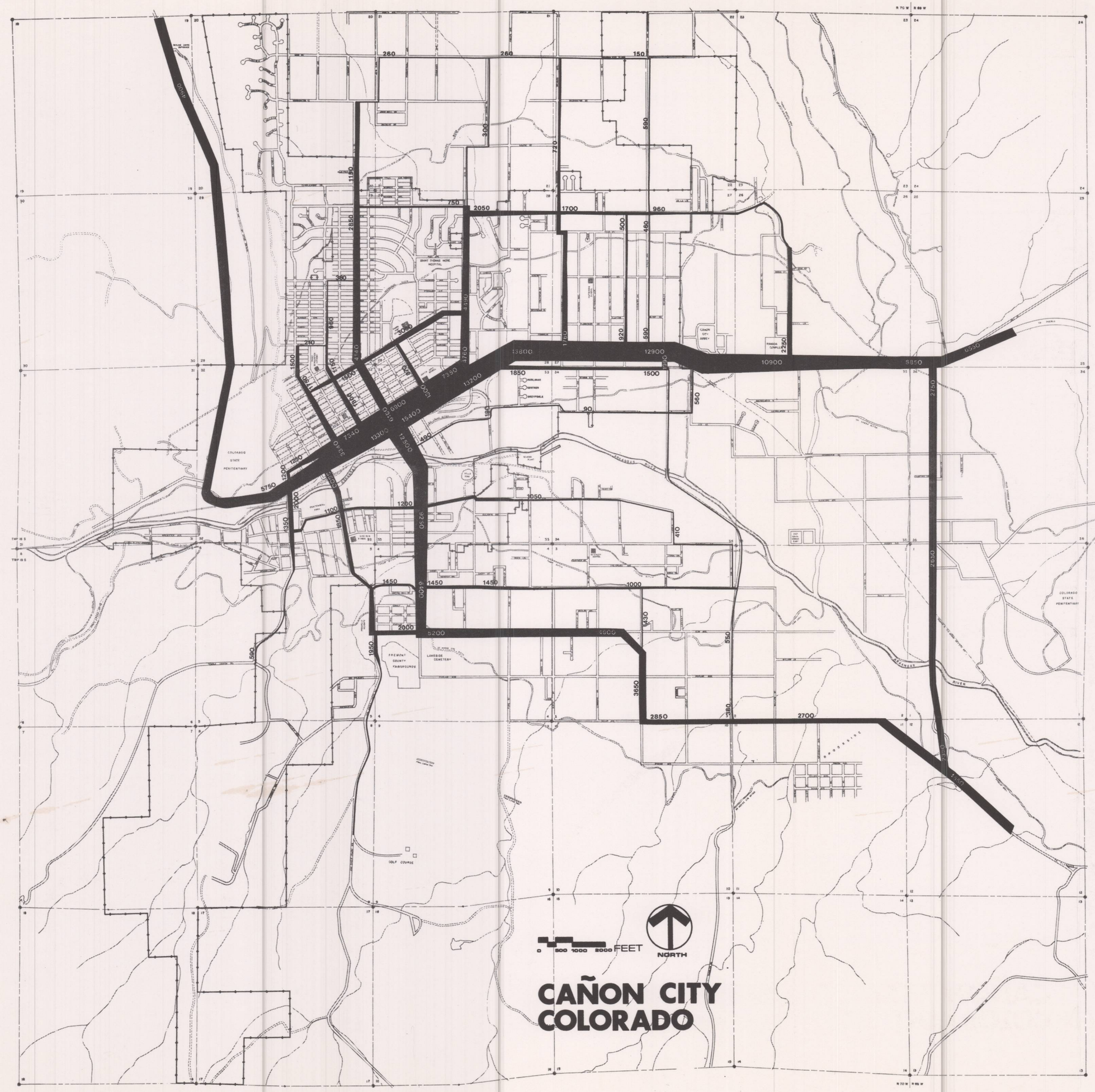
Street	1973	1977	Percent Change
Park Avenue			
East of 9th Street	1,750	2,050	+14.6
East of Logan	870	1,050	+17.1
Raynolds Avenue			
Between East Main and U.S. 50	720	2,000	+64.0
Griffin Avenue			
West of 4th Street	670	1,100	+39.1

Source: Colorado State Department of Highways and Oblinger-Smith Corporation, Consultants in Planning, Design and Development, 1978.

State Department of Highways for the years 1973 and 1977. The counts are indicated as "Average Annual Daily Traffic" counts (ADT) and have been adjusted for seasonal variations to reflect average weekday totals on an annual basis. These counts are shown graphically on Map L.

Data in the Table indicate that almost all of the major streets show increases in traffic volumes. Those showing the largest gains include: East Main Street, Harding Avenue, 5th Street, 9th Street, 15th Street, Orchard Avenue, 4th Street, Cedar Avenue, Park Avenue and Raynolds south of U.S. 50. Main Street registered sizeable decreases along that portion in the Central Business District indicating that people possibly are trying to escape the congestion of the core area as well as the hazards caused by angle parking along both sides of Main Street. Seventh Street north of College Avenue showed a 20.7 percent decrease for the period studied. Field Avenue, along its total length, registered sizeable decreases in traffic volume.

As mentioned previously, steady increases in population cause increases in traffic volumes. At some point in time some of the major streets in the Canon City planning area will reach their capacities and will no longer be able to provide for the safe and efficient movement of traffic. When this happens, additional capacity must be provided either within the street itself or within the travel corridor. To improve the traffic carrying capability of a street, numerous traffic engineering applications can be applied. Some of these include: Changing from angle parking to parallel parking to gain additional lanes or the removal of parking altogether; making a street one-way; elimination of left turns at selected intersections; and the installation of modern and progressively timed traffic signals to improve traffic flow. Recommendations to deal with specific problems will be suggested later in this Plan.



EXISTING TRAFFIC VOLUMES

LEGEND

0 5000 10,000 15,000

AVERAGE DAILY TRAFFIC (ADT) 1977

MAP L

PREPARED BY
OBLINGER-SMITH CORPORATION

TABLE 71
TRAFFIC VOLUMES AND ESTIMATED ROADWAY CAPACITIES AT SELECTED POINTS IN THE CANON CITY PLANNING AREA

Location	Peak Hour Count[1]	Ratio of Volume to Capacity
U.S. 50, southwest of 1st Street	818	818/1600
U.S. 50, between 6th and 7th Street	1349	1349/1600
U.S. 50, between 9th and 10th Street	1505	1505/1600
U.S. 50, between 15th and 16th Street	1286	1286/1600
U.S. 50, northeast of intersection of U.S. 50 and East Main	1358	1358/2400
U.S. 50, west of Raynolds Avenue	1288	1288/3000
1st Street, between Main and Macon Avenue	28	28/600
1st Street, between Main and U.S. 50	112	112/600
1st Street, between U.S. 50 and Riverside Drive	207	207/600
4th Street, between U.S. 50 and Water Street	241	241/500
5th Street, between Main and U.S. 50	318	318/600
7th Street, between Harrison and Greenwood Avenue	169	169/600
7th Street, between Main and U.S. 50	235	235/600

(Table continued on following page)

TABLE 71 CONTINUED
TRAFFIC VOLUMES AND ESTIMATED ROADWAY CAPACITIES AT SELECTED POINTS IN THE CANON CITY PLANNING AREA

Location	Peak Hour Count[1]	Ration of Volume to Capacity
9th Street, between Harrison and Greenwood Avenue	510	510/600
9th Street, between U.S. 50 and Industrial Avenue	1028	1028/1360
9th Street, between Prescott and Ussie Avenue	862	862/1600
12th Street, between Harrison and Greenwood Avenue	81	81/600
12th Street, between Main and U.S. 50	119	119/600
15th Street, between Greenwood and Main Street	438	438/600
Main Street, between 2nd and 3rd Street	109	109/1300
Main Street, between 6th and 7th Street	691	691/1300
Main Street, between 9th and 10th Street	642	642/1300
Main Street, between 14th and 15th Street	669	669/1300
Harrison, between 6th and 7th Street	54	54/600

[1]Vehicles per hour.

Source: Colorado State Department of Highways, 1977 Traffic Survey Counts; and Oblinger-Smith Corporation, Consultants in Planning, Design and Development, 1978.

Table 71 shows peak hour traffic counts taken at various locations on the major street system. These peak hour counts were taken by Colorado State Department of Highway (DOH) personnel during August of 1977 at the height of the tourist season. They represent the worst situation that can occur as far as vehicular activity in the City is concerned. Coupled with each peak hour count is the estimated capacity of the roadway at the spot the count was taken expressed in vehicles per hour. This capacity number is caluclated by multiplying the number of lanes times the estimated hourly capacity of the lanes.

Based on the data shown in the Table, it appears that maximum capacity along several roadways has almost been reached. Royal Gorge Boulevard in the vicinity of 9th Street lacks only about 100 vehicles per peak hour to attain maximum capacity of the roadway at that particular location. In fact, all of Royal Gorge Boulevard, except the area west of 1st Street, is nearing its capacity limits. Ninth Street south of U.S. 50 is approaching its present capacity. Other locations where volumes appear to be getting critical are on 15th Street north of Main Street and north 9th Street in the vicinity of Harrison and Greenwood Avenues. Recommendations for increasing capacities in problem areas will be made later in this Plan.

Accidents

During the calendar years 1975 through December 26 of 1978, Canon City recorded 2,488 automobile accidents. Total accidents for 1977 through December 26, 1978, amounted to 1,332. These accidents recorded the last two years produced 75 injuries and 2 fatalities. Besides the physical suffering, the total economic loss incurred from these automobile accidents is staggering. It is thought that by improving the street system physically and improving driver responsibility, traffic accidents can be reduced and economic loss decreased considerably.

The table below shows a summary of the accident experience in Canon City by year and by month.

TABLE 72
ACCIDENT EXPERIENCE - CANON CITY - 1975-1978

Total Accidents by Month

	1975	1976	1977	1978	Monthly Totals
January	41	48	41	54	184
February	31	50	31	40	152
March	36	45	41	41	163
April	41	46	40	53	180
May	59	62	56	65	242
June	52	52	59	58	221
July	49	52	74	73	248
August	56	49	66	99	270
September	38	44	47	59	188

(Table continued on following page)

TABLE 72 CONTINUED
ACCIDENT EXPERIENCE - CANON CITY - 1975-1978

Total Accidents by Month

	1975	1976	1977	1978	Monthly Totals
October	36	46	50	74	206
November	53	47	51	52	203
December	47	74	43	67*	231
ANNUAL TOTALS	539	615	599	735	2,488

*Total through December 26, 1978.

Source: Canon City Police Department.

According to the data in the table, annual accident totals displayed an upward trend for the four-year period. As traffic volumes on the street system increase, congestion also increases and this usually results in more traffic accidents. This is also indicated by noting that the tourist season months of May, June, July and August are the high accident months when traffic volumes are abnormally high.

The reports for accidents resulting in injuries for the 1977-1978 period were reviewed to determine the major causes of injuries in Canon City. Table 73 summarizes these findings.

TABLE 73
INJURY ACCIDENT CAUSES - CANON CITY 1977-1978

Rank		Number of Injuries
1	Careless Driving	19
2	Failure to Yield	10
3	Driving Under the Influence	8
4	Ran Red Light	7
5	Hit and Run	4
6	Following too Closely	3
6	Improper Left Turn	3
6	Vehicle/Bicycle Accident	3
7	Ran Stop Sign	2
7	Vehicle/Pedestrian	2
7	Fell Out of Vehicle	2

Note: The cause of accident for 15 injuries was noted "Unknown" or no cause was given.

Source: Canon City Police Department.

During this same time period there were two fatalities caused by traffic accidents. One was a train/vehicle collision and the second involved a vehicle which ran off the road because of excessive speed on a curve.

Railroad Facilities

At the present time the Canon City area is served by two railroads: the Denver and Rio Grande Western and the Santa Fe. Both lines handle only freight and no passenger service is presently offered and likely will not be in the future.

The Denver and Rio Grande Western Railroad serves Canon City and Fremont County in the east-west direction. The railroad maintains from 8 to 10 runs through the Canon City area daily. These are all through trains except one, which is a night run and requires some switching. Presently the unit coal trains passing through Canon City are averaging about two to three per week and are not regularly scheduled runs. All of the regularly scheduled trains carry strictly miscellaneous freight and no coal cars are mixed in with the other cars.

The typical coal train is made up of 50 coal cars, each with a 100-ton capacity. The coal cars generally stay together as a unit and only the engine and caboose are changed as the train goes from one line to another. This makes handling and accounting much easier and much time is saved. However, the unit coal train has a payload only one way and must go back empty to the coal source. Due to the grades in the Canon City area and to the west, the coal trains have been restricted to no more than 50 cars in length and can move no faster than 30 miles per hour. The frequency of coal train runs through Canon City is projected to increase during the planning period and this problem will be discussed in the plan section of this element.

The Santa Fe Railroad has only two to three trains a week in the Canon City area. The Railroad enters the planning area from the west and serves industrial uses in south Canon City. Additional activity is projected by the Railroad sometime in 1979. As many as four runs daily could occur on their south spur and this would equate to eight crossings daily at the following crossings: 1st Street, Griffin, Myrtle, Ussie, Forge Road and the Industrial Park. Switching demands would also increase to the point where the Santa Fe would have to develop additional trackage.

An inventory of all at-grade railroad crossings was made to determine roadway conditions at each crossing as well as the adequacy of the railroad crossing protection devices. Table 74 on the following page presents a summary of this information.

The condition and adequacy of the signs and protective devices, in general, are good. Most of the crossbuck installations are standard according to the "Manual on Uniform Traffic Control Devices." It was noted that many of the crossings lacked the advance railroad warning sign (W10-1) from one direction. Several lacked the advance warning sign from both directions. The presence of these W10-1 warning signs is very necessary and will become more important as railroad activity increases in the future. It was noted that the condition of the roadway where it crosses the trackage is very rough and in poor condition at many of the crossings. The worst conditions appeared to be on gravel roads in the planning area outside of the densely developed portion of the community.

TABLE 74
RAILROAD CROSSING CHARACTERISTICS

Location	Grade	Number of Tracks	Condition of Roadway Crossing	Protective Devices	Condition of Devices	Remarks
Denver Rio Grande:						
At MacKenzie Avenue	At Grade	1	Good	Crossbucks, Bell, Double Flashing Lights and (2) W10-1's[1]	Good	Can be seen well in advance.
At Lincoln Street	At Grade	1	Poor - Rough and Very Narrow	Crossbucks and (2) W10-1's	Good	Road jogs east 50 feet south of tracks. Dangerous misalignment on gravel road.
At Highland Avenue	At Grade	1	Rough and Narrow (Poor)	Crossbucks and (1) W10-1	Good	East W10-1 missing. East crossbucks hidden by telephone pole.
At Grandview	At Grade	1	Fair	Crossbuck and W10-1 on West Side Only	Good	Dangerous curve at tracks. Need warning on east.
At East Main	At Grade	1	Fair	Crossbucks, Bell, Double Flashing Lights and (2) W10-1's	Good. West W10-1 Post Bent	Crossbucks and lights too low.
At Raynolds	At Grade	1	Poor, Very Rough	Crossbucks and (1) W10-1	Good	Need W10-1 south of tracks.
At Graydene	At Grade	1	Fair	Crossbucks and (1) W10-1	Good	Need W10-1 south of tracks.
At Cottonwood	At Grade	1	Fair	Crossbucks and (1) W10-1	Good	Need W10-1 south of tracks.
At Orchard	At Grade	1	Good	Crossbucks and (1) W10-1	Good	Need W10-1 south of tracks.
At East Main	At Grade	3	Very Rough	Crossbucks, Bell, and Flashing Lights	Crossbucks Too Low	Need (2) W10-1 advance signs.
At 15th Street	At Grade	6	Very Rough	Crossbucks Only	Good	Need W10-1

(Table is continued on following page)

TABLE 74 CONTINUED
RAILROAD CROSSING CHARACTERISTICS

Location	Grade	Number Of Tracks	Condition of Roadway Crossing	Protective Devices	Condition of Devices	Remarks
At 11th Street	At Grade	3	Rough	Crossbucks Only	Good	Need W10-1.
At 9th Street North	At Grade	1	Good	Crossbucks and 4 Flashing Lights Each Way	Good	Need W10-1.
At 9th Street South	At Grade	2	Good	(1) Crossbucks South, (2) W10-1's	Good	Need (1) Crossbucks north of tracks.
At 8th Street	At Grade	2	Fair	(2) Crossbucks	One good, One poor.	Street turns just across tracks.
At 4th Street	Viaduct Grade Separated	5	-	-	-	-
At 3rd Street	At Grade	2	Rough	(2) Crossbucks Only	Good	Need W10-1.
At 1st Street	At Grade	2	Rough	(2) Crossbucks, Gates, Flashers	Good	Need W10-1.
Santa Fe:						
At Griffin	At Grade	1	Fair	(1) Crossbuck	Poor	No W10-1's, need (1) crossbuck.
At Ussie	At Grade	1	Fair	(1) Crossbuck	Poor	No W10-1's, need (1) crossbuck.
At Myrtle	At Grade	1	Fair	(1) Crossbuck	Poor	No W10-1's, need (1) crossbuck.

[1]W10-1 is a circular shaped highway sign which provides an advance warning of a railroad crossing.

Source: Oblinger-Smith Corporation, Consultants in Planning, Design and Development, 1978.

Another problem will become more acute as railroad activity increases. Presently, there is only one viaduct over the trackage. The viaduct at 4th Street (South) is only a two-lane facility and has limited capacity. If railroad cars are blocking the other at-grade crossings in the City, the viaduct is the only route open to emergency vehicles that are called to areas south of the railroad tracks. The recommended construction of a second fire station along Raynolds Avenue south of the railroad trackage will help alleviate the problem; however, as growth continues throughout the planning area, it appears that a second viaduct will be a necessity, depending upon how quickly the coal train activity develops. Recommnedations are included in a later section.

Airport Facilities

At the present time there is one airport facility in Fremont County. It is the Fremont County Airport and is owned and operated by the County. Canon City is not involved financially with the airport or its operation. It is located approximately 4-1/2 miles east of Canon City on U.S. 50. The airport is operated by a fixed base operator (FBO) whose business is called Pearce Aircraft Service. The FBO has quarters on the field and services provided include aircraft rental, aircraft sales, aircraft maintenance and parts, pilot supplies, flight instruction and air charter service. Presently, there are no commercial flights serving the County at this facility.

The runway is oriented east-west and is 5,400 feet long and 75 feet wide. It was resurfaced in 1977 and is in very good condition. The runway has basic runway markings, medium intensity runway lights and vertical approach slope indicators at both approaches. Navigational aids include a rotating beacon and wind indicator.

Paved apron space presently amounts to approximately 100,000 square feet and is in good condition. An additional 14,000 square feet will be constructed sometime in 1979. The taxiway connecting the apron area to the runway is equipped with medium intensity lights.

Public hangar space can accommodate seven aircraft and this is inadequate to satisfy present demands. There are 28 aircraft based at the airport and total flight activities in 1977 amounted to 13,000 operations. Aircraft fuel (100 and 80 octane) is available to itinerant aircraft. The terminal building is in relatively good condition and has available to the traveling public restrooms, telephone, weather (by phone), vending machines, and limited lounge space. Automobile parking space is adequate and is separated by fencing from the flight operations areas. The access road to the airport from U.S. 50 is paved and in fairly good condition.

Other Public Transportation Facilities

The Canon City area is served by one commercial bus line, Continental Trailways, which provides fixed route/fixed schedule service through Fremont County. Ten daily runs on two fixed routes serve Canon City and depot facilities are located in the hotel at Main and 7th Street. For persons wishing to travel outside the County, Trailways buses provide connecting service

to many of the major cities in Colorado as well as out of state. Trailways offers chartered bus service in addition to its fixed route service. Frequent users of the charter service include music and sports department of the various schools in the area.

Taxi service is provided for area residents by the Canon City Cab Company, which has its office in the 200 block of Main Street in Canon City. It operates 24-hours a day throughout the week. The three five-passenger cabs are in good condition. Each is equipped with a two-way radio and the three vehicles combined make an average of 2,500 trips per month. It is estimated that approximately 50 percent of these trips are made by senior citizens. From April, 1977 to May, 1978 the Canon City Cab Company, in cooperation with the Fremont County Department of Social Services (through Title III funding), offered discount fares to senior citizens. It was thought by the Company that the program was a success and subsidized taxi service is being studied as one alternative in the forthcoming Fremont County Transit Development Plan. Colorado State DOH personnel are working closely with the County transportation committee to formulate a transit plan for the elderly and handicapped people living in Canon City and Fremont County as well.

Major Thoroughfare Plan

By the year 2000, the greater Canon City area is projected to have a population of approximately 37,500. This is an increase of nearly 86 percent over the 1978 population. Vehicles per household is also increasing as indicated by the 28.3 percent increase experienced in motor vehicle registrations in the County during the period from 1970 to 1976. Traffic volumes in the planning area are increasing at a steady rate as was indicated in the section on traffic volumes. This equates to the fact that automobile usage is also increasing. The latest traffic volumes projected by the Colorado State Department of Highways indicate a 1.3 percent growth factor for major highways in the Canon City area over the next 20 years. However, considering the amount of growth projected in the Canon City area, traffic activities in the Canon City planning area could more than double by the end of the planning period.

These traffic increases are area-wide estimates. Some portions of the planning area will show very marked increases in traffic movements and other areas could register little change.

Street Standards

The establishment and adoption of street standards for the major street system is important in the preparation of a major street plan. To date, Canon City has not officially adopted a set of street standards, however, the City Engineering Department has been very careful in the past not to allow any substandard street construction in new subdivision development.

The following desirable street standards are proposed for the Canon City planning area. The table on the following page summarizes the pertinent physical data on the various street types.

TABLE 75
DESIRABLE STREET STANDARDS

Design Factors	Type of Street				
	Local	Collector	Minor Arterial	Principal Arterial	Expressway and Freeway[7]
Right-of-way in feet	60 50[1] - 70[2]	80	82	100 - 120[3]	250+[4]
Roadway width in feet	30 24[1] - 38[2]	44[5]	48	52[6]	52 - 76
Lane width in feet	10	12[5]	12	12	12
Median width in feet	0	0	12	15 - 20	30[4]
Maximum grade in percent	12%	8%	6%	6%	3%
Spacing in miles	As required	1/2 - 1/4	1	1	1 - 3
Parking	Permitted[8]	Prohibited if possible	Prohibited if possible	Prohibited	Prohibited
Sidewalk width in feet	4	6	6	6	-
Vehicles per hour per lane	-	150-200	400 - 500	500 - 600	1300 - 1500
Speed in miles per hour	25	30	30 - 35	35 - 40	50 - 60

[1]50 feet R/W and 24 feet pavement width for cul-de-sac and marginal access streets.
[2]70 feet R/W and 38 feet pavement width in high-density areas.
[3]120 feet R/W with median.
[4]Widths would vary for rural and urban areas.
[5]Minimum Standard - Width of roadway 38 feet.
[6]Minimum Standard - Width of roadway 48 feet.
[7]Latest Interstate Highway Standards should be utilized when expressways and freeways are designed.
[8]No parking or parking on one side for cul-de-sac and marginal access streets.

Source: Oblinger-Smith Corporation, Consultants in Planning, Design and Development, 1978.

A desirable width for arterial streets is 52 feet, face of curb to face of curb. Generally, arterial streets should be placed approximately one mile apart so that they attract optimum traffic volumes and encourage through traffic movements. The one mile spacing can very considerably, especially in areas having severe topography.

Collector streets should have adequate space for two lanes of moving traffic and usually allow for parallel parking on both sides of the street. A desirable width for collectors is 44 feet, face of curb to face of curb. Ideally, they should be spaced 1/4 to 1/2 mile apart.

Local streets have the primary function of providing access to abutting property. They should be designed in a manner that will discourage through traffic. The use of a curvilinear design with "T" intersections results in limited access subdivisions which discourage through movements. Also, it has been noted that this type of design results in approximately eight times fewer accidents than is experienced in grid system subdivisions which have four-way intersections.

Proposed Major Street System

The proposed major street system shown on the Proposed Major Thoroughfare Plan Map has been designed and laid out so that expected increases in traffic in the Canon City planning area for the target year can be accommodated. Since most of the growth will be "filling in" type development, the proposed major street system, as designed, will provide adequate service to all parts of the planning area. It should be emphasized that future development should occur in a logical and orderly manner so as to make the provision of utilities as economical as possible. This, in turn, will make the job of providing new streets and/or extending the existing street system much less difficult and costly.

The major problem with the street system at the present time is the need for additional lane capacity on Royal Gorge Boulevard west of Main Street. Two alternatives for dealing with this problem are apparent:

1. Construction of a by-pass route for U.S. 50 to the north of Canon City. This would serve to divert most of the through traffic utlizing the highway to the north of the City and would alter the function of Royal Gorge Boulevard to serving mainly local traffic. Additional lane capacity on Royal Gorge would probably not be needed and the highway would not have to be widened. However, the highway at some point would need to be constructed through the hogback to the northwest of the City that extends in a north-south direction. Costs of this alternate may be prohibitive. Another disadvantage of this route is the absence of land use controls in the portion of Fremont County through which this by-pass would be routed. Without proper land use controls, development would likely occur in a haphazard and illogical manner. Another disadvantage of this alternative is the routing of tourists (and the associated market) away from the City and the subsequent loss of tourist spending in the City. This

might have a significant effect on retail establishments in the City, especially those located in the Central Business District (CBD). A generalized location of this route is illustrated on Map M.

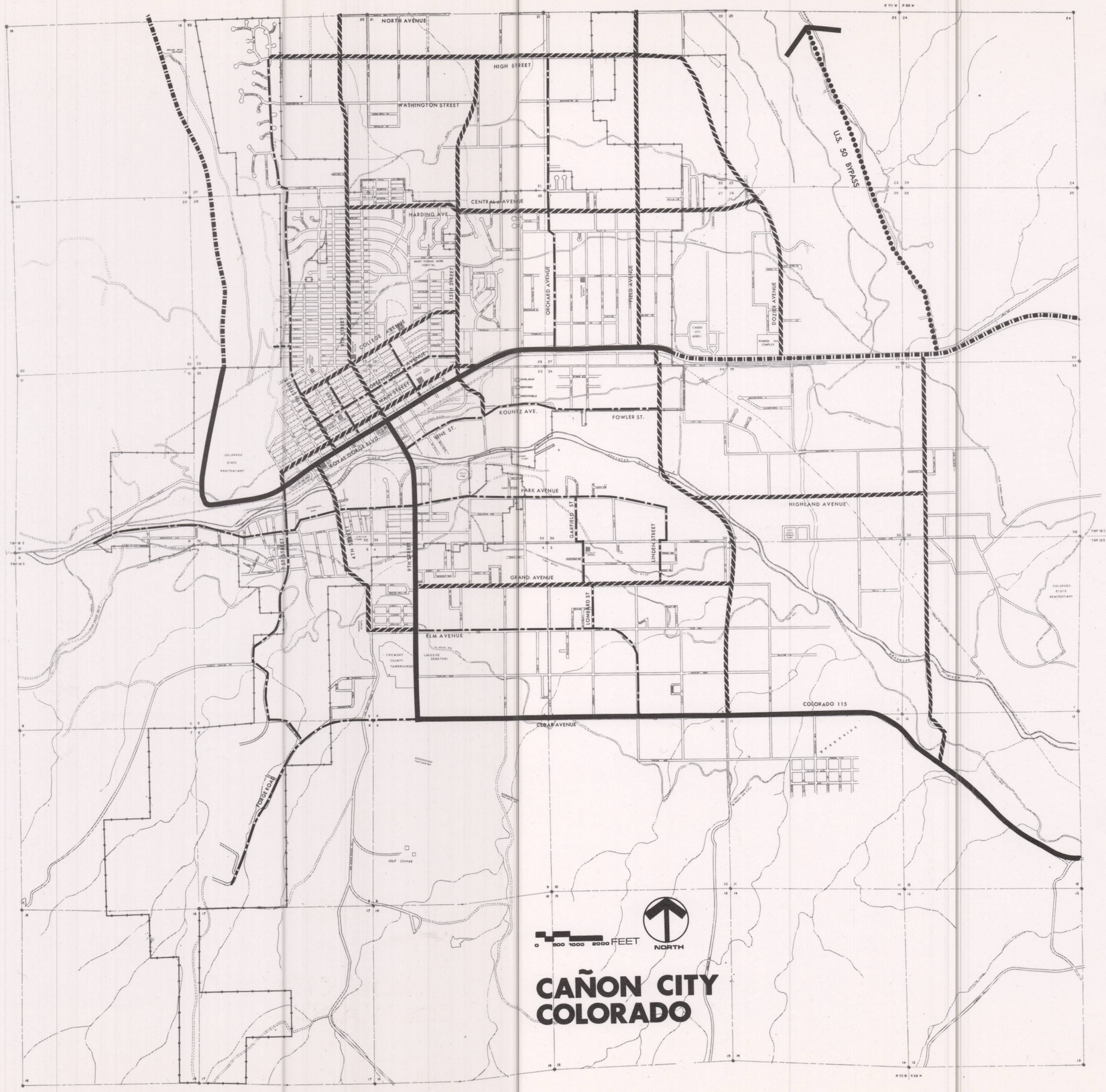
2. Utilizing the existing highway alignment and provide additional lane capacity by widening the highway. To accommodate future traffic levels, an additional lane for each direction of travel would need to be constructed. Since the existing right-of-way of Royal Gorge is 80 feet, additional right-of-way would need to be purchased. A minimum of 40 additional feet would be necessary to accommodate two additional lanes of traffic plus a median. The additional right-of-way could be obtained in two ways: 1) expanding the right-of-way 20 feet to either side of the existing right-of-way, or 2) expanding the right-of way 40 feet from the existing southern right-of-way line.

   The advantage of this alternative over the by-pass route is that traffic would pass through Canon City enabling retail establishments to capture that market. This alternate would also have less impact on the retail establishments on Main Street. However, some uses fronting Royal Gorge Boulevard would most likely be removed when the right-of-way was expanded. The effects would be more severe if the right-of-way was expanded entirely to the south side of the highway.

It should be noted that further detailed engineering studies must be undertaken prior to implementing any of the above alternatives. Since the State Department of Highways is responsible for maintaining U.S. 50, the City should request that the Department undertake the necessary studies involved with improving the functioning of the highway.

Based on past experience, the development and construction of projects of this magnitude could take from ten to twelve years to complete. In addition to funding the project, which in itself can be time consuming, the detailed "Location Study" must be undertaken, "Environmental Impact Statements" prepared, public hearings for affected residents held, engineering drawings prepared and construction of the project completed. In the interim, remedial measures to increase traffic handling capabilities in the U.S. 50 corridor will undoubtedly need to be taken. Recommended alternatives to be considered are as follows:

1. On Main Street, restrict left turn movements at selected intersections and upgrade traffic signals and synchronize the phasing of all lights with an interconnect. Traffic carrying capacity on Main Street could be increased considerably by converting the existing 60 degree angle parking to parallel parking. However, downtown merchants have expressed a desire to maintain the angle parking to provide convenient access to retail establishments for the elderly. With the hazard the current parking situation presents, consideration should be given to



PROPOSED MAJOR THOROUGHFARE PLAN

- FREEWAY AND EXPRESSWAY
- PRINCIPAL ARTERIAL
- MINOR ARTERIAL
- COLLECTOR
- LOCAL (ALL OTHERS)
- PROPOSED BYPASS

MAP M

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converting the 60 degree angle parking to 45 or 30 degree angle parking. Although this is not the ideal solution to the problem, it would help reduce the number of accidents by providing additional maneuvering space for motorists backing out of spaces and would increase the visibility both for the motorists on Main Street and the motorists backing out.

2. Bringing the total major street system up to recommended standards by widening and paving arterials and collectors that are now substandard. This will encourage drivers to use the total system rather than going out of their way to utilize a street on which they feel safe and comfortable.

3. Upgrade the traffic control signing system by replacing those signs that are not standard installations according to the "Manual of Uniform Traffic Control Devices." Included are regulatory and warning signs that are not positioned correctly, are in poor condition, are the incorrect size or color, are not reflectorized, have posts in poor condition, etc. Drivers tend not to respect a traffic control signing system that is in poor condition or that is over-signed. It is recommended that the City apply for funds for a "Traffic Safety Program" funded by the Colorado State Department of Highways. A complete inventory and analysis of the total signing system would be one of the tasks in a study of this kind.

4. The establishment of a one-way pair such as Macon and Greenwood operating between 3rd and 12th Streets. A one-way pair in this area would be utilized mainly by local drivers who would know of their existence and would use these streets during congested periods. This would funnel some of the local traffic off of Main Street and U.S. 50 and help ease future congestion.

Summarized below are the additions and/or changes indicated by the proposed Major Thoroughfare Plan (long-range) as compared with the existing street system. The proposed street system is illustrated on Map M.

Arterial System

Extend 9th Street south and Cedar Avenue west to meet at a point south of the cemetery and fairgrounds. Along with a new collector this will provide access to the industrial area.

Extend High Street west to 5th Street.

Straighten out North 9th Street utilizing Vermont Avenue instead of New York.

Change 15th Street north of Central Avenue from a collector to an arterial.

Change Harding Avenue between 9th Street and 15th Street from a collector to an arterial.

Change Field Avenue between High Street and Royal Gorge Boulevard from a collector to an arterial.

Extend Dozier Avenue north to connect with High Street.

Extend 15th Street south to Vine Street.

Designate Highland Avenue as a minor arterial and extend the roadway west to connect with Raynolds Avenue.

Increase the traffic carrying capacity of Royal Gorge Boulevard based on the findings of the State Department of Highways.

Collectors

Change Greenwood between 5th and 15th Streets from local to collector status.

Develop 5th Street north from College Avenue to High Street.

Change 7th Street between College Avenue and Fairview from a collector to a local street.

Change Fairview between 5th and 7th Streets from a collector to local status.

Change Orchard Avenue between Royal Gorge Boulevard and Central Avenue from an arterial to a collector and develop it to collector standards on north to High Street.

Change Graydene Avenue from a collector to a local street.

Change 1st Street South between Royal Gorge Boulevard and the Deweese Ditch from an arterial to a collector.

Develop the Cedar Avenue extension west from the 9th Street extension into the industrial area serving it as a collector street.

Develop Garfied and McKinley Streets to collector standards.

Develop Lombard Street between Grand Avenue and Elm Avenue into collector streets.

Change Elm Avenue between 9th Street South and Chestnut Street, and Chestnut Street between Elm Avenue and Cedar Avenue from arterial to collector status. (These are two legs of existing Colorado Highway 115.)

Develop Linden Street south of Sherman Avenue into a collector street.

Change Sherman Avenue east of Linden Street from a collector to a local street.

Develop Valley Road between Forge Road and Temple Canyon Road to collector standards.

There are some areas for which future residential development has been projected. Future collectors to serve these areas have not been shown due to the fact that it is not very practical to locate specifically a new collector until the design of each particular subdivision has been completed. However, it is recommended that major streets in newly developed areas be developed as extensions of the major streets illustrated on the Major Thoroughfare Plan Map.

Traffic Safety Program Development

The development of a program to promote traffic safety should be undertaken by government officials and the public in the Canon City area. Traffic accidents and ensuing injuries and deaths should be reduced to as low a level as possible. As long as motor vehicles are operated by human beings, accidents can never be eliminated; however, much can be done to reduce the loss of life and property damage to a minimum. A program to attain this objective is outlined briefly below.

There should be a continual review of the traffic accident situation in the planning area, not just a record kept of them. The Canon City Police Department annually should maintain an accident "dot map". Colored pins may be used to mark the locations of the various types of accidents, i.e., property damage, injury, fatal, pedestrian, etcetera. At the end of each year, the map should be examined and the ten locations with the highest accident experience selected for analysis to determine the possible causes. It is helpful to prepare collision diagrams to use along with the accident report and a visual inspection of the geometrics of the accident location. Usually, a physical problem exists that can be corrected through the installation or removal of a sign, clearing obstructions in sight lines, application or reapplication of pavement markings or some other corrective action.

The annual review should be done by the police and engineering personnel and their recommendations should then be sent to the City Manager for his concurrence and submission to the City Council for action.

Traffic safety, to a certain extent, is a state of mind. The driving public must become safety conscious. They, as well as city employees, should be constantly on the look-out for traffic hazard situations so they can be corrected. In the final breakdown, a substantial part of the solution is driver education.

Physical improvements, such as channelized intersections, signs, signals and pavement markings, can only be as effective as the driver's ability to understand and react. Enforcement as provided by the Police Department can be very effective only to a certain point since manpower sufficient to watch every driver every hour is not available or desirable. Therefore, the driver as a part of the total "roadway, vehicle, driver" system is perhaps the most important single element of the system. No matter how good the design of the roadway and no matter how safe the vehicle, if the driver is not capable of handling the vehicle correctly, accidents will continue to occur.

Therefore, driver education is of prime importance in a traffic safety program. While the secondary schools provide excellent training for beginning drivers, adult drivers must also be kept aware of new traffic laws, changing technologies (such as automobiles and signal systems) and changed traffic patterns (such as a system of one-way streets established by the City). This can be done through the news media and through concentrated efforts on driver education presented by the Police Department in appearances before various groups, clubs and civic organizations.

Civic organizations can help in the area of traffic safety by aiding the Police Department in the conduct of safety clinics for bicycle riders. Some national civic clubs already have excellent materials available for the presentation of bicycle safety clinics. Proper instruction on the use of bicycles can be an effective way of reducing the potential bicycle-automobile accident in this age of increased bicycle usage. This type of program could also be designed for the ever-increasing number of persons owning and riding motorcycles.

Railroad Activity and Recommendations

As mentioned previously in this section, eight to ten freight trains currently pass through the Canon City planning area daily. Only one of these runs, a night train, stops in Canon City to load and unload freight or drop and/or pick up cars. In addition, three to five coal trains are passing through the area each week and they are not regularly scheduled runs. To date, this volume of rail activity has apparently not caused undue conflicts with the vehicular traffic utilizing the at-grade crossings in the planning area; however, future railroad activity projected to occur in the greater Canon City area will likely have an impact on north-south traffic movements across the trackage.

Projecting future coal train activity is a difficult task due to the number of variables involved. Federal energy policies in the future will certainly be one of the most important unpredictables. According to the "Colorado State Railroad Plan", western Colorado coal production is projected to increase from the present level of approximately 16 million tons per year (MTPY) to slightly over 31 MTPY by 1985. If that trend continues and is projected to the year 2000, coal production could reach almost 70 MTPY. Almost all of the exported coal from the mines in Gunnison, Mesa, Delta and Pitkin Counties, in addition to large amounts of Utah coal, pass through Fremont County and the Canon City planning area on its way to the east. In 1977, these four counties shipped a total of 2,528,544 tons of coal out of state. This amount is approximately 87 percent of their total production.

Also projected in the same report was the number of unit coal trains per day estimated to pass through the Canon City area. For 1985 this estimate ranged from a low projection of 15 coal trains per day to a high of 21 coal trains per day.

Table 76 shows the amount of time it takes the 50 and 100 unit trains to pass a given point at various speeds. At the present time, according to the railroad administration, unit coal trains are restricted to only 50 unit trains and cannot exceed 30 miles per hour in the Canon City area. These ground rules could be changed at any time.

Utilizing the data in Table 76 and applying it to the projected number of coal and freight train movements estimated to occur throughout the planning period results in total time estimates during which all at-grade railroad crossings would be blocked. Note that the number of coal trains is doubled due to the fact that they have a payload only one way and return to the mine empty. The number of freight trains is also expected to increase and is noted in Table 77.

TABLE 76
FREIGHT AND COAL TRAIN SPEED/TIME RELATIONSHIP

Train Speed		Number Of Seconds For 1 Train To Pass A Given Point	
Miles Per Hour	Feet Per Second	For a 50-Unit Train*	For a 100-Unit Train**
15	22.0	130 Seconds	268 Seconds
20	29.3	98 Seconds	201 Seconds
25	36.7	78 Seconds	161 Seconds
30	44.0	65 Seconds	134 Seconds
35	51.3	56 Seconds	115 Seconds
40	58.7	49 Seconds	101 Seconds

* A 50-Unit train is approximately 2,860 feet long.
** A 100-Unit train is approximately 5,900 feet long.

Source: Oblinger-Smith Corporation, Consultants in Planning, Design and Development, 1978.

Total daily blockage times of any given intersection are shown in Table 77. As an example, taking the 1985 coal train projection of 18 coal trains and 14 miscellaneous freight trains per day, it can be noted in the table that this amount of rail activity equates to 50 runs a day. Also, this is presuming that the freight trains are the same length as the coal trains for projection purposes. These 50 runs for 50-unit trains on a given day will cause at-grade crossing blockage for 54.2 minutes if the trains are maintaining a steady 30 miles per hour. Each train would block each crossing for 65 seconds. On the surface, this does not seem to be too undesirable; however, if this 65-second delay was to occur at 5:10 p.m., traffic flow at an intersection such as Royal Gorge Boulevard and 9th Street would break down and it would take many cycles of the traffic signals to again establish the continuous flow rhythm needed to move peak hour traffic through this busy intersection.

If these same 50 trains are traveling only 20 mph, then total blockage time would amount to 81.7 minutes and each rail crossing would be blocked for 98 seconds for each train. A 100-unit train travelling at 20 mph would block

TABLE 77

INTERSECTION BLOCKAGE TIMES CAUSED BY THROUGH FREIGHT AND COAL TRAINS
(TOTAL TIME EXPRESSED IN MINUTES)

Freight Train Movements	Number of Coal Trains Per Day		Total Train Movements Per Day	Total Daily Blockage Times At Any Given Intersection — Speed (MPH) of Freight and Coal Trains									
				15		20		25		30		35	
	Number	Runs		50 Unit	100 Unit	50 Unit	100 Unit	50 Unit	100 Unit	50 Unit	100 Unit	50 Unit	100 Unit
10	8	16	26	56.3	116.1	42.5	87.1	33.8	69.8	28.2	58.1	24.3	49.8
11	10	20	31	67.2	138.5	50.6	103.9	40.3	83.2	33.6	69.2	28.9	59.4
12	12	24	36	78.0	160.8	58.8	120.6	46.8	96.6	39.0	80.4	33.6	69.0
13	15	30	43	93.2	192.1	70.2	144.1	55.9	115.2	46.6	96.0	40.1	82.4
14	18	36	50	108.3	233.3	81.7	167.5	65.0	134.2	54.2	111.7	46.7	95.8
15	21	42	57	123.5	254.6	93.1	191.0	74.1	152.9	61.8	127.3	53.2	109.3
16	24	48	64	138.7	285.9	104.5	214.4	83.2	171.7	69.3	142.9	59.7	122.7
Number of Minutes to Pass Through Any Given Intersection:				2.2	4.5	1.6	3.4	1.3	2.7	1.1	2.2	.9	1.5

MINUTES

Source: Oblinger-Smith Corporation, Consultants in Planning, Design and Development, 1978.

an intersection for approximately 3.5 minutes. This would certainly be critical for traffic flow if the blockage should coincide with peak hour traffic. The problem is compounded by the fact that there are only two major routes providing access from the major traffic generator in the City, the CBD, to the residential areas south of the railroad tracks. One route is 4th Street on the western edge of the CBD. A two lane viaduct (one lane in each direction) is provided over the River and railroad on 4th Street. The other major route is 9th Street which is an at-grade crossing south of the eastern end of the CBD. There are five alternatives for dealing with the problem of providing for an adequate flow of traffic south of Royal Gorge Boulevard during peak hours:

1. Construct an overpass over the railroad tracks at 9th Street. This would be very difficult, if not impossible, at this crossing due to the proximity of the railroad tracks to U.S. 50. According to engineering standards, the minimum clearance between the tracks and the bottom of the superstructure of the overpass should be 23 feet. Adding another 4 to 6 feet for the mass of the bridge itself establishes the roadway surface at approximately 28 feet above the grade of the crossing. The desirable grade for the ramps of the overpass would be a 6 percent grade, with 8 percent the maximum allowed. At 6 percent grade, the ramp would need to be 467 feet long to attain the 28 foot height requirement. A 400 foot ramp would be needed to maintain a 7 percent grade and at 8 percent, a 350 foot ramp would be required. The dimensions would mean the viaduct would extend northward to the block between Royal Gorge Boulevard and Main Street. Royal Gorge Boulevard would need to be raised 6 to 14 feet for the highway and viaduct to meet at the same elevation.

2. Construct a railraod underpass under 9th Street. This would necessitate reconstructing a considerable length of trackage. To maintain proper clearance between the railroad and street and assuming a gradient of 1.5 to 2 percent for the railroad, approximately .27 to .35 mile of track would need to be reconstructed to either side of 9th Street. The costs associated with this reconstruction, which the Railroad would incur, would be extremely prohibitive. Soil and groundwater constraints may also preclude implementing this alternative.

3. Providing additional lane capacity on the 4th Street viaduct. The viaduct is in poor structural condition at the present time. For the viaduct to accommodate the peak hour traffic that may choose the take this route, a 4-lane viaduct may need to be constructed. Construction costs associated with this alternative would be borne entirely by the City.

4. Providing additional grade-separation crossings within the City. Other crossings would include 15th Street or Raynolds Avenue. A 15th Street viaduct would channel traffic to the Vine Street/Kountz Avenue collector. Traffic would then travel to Raynolds or 9th Street to its destination. A Raynolds Avenue viaduct would channel

traffic to Fowler Street, Grand Avenue, or Colorado 115 for dispersal to its destination. Channelling traffic onto either Raynolds or 15th Street would not be as efficient as with 9th Street since 9th Street provides better access to the Lincoln Park area. Also, as with the 9th Street viaduct, the proximity of U.S. 50 to the railraod tracks may preclude the development of these viaducts because of a lack of sufficient roadway length between the highway and the trackage to maintain the proper roadway gradient.

5. The City could work closely with the railroads in an effort to schedule the coal trains' passage through the Canon City area. If regular schedules could be maintained so that the coal trains' arrival would not coincide with the two peak traffic volume hours (approximately 7:00 a.m. to 8:30 a.m. and 4:30 p.m. to 6:00 p.m.), then their trips back and forth through the planning area would cause minimum congestion at the heavily traveled crossings. However, with the number of coal trains possibly passing through the City, the scheduling of trains so that they do not conflict with peak hour traffic may be difficult.

If it is physically possible to construct an adequate overpass, the best location would be at 9th Street, which has the highest traffic volumes in the north-south direction. It may be that the best solution is a combination of the first two alternatives discussed. A 9th Street viaduct together with a lowering of the railroad bed would enable the viaduct to maintain the proper elevation at Royal Gorge Boulevard. Further study needs to be undertaken concerning the above alternatives and cooperation with railroad officials is critical to the decision-making process. Regardless of the alternative selected, it is apparent that an additional grade-separation crossing or an improved grade-separation crossing will be needed in the future.

Airport Facilities and Recommendations

The Fremont County Airport, as described earlier in this section, is a well administered facility in very good condition. Its runway (5,400 feet by 75 feet), has been adequate for the general aviation activities which have been carried out in the past. Presently, there are no jet aircraft based at the field and to date no commercial flights are serving the area.

According to the Colorado State Airport Plan, which is prepared by regions, future aircraft operations have been projected as indicated in Table 78 . The National Airport Systems Plan (NASP) projections are contained in Table 79 .

Based aircraft projections in the NASP indicate that by 1987, there will be 28 aircraft based at the Fremont County Airport. This projection has already been attained and has resulted in a need for additional hangar space.

Also noted in the NASP was a listing of improvements and monies to be spent at the airport. The only item scheduled for the ten-year period is $47,000 for paving additional apron space. If large twin-engine aircraft and jets are to be accommodated in the future, the runway will need to be extended. Other physical facilities and aids which are presently needed are additional hangar space and the installation of a non-directional beacon.

TABLE 78
FORECAST OF OPERATIONS FOR THE FREMONT COUNTY AIRPORT

Year	Total Operations	Itinerant Operations
1979	13,000	8,000
1980	14,000	8,000
1983	17,000	10,000
1988	20,000	11,000

Source: Colorado State Airport Plan

TABLE 79
NATIONAL AIRPORT SYSTEMS PLAN PROJECTIONS
FOR THE FREMONT COUNTY AIRPORT

Year	Total Operations	Itinerant Operations
1977	12,000	7,000
1982	17,000	10,000
1987	20,000	11,000

Source: National Airports Systems Plan (NASP).

XIII CENTRAL BUSINESS DISTRICT

Introduction

The Canon City Central Business District (CBD) is a distinct geographical area that contributes substantially to the economic, social, and governmental well-being of the entire Canon City planning area. The Central Business District is defined as the area bounded by Third Street, the alley between Macon and Greenwood, Ninth Street, and the railroad tracks south of Royal Gorge Boulevard.

The Canon City Central Business District functions as the City's major retail and employment center and serves as the focal point of the entire community. In order for the CBD of Canon City to continue to be a major center, a wide variety of services and shopping goods as well as modern merchandising techniques must be offered. In addition, downtown must provide ample parking facilities and an attractive appearance. The CBD must be easily accessible from all portions of the community and rural areas and maintain safe and efficient vehicular circulation within the core area. For these reasons the CBD was analyzed to determine its present and future viability and to establish a plan that would strengthen and enhance the area. The results of these efforts are presented in this section of the Comprehensive Plan.

CBD Market Area

There are two major groups of people that use the businesses and services provided within the Canon City Central Business District. The first group consists of local users comprised of residents of the Canon City planning area. The second group is comprised of non-local users. These people may be defined as persons residing beyond the Canon City planning area and tourists who pass through Canon City. Each group has special needs that are satisfied by the merchants and services offered within the Canon City CBD. The local users rely upon a wide range of business, professional and governmental services as well as a full range of commercial items. The non-local users rely upon the CBD to provide them with hotel and motel services and a wide range of eating and drinking and automobile related services. As a result of the diverse needs from each of the two major groups, it is important to consider the variety of roles that the CBD plays.

Land Use

The Canon City CBD is composed of local commercial, non-local commercial, public and semi-public, office/services, banks, insurance, real-estate, and residential uses. The most significant use of land within the CBD is for commercial purposes. Slightly over 29 percent of the buildings within the CBD may be classified as local commercial. Nearly 11 percent of the structures within the CBD are used for non-local commercial activities. Approximately 8 percent of the structures are either public or semi-public facilities. Five percent of the structures consist of either banks, insurance companies, or real-estate firms. Thus, a total of 67.8 percent of the uses within the CBD are economic or economic-related type activities. The re-

maining activities within the CBD are residential and these consist of either single-family structures, two-family structures or multi-family structures.

An enumeration of the type of business and service activities located within the CBD is summarized in Tables 80 and 81. An analysis of the information presented within these Tables indicates that the CBD consists of a diverse number of economic activity types. This means that the CBD possesses enough diversity to provide the area with substantial economic stability. The distribution of businesses by type also indicates that the CBD serves primarily as a retail trade center. However, it is important to note that the CBD also provides a wide range of services and functions as a financial center. The success with which the CBD retains this diverse group of business activities will determine its future strength.

The residential uses within the CBD represent non-compatible activities, since they conflict with the economic and service uses of the CBD. Several residential structures have been or are being progressively adapted to economic uses. The economic use of the CBD will be strengthened by the selective elimination of residential islands within the CBD. It is appropriate for residential activities to occur along the perimeter of the CBD. However, the incompatibility of economic and residential uses within the CBD will eventually lead to a transition from residential to economic activity.

An examination of the existing zoning of the CBD reveals the majority of the CBD is zoned for commercial activity. This zoning reinforces the economic and service function of the CBD and reinforces the transitional nature of the area from residential to commercial uses.

The economic vitality of the CBD is also greatly dependent upon its central location within the Canon City planning area and its proximity to major transportation routes. The traffic volumes associated with various thoroughfares located within the CBD illustrate the interrelationship between transportation and economic activity types. Royal Gorge Boulevard represents a major transportation corridor and most of the traffic along this corridor is non-local. As a result of this fact the land use activities along Royal Gorge Boulevard are non-local commercial or service enterprises. These businesses are dependent upon the high volume of traffic that moves along Royal Gorge Boulevard especially during tourist seasons. This represents a tremendous business opportunity for enterprises located adjacent to the corridor. The Main Street corridor has a less intense traffic volume and is a corridor that serves primarily local commercial, bank, insurance, and service commercial purposes. The businesses and institutions located along Main Street are dependent upon local consumption and use patterns for their economic well-being. As a consequence, it is important that the traffic on Main Street consist of essentially local users. The Macon Avenue corridor within the CBD consists of business, professional, and governmental service type activities. The traffic volume associated with Macon Avenue is less intense than the Main Street corridor. The descending levels of traffic volumes are illustrated on Map O following page 244. The low volume of traffic associated with Macon Avenue is important for the economic health of that corridor just as the high intensity of volume is important to the business enterprises along Royal Gorge Boulevard. As a consequence, each of the three major corridors within the Canon City Central Business District has a unique contributing role to the economic or service activities located adjacent to those corridors.

TABLE 80
CANON CITY CENTRAL BUSINESS DISTRICT
SUMMARY OF NON-MANUFACTURING ESTABLISHMENTS

Transportation, Communication, Electric, Gas and Sanitary Services	
Motor Freight	1
U.S. Postal Service	1
Communication	1
Transportation Services	1
Electric, Gas & Sanitary Services	1
TOTAL	5
Retail Trade	
Building Materials and Hardware	3
General Merchandise	5
Food	10
Automotive Dealers & Gas Service Station	27
Apparel and Accessory	9
Furniture, HFE	13
Eating and Drinking Places	16
Miscellaneous Retail	29
TOTAL	112
Finance, Insurance, Real Estate	
Banking	4
Credit Agencies other than banks	5
Insurance Brokers	3
Real Estate	5
TOTAL	17
Services	
Hotels, motels	13
Personal Services	14
Business Services	1
Auto Repair Services	5
Misc. Repair	3
Motion Pictures	2
Amusement	3
Health	2
Legal	3
Educational	1
Social Service	3
Membership Organizations	11
Misc. Services	1
TOTAL	62

Source: Oblinger-Smith Corporation, Consultants in Planning, Design and Development, 1978.

TABLE 81
CANON CITY CENTRAL BUSINESS DISTRICT
MANUFACTURING ESTABLISHMENTS

Listed By Standard Industrial Classification Code

Code		Number
01	Agriculture, Forestry and Fishing	
	018 Horticultural Specialties (Greenhouse)	1
17	Construction - Specialty Trade Contractors	
	171 Plumbing and Heating Contractor	1
27	Printing, Publishing	
	271 Newspapers	2
	275 Commercial Printing	2
	TOTAL	6

Source: Oblinger-Smith Corportation, Consultants in Planning, Design and Development, 1978.

Building Conditions

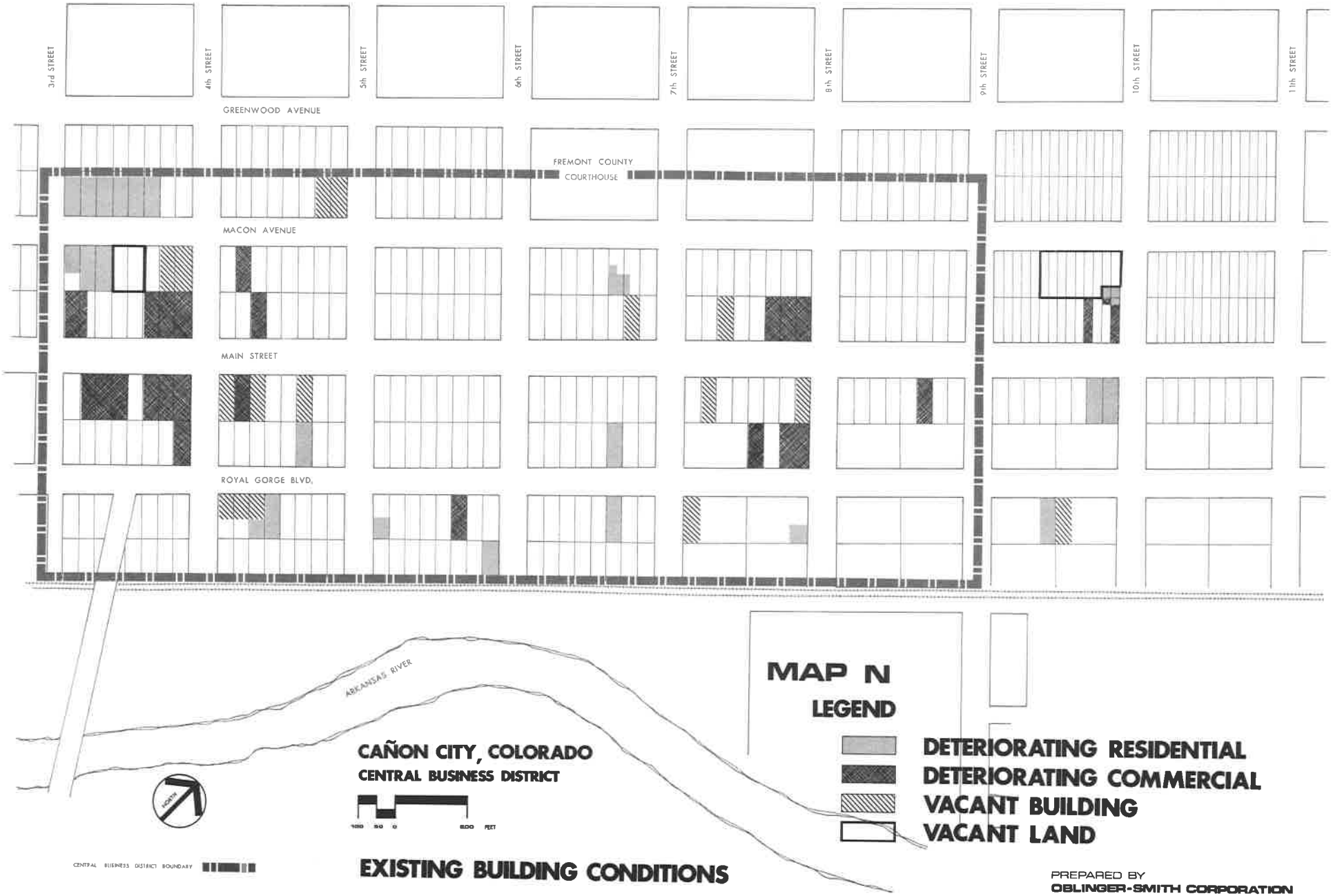
The majority of the structures in the CBD are in sound condition. However, as illustrated on the Building Conditions Map (Map N), there is a cluster of deteriorating buildings in the western portion of the CBD.

Table 82 presents the results of the building condition survey taken at the time of the land use survey. The Table shows that nearly 55 percent of the deteriorating structures are residential in nature. Most of the deteriorating residential structures are located in the western portion of the CBD and along Royal Gorge Boulevard. Deteriorating commercial structures are generally located west of 4th Street and between 7th and 8th Streets.

Overall, building conditions in the CBD are sound with the exception of the western portion. The implications of this situation are twofold:

1. The economic activity of the area is evolving from west to east. In other words, the CBD is gradually expanding eastward.

2. It is essential to consider revitalization of the western portion of the CBD in order to produce an economically healthy and viable CBD.



CAÑON CITY, COLORADO
CENTRAL BUSINESS DISTRICT

EXISTING BUILDING CONDITIONS

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TABLE 82
DETERIORATING BUILDING CONDITIONS BY LAND USE
CANON CITY CBD

Type of Structure		Total	Percent of Total
Residential			
Single Family	18		
2-Family	9		
Multi-Family	2		
		29	54.7
Commercial		24	45.3
Total		53	100.0

Source: Oblinger-Smith Corporation, Consultants in Planning, Design, and Development, 1978.

Traffic Circulation

Access to the CBD is generally good since U.S. 50 (Royal Gorge Boulevard) passes through the area. This highway provides access from major streets in the City as well as from outlying communities and areas. This primary access route is supplemented by the grid system of arterial and minor collector streets which offer various access routes to the CBD.

The streets within the CBD have been classified according to the function of the street. These classifications include principal arterial and minor arterial, collector, and local. These classifications are described in more detail in the Transportation Chapter. Streets classified as principal arterials in the CBD study area include Royal Gorge Boulevard. Minor arterials include Main Street, 5th and 9th Streets. The only street designated a collector within the CBD is 7th Street. All other streets are classified as local streets. Royal Gorge Boulevard and 9th Street are the major traffic carriers in the CBD. Main Street also accommodates a relatively high volume of traffic. Peak hour traffic volumes are illustrated on Map O.

Traffic volumes on Royal Gorge Boulevard increased by 10 percent from 1973 to 1977 while traffic on Main Street decreased by 17 percent. Traffic volumes on the other major streets in the CBD have remained the same or increased only slightly.

Capacity restraints do not exist on the major streets in the CBD except for Royal Gorge Boulevard. Peak hour traffic counts indicate that the highway is approaching capacity and that additional lane capacity will be needed in the near future. Several methods for providing for this additional capacity

were discussed in the Transportation Chapter. The recommended long-range solution is the construction of a bypass route for Highway 50. This would serve to divert most through traffic from the CBD.

At the present time, however, it appears that Royal Gorge Boulevard serves as an access route to the CBD for local traffic in addition to serving through traffic. The decrease in traffic on Main Street tends to substantiate this. Royal Gorge Boulevard provides for unrestricted flow west of 9th Street and the various cross streets provide quick access into the CBD. Main Street, on the other hand, contains angle parking on both sides of the street and signalized intersections are located at 5th, 6th, 7th, and 9th Streets. These conditions tend to restrict traffic flow on Main Street. As a result, motorists have sought alternative routes to the CBD and are now using Royal Gorge Boulevard.

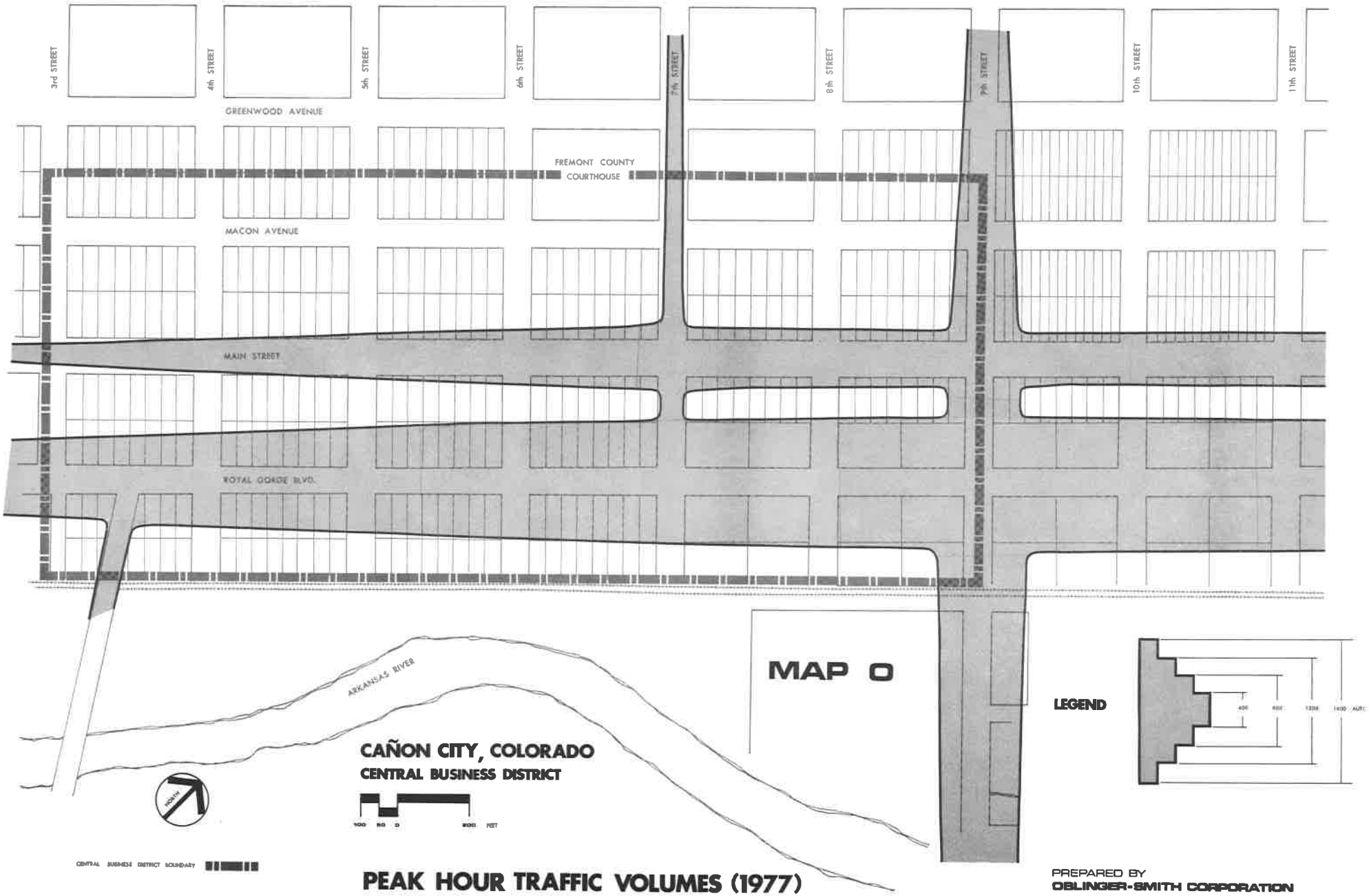
Until the highway bypass is constructed, the most feasible solution to providing additional lane capacity in the CBD is to designate an additional major street in the east-west direction. Greenwood Avenue is proposed as a collector street to channel traffic traveling south on 15th, 12th, 9th, and 5th Streets into the CBD before it reaches Royal Gorge Boulevard.

No other changes are proposed for the streets in the CBD. However, it should be mentioned that with the decrease in traffic on Main Street and the fact that the function of Main Street significantly decreases west of 4th Street, the possibility of closing Main Street west of 4th Street exists. The construction of a City/County building on Main Street on the western end of the CBD as proposed in the Public Facilities Chapter might also support closing this section of Main Street.

The major traffic circulation problems in the CBD at the present time occur along Main Street. The major problem concerns the 60 degree angle parking provided along both sides of the street. This represents a traffic hazard in that motorists backing out of parking spaces must utilize a lane of traffic for these maneuvers. The problem is compounded by the low visibility of approaching automobiles afforded the motorists backing out.

As a general guide, parking should not be allowed on major streets, but the CBD presents a special situation. To alleviate the hazardous situation on Main Street, it is recommended that the angle parking provided on Main Street be converted to parallel parking. As a minimum, the 60 degree angle parking should be converted to 30 degree or 45 degree angle parking. This would provide more maneuvering space for cars backing out and would also increase visibility for motorists on Main Street and those backing out. Likewise, the angle parking on 5th Street (a minor arterial) should be converted to parallel parking or 30 degree angle parking.

Another safety problem associated with traffic circulation is the low visibility of the traffic signals within the CBD. The signals are currently mounted on poles on the four corners of the intersections and tend to be lost in the maze of signs and other lights that line Main Street. A sign code would reduce the visual problem to some degree, but a better alternative would be to mount the signals on mast arms so that they could be distinguished easily.



PEAK HOUR TRAFFIC VOLUMES (1977)

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Parking

Parking within the CBD is provided almost exclusively by on-street spaces. The number and type of spaces are illustrated on Map P. Table 83 shows the number of public and private spaces provided in the CBD. There are approximately 790 parking spaces provided in the CBD.

TABLE 83
CBD PARKING

	On-Street	Off-Street
Public	690[1]	---
Private	---	100[2]
TOTAL	690	100

[1]Includes only that area north of Royal Gorge but not Courthouse Block since these spaces should serve only the Courthouse and not the retail area.

[2]Includes estimated number of spaces at Sheriff's Dept., Library and two banks.

Source: Oblinger-Smith Corporation, Consultants in Planning, Design and Development, 1978.

Parking demand is usually figured on the basis of gross floor area. It is estimated that the CBD contains approximately 286,000 square feet of gross floor area. Parking standards vary, but usually range between 2.0 - 5.5 spaces per 1000 square feet of gross floor area (GFA). The upper end of this range is primarily used for shopping centers and seems to be high for downtown areas. A standard of 4.0 spaces per 1000 square feet of GFA was used for Canon City. It should be noted that this is only an estimate. A detailed survey of individual businesses in the CBD would be necessary to determine the exact parking demand. Based on the 4.0 spaces/1000 s.f. GFA standard, the current parking demand in the CBD is approximately 1150 spaces. With 790 spaces currently provided, the current parking space deficit is 360 spaces. However, if the angle parking on Main Street and 5th Street is converted to parallel parking, approximately 115 spaces would be removed from the parking supply. This would result in a current parking supply of 675 spaces and a current deficit of 475 spaces. If the existing parking is converted to 45 degree or 30 degree angle parking, the current deficit is between 375 and 440 spaces. These deficit figures indicate that off-street parking will need to be established to provide for current parking demand.

One of the major concerns expressed by merchants within the CBD is the current inadequacy of available parking. The parking problem associated with the CBD is compounded by the fact that there is no distinction between customer and employee parking. The parking problem is also compounded during certain periods of the year, particularly during the high volume summer months. However, during other times of the year the availability of parking from a quantity standpoint is adequate. From the standpoint of pedestrian accessibility to merchants, parking throughout the year is frequently inconvenient.

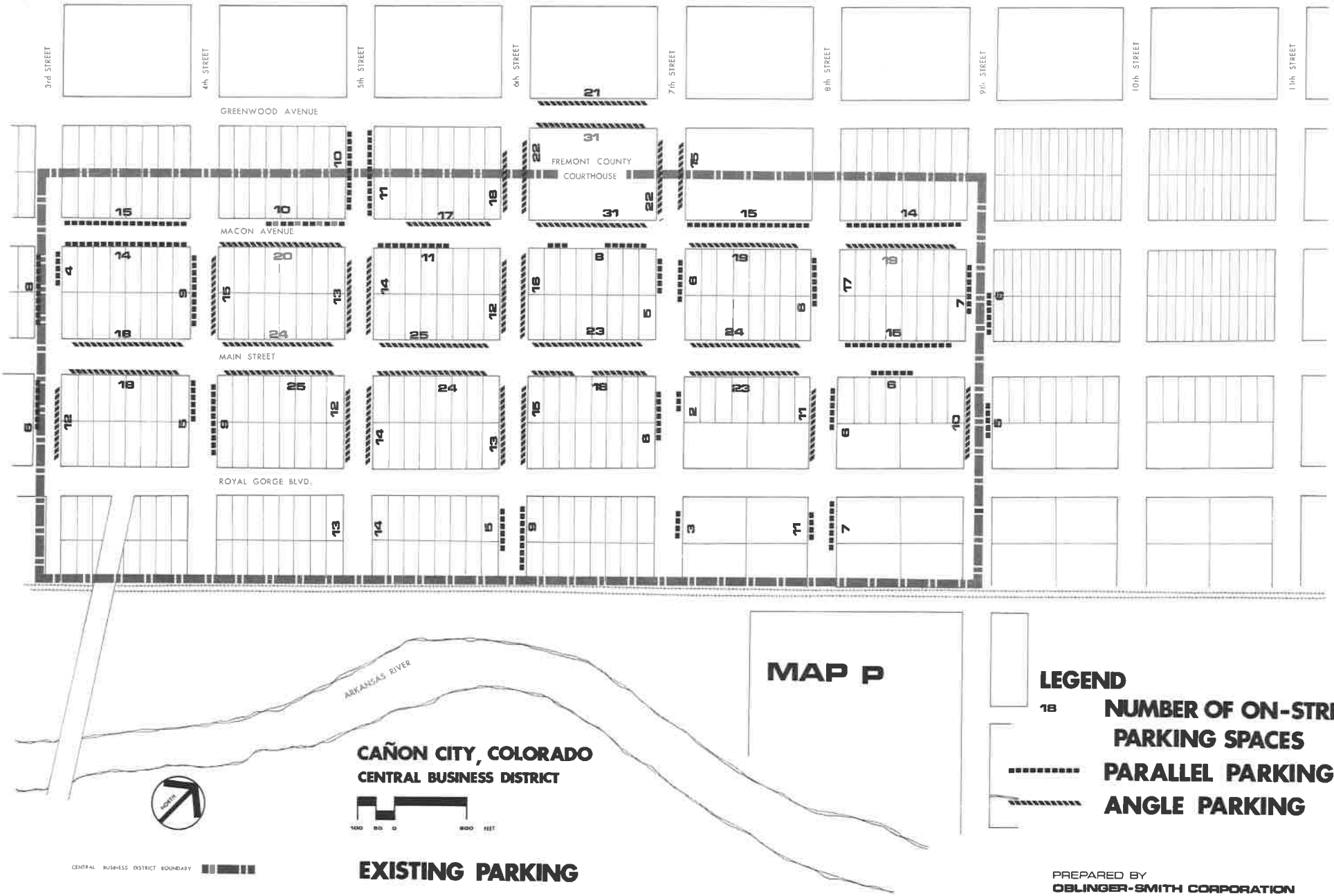
Pedestrian Circulation

Pedestrian access to the various commercial establishments in the CBD is good since on-street parking is located adjacent to these establishments. Sidewalks are provided adjacent to all streets within the CBD which enhances pedestrian movement to and within the CBD. However, with the lack of sufficient parking, many shoppers must walk several blocks to reach their destination.

Most of the sidewalks in the CBD are in good condition with the exception of a portion of the sidewalk on the north side of Main Street between 4th and 5th Streets. Curb ramps are provided at all signalized intersections on Main Street, at the Macon/6th Street intersection and on the south side of the Macon/5th Street intersection. However, ramps are only provided on the west side of the Main/7th Street intersection. This ramp treatment should be provided on the east side of this intersection as well as the Macon/7th Street intersection, the north side of the Macon/5th Street intersection, and at the Main/4th Street intersection. Curb ramps should be provided at other intersections as the CBD expands eastward. The ramps on the north side of the Main/5th Street are too steep and should be reconstructed.

The absence of traffic control devices at intersections in the CBD creates an unsafe situation for pedestrians. At all intersections within the CBD crosswalks are poorly marked and stop lines for motorists are not provided. The provision of these markings would alert motorists to the crosswalks and enhance pedestrian safety. Pedestrian safety at the signalized intersections on Main Street could also be enhanced by the provision of pedestrian walk lights. Pedestrian/auto conflicts also occur when motorists backing out of the space nearest an intersection maneuver into the crosswalk to complete the backing out movement. As a general guide, no parking should be allowed within 20 feet of a crosswalk. This prevents motorists from backing into the crosswalk and also allows for greater sight distances at intersections.

Pedestrian spaces along Main Street could also be improved by providing pedestrian amenities such as additional landscaping, benches, and other street furniture (trash receptacles, street lights, canopies, planters) that is compatible with the architecture of the CBD. The conversion of angle parking to parallel parking presents an opportunity for expanding the sidewalks along Main Street 4 feet and providing some of these pedestrian amenities within this expanded portion of the sidewalks. The sidewalks could be expanded to 4 feet if 45 degree and 30 degree angle parking were implemented, but this would decrease the amount of maneuvering space for vehicles and would continue the hazardous situation of using a lane of traffic for these parking maneuvers.



MAP P

CAÑON CITY, COLORADO
CENTRAL BUSINESS DISTRICT

EXISTING PARKING

LEGEND

18 NUMBER OF ON-STREET PARKING SPACES

PARALLEL PARKING

ANGLE PARKING

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Market Projections

The Canon City market area for the purposes of this market analysis was defined to be the Canon City planning area as defined previously in this Plan. This area experienced an average annual population growth of over 4 percent from 1970 to 1975. This is in sharp contrast with a 1.65 percent annual increase in population for the period 1960 to 1975. Thus,the area is experiencing accelerating population growth and this is an indicator of market strength.

Another important indicator of market strength is personal income. For the purposes of this analysis, per capita personal income was utilized. The average annual growth in per capita income in real dollars for the period 1969 to 1975 was 4.3 percent. Real dollars means the effects of inflation are eliminated. The increase in personal income reveals a growing market opportunity in the Canon City area.

A set of Canon City market area projections were made to reveal the future opportunities within the market area. Projections were made for the years 1980, 1985, and 1990. In 1978 the population of the Canon City area was 20,204. By 1980, the population is expected to grow to 21,434, and by 1985 to increase to 24,129, and finally by 1990 to reach 27,973 persons. This is evidence of a growing market. Personal income growth was also projected for the period 1978 through 1990. For the year 1978 total personal income was $79,866,000. By 1980 it is estimated that personal income will grow to a total of $90,023,000 and by 1985 an increase to $115,819,000 will occur. By 1990 personal income growth will achieve a level of $153,852,000. These figures are presented in constant dollars to eliminate the effects of inflation.

An evaluation of existing data reveals that approximately 46 percent of the total personal income goes to retail sale and service activity within the Canon City market area. Based upon projections of personal income and population growth, total sales and receipts projections of the Canon City market area were produced. In 1978 a total of $36,738,000 will be spent in retail and service activities within the Canon City market area. This activity will increase to a level of $41,411,000 by 1980 and $53,277,000 by 1985. At the end of the projection period, 1990, a total of $70,772,000 will be spent in retail and service activity within the Canon City market area. All of these projections were compared with data produced by the U.S. Bureau of the Census and the Bureau of Economic Analysis to determine the accuracy of the projections. Based upon these comparative analyses it was determined that the projections appear to be quite reasonable and within the expectations of the Canon City area.

Commercial Space and Parking Projections

The anticipated level of retail sales activity and service activity were translated into gross floor area for the Canon City market. According to the U.S. Bureau of the Census, in 1972 there was a total of 315,844 square feet of GFA used for retail and service activity in Canon City. As of 1978 there was a total of 408,200 square feet of GFA in Canon City. Of this total, it is estimated that approximately 286,000 square feet of GFA are located within the CBD. Based upon the income projections produced for the Canon City market area it is anticipated that there will be a need for a to-

tal of 406,122 square feet of GFA in 1980 with approximately 322,000 square feet located in the CBD. By 1990 the gross floor area of the Canon City market will achieve a level of 786,356 square feet with approximately 535,000 square feet located within the CBD. Thus, by 1990, the amount of gross floor area in the CBD will increase from 286,000 to 511,000 square feet. This is an increase of 225,000 square feet during the period which will require the CBD to expand 4 to 5 blocks.

This additional space does not include space for the provision of off-street parking. An additional 225,000 square feet of GFA would create a demand for an additional 900 parking spaces. Using a standard of 350 square feet per parking space (which allows for 60 degree angle parking plus space for aisles), approximately 315,000 square feet or 7.5 acres will be needed for future parking needs. This parking space need translates into approximately 4 blocks. It should be mentioned that these acreage and block figures assume parking is provided on only one level. To reduce the amount of land area needed for parking and maintain a compact development pattern, the construction of parking structures should be considered. The projected number of parking spaces shows that if the Canon City Central Business District is to remain competitive it must acquire additional parking areas. The exact number of spaces the CBD will need is dependent upon the Central Business District's ability to capture new, projected market growth.

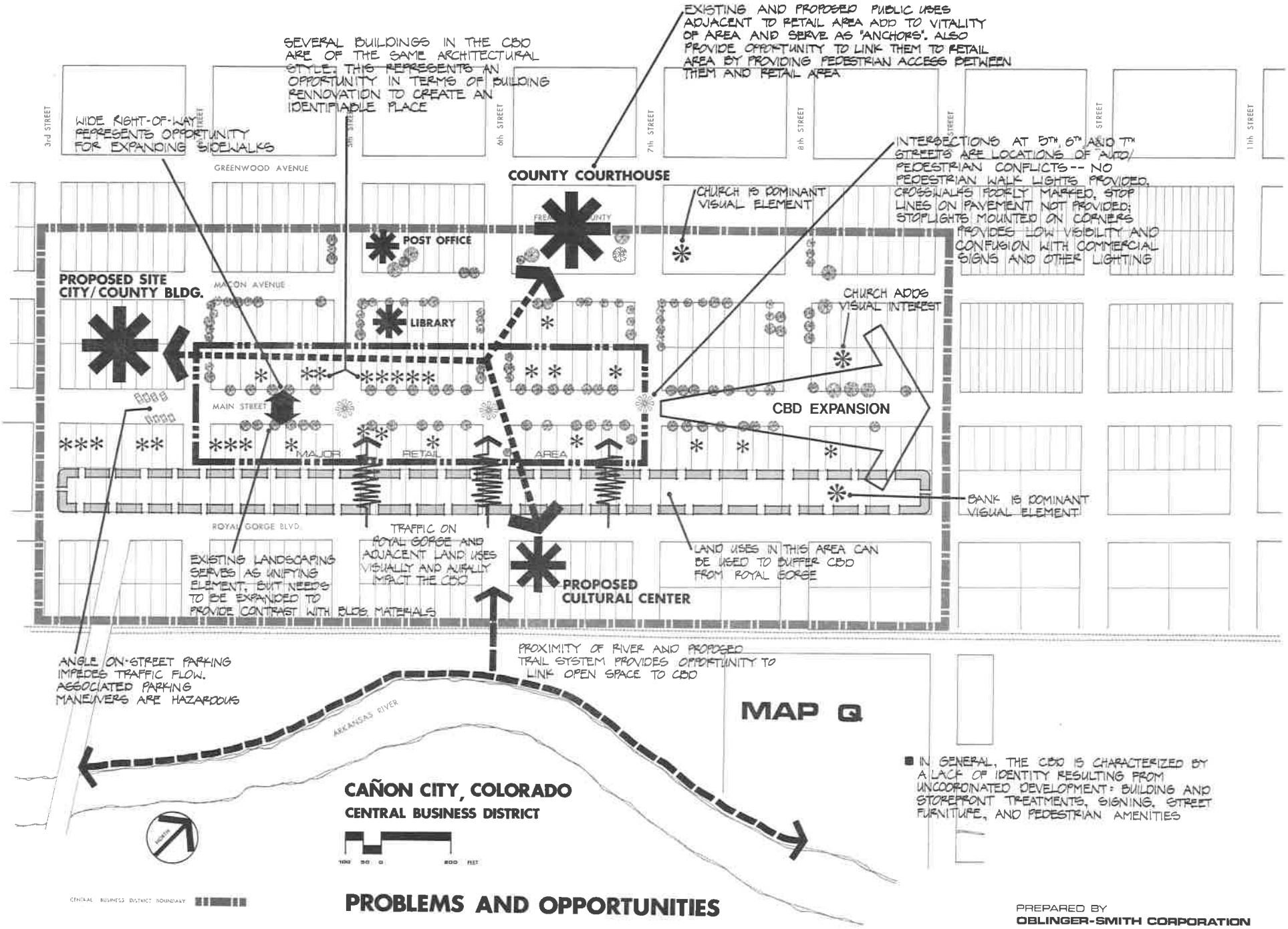
Development Plan

The CBD of Canon City contains many elements that add to and detract from its efficient functioning and physical appearance. An analysis of these elements reveals several problems and opportunities associated with CBD development. These problems and opportunities are illustrated graphically on Map Q. Problems associated with the CBD include:

> The number of parking spaces serving the CBD is currently inadequate. The current parking deficit is approximately 360-475 spaces.[1]
>
> The wide right-of-way on Main Street has allowed the CBD to develop at the scale of the automobile. That is, the spaces outside the structures are designed to accommodate the automobile. This automobile-scale environment is further emphasized by on-street parking.
>
> The angle parking currently allowed on Main Street and 5th Street impedes smooth traffic flow.
>
> Traffic signals mounted on poles on the corners of intersections have low visibility and blend in with commercial signing and lighting.

---

[1]Depending on the conversion of angle parking to parallel parking on Main Street and 5th Street.



■ IN GENERAL, THE CBD IS CHARACTERIZED BY A LACK OF IDENTITY RESULTING FROM UNCOORDINATED DEVELOPMENT: BUILDING AND STOREFRONT TREATMENTS, SIGNING, STREET FURNITURE, AND PEDESTRIAN AMENITIES

Traffic on Royal Gorge Boulevard and land uses adjacent to the highway detract from the CBD.

The absence of traffic control devices at intersections reduces pedestrian safety. Traffic control devices include crosswalks, stop lines, and pedestrian walk lights.

Unattractive and uncoordinated signing, differing styles and materials used for storefronts, and overhead wires are visually distracting and tend to give the area an uncoordinated and chaotic appearance.

The open spaces and large areas required of some service commercial uses do not mix well with the more compactly developed and intensely utilized portions of the CBD.

The area lacks natural materials to contrast with the brick, concrete, steel, plastic, and glass.

The unused parking meter poles detract from the appearance of the CBD.

In general, the CBD is characterized by a lack of identity resulting from uncoordinated development, including building and storefront treatments, signing, street furniture, and pedestrian amenities. Despite these detracting aspects, there exist several positive elements that present opportunities for development in the CBD. These include:

Existing and proposed public uses on the periphery of the CBD (County Courthouse, Cultural Center, and City/County Building) add to the vitality of the area and serve to anchor CBD development. These uses also provide an opportunity to link them to each other and to the retail area by means of pedestrian walkways.

Vacant land or land containing deteriorating buildings present opportunities for providing off-street parking facilities.

The wide (100 ft.) right-of-way of Main Street presents an opportunity for expanding the sidewalks and providing additional landscaping, benches, and other pedestrian amenities.

Several of the buildings in the CBD are of the same architectural style. This represents an opportunity for creating an identifiable place through building renovation.

The existing street trees and other landscaping serve as unifying elements. However, this effort needs to be expanded to provide a contrast with building materials, especially during the winter months.

The proximity of the Arkansas River to the south provides an opportunity to link the CBD with the proposed trail system along the River.

Views of the hogbacks to the north and west add visual interest to the area. Several structures in the area also provide visual interest.

These problems and opportunities suggest several concepts for the development of the CBD. These development concepts are illustrated on Map R. Based on current and future traffic patterns and existing development, land uses adjacent to Royal Gorge Boulevard should serve non-local users. That is, uses adjacent to the highway should consist of automobile-oriented commercial uses such as motels, drive-in restaurants, and gasoline service stations. Uses along Main Street should be oriented to local users. Main Street should be developed principally as a retail area. Macon Avenue should develop as an office-service corridor to provide office and support space for the retail area. Appropriate second story uses along Main and Macon Streets include office and residential uses.

It is apparent that the western end of the CBD is currently in need of an economic anchor and increased investment. The west end of the CBD can be improved through the construction and revitalization of the area through public investment. Macon Avenue within the CBD currently serves as a municipal, county, and state service corridor. This function can be reinforced through the increased investment by the municipality at the western end of Macon Avenue. This investment in the form of the construction of a new municipal building, expansion of the library, and the relocation of the municipal court and police facilities would accomplish this goal. These types of investments are necessary if the CBD is to remain a viable economic and service entity within the Canon City planning area. It should be noted that the site for the City/County building could be moved west one block depending on the designation of the Strathmore Hotel at 4th and Main as a State Historical Landmark.

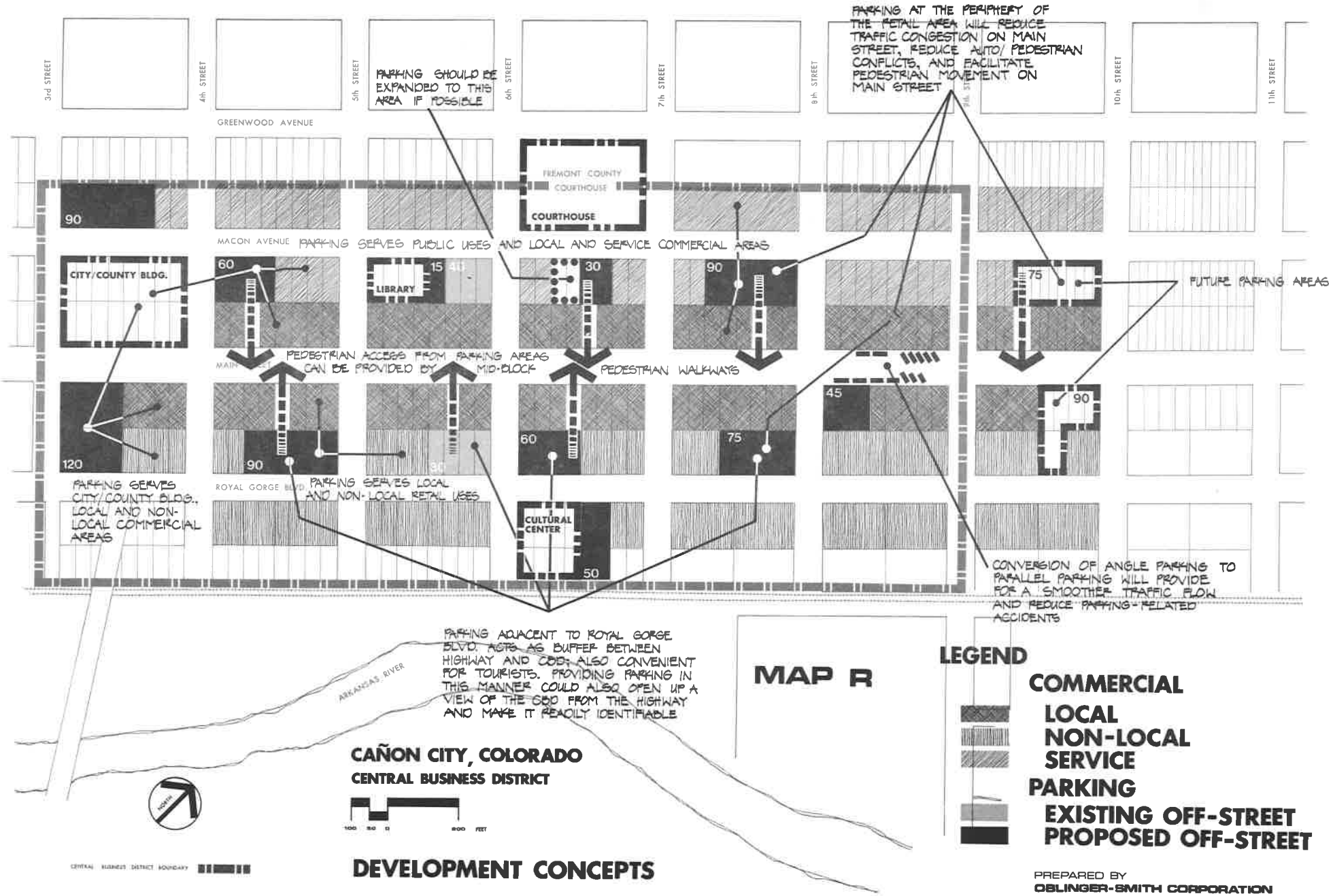
Providing parking at the periphery of the retail area would reduce the amount of automobile traffic utilizing Main Street and reduce traffic congestion. This would reduce the pedestrian/auto conflicts on Main Street and facilitate pedestrian movement along the street.

Map R illustrates the number of parking spaces that could be established in the proposed off-street parking lots. The locations for the proposed parking areas were based on the following criteria:

- Vacant land
- Deteriorating building conditions
- Incompatible land uses (especially single-family residential uses along Royal Gorge Boulevard)

Thus, it is intended that the parking areas be established to provide efficient parking with a minimum of disruption of existing development. The areas shown as parking areas could be developed by the City or merchant organization in advance of need and converted to parking with a limited amount of demolition of existing structures.

Parking areas are dispersed throughout the CBD in order to conveniently serve all commercial establishments with parking facilities. The parking areas along Royal Gorge Boulevard serve the local commercial area on Main Streets.



CAÑON CITY, COLORADO

CENTRAL BUSINESS DISTRICT

DEVELOPMENT CONCEPTS

MAP R

LEGEND

COMMERCIAL
- LOCAL
- NON-LOCAL
- SERVICE

PARKING
- EXISTING OFF-STREET
- PROPOSED OFF-STREET

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the non-local commercial area adjacent to the highway, and (on the west end) the proposed City/County building. Providing parking in this manner also serves to buffer the CBD from the highway and opens up a view of the CBD from the highway to make it readily identifiable.

Parking along Macon Avenue serves the local commercial retail areas on Main Street, the service uses along Macon, and the public uses along Macon (the proposed City/County building, the library, the Courthouse, and several churches). The intent is to provide parking areas that can be shared by different uses whose activities occur at different times (for example, the Courthouse and churches).

Approximately 870 new off-street spaces are proposed in the area from 3rd to 10th Streets. With the 70 existing off-street spaces in this area, the total amount of off-street parking spaces would be 940 spaces.

Pedestrian access from these parking areas to the retail areas to the retail area on Main Street can be provided by mid-block walkways between the parking areas and Main Street. The locations of these proposed walkways are based on existing vacant lots and deteriorating building conditions. The proposed walkway on the south side of Main Street between 5th and 7th Streets is currently a private parking lot. The proposed walkway between 5th and 6th Streets is currently a courtyard developed by the bank. The development of additional walkways between the remaining proposed parking lots and Main Street would necessitate the removal of structures in poor condition.

Map S presents a more detailed development plan for the CBD between 4th and 7th Streets. The major recommendations presented on Map S can be summarized as follows:

> The blocks between 5th and 7th Streets should be developed first while areas to the west developed a later date, and areas to the east as the CBD expands in that direction.
>
> Angle parking on Main Street should be converted to parallel parking to provide for short-term parking demand (high turnover). As a minimum, the 60 degree angle parking should be converted to 45 degree or 30 degree angle parking. As part of this program the existing parking meter poles should be removed.
>
> The current parking space deficit is approximately 475 spaces if the angle parking on Main Street is converted to parallel parking. This represents a maximum figure. The deficit would be less if the parking was converted to 45 degree or 30 degree angle parking. This current deficit necessitates the construction of off-street parking facilities.
>
> Recommended parking areas are shown on Map S. These areas were delineated based on the following factors:
>
> > Vacant Land
> > Deteriorating and dilapidated building conditions
> > Incompatible land uses (i.e., residential)

Construction of these parking areas will also depend on ownership patterns.

Off-street parking should be provided on the periphery of the major retail area (defined as that area between Main-Macon alley, 7th Street, Main-Royal Gorge Boulevard, and 4th Street) to reduce traffic congestion on Main Street and enhance pedestrian movement on Main Street. Landscaped parking along Royal Gorge would serve to make the CBD identifiable from the highway and buffer the CBD from Royal Gorge Boulevard.

A landscaped median on Royal Gorge Boulevard would also serve to identify the CBD. A median would also regulate turning movements from the parking areas located along the highway. As illustrated, the medians would allow turns into the parking lots from both directions on Royal Gorge, but would prevent left-turns from the lots onto Royal Gorge. Left-turn movements would only be allowed at intersecting cross streets.

Pedestrian access from these parking areas can be provided by mid-block walkways extending from the parking lots to Main Street.

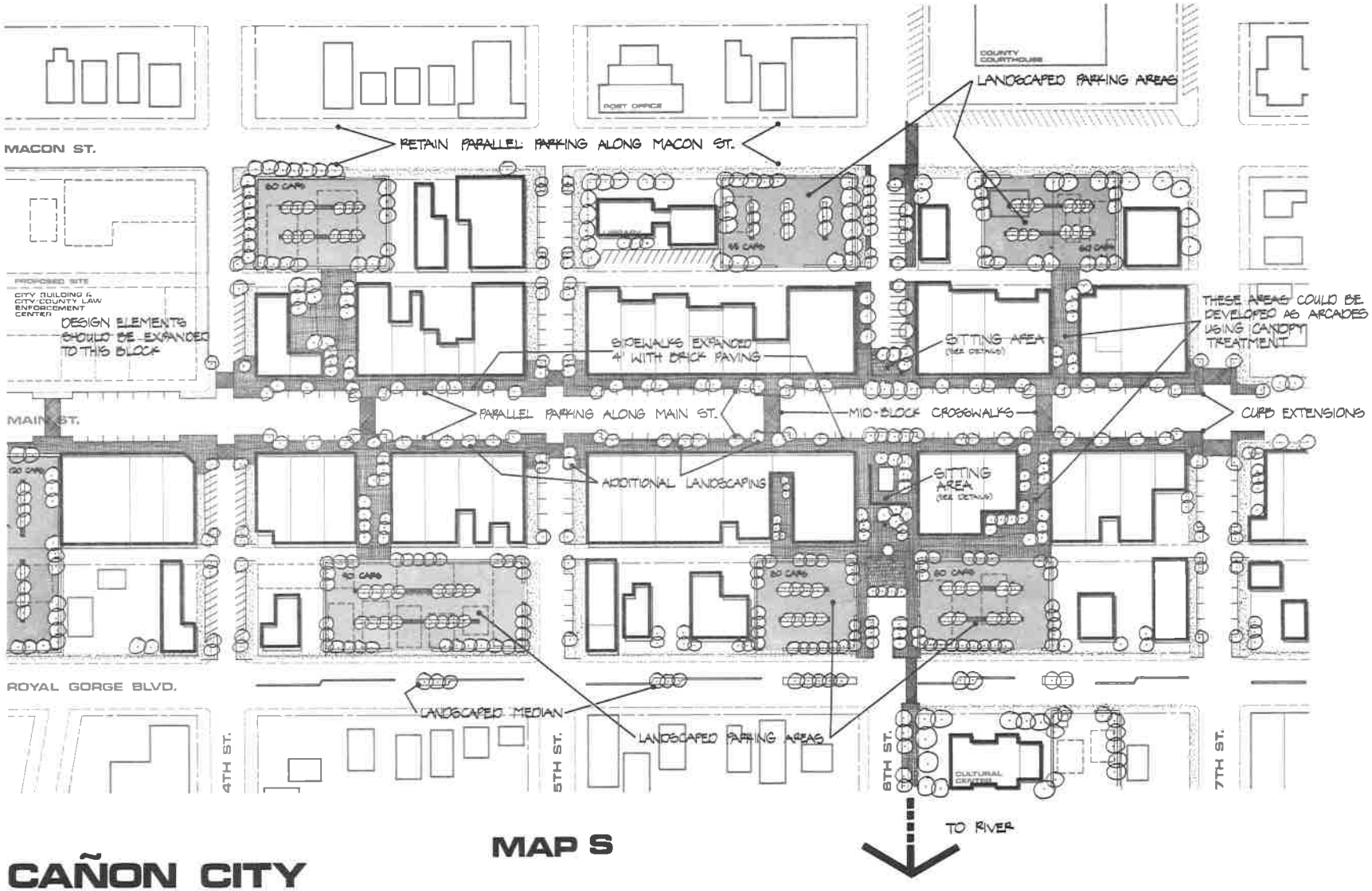
Within the sidewalks along Main Street, pedestrian amenities should be provided such as benches, trash containers, and landscaping. The sidewalk should be constructed with brick pavers around new landscape elements to unify the area and create some identity. Brick pavers could also be used for the entire sidewalk, but the cost may be prohibitive. All of these elements will serve to unify the area and create an identifiable place. Natural materials should be used where possible for street furniture elements.

Additional plant materials should be provided to provide visual contrast with the brick, concrete, and asphalt. Evergreen materials should be used to provide color during the winter months.

Canopies are proposed to be constructed over the existing sidewalks along Main Street. These canopies would provide sheltered sidewalks for pedestrians and would serve to unify the area. Canopies over the mid-block walkways from the parking areas would create an arcade affect and would serve to link the parking areas to Main Street.

Sixth Street could be closed to provide sitting areas within the CBD. This would enhance the CBD by providing an additional pedestrian amenity and provide some green space to provide relief from the linear arrangement of buildings. These sitting areas would also provide a link between the County Courthouse and proposed cultural center (City Hall). This area could become a focal point of the CBD.

Mid-block pedestrian crosswalks would provide for greater pedestrian safety as pedestrians would be more visible and would only have to contend with traffic on Main Street (as opposed to on corners where there is traffic in 2 directions). These crosswalks should be constructed with a material different from the street material (not



MAP S

CAÑON CITY

CENTRAL BUSINESS DISTRICT

SCALE 0 50 100 200 FEET

NORTH

DEVELOPMENT PLAN

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just painted on the street), like brick. This would provide a visual contrast and would serve to alert motorists to these crossings.

Curb extensions could be constructed using brick pavers at all crossings. These curb extensions would provide for greater pedestrian safety by expanding the sidewalk out to the outer edge of the on-street parking. In this way, pedestrians would be more visible to motorists.

Visual clutter can be alleviated through a sign ordinance aimed at standardizing signs (size, placement, number of signs) and by placing utility wires underground.

Implementation Recommendations

Based on the preceeding planning, market and design analyses the following recommendations for improvement and enhancement of the Canon City Central Business District are made. The numbers associated with the recommendations do not represent priorities since several of the recommendations must be pursued simultaneously. The recommendations are as follows:

1. Both the public sector and private sector should cooperate to improve the CBD. This means that resources from both sectors should be expended in a reinforcing way to improve both the economic and service functions of the CBD.

2. A Department of Community Development should be established within the Municipal Government of Canon City. The purpose of this department would be to initiate a comprehensive development strategy that would focus upon implementation mechanisms to improve the CBD. Both the CBD and the Canon City planning area need the resources of a full time Community Development Director to organize information, provide development analysis, and seek alternative financing sources to promote development interests in the Canon City area.

3. It is recommended that substantial public investment in municipal service facilities be made in the western part of the CBD. Public investment in a municipal hall, expansion of the library, and the relocation of the municipal court and police facility will not only solve existing facility inadequacies, but will also reinforce a declining area within the CBD. The implementation mechanism that will achieve this type of activity is the Canon City Capital Improvement Program.

4. It is strongly recommended that both the public sector and the private sector immediately determine what can be done to retain the JC Penney's store in the CBD. The public sector can demonstrate to the JC Penney organization investment commitment in the downtown area as evidence of improving Penney's business situation. The private sector can determine what resources are

required from within its own unique collection of development potentials that will encourage JC Penney to remain within the CBD.

5. The Downtown Improvement Corporation which is currently in existence should be revitalized in order to promote an organized effort to improve the CBD. This can be accomplished through the coordination with community development efforts made by the City and by an organized, cooperative effort among businessmen to define the problems in the area and seek a prioritized set of solutions for those problems. Funding applications should be made to the Economic Development Administration of the U.S. Department of Commerce for a Technical Assistance Grant to study in detail both the problems and opportunities associated with the CBD. The result of a successful technical assistance program would be a study that could be used to secure business assistance loans, economic development grants, or community development grants made available by several Federal agencies.

6. A housing program should be established that will consider the conversion of second floors within commercial structures located in the CBD as potential residences. The effects of doing this would be to strengthen the economic market of the CBD, obviously provide additional housing, and increase the property value and therefore tax revenues to the City.

XIV COMPREHENSIVE PLAN SUMMARY

Recommendations concerning the future development and redevelopment of the Canon City planning area have been included throughout this document. This chapter provides a summary of the Comprehensive Plan and states policies to be utilized by the City in redeveloping the existing community and in directing future growth as illustrated on the Comprehensive Plan Map on the following page.

Residential Uses

Future residential growth is anticipated to occur mainly east, north and south of the existing built-up area of Canon City. Additional residential growth will be accommodated by the use of existing vacant lots and parcels within the community.

Growth sectors which should develop first should be determined by such factors as public school development and accessibility, park development, and the economic provision of public service and utilities. It is recommended that those areas most contiguous to the City develop first in order to assure a compact development. All residential development should have convenient vehicular and pedestrian access to schools, shopping areas and recreational facilities. The planned unit development concept should be utilized in site planning and design of new residential areas. Multi-family uses should be accessible to major streets and be located near major activity centers such as the Central Business District and St. Thomas More Hospital. Mobile homes should be located in mobile home parks or mobile home subdivisions.

It is intended that supporting semi-public uses such as churches and neighborhood commercial uses should be provided as required in the areas delineated for residential development.

To achieve the residential goals of the community the City should undertake the necessary planning activities and implementing actions listed in the housing chapter of this document. These activities and actions will lead to a gradual upgrading of the existing housing supply.

The planning and implementing activities included in the housing chapter will also provide a basis for sound future development of residential areas. For example, an updated zoning ordinance and subdivision regulations will aid in managing and directing future residential development while an effective building inspection program will assure proper construction of all structures. In addition, the following policies are recommended:

1. All major arterial streets should be routed along the periphery of neighborhoods and be sufficiently designed to facilitate traffic movements around the neighborhoods rather than through them. Collector streets should provide a connection between local streets and neighborhood facilities and carry traffic to and from arterial streets.

Wherever possible, housing units should not face or have direct access to a collector or an arterial street. Access to arterial streets should be provided only by collector streets or service roads. Local streets should be designed to provide good access to abutting property.

2. High density multi-family residential areas should generally be located near major streets to reduce internal neighborhood traffic. Location of high density residential areas in close proximity to activity centers decreases traffic by encouraging walking and biking.

3. Low and moderate income housing should be provided in conjunction with the local housing plan and should be equitably dispersed throughout the community.

Commercial Uses

Commercial development provides opportunities for employment and can lead to a strengthening of the tax base which, in turn, supports the general demands of the public. The City should maintain a positive attitude and philosophy in determining its commercial needs and, in so doing, should provide minimal conflict between commercial and residential development.

The Canon City Central Business District should be strengthened as a retailing center through improvement of its appearance, character and convenience. This necessitates good accessibility to the CBD, convenient pedestrian circulation within the area, ample parking facilities and an attractive appearance. More specifically, the policies for upgrading the CBD include:

1. Expansion of the CBD should take place within the boundaries identified by the analysis contained in Chapter XIV.

2. Off-street parking should be provided to increase the convenience of the CBD and decrease the amount of parking related accidents occuring in the area. The angle parking allowed in the CBD should be replaced in the long term with parallel parking.

3. Private development should be encouraged to participate in the rehabilitation of structures and the construction of off-street parking facilities.

4. Vehicular and pedestrian traffic should be separated as much as possible.

5. Automobile oriented and similar commercial uses which are not appropriate for inclusion in the CBD should be relocated elsewhere in the community when feasible.

6. The existing character of the CBD should be maintained with new commercial activities complementing this character.

The site design and location of small neighborhood convenience centers should be integrated with the design of planned unit developments. The shopping area should be located centrally within the development and contain unified groupings of compatible shops and stores which are planned as a unit situated on a site of sufficient size to provide adequate off-street parking space for customers and employees. Any neighborhood shopping center should be designed

to protect adjacent land uses and located to provide convenient access from the surrounding residential areas. Additionally, this type of center should be designed to provide for the sale of convenience goods and personal services for daily residential living needs. The location of a neighborhood shopping center is shown on the Comprehensive Plan Map in the northern portion of the community. Only a general location of the center is shown due to the speculative nature which this type of activity generates when specific locations are shown.

Service commercial and highway commercial development should be located adjacent to U.S. 50 east of the CBD. In addition, land adjacent to 9th Avenue from Royal Gorge Boulevard to Elm Avenue provides suitable land for these types of commercial activities. If possible, it is desirable to group these activities together and provide shared off-street parking facilities with adequately designed access to aid from these areas. It is desirable to provide access to these businesses by frontage or service roads. Curb cuts providing access to establishments should be minimized.

Industrial Uses

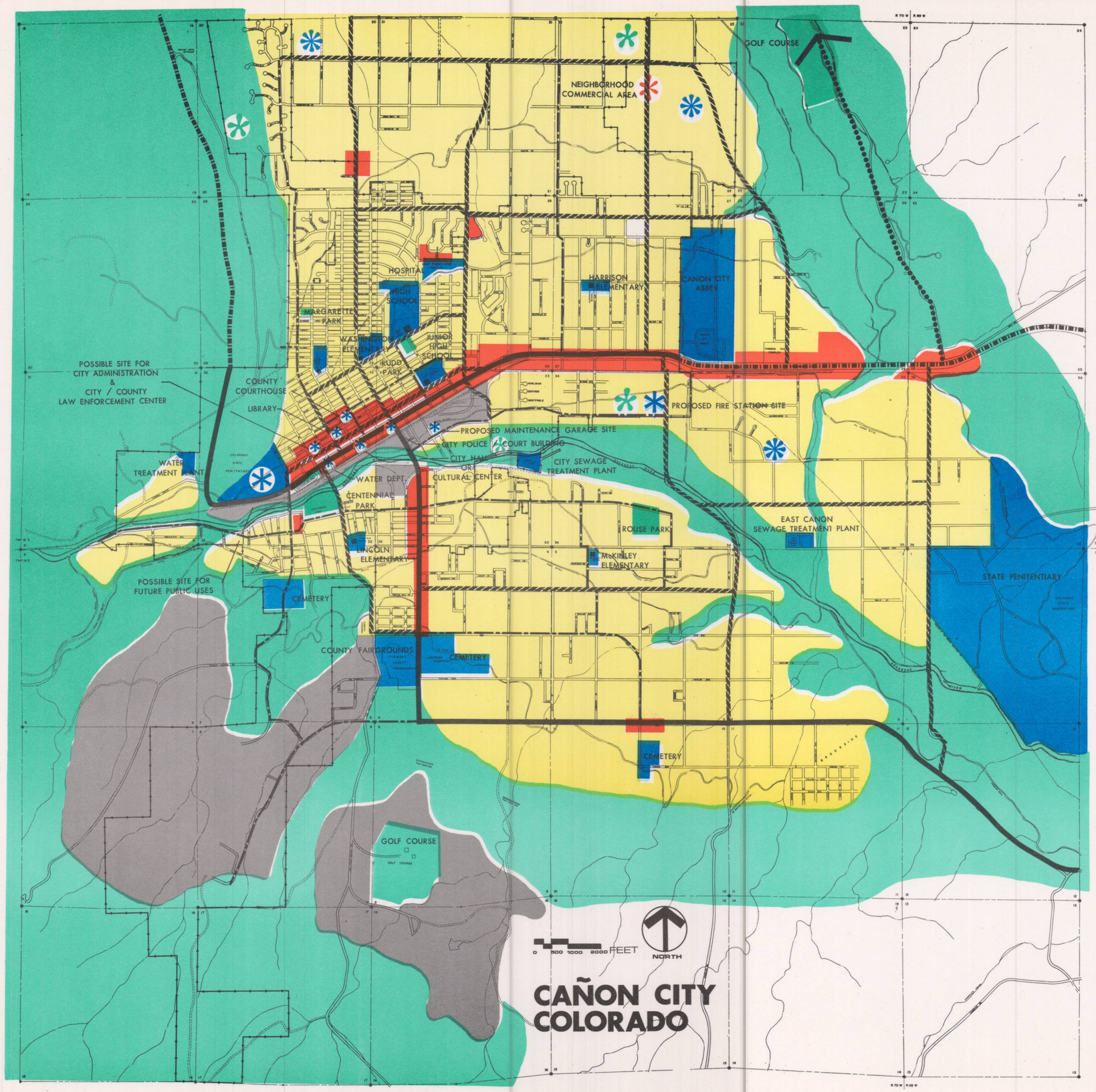
There are two major industrial areas illustrated on the Comprehensive Plan Map. The first industrial area is shown extending parallel to U.S. 50 and the railroad tracks. The area is nearly level, accessible to major highways and the railroad, and capable of being easily supplied with utilities and other public services. The second industrial area is located south of the original core of Canon City in the Planning District identified as Industrial Park. This area houses industrial establishments at the present and has railroad access. Other development such as residential, if planned with appropriate buffering and open spaces, could be incorporated into these areas under a planned unit development. However careful consideration should be given to the provision of public facilities and services. The extension of Cedar Avenue as proposed in the Major Street System Plan will provide major arterial access to this developing area.

Industrial uses envisioned in Canon City should be provided in planned industrial parks or districts and be encouraged to provide a favorable environment for the respective industrial operations. The individual establishments should be constructed such that activities are confined within a closed building or in an open area screened from view from adjacent areas. They should be operated in such a manner that activities and appearances do not adversely affect adjacent areas. Buildings and sites should be architecturally attractive, well landscaped and well maintained. The development of heavy industrail uses should not be permitted in the City.

Transportation

The major street plan illustrated on the Comprehensive Plan Map is intended to show the classification and general location of major street facilities. Arterial and collector streets are illustrated on the map.

Street rights-of-way should be dedicated by developers in general accordance with the major street plan illustrated on the Comprehensive Plan Map. Only in this manner can a coordinated circulation system be achieved. Right-of-way widths should be 100 feet for arterial streets, 80 feet for collector



COMPREHENSIVE PLAN

FUTURE LAND USE

- RESIDENTIAL
- COMMERCIAL - RETAIL
- COMMERCIAL - SERVICE
- INDUSTRIAL
- PUBLIC AND SEMI-PUBLIC
- PARK AND RECREATION
- OPEN SPACE

PUBLIC FACILITIES

- POSSIBLE PARK SITE
- PUBLIC BUILDING
- FUTURE SCHOOL SITE

MAJOR STREETS

- FREEWAY AND EXPRESSWAY
- PRINCIPAL ARTERIAL
- MINOR ARTERIAL
- COLLECTOR
- PROPOSED BYPASS

MAP T

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streets, and 60 feet for local streets. Access to arterial streets should be provided by collector streets and frontage or service roads. Residential development should back up to, not front, arterial streets. Residential access should be to local streets. When possible, local and collector streets should intersect at 3-way intersections to provide added safety and discourage through traffic.

Improvements to streets and the development of streets in the future should be in accordance with the major street plan and the Capital Improvements Program. Priority for future improvements should be given to the major streets serving the major areas of the City and existing unpaved streets.

Pedestrian and bicycle circulation could be accommodated along the linear open space system illustrated on the Comprehensive Plan Map. This should be an attractive, well-coordinated system to encourage walking and biking as opposed to driving for short trips within the community.

Community Facilities

The proposed locations for community facilities, including schools, parks, public buildings and utilities, are illustrated on the Comprehensive Plan Map. It must be emphasized that the locations are general since final site selection will have to be based on a detailed analysis of space needs and functions to be included in the facilities.

Schools

The school district may require additional schools to serve future population levels. The precise location of the schools should be determined on the basis of the residential area intended to be served. With increasing volumes of traffic in the future and the expansion of the Central Business District and adjoining commercial areas, the present location of the Junior High School may become unsuitable as a school site. Should the Junior High School be relocated, the existing site should be used for public purposes of one type or another.

Parks and Open Space

The City currently maintains an amount of park land below that of recognized national standards. Park land is concentrated in a few parks and the development of additional neighborhood parks or pocket parks is desirable within budgetary limitations. The sites should be integral parts of the respective neighborhoods and the location and design of each site should be in accordance with the standards provided in Chapter IV.

A linear park system is proposed adjacent to the Arkansas River and its tributary drainageways. Although these park areas conform to existing topography and flood hazard areas, the precise location and dimensions will depend on more detailed engineering and development design. This linear park system will facilitate surface drainage and the construction of hike/bike trails, benches, picnic tables, and similar features will provide for recreational needs as well. Much of the area situated within the floodplain of the Arkansas River as it passes through Canon City planning area is proposed as open space. Recreational needs could also be met by establishing certain sections of this area as a natural park site.

If possible, neighborhood parks should be located in the outlying portions of the planning area. The size of the areas devoted to recreational and educational purposes should follow the guidelines and standards provided in Chapter IV.

Public Buildings

It is anticipated that new facilities will be required during the planning period for City administration, police, fire, and public works functions. It is recommended that the City remodel the existing Municipal Building in order to bring the facility up to current building and life safety codes. This remodeling should serve municipal and administrative spatial needs for the next 5 to 8 years. On the long term, however, the City should plan to relocate the Municipal Building to be part of a civic center plaza proposed for the western end of the CBD.

The old Municipal Building is proposed then to be recycled as a Cultural Arts Center housing the museum, fine arts and possibly performing arts activities.

It is recommended that the main fire station remain at its present location although a new substation is recommended to be constructed south of the railroad tracks along Raynolds Avenue. The fire station will serve the growth areas at the eastern edge of the community.

The current Maintenance Garage will need to be replaced during the planning period. A new site has been recommended in the general area bounded by Ninth Street, Royal Gorge Boulevard and Vine Street. At some time in the future, it is recommended that the Street Department relocate as well onto the site of the proposed new Maintenance Department building. When the Street Department is relocated, the Water Department should then expand into the remainder of the building which the Street and Water Departments now jointly share.

To more effectively serve the increasing readership demands of the planning area, it is recommended that the Canon City Library expand its present facility. The enlarged library will become a major activity center within the proposed civic center plaza.

The building presently housing the City Police Department and the Municipal Court should be remodeled. It is recommended that minor interior remodeling be undertaken to provide a greater functional separation between the two departments as well as to more effectively use available space. It is further recommended that Canon City work in close cooperation with Fremont County to construct a joint municipal/county criminal justice facility to be situated in the civic center at the western edge of the Central Business District.

Public Utilities

The City should continue to renovate and expand its public utilities to assure these utilities adequately and economically serve the needs of Canon City area residents and meet all federal and state standards established for the provision of these utilities. All development in Canon City, present and future, should be served by central facilities.

A number of water system improvements have been recommended as part of this Comprehensive Plan. The implementation of these improvements combined with careful municipal supervision and monitoring of the water system will provide the basis for an effective and efficient water treatment and distribution system.

It is further recommended that the proposed regional sewage treatment plant be built near Florence,but only when adequate land development and management tools have been adopted by Fremont County.

A major capital expenditure recommended as part of this Comprehensive Plan is the gradual and phased construction of storm sewer facilities. To accomodate future storm water runoff from new development, a combination of structural and non-structural drainage control techniques will be required.

XV ENVIRONMENTAL ASSESSMENT

Introduction

The Canon City Comprehensive Plan is intended to serve as a policy guide which will aid in accommodating urban growth for the next 21 years. This growth will require the commitment of a wide range of natural resources including land, water, air and building materials for the construction of residential, commercial, industrial and public structures, roads, and recreation facilities, resulting in a substantial impact on the existing environment.

In view of the prospects for substantial growth-related environmental impacts, the purpose of this assessment statement is to define and analyze the impact on the environment of implementing the Comprehensive Plan, to evaluate possible alternatives to the Plan and to review means of controlling adverse environmental impacts.

Environmental Impact

In recent years Canon City has emerged as a major economic center within the regional economy of the Upper Arkansas area. A burgeoning local economy combined with a strong community identity as a retirement center have been major stimulants to growth in the Canon City planning area. As a result of the recent pattern of economic growth and geographic expansion, it is anticipated that the planning area will continue to grow for the period 1979-2000 with the population projected to increase from the present estimate of 20,204 people to 34,593 people by the year 2000.

The planning districts--Central Canon, East Canon, Park Center, and Lincoln Park--are anticipated to be the major future growth areas within the planning area. These areas, which generally lie east of the old core of Canon City, are presently used for both agricultural and scattered, low-density residential uses. The topography of the land varies from nearly level to a gently rolling terrain interrupted by several major intermittent drainageways which flow into the Arkansas River. With the exception of the drainageways, the growth areas are generally void of wooded areas and the wildlife habitat value of the land is limited. Thus, implementation of the Plan would result primarily in altering the existing land use from agriculture to residential and would not necessitate the taking of high quality or high value open space for development purposes. In fact, the Comprehensive Plan indicates that the drainageways should be used as a linear system of bike/hike trails since the land is unsuitable for other more intense types of development. Generally, it is believed urbanization of the Canon City growth areas would result in minimal damage to the environment in terms of potential land use.

Urbanization may, however, create drainage problems in the projected growth areas. As the land is developed, the natural capability of the land to absorb drainage runoff will be diminished. It is anticipated that by preserving the natural drainageways, constructing retention ponds, and constructing storm sewer systems, this problem can be alleviated. Additionally, maintaining those areas excessively steep in their natural topography through proper land planning can reduce flood and erosion problems.

An inevitable result of urbanization is increased air pollution attributable to increased numbers of automobiles and industrial establishments. Industrial air pollution can be mitigated somewhat by encouraging light, clean industries to locate in the planning area. Although air pollution resulting from automobiles can be reduced by the provision of air pollution control devices and adequate mass transit, it is anticipated that this source of pollution will have a minor adverse effect on the environment in Canon City.

The possibility of increased water pollution from point and non-point sources is also greatly enhanced by additional urbanization. Again, close scrutiny of industries which will locate in the Canon City vicinity and proper design of waste treatment facilities can greatly reduce the adverse effects of water pollution. Urbanization in the planning area may result in a negligible increase in water pollution, especially from non-point sources.

Urbanization of the Canon City planning area will also result in beneficial impacts on the environment. One beneficial impact of the Plan is the minimization of water pollution, both ground and surface sources, through the provision of the centralized regional sewer treatment facility. As recommended in the Plan, the provision of the regional facility would reduce the need for individual septic systems and thereby decrease the potential for contaminating surface waters and groundwater. Monitoring of the wastewater treatment plant will ensure that discharge standards are met. Water pollution should be minimal as a result of implementing the Comprehensive Plan.

Another beneficial impact of the Plan is the preservation of the wildlife habitats adjacent to the Arkansas River. The Comprehensive Plan recommends utilizing the areas adjacent to the River as open space. Minimal recreational development, such as trails, benches, and picnic tables, as suggested in the Plan should have little impact on vegetation and wildlife habitats.

Other beneficial effects of Canon City area urban development relate to the existing conditions in the community. A number of existing business and residential structures are substandard. Implementation of the Plan will result in upgrading those areas where substandard conditions exist. New economic development may provide the impetus for population growth by providing additional job opportunities for area residents as well as expanding the tax base of the community. Planned growth will also result in the provision of additional recreation facilities which will serve not only the population in the growth area, but those persons in the existing community. The strengthening of the economic base will increase the community's ability to provide for needed public improvements, such as adequate fire protection, adequate school facilities, and adequate law enforcement. Generally, improved economic conditions will result in a general upgrading of the existing urban environment.

Unavoidable Adverse Environmental Effects

Implementation of the Plan will result in three unavoidable adverse environmental effects. The first of these is a continuation of urban sprawl. Although the future land use plan provides for controlled development, the reduction in open space at the fringes of the community is detrimental. The adverse effects of this reduction in open space may be somewhat offset by

the provision of a linear park system which will establish a break in the urban pattern and provide relief from the residential development in the developing portions of the community. Additional provision of open space within the planning area will tend to break the monotony of conventional urban development and provide open space and recreation opportunities for local citizens.

A second major unavoidable adverse effect relates to air pollution resulting from increased vehicular traffic in the Canon City vicinity. Although present technology has provided means for reducing emissions from automobiles, the emissions problem still exists and will probably exist for many years to come. It is anticipated, however, that at some point in the future when the conventional internal combustion engine is replaced by a non-polluting engine, the adverse effect of increased vehicles may be decreased to a point where this environmental effect will be of minor consequence. Until that time, however, vehicular pollution is to some degree unavoidable. The level of particulate material, principally fugitive dust, may be reduced in the future as existing unpaved roadways are surfaced to accommodate larger volumes of traffic.

The third unavoidable adverse effect of Canon City growth concerns the commitment of natural resources necessary for growth including land, air, water, building materials and the resources necessary to sustain the additional population. This effect is analyzed as it relates to irreversible and irretrievable commitment of resources.

Analysis of Alternatives to the Proposed Comprehensive Plan

The Comprehensive Plan which is based on analyses of existing land use patterns, building conditions, current development activity, physical characteristics such as topography, needs such as increased economic activity and community desires and attitudes, is a logical and realistic guide for future development of the Canon City planning area. Although numerous variations in land use patterns and distribution are possible, it is doubtful that these variations could be of great magnitude and be acceptable. Minor variations could be considered, but they would probably result in insignificant changes in the environmental impact of the Plan. Aside from variations which would result in generally the same environmental impact as the proposed plan, there are three major alternatives to the Plan which should be discussed.

The first alternative is that of preventing any sizable development in the planning area; the second alternative is that of directing growth to a totally different area from the growth areas delineated in the Comprehensive Plan; and the third alternative is that of permitting uncontrolled growth.

In considering the projected economic growth of the Canon City area, it appears that additional urban development will be necessary to house the future population growth of the region. The fact that Canon City is fast becoming a major economic center of the southern section of the Front Range Urban Corridor appears to be conducive to providing for at least a portion of this projected growth. Thus, the alternative of restricting any major development in the planning area is probably unrealistic and impractical.

Assuming that growth will occur in the Canon City area, the second major alternative to the Comprehensive Plan is the selection of alternative growth areas. Projecting alternate growth areas by ignoring existing development trends and serviceability by utilities would be extremely costly. For these reasons, the growth areas were delineated as shown on the Plan. This does not preclude the possibility of growth in another area, but it is more an attempt to direct growth to the areas judged appropriate and suitable.

The final major alternative to the Comprehensive Plan is allowing uncontrolled growth to occur. Uncontrolled growth could result if Canon City adopted a no development control policy and would not annex into the growth areas. If this occurs, the development could be unincorporated and the provision of central facilities would be difficult. Incompatible land use patterns would also intensify as would inappropriate land use densities. Uncontrolled growth might result in health and safety problems for community residents and detract from the overall community appearance. This situation would be detrimental and, therefore, this alternative is not practical.

The Relationship Between Local Short-Term Uses of Man's Environment and the Maintenance and Enhancement of Long-Term Productivity

It is difficult to define the relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity because urban growth does not necessarily result in increased productivity. The anticipated utilization of the existing environment of the Canon City area is for urban development. Inasmuch as the individual residing in the growth areas will contribute to economic development, the urbanization of Canon City would provide for long-term increases in productivity. The Comprehensive Plan is intended to provide the best environment practicable for residential, business and public development so that a balance is achieved between environmental protection and public fiscal expenditures. Moreover, the environmental impact in terms of productivity of urban growth cannot be compared to the environmental impact of obtaining additional natural resources for future productivity.

The implementation of the Comprehensive Plan would inescapably involve a commitment of building materials, water, air, and land resources. The commitment of these resources is discussed in the following section. In terms of future productivity, the Plan provides for increased housing in an urban region, increased economic activity, and additional developed recreation facilities. Although the urbanization of Canon City will not directly result in increased productivity except from an economic standpoint, it will form a planned community which will be the foundation for increased productivity.

Irreversible and Irretrievable Commitment of Resources

For all practial purposes, implementation of the Comprehensive Plan would result in the irreversible and irretrievable commitment of land, air, water, building materials, and the resources necessary to sustain the anticipated increase in population. In order to accommodate the additional population growth projected for the planning period, approximately 3,300 acres of land will have to be developed. In addition, residential water consumption will increase in proportion to existing levels. Industrial water consumption

will increase as well, although the magnitude of the increases will depend on prevailing production requirements and technological development. A limited amount of building materials will be required for the existing community should growth not occur; however, vast quantities of these resources will be required to construct additional housing units and related facilities if growth does take place. Commitment of other resources will increase in the same proportion.

Although the commitment of many resources can be established on a per capita basis, the commitment of land resource varies directly with the density of development anticipated in the growth areas. A higher density will result in less land being utilized for development and some decrease in the amount of other resources required for construction of water and sewer lines, roads, and so forth. The land use projections were based on relatively low residential densities and if development occurs as anticipated, the amount of developed land required per capita will be the same as currently exists.

Environmental Controls

Recent Federal legislation related to improving and maintaining the nation's physical environment provides Canon City with certain responsibilities and opportunities to maintain a high quality environment. Generally, this legislation directs the Environmental Protection Agency to establish standards to be utilized as guidelines for state legislation, and directs the EPA to provide financial and technical assistance required to achieve these standards.

Federal environment and pollution acts include the Clear Air Act, Water Pollution Control Act, Solid Waste Act,Resource and Recovery Act and the Noise Control Act. It is the responsibility of the State to submit state legislation to the EPA for review and approval and for the State to enact the approved legislation. The Department of Health is the state agency responsible for establishement of standards and enforcement of these standards in Colorado.

Federal and state environmental controls are essential as many environmental matters are of national, state-wide and regional magnitude. The responsibility of environmental control is also found at the local level. In addition to compliance with standards established at higher governmental levels, local governmental entities have the responsibility and opportunity to establish policies and take actions to achieve a high quality environment.

The policies stated in the Comprehensive Plan Summary provide for the realization of a high quality urban environment. For example, the provision of public services and utilities on a centralized basis will eliminate pollution often associated with individual treatment plants and septic systems. Examples of other policies which will assist Canon City in attaining a high quality urban environment include the provision of expanded employment base within the community and the provision of open space/greenbelt networks throughout the community. The provision of greenbelts and hiker/biker trails throughout the area to facilitate non-vehicular transportation will not only reduce the use of the automobile and subsequent air pollution, but will also provide open space necessary to break the monotony of traditional urban development and provide additional space for outdoor recreation.

Other controls the City maintains or could adopt relate to the establishment of standards for future development, redevelopment and maintenance of the community. Construction codes provide standards for construction and maintenance of housing, commercial and industrial structures. The revised zoning ordinance and subdivision regulations provide modern development standards including the provision for substantial open space, the prevention of incompatible land use mixing, and numerous other standards designed to achieve a high quality environment.

APPENDICES

APPENDIX A

An Example Of The Goal Survey And A Tabulation of Responses

Canon City has recently started participation in a comprehensive planning program. A major part of this program is the identification of goals the City should strive to achieve. The goals should characterize the type of community Canon City will work toward becoming as it grows and develops. Goals should be developed jointly by citizens and by elected officials and should reflect the desires, feelings and capabilities of the community at large. We would like you to make your feelings known concerning goals for Canon City. Please complete the following goals list by checking the appropriate box and drop off the completed form at one of the designated locations.

PROPOSED GOALS FOR CANON CITY	YES	NO	NO OPINION
1. To develop in a planned manner by:			
A. Regulating land use activities so that one use does not adversely affect another.	256	17	26
B. Protecting and enhancing the environment of the area wherever possible.	258	13	28
C. Regulating land use and development in critical areas such as natural drainage ways, hazard areas, flood plains or others found to be of critical importance to the existing environmental characteristics of the Canon City Area.	254	19	26
D. Encouraging development first in areas adjacent to developed portions of the City to avoid leapfrog development which may result in uneconomical and inefficient use of community facilities, utilities and services.	235	31	33
E. Developing a compatible working relationship between Canon City, Florence and Fremont County Planning in formulating a regional development plan.	253	18	28
2. To allow for a reasonable choice of housing type, location, and value for all socio-economic groups in the City by encouraging cooperation and coordination between public and private entities in residential housing projects.			
A. Develop a master plan to retain and improve the central business district.	234	28	37
B. Encouraging future commercial facilities to be grouped or clustered along major arterials, rather than continuous strip development along highways.	208	42	49

	YES	NO	NO OPINION
3. To establish a stable industrial base for the Community without negatively affecting its existing residential character by:			
A. Encouraging only clean industries to locate within the area.	231	35	33
B. Requiring that industrial activity be screened from view from adjacent residential areas and that truck traffic not pass through residential areas.	242	35	22
C. Working with Fremont County, Florence and other jurisdictions in developing major Regional Industrial Parks	241	24	34
4. To develop and maintain adequate and convenient open space, parks and recreation facilities for all age groups in the Canon City area by:			
A. Encouraging acquisition of prospective open space, park and recreation land in advance of development.	241	21	37
B. Promoting the development as open space of drainages, floodways, hazard area, public easements, wetlands and other areas less suitable for residential, industrial or commercial development.	244	14	41
C. Promoting the development of greenbelts along the Arkansas River.	236	27	36
5. To provide adequate, efficient and where possible economic and aesthetic utilities and public services to the Canon City area by:			
A. Developing plans to adequately accomodate current population levels and to build in capabilities for future expansion of needed utilities and services. (water, sewer, police, fire, municipal buildings, etc.)	261	10	28
6. To develop city and areawide transportation system which complements the environment and adequately serves area travel needs by:			
A. Working with Fremont County in developing transportation plans to include rail, air, bus, truck and automobile services at a minimum disruption of existing neighborhoods and land use patterns.	235	24	40
B. Encouraging the development of transportation systems to serve not only the general public but also to serve segments of the population with special needs such as the old, young and handicapped.	239	23	37
C. To develop a major street plan.	223	21	55

	YES	NO	NO OPINION
7. To recognize the human and social problems of the area and encourage programs to incrase public awareness and participation in solving these problems by:			
A. Encouraging cooperation and coordination between public and private sectors in dealing with community social programs.	231	15	53
B. Encouraging the coordination and use of existing and anticipated educational, recreational, governmental facilities by making them available for appropriate social, cultural and civic uses throughout the year.	254	14	31
C. Encouraging development of libraries.	223	24	52
D. Encouraging development of museums.	191	41	67
E. Encouraging development of arts center.	193	37	69
F. Encouraging development of other cultural facilities.	196	30	73
8. To insure citizen involvement in the planning process by:			
A. Developing a program of public education to inform the citizenry of planning programs and policies.	260	8	31

9. Additional Comments.

Goal Comments Generated From The Survey

Public voting on major projects, and budget management.

Elderly property tax easement; change revenue source for schools.

Keep cost and taxes down.

Enforcement of curfew to cut down on vandalism.

An auditorium with smaller meeting rooms, kitchen and decent seating arrangements. Open to the public.

If improvements and plans are carried out, they should pay their own way and not be a burden to the taxpayers.

Have a qualified city planner with a Masters Degree in city planning, that has no other special interests.

Develop quality, not quantity. Keep Canon City small.

Move Highway 50 north of city. Combine library, museum and art center.

Canon City, Florence and Fremont County governments should work together.

Limit population to area's ecology.

Clean up eye-sores that are along Temple Canyon Road.

Develop downtown parking.

Pave city streets, especially Highland Avenue.

A civic center where city offices, police & fire departments are centrally located is needed. Also an additional fire station.

Not in favor of anything that will cost us more money.

Another fire station is needed.

Coordination between Sheriff & Police is needed.

Control development. At the present rate of growth this town stands to lose its charm and quaintness.

More opportunities for women who are head of households.

Need inter-city bus transportation. Also need grocery stores located within the residential areas.

Representatives from community groups to keep both the community groups and the planning committee informed.

Just use plain common sense, and let the land owners do as they please with their land.

Want Canon City to improve because of the youth.

All projects for development are excellent if present facilities are utilized and expenses are kept to minimum and taxes are not increased.

Plan without including Florence.

Excellent goals.

Should draw expertise from various local sources such as builders, bankers and developers.

Police should spend more time on crime control, less on traffic.

Mini-bus routes are a very great need.

No more parks.

Need more discount stores and chain grocery stores.

Comprehensive planning at this point is needed so that growth can be orderly and desirable.

Goals are fine only if they can be attained by the present city income.

All types of mining should be held to minimum, and posted bonds required.

Stop changing zoning.

Clean up the trash and old cars.

Do not dump in the river. Conserve good water. Let Florence take care of its own waste.

Need a highly sophisticated coordination effort.

Need a 4-way stop at 7th and Macon Streets.

Can the house on the NE corner of 9th & Royal Gorge Boulevard be saved?

Need a jogging/bicycling path along the Arkansas River.

Clean up junk areas, such as York Street.

Goals are fine if we don't get carried away with too much government and too much spending.

Needs industry to create local jobs.

The old house on the corner of 9th & Royal Gorge Boulevard should be preserved. Could there be passenger train service through Royal Gorge?

Preserve good farmland.

Ecology is good if it doesn't interfere with jobs, taxes or industry.

Does Canon care? No, they don't! Need more entertainment centers, jobs, industries and better supplied stores with lower prices.

Need Green-belt along the river.

Too much play and no work is what ails our country now, and it doesn't seem to make much difference as to what we want.

Both the library and museum needs expanding with ground level entrances.

Speed up flood control.

Zoning changes to permit more grocery stores and more competitive prices.

Leave a "little town" atmosphere. Explosions from the mine or rock quarry cracks every house in Canon City.

I don't want my taxes raised one cent for any of these things, if you have to forget everything!

Would like to see 500 & 600 blocks of Main as a mall with no auto traffic. Should have some public transporation system for elderly.

Moderation in all these areas should be used. Trailer homes in Lincoln Park should have attention.

Annex Lincoln Park and Four-Mile area.

Too much government interferences on all levels.

We favor the extension of city water, sanitation sewer and storm drainage sewers. Also develop an untreated water reservoir for future needs.

Promote tourist facilities.

Need indoor swimming pool and whirlpool for the public.

More funding for our libraries.

I just don't like dictatorship.

Need new businesses for people to be able to work locally. No more parks, museums, green belts, etc. Let us stay small.

Plan ahead, and hire city employees from local residents.

Black-top city streets.

Reconstruct taxes for schools. Re-zone areas where livestock is allowed within the city limits.

Goals are fine, providing there are no added taxes.

Questions cover most things that would be a benefit to the City or County.

Why wasn't Health Care Planning included?

If you want in-put from the public, give us a questionnaire with real questions.

Clean up over-grown lots and tear down unsightly sheds, etc.

Foremost question is the cost and return. Some of these things should be self-supporting. More specific questions would receive a more honest answer.

Adequate recreational and educational opportunites for our high school and college age young people.

Improve zoning, especially where mobile homes are concerned. Street paving should be incorporated into city plan. City should take over garbage collection to improve sanitation and reduce litter.

Use what we have. Don't give our water away.

I am only in favor of projects that are self-supporting and will not increase taxes. All projects are good if present facilities are utilized, and expenses are kept to a minimum.

An indoor swimming pool for the public, and more recreational facilities for youth.

Work towards changing our classification of "little hick town", and stop helping the ones that won't help themselves.

Compulsory driving education for police officers.

People on fixed income will have to sell their present homes if taxes get any heavier.

Get private owners to once more become aware of our slogan, "Canon City, The City Beautiful".

More programs & facilities for school age youth.

Why not put in some honest questions?

Need a civic center that isn't connected to school.

Ban loitering and noise up and down Main Street.

Library needs assured funding, and publicity-oriented trustees.

Build a civic center with multi purpose.

A program to limit the growth of Canon City.

Need either a dog law or higher fine.

Need more parks, recreational buildings plus activities, mass transportation, and a larger library.

Excessive population and growth not advisable.

Build a municipal auditorium for high school and other dramatic groups, and expand existing library facilities.

The City does not follow through that already previously planned or promised. Safeway needs more competition.

Sidewalks in the older residential areas need replaced. Royal Gorge monies should be used in this area.

Need recreational programs expanded.

More organized programs.

Main Street changed to a scenic area with stores, parking area, city transportation, going all the way from 1st to 9th.

Plan so as not to adversely upset current tax structure.

This opinion poll should be used as a guide for official action.

Phased planning implementation is needed.

Sounds like you have lots of money.

Keep this community quiet and clean by keeping welfare to a minimum. Police and courts should stop budding crime while still possible.

Build a new public library.

A master plan for central business district is very important.

Develop program to utilize the great potential of expertise in the retirement segment for city planning and operation.

We need hiking trails, and the limbs trimmed on trees that overhang sidewalks

Have underground installations of utility companies done before paving streets.

No more TAXES!

An added question to this survey should be, "Do you want to pay for these things and how?"

Any major project undertaken should & must be submitted to the people first, and costs be kept down to the minimum.

Police Department has the most courteous & well groomed personnel of any city.

Develop recreation facilities for younger people to discourage crime and mischief. Also, encourage light industry that women can work in.

Need an adequate auditorium.

Need stop lights at Macon & 9th, Macon & 7th and Royal Gorge Boulevard & 6th.

Clean up the streets. Get rid of weeds.

Don't forget the youth in this area.

There should be a definite master plan on housing development. All plans should be voted on by the people, and costs should definitely be kept down.

Reduce heavy truck travel in residential area, enforce dog-leash law, burning law, speed limits and do not permit livestock loose on highway.

Greenbelts along the Arkansas River a good idea, but expensive.

Punish vandalism, and consider & plan for the elderly.

Need open subdivisions where anyone can buy a lot and have who ever they want to build on it. Clean up the yards that are privately owned.

We need a shopping center or mall with bus service to accomodate our aged & crippled.

A great need for low cost housing for the elderly.

A more adequate news media to keep the citizens better informed.

More consideration of youth.

Maintain property around public buildings, street lights and major paving program are all needed.

Hate to have Canon burdened with bureaucratic do-gooders and high taxes.

Taxpayers must be kept informed and have a chance to help set priorities where taxes will be increased.

A law against digging basements. Because of the water level, it is impossible and affects the surrounding houses. A limit to the depth that the soil can be disturbed.

A civic auditorium with an indoor swimming pool and gymnasium developed. Also a fire department substation.

A competitive grocery store chain to compete with Safeway.

Would you rather have a clean town in poverty, or a progressive prosperous one with smog?

More recreational facilities for the youth.

A new fire station.

Stick to your guns! Presently, Fremont County is rapidly becoming the State's garbage & trash pit!

Ambitious and admirable program, and I have to compliment your civic spirit and optimism.

Control future expansion. Canon is as large as it should be.

We do not need more regulations or taxes. Use our funds to build character in people, keep out immoral industry such as dog tracks, massage parlors, etc.

Clean industries and they should be located in the industrial park area.

Clean up alleys and streets and enforce dog-leash law.

Expand present library.

Very good objectives and goals so long as they can be reached within the present means of money.

Do not use cinders for icy streets because they cause smoke and air pollution. Have "Project Pride" and have strict fine for trashy private owned areas.

We need more street lighting in lesser developed areas.

Enforce the weed control law and the dog control law. Also trim the trees. Take care of these minor things first.

Get a civic center, expand the library and bring in more jobs for the youth.

Current taxes are high enough, but planning doesn't require much money.

Involve the citizens by giving them what is theirs.

Museums and art centers are always left unattended or locked up in a town this size.

Make known health and medical needs and support services now available that they may be retained if you want to insure county, city and citizen involvement.

Pave Harding street to take care of heavy traffic.

We need a bus system and better education for our children in regards to traffic safety.

This city needs better discount shopping, library and better bus service.

We need two more fire stations.

The public library needs greater financial help.

This sounds great, but our taxes are way too high now!

An ordinance which would require people to remove junk from their yards.

Do something about police, fire protection, streets & street maintenance equipment that already need something done about them.

We need an auditorium.

I strongly feel & hope Canon City is not too late in its planning for such things as this survey has named.

These objectives are the ideal situation for any community. However, Fremont County will have to make a strong stand against the Chevron, CF&I,etc. in order for futuristic plans to be meaningful.

Present all plans to the voters for final approval.

"Count us in", is for all decisions that the public should be included in, affecting all age groups on all issues.

Roads need to be repaired and utilities need to be replaced.

I am proud to sign such a fine promotional document.

Get the public opinion before doing anything about any of the plans. Use the city and county planners who are receiving a monthly salary for planning.

There should already be cooperation between Florence, Canon City and Fremont County planning. Really, this survey is too vague.

Something should be done to prevent blind corners for traffic.

Businesses should be encouraged to stay open some nights and definitely all day Saturday. A Civic Center is needed.

Do something about the livestock inside the city limits.

Canon City is the greatest.

Devise a plan to use what we have wisely.

We are in desperate need of a King Sooper or Albertson's.

Keep area clean & quiet.

Don't ruin Canon by over doing it.

Expand the public library, recreational facilities, get mass transportation. Action speaks louder than words.

We must encourage new businesses & clean industries to locate here. Without the work, the community cannot support itself. Also, building codes and the enforcement of such are very important. Need more urban renewal.

Canon City needs an auditorium with parking facilities, some kind of evening patrol to decrease vandalism, and more industry to create jobs.

Invest in long range resources like water, sewer & solid waste. Develop a solid waste program. Invest in quality education and support street lights. Keep costs down.

Enforce car pools for business people.

How about something specific?

Expand the present library, add ramps to the entrance and better lighting for the front and back.

The fewer government services in competition with private businesses the better. Such as mass transportation versus taxi.

The survey does not touch on lower taxes and less government control.

Encourage the continued use of undeveloped plots of land as livestock pastures, hay fields and orchards. This open space between houses is a valuable psychological and ecological factor that makes Canon City special. Don't lose our rural character.

A town's quality can be judged by its library. Look at our 1905 Model!

Encourage people to walk or bicycle to work. It is refreshing to learn that people are considering the land.

Limit number of housing and industrial building permits. We do not want another large, bursting city.

Take a greater interest in the public library. Besides a new addition, maintenance is needed inside and outside the building.

I would like to see a greenbelt around the city.

More downtown parking. Also use the Municipal building for cultural facilities, and move the city office.

Use gravity flow for water instead of pumping when possible. Use pump only in the winter.

The wording of the goals should be made simpler to understand and more clearly explained.

I don't believe that 80% of the people that answer this form have any idea of what the bottom line of these questions mean.

Feel questionaire is biased in "Yes" direction.

Need a County wide park system development program immediately!

The welfare recipients and unemployed have taken over the swimming pool and any other program as they are always closed when the working man gets off.

Need services such as reservoir, and city services outside city limits.

APPENDIX B

Major Streets and Highways: Physical Characteristics and Conditions

SECTION I. ROADWAYS NORTH OF ROYAL GORGE BOULEVARD

Roadway Name	Segment Location	Surface Width (in feet)	Surface Type	Surface Condition	Drainage (Curb & Gutter)	Parking Allowed
U.S. 50	from south of Skyline Drive entrance to point about 1,000 feet south of Tunnel Drive	36	asphalt concrete	good	no CG	no
U.S. 50	from point about 1,000 feet south of Tunnel Drive to point about 800 feet west of 1st Street	42	asphalt concrete	good	no CG	no
U.S. 50	from point about 800 feet west of 1st Street to 1st Street	32	asphalt concrete	good	no CG	no
U.S. 50 (Royal Gorge)	from 1st Street to 8th Street	62	asphalt concrete	good	CG	no
U.S. 50 (Royal Gorge)	from 8th Street to 9th Street	70	asphalt concrete	good	CG	no
U.S. 50 (Royal Gorge)	from 9th Street to 16th Street intersection	60	asphalt concrete	good	CG	no
U.S. 50 (Royal Gorge)	from 16th Street to planning area limits	85	asphalt concrete	good	no CG	no
Main Street	from 1st Street to 2nd Street	52	asphalt concrete	good	CG	yes
Main Street	from 2nd Street to 8th Street	73	asphalt concrete	good	CG	yes
Main Street	from 8th Street to 10th Street	66	asphalt concrete	good	CG	yes
Main Street	from 10th Street to 16th Street intersection	56	asphalt concrete	good	CG	yes
College Avenue	from 3rd Street to 5th Street	42	asphalt concrete	good	CG	yes
College Avenue	from 5th Street to 8th Street	42	asphalt concrete	good to fair	CG	yes
College Avenue	from 8th Street to 15th Street	46	asphalt concrete	good	CG	yes

SECTION I (continued)

Roadway Name	Segment Location	Surface Width (in feet)	Surface Type	Surface Condition	Drainage (Curb & Gutter)	Parking Allowed
Floral Avenue	west city limits to 7th Street	37	asphalt concrete	good	CG	yes
Fairview Avenue	from 7th Street to 8th Street	32	asphalt concrete	good	CG	yes
Fairview Avenue	from 8th Street to 9th Street	32	asphalt concrete	good	no CG	yes
Harding Avenue	from 9th Street to 11th Street	36	asphalt concrete	good	CG	yes
Harding Avenue	from 11th Street to Apache	36	gravel	fair	part CG	yes
Harding Avenue	from Apache to 15th Street	36	gravel	fair	no CG	yes
Central Avenue	from 15th Street to Orchard Avenue	22	bituminous	fair	no CG	no
Central Avenue	from Orchard to Raynolds Avenue	24	asphalt concrete	good	no CG	no
Central Avenue	from Raynolds Avenue to Dozier Avenue	22	asphalt concrete	fair	no CG	no
High Street	from New York Street to Field Avenue	30	gravel	fair	no CG	no
3rd Street	from Royal Gorge to Macon Avenue	50	asphalt concrete	good	CG	yes
3rd Street	from Macon Avenue to Rudd Avenue	45	asphalt concrete	good	CG	yes
3rd Street	from Rudd Avenue to College Avenue	30 to 40	gravel	fair	no CG	no
5th Street	from Royal Gorge to College Avenue	45	asphalt concrete	good	CG	yes
7th Street	from Royal Gorge to Greenwood Avenue	54	asphalt concrete	good	CG	yes
7th Street	from Greenwood to Pike Avenue	44	asphalt concrete	good	CG	yes
7th Street	from Pike Avenue to Floral Avenue	38	asphalt concrete	good	CG	yes

SECTION I (continued)

Roadway Name	Segment Location	Surface Width (in feet)	Surface Type	Surface Condition	Drainage (Curb & Gutter)	Parking Allowed
7th Street	from Floral Avenue to Fairview	34	asphalt concrete	good	CG	yes
9th Street	from Royal Gorge to Meadow Avenue	50	asphalt concrete	good	CG	yes
9th Street	from Meadow Avenue to City boundary	24	bituminous	fair	no CG	no
9th Street	from City boundary to point 400 feet north of Raintree	36	bituminous	fair	part CG	yes
9th Street	from point 400 feet north of Raintree to Washington Street	20	bituminous	fair	no CG	no
Washington St.	from 9th Street to New York Avenue	20	bituminous	fair	no CG	no
New York Avenue	from Washington Street to North Avenue	20	bituminous	fair	no CG	no
12th Street	from Main Street to College Avenue	45	asphalt concrete	good	CG	yes
15th Street	from Royal Gorge to Greenwood Avenue	36	asphalt concrete	good	CG	yes
15th Street	from Greenwood Avenue to Bauer Lane	36	asphalt concrete	good	no CG	yes
15th Street	from Bauer Lane to Central Avenue	22	asphalt concrete	good	no CG	no
15th Street	from Central Avenue to South Street	20	asphalt concrete	fair	no CG	no
South Street	from 15th Street to Red Canyon Road	20	asphalt concrete	fair	no CG	no
Red Canyon Road	from South Street to High Street	30	gravel	good	no CG	no
Orchard Avenue	from U.S. 50 to Central Avenue	24	asphalt concrete	good	no CG	no
Graydene Avenue	from U.S. 50 to Central Avenue	22 to 24	asphalt concrete	good	no CG	no
Field Avenue	from U.S. 50 to Central Avenue	24	asphalt concrete	good	no CG	no

SECTION I (continued)

Roadway Name	Segment Location	Surface Width (in feet)	Surface Type	Surface Condition	Drainage (Curb & Gutter)	Parking Allowed
Field Avenue	from Central Avenue to North Avenue	24	asphalt concrete	fair	no CG	no
Dozier Avenue	from U.S. 50 to point about 700 feet north of Ridge Road	22 to 24	asphalt concrete	good	no CG	no
Dozier Avenue	from point about 700 feet north of Ridge Road to Central Avenue	22	asphalt concrete	fair	no CG	no

SECTION II. ROADWAYS SOUTH OF ROYAL GORGE BOULEVARD

1st Street	from Royal Gorge to railroad tracks	22	asphalt concrete	good	no CG	no
1st Street	from railroad tracks to southern edge of bridge	18	concrete	fair	no CG	no
1st Street	from bridge to Temple Canyon Road	24	asphalt concrete	good	no CG	no
Temple Canyon Road	from 1st Street to city limits	24	asphalt concrete	good	no CG	no
4th Street	from Royal Gorge to Grand Avenue	24 to 26	asphalt concrete	good	no CG	no
9th Street	from Royal Gorge to city limits	26 to 42	asphalt concrete	good	no CG	no
9th Street	from city limits to Elm Avenue	26	asphalt concrete	good	no CG	no
Raynolds Avenue	from U.S. 50 to East Main	24	asphalt concrete	fair	no CG	no
Raynolds Avenue	from East Main to Elm Avenue	26	asphalt concrete	fair	no CG	no
Ash Street	from Elm Avenue to Colo 115 (Cedar Avenue)	20	asphalt concrete	good to fair	no CG	no

SECTION II (continued)

Roadway Name	Segment Location	Surface Width (in feet)	Surface Type	Surface Condition	Drainage (Curb & Gutter)	Parking Allowed
McKenzie Avenue	from U.S. 50 to Colo 115	24	asphalt concrete	good	no CG	no
Griffin Avenue	from 2nd Street to 9th Street	24	asphalt concrete	good	no CG	no
Park Avenue	from 9th Street to 12th Street	24	asphalt concrete	good	no CG	no
Vine Street	from 9th Street to 11th Street	24	asphalt concrete	good	no CG	yes
Vine Street	from 11th Street to Frazier Avenue	24	gravel	fair	no CG	no
Frazier Avenue	from Vine Street to Kountz Avenue	20	gravel	fair	no CG	no
Kountz Avenue	from Frazier Avenue to Fowler Street	20	gravel	fair	no CG	no
Fowler Street	from Kountz Avenue to end of existing roadway	24	gravel	good	no CG	no
Park Avenue	from 9th Street to 12th Street	24	asphalt concrete	good	no CG	no
Park Avenue	from 12th Street to Dewey Street	22 to 24	asphalt concrete	good	no CG	no
Park Avenue	from Dewey Street to Linden Street	20 to 22	asphalt concrete	fair	no CG	no
Linden Street	from Park Avenue to Sherman Avenue	24	asphalt concrete	good	no CG	no
Sherman Avenue	from Linden Street to Ash Street	22	asphalt concrete	fair	no CG	no
Grand Avenue	from 9th Street to Logan Street	24	asphalt concrete	good	no CG	no
Grand Avenue	from Logan Street to Raynolds Avenue	22	asphalt concrete	good to fair	no CG	no
Elm Avenue	from 6th Street to 9th Street	24	asphalt concrete	good	no CG	no

SECTION II (continued)

Roadway Name	Segment Location	Surface Width (in feet)	Surface Type	Surface Condition	Drainage (Curb & Gutter)	Parking Allowed
Colo. 115 (Elm Avenue, Chestnut Avenue, and Cedar Avenue)	from 9th Street to Ash Street	24 to 26	asphalt concrete	good	no CG	no
Colo. 115	from Ash Street to planning area limits	26	asphalt concrete	good	no CG	no

SOURCE: Oblinger-Smith Corporation, Consultants in Planning, Design and Development, 1978.