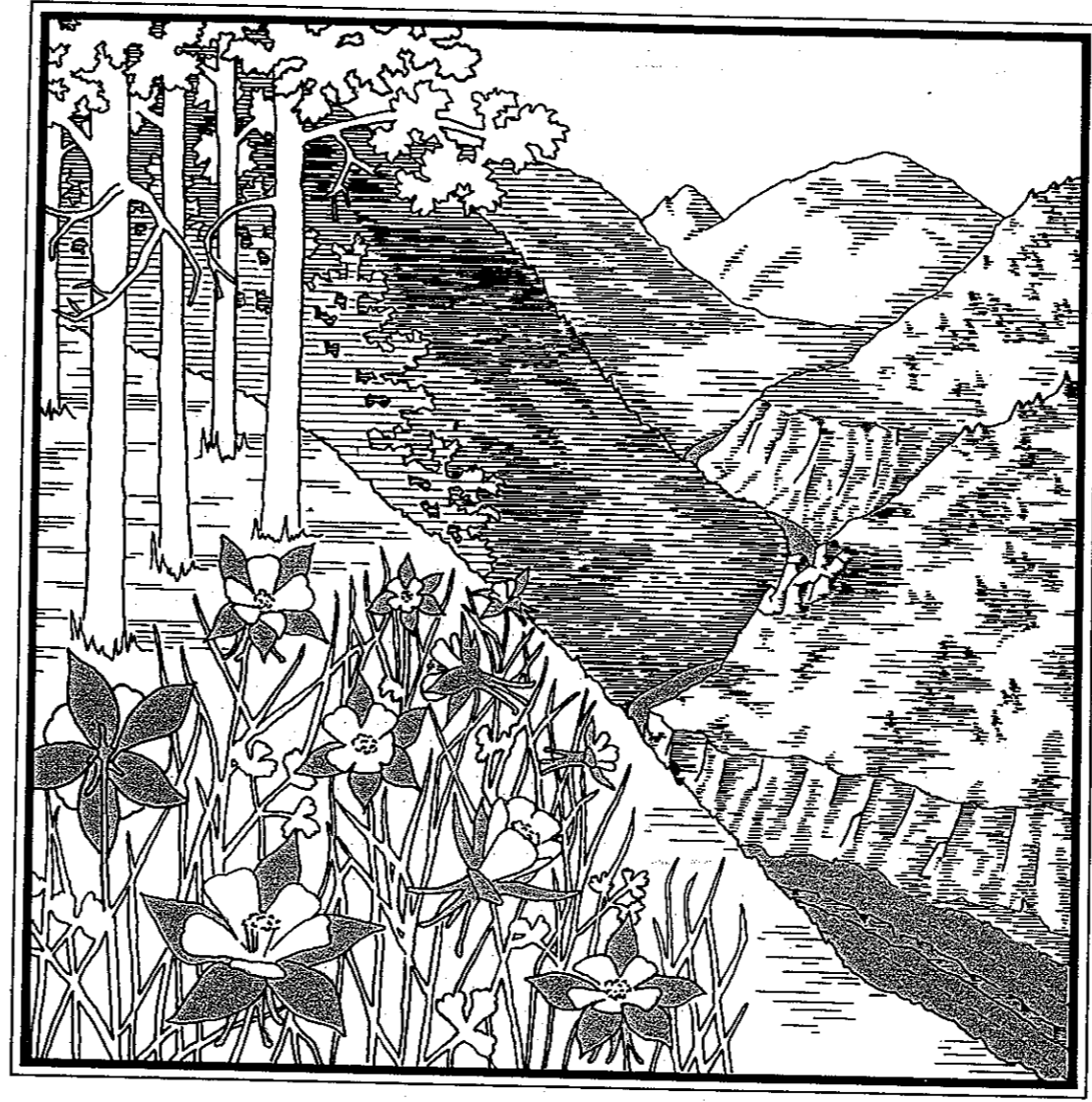


Return to E.P. C Land Use  
Dept.

EL PASO COUNTY, COLORADO



---

---

UTE PASS COMPREHENSIVE PLAN

---

---

# Table of Contents

CHAPTER 1 INTRODUCTION . . . . .	1	CHAPTER 5 PUBLIC FACILITIES AND SERVICES . . . . .	33
Description of Planning Area . . . . .	1	Introduction . . . . .	33
Purpose of Plan . . . . .	1	Schools . . . . .	33
Legal Framework . . . . .	1	Parks and Recreation . . . . .	34
The Development History of Ute Pass . . . . .	2	Police Protection . . . . .	37
Ute Pass Today . . . . .	3	Fire Protection . . . . .	37
Design Guidelines . . . . .	4	Public Buildings . . . . .	38
		Utilities . . . . .	39
		Demand versus Capacity . . . . .	41
CHAPTER 2 GOALS AND OBJECTIVES . . . . .	5		
Introduction . . . . .	5	CHAPTER 6 TRANSPORTATION . . . . .	45
Land Use . . . . .	5	Introduction . . . . .	45
Economy . . . . .	6	Streets and Highways . . . . .	45
Community Facilities and Services . . . . .	6	Hiking and Equestrian Trails . . . . .	52
Government . . . . .	6	Bikeways . . . . .	54
Education . . . . .	7	Public Transportation . . . . .	54
Transportation . . . . .	7		
Water and Sewer . . . . .	7	CHAPTER 7 NATURAL ENVIRONMENT . . . . .	55
Natural Resources, Recreation, and Open Space . . . . .	7	Introduction . . . . .	55
		Topography . . . . .	55
CHAPTER 3 POPULATION AND ECONOMY . . . . .	9	Soils . . . . .	55
Introduction . . . . .	9	Surficial Deposits . . . . .	56
Population . . . . .	9	Water Resources . . . . .	56
Economy . . . . .	14	Wildlife . . . . .	57
		Hazard Areas . . . . .	58
CHAPTER 4 LAND USE . . . . .	19	Environmental Constraints . . . . .	63
Introduction . . . . .	19		
Land Use Classifications . . . . .	19	CHAPTER 8 VISUAL QUALITY . . . . .	67
Existing Land Use and Zoning . . . . .	19	Introduction . . . . .	67
Future Land Use . . . . .	25	Visual Resources . . . . .	67
Future Land Use Plan . . . . .	26	Potential Visual Impact in Viewshed . . . . .	72
		REFERENCES . . . . .	77
		PLANNING COMMISSION RESOLUTION . . . . .	79

---

**Tables**

Table 1:	Age and Sex Composition . . . . .	9
Table 2:	Size of Family . . . . .	10
Table 3:	Education of Persons 25 Years Old and Over . . . . .	11
Table 4:	Place of Residence in 1965 . . . . .	12
Table 5:	Population Trends and Projections . . . . .	13
Table 6:	Labor Force - 16 Years Old and Over . . . . .	14
Table 7:	Employment by Industry . . . . .	15
Table 8:	Family Income . . . . .	15
Table 9:	Aggregate and Median Income . . . . .	16
Table 10:	Retail Store Supportable Square Footage . . . . .	17
Table 11:	Land Use Inventory (Platted Lots) . . . . .	23
Table 12:	School District Facilities . . . . .	33
Table 13:	Surficial Deposits . . . . .	57
Table 14:	Surface Water Resources . . . . .	58

**Design Guidelines**

Design Guideline 1: Cluster Housing . . . . .	26
Design Guideline 2: Commercial Development . . . . .	28
Design Guideline 3: Parking . . . . .	30
Design Guideline 4: Recreational Development Within Flood Plains. . . . .	36
Design Guideline 5: Wind Control . . . . .	42
Design Guideline 6: Passive Solar . . . . .	43
Design Guideline 7: Mountain Road . . . . .	49
Design Guideline 8: Site Drainage . . . . .	50
Design Guideline 9: Trail System . . . . .	53
Design Guideline 10: School Bus Storage Screening . . . . .	61
Design Guideline 11: Gravel Pit Redevelopment . . . . .	75

**Maps**

Generalized Existing Land Use--Corridor . . . . .	21
Existing Street System--Corridor . . . . .	47
Environmental Constraints--Corridor . . . . .	59
Environmental Constraints Composite--Planning Area . . . . .	65
Landscape Units--Corridor . . . . .	69
Potential Visual Impact--Corridor . . . . .	73

**Enclosure:  
Executive Summary**

members who later purchased land in Carroll Lakes. By 1910, there were only a handful of cabins. Even today, Carroll Lakes development is an example of growth that has preserved the scenic quality of the area.

The coming of the Colorado Midland Railroad in 1887 was to completely change the profile of Ute Pass. The Railroad was preceeded by land developers platting town sites. The Railroad company dug lakes at each community and built stations and baggage houses everywhere, except Crystola.

Within three years, Cascade had three hotels, an eating house, church, school, livery stable, grocery store and post office. Influential businessmen were buying lots and building large summer homes beneath the falls in Cascade Canyon. The Midland and Pikes Peak Toll Road Company began development of a summer home community in the 1920's.

Around this same time, Ute Park had a large stone station and a new hotel set above the lake that was stocked with trout. Lots were sold, but only a few homes were built until the Chipita Park Company began development of a summer home community in the 1920's.

Crystola had a small hotel that served as a road house. A town site was laid out and elaborate schemes formed for a gold district. These grand plans never materialized. Crystola was a center for camp meetings and a small summer home group.

Few permanent residents remained in the lower Ute Pass villages in the winter. Those who did remain earned their living caring for the many summer homes, ranched, or brought in supplies to sell when summer arrived.

By the time the automobile appeared on the improved Ute Pass Road, the hotel era had passed. The hotel in Ute Park had burned. The large hotel in Green Mountain Falls had met the same fate. The Ramona in Cascade was in disrepair. There was still a large number of summer visitors and Dude ranches operated by ranchers like Brockhurst. Cabin camps and tent camps became popular. Two fox farms were started; one in Sand Gulch and one in Wellington Gulch. There were several riding stables among the communities and a turkey farm in Crystola Canyon. The communities depended upon the railroad and the highway to bring summer visitors to the area.

By 1949, when the railroad was abandoned, there were more travelers passing the small communities on their way west. During the 1950's, more and more families were "getting out of town",

moving to the mountains to live while working in the Colorado Springs area. Gradually, the summer homes were purchased by permanent residents, and many new homes were built.

The three room Cascade School was replaced by the Ute Pass Elementary School. The Green Mountain Falls Town Hall had served as their school, but had long before been given up in favor of bussing students to Manitou and Colorado Springs. Within twenty years, the community had changed from a summer tourist area to a bedroom community. The residents work and shop in Woodland Park and the Colorado Springs area. More and more traffic passes the communities by as traffic flows west and east through the lower Ute Pass area.

### Ute Pass Today

The trends of the past few decades are continuing today in Ute Pass. More people are seeking to live in the mountain environment while being in proximity to urban advantages offered by Colorado Springs. Evidence of this continuing trend is the construction of more year-round residences and the ever-increasing number of summer homes converted to year-round use. Ute Pass, once a resort or rest stop for visitors and tourists, is rapidly becoming a year-round residential community.

Development in the past has been limited to a certain degree by the absence of central water and sewer systems. The need for a water treatment plant to serve the entire planning area, both in terms of treatment capacity and distribution, has been examined. Although no firm plans have been formulated at this time, such a facility would have a considerable effect on future development. Other changes may also have a profound effect on future development. Potential recreational development in Pike

National Forest may increase the demand for activities associated with such development. Advanced technology in waste disposal systems could increase the density of development. As housing and construction costs continue to rise, the traditional single family home becomes less affordable to a greater number of people, creating an increased demand for clustered types of housing. These combined factors may stimulate development in Ute Pass which is more rapid and in many ways different from that which has occurred in the past.

As the planning area develops, the increase in population will be accompanied by an increase in demand for public services such as fire and police protection, recreation opportunities, road maintenance, and other urban services. While population growth creates additional demand for these services, it also places greater pressure on the natural environment. Erosion, air and water pollution, slope instability, and disruptions to the visual environment are examples of negative developmental effects on the environment. These types of effects should be avoided as the area develops in the future.

Ute Pass is a unique natural environment within El Paso County. Future development can either minimally, moderately, or severely disturb this environment. While it is unrealistic to expect no additional development in Ute Pass, it is also unrealistic to assume development cannot be accommodated without due concern to the natural environment and existing land uses. This suggests that development and associated demands and impacts must be balanced with the limitations and opportunities afforded by both the natural and physical environments.

### **Design Guidelines**

Design guidelines, a new approach which encourages the direct conversion of planning concepts into practical design solutions, are introduced throughout this document as alternatives to standard development practices. From illustrated prototypes, what is intended is the generation of design ideas that will encourage new development and redevelopment to be harmonious in a visual and physical sense with the unique natural environment of the area. Some of the prototypes are generic in nature, while others are specifically tailored to distinct problems and opportunities of the area. It is hoped the design guidelines will stimulate further creative thinking that is sensitive to the natural assets of Ute Pass.

# Goals and Objectives

## Introduction

Perhaps the most significant determinant of the Ute Pass Comprehensive Planning Process was an active and meaningful citizen participation program. The diagram below illustrates the Com-

prehensive Planning Process for Ute Pass. Local residents comprised the Citizens' Advisory Committee which, at numerous public meetings, identified significant issues facing the area. The Committee then established goals and objectives, the cornerstone

of the plan. Since land use decisions affect every resident in one way or another, it is hoped the goals and objectives presented herein will form the framework for guiding sound private and public land use decision making.

## Land Use

Problems and Potentials:

- Development in Ute Pass could turn a unique mountain residential area into the sameness of urban sprawl. Through good planning and effective management, the character and open space of the mountain environment, which first attracted residents to the area, could be retained.

Goal:

- The retention and enhancement of the natural setting of the mountain environment. Development should take place in harmony with this natural setting.

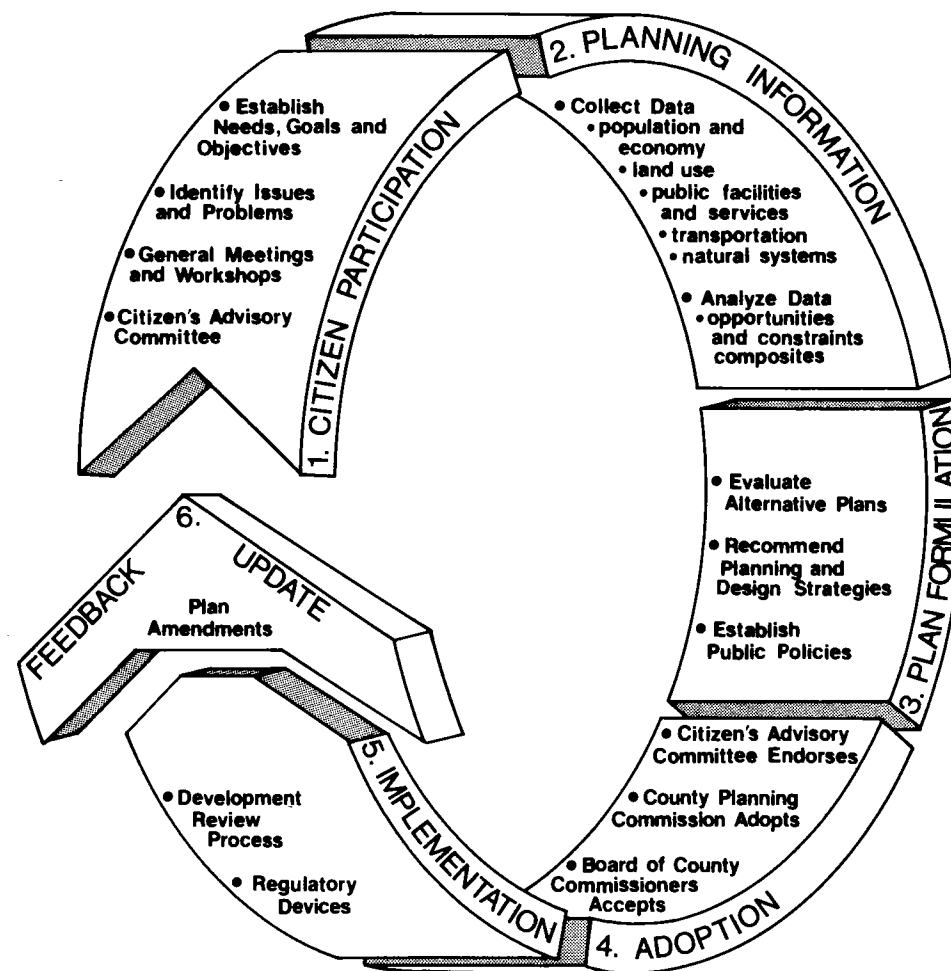
Objectives:

- Develop uniform development standards unique to the Pass.
- Preserve natural aspects of the area and establish scenic easements where desirable and necessary.
- Encourage utility extensions/upgradings to be placed underground.
- Discourage any significant change to the natural environment that would degrade existing and future residential areas.

Goals, for the purpose of this study, are viewed as generalized end products which are to be attained. They represent the hopes and aspirations of local residents and relate to physical, environmental, and economic factors which affect the area. Objectives are measurable steps toward achieving a particular goal. It should be understood that planning is a process, not an end in itself, and as conditions change or new information is uncovered, goals and objectives should be refined.

As a general consensus, the following problems, potentials, goals and objectives were promulgated by the Citizens' Advisory Committee.

Ute Pass Comprehensive Planning Process



- Emphasize that the development review process be based on natural systems constraints, especially erodible soils, geologic hazard areas, box canyons and wildfire hazard areas.
- Discourage mineral extraction operations that detract from the visual character of Ute Pass.
- Preserve significant historic aspects of the Pass by seeking, identifying, and acquiring historic easements predicated on the County's Historic Sites Inventory.
- Encourage Planned Unit Development (PUD's) to retain adequate open space.
- Allow clustering of residential or commercial units that conform with health and zoning standards.
- Encourage that zoning requests within the Pass are carefully planned to allow for an evaluation of the entire concept by local decision-makers.
- Encourage that advertising devices be compatible in scale and consistent in material with the unique character of the Pass.
- Discourage commercial zone change requests that are not extensions of existing commercial zones.

- Discourage the possibility of U.S. Highway 24 becoming a "strip" corridor.
- Promote residential development that will compliment and harmonize with the natural setting and terrain, particularly steep slopes.
- Preserve and enhance the beauty of the landscape by encouraging the maximum retention of natural topographic features such as rock outcroppings, vistas, natural vegetation, and drainageways.

### **Economy**

#### Problems and Potentials:

- Large employment centers are restricted by physical constraints and, in some cases, accessibility of the Pass. At the same time, the Pass provides a residential area for employment centers of the Colorado Springs Metropolitan Area.

#### Goal:

- The discouragement of large employment centers from locating in unincorporated areas of the Pass.

#### Objectives:

- Regard commercial and industrial zone changes as low priority land use requests. Any commercial development should primarily serve the local population.
- Encourage the location of primary employment and commercial centers in the metropolitan area of Colorado Springs and the Towns of Woodland Park and Green Mountain Falls.

### **Community Facilities and Services**

#### Problems and Potentials:

- With community and social services located at both ends of the Pass, in Colorado Springs, and Woodland Park, Ute Pass falls within the service area of both. Protection services should be upgraded as the need for them increases. Service levels should be kept within the framework of the unique residential character of the Pass.

#### Goal:

- The provision of economical, efficient public services and facilities to the Pass.

#### Objectives:

- Continue coordination of fire protection districts.
- Provide an adequate level of sheriff protection through increased coordination of services.
- Encourage the use of alternative energy sources.
- Continue the provision of solid waste disposal facilities outside the Pass, since hydrologic and geologic land characteristics could preclude development of a sanitary landfill in the area.
- Institute a dog control program in the Pass.
- Develop a park and trail system of a community nature to include pedestrian and equestrian trails.
- Encourage increased use of existing public facilities through in-filling.

### **Government**

#### Problems and Potentials:

- Residents are often reluctant to become involved in the local decision-making process, although decisions made by the County Planning Commission and the Board of County Commissioners may have an impact on their day-to-day life.

**Goal:**

- The input of community groups and individuals into the governmental decision-making process.

**Objectives:**

- Encourage the expansion and formation of citizens groups to create viable, integrated communities in the Pass.
- Encourage local awareness and direction of the decision-making process.

**Education****Problems and Potentials:**

- The Pass contains an entire spectrum of age groups, from young to old. While school-aged children are cared for in the traditional education system, there is a need for programs for those no longer in the educational system.

**Goal:**

- The promotion of a healthy educational system to meet the needs of all Ute Pass residents.

**Objectives:**

- Encourage participation of those residents no longer in the educational system through programs involving school district facilities.

- Maximize use of school facilities for all sectors of the population.

**Transportation****Problems and Potentials:**

- Ute Pass, with its steep topography and inclement weather, presents distinct transportation problems. Upgrading road surfaces to an all weather status is not always desirable due to the steep slopes of various local roads.

**Goals:**

- The improvement of general road conditions and the insurance of road safety for pedestrians, bicyclists, and motorists.

**Objectives:**

- Investigate the establishment of special assessment districts to implement a road improvement program.
- Encourage revegetation or stabilization of road cuts.
- Identify, prioritize, and upgrade all problem intersections. For instance, priority one, the U.S. 24/Chipita Park Road intersection, and priority two, the Pikes Peak Toll Road/Chipita Park Road intersection, should be examined to determine the feasibility of seasonal signalization.

- Upgrade Old Highway 4 with shoulders for bicycle and pedestrian traffic.

- Recommend that property owners provide emergency vehicle access to structures that do not front a County Road.

- Urge the Colorado Department of Highways to continue a revegetation program along U.S. 24, and encourage the El Paso County Department of Transportation to pursue a policy of road cut stabilization.

- Encourage car pooling and investigate the feasibility of a park-and-ride lot.

- Analyze existing and future roads for erosion control and drainage capabilities.

- Encourage that advertising devices be in keeping with the scenic character of the Pass.

**Water and Sewer****Problems and Potentials:**

- Presently in Ute Pass (with the exception of Cascade and areas northeast of U.S. Highway 24), water is provided by the City of Colorado Springs. Due to private septic system utilization, there is a potential for pollution of downstream water sources.

**Goals:**

- The provision of adequate, efficient, economical, and safe water and sanitation facilities.
- The preservation and upgrading of watersheds and aquifer recharge areas.

**Objectives:**

- Encourage the efficient use of water supplies.
- Encourage development to occur in areas where existing soil conditions minimize erosion and sedimentation impacts.
- Encourage development of a common package sanitation facility for cluster developments.
- Correct or replace sanitation systems where substandard or necessary.
- Persuade the County Health Department to be a water quality management entity.

**Natural Resources, Recreation, and Open Space****Problems and Potentials:**

- The unique residential character of Ute Pass, in many cases, is incompatible with recreational opportunities that attract participants from outside the area. The road capacity for vehicles alone is quite



limited. Natural resource exploitation can be highly visible and, as such, detrimental to property values and quality of life.

Goal:

- The preservation and protection of natural and scenic qualities of Ute Pass.

Objectives:

- Provide sufficient open space in order to retain and even enhance the residential character of the Pass.
- \* • Minimize the visual impact of existing mineral extraction operations. Require that restoration, reclamation, and/or reuse plans for open-pit mineral extraction operations conform, at a minimum, with state requirements.
- Provide recreational opportunities that are community-oriented.
- Encourage selective tree management for stand health and pest control.
- Preserve all watershed drainages in their natural state and discourage building within flood plains.
- Encourage future tourist-oriented facilities to locate in Green Mountain Falls.
- Encourage the State Forest Service and County Tree Disease Inspector to work with property owners in order to control pine beetle and dwarf mistletoe infestation.
- Maintain existing wildlife accesses through the Pass and provide more where necessary.
- Encourage the provision of adequate open space for cluster developments and ensure its designation as open space for perpetuity.
- Encourage sensible conservation principles and practices when utilization of natural resources in the Pass is necessary, i.e. design guidelines and performance standards.
- Seek open space easements to provide pedestrian, equestrian, and bicycling opportunities within the Fountain Creek Flood Plain.

# Population and Economy

## Introduction

Over the past decade, growth in the Ute Pass Planning Area can be characterized as moderate to high. Population growth has been a result of in-migration, while economic growth has been a product of the tourism industry. Trends of the last 10 years have great significance in setting the stage for the future of the area. Consequently, the following analyses of socio-economic activities should provide a current perspective of the direction of growth in Ute Pass.

## Population

Analysis of the existing population and projection of future population growth is essential to the planning process for determining the future level of demand for public facilities, services and land use needs. If the Ute Pass Comprehensive Plan is to provide the County Planning Commission and Board of County Commissioners with a realistic guide to future development of this portion of the county, then it is necessary that the analyses and projections be accurate and straightforward.

## Population Characteristics

The location of Ute Pass near the rapidly growing metropolitan area of Colorado Springs implies that existing population characteristics of the planning area will have a limited effect on population growth. Most population increases will come from outside the area rather than from inside the area. Within that perspective, existing population characteristics will be specifically examined to determine current needs.

It should be noted the majority of statistics which follow have been assembled from the 1970 Census. Unfortunately, only a small fraction of the 1980 Census statistics was available when this report was published. An effort, yet, was made to employ the most recent information which was available at this time. When detailed census information is published, the data base inventory of this report should be updated.

As shown in Table 1, slightly over one-half (51 percent) of the planning area population in 1970 consisted of females. The 1980 population of the planning area was 2,775 with 1,355 males and 1,420 females, 49 percent and 51 percent of the total, respectively. The most significant change occurred in the 65 and over age group. In 1970, this group accounted for 7 percent of all age groups, while in 1980 this increased to 18 percent.

Table 1: Age and Sex Composition

Age Group	Green Mountain Falls			Chipita Park			Cascade			Remainder of Planning Area			Entire Planning Area		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
Under 5	0	28	28	0	0	0	11	20	31	18	7	25	29	55	84
5 - 14	12	19	31	33	64	97	70	55	125	5	17	22	120	155	275
15 - 24	34	51	85	24	11	35	29	38	67	56	42	98	143	142	285
25 - 34	10	10	20	17	42	59	35	31	66	35	13	48	97	96	193
35 - 44	28	33	61	21	34	55	50	48	98	0	0	0	99	115	214
45 - 54	32	25	57	23	25	48	48	20	68	4	16	20	107	86	193
55 - 64	23	25	48	34	21	55	23	29	52	32	20	52	112	95	207
65 and Over	6	23	29	15	17	32	14	11	25	19	11	30	54	62	116
<b>Total</b>	<b>145</b>	<b>214</b>	<b>359</b>	<b>167</b>	<b>214</b>	<b>381</b>	<b>280</b>	<b>252</b>	<b>532</b>	<b>169</b>	<b>126</b>	<b>295</b>	<b>761</b>	<b>806</b>	<b>1,567</b>

SOURCE: U.S. Bureau of the Census, Enumeration District Summaries, 1970.

Typically, larger percentages of the total population were recorded in the younger age brackets with the percentages decreasing in the upper age brackets. The highest percentages were recorded in the 15-24 and 5-14 age brackets with somewhat equal distribution throughout the remaining age groups. This indicates the population in the area primarily is comprised of young single adults, young adults with small families, and elderly individuals or couples.

These observations are supported by statistics shown in Table 2. In 1970, over one-third and one-fifth of the families consisted of two persons and unrelated individuals, respectively. Together, families with one and two persons accounted for 60 percent of the total number of families reported. In addition, approximately one-fourth of the families had three and four members. Apparently, these were families comprised of young couples with children.

The number of school years completed by persons 25 years and older is shown in Table 3. An analysis of the table reveals that 76 percent of the population completed four or more years of high school while 40 percent attended one or more years of college. Although direct comparisons cannot be drawn, Ute Pass appears to have a higher than normal percentage of college attendants.

Table 2: Size of Family

Family Size	Green Mountain Falls	Chipita Park	Cascade	Remainder of Planning Area	Entire Planning Area	Percent of Total
2 Persons	50	68	50	56	224	38.7
3 Persons	15	11	23	13	62	10.7
4 Persons	25	19	36	12	92	15.9
5 Persons	15	3	5	8	31	5.4
6 or more Persons	8	13	21	4	46	8.0
Unrelated individuals 14 Years old and over	18	26	61	18	123	21.3
<b>Total</b>	<b>131</b>	<b>140</b>	<b>196</b>	<b>111</b>	<b>578</b>	<b>100.0</b>

SOURCE: U.S. Bureau of the Census, Enumeration District Summaries, 1970.

Ute Pass primarily has grown as a result of in-migration. Table 4 on page 12 shows place of residence in 1965 as recorded by the 1970 Census. Thirty-seven percent of all families lived in the same house in 1970 as they did in 1965. Approximately the same percentage left the County. Although the number of families who moved from one house to another house in Ute Pass was unavailable, the assumption can be made that more than 50 percent of the families in-migrated to the area in this five year period.

#### Population Trends and Projections

According to preliminary 1980 Census data, population in the planning area has increased to 2,775. This is an increase of 77 percent over the 1970 level of 1,567. Most of this growth has occurred as a result of in-migration with more year-round residents living in the area compared to past years. Based on observations of residents and school enrollment records, new residents to the area primarily consisted of young adults and married couples with one or two children.

Many factors will affect population growth in the planning area including the amount of land suitable for development, the availability of water, the provision of adequate sanitary sewage disposal, and current development regulations. A change in the current situation of any one of these factors will considerably affect future population levels. The amount of population growth, in turn, will affect future land use patterns and the level of demand for public facilities and services. These factors will influence population growth in the following ways:

Table 3: Education of Persons 25 Years Old and Over

Highest School Years Completed	Green Mountain Falls	Chipita Park	Cascade	Remainder of Planning Area	Entire Planning Area	Percent of Total
Elementary						
1-7 Years	0	0	16	9	25	2.7
8 Years	6	10	19	28	63	6.8
High School						
1-3 Years	21	61	31	17	130	14.1
4 Years	77	76	125	58	336	36.4
College						
1-3 Years	70	55	51	25	201	21.8
4 Years or More	41	47	67	13	168	18.2
<b>Total</b>	<b>215</b>	<b>249</b>	<b>309</b>	<b>150</b>	<b>923</b>	<b>100.0</b>

SOURCE: U.S. Bureau of the Census, Enumeration District Summaries, 1970.

- Most of the vacant land in the planning area contains environmental characteristics which will tend to limit development. Development constraints include floodplains, geologic hazards, steep slopes, and wildfire hazards.
- Current zoning regulations in the Residential Topography (R-T) District require a minimum lot size of five acres in unplatted areas and 10,000 square feet in platted areas. Subdivision regulations permit the use of individual water and sewer systems only on lots of five acres or more, except

where the systems meet established performance standards and are approved by both the County and State Health Departments.

- Public water systems currently serve most developed areas, while the vacant, buildable areas to the northeast of U.S. 24 are not served by public water.
- A proposed water treatment plant would serve most of these buildable areas. Since groundwater yields are low in this area, development will be limited until the treatment plant is constructed.

- At present, sewage wastes are treated exclusively by individual septic systems. No plans have been developed to construct a public sewer system. Surface and ground waters are being monitored to determine the impact of septic systems on water quality in the area and, if water quality declines below state and federal standards, a public sewer system may warrant construction. Such a system would have a considerable impact on population growth in the planning area.

Considering the number of variables which may affect population growth, various assumptions were made in order to prepare the population projections. The basic methodology used to prepare each projection is referred to as the "saturation" method. This approach is based on the potential maximum development of vacant land allowed by zoning and subdivision regulations. Using the amount of vacant, buildable land and minimum lot sizes required by zoning, the number of potential lots was calculated. Assuming one lot equals one dwelling unit, the number of dwelling units multiplied by the number of persons per unit yields the potential population. It should be noted that population projection methods are not an exact science. The "saturation" method includes land that would be devoted to future rights-of-way and excludes areas which contain environmental constraints. In-fill development of existing lots is also likely. Any density change to the zoning regulations could further alter the projections. Despite these constraints, this method is well suited to small areas.

In preparing the population projections, the following figures and assumptions were used in each of the projections:

- Approximately 860 acres of vacant, buildable land exist within the Ute Pass Corridor, exclusive of Green Mountain Falls (see the Green Mountain Falls Comprehensive Plan for additional information.) This figure includes all land unaffected by identified environmental hazards in addition to land located outside the National Forest and U.S. 24 right-of-way. The figure assumes future commercial development, if any, will locate adjacent to U.S. 24.
- The average number of persons per dwelling unit (d.u.) is 2.37 (rounded to 2.4) which was obtained from preliminary 1980 Census statistics.
- A majority of the vacant, buildable land is unplatted. It was assumed the development of existing platted lots would not substantially increase total population.
- The most significant population change in the planning area will occur along the U.S. 24 Corridor. This area possesses a high potential for future development because of the presence of level terrain, minimal physical constraints to utility extensions, and proximity to a major arterial.

Table 4: Place of Residence in 1965

Place of Residence	Green Mountain Falls	Chipita Park	Cascade	Remainder of Planning Area	Entire Planning Area	Percent of Total
Same House	85	116	274	89	564	37.4
Different House Same County	43	26	70	51	190	12.6
Different House Different County						
Same State	0	0	72	35	107	7.1
Different State	120	120	138	65	443	29.4
Abroad	0	6	0	0	6	.4
Moved to Ute Pass, residence not reported.	90	86	21	0	197	13.1
<b>Total</b>	<b>338</b>	<b>354</b>	<b>575</b>	<b>240</b>	<b>1,507</b>	<b>100.0</b>

SOURCE: U.S. Bureau of the Census, Enumeration District Summaries, 1970.

The population projection and assumptions underlying each are described below:

**Low--**

This projection assumes no changes in factors affecting population growth: the water treatment plant would not be constructed, no public sewer system would be constructed, and no changes would be made to the

minimum lot size requirement. Based on these assumptions, the population of the planning area was calculated as follows:

$$860 \text{ acres} \times 1 \text{ d.u./5 acres} \times 2.4 \text{ persons/d.u.} = 413 \text{ persons}$$

Population in the corridor would increase by approximately 400 persons with no changes in either the current minimum lot size or the provision of public water and sewer systems.

**Medium--**

The medium population projection assumes some change in factors affecting population growth. The water treatment plant would be constructed, but no public sewer system would be developed. However, advances in individual disposal systems would occur. Since most of the buildable lots would be served by a public water system instead of individual wells, lot sizes presumably would be smaller than 5 acres. (The large

lot size primarily is required to prevent contamination of individual wells by septic systems). Approximately 240 acres would be unserviceable by the water treatment plant due to terrain and bedrock. As a result, zoning requirements, in all likelihood, could be amended to permit smaller lot sizes. Assuming an amended minimum lot size of one acre in unplatted areas, the population projection was calculated as follows:

$$\begin{array}{r}
 620 \text{ acres} \times 1 \text{ d.u./1 acre} \\
 \times 2.4 \text{ persons/d.u.} \quad 1,488 \\
 + 240 \text{ acres} \times 1 \text{ d.u./5} \\
 \text{acres} \times 2.4 \\
 \text{persons/d.u.} = \quad 115 \\
 \hline
 1,603 \\
 \text{persons}
 \end{array}$$

A population increase of approximately 1,600 persons is projected assuming construction of the water treatment plant and a reduction in the current minimum lot size requirement.

High--

The high population projection assumes construction of both a public water and sewer system. In this situation, the minimum lot size was presumed to be 10,000 square feet. Approximately 240 vacant, buildable acres would not be served by the water treatment plant. Based on these assumptions, the population projection was calculated as follows:

$$\begin{array}{r}
 620 \text{ acres} \times 43,560 \text{ s.f./acre} \\
 \times 2.4 \text{ persons/d.u.} = \quad 6,482 \\
 \hline
 10,000 \text{ s.f./d.u.}
 \end{array}$$

$$\begin{array}{r}
 + 240 \text{ acres} \times 1 \text{ d.u./5 acres} \times \\
 2.4 \text{ persons/d.u.} = \quad 115 \\
 \hline
 6,597 \\
 \text{persons}
 \end{array}$$

The provision of a public water and sewer system for the entire planning area would have a significant impact on population growth. A population increase of approximately 6,600 persons is projected if both systems are constructed and lot sizes are reduced to 10,000 square feet.

Population in the planning area, excluding Green Mountain Falls, is projected to increase by approximately 19 percent in the low projection, 75 percent in the medium projection, and 310 percent in the high projection. Realistically, population growth by the year 2000 will fall somewhere in the low to medium projection range.

Construction of the water treatment plant will have the most significant impact on population growth in the short-term, but plans for the plant have not been formalized and a completion date is unknown. It is reasonable to assume that the plant will not be constructed before 1985.

Population growth in the planning area, exclusive of Green Mountain Falls, increased from 1,208 to 2,131 during the ten-year period from 1970 to 1980. This was an increase of 76.4 percent, or an average annual increase of 7.6 percent. The average annual growth rate in Green Mountain Falls was 7.9 percent during the same period.

Population projections for the planning area are shown in Table 5. The figures shown are for year-round population only. In all cases, the year 2000 represented the pinnacle build-out.

Table 5: Population Trends and Projections

Year	Green Mountain Falls	Remainder of Ute Pass			Total		
		Low	Medium	High	Low	Medium	High
1970	359	1,208			1,567		
1980	644	2,131			2,775		
1985	780	2,230	2,530	3,780	3,150	3,310	4,560
1990	920	2,330	2,930	5,430	3,260	3,850	6,350
1995	1,070	2,430	3,330	7,080	3,510	4,400	8,150
2000	1,210	2,530	3,730	8,730	3,760	4,940	9,940

Projections were rounded to the nearest tenth.

SOURCE: Oblinger-McCaleb, Architects, Engineers, and Planners, and El Paso County Land Use Department, 1981.

It should also be noted the projected population levels for Green Mountain Falls assume no annexation. If areas are annexed by the Town, population would increase above the population levels, with a corresponding decrease in population the remainder of the planning area.

### Economy

Goals of local residents and County policies related to services, expenditures, growth, and redevelopment will have a direct influence on the future economic prosperity of Ute Pass. An analysis of employment, income levels, and current economic activities will identify the area's present economic status and future economic opportunities.

Since detailed economic statistics pertaining to the planning area were unavailable, much of the assembled information is general in nature. The data was obtained from the 1970 Census and while the numbers undoubtedly have changed, the trends should provide a barometer of the local economy.

### Employment

The labor force is defined by those people who are ready, willing, and able to work. Generally, usually high unemployment rates reveal the need for expanded job opportunities in an area.

Table 6 indicates the number of persons 16 years old or older in the labor force in 1970. The table shows that of the 1,183 persons over the age of 16, approximately 41 percent (482 persons) were not in the labor force. This number includes retired persons, disabled individuals and homemakers. Of the 701 persons in the labor force, approximately 68 percent were male. For comparison, males in the Colorado Springs labor force, exclusive of military personnel, comprised 64 percent of the total in 1970.

Table 6: Labor Force - 16 Years Old and Over

Employment Status	Male	Female	Total	Percent of Total
Armed Forces	40	0	40	3.4
Employed	428	214	642	54.3
Unemployed	9	10	19	1.6
Others not in Labor Force:				
Under 65	96	309	405	34.2
65 and Over	29	48	77	6.5
Total	602	581	1,183	100.0

SOURCE: U.S. Bureau of the Census, Enumeration District Summaries, 1970.

The table also shows a low unemployment rate for persons in the labor force. Of the 701 persons in the labor force, 2.7 percent were unemployed in 1970. This compares to an unemployment rate for Colorado Springs of approximately 4.7 percent and a statewide unemployment rate of approximately 4.0 percent in 1970.

An examination of employment statistics by industry usually reveals important sectors of a local economy. However, the Census information available for

the planning area was compiled by place of residence and not by place of employment. These statistics included persons who lived in the area and commuted elsewhere to work, but did not include persons who commuted to Ute Pass to work. In other words, the statistics did not divulge a totally accurate picture of economic activity in the area.

Table 7 tabulates employment by industry in 1970. The figures show that nearly one-fifth (18.5 percent) of the employed labor force was employed at wholesale and retail trade establishments. This category includes persons employed in eating and drinking establishments, stores, and gasoline service stations. Nearly the same percentage was employed by the construction industry. Two other important employment categories were education and insurance. These categories comprised slightly less than 26 percent of total employment for area residents.

Statistics in Table 7 are misleading since they represent persons residing in the planning area. While undertaking a visual land use survey, few of the mentioned industries were observed. A majority of the commercial uses included motels, restaurants, souvenir and convenience stores, gasoline service stations, and a few real estate offices. From

Table 7: Employment by Industry

Industry	Total Employed	Percent
Construction	107	16.8
Manufacturing	50	7.8
Transportation, Communication, and Utilities	30	4.7
Wholesale and Retail Trade	118	18.5
Finance, Insurance, Real Estate, and Business and Repair Services	87	13.7
Other Professional and Related Services	17	2.7
Educational Services	78	12.2
Public Administration	56	8.8
Other Industries	94	14.8
<b>Total</b>	<b>637</b>	<b>100.0</b>

SOURCE: U.S. Bureau of the Census, Enumeration District Summaries, 1970.

these observations, it can be assumed that commercial establishments in the planning area provide employment for a limited number of residents. The majority of the residents commute to Colorado Springs or Woodland Park to work.

#### Income

The distribution of family income in 1970 is illustrated in Table 8. The figures reveal that over one-half (57 percent) of all families had incomes less than \$10,000. An additional one-fifth (21 percent) of the families had incomes in the \$10,000 to \$14,999 range. This compares with a median income of approximately \$9,100 in Colorado Springs.

The aggregate income of families and unrelated individuals in 1970 is shown in Table 9. According to the table, aggregate income in the planning area was \$6,704,430 in 1970. Median individual income was between \$5,000 and \$5,999, while median family income fell somewhere between \$9,000 and \$9,999. Per capita income was approximately \$4,280, and the average household income was \$11,600.

Obviously, incomes have risen since 1970 due to increased wages and inflation. Although no statistics are available, most family incomes probably are above

the poverty level, while the median family income has increased to over \$20,000. The income statistics are somewhat misleading for certain segments of the population. Census information for 1970 shows that 28 families had incomes less than the poverty level, but no families were receiving public assistance. A total of 92 unrelated individuals had incomes below the poverty level. Of the persons having incomes below poverty level, 80 percent were under 65 years of age. A higher percentage would be expected in the 65 and over age bracket since many of these persons have fixed incomes. With a low unemployment

Table 8: Family Income

Income Bracket	Number of Families	Percent of Total
\$ 0 - \$ 2,999	33	7.3
\$ 3,000 - \$ 9,999	233	49.0
\$10,000 - \$14,999	99	21.7
\$15,000 - \$24,999	71	15.6
\$25,000 - \$49,999	14	3.1
\$50,000 and Over	15	3.3
<b>Total</b>	<b>465</b>	<b>100.0</b>

SOURCE: U.S. Bureau of the Census, Enumeration District Summaries, 1970.



rate recorded in 1970, low income for persons under the age of 65 may be due to: the limited number of jobs available in the area; low-paying jobs; and persons accepting lower-paying jobs in order to live and work in Ute Pass. Precise conclusions cannot be drawn due to the limited amount of data available concerning employment and the number of residents commuting outside the area to work.

#### Analysis of the Local Economy

In simple terms, the economic base of an area is those industries which bring "new" money into the area. In the planning area, the economic base is tourism as reflected by the types of existing commercial establishments. Although tourism

is the mainstay of the area's economy, its impact primarily occurs during the summer. Motels, restaurants, gasoline service stations, souvenir shops, and Santa's Workshop are tourist-oriented commercial activities. Convenience stores, gasoline service stations, and restaurants are supported by residents of the area as well as tourists.

#### Impact of Recreational Development

In the past, recreational development has been limited, creating little economic impact on communities of the Pass. However, plans for expansion of the Pikes Peak Ski Area and the potential for recreational development in the Rampart Range may have a significant impact on the planning area.

Recreational development at the Rampart Range Reservoir is near completion. Visitation at the reservoir averages 500,000 visitors per year, although this declined slightly in 1979. The Rampart Range Road has been designated as a Colorado Scenic Highway and Forest Service officials indicate a high potential for recreational development on Forest Service land. Officials indicate potentials for providing pedestrian and equestrian access to Forest Service lands from the U.S. 24 Highway Corridor.

Several areas adjacent to reservoirs in the planning area currently are closed to recreational use. However, following construction of the proposed water treatment plant and Forest Service facilities at these reservoirs, the City of Colorado Springs will open these areas for recreational use. Plans for development of these areas have not been formulated at this time, appearing to be contingent upon construction of the water treatment plant.

#### Potential Commercial Activities

There is a high potential for commercial activities that take advantage of recreational development opportunities. Businesses which provide sale or rental of recreational equipment, horse rentals, and guided tours are potential economic activities. Businesses which supply

winter activity equipment sales or rentals, such as skis and sleds, potentially could locate in the area. Depending on the extent of recreational development in the National Forest, a greater demand for lodging facilities is probable.

Other commercial establishments the area might support include convenience type businesses. These types of commercial activities provide goods which people use daily and generally are not willing to travel great distances to purchase. Since tourism is seasonal, successful commercial establishments will be those which can be supported by year-round residents as well as tourists and summer residents.

The supportable square footages of various types of convenience stores are shown in Table 10. The square footage figures were derived by estimating present household income. In deriving these estimates, 1970 income data was updated by assuming household incomes increased in proportion to inflation with a one percent gain in real income.

Table 9: Aggregate and Median Income

Category	Aggregate Income	Median Income
Unrelated Individuals	\$ 566,880	\$5,000-\$5,999
Families	6,137,550	\$9,000-\$9,999
Total	\$6,704,430	Not Applicable

SOURCE: U.S. Bureau of the Census, Enumeration District Summaries, 1970.

Table 10: Retail Store Supportable Square Footage

Store Type	Sales per Square Feet	Sales	Supportable Square Feet (Stores)	Industry Norm for Store Size (Square Feet)
Bakery	\$ 64.13	51,000	795 ( .5)	1,550
Drug	78.31	402,000	5,133 (1.0)	4,000
Hardware	34.89	153,000	4,385 ( .7)	6,000
Grocery	178.73	2,892,000	16,181 ( .8)	20-40,000
Convenience Market	123.67	183,000	1,480 ( .6)	2,400
Barber Shop	36.97	90,000	2,434 (4.0)	629
Beauty Shop	47.65	165,000	3,463 (3.0)	1,133
Dry Cleaning	33.14	84,000	2,535 (1.5)	1,640
Laundromat	16.77	57,000	3,399 (2.3)	1,500
Sporting Goods	66.36	45,000	678 (0.0)	3,600
Restaurant	75.65	912,000	12,056 (4.0)	3,114
Restaurant - Fast Food	96.29	912,000	9,471 (6.7)	1,410
Shoe Repair	35.63	18,000	505 ( .7)	700
Liquor	130.72	N.A.	N.A.	2,300
Gifts/Souvenirs	39.98	N.A.	N.A.	1,810

N.A. - Not Available

SOURCE: Dollars and Cents of Shopping Centers, The Urban Land Institute, 1978; Retail Location Analysis Manual, Real Estate Research Corporation, 1970; and Oblinger-McCaleb, Architects, Engineers, and Planners, 1980.

The one percent gain is somewhat conservative, but realistic since the fixed income of many households did not increase with inflation. Total household income was calculated. Utilizing percentages of income spent in various types of stores based on the average area income, total sales

generated were then estimated. These figures are shown in the "sales" column of the same table.

Supportable square footage by the area was estimated by dividing sales by the sales per square foot figures. Industry norm

store sizes for each store type are shown in the last column of the table.

The figures indicate that the planning area might support a drug store, barber shops, beauty

shops, dry cleaning, laundromat, restaurants, and fast food restaurants. Existing square-footages of these types of stores are unknown, making it difficult to estimate surplus demand square footage.

It should be noted that the "sales" figures are based on current year-round population estimates. Seasonal visitors and tourists would certainly add to the supportable square footage, but income data for seasonal residents and visitor data was unavailable. Competing stores in Woodland Park and Manitou Springs would tend to lower the demand for such stores in the planning area.

The types of stores discussed above should be viewed as only an estimate of existing demand. Some commercial activities, such as restaurants, already have competition in the trade area, and additional facilities may not be profitable. Establishments, including a bakery, sporting goods, shoe repair, hardware and a convenience market, where only a portion of the store is supportable, may be profitable at a smaller scale, particularly with support from seasonal residents and tourists. Residents have expressed a need for a grocery store in the area. Future population growth would tend to increase the demand for these types of stores.

---



---

# Land Use

---



---

4

## Introduction

Land use refers to the kind of activity for which a parcel of land is being utilized. Since present land use conditions and activities exert a strong influence on future growth and the type of development, it is necessary to undertake a detailed and accurate inventory of existing land uses.

## Land Use Classifications

A general land use inventory was undertaken in the Ute Pass Planning Area during the month of August 1980. Existing land uses were noted on a field map and verified with aerial photographs. The land use categories utilized in the survey were as follows:

### Residential

This category included all land on which the major structure served as one or more dwelling units. Included in this category were single family, multi-family and mobile home dwelling units. Residential uses with home occupations clearly incidental to the residence were classified as residential. Hotels, motels, and institutions were not considered residential land uses.

### Commercial

This category included all land and buildings where products, goods, or services were sold or exchanged. Included were retail stores, business offices, hotels and motels, restaurants, gasoline service stations, amusement facilities, and personal service uses. Accessory off-street parking areas were also included in this category. Land parcels which contained a residence in addition to a business were classified as commercial, if the business use occupied a majority of the building square footage located on the parcel. For example, if a land parcel contained a motel and the motel operators lived on the premises, the parcel was classified as a commercial use.

### Industrial

This category included land where the use involved the application of labor to materials, producing a product that is not normally sold to the ultimate consumer on the premises. The only uses included in this category were gravel mining operations.

### Public/Semi-Public/Industrial

Land and buildings owned by governmental or quasi-public agencies and structures utilized by a limited group of the population were included in this category. Also in this category were uses such as town facilities, schools, libraries, churches, institutions, fire stations, post offices and other community buildings.

### Parks/Recreation/Open Space

This category included land generally maintained in its natural state, landscaped, or otherwise developed for recreational activities.

### Vacant

This category included all undeveloped land (platted or unplatted) without structures.

### Forest

Included in this category was all land within the boundaries of Pike National Forest.

## Existing Land Use and Zoning

Existing land uses are illustrated on the Existing General Land Use Map on page 21. The majority of land in the planning area is National Forest. Several large parcels of vacant land are located throughout the area, principally to the northeast of U.S. 24. The predominant existing land use is residential. A detailed discussion of each land use category follows.

### Residential

Residential uses generally have located to the southwest of U.S. 24. Near Cascade, residential uses are also dispersed on the northeast side of the highway. A vast majority of the residential uses are single family, detached units. Some multi-family units are scattered throughout the area. A few mobile homes were identified during the visual land use survey.

A few residential uses are located in Loy Gulch west of Rampart Range Road and the Carroll Lakes area in the northern portion of the planning area. The Carroll Lakes area is a private residential community. Protective covenants stipulate that a maximum of 50 dwelling units may be constructed on the property.

The overall development density in Ute Pass is low, but several areas exhibit medium densities. These areas were platted and developed around the turn of the century when lot sizes were based solely on land speculation. Such densities are not allowed under current development regulations because of potential health problems associated with the use of individual septic systems.

Existing residential development, for the most part, has avoided locating in environmental hazard areas. A few structures are situated in the flood plain of Fountain Creek and identified geologic hazard areas. Future development in hazard areas should be limited since County Zoning Regulations restrict uses within 100-year flood plains, while County Subdivision Regulations require geology and wild-fire hazard reports.

Land outside the Pike National Forest, with the exception of commercially zoned property, is predominately zoned Residence Topographical (R-T). The R-T District principally permits single family and two-family residential uses, child care centers and family care homes of not more than 4 children, and private stables, if on a minimum of 5 acres. It should be noted that protective covenants in Chipita Park prohibit stables. Certain other compatible uses are permitted by special use approval. The intent of this district is to permit residential uses in areas of extreme topographical conditions subject to compliance with several performance standards prior to development approval. Minimum lot sizes are 10,000 square feet in platted areas and five acres in unplatted areas.








The regulations of the R-T District will likely have two distinct effects on the character and density of future development in the planning area: unplatted areas with limited development (hence, a low density) and platted areas with a relatively higher degree of development (consequently, a higher density). The existing zoning regulations apparently are intended to encourage "infill" development of existing platted land. Future lot sizes will be determined by the subdivision regulations which

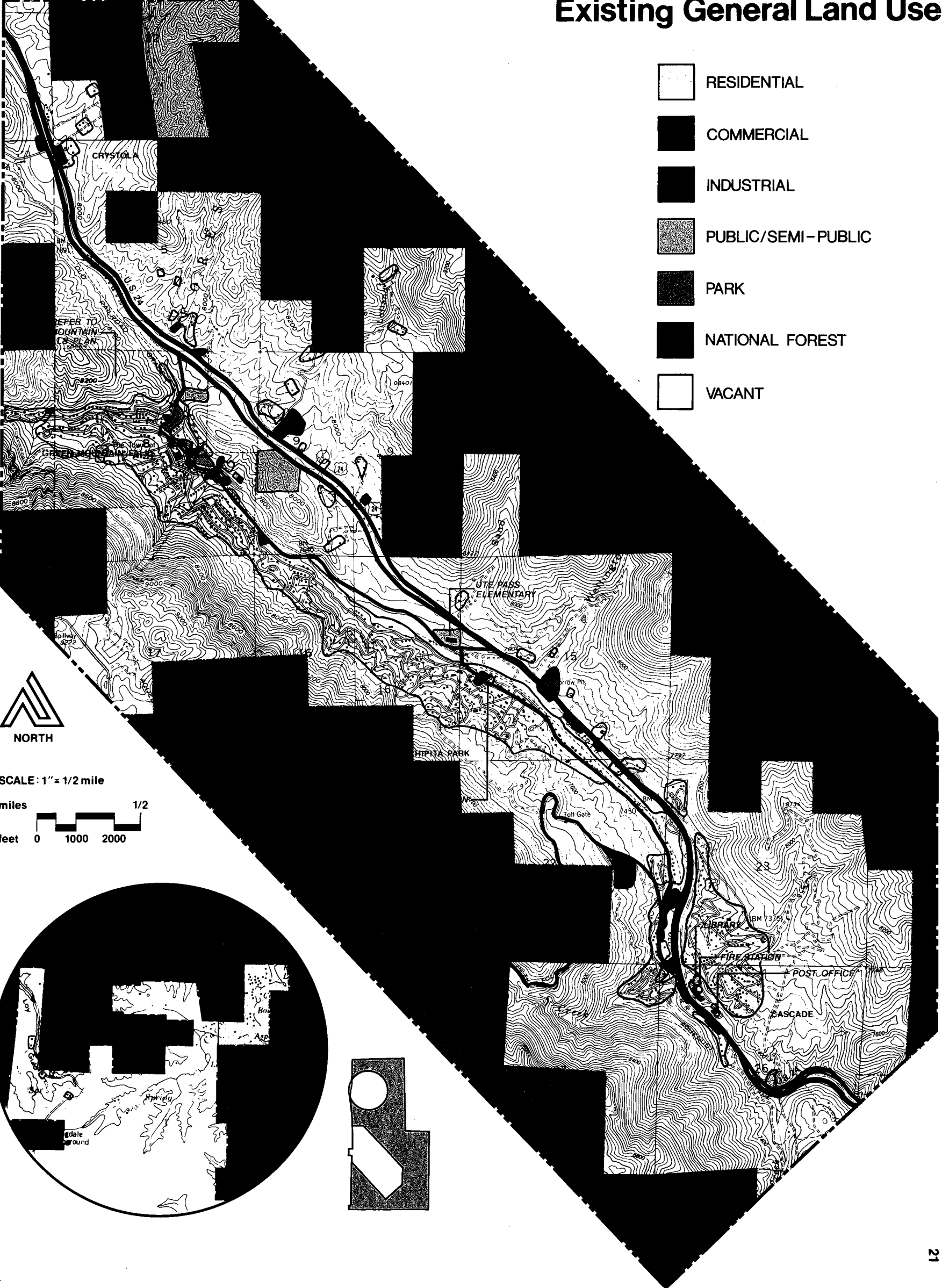
specify lot sizes based on the type of water and sanitary sewage system provided. Among other factors, lot sizes of 10,000 square feet are possible if public water and sewer systems that meet code performance guidelines are available at the site. However, since provision of a public sewer system in the planning area does not appear realistic in the near future, new development at higher densities is not expected. Common package septic systems may be utilized on a limited basis in the future, contingent upon State and County Health Department approval. This could result in future development of unplatted areas occurring at densities lower than those found in existing platted areas. Densities in existing platted areas are expected to be maintained, or even be reduced by lot line vacations. Although overall development in the Planning Area is sparse, the low density results primarily from large areas of undeveloped or minimally developed land rather than current County policy. Since most of the undeveloped, unplatted areas are located northeast of U.S. 24, future development in that area will likely be a lower density than southwest of the highway in Cascade. Consequently, two areas of different character would evolve; an "older" area and a "newer" area separated by U.S. 24.

Table 11, which provides information as to the size and number of improved and unimproved lots in Ute Pass by zone classification, reveals that the vast majority (approximately 88 percent of the acreage) of platted, R-T zoned land is unimproved. Yet, approximately 72 percent of the platted lots are currently improved. This seems to indicate the presence of large tracts of vacant, platted land which are zoned R-T.

Approximately 4 acres of land in the planning area are zoned Rural Residential (A-6) which principally permits single family residences in addition to certain other uses that are in character with the district. The intent of the A-6 zone is to permit low density residential development with a minimum lot size of 2.5 acres. An overall density option could be exercised in this district which, although not written into the regulations at this time, would presumably allow some flexibility in site design. This approach to zoning allows a concentration of density in desirable areas (or away from undesirable areas) and provides a greater amount of useable open space. The average density allowed in the particular zone would be maintained, but portions of the site could have higher densities. This approach encourages cluster development and is particularly suited to areas where unique natural features, views, open space, and other amenities should be preserved.

Ute Pass Corridor, El Paso County, Colorado  
**Existing General Land Use**

-  RESIDENTIAL
-  COMMERCIAL
-  INDUSTRIAL
-  PUBLIC/SEMI-PUBLIC
-  PARK
-  NATIONAL FOREST
-  VACANT



SCALE: 1" = 1/2 mile

miles 0 1/2

feet 0 1000 2000

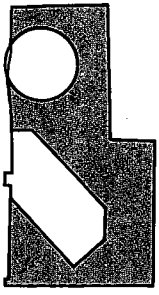


Table 11: Land Use Inventory (Platted Lots)

Zone Classification	Improved Lots				Unimproved Lots				Total	
	Acres	Percent of Total	Number	Percent of Total	Acres	Percent of Total	Number	Percent of Total	Acres	Number
Residential Topography (R-T)	2,390	12%	855	72%	17,323	88%	326	28%	19,713	1,181
Planned Unit Development (R-4)	16	10%	2	9%	144	90%	21	91%	160	23
Forest and Recreational (F-1)	-0-	-0-	-0-	-0-	3,627	100%	14	100%	3,627	14
Agricultural (A-2)	399	2%	11	24%	17,007	98%	34	76%	17,406	45
Rural Residential (A-6)	4	100%	1	100%	-0-	-0-	-0-	-0-	4	1
Planned Business Park (PBP)	9	70%	7	78%	4	30%	2	22%	13	9
Planned Business Center (PBC)	26	87%	13	87%	4	13%	2	13%	30	15
Commercial (C-2)	90	92%	29	48%	8	8%	31	52%	98	60
<b>Total</b>	<b>2,934</b>	<b>7%</b>	<b>918</b>	<b>68%</b>	<b>38,117</b>	<b>93%</b>	<b>430</b>	<b>32%</b>	<b>41,051</b>	<b>1,348</b>

Figures are rounded-off

SOURCE: El Paso County Assessor's Office, January 1982.

There are approximately 160 acres in the planning area which are zoned Planned Unit Development (R-4). Regulations of the R-4 district are intended to provide flexibility in design and a greater variety of uses. Development density is not specific, and is reviewed on a case-by-case basis for conformance with the requirements and spirit of the

County Land Development Guidelines and Subdivision Regulations. The PUD is a negotiated zone under which a developer agrees to additional restrictions, e.g. more open space or architectural restrictions, in order to have greater flexibility in other areas such as private roads, higher density, or mixed land uses. The PUD places a premium on design and architectural compatibility. Principally permitted uses include single

family, duplex, multi-family, and condominium/ townhouse residential uses in addition to certain commercial uses.

**Commercial**

Commercial uses are generally located in five areas: along U.S. 24 and Chipita Park Road in Cascade; Santa's Workshop; on the south side of U.S. 24 southeast

of Wellington Gulch; in the downtown area of Green Mountain Falls, and in Crystola. Other commercial uses are scattered along the northeast side of U.S. 24 between Lofland Gulch and Green Mountain Falls.

The general types of commercial activity are tourist-related and convenience commercial establishments. Included are facilities such as motels, restaurants, gasoline service stations, souvenir and gift shops, convenience goods stores, and amusement/ recreation uses.

The majority of commercial uses along U.S. 24 are zoned C-2, while the remainder are zoned Planned Business Park (PBP). Santa's Workshop is zoned Planned Business Center (PBC). Presently, the County Planning Commission and Land Use Department, by policy, are discouraging new C-2 zone changes since the zone has become antiquated and eventually will be removed from the County Land Development Code. Existing C-2 zoned areas in Ute Pass and other parts of the County will not be affected by the policy.

**Industrial**

There is no industrially zoned land in the planning area. The only industrial use identified during the visual survey was the gravel mining operation adjacent to U.S. 24 at Wellington Gulch.

The gravel mining operation is visually incompatible with the scenic environment of Ute Pass. The facility, regulated to a greater extent by State law than by County law, has extracted a considerable amount of gravel, creating a cut in the hillside at least 50 feet in height from the roadway surface. Due to its high visibility along U.S. 24, the operation has been a detriment to the character of the area. Mining operations are required to submit an acceptable reclamation plan as a condition of approval. It is recommended that future operations of this type be encouraged to locate in areas of low visual impact.

#### Public and Semi-Public

Public and semi-public uses principally are located in Green Mountain Falls and Cascade. In Green Mountain Falls, these uses include a post office, fire station, Marshall's office, public buildings, numerous churches, the Sallie Bush Community Building, and the Ark (Alcohol Recovery Center). Cascade has a post office, fire station, and library, while Chipita Park maintains a fire substation, Ute Pass Elementary School, and Marcroft Hall.

Considering all factors, these uses are appropriately located. Since such uses, if incompatibly located, may impact adjacent residential uses in much the same way as commercial uses, extreme care should be exercised in their location. Under current County zoning regulations, few public or semi-public uses are permitted in the R-T and PBP Districts, either conditionally or principally. Most of these uses, however, are allowed by special use approval in the C-2 Commercial District. Emergency facilities are permitted by special use in all zoning districts. The special use review procedure is a public process that examines potential land use impacts and measures to mitigate them. Special use permits in the County are approved by the Board of Adjustment.

#### Parks/Recreation

Two parks are located in Ute Pass, both in Green Mountain Falls. The parks total approximately three to four acres in size and are in fair to poor condition, resulting from a lack of maintenance funds. Projections indicate the facilities are adequate to serve the present population of Green Mountain Falls, but not the entire Ute Pass population. It is recommended that a concerted, local effort be exerted to develop a centralized, active recreational park that would meet the needs of all Ute Pass residents.

Standards developed by the National Park and Recreation Association indicate that 10 acres of park land are needed for each 1,000 population. Using this standard and an estimated 1980 population of 2,775, approximately 28 acres of park land should be located within the planning area, with approximately 7 acres in Green Mountain Falls. Although the Pike National Forest provides passive recreational activities, the aforementioned standard typically is used to determine the amount of developed park land needed to accommodate active recreational activities such as tennis, swimming, and other activities requiring playfields or ballfields. Park needs are discussed in more detail in the Public Facilities and Services Chapter of this report.

Pike National Forest provides many recreational opportunities for area residents. Several picnic areas are located along Rampart Range Road as well as at Rampart Reservoir. Campground facilities are located at the Springdale Campground, while a boat ramp is located at Rampart Reservoir. There are several trails to the forest from the U.S. 24 Corridor. The Forest Service has expressed a desire to provide additional hiking and equestrian access routes into the forest.

#### Vacant

Vacant land, comprising a high percentage of the total land area of Ute Pass, is located in three general areas: northeast of U.S. 24 to the national forest boundary, east and southeast of Cascade, and near the summit of Bald Mountain west of Rampart Reservoir.

The vacant areas northeast of U.S. 24 and east of Cascade exhibit severe environmental development constraints, although several parcels of land are suitable for development. The majority of the area northeast of the highway is zoned R-T (Residential Topography). Development will be limited to some degree by the application of zoning and subdivision regulations which govern development in environmental hazard areas.

The national forest southeast of Cascade also exhibits severe environmental constraints, and it is unlikely development will occur in this area due to the shortfall of suitable building sites. The area is currently zoned R-T which, by code, limits any type of intensive development.

The area on Bald Mountain west of the reservoir is zoned A-2 (Agricultural), except for 160 acres in Talcott Gulch. The area presents various development constraints, but current zoning will limit future development to a minimum lot size of 5 acres, unless rezoned. The most significant constraints to development, at the present time, are the provision of public services such as water, sewer, and fire protection. The area does not have public or common water and sewer systems. Future development is expected to use individual septic systems and wells. Under current zoning, minimum lot sizes are five acres for projects with individual sewage disposal systems. The provision of a public water system in this area would be difficult and expensive for a number of reasons: (1) the elevation is higher than the water service areas of existing systems, (2) the lack of any substantial water source for a system, and (3) the difficulty of installing lines due to the terrain and constraints such as bedrock. The area would also be outside the service boundaries of the proposed water treatment plant. No fire protection is currently available, adding further constraints to intensive development. Perhaps the most severe constraint to development is inadequate access. Presently, access is provided by Rampart Range Road (a four-wheel drive road in some locations).

#### Forest

Pike National Forest comprises a major portion of the planning area. The Forest, zoned A-2 and R-T, offers a variety of recreational opportunities for Ute Pass residents including hiking, picnicking, camping, and boating. Additional recreation facilities may be established in the future at North Catamount, South Catamount, and Crystal Park Reservoirs when the proposed water treatment plant for Ute Pass is constructed.

National Forest land lies on either side of the U.S. 24 Corridor. The highway corridor itself is privately owned except for a small area which borders the highway between Lofland and Sand Gulches. A majority of the areas lying on either side of the highway, which exhibit constraints for development, are within the national forest boundaries. Also, many areas which contain unique physical features, ridgelines, or dense vegetation are in the national forest. The presence of these features in the national forest should limit intensive development in environmental hazard areas.

#### Future Land Use

Development on the northeast side of U.S. 24 has been limited due to the lack of a public water system and relatively low yields from wells. However, the proposed Ute Pass water treatment plant should have a service area encompassing most of the vacant land which is devoid of severe environmental constraints. Future availability of water in this area will remove one constraint to development, consequently creating more pressure for development than in the past.

Another constraint to development in the entire planning area is the absence of a public sewer system. County Subdivision Regulations specify that individual water and sewer systems are permitted only on lots of 5 acres or more, subject to approval by the County Health Department and the State Engineer. On lots of less than 5 acres, the subdivider must provide a public water and sewer system, except where individual systems conform to required performance guidelines. If a public sewer and water system were constructed, development could conceivably occur on lots of 10,000 square feet.

One of the major issues to surface during public workshops was the 5 acre minimum lot size requirement in areas not served by public water and sewer. Many

long-time residents of Ute Pass, some of whom reside on smaller lots, support the 5 acre minimum as a tool for preserving open space and the overall low density character. Conversely, developers and major landowners view the requirement as being overly restrictive and a constraint to development. While the requirement may be restrictive, it is typical of regulations elsewhere and is necessary to retain valuable natural resources and preserve the quality of surface and ground waters. As technological advances are made in individual sewer systems or common package plants and as public water systems are expanded, the lot size requirement should be evaluated to determine public benefit/cost, particularly in terms of the social, environmental, financial, and physical effects.

Future expansion of the Pikes Peak Ski Area may have a moderate impact on future development in Ute Pass. Plans for expansion of the area have been approved by the Forest Service; construction of the first phase is complete. A final completion date is unknown at this time. Plans call for increasing the capacity from 300 to 2,500 skiers per day. By comparison, capacities of major ski areas in Colorado average over 12,000 skiers per day. The facility is intended to attract families from the Colorado Springs area, with an emphasis on accommodating beginner and intermediate skiers. Although the ski



area is located in Teller County, access is provided by the Pikes Peak Toll Road in Cascade. With the access road in Cascade, the demand for additional commercial uses may arise in that area. Businesses such as ski equipment rentals and sales establishments, eating and drinking establishments, and lodging facilities to a lesser extent, may desire a location near Cascade to capture the potential ski market.

#### Future Land Use Plan

The location and intensity of future land uses is illustrated on the Generalized Development Plan in the Executive Summary. The plan, a template for public and private land use decisions, when coupled with the County Land Development Code, should provide an orderly and coordinated growth pattern. The configurations of proposed land uses were based on local needs and goals, existing land use patterns, development constraints, expansion of existing uses to compatible areas, and current zoning trends. Brief descriptions of the land use categories are given below.

#### Residential

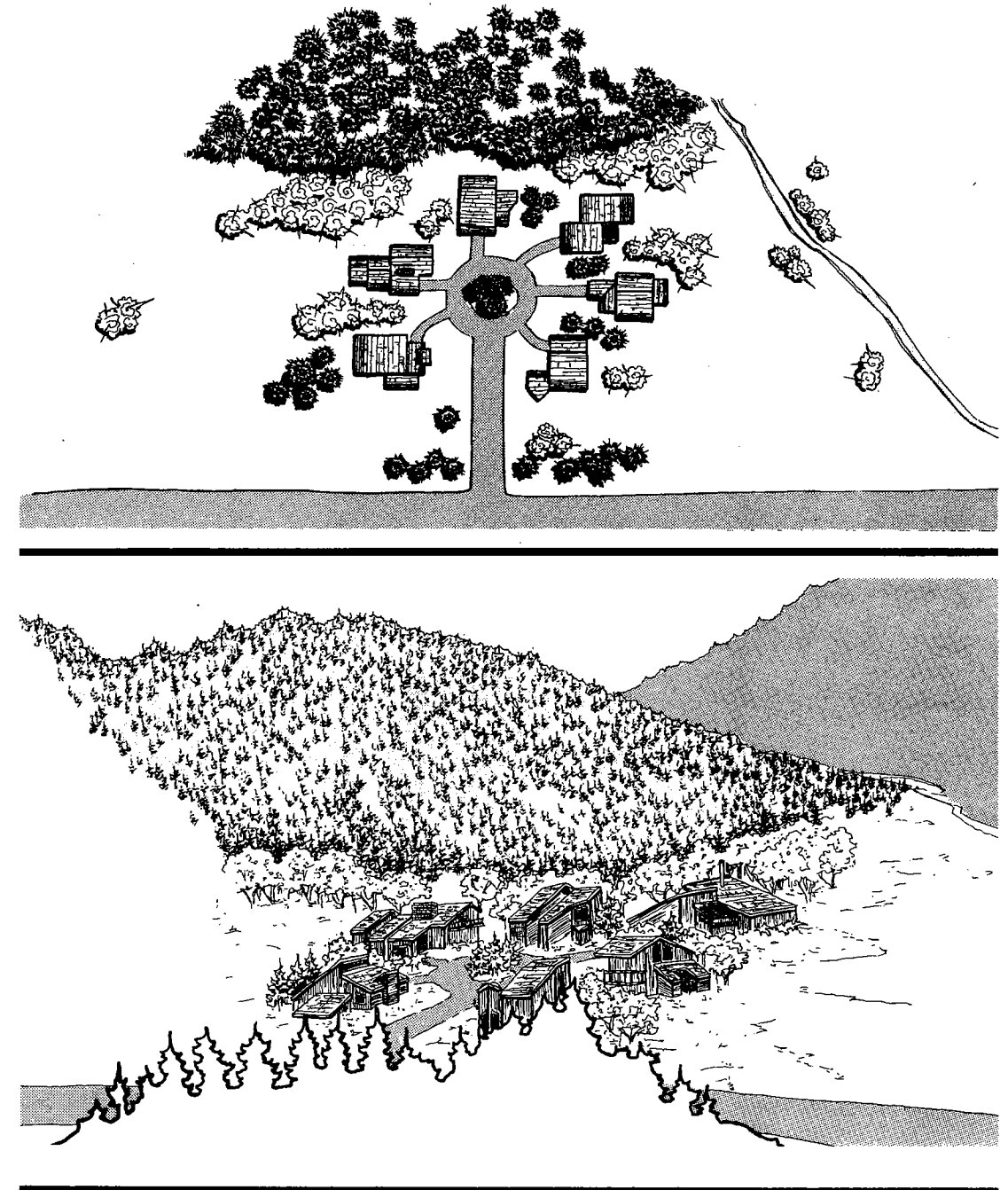
Future residential development generally is expected to occur northeast of U.S. 24 and southwest of Chipita Park Road. The former area exhibits the highest potential for growth, owing to the significant availability of vacant, buildable land. Development in this area will not accelerate until public water is

available from the proposed water treatment plant. Southwest of Chipita Park Road and below Santa's Workshop, opportunities exist for infill development that would be advantageous to both the public and private sectors. To the developer, infilling means a significant reduction in upfront costs. In most cases, public water and roads are available in this area, eliminating the expense of extending such facilities from another area. To the County, infilling results in economies of scale with respect to the provision of public services. Conversely, it should be recognized that certain negative impacts, particularly transportation, land use and environmental, may be associated with infilling.

It is anticipated that single family residences, both attached and detached, will comprise future markets in the planning area. Alternatives to one housing unit per individual lot should be encouraged by the County. Cluster housing, zero lot line development, and cluster lotting reduce the number of roads, minimize accesses, maximize open space, preserve unique natural features and views, and utilize the land (a finite resource) more efficiently (see Design Guideline 1). These housing alternatives do not necessarily imply increased density. Cluster housing, for example, can be developed in large lot situations. Density will still be a function of the zone in which a parcel of land is located. Any increase in

#### Design Guideline 1

#### Detached Single-Family Cluster



Design Guideline 1, Continued

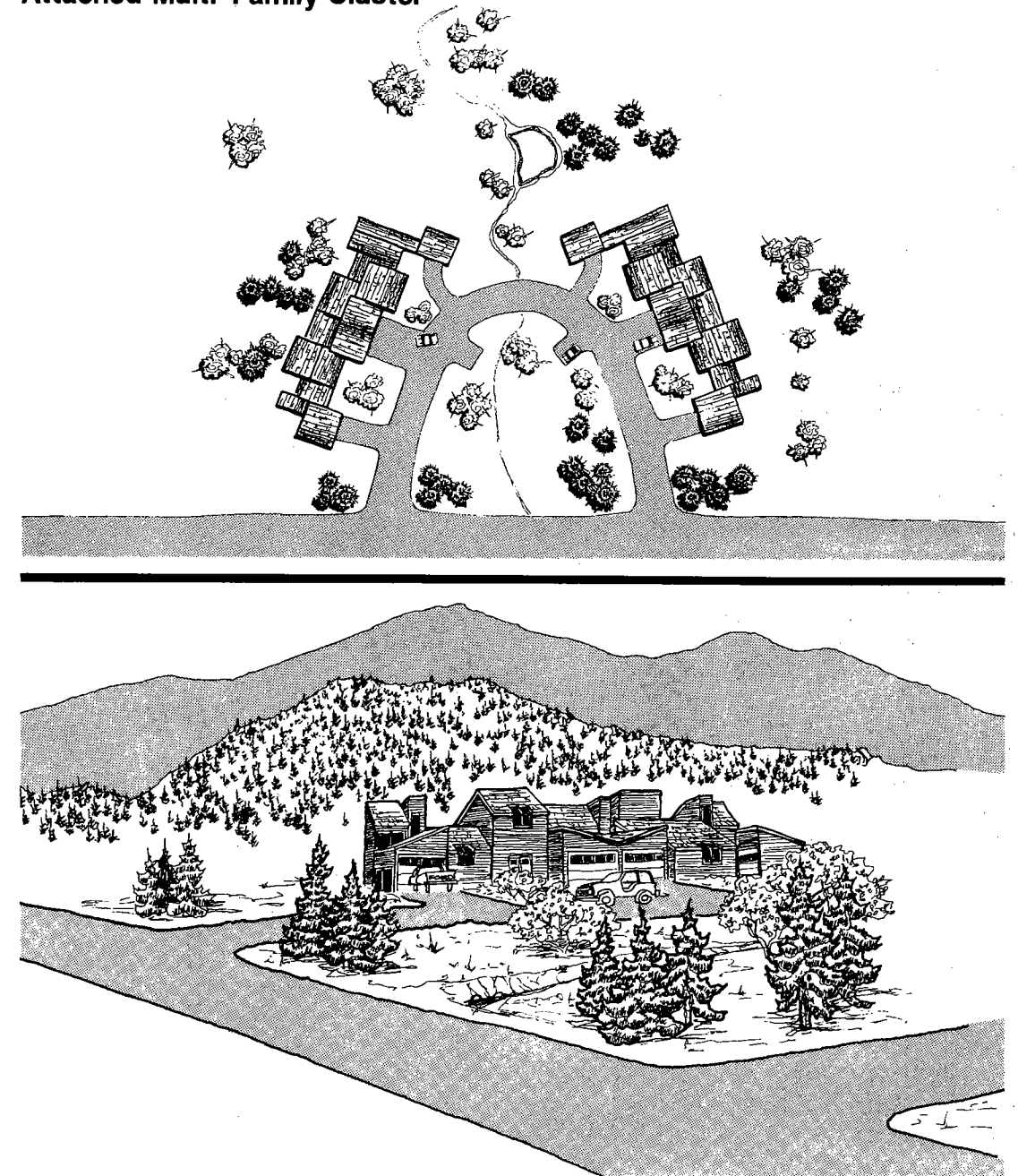
CLUSTER HOUSING, ZERO LOT LINES, AND CLUSTER LOTTING ARRANGEMENTS OFFER THE FOLLOWING ADVANTAGES:

- REDUCED LAND PREPARATION COSTS,
- REDUCED UTILITY, SIDEWALK, AND ROAD LENGTHS REPRESENTING REDUCED INSTALLATION COSTS,
- MORE PRIVATE PROPERTY ON TAX ROLLS,
- SAVINGS IN ROAD AND UTILITY MAINTENANCE,
- REDUCED COSTS FOR PUBLIC SERVICES SUCH AS GARBAGE COLLECTION,
- MAXIMIZED OPEN SPACE,
- PRESERVATION OF UNIQUE NATURAL FEATURES, AND
- INCREASED PROJECT AMENITIES.

FACTORS TO CONSIDER IN THE LOCATION OF CLUSTER HOUSING INCLUDE:

- AN ADEQUATE ROAD SYSTEM,
- LAND USE COMPATIBILITY,
- LIMITED VISUAL AND ENVIRONMENTAL IMPACTS,
- EFFICIENT SITE DRAINAGE AND PRESERVATION OF NATURAL DRAINAGE PATTERNS,
- PROVISION OF SITE AMENITIES,
- PEDESTRIAN TRAIL LINKAGE,
- ARCHITECTURAL HARMONY WITH NATURAL ENVIRONMENT,
- ADEQUATE AND EFFICIENT LEVELS OF PUBLIC SERVICES, AND
- CONSERVATION OF ENERGY RESOURCES.

Attached Multi-Family Cluster

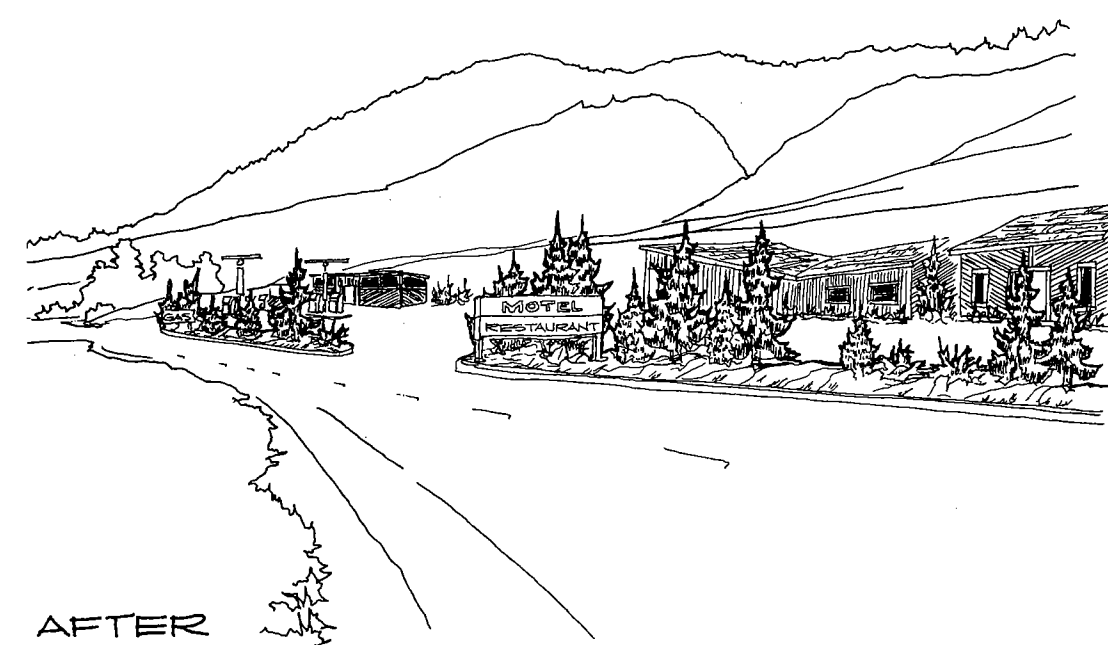
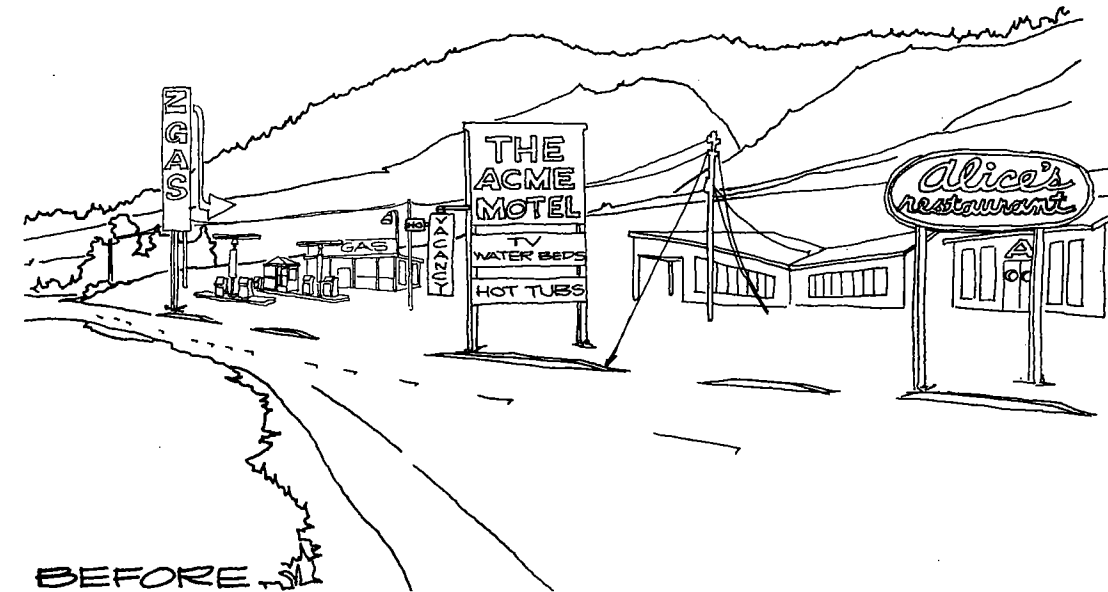


density from that zone will be subject to the public review and comment process. Similar options, specifically the overall density option, could be included in the zoning regulations to permit greater flexibility in site design and lotting arrangements.

The development of large areas of high density condominium and townhouse units, which has occurred in some mountain communities in Colorado, was viewed as inappropriate and undesirable by most residents attending the citizen participation meetings. However, the trend toward higher density development should be recognized because of second home appeal, a higher tax base, and reduced impact to the environment, if designed properly. For the past few years, the higher density form of housing has been more attractive to developers and homeowners due to the often restrictive costs of providing and acquiring detached single family homes at a marketable price. While this does not necessarily indicate a demand in Ute Pass for this type of housing, potential areas should be identified to accommodate higher density projects. This strategy will assist in reducing land use compatibilities and piecemeal development. In order to preserve the existing visual character of Ute Pass, higher density housing should be encouraged to locate in areas of limited environmental and visual

Design Guideline 2

Commercial Development



- LANDSCAPING PROVIDES A VISUAL AMENITY AND ADDS IDENTITY TO A SITE.
- MINIMIZED ACCESS POINTS IMPROVE VEHICULAR CIRCULATION AND PUBLIC SAFETY. THE FUNCTION OF ARTERIAL ROADS IS TO MOVE TRAFFIC EFFICIENTLY AND NOT TO ACCESS LAND USES.
- SHARED ADVERTISING SIGNAGE REDUCES THE CLUTTERED APPEARANCE OF A SITE. SIGNAGE SHOULD BE COORDINATED IN TERMS OF SIZE, PLACEMENT, AND TYPE OF SIGN.
- LOW PROFILE SIGNAGE USING NATURAL MATERIALS AND COLORS WILL HARMONIZE WITH SURROUNDINGS. LANDSCAPING WILL SOFTEN SIGN APPEARANCE.
- UTILITIES SHOULD BE PLACED UNDERGROUND.
- SHARED PARKING FACILITIES WILL REDUCE IMPROVEMENT COSTS, MINIMIZE TRAFFIC MOVEMENT, AND UTILIZE LAND MORE EFFICIENTLY.
- COORDINATE FACADE TREATMENT TO MAINTAIN CONSISTENCY IN DESIGN, TEXTURE, AND COLOR.

impact. These areas are identified on the Environmental Constraints Composite Map and the Potential Visual Impact Map (see pages 65 and 73).

Commercial

Existing commercial development is primarily concentrated in Cascade, Green Mountain Falls, and areas along U.S. 24. Fortunately, "strip" commercial development has not occurred along U.S. 24 in the past. Few existing vacant areas are commercially zoned, avoiding the strong possibility for future "strip" development. However, since the corridor will likely face increased land speculation pressure, it is strongly urged that future commercial zone changes be contiguous to existing commercially zoned areas. This policy should minimize negative impacts such as disruption of traffic flow on U.S. 24 due to increased access points and cluttering of the visual environment with signs and parking lots as shown in Design Guideline 2.

Demand for additional commercial uses is minimal at the present time, although year-round residents of the area could support several convenience retail and service commercial establishments (refer to Table 10 on page 17). Most residents travel to Woodland Park or Colorado Springs for a majority of their shopping needs.

As the population of the Pass increases and as recreational opportunities in the National Forest expand, additional commercial uses may be needed to serve increased demand.

The extent and location of suitable future commercial land uses is shown on the Generalized Development Plan (see Executive Summary). Areas with potential for commercial activity include existing vacant commercial areas in Cascade, located along Chipita Park Road and U.S. 24; southeast of Wellington Gulch on the south side of U.S. 24; and the site of the gravel mining operation on the northeast side of U.S. 24 at Wellington Gulch. The location of future commercial land uses was principally based on the concept of clustering commercial activity where it currently exists, thereby avoiding the negative impacts of "strip" commercial development. In addition, land use need projections, along with environmental constraints and economic growth analyses form the basis for recommendations.

Future commercial land uses should be encouraged to rezone as Planned Business Park (PBP). Heavy industrial and high traffic generating uses should be discouraged. The PBP zone, which permits uses more compatible to Ute Pass than in other commercial

zones, requires that a plot plan be submitted as part of the review process. Plot plan review should allow for site analyses of proposed developments in light of recommendations in this report in addition to other County policies and regulations. Future plans should reflect good design, sound planning, and innovative engineering to insure land use compatibility and efficiency, public welfare and convenience, and minimization of disruption to the natural environment. Commercial uses which serve the local population were supported by residents at citizen participation meetings.

Adequate off-street parking for commercial, industrial, and residential uses is required by the County Development Code. Plot plans are required for uses in all planned zones which must be approved by the County Land Use Administrator prior to issuance of a building permit. The plot plan, among other things, must show the location, surfacing, and number of parking spaces. Two typical parking area concepts, one with 90° angle parking and one with 60° angle parking, are illustrated in Design Guideline 3 on the following page.

Industrial

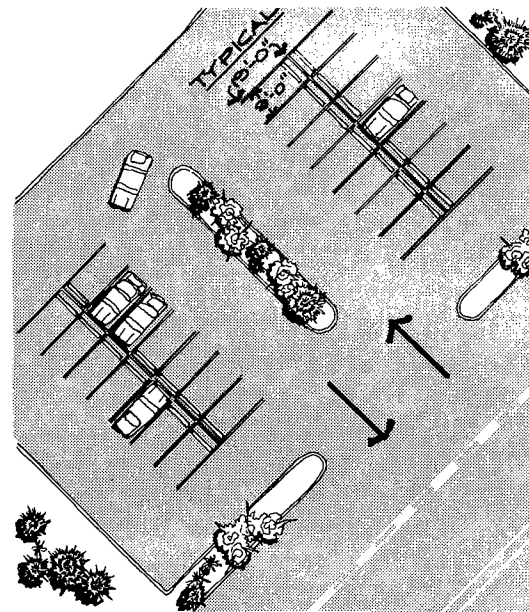
The demand for future industrial land is projected to be minimal. Other areas in El Paso County are better suited to the locational requirements of industrial users such as an adequate transportation network, proximity to market, and an ample water and sewer system. No areas are recommended for future industrial activities.

Public and Semi-Public

At present, public facility needs in the planning area are minimal with the exception of a sewage disposal plant and an expanded water treatment facility. No site is recommended for location of the sewage plant while the Generalized Development Plan recommends a site for the proposed water treatment facility. The recommended site, although offering many advantages over other evaluated sites, is located in a prominent position. Careful design will be needed to minimize the plant's visual impact. Green Mountain Falls officials, homeowners' associations, local residents, and the County officials should work closely with the City of Colorado Springs to insure that the visual impact of the treatment plant is minimized.

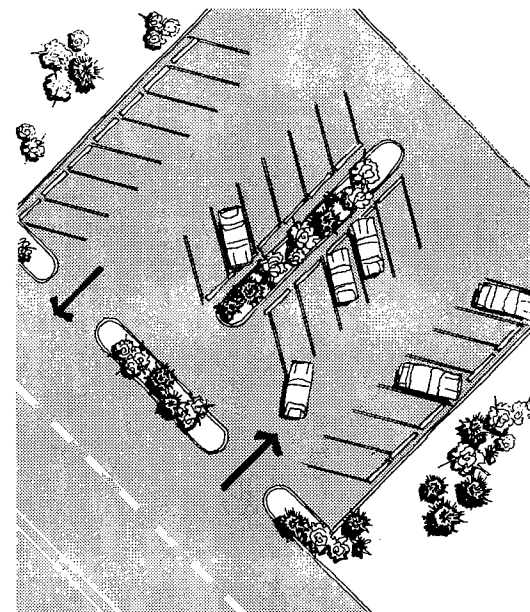
Design Guideline 3

Parking



90° PARKING

- ECONOMIZES SPACE
- EASE OF CIRCULATION
- TWO-WAY MOVEMENT THROUGH AISLES
- BETTER SIGHT LINES
- SHORTER CRUISING DISTANCES



60° PARKING

- EASIER TO ENTER STALL; SWING IN ONE MOTION
- ALLOWS FOR NARROW AISLES
- REQUIRES ONE-WAY CIRCULATION THEREFORE MORE ACCESS POINTS
- GREATER SAFETY
- SAFER USE OF AISLES FOR PEDESTRIANS WALKING TO AND FROM VEHICLES

- LANDSCAPING AND BERMING SOFTENS DRIVES AND DEFINES ACCESS POINTS.
- LANDSCAPED ENDCAPS AND MEDIANS WILL DEFINE INTERIOR PEDESTRIAN AND VEHICULAR CIRCULATION PATTERNS.
- ACCESS POINTS SHOULD BE KEPT TO A MINIMUM.
- TO INCREASE SIGHT DISTANCES, LOCATE THE SHORTER SIDE OF THE PARKING LOT PERPENDICULAR TO THE STREET.
- A BARRIER OF CONTINUOUS HEIGHT SHOULD BE PLACED ALONG THE PERIMETER OF THE PARKING LOT IN ORDER TO CONTROL MEANS OF INGRESS AND EGRESS.
- PROVIDE ADEQUATE LIGHTING FACILITIES FOR SECURITY AND SAFETY REASONS.
- SCREENING AREAS ADJACENT TO RESIDENTIAL USES REDUCES HEADLIGHT GLARE, MINIMIZES NOISE, AND BUFFERS ABRUPT CHANGES OF LAND USE.
- REFER TO THE EL PASO COUNTY SUBDIVISION REGULATIONS AND SUBDIVISION CRITERIA MANUAL FOR PARKING AND ACCESS REGULATIONS BY USE TYPE.

Future population growth in the planning area may require additional public and semi-public facilities such as churches and emergency facilities. Churches normally are allowed in areas zoned as residential. Police and fire stations are considered special uses in all zones.

Parks/Recreation

With the number of residents and school-age children in the area, sufficient demand exists for a park. A proposed site, indicated on the Generalized Development Plan, is located west of Ute Pass Elementary School, adjacent to Fountain Creek. Development of the proposed site should include a softball/football field, playground, picnic facilities, facilities for court games, and adequate off-street parking. The site is ideally suited for use as a park because of its level terrain and location within the Fountain Creek Flood Plain. Additionally, its location near the creek provides the opportunity for linking the proposed park to parks in Green Mountain Falls by means of a trail system. Options for providing additional park land are discussed in the Public Facilities and Services Chapter.

#### Cluster Residential/Open Space

This land use category, which is shown on the Generalized Development Plan, is characterized by environmental conditions that may pose a constraint to development. Included are areas which contain identified 100-year flood plains, existing and potential geologic hazards, slopes in excess of 30 percent, wildfire hazards, and unstable slopes (see pages 58 - 63 for a detailed description of hazard areas). Within the Cluster Residential/Open Space category, open space takes two forms. The first type is that land which exhibits environmental constraints so severe to, in effect, preclude any type of development. This land presumably will remain as open space for perpetuity. The second type of open space, which also exhibits certain environmental constraints, differs from the former by its relationship to cluster residential development (for an explanation of clustering, refer to pages 26 - 28). In this instance, open space could be used in the calculation of a cluster project's overall site density, provided it is reserved or dedicated for permanent common use.

Current County Zoning Regulations restrict land uses within the 100-year flood plain to protect loss of life and property. Reports are required during subdivision review that document the location of geologic and wildfire hazards, streams, lakes, physical features, and wildlife habitats as well as mitigation techniques, if necessary. These regulations are designed to promote the public health, safety, and general welfare and to minimize the high costs of providing and maintaining public services (especially roads). Additionally, the regulations, to some extent, may have the secondary effect of preserving scenic natural resources.

It is possible for the severity of development constraints to be reduced by innovative engineering techniques and creative site design. However, from a planning point of view, the key is to accurately assess the carrying capacity of the land; that is, the intensity of use which a parcel of land can accommodate without causing irreparable damage to the environment.

The Ute Pass region of the County is rich in unique natural resources and should be preserved from the indiscriminate, inharmonious use of land. While there are sufficient state and local regulations and legal precedent to regulate land use and development in order to protect the public health, safety, and general welfare and to prevent property loss, there is less legal bases for restrictions that exclusively preserve identified unique natural resources. One of the basic premises and goals of this plan is preservation of the significant natural assets of Ute Pass, as defined in the Natural Environment and Visual Quality Chapters, through the County development review and decision-making processes. This can be accomplished by seeking open space dedications, scenic easements or park credits.

# Public Facilities and Services

5

## Introduction

Public facilities and services provide for the basic needs of all Ute Pass residents. Since new developments result in additional costs to the County to provide adequate levels of service, budgeting problems are becoming more critical every year. When cost increases are not offset by additional revenues, the County's ability to provide adequate levels of service to Ute Pass residents is reduced.

The purpose of this chapter is to assess the current and future demand for public facilities and services in the planning area based on population levels and local goals and needs. This assessment will involve an examination of existing and potential problems or deficiencies. Where additional land is needed for new facilities, recommendations are shown on the Generalized Development Plan (refer to Executive Summary).

## Schools

The planning area is located within School District 14 which consists of the incorporated communities of Green Mountain Falls, Manitou Springs and the unincorporated communities in Ute Pass. Table 12 summarizes pertinent school information in the district.

Grade school students in the planning area attend Ute Pass Elementary School. Junior and senior high students are bussed to the respective schools in Manitou Springs.

Enrollment in the School District has been declining during the past few years, but total enrollment is now stabilizing. Enrollment in District 14 schools as of

January 1982 was 1,152 students. No enrollment projections have been prepared, but school officials anticipate enrollment will not increase or decrease by more than three or four percent in the foreseeable future. Total enrollment is expected to level off at approximately 1,130 to 1,160 students.

Table 12: School District Facilities

Facility	Grades Served	Enrollment <sup>1</sup>	Capacity	Year Constructed	Condition
Manitou Springs High School	9-12	358	450	1957 <sup>2</sup>	Good
Manitou Springs Jr. High School	6- 8	300	300	1976	Good
Manitou Springs Elementary	K- 5	320	350	1951	Good
Ute Pass Elementary	K- 5	174	220	1968	Good

<sup>1</sup> As of January, 1982.

<sup>2</sup> Two additions have been constructed since this date; the last of which was completed in 1975.

SOURCE: Superintendent, School District 14, January, 1982.

With routine maintenance, existing facilities appear adequate for future demands. If additional facilities are needed, the School District can exercise two options. Ute Pass Elementary was designed for an additional four classrooms, increasing its capacity by 50 percent. The district currently owns the land on which this addition would be built, should it be needed. The district also owns a three room school in Cascade that presently serves as the library for Ute Pass. If needed, this building could be used as classroom space.

Other facilities the School District maintains include the bus garage located west of Ute Pass Elementary School and athletic facilities in Manitou Springs. The athletic facilities include two gyms, a practice football field, a football field, and a baseball field.

#### **Parks and Recreation**

The only municipal park facilities in Ute Pass are owned and operated by the Town of Green Mountain Falls. Bear Creek Regional Park, located in Colorado Springs, is intended to serve the park needs of Ute Pass residents. Standards utilized by the County Parks Department indicate that regional parks are designed to serve residents within one hour

driving time from the park. Although Ute Pass lies within the service area of Bear Creek Regional Park, many residents have expressed a desire for a park in Ute Pass. While a valid argument can be made that Pike National Forest provides opportunities for hiking, picnicking, and camping, it remains a fact that no facilities are located in Ute Pass for active recreational activities such as football, baseball, basketball and similar activities.

There are approximately five acres of park land in Green Mountain Falls, indicating a deficiency of 2 acres. The two parks, as a result of inadequate maintenance funds, are in fair to poor condition. Ute Pass residents living outside Green Mountain Falls contribute only user fees to operation and maintenance of the parks. User fees do not sufficiently cover incurred costs at the present time. Ute Pass residents have indirectly contributed to improvements made at these parks through County Parks Department funding. The Town has received funds from the County Parks Department on three occasions to assist in making repairs to the swimming pool and tennis court.

Based on recommended park standards and needs as examined in the Land Use Chapter, immediate park priorities should include the acquisition of approximately 21 acres of land and the development of recreational facilities such as a football/ baseball field, playground, tennis/basketball courts, restrooms, and off-street parking. A recommended site, located within the Fountain Creek Flood Plain west of Ute Pass Elementary School, is shown on the Generalized Development Plan. The site is currently used for recreational activities and is well-suited to intensive development because of its location and level terrain. Another distinct advantage of the site is its potential for trail linkage, by way of Fountain Creek, with other activity areas in the planning area.

Future population growth and park needs are interrelated. Population projections for the unincorporated area of Ute Pass, by the year 2000, range from a low of 2,530 to a high of 8,730. An increase to 1,200 is projected in Green Mountain Falls. This growth will result in a need for additional park land to adequately meet future demand.

There are four options for providing additional park land. One option, to acquire additional land adjacent to the proposed park site along Fountain Creek,

may be the most realistic and economical option because of ownership patterns in the area. The second option would be to acquire land across Chipita Park Road from the proposed park site. With the Ute Pass Elementary School nearby, this option could eliminate duplication of facilities. A disadvantage of this option is the lack of level terrain needed for park facilities. A disadvantage of both options is the concentration of park land in the vicinity of Chipita Park which is not a centralized location with respect to Cascade or Crystola residents. A third option would be to acquire land near Cascade to serve residents in that area. In northeast Cascade, there are some land parcels with level terrain. The fourth option would entail the acquisition of the former Green Mountain Falls landfill site. The property, containing 144 acres and owned by the Town, is located approximately one mile northeast of U.S. 24 up Talcott Gulch. Closed for a number of years, the site has a sale price of approximately \$1,208 per acre.



The Town is presently considering leasing the property to the Forest Service. Although the site would certainly provide sufficient acreage for a park, its effective use as a recreational facility will be limited due to steep slopes. Two additional constraints, poor access and prohibitive land cost, negate the site's feasibility.

The County Parks Department does not have future plans for developing a park in Ute Pass. The Department is concentrating its efforts in regional park development and maintenance. Since there appears to be sufficient demand for a park in Ute Pass, local residents, homeowners' associations, School District 14, and the County Land Use Department (through the development review process) should coordinate efforts with the County Parks Department to examine the feasibility of such a facility. A cooperative effort between various public and private entities cannot be over-emphasized.

The County Parks Department has a limited budget for administrative, operational, and maintenance expenditures. Consequently, funds are unavailable for the acquisition and establishment of new parks. While budget cuts in other areas may provide some funding, in all probability, the amount of funds generated would be insufficient to cover the costs of land acquisition and park development. The Parks Department estimates that,

on the average, initial park development costs as much as \$20,000 per acre. This estimate includes costs for grading, irrigation, seeding, rest areas, and limited playground equipment. These costs do not include land acquisition.

Other than a sole County effort, there are several other ways to establish, operate and maintain a park in Ute Pass. The first method would entail the creation of a local, autonomous park and recreation district. The district would assume responsibility for the provision of park and recreation facilities in Ute Pass, while operating independently of County departments. Advantages associated with such a district include increased control over the location and scope of park facilities and the availability of various financing tools. The main disadvantage is the potential increase in property taxes to cover administrative, operating, maintenance, acquisition, and capital improvement costs. Another way to realistically establish a park is through the formation of a park association consisting of homeowners' associations, School District 14 and County Parks Department representatives, and other interested groups. An association would be more informal than a district and, unfortunately, would have less financial options at its disposal.

A local park district or association could acquire land through a fee-simple purchase, a lease-purchase agreement with an individual property owner or public entity such as the School District or Parks Department, or a land lease or trade agreement with the Forest Service. Land donations from private or public sources would be another alternative.

The Board of County Commissioners, pursuant to the County Subdivision Regulations, can require land or fees in lieu thereof for park, recreation, and open space purposes. Land dedication is based upon the size of the proposed subdivision as follows:

- For tracts containing lots of 4.75 or more acres, the minimum dedication shall be five percent (5%) of the gross acreage.
- For tracts containing lots of less than 4.75 acres, the minimum dedication of land will be determined by a sliding scale which includes a contribution of acreage equal to five percent (5%) of the gross acreage plus an additional six hundred (600) square feet of land for each proposed dwelling unit in the subdivision. In no case shall dedication exceed twenty-five percent (25%) of the gross acreage.

Through a coordinated and concerted effort, the County Parks Department, acting as a fiscal agent, could accept, at the request of the local park district or association, a parcel of land as a park and open space credit. The land could then be given to the local entity by the County Parks Department. However, unless a sizeable development was proposed, only small parcels of land, many of which may be widely dispersed throughout an area, could be acquired in this manner.

Other feasible options are available and should be examined in detail. In all likelihood, it may take a combination of methods to implement a successful park development program. The key, however, will be citizen action in cooperation with the County Parks Department, the U.S. Forest Service, School District 14, homeowners' associations, and other interested local groups.

Several hiking trails are located on U.S. Forest Service land. Unfortunately, most of these trails are inaccessible from the U.S. 24 Corridor. The Forest Service has proposed several trails from the corridor which are shown on the Generalized Development Plan.

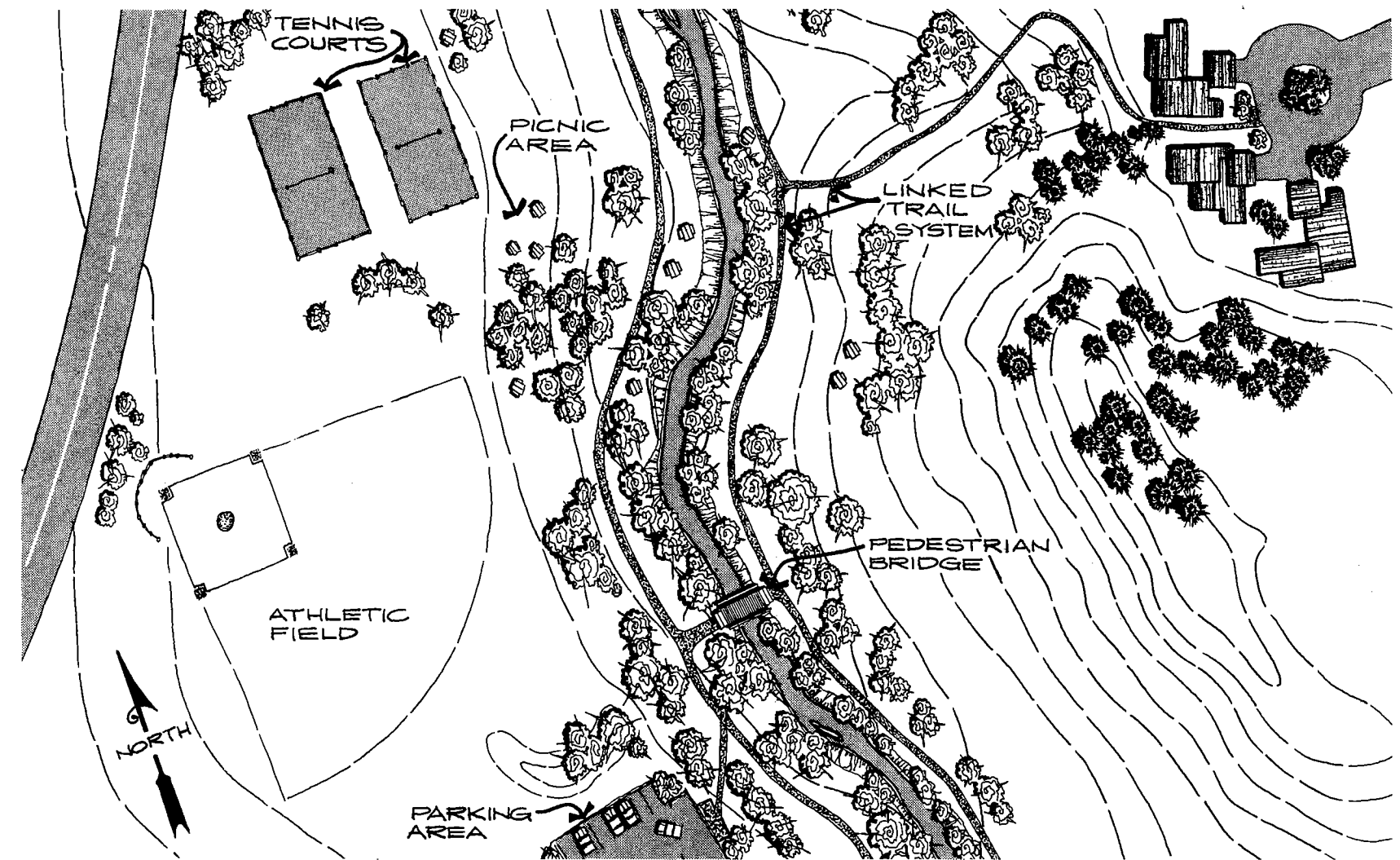
A pedestrian/bicycle trail has been proposed along Fountain Creek linking Ute Pass communities and the proposed park in Chipita Park to existing and proposed parks in Green Mountain Falls. Design Guideline 4 depicts a recreational area and trail system that links active and passive recreational opportunities. The trail would not only provide a recreational opportunity, but an alternative transportation route between Ute Pass communities as well. It would also provide a safer route for children walking or bicycling to school. Since land or easement acquisition and trail development will be a lengthy process, the trail is viewed as a long-range priority.

As discussed in the Land Use Chapter, the Forest Service has approved plans for expansion of the Pikes Peak Ski Area. Phase I of the Pikes Peak Ski Area expansion project is complete. Completion of Phases 2 and 3 are contingent upon financing availability. The ski area will provide expanded winter recreation opportunities for residents of El Paso and Teller Counties.

Forest Service officials have designated the Rampart Range area of Pike National Forest as having a high potential for future recreational development. Additional development will provide expanded recreation opportunities for Ute Pass residents.

#### Design Guideline 4

#### Recreational Development within Flood Plains



- FLOOD PLAINS HAVE A HIGH POTENTIAL FOR RECREATION AND OPEN SPACE OPPORTUNITIES. FACILITIES AND STRUCTURES THAT CAN BE DAMAGED BY FLOODWATERS SHOULD BE AVOIDED.

- DISCOURAGE MODIFICATIONS TO THE STREAM CHANNEL AND FLOOD PLAIN THAT WOULD ALTER THE NATURAL CHARACTER OF THE STREAM.

- RESTRICT LAND USES WHICH ENDANGER THE PUBLIC HEALTH, SAFETY, AND WELFARE.

- RETAIN USEFUL AND NATURAL VEGETATION DURING CONSTRUCTION TO PRESERVE WILDLIFE HABITATS AND REDUCE POTENTIAL IMPACTS CAUSED BY SOIL EROSION AND SEDIMENTATION.

- LINK THE RECREATION AREA TO UTE PASS COMMUNITIES VIA A NON-VEHICULAR TRAIL SYSTEM.

### Police Protection

Police protection in the unincorporated areas of Ute Pass is provided by the El Paso County Sheriff's Department. Protection is provided on a regular patrol basis and as emergencies warrant. The Town of Green Mountain Falls employs a Town Marshal and Deputy who provide 24-hour protection for the community. Under a cooperative agreement between the Town and County, the Marshal will respond to calls outside the corporate limits if the Sheriff's Department is unable to respond.

Residents of the unincorporated areas of Ute Pass have expressed a desire for continuous police protection, with a substation located in the area. This may be infeasible at the present time due to a lack of funds. However, it may be feasible to extend the cooperative agreement between the County and Green Mountain Falls to share the existing facility in the Town. Although the Green Mountain Falls facility is not centrally located within the planning area, this would at least provide continuous police protection.

The Sheriff's Department has no facilities in Ute Pass. The Green Mountain Falls Marshal office is located at Ute Pass Avenue and Foster Avenue. The building, although small and in fair to poor condition, is adequate at the present time. However, at some point in the future, additional space may be

needed. Two options were recommended in the Town's Comprehensive Plan. One option is to include space in the new Town Hall. The other option is to utilize the old Town Hall once the new Hall is constructed. If a joint facility is not possible, a site with a central location should be considered for the Sheriff's Department substation such as near the fire station in Chipita Park.

### Fire Protection

Fire protection in the planning area is provided by two fire protection districts. The Green Mountain Falls/Chipita Park Fire Protection District (F.P.D.) serves most of the western highway corridor including Green Mountain Falls and Chipita Park. The Cascade Fire Protection District (F.P.D.) serves the remainder of the eastern corridor.

Both fire protection districts operate as volunteer fire departments. The Green Mountain Falls/Chipita Park F.P.D. operates a central fire station in Green Mountain Falls on Ute Pass Avenue just south of Lake Gazebo. A small substation is located in Chipita Park on Chipita Park Road. Most of the equipment utilized by the district is stored at the main station in Green Mountain Falls. The Cascade F.P.D. operates a fire

station in Cascade on Severy Avenue. The facilities are in good structural condition and appropriately located. Response times are generally under two minutes to any point within the respective districts.

Water pressure for fire protection purposes often exceeds minimum standards. The location of fire hydrants throughout the planning area is adequate to serve existing developed areas. No hydrants are located northeast of U.S. 24, except in Cascade.

The provision of hydrants northeast of the highway is not possible at this time due to the absence of a public water system in the area. The service area of the proposed water treatment plant will provide water to most potentially developable areas.

Facility needs of both districts are minimal at the present time, although additional parking space is needed adjacent to the main fire station in Green Mountain Falls. The station is centrally located with respect to the service area, but station egress is problematic because of inadequate sight distances. Additionally, due to poor alignment of the Ute Pass Avenue and Hotel Street intersection, reconstruction of this curve was recommended in the Town's Comprehensive Plan.

All developed areas in Ute Pass are accessible by fire protection equipment. Dead-end streets, required to have a cul-de-sac with

a minimum radius of 55 feet to accommodate turning movements of fire equipment, are impractical in a mountain environment. Consequently, equipment is backed down dead-end roads. When the respective fire districts purchase equipment, these limitations are taken into consideration.

The service area of the Green Mountain Falls/Chipita Park F.P.D. should be expanded in the future to serve developable areas northeast of U.S. 24. Future development may also increase equipment needs to the point where additional space is needed. Expansion of the two main fire stations may be impractical at their existing locations. If space requirements increase to the point where additional space is needed, expansion of the Chipita Park substation is recommended. This would provide a centrally located facility for areas where development is most probable. This would also decrease capital construction costs for a new fire station in addition to providing a location for the Sheriff's Department substation. Although joint fire/police facilities are unsuitable for large urban areas where police administrative functions tend to conflict with fire operations, joint facilities function rather well in small areas.

The two fire protection districts in the planning area should consider consolidation. Capital equipment costs and operational and maintenance expenditures could be provided at improved economies of scale.

Furthermore, since each district now levies its own taxes, the combined purchasing power of the two districts, as opposed to two individual districts, would be considerably enhanced. For example, if an expensive capital equipment item were needed, the purchase may not have to be deferred due to funding shortages.

No major wildfires have recently occurred in Ute Pass. The Forest Service provides assistance when wildfires cannot be controlled by fire districts. It is important that development in high wildfire potential areas be examined to ensure adequate fire hydrant location, water pressure, accessibility, and retention of vegetative cover. Examination of the potential wildfire hazard and mitigation procedures during the County development review process is provided by County's Subdivision Regulations.

### Public Buildings

There are several public and semi-public buildings in the planning area. Present and future facility needs/problems are discussed hereinafter.

### Ute Pass Library

The Ute Pass Library is located on Severy Avenue in Cascade, across from the fire station. The library, situated in a small, two-level structure owned by School District 14, serves all residents of Ute Pass. The library is adequate to meet current demand, while the structure is in fair to good condition.

Future population growth naturally will affect library capacity. If population increases to the point where additional classroom space is needed at Ute Pass Elementary School, the School District may utilize the library, particularly if taxpayers elect not to fund construction of an addition. In this instance, the library would have to be relocated.

Increased population growth will also necessitate a greater demand for books, shelf and floor space, and staff offices. Although the basement currently is not used for library functions, this space may be needed in the future. Extensive remodeling may be necessary to provide proper structural spatial design for library operations. Adequate lighting would also be needed. Space requirements may increase to the point where the existing structure would be insufficient or where the costs of remodeling would be prohibitive. A new library facility, centrally located in the planning area, would then be needed.

Recommended standards of the American Library Association indicate that a library serving a population of 5,000 to 9,999 should maintain a collection of 15,000 volumes plus two volumes per capita for population in excess of 5,000. Using this standard, the Ute Pass Library should maintain 13,000 to 15,000 volumes to serve a medium projected population level of 4,940 by the year 2000. Shelving space to accommodate these volumes is estimated at 1,600 to 2,000 linear feet. Floor space needed to shelve books is estimated at 1,300 to 1,600 square feet, and reader space floor area is estimated at 500 to 700 square feet. Additional floor area needed for staff work space, a circulation desk, mechanical rooms, supply storage and other functions are estimated at 1,500 square feet.

### Ute Pass Museum

The Ute Pass Historical Society owns and operates a museum on Oak Street across from the Town Hall in Green Mountain Falls. The historically significant log structure contains exhibits depicting various historic aspects of the Town and Ute Pass. Although small, the building is adequate at the present time.

Although the Historical Society owns the museum structure, the lot is leased. The lease is soon scheduled for renewal, however, it may not be renewed by the property owners. If this occurs, a new museum site could be provided in several ways. One

option would be to move the structure to a new site. A suitable site would be near the proposed Town Hall. Another option would be to provide space in the new Town Hall. Obviously, this may not be desirable if the Historical Society wishes to remain in the old log structure. Another option would be to relocate the museum next to the existing Town Hall or to purchase the existing museum site and relocate the Town Hall next to the museum. In either situation, additional museum space could be obtained by using the existing Town Hall.

### Post Office

The Postal Service operates two post offices in the planning area; one in Green Mountain Falls and the other in Cascade. Both facilities are in good structural condition and adequate for present needs.

Population increases will result in service to more residents and an increase in the volume of mail. Additional space may be required at both facilities to accommodate the volume increase. Land adjacent to the facilities would provide only limited space for expansion. With increasing operating costs, the Postal Service may determine that only one facility is needed in Ute Pass. The Postal Service establishes new facilities in two

ways: construction of a self-owned building or procurement of a lease agreement. It is recommended that any new facility should be located on an arterial street to minimize the impacts to local streets and residential neighborhoods.

#### Community Buildings

In Ute Pass, two community buildings provide space for conducting meetings, social activities, and a variety of other activities. Marcroft Hall, located in Chipita Park, is owned by the Chipita Park Homeowners' Association and provides space for a number of association activities. The Sallie Bush Community Building in Green Mountain Falls serves a similar function, but is also available to the Town for meetings which require more space than that provided by the Town Hall. The facilities are in good structural condition.

#### Utilities

Adequate systems for water, sewer, electricity, and natural gas are basic needs required to support a population.

#### Water

Although the City of Colorado Springs supplies water to several communities in Ute Pass, essentially two different systems are operating in the area. An analysis of the two systems is provided below.

#### Green Mountain Falls and Chipita Park--

Water in Green Mountain Falls and Chipita Park is supplied by the City of Colorado Springs from its North Slope water system. Water is provided by the North and South Catamount Reservoirs and transmitted through a 24-inch pipeline adjacent to Crystal Creek. The water is disinfected at the chlorination facility at Mountain Avenue and Grant Street prior to entering the distribution system.

The water distribution systems are owned by the communities of Green Mountain Falls and Colorado Springs.

The existing distribution system was constructed in the 1880's to supply the area now occupied by the business district near Lake Gazebo. As the community expanded, larger mains were installed, with the backbone of the system being the 8-inch main extending from Catamount Creek along the upper edge of the Town, reducing to 6-inch, and finally terminating at the low point in the system near the lake in Chipita Park. In many instances, mains were installed without regard to property lines or street locations. The larger mains are cast iron, while the earlier mains were installed using lead joints. The system also has a few remaining dead ends which do not provide proper circulation and are

subject to freezing. Some mains do not have sufficient cover to prevent freezing. To reduce breakage, bleed-off points are located at a few points in the system. Water is bled at these points during winter months, resulting in some waste.

New residential construction in the upper elevations of both Green Mountain Falls and Chipita Park has resulted in water supply problems since some remaining small mains are connected to numerous house services. The north slope has adequate water volume and pressure, but service levels to individual residences are limited by inadequately sized mains at isolated locations in the distribution system.

Water consumption in the planning area is estimated at 125 gallons per capita per day (gpcpd). Accurate consumption figures are unavailable since some service connections are not unmetered. Systems operating on a flat rate basis typically are conducive to excessive and wasteful water usage. The bleeding of mains to prevent freezing in the winter accounts for some of this waste. Most connections in Chipita Park are metered and the City of Colorado Springs is continuing to install meters for the few remaining unmetered accounts in both Green Mountain Falls and Chipita Park.

#### Cascade--

Water in Cascade is provided by the Cascade Public Service Company. There are two sources of water supply: a connection to the Colorado Springs 20-inch North Slope Pipeline and a stream diversion on Cascade Creek. Both are located at the southwest edge of the community. Before entering the distribution system, water is chlorinated by passing through a booster pumping station. This station supplies water to the entire distribution system.

A ground storage reservoir is located east of the community. The reservoir is an 82,000 gallon steel structure buried to the roof, having a 16-foot sidewall. The overflow elevation is approximately 7,800 feet. A 25,000 gallon gunite reservoir at the North Pole comprises the remainder of the system storage. Due to pumping levels and the arrangement of the system, water is wasted once the reservoirs are filled. This unnecessary waste could be eliminated by installing altitude valves in the reservoir piping system.

Problems of the Cascade water plant are similar to those in Green Mountain Falls and Chipita Park. Water connections in Cascade are unmetered, and billing is on flat rate basis.

#### Proposed Improvements--

Another serious water system problem, in addition to insufficient main depths, inadequate

main sizes, dead-end lines, and high consumption, involves the quality of water introduced to the system. Reservoir water receives no treatment other than chlorination and occasionally violates State turbidity standards (turbidity is water that contains suspended sediment). The State has taken no official action to mandate treatment of water for the system, but such action appears inevitable. Anticipating such action, the City of Colorado Springs prepared a study detailing several alternatives for adequate water treatment and distribution in Ute Pass. The study concluded that the development of an area-wide water supply, as opposed to the present method of individual supplies for multiple contiguous communities, offers the advantage of scale construction and a significant savings in operation and maintenance costs. The plant would provide water to Green Mountain Falls and Chipita Park and, under various alternatives, Cascade and Manitou Springs. The recommended site for the treatment plant is situated east of Green Mountain Falls, adjacent to U.S. 24. The site, approximately 34 acres in size, has been acquired by the City of Colorado Springs.

Plant design capacity was based on projected population levels in the year 2000. The maximum daily consumption rate was estimated at 2.19 million gallons per day (mgd) for Green Mountain Falls, Chipita Park, and Cascade. Considering the need for expansion,

a plant design capacity of 2.0 mgd was recommended. The proposed plant site is at an elevation to serve most of the corridor by gravity. The plant also has the potential to supply Crystola with public water.

Distribution of water to the two systems was proposed by means of a 12-inch transmission main connected to distribution mains in each of the communities. Generally, the proposed transmission main would run along Mountain Road and Chipita Park Road. No transmission or distribution lines were proposed northeast of U.S. 24, but water could be provided to this area by additional mains extending under the highway in the vicinity of the proposed plant.

Pressures in the distribution system, ranging from 60 to 150 pounds per square inch (psi), would be sufficient for fire protection purposes.

Although the future of the treatment plant is uncertain at this time, the remainder of the water system needs improvement. These improvements should include replacing undersized mains, providing adequate cover over mains to prevent freezing, and looping systems to obtain adequate circulation. Due to topography, load distribution, and other factors distinct to the planning area, 4-inch mains would be considered adequate for short distances. The minimum size replacement main for longer distances should be 6 inches.

If the treatment plant is constructed, cooperation will also be essential to minimize the visual impacts of water and transmission lines extending downhill from the treatment plant. Adequate measures should be ensured to avoid another hillside scar such as that along Crystal Creek. It is also suggested that utilities be consolidated where possible in one utility easement to minimize potential visual effects.

#### Sanitary Sewer System

The treatment of sanitary wastes in the planning area is currently provided by individual septic systems. While this method of disposal was adequate in past years, the continued use of individual septic systems could result in serious water quality problems. Small scale variations in soil types, topography, water table, bedrock depth, and other factors can provide areas adequate for septic systems, yet, extreme care is necessary in siting and designing such systems. Inadequate installation can result in the failure of septic tanks and leaching fields with raw sewage surfacing on the ground. The City/County Health Department estimates that an average of 20 to 30 septic systems fail each year in Ute Pass. Septic system failure can result in the contamination of surface and groundwaters.

A water quality study, completed in 1976, determined that water in Fountain Creek violated A-1 standards with regard to fecal coliform.\* Stream and well monitoring was initiated, but no specific sources of pollution were identified. The study speculated that individual septic systems may be contributing to stream pollution as a result of system failures, the migration of intermittent springs, and seasonal high water tables. The influx of summer residents and tourists does appear to have a detrimental effect on water quality. This effect could increase over time as more residences are constructed or converted to year-round use. A central wastewater treatment facility was not recommended by the water quality study, but a program of periodic cleaning and inspection by the Health Department was recommended. The Pikes Peak Area Council of Governments has completed this program begun in 1981 with results to be published in mid-1982. The program was perceived as voluntary with costs incurred by PPACG.

\* A-1 standards for streams used in 1976 have been amended by the Water Quality Control Commission (WACC). Current standards for Fountain Creek between Crystola and Colorado Springs are:

Recreation, Class 2  
Cold Water Aquatic, Class 1  
Domestic Water Supply  
Agriculture

The 1978 and 1981 updates to the Areawide Water Quality Plan concluded that no major point source discharges existed within the Upper Fountain Management Area. Water quality problems, the study surmised, were effectuated by non-point discharge sources such as riding stables and individual septic system seepage. Based on this information, this report recommends that individual septic systems should be restricted to areas with slight soil limitations, while existing systems should be properly maintained.

Existing residential land uses in the planning area exhibit an overall low density, however, several areas exist where dwelling units are located on small lots. This situation contributes to the potential pollution problem since inadequate drain fields may be available for proper absorption of wastes. In some cases, septic systems are located too close to wells. In areas not served by public water, common septic systems and self-contained disposal units, approved by the State and County Health Departments, should be encouraged in future projects.

#### Storm Drainage

Storm water runoff is one of the factors contributing to poor street conditions in some areas (see Transportation Chapter). Existing storm water drainage facilities are limited and inadequately and/or improperly maintained. A system of roadside ditches, culverts, and drainage

easements is needed in order to mitigate existing drainage problems. Natural drainageways should be utilized to the degree possible. Adequate drainage facilities and erosion control measures are required by County Subdivision Regulations.

#### Electrical Power

Electricity in the planning area is supplied from two sources. The City of Colorado Springs supplies power to a majority of the U.S. 24 Corridor area extending from Cascade to Lofland Gulch, including the Town of Green Mountain Falls. Intermountain Rural Electric Association supplies power to the remainder of the western corridor area as well as the northern portion of the planning area.

Existing supplies and transmission facilities are adequate to meet present and future demands. The provision of distribution facilities to undeveloped areas should be carefully reviewed for their impact on the visual environment. Power lines typically are installed above-ground and tend to detract from the visual environment. The placement of power lines underground should be encouraged for all new development where economically feasible (see Design Guideline 2 on page 28).

Unfortunately, many existing areas are served by above-ground power lines. These lines tend to be more noticeable from the U.S. 24 Corridor since they lie downhill where a viewer's attention is typically focussed. Suppliers will not assume sole fiscal responsibility for placing power lines underground. Special assessments or other cooperative agreements between the suppliers and consumers should be investigated. Costs of placing lines underground in new development will be incurred by the developer and, ultimately, by the homeowner.

Future development should be encouraged to utilize construction and/or site design techniques which conserve energy or utilize alternative sources of energy (for prototype wind control measures, refer to Design Guideline 5). Much of the vacant, developable land in the planning area is located on south-facing slopes northeast of U.S. 24. The solar gain of these slopes makes them ideal for utilizing active or passive solar collection systems. Considerations for passive solar design are provided in Design Guideline 6.

#### Natural Gas

Natural gas in the planning area is supplied by Peoples Natural Gas Company. Supplies and distribution facilities are adequate for present and future demand. Construction which promotes

energy conservation or alternative energy sources is encouraged by the El Paso County Land Development Code.

#### Solid Waste Disposal

Solid waste disposal currently is provided by two private companies which dispose of the waste outside the area. Solid waste collection fees are quite high since no one collector has sufficient pick-ups to recoup overhead at a reasonable cost to the customer. Ute Pass residents, at citizen participation meetings, expressed a desire for no sanitary landfills in the area since geologic and hydrologic conditions are unsuitable.

#### Demand versus Capacity

The demand for public and public related services and facilities created by future development should not exceed the existing capacity to provide such service or facility. Approval of new developments in Ute Pass should be contingent upon demonstration of this policy. In addition, priority should be given to developments in proximity to existing developed areas with adequate public facilities and services. It is also recommended that El Paso County develop a monitoring system whereby public capital facility needs are identified and planned for in advance of development.

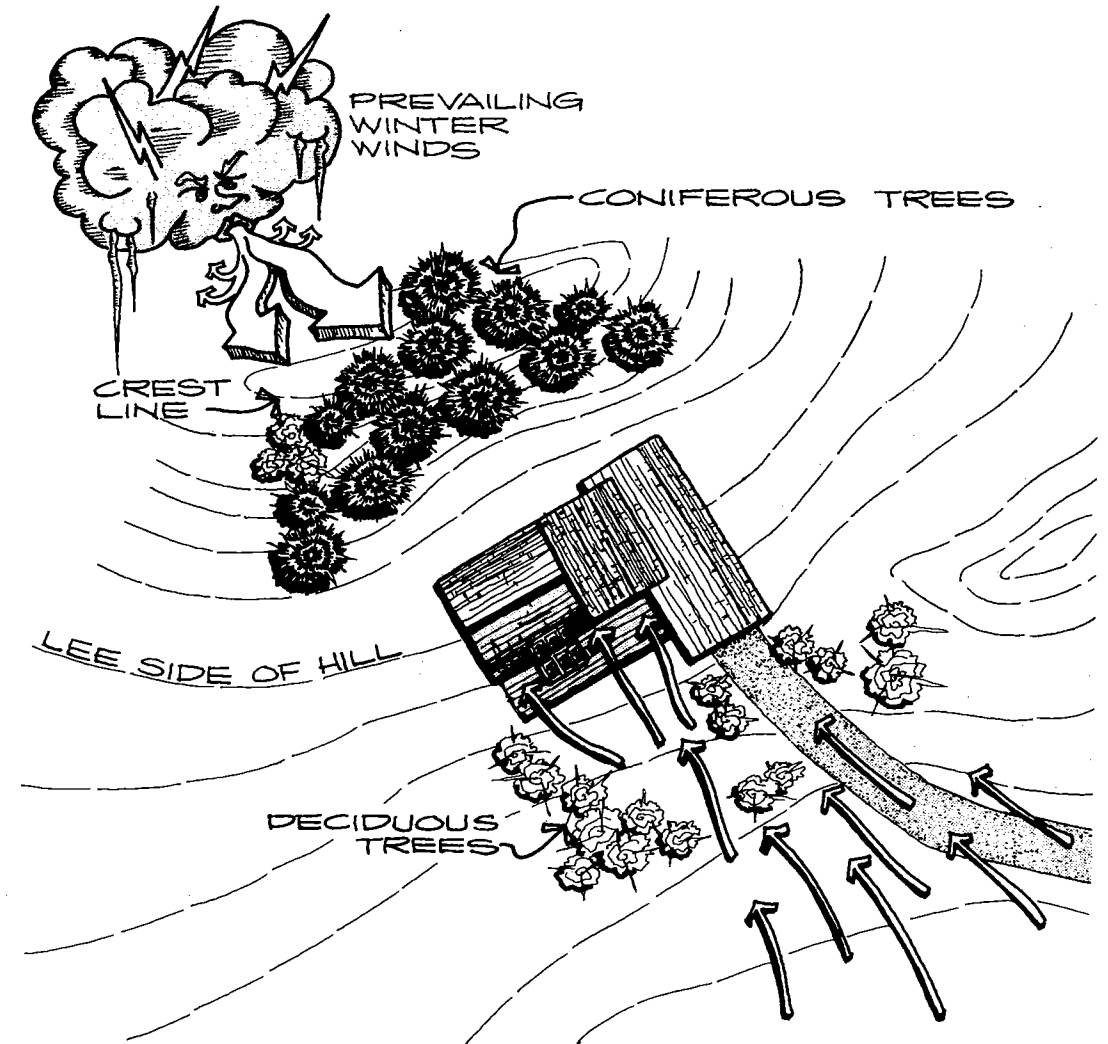
Design Guideline 5

Wind Control



- WIND DIRECTION IN UTE PASS IS UNPREDICTABLE. IN MOST CASES, PREVAILING WINDS (DRAINAGE WINDS) ARE FROM THE NORTHWEST.
- CREST LINES ARE COLD AND WINDY UNLESS PROTECTED BY WIND BREAKS.
- LOCATE STRUCTURE ON LEE SIDE OF HILL IN THE WIND SHADOW.
- CONIFEROUS TREES THAT BRANCH TO THE GROUND ARE GENERALLY THE MOST EFFECTIVE YEAR-ROUND PLANTS FOR WIND CONTROL.

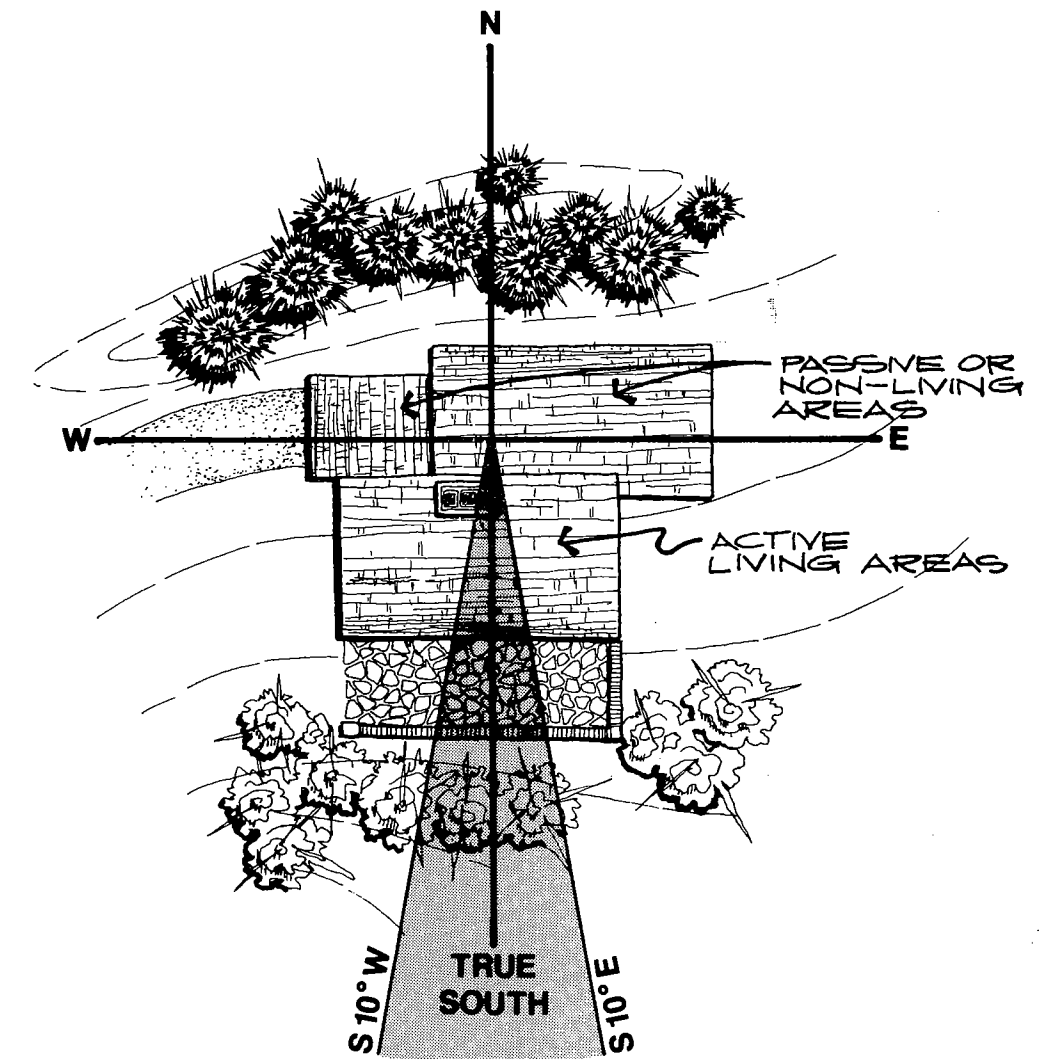
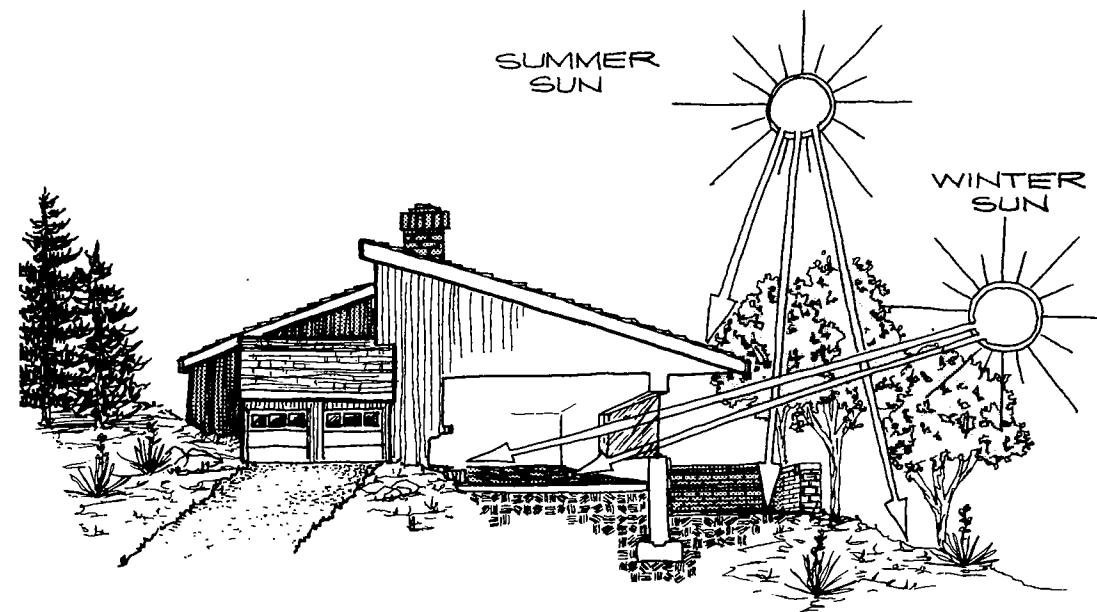
- COOLER WINDS FLOW DOWNHILL AT NIGHT. LOCATE CONIFERS AND BERMS UPSLOPE ON NORTH AND WEST SIDES OF STRUCTURE TO DETER WINTER WINDS.
- DENSE SCREEN PLANTINGS (SPRUCE OR FIR) REDUCE WIND VELOCITIES BY APPROXIMATELY 75 PERCENT.
- EFFECTIVE WIND CONTROL CAN REDUCE HOME HEATING COSTS.





## Design Guideline 6

## Passive Solar



- ORIENT STRUCTURE WITHIN 10° EAST OR WEST OF TRUE SOUTH FOR MAXIMUM SOLAR GAIN.
- SOUTHWEST-FACING SLOPES NORTHWEST OF HIGHWAY 24 HAVE THE HIGHEST POTENTIAL FOR SOLAR ORIENTATION.
- LOCATE ACTIVE LIVING AREAS TO THE SOUTH.
- LOCATE GARAGES AND OTHER NON-LIVING AREAS TO THE NORTH AND WEST.
- USE MASONRY WALLS AND FLOORS ON SOUTH SIDE FOR INCREASED ABSORPTION OF RADIATION DURING WINTER MONTHS.
- PLACE DECIDUOUS TREES ON SOUTHEAST AND SOUTHWEST SIDES TO ALLOW SOLAR GAIN IN WINTER AND PROVIDE SHADE IN SUMMER.
- UTILIZE DARKER COLORS WHICH ABSORB RADIATION.
- MINIMIZE GLASS ON NORTH SIDE OF STRUCTURE.
- PROPERLY DESIGNED OVERHANGS SHIELD WALLS AND INTERIORS FROM SUMMER SUN AND ALLOW WINTER SUN INTO STRUCTURE.
- STRUCTURES SHOULD BE DESIGNED SO AS TO NOT AFFECT THE SOLAR ACCESS OF NEIGHBORING PROPERTIES.

# Transportation

# 6

## Introduction

The movement of people and goods to, from, or within an area probably has more influence upon the way the area will develop than any other factor. The transportation system not only influences the location and type of development, but dictates land use intensity to a certain extent. The purpose of this chapter is to analyze the existing transportation network in the planning area and examine problems and inadequacies of the system. Potentials for providing alternative modes of transportation will also be examined. Since the street system is the major transportation network in the planning area, it will be initially discussed.

## Streets and Highways

Streets are usually classified according to the intended function of the particular street. The functional classification provides for the logical and efficient movement of traffic into and through the area. Classifications normally used are arterials, collectors, and local streets.

Arterial streets carry relatively high speed through traffic, accommodate traffic moving considerable distances within an area, and accommodate traffic moving into and out of an area. These types of streets are designed to move traffic rather than to access specific land uses. The principal function of collector streets is to gather traffic from local or residential streets and carry it to the arterial system.

Collector streets, serving neighborhood activities such as schools, churches, and parks, should be designed so they serve minor traffic generating activities without carrying through traffic. Adequate space for two lanes of moving traffic should be available at all times. Local or residential streets are those streets with the primary function of providing access to abutting properties. Through-traffic movements usually are discouraged on local streets.

The only classified roadway in the planning area is U.S. 24. The four-lane divided highway is classified as a principal arterial, providing through traffic movement between Colorado Springs and Woodland Park. The highway also serves as the major access route to Ute Pass.

Although other roads are unclassified, their function is evident from observing traffic movements and travel patterns. Chipita Park Road, formerly old U.S. 4, was the principal route through the area prior to construction of U.S. 24. It now serves as the major access route from U.S. 24 to residential areas in Cascade, Chipita Park, and Green Mountain Falls. Chipita Park Road also provides intercommunity travel between Green Mountain Falls and Cascade, although this function is secondary to its primary function of accessing adjacent land uses. Other roads, providing access from residential areas to Chipita Park Road, function as collectors.

Southwest of U.S. 24, development is served by an adequate street network. The street system in Cascade northeast of U.S. 24 is less well defined. The frontage road provides access from U.S. 24, functioning as a minor arterial. Serving as collectors, Pyramid Mountain Road, Hagerman Avenue, Topeka Avenue, and Severy Avenue distribute traffic from residential areas to the frontage road. Scattered residential developments northeast of U.S. 24 and west of Cascade are served by both public and private roads.

An inadequate street system and other factors such as utility availability and slopes have contributed to sparse development northeast of the highway.

## Traffic Volumes

Average Daily Traffic (ADT) volumes are illustrated on the Existing Street Systems Map (see page 47). The illustrated figures are two-way average daily traffic counts obtained by the Colorado Department of Highways and the El Paso County Department of Transportation. The counts for U.S. 24 were obtained in 1978. 1980 counts were expected to be slightly higher. The second counts are estimated peak daily counts for U.S. 24 which occurred during the months of July and August, 1978. The figures for county roads are 1980 counts.

As might be expected, the highest traffic counts were recorded on U.S. 24. Southeast and northwest of Cascade, ADT's of 13,050 and 10,100 were recorded respectively, indicating a decrease in volume of 2,950 vehicles at Cascade. Counts on U.S. 24 decreased to 9,850 ADT at Green Mountain Falls and 8,350 ADT west of Crystola. Overall, traffic on

U.S. 24 decreased by 4,700 vehicles between Cascade and Crystola, a volume reduction of 36 percent. Viewed from another perspective, traffic volume from Crystola to Cascade increased by 56 percent. These figures indicate that between one-third and one-half of the traffic on U.S. 24 have origins or destinations within the planning area. This substantiates that the highway not only functions as a major through traffic route but as an access route to the Ute Pass residential areas.

The peak ADT on U.S. 24 increased by approximately one-half during the summer months. This increase can be attributed to summer residents of the area and the tourism industry.

Much of the decrease in traffic on U.S. 24 northwest of Cascade can be attributed to Chipita Park Road. A majority of the traffic is presumably headed to and from Santa's Workshop and the Pikes Peak Toll Road. Traffic counts on Chipita Park Road show a significant decrease in volume from 2,291 to 980 after the Toll Road exit. Presumably, this section of Chipita Park Road primarily provides access to the Toll Road as well as Cascade, but serves a limited function in providing access to Chipita Park. Most motorists use the Chipita Park exit rather than the Cascade exit as revealed by the traffic counts on Chipita Park Road in the vicinity of the elementary school.

In essence, it is assumed motorists are using the Chipita Park exit because of its convenience and land use accessibility.

Traffic on Chipita Park Road increased from 1,991 vehicles west of the elementary school to 2,412 vehicles east of the Green Mountain Falls' corporate limits. The conclusion can be drawn that Green Mountain Falls is a point of origin and destination for many daily trips generated by Chipita Park residents.

#### Projected Traffic Volumes

An increase in population may result in an increase in automobile traffic. Traffic volumes may increase to the point where additional roadway capacity is needed or where present problems will be magnified. Therefore, it is desirable to project future traffic volumes.

Traffic volumes usually increase in proportion to population growth, but at a slightly higher rate. Trip Generation, published by the Institute of Transportation Engineers, reports an average of 10 vehicle trips per day to or from a single family dwelling unit based on a range of 4.3 to 21.9 trips per unit per day. It should be noted that a trip is defined as a one-way movement from the point of origin to the point of destination. The presence of summer homes in Ute Pass tends to lower the annual average, but not the peak trip generation rates. Furthermore, some short-distance trips among

origins and destinations in the planning area would not involve travel along U.S. 24. Given an increase in the number of dwelling units, the additional traffic generated can be estimated by multiplying the number of dwelling units by the trip generation rate.

A medium range population increase of approximately 1,600 persons is projected for Ute Pass by the year 2000. This population increase would imply an additional 667 dwelling units, assuming the estimated 1980 median of 2.4 persons per dwelling unit.

Applying a current trip generation rate of 4 trips per dwelling unit yields 2,668 total trips generated per day.\*

\* This figure was arrived at by subtracting the traffic counts at either end of the corridor (13,050 - 8,350 = 4,700) and dividing this by the estimated number of dwelling units. The number of dwelling units was estimated by dividing the estimated 1980 population by the estimated 1980 median persons per dwelling unit (2,775 - 2.4 = 1,156). 4,700 - 1,156 = 4.1. It should be pointed out that the estimated current trip generation rate of 4 is lower than the national average. This is due to the fact that a number of vacant dwelling units (summer homes) were included in the computation.

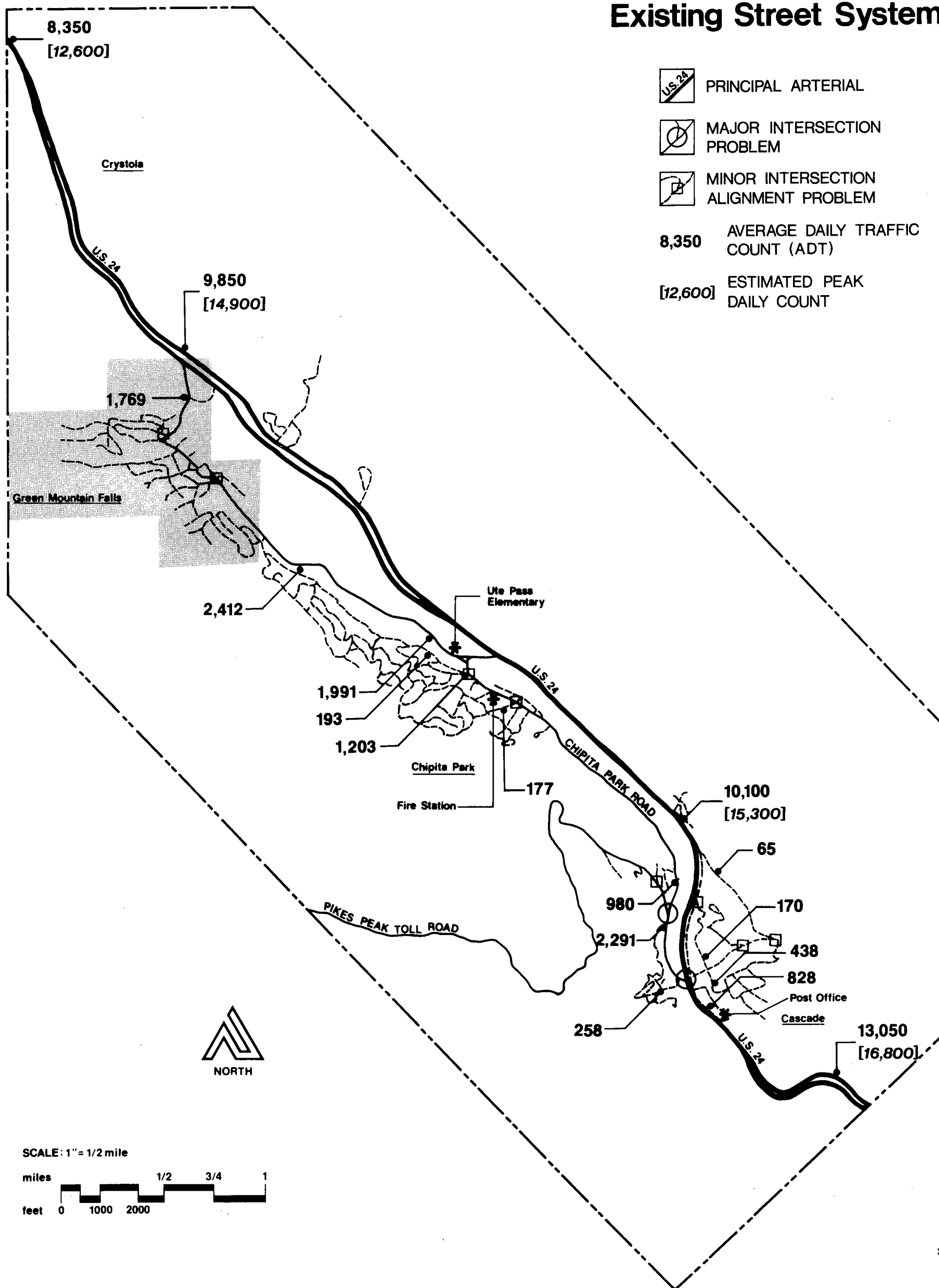
Assuming no major employment or shopping opportunities will locate in the Pass, the projected volume of 2,668 additional trips by the year 2000 would be primarily accommodated by U.S. 24.

In addition, the population of Woodland Park is projected by the PPACG to increase from 2,630 in 1980 to 6,950 by the year 2000. This is a projected increase of 4,320 persons, or 164 percent. An increase in traffic of 175 percent is projected with this increase in population.

Applying this percentage increase to the daily traffic counts at either end of the corridor yields estimated counts of 14,610 west of Crystola and 22,840 southeast of Cascade. Adding the projected traffic volume generated by Ute Pass residents to the estimated volume southeast of Cascade produces a total estimated daily traffic count of 27,360. This assumes that all trips generated by Woodland Park and Ute Pass residents would have origins or destinations in Colorado Springs. It is reasonable to expect traffic to increase on U.S. 24 to approximately 20,000 to 22,000 vehicles per day near Cascade.

Ute Pass Corridor, El Paso County, Colorado

# Existing Street System



Based on a roadway capacity analysis, it can be concluded that U.S. 24 has sufficient capacity to accommodate projected design hour volumes (dhv) by the year 2000. The analysis did not include intersections where modifications such as the installation of traffic control devices or reconstruction could affect future traffic volumes on the highway.

Traffic volumes are also expected to increase on other roads in the planning area, but proportionately the increases should not be as significant as on U.S. 24. Where existing roads serve limited development, the increases will be substantial because of present low volumes. Traffic on Chipita Park Road is not expected to increase substantially since the majority of future development is projected to occur northeast of U.S. 24. The road will have sufficient capacity to accommodate the anticipated increase in traffic.

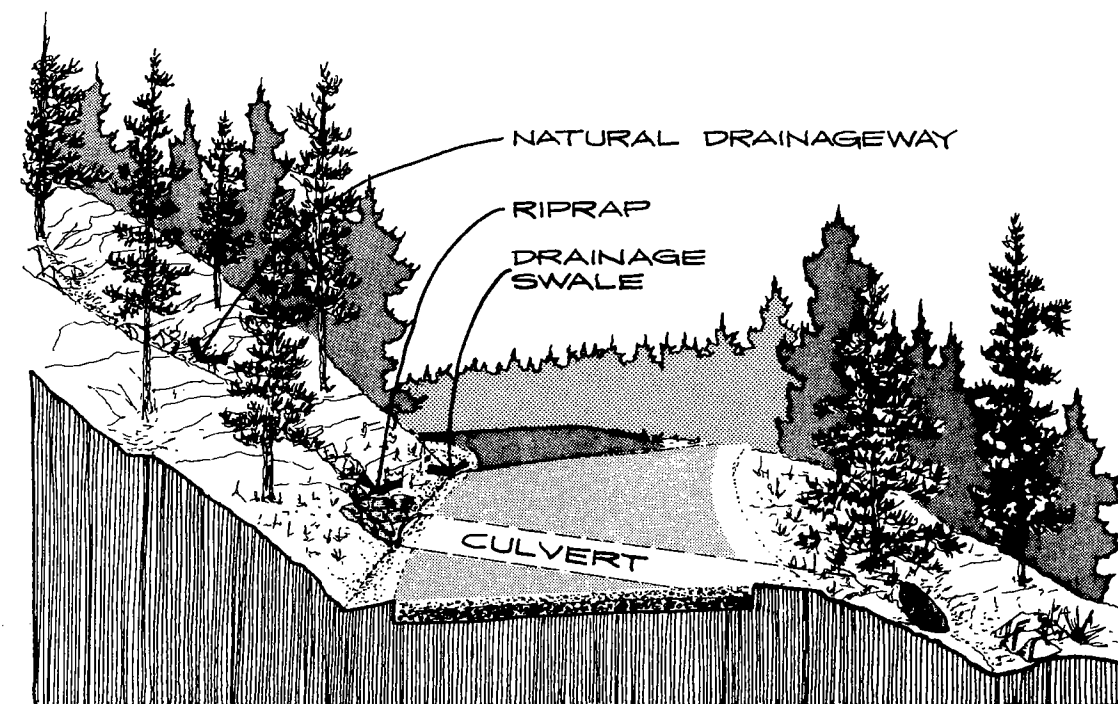
#### Street Conditions

The street pattern in Ute Pass is characterized by a system of curvilinear streets. Some streets, such as Fountain Road and Mountain Road, conform to area topography, but many streets have been

constructed perpendicular to contour lines. Some street grades approach 30 percent which exceeds the maximum grade of 12% at a design speed of 30 MPH and a critical upgrade length of 200 feet. A majority of the streets are surfaced with material other than natural material (generally decomposed granite). Steep side slope cuts with little or no vegetative cover convey a considerable amount of water runoff to roadway surfaces. Inadequate provisions for the drainage of this water has resulted in excessive erosion along the sides of and across streets. The combination of steep grades, road base depth reductions, and the need for drainage ditch improvements have resulted in poor street conditions in some areas. Design Guideline 7 outlines some basic principles for mountain road design.

#### Design Guideline 7

##### Mountain Road



- ALIGNING ROAD WITH TOPOGRAPHY AVOIDS EXCESSIVE GRADES AND DRAINAGE PROBLEMS.
- REVEGETATE ROAD CUTS WHERE POSSIBLE TO PROVIDE NATURAL SOIL EROSION CONTROL, MINIMIZE RUNOFF AND SILTATION, AND REDUCE VISUAL IMPACT.
- SLOPE ROADBED TO HILLSIDE.
- UTILIZE NATURAL DRAINAGEWAYS TO CONVEY RUNOFF; ROADSIDE SWALES CONSTRUCTED ON THE UPHILL SIDE SHOULD COLLECT RUNOFF FROM ROAD SURFACE.

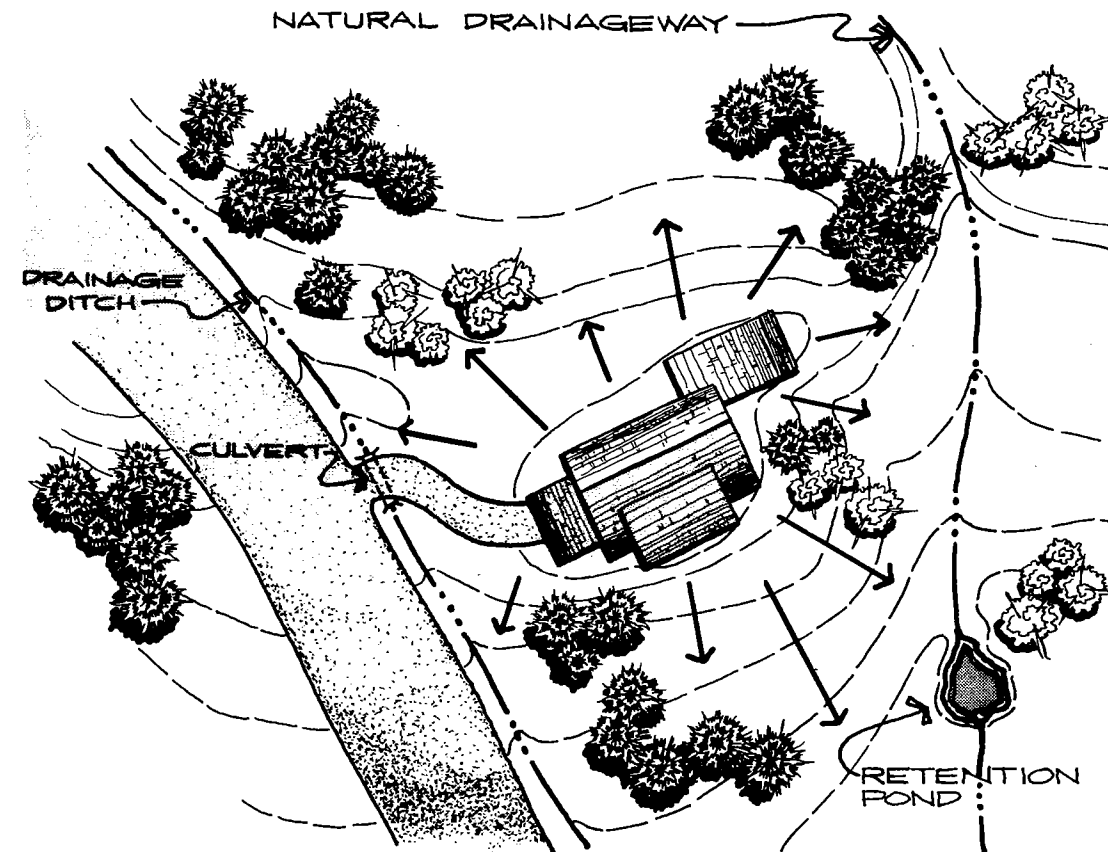
The key to improving street conditions is the construction of an adequate drainage system. When roadways are parallel to contour lines, water should be diverted by constructing a system of roadside ditches and cross culverts which empty into natural drainageways. Cut slopes, where possible, should be revegetated to minimize soil erosion and sedimentation and maximize runoff control. Where extremely unstable soils exist or other conditions warrant, the construction of retaining walls or terracing cut slopes may also reduce soil erosion.

Culverts should be installed on streets running parallel to contours in order to prevent runoff being intercepted by these streets and carried to streets running perpendicular to contours. This will assist in mitigating road erosion where cross culverts are needed. When culverts are installed, inlets and outlets should be protected. Maintenance of culvert inlets is important to keep the drainage system operating properly.

Natural drainageways should be utilized where possible to convey runoff. Where runoff is diverted from its historical course to other than natural drainageways, drainage easements should be obtained across private property. Considerations for effective site drainage are offered in Design Guideline 8. Drainage characteristics will vary from site to site.

Design Guideline 8

Site Drainage



- RETAIN EXISTING VEGETATION TO MINIMIZE SOIL EROSION, ABSORB RUNOFF, AND PRESERVE SITE CHARACTER.
- POST-DEVELOPMENT DRAINAGE SHOULD BE HELD TO PRE-DEVELOPMENT RATES.
- LAND SHOULD SLOPE AWAY FROM THE STRUCTURE IN ALL DIRECTIONS CONVEYING RUNOFF TO NATURAL DRAINAGES, DRAINAGE EASEMENTS, AND ROADSIDE DITCHES.
- DOWNSPOILTS SHOULD BE DIRECTED TOWARD VEGETATED AREAS RATHER THAN IMPERVIOUS SURFACES.

Major Street Problems

In Ute Pass, several problems exist with respect to street rights-of-way and alignments. Street rights-of-way range from 40 to 60 feet in width with the exception of 80 to 100 foot wide rights-of-way in downtown Green Mountain Falls. Most existing developed streets have dedicated rights-of-way.

Existing rights-of-way are of sufficient width to accommodate two travel lanes plus drainage improvements with the exception of areas with steep grades and side slopes. However, some streets have been constructed at widths which allow for only one travel lane and several structures and other appurtenances. The exact location of rights-of-way should be determined prior to undertaking drainage or street improvements.

In some locations, developed streets extend outside right-of-way lines platted and dedicated years ago. The streets were constructed in this manner because the dedicated rights-of-way do not conform to natural topographic features and, in some cases, extend up undesirable grades. These rights-of-way could be vacated, sold, or exchanged for other rights-of-way. In some areas, they could also be used for drainage easements or trails.

Upon approval by the County Planning Commission and Board of County Commissioners, private roads are permitted in the R-3 and R-4 zones, according to County Development Code. Some private roads, non-conforming to the Subdivision Regulations, exist in the R-T zone, particularly in sparsely populated areas northeast of U.S. 24. While the Subdivision Regulations suggest that private roads are better suited to Planned Unit Developments, they may also be preferable in areas posing environmental conditions such as unstable slopes, dense vegetative stands, and unique natural drainageways.

Other major street problems are related to alignment and intersection configurations which are illustrated on the Existing Street System Map. The following analysis examines these problems while evaluating alternative solutions. In some cases, the alternatives proved infeasible.

The most critical problem area at present is the U.S. 24/Chipita Park Road intersection in Cascade. This "T" intersection with Chipita Park Road dead-ends at U.S. 24. Access to northwest-bound and southeast-bound U.S. 24 is provided for traffic moving in both directions. A frontage road on the southwest side of the highway provides access to highway use north and south of Chipita Park Road. Access to the

northeast of U.S. 24 increases the number of turning movements required to travel from the southwest side of Cascade to the northeast side. Access from the highway to the northeastern portion of Cascade is provided at Severy Avenue and at a point near the post office. Both of these roads provide access to the frontage road. The access road at Severy Avenue provides access only to northwest-bound U.S. 24, while the road near the post office provides access to and from both northwest-bound and southeast-bound U.S. 24. As a result, motorists traveling from the southwestern portion to the northeastern portion of Cascade must go from Chipita Park Road to southeast-bound U.S. 24, down U.S. 24 for a distance of approximately 1,500 feet, turn left, and exit onto the frontage road near the post office. Movement from the northeastern to the southwestern portion of Cascade is more convenient, but could represent a potential future problem with increased congestion. Motorists must enter northwest-bound U.S. 24 at Severy Avenue, travel approximately 700 feet on the highway while crossing two lanes of traffic and turn left at Chipita Park Road.

One alternative for providing access across U.S. 24 would be where Chipita Park Road aligns with Topeka Avenue. However, the grade at Topeka Avenue is such that it would be very difficult and expensive to extend to the

highway. When the highway was constructed, access to Topeka Avenue from the highway was not provided for this reason.

One alternative for realigning the Chipita Park Road/Topeka Avenue intersection is to reconstruct Chipita Park Road along the existing frontage road southwest of U.S. 24. The intersection could then align with Severy Avenue or the access point near the post office. However, realignment at Severy Avenue might make access to the 7-11 Store difficult since the existing access point is located where Chipita Park Road would need to be constructed to align with Severy Avenue. The store access should not channel traffic directly to the intersection. The remainder of the frontage road further complicates the intersection alignment. In essence, reconstructing the intersection near the post office would circumvent these two problems, but the realignment may not be any more convenient than the existing situation.

It is recommended that an analysis be conducted to determine the public benefits/costs ratio associated with realignment of this intersection. The need for a traffic signal has been examined by the Colorado Department of Highways who is responsible for U.S. and Interstate highways located in the State. The Department found that traffic accidents did not warrant signalization of the intersection. The

Department did indicate, however, that flashing lights could be installed if associated electricity costs would be incurred by local residents. Although this action does not address the source of the problem, it would alert motorists to the problem intersection.

Another problem intersection is the Chipita Park Road/Pikes Peak Toll Road intersection. The Toll Road rises steeply to the northwest at an angle of approximately 30 degrees from Chipita Park Road. Traffic on the Toll Road is given the right-of-way because of higher traffic volumes. Southeast-bound traffic on Chipita Park Road must stop at the intersection. Sight distances at this point are limited due to grade differential, vegetation and the angle at which the Toll Road intersects Chipita Park Road. Generally, streets should not intersect at angles more than 20 degrees from perpendicular in order to maintain adequate motorist visibility in all directions. While realignment represents the best method of mitigating the sight distance problem, this approach may be unfeasible due to steep slopes and the availability of additional right-of-way near the intersection. Relocating the Toll Road to another point on Chipita Park Road also appears unfeasible. Designating Chipita Park Road as a through street and moving the stop sign to the Toll

Road is one short-term alternative. Requiring motorists on the Toll Road to stop is preferable to the present situation since sight distances on the Toll Road are not as restricted. One drawback is the amount of traffic utilizing the Toll Road versus Chipita Park Road, especially during the summer tourist season. This alternative may also present a hazard by requiring motorists to stop at the base of a fairly steep road, especially with snow and ice buildup during the winter. Changing the stop sign on a seasonal basis is not recommended because motorists tend to respond to what they are used to, as opposed to what is actually there. Considering all of the alternatives, it appears the best solution at this time is to maintain the existing alignment and the location of the stop sign. Visibility for motorists on Chipita Park Road could be increased by cutting back the slope to the northwest of Chipita Park Road and removing vegetation where needed. Long-term solutions, as suggested, might include realignment of the intersection or relocation of the Toll Road entrance.

Several other intersections in the planning area exhibit poor intersection alignment. Most notable are: intersections along Chipita Park Road at Picaba Road, Uneda Road, and Fountain Road; intersections along Ute Pass Avenue (Chipita Park Road in Green Mountain Falls) at Hotel Street, Belvidere Avenue, and Olathe Avenue; and intersections of the frontage road with Pyramid Mountain Road and Hagerman Avenue in Cascade. In all cases, minor streets intersect the major streets at an angle greater than 20 degrees from perpendicular. Although this restricts visibility, a majority of these streets were constructed as such in order to maintain a proper grade at the intersection approach. While street realignment is not recommended at this time because of low traffic volumes and high costs, cutting back the slope to increase visibility is recommended. To preclude this problem in future developments, proposed streets should intersect at close to perpendicular angles, as required by the County Subdivision Regulations.

#### Major Street Plan

The classification of major streets in Ute Pass is shown on the Generalized Development Plan (see Executive Summary). These classifications were based on existing projected traffic volumes and anticipated street functions.

U.S. 24 is classified as a principal arterial, providing access to collector streets in the area and primary access through Ute Pass. The frontage road in northeastern Cascade is shown as a minor arterial. The frontage road provides access from U.S. 24 to residential areas in this portion of Cascade.

Proposed collector streets and their general alignment are also shown on the Generalized Development Plan. Several potentially developable areas currently do not have adequate access to meet future demands. New rights-of-way will be needed as these areas develop.

#### Hiking and Equestrian Trails

There are several hiking and equestrian trails in the planning area. The majority are located on Forest Service land. The Forest Service has indicated a desire to provide additional access routes into the National Forest. One particularly acute problem with existing and future trails is access across U.S. 24. Access across the highway corridor could be provided by utilizing existing concrete culverts

extending under the highway. Unfortunately, many of the culverts only extend under one portion of the highway; their exact locations are unknown at this time. It is recommended that an inventory of these culverts be undertaken in order to assess their suitability as routes linking trails to either side of the highway.

At the present time, a potential pedestrian/automobile conflict exists along Chipita Park Road. Children must walk along the shoulders of the road to school and are subjected to potential dangers. A separated walkway or trail should be provided to mitigate the problem.

Hiking and equestrian facilities should also be separated from automobile traffic to reduce inherent conflicts between pedestrians or riders and the automobile. Trails should link local activity areas such as parks, public facilities, and historic or natural points of interest. Future trails should link with proposed trails along Fountain Creek as discussed in the Green Mountain Falls Comprehensive Plan.

A system of trails is proposed that could provide alternatives to automobile travel in Ute



Pass. A trail along Fountain Creek is proposed as a pedestrian, equestrian, bike trail. Construction guidelines for developing trails are presented in

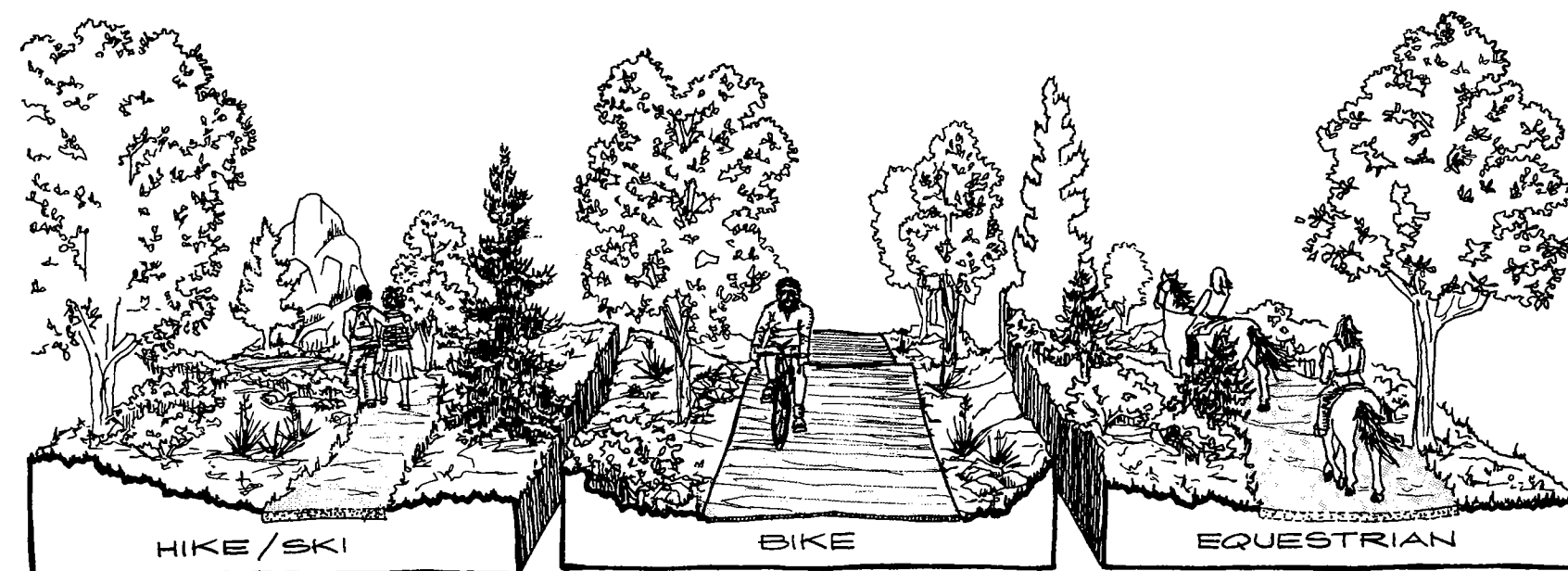
Design Guideline 9. As proposed, the trail would provide a safer route for children walking to Ute Pass Elementary School. The other proposed trails are hiking trails, primarily for recrea-

tional purposes. Some trails may be used by tourists as well as area residents. In order to facilitate their utilization by tourists and prevent problems of

parking on streets or private property, trailhead facilities should be developed. These facilities should consist of a small parking lot, restrooms, trash receptacles, and optional

Design Guideline 9

Trail System



MINIMUM WIDTH: 3'-0" TO 6'-0"  
 VERTICAL CLEARANCE: 7'-0" TO 8'-0"  
 MAXIMUM GRADE: 10% ; 5% FOR DISTANCES LONGER THAN 150 FEET  
 SURFACE: FIRM SOIL

MINIMUM WIDTH: 4'-0" FOR ONE-WAY, 8'-0" FOR TWO-WAY  
 VERTICAL CLEARANCE: 8'-3" TO 10'-0"  
 MAXIMUM GRADE: 5% FOR 1000 FEET, 10% FOR SHORT DISTANCES.  
 SURFACE: ASPHALT

MINIMUM WIDTH: 8'-0"  
 VERTICAL CLEARANCE: 9'-0" TO 10'-0"  
 MAXIMUM GRADE: 10% ; 5% FOR DISTANCES LONGER THAN 150 FEET  
 SURFACE: NATURAL SOILS

- LOCATE TRAILS WITHIN EXISTING RIGHTS-OF-WAY WHERE POSSIBLE.
- TRAIL SYSTEMS CAN ACT AS A BUFFER BETWEEN INCOMPATIBLE LAND USES.
- LINK TRAILS WITH SCHOOLS, PARKS, BUSINESSES, AND OTHER AREAS OF PUBLIC ACTIVITY.
- PROVIDE TRAIL SYSTEM FACILITIES DESIGNED FOR RECREATIONAL USE ON A YEAR-ROUND BASIS.
- TRAILS SHOULD OFFER BOTH ACTIVE AND PASSIVE RECREATIONAL OPPORTUNITIES.
- ALLOW FOR ADEQUATE SIGHT LINES AT INTERSECTIONS; AVOID ABRUPT GRADE AND ALIGNMENT CHANGES.
- FOR TRAIL USAGE BY THE HANDICAPPED, GRADES SHOULD NOT EXCEED 5% FOR SUSTAINED DISTANCES AND 8% FOR SHORT STRETCHES.
- DIRECT VIEWS ONTO MAJOR LANDMARKS FOR USER ORIENTATION.
- UTILIZE A COORDINATED SIGNAGE SYSTEM WITH CONSISTENT SHAPES, MATERIALS, AND LETTERING STYLES.

picnic facilities. One ideal location for such a facility is on the northeast side of U.S. 24, northwest of Sand Gulch where Pike National Forest borders the highway right-of-way.

### **Bikeways**

The provision of bikeways should receive careful consideration. Only a limited bikeway system is feasible due to topographic and surfacing constraints. Since many streets are steep and unsurfaced, they are not entirely suitable for use by bicyclists. It is suggested the trail proposed along Fountain Creek be designed to accommodate bicyclists in addition to hikers.

### **Public Transportation**

Local residents at public meetings have expressed a desire for a commuter bus which would provide daily service to Colorado Springs. In all probability, the feasibility of a regularly scheduled transit service is very doubtful due to the sparse population and excessive travel time to Colorado Springs. Service between Woodland Park and Colorado Springs was provided by a private company approximately two years ago, but was discontinued due to lack of patronage.

Should energy conditions change in the future, a feasibility study could be undertaken to determine the demand for a commuter service. The study should address, in addition to current demand, potential future demand, travel desires (to determine potential routes), alternatives for operation and administration of a system, and a realistic fare structure that would adequately cover operation and maintenance of such a system. Homeowners associations, Green Mountain Falls officials, and Woodland Park officials should combine efforts to study the potential for a commuter service. These entities should work jointly with the Colorado Springs Transit Authority to determine the feasibility of extending service to Ute Pass.

Until commuter services become feasible, residents are encouraged to form car or van pools. Possible parking facilities for car or van pools would include churches or other uses which operate exclusively at night or on weekends.

---



---

# Natural Environment

---



---

7

## Introduction

The relationship of the natural environment to land use and future development has become increasingly important to many mountain areas. 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. These conflicts can result in the irrevocable loss of significant natural resources. As a preliminary step in addressing the inevitable conflicts between growth and protection of the natural environment, an analysis was conducted of the important natural resources of Ute Pass. This analysis, used in conjunction with the development review process, can assist in reducing land use conflicts and achieving optimum utilization of the area's natural resources.

An inventory and analysis of the specific characteristics and features of the natural environment is important because it:

- identifies those factors which might constrain or enhance specific types of development. Areas suitable for development and areas with limited development potential are identified;
- increases awareness of potential problems resulting from land development and utilization of natural resources;
- indicates potential economic opportunities for utilization of natural resources.

## Topography

Topography refers to the "lay of the land" and includes the shapes and elevations of basic landforms and geomorphic features. Topography is an important planning tool in assessing the possible effects of urban development including runoff, soil erosion, and disruption to natural drainage patterns.

Topography varies considerably in the planning area. The Rampart Range and mountains at the base of Pikes Peak are the major topographic features of the area. Fountain Creek, separated by Rampart Range and Pikes Peak, has eroded a narrow valley measuring approximately one-half mile in width near Cascade and gradually widening toward Woodland Park. South of Cascade, elevations rise abruptly from Fountain Creek, creating a canyon approximately 300 to 400 feet in width.

Elevations approximately range from 6,600 feet at Manitou Springs to 11,000 feet in the southwest corner of the planning area. The area southwest of Fountain Creek exhibits high elevations and steep slopes. The Rampart Range northeast of Fountain Creek rises to elevations of 9,000 feet with gently rolling slopes at the summits. The northern half of the planning area is characterized by moderately level terrain dissected by numerous creeks. Elevation changes are abrupt adjacent to creeks.

Along U.S. 24, Fountain Creek, and other water bodies, slopes range from 1 percent to 15 percent. Slopes greater than 30 percent are characteristic of areas southwest of Fountain and along the Rampart Range, extending to the ridgelines.

## Soils

A soil analysis of structural conditions and material characteristics is important for effective land use planning and sound future growth. The kinds of soils provide valuable insight for certain land uses and aid in determining the best usage of those available lands. The following soil information is general in nature and will not specify individual site characteristics. Further in-depth analyses or special engineering studies will be needed to reveal the distinct soil properties found at a specific site. Three major geologic processes affect soil: erosion and sedimentation, mass wasting, and run-off. Development can accelerate these processes.

Soils are classified according to their physical characteristics or properties such as texture, color and permeability. These characteristics are important to assess the suitability of soils for development, particularly permeability and load-bearing capacity.

A soil survey was undertaken in Ute Pass by the Soil Conservation Service (SCS) in 1976. Soil profile characteristics were studied and compared; those with similar features were named Soil Series. Areas with similar soils were delineated on a map and referred to as soil map units. The terms, used in the table to indicate soil limitations for certain types of uses, are defined by the SCS as follows:

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

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

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

An analysis of the soil mapping units shows severe limitations for nearly all land use suitabilities such as building site development, sanitary facilities, construction materials, water management, recreational development, and wildfire habitats.

An analysis of the soil mapping units shows severe limitations for nearly all land use suitabilities such as building site development, sanitary facilities, construction materials, water management, recreational development, and wildfire habitats.

#### Surficial Deposits

A more accurate indication of development limitations can be made from an environmental and engineering geology study undertaken by El Paso County in 1977. The purpose of the study was to analyze geologic features/hazards and their implications to land use.

Table 13 summarizes the characteristics and limitations of each mapping unit utilized by the study. The developmental limitations are to a certain degree less severe than those identified by the SCS soil survey.

#### Water Resources

An understanding of the interrelations between underground water resources and surface development impacts is an important dimension of land use planning and public decision-making. The following paragraphs will highlight the major sources of surface and subsurface water (groundwater) in the Ute Pass Planning Area.

The major surface water features within the planning area are Fountain Creek, North Fork, Crystal Creek, Cascade Creek, French Creek, South Beaver Creek, Camp Creek, and Severy Creek. Stream gauging stations are presently located on some of these creeks. Discharge figures are given on Table 14. The flow of Crystal Creek has been substantially reduced with construction of the Crystal Creek Reservoir and installation of a water pipeline adjacent to the creek.

Other surface water features in the planning area include the man-made reservoirs supplying water to communities east of the mountains and to Ute Pass itself. The eight reservoirs located in the planning area have a combined area of approximately 1,120 acres. Other surface waters include seven man-made lakes within the Carrol Lakes area located on South Beaver Creek.

Conflicting information exists on the presence of ground water in Ute Pass. The Colorado Water Conservation Board reports that aquifers do not exist in the area. A groundwater recharge investigation, completed for the County, identifies a secondary bedrock aquifer that extends up the U.S. 24 Corridor. The aquifer has limited surface exposure and poor permeability. The aquifer, consequently, contains a minimal amount of water, resulting in low well yields.

The water table adjacent to area creeks is high, contributing to the flow of these creeks. High water tables are also present at the head and toe of alluvial fans, creating several springs where the water table intersects these deposits.

Table 13: Surficial Deposits

Map Unit Description and Physical Characteristics	Surface Drainage, Erodibility and Groundwater	Septic System Suitability	Foundation Stability	Potential Geologic Hazards	Known, Reported and Possible Resources
<b>Colluvium Precambrian Rocks</b> (Includes areas of bedrock) Silty to coarse-grained sand with cobbles and boulders derived from metamorphic and igneous rocks.	Infiltration: Moderate in colluvium and decomposed granite. Low in bedrock. Runoff: Moderate to rapid. Wells in fractured zones generally yield less than 10 gallons per minute.	Poor to fair in deeply weathered and decomposed granite. High risk of polluting adjacent ground water supplies.	Excellent except on steeper slopes.	Rockfall potential is common on steep slopes and cliffs. Local flash flooding and debris flows can occur in steep canyons.	Potential source of building stone.
<b>Alluvium</b> Silt, sand, gravel and boulders in the bed of streams, on valley floors and in the lowest terraces along streams.	Infiltration: Medium to high. Runoff: Moderate. Subject to stream scour and stream bank erosion. Water table may be permanently or seasonally within a few feet of surface.	Unsatisfactory, generally within or adjacent to waterway and in area of seasonal high ground water.	Poor, loose and erodible materials.	Deposits are subject to annual or periodic flooding. Low terrace banks may be undercut by stream erosion.	Source of sand and gravel.
<b>Alluvial Fan</b> Bouldery, cobbly and gravelly sand deposited at edge of large valleys by tributary streams from steeper slopes. Includes small active alluvial fans and old large alluvial fans along the mountain front and along Fountain Creek above Manitou Springs. Many old alluvial fans have been deeply dissected by modern streams.	Infiltration: Medium to high. Runoff: Moderate to low except during flooding. Low to moderate resistance to stream erosion in bouldery material; rapid in fine-grained materials. Water table may be near the surface at the head and toe of fan. Large fans along upper Fountain Creek may locally provide a limited supply of water to well.	May be suitable if sufficient fine materials are present and absence of high ground water.	Fair to good except on steep slopes.	Active fans are subject to frequent flooding, deposition of debris and frequent and rapid changes of channels.	Source of sand and gravel.
<b>Colluvium</b> Clayey or silty sand, locally with boulders, derived from in-place weathering of bedrock. In areas modified by slope wash.	Infiltration: Moderate. Runoff: Moderate. Moderate erodible by gullying and sheetwash.	Fair to good.	Good to Excellent Locally contains expansive clay.	May be subject to sheet wash. Locally may have a low to high swelling potential	May be used for fill material.
<b>Debris Fans</b> Fine to large bouldery material that is dumped by streams where the gradient flattens as the stream emerges from steep canyons.	Infiltration: Generally high. Runoff: High during high flow periods. Moderately to highly erodible by gully wash and stream scour.	Poor, Infiltration rates too high. May pollute ground water.	Fair to poor. Old dissected fans may be suitable. Channel of stream may abruptly change on active fans.	Periodic flooding and deposition of water entrained debris. Rapid change of stream channel may occur.	

SOURCE: Environmental and Engineering Geology Study, Charles Robinson and Associates, 1977.

**Wildlife**

Wildlife habitats of the following species exist within the planning area:

- Aberts Squirrel
- Elk
- Golden Eagle
- Beaver
- Band-tailed Pigeon
- Big Horn Sheep
- Prairie Dog
- Turkey
- Black Bear
- Blue Grouse
- Mule Deer
- Mountain Lion
- Prairie Falcon

Some species of indigenous wildlife do not cope well with urbanization. Yet, most species can co-exist with people, provided development is sensitive to the needs of wildlife. The County has had the foresight to incorporate wildlife habitat reports, which include impact areas and mitigation techniques, into the development review process.

Within the planning area, dominant plant types include the douglas fir, ponderosa pine, aspen, mountain shrub, mountain grassland, and mixed stands of coniferous trees.

Vegetation, a valuable natural resource, is important for many reasons including: the provision of wildlife habitats; the maintenance or enhancement of local microclimates; the conservation of water quantity and quality; the stabilization of slopes; the mitigation of soil erosion; the retention of run-off water; the improvement of visual quality; and the abatement of noise

through buffering. Design Guideline 10 illustrates how vegetation can be used as a screen in a site specific situation. Other outside storage areas are encouraged to follow similar screening practices.

The vegetative types and their general locations are as follows:

- Mountain Shrub - Principally located on south and southwest facing slopes.
- Douglas Fir - Predominant on north and east facing slopes at elevations of 6,000 to 10,500 feet.
- Ponderosa Pine - Principally found on south, southeast, and east facing slopes at elevations of 5,000 to 9,000 feet.
- Aspen - Predominant on north facing slopes adjacent to surface water at elevations of 7,000 to 10,000 feet.
- Spruce-Fir - Predominant on north and northwest facing slopes at elevations of 8,000 to 9,500 feet. Few areas of this vegetative type exist within the planning area.
- Lodgepole Pine - Predominantly on west and north facing slopes at elevations of 7,500 to 9,000 feet. This vegetation type is sparse in the planning area occurring primarily south of Fountain Creek.
- Mountain Grassland - Principally located in upland areas above moist meadows. Within the planning area, mountain grasslands are located adjacent to the summit of Bald Mountain.
- Aquatic - Located in bodies of water such as streams, ponds, and reservoirs at any elevation.

Plant types and locations can effect the occurrence and degree of wildfires. Wildfire hazard areas are discussed under Hazard Areas.

**Hazard Areas**

There are parts of the natural environment where the cause and effect relationships between human activity and the natural environment are reasonably direct, although not necessarily predictable. In certain instances, the most obvious relationships constitute natural hazards and may impose severe limitations or constraints on different types of development. A natural hazard can be viewed as a phenomenon with adverse consequences to public health, safety, or property. The inappropriate use of land in a natural hazard area may result in substantial social and economic costs. These unnecessary costs are reflected in high repair and maintenance costs for buildings, roads, utilities, and other structures. These costs, in turn, represent a drain on private and public monetary resources.

Within the planning area, there are several hazard areas that may have implications for future development. These hazard areas are illustrated on the opposite page and their implications for future development are discussed thereafter.

Table 14: Surface Water Resources

Streams	Average Annual Discharge (cfs)	
North Cascade Creek at Cascade	.94	
South Cascade Creek at Cascade	2.29	
French Creek Near Cascade	1.23	
Fountain Creek at Manitou	N.A.	
South Beaver Creek near Monument	6.2*	
Camp Creek near Manitou	.07*	
West Monument at U.S.A.F.A.	6.2	

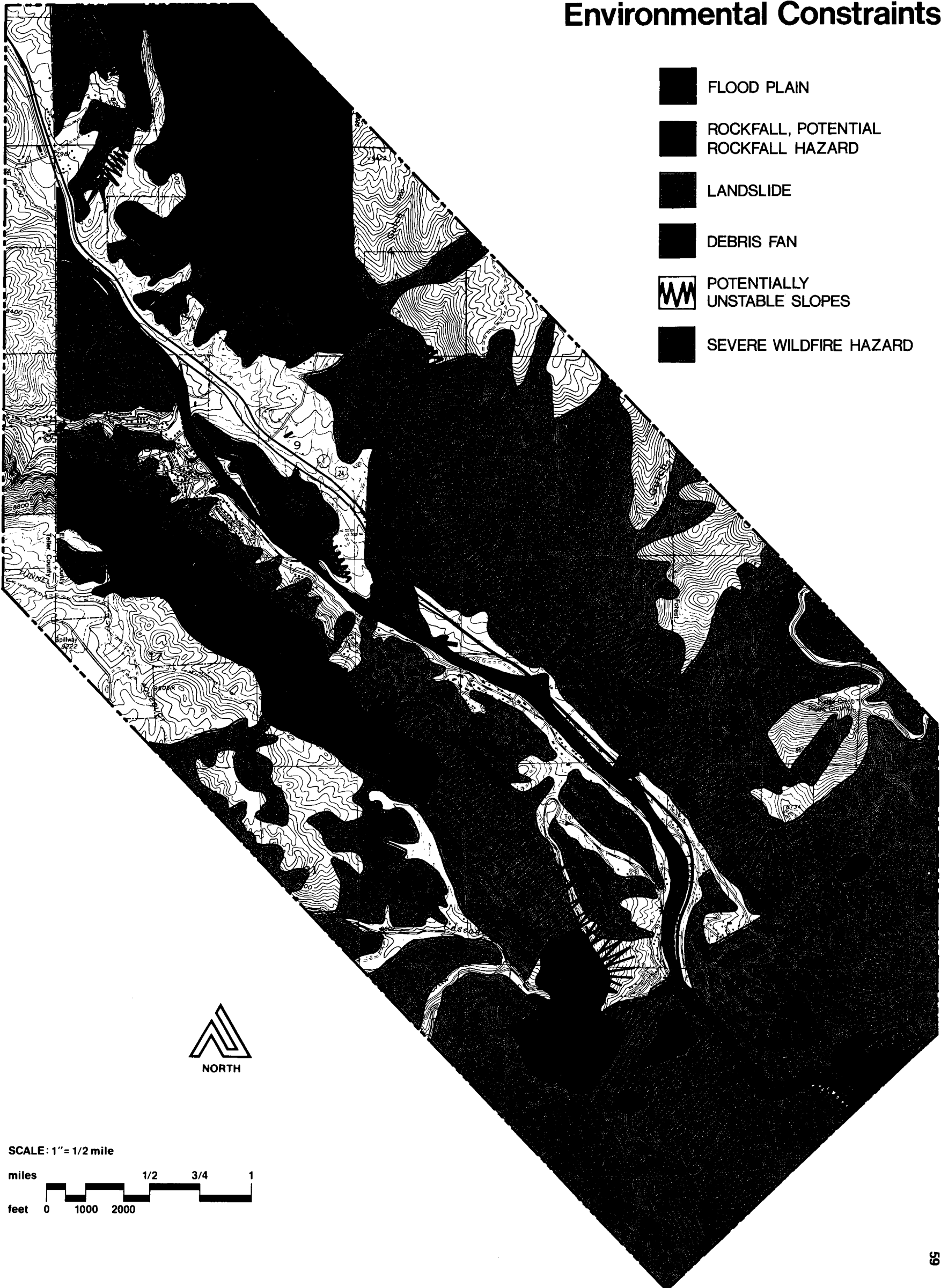
  







Reservoirs	Surface Area (Acres)	Storage Capacity (Acre-Feet)
Crystal Creek Reservoir	136	3,478
North Catamount Reservoir	269	12,029
South Catamount Reservoir	118	2,603
Manitou Reservoir	26	530
Palmer Reservoir	75	116
Rampart Reservoir	509	40,865
Northfield Reservoir #1	29	276
Northfield Reservoir #4	22	586

\* Estimated  
N.A. - Not Available

Source: Water Resources - El Paso County, Colorado, Colorado Water Resources Circular No. 32, Colorado Water Conservation Board, 1976.

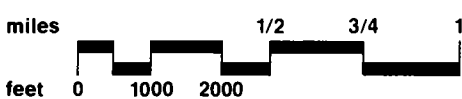
Ute Pass Corridor, El Paso County, Colorado  
**Environmental Constraints**



-  FLOOD PLAIN
-  ROCKFALL, POTENTIAL  
ROCKFALL HAZARD
-  LANDSLIDE
-  DEBRIS FAN
-  POTENTIALLY  
UNSTABLE SLOPES
-  SEVERE WILDFIRE HAZARD

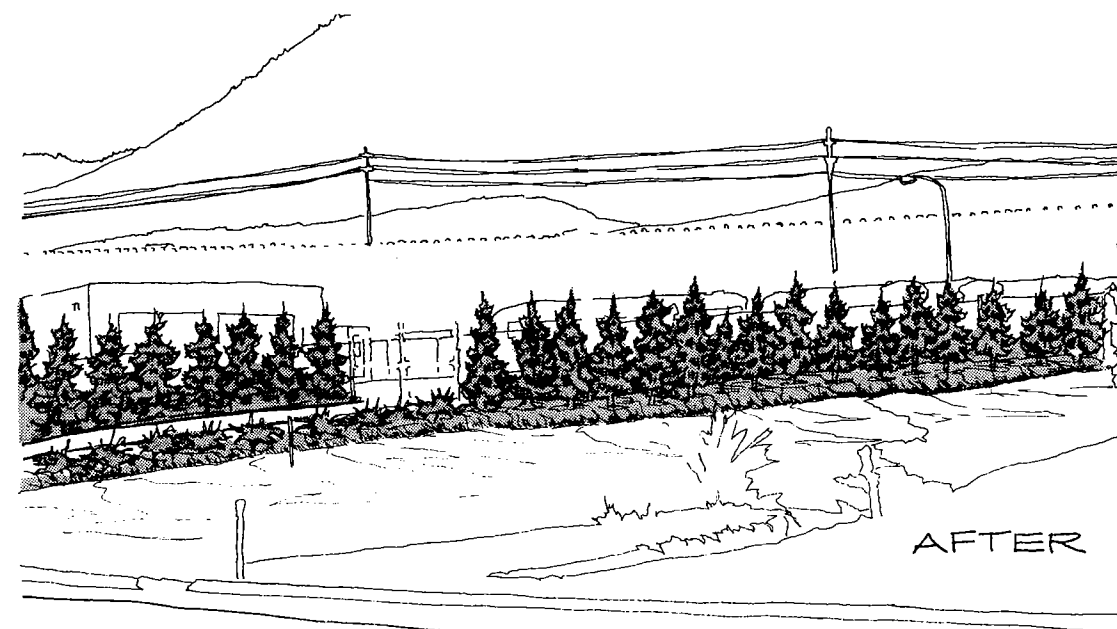
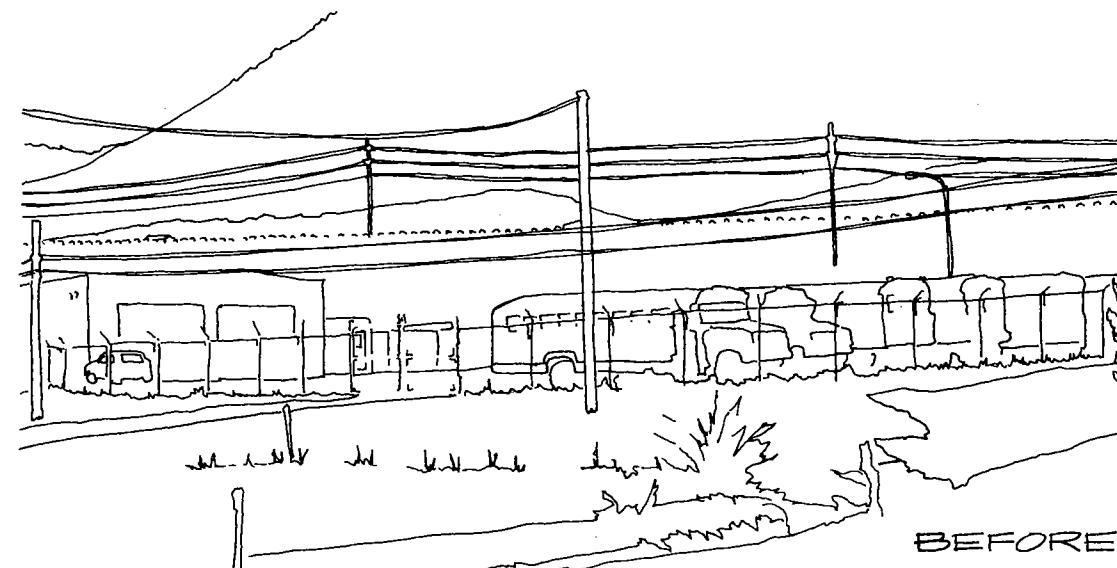


SCALE: 1" = 1/2 mile



Design Guideline 10

**School Bus Storage Screening**



- LANDSCAPING, BERMING, OR FENCING CAN ENHANCE THE VISUAL QUALITY OF OUTSIDE STORAGE AREAS.
- SELECTED OPENINGS SHOULD BE LEFT FOR SECURITY REASONS.
- VEGETATION ALSO REDUCES NOISE, ABSORBS SOME POLLUTANTS, PROVIDES SHELTER FOR VEHICLES FROM HARSH WINDS, AND CONTROLS REFLECTION AND GLARE FROM GLASS AND METAL IN BUILDINGS AND AUTOMOBILES.

Flood Plains

Flooding occurs when the capacity of a stream to carry water is exceeded. Water will flow over the usual banks of the stream and inundate level areas adjacent to the stream. This area of inundation is referred to as the flood plain. The area adjacent to a stream, which conveys the floodwater, is termed the floodway.

The 100-year flood plain has been designated based on methodology utilized by the Colorado District of the United States Geological Survey (U.S.G.S.). This methodology determines the depth of the 100-year flood by using the following equations:

At elevations below 7,500 feet:

$$D \text{ (Depth)} = 59.3 \times \text{slope of streambed} - .519 \pm 20\% \text{ error}$$

At elevations above 7,500 feet:

$$D \text{ (Depth)} = 1.44 \times \text{area}^{.187} \times \text{annual precipitation}^{.059}$$

Using the first equation and a minimum streambed gradient of 55 feet per mile,  $D = 8 \text{ feet} \pm 2 \text{ feet}$ . At the upper end of the basin,  $D = 4 \text{ feet}$ . The depth of the Fountain Creek 100-year flood plain should not exceed 10 feet, while floodwaters of other area creeks should not exceed 10 feet



where stream gradients are minimal and 4 feet where stream gradients are steeper. The flood plain identified by using this methodology is substantially identical to that delineated by the Federal Emergency Management Agency (FEMA).

FEMA has completed flood plain studies in El Paso County including Fountain Creek. The study was based on detailed analyses of hydrological conditions. It should be noted that several residential structures in Ute Pass are located within the 100-year flood plain.

#### Geologic Hazards

Several geologic hazards were identified by the 1977 Robinson Study. These existing and potential hazards include rockfalls, landslides, debris fans, unstable slopes, and faults.

Rockfalls, as the name implies, are falls of individual rock fragments from a cliff. The fragments are loosened by weathering and fall due to gravity. Movements are usually slow unless triggered by earthquakes. Existing and potential rockfall areas have been identified on steep slopes to either side of the U.S. 24 Corridor. Another rockfall hazard area was delineated on the southern face of the mountain separating Green Mountain Falls from the highway.

Landslides are large rapidly sliding rock masses with little or no flowage of materials in the early stages of sliding. The cause of sliding may be lubrication or weakening of rock masses by heavy rains or undermining. Two landslide areas have been identified within the planning area: one south of Fountain Creek and the other east of Lofland Gulch northeast of U.S. 24.

Debris fans are similar to landslides, but the rock is mixed with vegetation. Debris fans have been identified throughout the highway corridor on smaller streams and gulches. Hazards associated with debris fans include periodic flooding, deposition of debris carried by water, and rapid changing of stream channels.

Unstable slopes are areas where surface or underlying materials are loosely compacted. Slope instability may be increased during periods of high precipitation and runoff. The Robinson Study identifies unstable slopes as potential rockfall areas.

A fault is a fracture in the surface of the earth involving the displacement of adjoining land masses. Faulting movements are usually accompanied by earthquakes. The Ute Pass Fault generally extends through the corridor. The fault is currently inactive, however, placement of structures within 500 feet of the fault line should be avoided. This is a standard currently used in other areas in Colorado. If movement occurs in the future, vertical displacement of roads, structures, and utility lines may occur.

#### Steep Slopes

Ute Pass, which displays some of the the steepest slopes in the County, has a high potential for abuse if future development ignores the natural topography, resources, and amenities of mountainsides. Slopes from 15 percent to 30 percent may be unsuitable for development, depending upon the specific soil and drainage characteristics of a site. No development should be permitted on slopes in excess of 30 percent or geologically unstable slopes, unless it can be demonstrated that the slopes are stable, road cuts do not increase erosion and sedimentation, natural drainage patterns are not adversely altered, adequate pressure is available for fire protection, septic systems will properly operate, and natural features of the site will be preserved or even enhanced.

#### Wildfire Hazards

A wildfire is a large, rapidly spreading fire, occurring as a result of natural or man-made causes. The Colorado State Forest Service identified wildfire hazards in El Paso County based on three major criteria: fuels, slope, and aspect (the direction which a slope faces). The wildfire hazard areas delineated in Ute Pass are discussed below.

Low-Hazard areas contain vegetation which is sparse and low in height. The fire spread is easy to stop and little or no mitigation of the fire hazard is necessary.

Medium-Hazard areas, containing medium density conifer stands, support medium intensity fires. Fire spread is slow to fast with flare-ups occurring intermittently. Mitigation procedures such as thinning, pruning, grouping, or fuel-breaks usually lower the fire hazard.

Severe Hazard areas, containing dense stands of coniferous trees, support high intensity, low-burning fires during the critical fire season. Fire spread is slow to very fast with flare-ups higher than trees. Fires are extremely hot, and the fire front is impassable. Modifications and treatment procedures to lower the fire hazard include thinning, pruning, grouping, or fuelbreaks.

---

Severe Hazard, brush areas contain non-coniferous fuels which are dense, continuous and upward to 10 feet in height. Fire seldom kills these fuels, because they reach maturity earlier than forests. Consequently, brush areas burn more frequently than forests, supporting medium- to high-intensity fires. Fire spread is moderate to fast; flare-ups brief, but common and hot. The fire front is impassable.

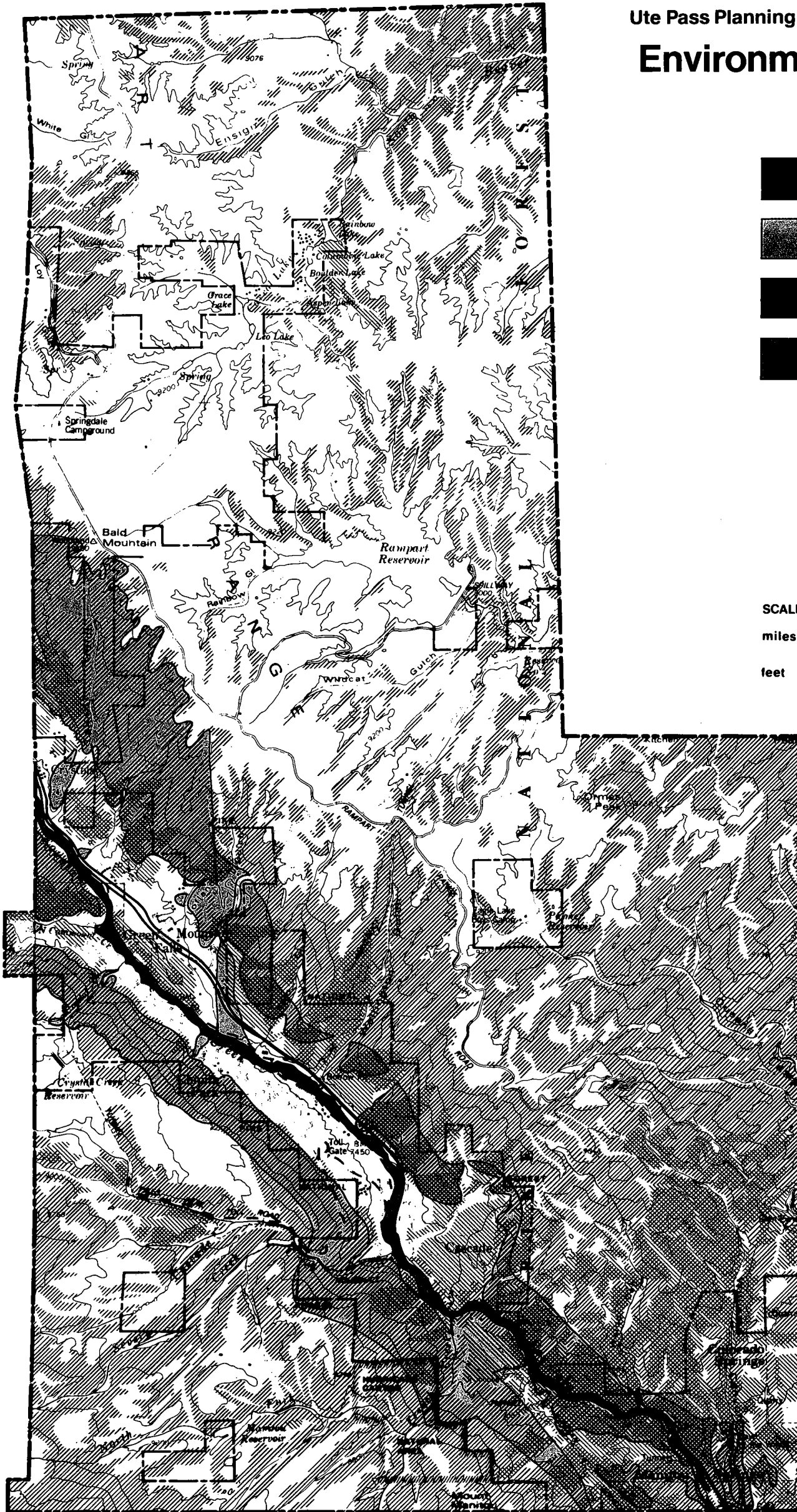
Fires in these areas are difficult to control. The thin, tough stems resist easy cutting, strong root systems make them difficult to clear or grub out, and the rate of spread is extremely fast. Except for complete removal with heavy equipment, most of these fuels cannot be easily modified or treated. Repeated herbicide applications over several years may not allow such practices. Pruning is possible, but costly. Slightly lower wildfire hazards can be obtained if wide, grassy, inter-connected openings exist between clumps of brush and, if the openings can be kept free of invading brush.





### **Environmental Constraints**

The purpose of identifying environmental constraints in Ute Pass is to suggest areas suitable for various land use intensities. Certain types of development may be appropriate on one site, yet unsuitable on another. To determine areas of unsuitability or areas that possess distinct environmental constraints, the following potential hazards were composited on one map: flood plains, steep slopes, wildfire, and geologic hazards, with the exception of the Ute Pass Fault. The ranking of each constraint was based on methodology utilized by the El Paso County Sourcebook (refer to Environmental Constraints Composite Map on the following page).

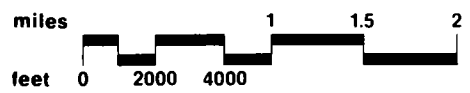
Ute Pass Planning Area, El Paso County, Colorado

# Environmental Constraints Composite



-  FLOOD PLAIN
-  POTENTIAL GEOLOGIC HAZARDS
-  UNSTABLE SLOPES / SLOPES OVER 30%
-  SEVERE WILDFIRE HAZARD

SCALE: 1" = 1 mile



---



---

# Visual Quality

---



---

## 8

## Introduction

The enjoyment of a positive visual experience can involve many preferential and subjective elements, but the visual resources of certain landscapes have high visual qualities for which there is general public agreement. It is therefore recommended that future developments in such areas be subject to careful examination.

The purpose of this chapter is to define the visual quality of the Ute Pass Planning Area by delineating landscape characteristics and determining the potential visual impact new development may have on the landscape. Recommendations for mitigating visual impacts are also presented.

Throughout the following discussion, attention is focused on the U.S. 24 Corridor extending through the Ute Pass Planning Area. This corridor, the most visible area within Ute Pass, is where most development and associated impacts will occur in the future. Most of the remainder of the planning area is within National Forest boundaries.

## Visual Resources

The visual resources of a landscape are the stimuli upon which actual visual experience is based. A plan or project can alter a visual experience by changing the visual resource base. Before the potential visual impacts of a project can be assessed and managed, an inventory of existing visual resources should be undertaken.

A landscape is perceived as a composition of visual features. An inventory of existing components, by landscape unit, will reveal characteristics of the landscape and will enable comparisons to be made of the visual effects of project alternatives. In this study, specific inventory categories were established based on the regional landscape; its characteristic range of landforms; its types of water bodies; its vegetation communities; and its land use patterns and the structures associated with them. These components are discussed under "Landscape Units".

## Viewshed

The precise limits of the visual environment can be determined by mapping the project viewshed. A viewshed is the surface area visible from a given point or a series of points. It is also the area from which that viewpoint or series of viewpoints may be seen. Viewshed mapping is a tool for identifying views impacted by potential development. In essence, a viewshed is a plan view or map of areas with an unobstructed sightline to a single point. For a linear feature, such as a road, the viewshed can be constructed by combining the individual viewsheds from multiple viewpoints.

Since the U.S. 24 Corridor represented the most visually significant expanse in the planning area, the viewshed included all areas which could be seen from any point on the highway. The viewshed was mapped from observation by delineating on a topography map the points along the highway. Observations were made at approximately 100-foot intervals along the highway traveling in each direction. The viewsheds at each of the observation points were then composited to define the total corridor viewshed as shown on the Landscape Units Map (see page 69). It should be noted that many areas are not visible when traveling in only one direction.

Ridgelines typically define a viewshed, but in some instances the brow of a ridge is perceived as the actual ridgeline. The canyon below Cascade is an appropriate example. Two types of ridgelines can be identified: 1) horizon ridgelines which break the skyline and 2) terraced ridges which have a background and therefore do not break the skyline. Visual impact is greater on the horizon ridgeline since the sky, rather than a landscape feature, forms the background for a development.

## The Regional Landscape

The regional landscape can help establish a frame of reference for comparing the visual effects of project alternatives and determining the significance of associated effects. In other words, since the visual resources of a specific project area are grounded in larger regional patterns, comparisons should be made within these regional landscapes.

Characteristic combinations of natural and man-made visual components distinguish regional landscapes from one another. The components of a regional landscape are landform and landcover. Landforms include valleys, hills, ridges, canyons, and other such features. Landcover components include water, vegetation, and all structures. Landscape units are relatively homogeneous combinations of landform and landcover that recur throughout a regional landscape.

The basic landscape of the Ute Pass Corridor is a narrow mountain valley surrounded by steep slopes. The components (landform and landcover) of this landscape are sufficiently diverse to warrant division of this regional landscape into landscape units. Landscape units usually are enclosed by clear landform or landcover boundaries and are generally characterized by diverse visual resources. In essence, a regional landscape is perceived as a complete visual environment, while landscape units are generally perceived as parts of that environment.

#### Visual Character

The components of a landscape are landform and landcover elements, as described previously. Although a landscape can be described using these general terms, other visual attributes of the components add further definition to the landscape description. The visual attributes of a landscape are typically referred to as visual character.

Descriptions of visual character include an analysis of pattern elements. Pattern elements are the primary visual attributes of objects including form, line, color, and texture. The form of an object is determined by its mass, bulk, or shape. Line is introduced by the edges of objects or parts of objects. The color of an object is composed of both its value or reflective brightness (light, dark), and its hue (red, green). Texture is determined by surface coarseness. By assessing the existing character of a landscape unit in terms of these pattern elements, guidelines can be developed which decrease the degree of contrast between a proposed development and the visual environment, thereby reducing its visual impact.

#### Landscape Units

The U.S. 24 Corridor is comprised of several distinctive landforms and landcovers, resulting in diverse visual characters. Therefore, the landscape was divided into landscape units as shown on the Landscape Units Map. These various landscape units are described below.

##### Landscape Unit 1--

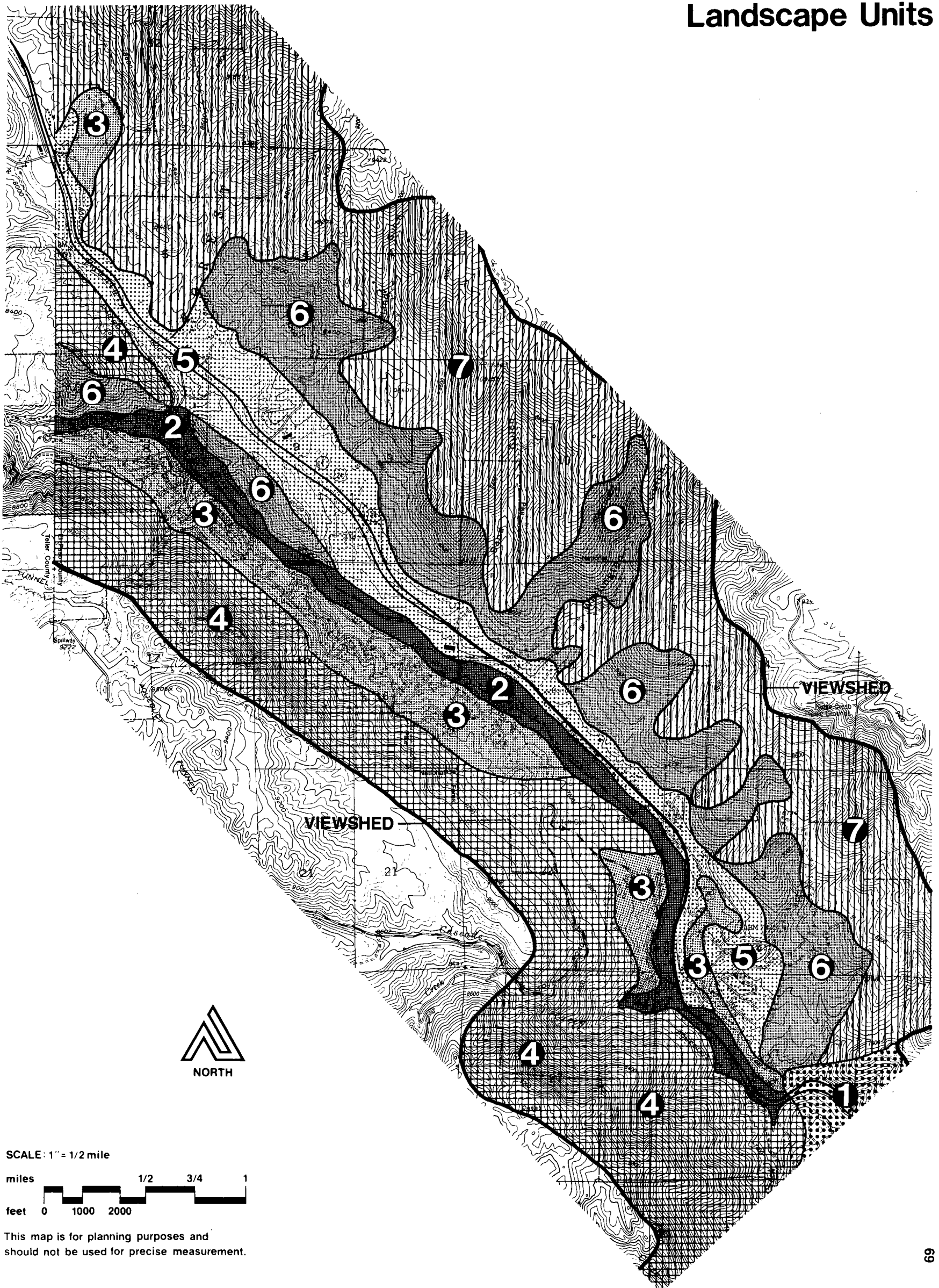
The narrow canyon south of Cascade is Landscape Unit 1. This landscape is typified by rough, vertical rock formations enclosing the highway. Vegetation consists of coniferous trees and mountain shrub. The exposed rock gives the landscape a red to reddish brown appearance, interrupted by the light green to green color of vegetation. Fountain Creek provides a visual contrast to the surrounding elements. The creek and highway dominate the landscape, introducing linear features which contrast with the vertical canyon walls. Since most of this landscape unit is perceived from a short distance and many of the individual components are distinguishable, its texture is coarse.

##### Landscape Unit 2--

This landscape unit consists of a strip of moderately level land adjacent to Fountain Creek. The creek and three small lakes are the dominant natural elements in this unit. Although flows are minimal at times, the creek provides variety to the landscape. Vegetation primarily consists of riparian (rushes, sedges and weeds) and deciduous (cottonwoods and willows) plant types. Colors range from light to dark green in the spring and summer months to reddish brown and light brown in the fall and winter months when the characteristic plants enter their dormant period. Due to the type of plants, texture in this landscape unit ranges from fine to very fine.

Development in this unit primarily consists of residential structures, with commercial structures concentrated in Green Mountain Falls and Cascade. The area west of Ute Pass Elementary School running to the Green Mountain Falls corporate limits is substantially undeveloped. When developed, man-made features tend to dominate this landscape unit. Commercial signage and overhead utility wires clutter the immediate landscape as well as unique distant views. Chipita Park Road adds a linear man-made feature to the landscape, generally parallel to the linear natural feature, Fountain Creek.

# Landscape Units



---

**Landscape Unit 3--**

The moderate to steep terrain located on north and west facing slopes comprises Landscape Unit 3. Significant portions of this area have developed as single family residential. Dense vegetation dominates the visual experience. Vegetation primarily consists of Douglas Fir and Ponderosa Pine, giving the unit a dark green appearance year-round. From U.S. 24, individual components of this landscape tend to blend together, resulting in a medium to fine texture.

Although most structures are hidden by the vegetation, some structures are visible because they are located on terrace ridgelines and/or their color contrasts with the dark green color of vegetation. Building sites and road cuts are also visible because of the color of the exposed soil contrasts sharply with the vegetation color.

**Landscape Unit 4--**

This unit consists of the steep, undeveloped mountainside, forming the southwest edge of the viewshed. This mountainside, rising to over 9,000 feet in elevation, is more dissected than the mountainside to the northeast of the highway. Several rock outcrops are visible at higher elevations. Dense vegetation, principally Douglas Fir and Ponderosa Pine, dominates this mountainside, giving it a dark green appearance year-round.

Rock outcrops introduce a light grey color and a coarse texture to the otherwise fine texture of the landscape unit.

Physical development within the unit has been restricted by steep topography, although three man-made landscape alterations contrast sharply with the character of the unit. The Pikes Peak Toll Road, an electric power transmission line, and the Crystal Creek water pipeline have introduced vertical linear features which contrast with the horizontal ridgeline defining the form of the mountainside. Except for the Toll Road, these features have been constructed perpendicular to the contours, producing a form visually unrelated to the natural forms of the landscape. After construction of these features, the exposed soil was not revegetated. The disturbed soil adjacent to these features emphasizes their appearance.

**Landscape Unit 5--**

A narrow strip of land to either side of U.S. 24 comprises this landscape unit. The terrain is level to gently sloping. Vegetation is primarily limited to grasses, giving the unit a light green color in spring and summer and a light brown color in fall and winter. The portion of Cascade northeast of the highway is included within this landscape unit. This area is moderately developed with vegetation consisting of mountain grasses and shrubs. Texture in this unit ranges from fine to coarse.

The highway is the dominant visual element of the landscape and generally introduces a linear feature to the landscape. Development is composed of single family residential and commercial structures dispersed along the highway. Overhead utility wires and commercial signage visually impact the developed areas within the landscape unit. The gravel mine introduces a form visually unrelated to the surrounding hillsides. Since the gravel mine exposes soil to view, a contrasting color is also introduced into the landscape.

**Landscape Unit 6--**

The undeveloped, moderate to steep terrain, located to the northeast of U.S. 24, is Landscape Unit 6. Two areas in Green Mountain Falls are also included within this unit. Vegetation, predominantly mountain shrub, exhibits a muted green color where vegetated and a brown to reddish brown color where sparsely vegetated. Overall, the landforms, rather than landcovers, tend to dominate the landscape. Several rock outcrops are visually apparent. Texture ranges from medium to coarse.

In Green Mountain Falls, the south face of the narrow, elongated ridge, which separates the Town from U.S. 24, is included within this landscape unit. Vegetation on the face of this ridge is sparse, and consisting mainly of mountain shrub. Several rockfalls and talus slopes are visible near the foot of the ridge. Where vegetated, a muted green color characterizes the slope; where unvegetated, the reddish color of exposed granite characterizes the slope. Structures within this unit, consisting mainly of residential units, generally are located at the foot of the ridge. Within the town, vegetation and rockfall areas dominate the landscape.

Except for small areas in Green Mountain Falls, this landscape unit is undeveloped.

### Landscape Unit 7--

This landscape unit consists of the undeveloped, steep sloping mountainside northeast of U.S. 24. A series of rounded hills and rock outcrops characterize the unit. Since the terrain, created by the series of hills, is diverse, the mountainside is less prominent than the steep mountainside southwest of U.S. 24. Vegetation primarily consists of Douglas Fir and Ponderosa Pine, resulting in a predominantly green color. Since the south-facing mountainside receives additional sunlight, colors appear lighter than colors to the southwest of the highway. Most of this unit is viewed from a distance; its texture, therefore, appears medium to fine. Rock outcrops, however, introduce a coarse texture to the landscape.

Physical development within the unit has been minimal because a majority of the unit lies within the Pike National Forest.

### Potential Visual Impact in Viewshed

The potential visual impact of future development within the corridor viewshed can be measured in terms of the various landscape components earlier described. In a large part, the potential visual impact of a project will depend on internal aesthetics. In other words, the colors,

materials, and building designs utilized by the project will increase or decrease its visual impact.

The areas where visual impacts will be most significant can be identified by analyzing the natural components of the landscape. Besides natural features, other factors will influence the potential visual impact in a particular area. These factors are discussed below.

### Ridgelines

Development on ridgelines tends to be more noticeable because the project is in a visually prominent position. Such development rarely blends into the background since the background is the sky or another landscape feature located at some distance beyond the project.

### Vegetation

The type and density of vegetation influences the visibility of a particular development. The absence of vegetation results in a highly visible structure, thus, dominating the landscape. Deciduous or low-lying vegetation will decrease the visibility of development to a certain degree. In the case of deciduous vegetation, visibility abatement is only on a seasonal basis. Development in areas of dense coniferous vegetation tends to be hidden year-round.

### Distance from Viewer

The distance from which an object is viewed has a considerable influence on its visibility. An object viewed from a short distance tends to dominate an observer's attention more than an object seen from a long distance. The reason is that the distant object tends to blend into the background.

Distance zones are commonly used to determine the visual resources of an area. These zones and their characteristics are defined below:

**Foreground** -- the limit of this zone is based upon distances at which details can be perceived. In foreground views, the individual will generally perceive detail, size relationships and color acuity. Foregrounds are limited areas within 1/4 mile of the observer.

**Middleground** -- this zone extends from the foreground zone to 1/2 mile from the observer. Texture is normally characterized by the masses of trees in stands of uniform tree cover. Individual tree forms are usually discernable in open or sparse stands. Details typically blend into textures and patterns, with colors softened by perspective.

**Background** -- this zone extends from middleground to infinity. The texture of uniform tree stands generally is very weak or nonexistent. In very open or sparse timber stands, texture is seen as groups of tree patterns. No detail is apparent, and the entire landscape is perceived in units.

### Object Position

The position of an observed object relative to the position of the viewer affects the visibility of that object. An observer's attention is generally in a horizontal or downward direction. Thus, an object at or below the elevation of the observer dominates his attention, while an object at a higher position is rarely noticed.

### Visual Impact Factors





The factors previously discussed were mapped in order to determine areas where future development may impact the visual environment. The factors composited on the Potential Visual Impact Map could result in a higher visual impact. For instance, only areas with non-coniferous vegetation were mapped because it was assumed that vegetation would be less visible. The four factors mapped were:

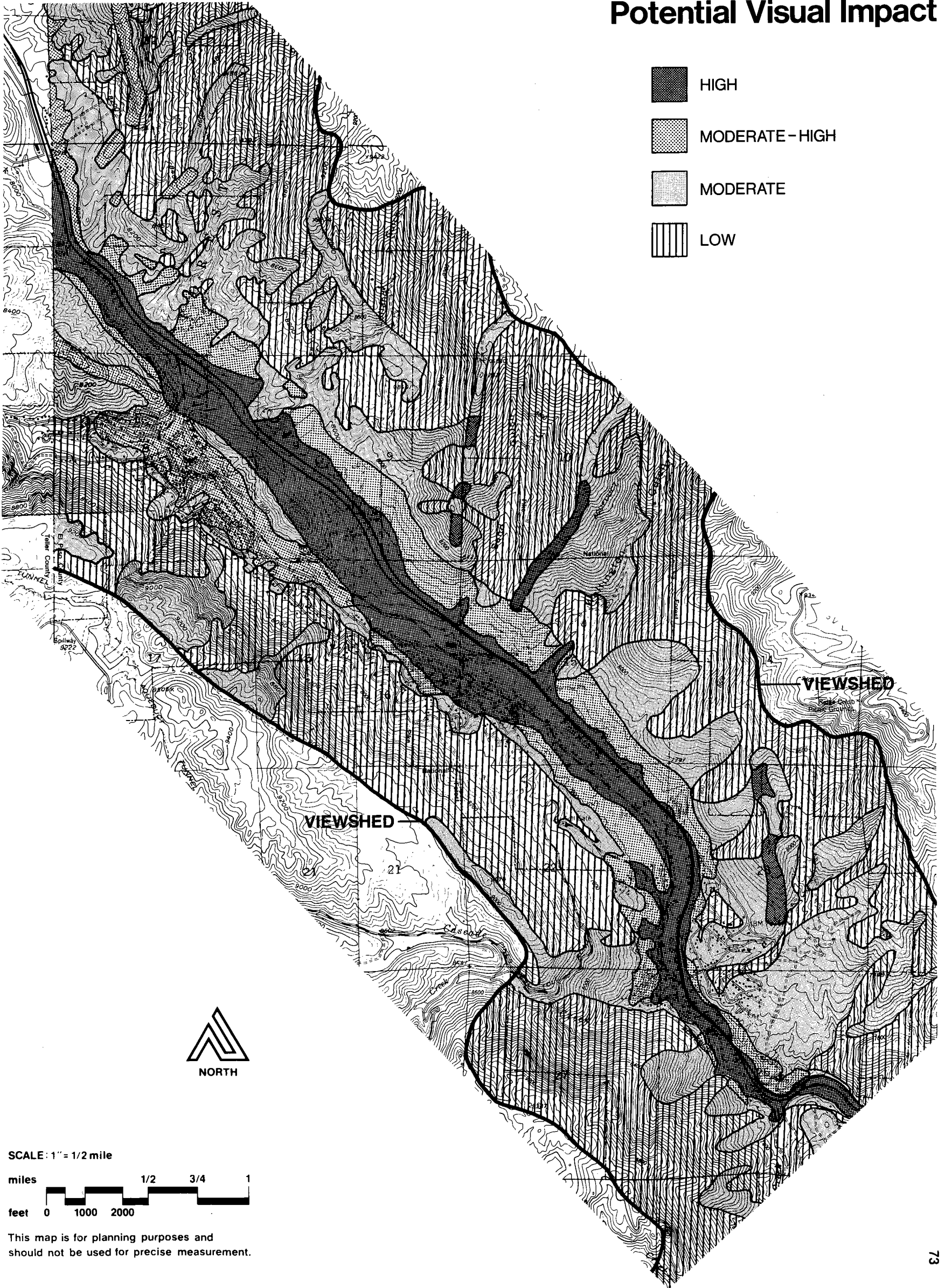
- ridgelines
- areas with non-coniferous vegetation



Ute Pass Corridor, El Paso County, Colorado

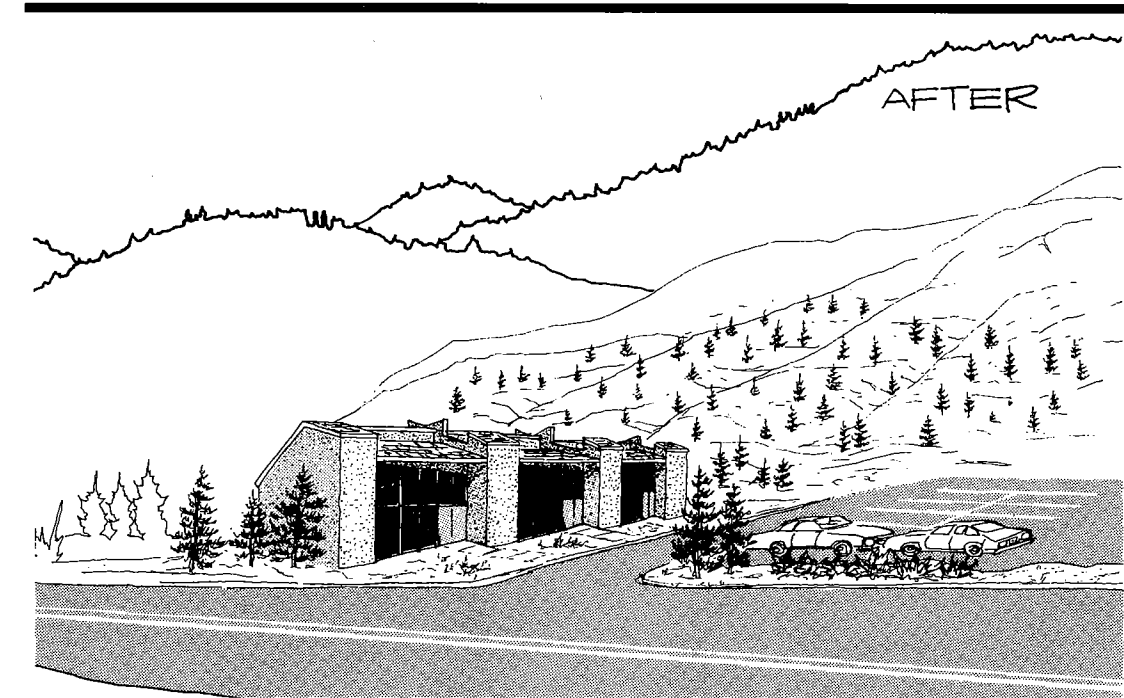
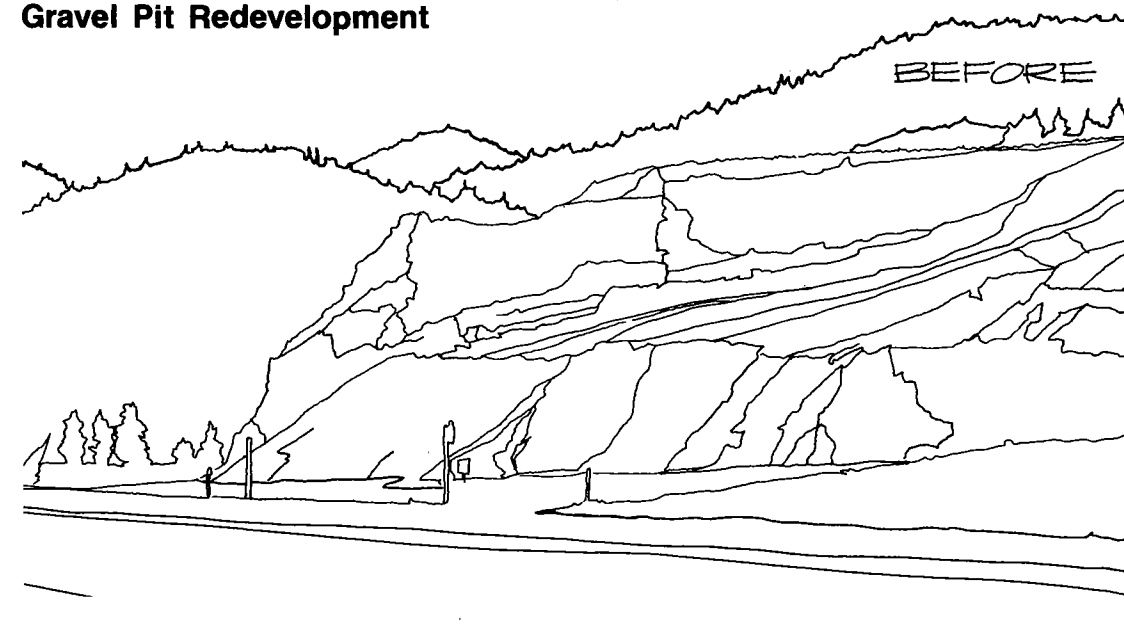
# Potential Visual Impact

-  HIGH
-  MODERATE-HIGH
-  MODERATE
-  LOW



Design Guideline 11

**Gravel Pit Redevelopment**



- ACCESS POINTS SHOULD BE MINIMIZED AND PROVIDED FROM FRONTAGE ROADS AND NOT HIGHWAY 24.
- EXISTING PIT SHOULD EVENTUALLY BE RE-GRADED AND VEGETATED TO STABILIZE SLOPES AND REDUCE VISUAL IMPACT OF THE SCAR.
- CHARACTER OF COMMERCIAL COMPLEX SHOULD REFLECT UNIQUE SURROUNDING FEATURES. FACADE SHOULD UTILIZE NATURAL MATERIALS AND COLORS.
- COMMERCIAL USES SHOULD BE LOCATED IN CAREFULLY DESIGNED CLUSTERS TO PROVIDE OPTIMUM SPACE UTILIZATION, EFFICIENT PARKING, AND TO REDUCE THE VOLUME OF SHORT VEHICLE TRIPS BETWEEN BUSINESSES.

- areas within the foreground distance zone (from the highway)
- areas at or below elevations along the highway.

Potential Visual Impact

One or more visual impact factors overlap in several areas within the viewshed. For that reason, the potential visual impact in these areas will be higher than in areas exhibiting one or no factors. The number of factors present in any given area, thus, reveals the relative visual sensitivity of that area. The Potential Visual Impact Map indicates the areas of highest to lowest visual impact, determined by using the following rating criteria:

High	- 3 to 4 visual impact factors
Moderate to High	-2 visual impact factors
Moderate	-1 visual impact factor
Low	-no visual impact factors

The Potential Visual Impact Map shows only the relative visual impact which can be anticipated in areas of the U.S. 24 Corridor. When used in conjunction with Visual Impact Factors and Landscape Units, the characteristics of a particular site can be determined. Mitigation techniques, presented in Design Guideline 11 can be applied as characteristics of a site warrant.

---



---

# References

---



---

## Chapter 1 INTRODUCTION

### For Additional Information:

Ute Pass Historical Society  
Jan Pettit, President 684-9342  
Cascade, Colorado 80809

## Chapter 3 POPULATION AND ECONOMY

Dollars and Cents of Shopping Centers. Urban Land Institute. 1978.

Enumeration District Summaries. 1970 Census of Population. Bureau of the Census, United States Department of Commerce. 1972.

Guide for Local Area Population Projections, Technical Paper: 39. Bureau of the Census, United States Department of Commerce. 1977.

Retail Location Analysis Manual. Real Estate Research Corporation. 1970.

### For Additional Information:

Pikes Peak Area Council of Governments  
27 East Vermijo Street  
Colorado Springs, CO. 80903  
(303) 471-7080

## Chapter 4 LAND USE

El Paso County Land Development Code. 1980.

Mountain Land Planning. Dennis L. Lynch and Standish R. Broome. College of Forestry and Natural Resources, Colorado State University. 1973.

Outdoor Recreation Space Standards. National Recreation and Park Association, Washington, D.C.. 1965.

The Cluster Subdivision: A Cost Effective Approach. Welford Sanders. American Planning Association. 1980.

The Community Builder's Handbook. Urban Land Institute. 1968.

The Dimensions of Parking. Urban Land Institute and the National Parking Association. 1981.

### For Additional Information:

Colorado Ski Country, U.S.A.  
1410 Grant Street, Suite A201  
Denver, Colorado 837-0793

El Paso County Parks Department  
1045 West Rio Grande  
Colorado Springs, CO. 471-5688

United States Forest Service  
Pike National Forest District  
Headquarters  
320 West Fillmore  
Colorado Springs, CO. 636-1602

## Chapter 5 PUBLIC FACILITIES AND SERVICES

Areawide Water Quality Management Plan for El Paso and Teller Counties, Project Aquarius. Pikes Peak Area Council of Governments. 1976, Updated: 1978 and 1981.

Cascade Public Utilities Service Company 684-9359

Caring for the Land. Bruce Hender. American Society of Planning Officials. 1977.

Cost Effective Site Planning: Single Family Development. National Association of Home Builders. Washington, D.C.. 1976.

Plants/People/and Environmental Quality. Gary O. Robinette. United States Department of the Interior. 1972.

Report on the Ute Pass Water Study. Black and Veatch. Consulting Engineers. 1977.

Site Planning Standards. Joseph DeChiara and Lee E. Koppelman. McGraw-Hill. 1978.

The Passive Solar Energy Book. Edward Mazria. Rodale Press. 1979.

The Solar Home Book. Bruce Anderson with Michael Riordan. Cheshire Books. 1976.

### For Additional Information:

Colorado Springs Department of Public Utilities  
P. O. Box 1103  
Colorado Springs, CO. 80947  
(303) 636-1212

El Paso County Parks Department  
1045 West Rio Grande  
Colorado Springs, CO.

Pikes Peak Area Council of Governments  
27 East Vermijo Street  
Colorado Springs, CO. 80903  
(303) 471-7080

Cascade Fire Department  
Cascade, Colorado 80809  
(303) 684-9549

Green Mountain Falls/Chipita Park Volunteer Fire Department  
P. O. Box 491  
Green Mountain Falls, CO. 80819  
(303) 684-2293

Town of Green Mountain Falls:  
Clerk - 7035 Oak  
684-9414  
Marshal - P. O. Box 524

School District #14  
401 El Monte Place  
Manitou Springs, CO. 80829  
(303) 685-1235

## Chapter 6 TRANSPORTATION

Site Planning Standards. Joseph DeChiara and Lee E. Koppelman. McGraw-Hill. 1978.

Subdivision Criteria Manual. El Paso County Department of Transportation. June 1981.

Trail Construction Guidelines. Colorado State Recreational Trails Program. Colorado Division of Parks and Outdoor Recreation. June 1981.

## For Additional Information:

Colorado State Highway Department  
P. O. Box 536  
905 Erie Avenue  
Pueblo, Colorado 81002  
(303) 544-6286

El Paso County Department of Transportation  
3140 North Stone  
Colorado Springs, CO. 80907  
(303) 471-5445

## Chapter 7 NATURAL ENVIRONMENT

Areawide Water Quality Management Plan for El Paso and Teller Counties. Project Aquarius. Pikes Peak Area Council of Governments. 1976. Updated: 1978, 1981.

Floodplain Investigation of Fountain Creek. Federal Emergency Management Administration. 1980.

Groundwater Recharge Areas Investigation of El Paso County, Colorado. William Curtis Wells and Company. 1979.

Plants/People/and Environmental Quality. Gary O. Robinette. United States Department of the Interior, 1972.

Potential Geologic Hazards and Surficial Deposits. Charles S. Robinson and Associates. 1977.

Sourcebook - El Paso County, Colorado. El Paso County Land Use Department. June 1980.

Special Soil Survey for Community Planning - Ute Pass Area. El Paso County, Colorado. Soil Conservation Service. United States Department of Agriculture. June 1976.

Water Resources of El Paso County, Colorado. Colorado Water Resources Circular No. 32. Colorado Water Conservation Board. 1976.

Wildlife Hazards and Vegetation Maps for El Paso County. Colorado State Forest Service. Colorado State University, Fort Collins, Colorado. 1976.

## Chapter 8 VISUAL QUALITY

National Forest Landscape Management. Volume 2. Chapter 1: The Visual Management System. Agriculture Handbook No. 462. Forest Service. United States Department of Agriculture. 1974.

Upland Visual Resource Inventory and Evaluation. Manual 8411. Bureau of Land Management. United States Department of the Interior. 1978.

Visual Impacts. Urban Land Institute. July 1980.

Visual Resource Contrast Rating. Manual 8431. Bureau of Land Management. United States Department of the Interior. 1978.

Visual Resources: Environmental Comment. Urban Land Institute. June 1980.

---



---

# Resolution

---



---

MASTER PLAN (APPROVED)

Commissioner Berge moved that the following Resolution be adopted:

BEFORE THE PLANNING COMMISSION

OF THE COUNTY OF EL PASO

STATE OF COLORADO

RESOLUTION NO. MP-82-3

WHEREAS, the Ute Pass Comprehensive Planning Committee and the El Paso County Land Use Department request approval of the Ute Pass Comprehensive Plan within the designated Ute Pass boundaries of the unincorporated area of El Paso County; and

WHEREAS, a public hearing was held by this Commission on February 22, 1982; and

WHEREAS, based on the evidence, testimony, exhibits, study of the master plan for the unincorporated area of the county, comments of the El Paso County Land Use Department, comments of public officials and agencies, and comments from all interested parties, this Commission finds as follows:

1. That proper publication and public notice was provided as required by law for the hearing before the Planning Commission.
2. That the hearing before the Planning Commission was extensive and complete, that all pertinent facts, matters and issues were submitted and that all interested parties were heard at that hearing.
3. That all data, surveys, analyses, studies, plans, and designs as are required by the State of Colorado and El Paso County have been submitted, reviewed, and found to meet all sound planning and engineering requirements of the El Paso County Subdivision Regulations.

4. That the proposal shall amend the Master Plan for El Paso County.
5. That for the above-stated and other reasons, the proposed Sketch Plan is in the best interest of the health, safety, morals, convenience, order, prosperity and welfare of the citizens of El Paso County.

WHEREAS, C.R.S. 30-28-108, 1973, as amended, provides that a county planning commission may adopt, amend, extend, or add to the County Master Plan.

NOW, THEREFORE, BE IT RESOLVED that the Ute Pass Comprehensive Plan be approved.

Commissioner Haase seconded the adoption of the foregoing Resolution. The roll having been called the vote was as follows:

Commissioner Petterson	aye
Commissioner Pieper	aye
Commissioner Miles	aye
Commissioner Berge	aye
Commissioner Haase	aye
Commissioner Woodward	aye

The Resolution was adopted by a unanimous vote of 6 to 0 by the Planning Commission of the County of El Paso, State of Colorado.

DATED: February 22, 1982.