

PUBLIC FACILITIES AND SERVICES

INTRODUCTION

Providing public services and related facilities is a primary responsibility of the Grand Junction City Government. These facilities and services are fundamental elements in providing for the health, safety, and welfare of the community. Public facilities and services represent the major portion of the Grand Junction capital investments, capital improvements program, and annual City budget.

Public facilities and services not only affect our quality of life, but the quality and quantity of growth in Grand Junction. Development in Grand Junction is determined by land use; that is, how people use the land. This, in turn, is significantly determined by the public facilities and services available. The relationship between land use, the public facilities and services provided by Grand Junction, other utilities, and where each is provided will strongly shape and influence the future of Grand Junction.

This chapter will discuss these relationships as well as the public services provided in Grand Junction including water, sewer, drainage, irrigation, solid waste, police and fire protection, and related public buildings. It will also address the major issues facing the City and develop policies to be followed in the future. These policies will provide guidance for how and where Grand Junction grows in the future.

SEWER

INTRODUCTION

Sewer service in the Grand Junction Comprehensive Planning Area is provided by a variety of wastewater treatment plants and individual septic systems. The City of Grand Junction and several sanitation districts are served by the Persigo Wash Wastewater Treatment Plant which is the primary wastewater treatment facility for the Grand Junction/Mesa County 201 Service Area. For the boundary of the 201 Service Area, see Map 12-3.

Background

In February, 1984, the Persigo Wash Wastewater Treatment Plant came on-line. The plant is located at the west end of the 201 boundary on the Persigo Wash and is projected to provide quality sewer treatment for the 201 Service Area until the year 2000. Then, with the designed expansion capabilities, the plant will safely serve the full build-out population of the 201 Service Area of 190,000 people.

City of Grand Junction

Area Served: The City of Grand Junction is the lead agency for the Persigo Wash

Collection and Treatment System. The 201 Service Area covers the City of Grand Junction, the Ridges Metropolitan District, the Orchard Mesa Metropolitan District, the Fruitvale and the Central Grand Valley Sanitation Districts. Also included are many smaller collection systems. The total service area is approximately 40,000 acres.

Capital Improvements Program: Grand Junction has been implementing portions of the 201 Plan such as installing interceptors to connect to the Persigo Wastewater Treatment Plant. Equipment purchases and additional personnel have been planned in conjunction with the operation of the Persigo Plant through 1990.

Now that the Persigo Plant is on-line, the Horizon Drive and Scenic School Interceptors will be constructed for an estimated tentative cost of \$3.3 million. The Plant is scheduled for expansion in 1990.

Management Policies: By agreement with Mesa County (owner of the Persigo Wash Wastewater Treatment Plant and current EPA Grantee), the City of Grand Junction (as co-owner of the Plant site and as former EPA Grantee) is the designated Manager/Operator for the Persigo Plant. The City has full responsibility for both the National Pollutant Discharge Elimination System Permit and grant compliance.

22 23 24 25 26 27 28 29 30 31 32

MAP 12-3

	54" LINE
	21"-30" LINES
	10"-18" LINES
	PROPOSED LINES
	PERSIGO SERVICE AREA

fringe

PERSIGO TREATMENT PLANT

CLIFTON SANITATION DISTRICT

CLIFTON SANITATION DISTRICT

FRUITVALE SANITATION DISTRICT

CENTRAL GRAND VALLEY SANITATION DISTRICT

Clifton Sewage Lagoons

ORCHARD MESA SANITATION DISTRICT

Sewer Facility Map



The City of Grand Junction exercises the power to approve, condition, or deny any new sewer connection within the 201 Service Area boundary. This power is exercised by requiring "sewer clearance" by the City Utilities Department prior to the issuance of any building permit required by the City or County, or simply by payment of sewer tap fees prior to conversion from septic systems.

In addition, by agreement with Mesa County, developments outside of Grand Junction but within two miles of the City limits are required to either annex to the City or provide a Power of Attorney Annexation Commitment as consideration for being permitted on the Persigo System. The Power of Attorney allows annexation when the parcel is eligible.

The Persigo Plant will operate under the City Sewer Fund which is a discrete and self-sustaining fund whereby revenues (through tap fees and service charges) are set by the City, County, and the connector districts in order to meet but not exceed the City expenses incurred on behalf of all sewer customers. The Sewer Fund budget is set annually by the City Utilities Department and is adopted by the City Council and Mesa County Commissioners. All non-city charges are scaled to the City rate.

By agreement with connector districts, the City establishes a base rate. The

actual rates for a particular district depend upon responsibility for maintenance, collection system installation and rehabilitation, and other factors.

The City has not allocated to the connector districts specific volumes of sewage which it will transmit through its collection system or accept at the Persigo Plant nor has it allocated specific percentages of treatment capacity. At present, the only limitations are physical and are determined by the size of the connecting interceptors and their maximum flow rates. In the future, permanent interceptor flow monitoring sites will be established at locations to be identified in the Grand Junction Sewer System Analysis. Until such time as collector or treatment capacity is approached, there are no plans to allocate sewage volumes or treatment capacity to the connectors.

Both the billing program and the development process dictate direct contact for good relationships between the City, as Manager/Operator, and the sewage customers in the Persigo 201 Service Area. Relationships with connector districts will focus primarily upon rate structures, maintenance, pretreatment program development, and reduction of both groundwater infiltration and stormwater inflow.

The City of Grand Junction has developed the Industrial Pretreatment Program which will require expansion of its current authority to enable it to physically interact directly with significant industrial contributors in any connector jurisdiction. The operating agreements with connector districts are currently being reevaluated for necessary revisions.

A "Storm and Sanitary Sewer Separation Study" and "Infiltration and Inflow Study" were conducted as part of the sewer system analysis referred to above. Connectors are contractually bound to reduce groundwater infiltration and stormwater inflow where necessary. The sewer system study will identify potential sites and determine the feasibility of storm sewer separation and infiltration and inflow reductions.

The 201 Facilities Plan Update was completed in early 1985. This plan, together with the Sewer System Analysis recommendation, will provide the methodology and mechanisms to monitor treatment and collector capacity utilization. An additional feature of this plan will be to accurately predict impact and costs and to develop criteria for the 201 Service Area expansions in the future, if it is determined that such expansions are possible.

Development Policies: The City will extend sewer lines to pockets of undeveloped land within the City. Developers must meet the cost of sewer improvements for raw land outside city boundaries. The City, as Manager/Operator of the Persigo System, recovers the cost of interceptors through bonds, tap fees, and grants.

Developers are required to oversize lines and bear the front end costs. Grand Junction will rebate tap fees back to the developer for the initial outlay on oversizing when new development comes on-line. Grand Junction will issue revenue bonds for special improvement districts within the City to finance sewer improvements. This is not an option outside City boundaries; thus, developers can either finance front end costs of oversizing themselves, or form a district and issue bonds to pay for oversizing. Grand Junction does not encourage formation of new public utility districts with quasi-governmental functions. Grand Junction does encourage local improvement districts for the purpose of financing a project on the condition that once the initial bond issue is repaid, the district dissolves and the City assumes ownership of the system.

The boundaries of the 201 Service Area were based on physical characteristics, The location of development, zoning at the time of the study, and the EPA'S criterion of limiting funding to facilities needed for the next 10 years. The City of Grand Junction and Mesa County have adopted part of the 201 Study Area as the Service Area for the Persigo Plant. (Clifton Sanitation Districts #1 and #2 were part of the initial 201 Planning Area but decided not to be included in the regional service system.) The City reviews all development proposals within the 201 region. Grand Junction is concerned over Mesa County's approval of development outside of but adjacent to the 201 boundary.

Fiscal Policy: The City of Grand Junction and the Mesa County Sanitation Fund is a utility enterprise fund maintained on a self-supporting basis and administered by the City. The Persigo System will generate revenues to cover operation and maintenance expenses and debt service. Sources of revenues will be user charges and tap fees to provide gross system revenues. Fees and service charges are outlined in Table 12-2.

Other sewer districts in the Persigo Service Area have the option of contracting with the City for operation and maintenance of the collection system. In these cases, a district remits an additional portion of its monthly ser-

vice revenues to the City to cover these costs.

Sewer Revenue Bonds of \$8,225,000 were issued by Mesa County in 1980. The City, as system Manager, is repaying the debt from the net revenue of the Joint Enterprise Fund. The bonds have an average interest rate of 9.5 percent with a schedule of increasing payments from the current level of \$815,000 with bond retirement scheduled for the year 2005.

The City of Grand Junction has a small balance of municipal obligation debt which allows a margin of about \$12.5 million to incur additional general obligation debt (see also "Fiscal Policies" in the Water section of the Public Facilities and Services chapter.)

Central Grand Valley Sanitation District

Capital Improvements Program: A new north-south interceptor has been installed, costing approximately \$750,000. This serves the northern parts of the District and expands the system capacity to serve 42,500 people. Continued engineering studies and financial planning is provided by the District to rehabilitate existing sewers, such as the \$200,000 D 1/2 Road sewer and to upgrade the collection systems as future development needs demand.

Table 12-2
WASTEWATER SYSTEM SUMMARY

	TOTAL TAPS SOLD THRU 9/84	AVERAGE DAILY FLOW	PEAK DAILY FLOW	AVERAGE PER CAPITA FLOW	PEAK PER CAPITA FLOW	SYSTEM CAPACITY	MONTHLY SERVICE CHARGES			TAP FEES			
							SINGLE FAMILY	MULTI FAMILY	COMMERCIAL	SINGLE FAMILY	MULTI FAMILY	COMMERCIAL	
Central Grand Valley Sanitation District ¹	3,867	520,000	950,000	54 gpd	98 gpd	2.5 mgd	\$10.80	Based on single family equivalency ratio (SFER)		\$ 750 - PIF Based on G.J. SFER 1,000 - CGV PIF 1,750 - 500 - Rebate when developer hooks on line \$ 1,200 - TOTAL			
Fruitvale Sanitation District ²	3,200	520,000	1.1 mgd	80 gpd	100 gpd	1.25 mgd or approx. 700 additional taps	\$ 7.45	Based on SFER		\$ 800	\$800 Based on up to 4 units SFER Over 4 units = \$800 x (# of units) x 72%		
City of Grand Junction ³	10,200 (est.)	6.0 mgd	14.2 mgd	120 gpd	140 gpd	5.4 mgd-Persigo Interim Plant 1.0 mgd	\$ 6.75	Based on SFER		\$750/min.	PIF Based on SFER		
Orchard Mesa Sanitation District ⁴	1,817					170,000 gpd (est.)	\$10.00	\$ 7.20 per unit	same as G.J.	\$1,000	\$720 per unit	same as G.J.	
Ridges Metro District ⁵	465	61,000	152,000	55 gpd	138 gpd	2.6 mgd	\$10.00	\$10.00	---	\$ 750	Same as G.J.		

Note: All wastewater facility figures are as of September, 1984.

Notes

¹ Central Grand Valley Sanitation District is a collection system only with approximately 75 miles of pipeline. All wastewater is treated by the Grand Junction system. The areas of the District that utilizes 15" or 18" pipeline has a daily capacity between 1.7 mgd and 2.7 mgd.
SOURCE: Larry Cockroft of Paragon Engineers; John Krissman, CGV Board of Directors.

² Fruitvale Sanitation District is a collection system which contracts with Grand Junction for sewage treatment. Peak flows and system capacity is based on a study by Gingery Associates, Inc.
SOURCE: Art Crawford, Manager, Fruitvale Sanitation District.

³ Estimates are by Grand Junction Utility Planning Department.
SOURCE: Jim Patterson, Public Works Director.

⁴ Orchard Mesa Sanitation District is a collection system which contracts with Grand Junction for sewage treatment.
SOURCE: Deb Davis, Manager, Orchard Mesa Sanitation District.

⁵ SOURCE: Beverly Claney, Financial Manager, Ridges Metropolitan District.

SFER = Single Family Equivalent Ratio

GPD = Gallons Per Day

MGD = Million Gallons Per Day

PIF = Plant Investment Fee

Fiscal Policies: Maintenance is subcontracted to the City of Grand Junction. Approximately one half of the monthly service charge is paid to the City for treatment and other costs. Similarly, the District has a \$1,750 EQR (equivalent to single family residence) tap fee; of which, \$750 is forwarded to the City to cover costs of treatment plant expansion. In addition to these fees and charges, the District has a 3.99 mill levy. It is repaying a general obligation bond. The annual payments of approximately \$300,000 are applied to the June 1, 1984 balance of \$825,000, with final payment scheduled in 1987. Fees and service charges are outlined in Table 12-2.

Development Policies: The developer is required to extend the collection system to and within proposed developments. The District pays expenses for required oversizing beyond the developer's needs. The District refunds up to \$500 of installation costs per single family unit (this amount varies for different uses). The District bears the cost of pumps and the oversizing of interceptors through tap fees. The District provides design review, construction management and inspection of all new installations. All construction must meet the City of Grand Junction's standards.

Fruitvale

Fiscal Policies: Maintenance is subcontracted to a private firm. Approximately one-half of the monthly service charge is paid to the City of Grand Junction for treatment and other costs. Tap fees are \$800 EQR. Of this, \$750 is forwarded to the City for treatment plant expansion. The District has no mill levy and no debt. Fees and service charges are outlined in Table 12-2.

Development Policy: Developers are responsible for installation of on-site improvements to the City of Grand Junction standards. If ownership of the improvements is dedicated, the tap fees may be moved up to the cost of construction; however, the lines must be in a dedicated street. The District bears the cost of off-site improvement and line oversizing.

A development may petition for service if it is within the District's legal boundaries, and if all taxes for the development are current.

Orchard Mesa Sanitation District

Fiscal Policies: The District has a basic service charge which varies for different uses according to a single family equivalency (EQR). Forty-five percent of this is forwarded to the City for the costs of treatment. A \$750 plant investment fee is paid to the City for its system expansion, with a \$1,000 tap fee levied for extension of the District's collection system. A portion of this is reimbursed to the developers, depending on the value of improvements they have installed (see Development Policies.) Fees and service charges are outlined in Table 12-2.

The District has a 3 mill levy which it is using to repay a \$750,000 FmHA loan. Annual repayments are approximately \$26,300.

Operation and maintenance costs are covered by service charges and the excess is used to pay for line extension and system upgrading.

Development Policies: Developers are responsible for installation, operation, and maintenance of on-site improvements to the City of Grand Junction standards. If ownership is dedicated to the district, \$500 of the tap fee is reimbursed. The District bears the cost of off-site improvements FmHA loan, mill levy, and tap fees.

The District does not have a policy on line oversizing. It extends lines on an as needed basis, but these are short extensions since most of the District is already served. They have considered expanding service to the east, but this would require enlarging the District which would be against the recommendations in the Grand Junction 201 Plan.

Ridges Metro District

Capital Improvements Program: The system will be expanded as development occurs in accordance with an already approved master plan. The Ridges Metro District was originally scheduled to be built out by 1992. Due to the housing market and economic changes following the 1982 economic downturn, additional major capital improvements are being delayed.

Fiscal Policies: The District charges a base rate per unit for service; approximately three-fifths is remitted to the City for treatment costs.

The tap fee and plant investment fee is \$750 for both single family and multi-family units. The entire fee is remitted to the City. This fee structure represents a price reduction of over 60 percent on tap fees for single units. The reduction has been made in an effort to stimulate construction in the Ridges. Fees and service charges are outlined in Table 12-2.

In 1984, the Ridges Metro District had a levy of 44 mills to retire approximately \$3.5 million in bonds. The 1984 annual payment is \$325,000 for principal and interest. These bonds are being used for construction of all four services: water, sewer, irrigation, and recreation. The bonds are scheduled to be paid off in 1999. The District has a \$16 million debt limit.

Development Policies: All construction must meet city standards. The District designs and constructs main lines to the property line. Developers must install on-site improvements of a design and standard approved by the District.

ISSUES

- The major issue for sewer treatment is the lack of agreements with all the service entities who provide services, development and extension policies, and rate setting. In a regional situation, as is being developed, it is essential that intergovernmental agreements be established and followed to ensure consistent provision of service.

- Grand Junction and Mesa County do not have a joint policy for local improvement districts for sewer interceptors and lines.
- The Persigo Service Area was based on existing and anticipated zoning development patterns and physical characteristics at the time the boundaries were decided. The Persigo Service Area was adopted by the City of Grand Junction and Mesa County. However, developments have been approved outside and adjacent to the service area by Mesa County.

If the County does not wish to restrict development to the present service area, the boundaries of the service area should be modified and the County should submit a new service plan to the State of Colorado showing how the additional volume of wastewater will be accommodated. If development is to be served by regional facilities, the development must be located within the service area. Land use planning and utility planning decisions must be consistent.

The City of Grand Junction, the various local districts, and the County should develop mutual policies on service area development priorities and the formation of improvement districts.

DRAINAGE

Introduction

Generally, people consider drainage problems important only after major storms. Since precipitation in the Grand Junction area is usually light, drainage systems have not received the attention and priority that they require. Thus, when major precipitation does occur, both major and minor drainage systems are frequently unable to cope with the demands. This section will discuss the three prevalent types of drainage needs in our area. These are: 1) Irrigation return flows, 2) Natural drainage systems (creeks, rivers, natural drains), and 3) Urban stormwater runoff.

Pervious and Impervious Surfaces

In any discussion of drainage characteristics and problems, the consideration of the ground surface is a critical factor. The Master Drainage Plan done for the City of Grand Junction in 1975 calculated the average percentage of pervious and impervious characteristics of various soils and land uses. Table 12-3 identifies the percentage rates

for various general land use classes while Table 12-4 correlates existing local zoning with criteria established by the Denver Regional Council of Governments "Urban Storm Drainage Criteria Manual" (DRCOG Manual). The DRCOG Manual was adjusted in the 1975 study to reflect local conditions of slope, vegetation, etc.

Table 12-3

LAND USE VS. PERCENT OF IMPERVIOUSNESS (4)

LAND USE CLASS	LAND USE	PERCENT PERVIOUS	PERCENT IMPERVIOUS
1	Downtown business area, Airport terminal, Shopping Centers, etc.	0 - 5	95 - 100
2	Residential Dense	40 - 55	45 - 60
3	Residential Normal	55 - 65	35 - 45
4	Residential, Large Lots	60 - 80	20 - 40
5	Parks, Greenbelts, Agriculture, etc.	90 - 100	0 - 10

Table 12-4

CORRELATION OF LOCAL VS. DRCOG** MANUAL LAND USE CLASSIFICATIONS

DRCOG CLASSIFICATION*	CITY ZONING CLASSIFICATION	PERCENT PERVIOUS	PERCENT IMPERVIOUS
1	B-3, C-2, I-2, C P	5	95
	B-2, C-1, C I-1	10	90
	B-1	15	85
2	RMF-18 thru RMF-84	45	55
3	RSF-5 thru RMF-16	60	40
4	RSF-4	70	30
5	None	90	10

* From Table

** Denver Regional Council of Governments

Existing Drainage Systems

The existing drainage system consists of widely varying types of facilities. About 80 percent of the Grand Junction area drainage is provided by storm sewers. Some of these are combination storm and sanitary sewers. The City is presently studying the sanitary sewer system to determine the extent and effects of infiltration, irrigation waste water, and storm runoff on system capacities, including the Persigo Wastewater Treatment Facility. This study was required by the grant received from the EPA for the construction of the Persigo facility.

Future Drainage Impacts

The continuous loading of existing drainage systems with urban stormwater runoff is a major concern. The majority of the present systems are barely adequate to handle present loads and the introduction of additional flows will require massive expenditures of public funds to upgrade and enlarge these systems. A more cost effective approach is to limit the introduction of additional flows by retention or detention systems in new developments.

With proper design, parks, open space areas, streets, parking lots, and other

facilities can and should all be used as retention or detention areas. The use of open drainage ways as greenbelt amenities should be seriously considered. (See also Chapter 5, Environment.)

Aside from urban stormwater runoff, the other major impact on drainage capacities is cloudburst-type storms in the upper reaches of the drainage system. Controlling the effects of these potentially damaging storms can be accomplished by the construction of a series of small retention facilities upstream of the urbanized area. These facilities would be relatively inexpensive to construct and maintain and would distribute flows over a larger period of time. They would have the additional advantages of reducing sediment loads which can clog pipes and culverts and also reduce the salinity entering the Colorado River.

ISSUES

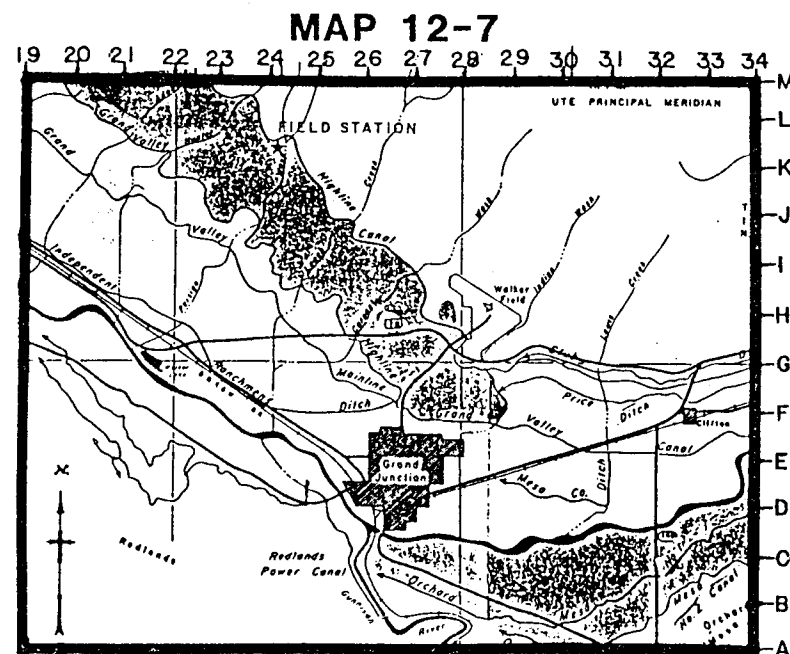
- Additional urban stormwater runoff is stressing local drainage systems. Improvement and expansion of these systems is costly and a strain on local tax revenue.

- Drainage in the Grand Junction area is managed by various agencies for different reasons. This makes overall coordination of drainage improvements difficult.
- There is disagreement as to whether piping and covering of large open drainages usually results in less flow capacity and increases maintenance costs.
- Combined irrigation and storm sewer drainage systems are generally not adequate to handle the additional demands of urban runoff.
- Combined storm and sanitary sewers are adversely impacting the wastewater treatment plant during periods of high precipitation.
- Rainfall in the upper reaches of the drainage basins north of the Colorado River (Bookcliffs area) are contributing excessive amounts of sedimentation and salinity downstream. Cloudburst storms in the upper basins may result in downstream flooding.

IRRIGATION

Existing Systems

Untreated irrigation water in the Grand Junction area is supplied by four major canal systems with several subsystems (see Map 12-7.) Most of these canals were constructed during the early 1900's for the delivery of water to agricultural operations. Agriculture was the primary economic base for the area at that time and the climatic conditions required an adequate and reliable delivery of irrigation water.



**GRAND VALLEY
IRRIGATION & DRAINAGE**

U.S.B.R. Highline Canal

The U.S. Bureau of Reclamation Highline Canal is operated by the Grand Valley Water Users' Association. It carries water to the northern portion of the Grand Valley, including water supplies for Mesa County Irrigation District and Palisade Irrigation District.

Grand Valley Canal

The Grand Valley Canal system is a private water delivery system that covers the central area of the valley from Palisade to a point west of Fruita. Unlike the U.S.B.R. Highline Canal, water shares on the Grand Valley system are not tied to the land and can be sold or leased.

Orchard Mesa Canals

The Orchard Mesa Canal No's. 1 and 2 receive their water from the U.S.B.R. Highline Canal. Water from the canal is carried under the Colorado River by a siphon to the Orchard Mesa Pumping Plant south of Palisade. The Pumping Plant lifts the water to the canals where it is distributed by gravity flow.

Redlands Irrigation System

The Redlands Irrigation System receives its water at the Redlands Water and Power Diversion Dam on the Gunnison River south of Grand Junction. Because of topographic conditions, the Redlands Irrigation System is made up of a complex network of canals, lifts, and laterals.

Irrigation Problems

All of the existing irrigation systems were planned for large acreage agricultural irrigation. With the urbanization of the central Grand Valley, more and more of this water is being used to water lawns and gardens in medium to small lot subdivisions. With a multitude of users on small irrigation laterals, conflicts over water usage have increased.

ISSUES

- Use of potable water for irrigation purposes can incur significant public and private costs because of the need to expand treatment facilities and the possible loss of landscaping investments during drought years.

- The conversion of agricultural irrigation systems for subdivision irrigation is generally inadequate and results in increasing conflicts between water users.
- There is usually no identified responsibility for the maintenance and control of irrigation lateral systems. As a result, delivery systems may be poorly maintained, inefficient, and cause conflicts between users on the lateral.
- Irrigation systems in the Grand Valley have been shown to contribute significant amounts of salinity to the Colorado River.

SOLID WASTE

A solid waste disposal system is an often overlooked subject area but an essential service requirement. Grand Junction and Mesa County are very interdependent in terms of mutual cooperation regarding this system.

Types of Waste

Mesa County is responsible for the management of the municipal waste stream either directly or through contractors, whereas specific industries are responsible for their wastes.

Much of the material for this section concerning the overall waste management was obtained from the Mesa County Waste Management Plan, February, 1983.

HAZARDOUS WASTE

Hazardous waste has been a controversial, and newspaper-headline generating area of solid waste disposal. This is because of the possible damage to the environment and past and continuing problems with proper disposal of the wastes generated.

Based on the Colorado Department of Health's survey and conservatively estimating that 75 percent of Region XI's hazardous waste is generated in Mesa County, results in an annual tonnage of 23 tons (equivalent to 110 barrels per year or 0.30 barrels per day). However, Mesa County's hazardous waste volume will remain relatively small, thus precluding consideration of off-site hazardous waste disposal facilities in the County.

Two major concerns to the City of Grand Junction will be, first, that under new federal hazardous waste regulations, the City will be impacted both as a transporter and generator of waste. Second, that the new standards may promote the illegal disposal of hazardous waste.

Since the closure of the Denver-Arapahoe Chemical Waste Processing Facility, located ten miles east of Denver and operated by Waste Management, Inc., there is no facility available for the disposal of hazardous wastes in Colorado. The closest facilities available to Mesa County generators are located in Boise, Idaho; Wichita, Kansas; Oklahoma City, Oklahoma; and Houston, Texas. Transportation costs to these facilities are significant; the Colorado Association of Commerce and Industry and a number of national waste management firms are pursuing the development of a hazardous

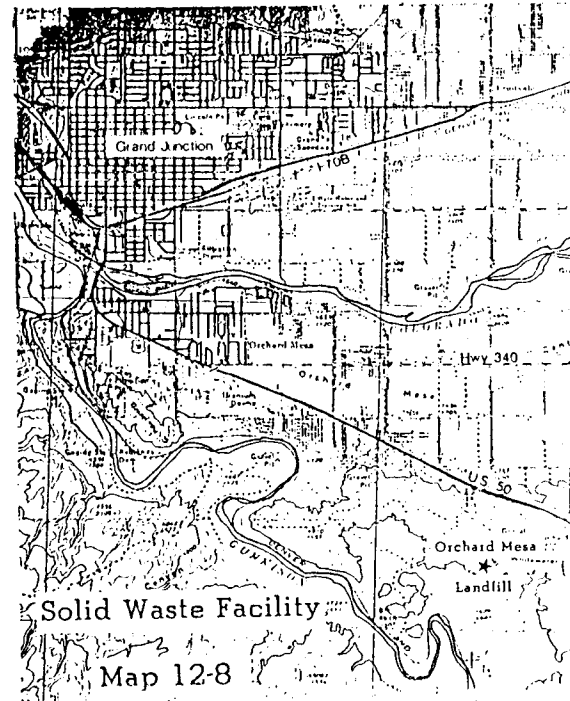
waste disposal site to better serve the needs of Colorado industry.

These factors are significant in the location of industries which need the availability of these facilities in the areas they operate in. It essentially precludes the location of certain types of industry in the Grand Junction area. Companies have the option of developing their own alternatives/sites but this has high costs.

Siting

The siting of landfills a primary area where City/County cooperation is needed. Grand Junction does not have any suitable land within its boundaries for a landfill.

The problem of siting a major new landfill in Mesa County is not an immediate concern. The present site at the Orchard Mesa landfill (see Map 12-8) is estimated to have a 15 year life expectancy; this may be extended considerably. Volumes are below original projections which may add additional life to the site.



RECYCLING/RESOURCE RECOVERY

The two principal approaches to resource recovery consists of conversion, (i.e. the recovery of resources through the conversion of wastes to energy--in most cases, steam and/or electricity), and recycling (i.e. the separation of a waste material which can then be reused).

Although changes have occurred in the Grand Junction area since this analysis, there still appears to be only limited potential for resource recovery in the area today and in the near future.

CITY OF GRAND JUNCTION COLLECTION SYSTEM

Grand Junction's responsibility for solid waste collection and disposal stems from the concern that improperly stored or treated waste can feed and harbor disease-bearing pests and endanger public health. Grand Junction also has aesthetic interests in assuring that streets are clean, waste disposal does not make large amounts of land unfit for productive use, waste is treated as a productive resource as much as possible, that all operations are free of aesthetic insult (odors and noise), and that they are not a public hazard.

The Grand Junction solid waste collection system is a house-to-house collection system. This involves the pick up of trash containers once per week. Commercial service is available as needed between one and seven days. Residents place their trash in containers in alleys, backyards, or curbsides for pick up. An average of 12,355 residential customers are served per month and 9,995 commercial buildings.

ISSUES

- It is important for Grand Junction to work in close cooperation with Mesa County to reserve sites for landfills in as close a proximity to the City as possible. This will help to insure a place for waste disposal in the future as well as reduce hauling costs.
- Under a new federal hazardous waste regulation, the City will be impacted both as a transporter and generator of waste.
- Illegal disposal of wastes may be promoted by exclusion from regular waste stream collection.
- Many cities have found that contracting with private companies for solid waste disposal services is more cost efficient and effective for the municipality. This issue needs to be more fully discussed and evaluated. This could be done by describing the parameters in the Comprehensive Plan or evaluating the issue in a separate study.
- The City should not knowingly accept or transport regulated quantities of any hazardous waste as a part of its waste stream collection and disposal.

- There are very limited appropriate transportation and disposal facilities for hazardous wastes available to the City and County.
- There are no clear Grand Junction policies and procedures regarding the collection, transportation and disposal of the EPA defined hazardous wastes.

GRAND JUNCTION POLICE DEPARTMENT

The Grand Junction Police Department, located at 314 South 6th Street, is responsible for the enforcement of state laws and City ordinances within the Grand Junction incorporated city limits. The area serviced by the Grand Junction Police Department has approximately 30,000 persons within 13 1/2 square miles. The present police facility includes 11,400 square feet and there is a proposed expansion of an additional 8,000 square feet to take place in 1984. In addition, the City of Grand Junction and Mesa County share the jail facility which is located at 655 Ute Avenue. The City pays a fixed amount to the County per person incarcerated.

The Police Department performs several functions, one of which is central administration, overseen by the Chief of Police. The Operations Division Captain directs patrol and the investigative unit. The services Division Captain supervises the crime prevention unit, training and records section.

The majority of the Grand Valley's service, retail and entertainment facilities lie within the Grand Junction city limits. A far greater number of people work, shop and utilize the

entertainment facilities within the city limits than actually live there. There is no accurate way to assess the actual number of people within the City at any given time. However, out of 2,057 accidents which occurred within the city limits of Grand Junction, 1,155 or 56% involved non-City residents.

Considering the location of services and the regional trade center that Grand Junction serves, it may reasonably be assumed that this police department is understaffed.

In 1983 the Police Department reports indicate a continued decline in major and minor crimes committed and the Department solved more of those crimes investigated. One reason for this decreasing trend in crime is a greater cooperation among law enforcement agencies. The Police and Sheriff's Department law enforcement officers receive the Deputy Sheriff commission. This allows crossing into each other's jurisdiction in cases of extreme necessity. Other reasons for the decline in crime rate are due to increased community support and the Proactive Prevention Program.

School Resource

The purpose of the School Resource Program is to establish positive and productive relationships between students and the police. Through the school system, the law enforcement community involves youth in learning about laws and responsibility, thereby reducing juvenile involvement in drug abuse and crime. This program is one of the unique areas in crime prevention.

Animal Control

There was a reorganization of the Animal Control Center at the beginning of 1984. The services are now being provided by the County under a contract basis. The Center is responsible for the enforcement of local ordinances regarding animals.

ISSUES

- The Grand Junction Police Department provides a high level of sophisticated police services. These services are desired by the community and provide an incentive for businesses to locate within the city limits.

GRAND JUNCTION FIRE DEPARTMENT

The City of Grand Junction Fire Department provides fire protection for the City of Grand Junction. The Fire Department also provides services through a contract, for the Grand Junction Rural Fire District which surrounds the City (see Map 12-10). The two fire districts agree to pay their own capital costs. Other charges to the rural district, such as manpower, are based on a percentage of the total number of calls in relation to the total operating budget. This total service area includes approximately 97 1/2 square miles, of which 13 1/2 square miles constitute the city limits.

The Grand Junction Fire Department has a mutual aid agreement with the fire fighting units in Clifton, Fruita, Central Orchard Mesa, East Orchard Mesa, Palisade and Glade Park. This mutual aid agreement basically states that the fire fighting units will assist each other in case of emergencies.

Within the operational area of the Grand Junction Fire Department, there have been some problems identified. Of primary concern is inadequately sized water mains and a lack of sufficient fire hydrants. The problem of fire fighting

equipment accessing streets and response time to areas that lack adequate crossings is also a concern. Each of these concerns is compounded for the City of Grand Junction which is annexing some areas that have these particular problems.

In order to make its resources more available to developing areas, the Grand Junction Fire Department has allotted \$1,500,000 by 1988 for three capital improvement projects. Construction of Fire Station #5 is scheduled to begin in 1984 or 1985 with a projected cost of \$500,000. Fire Station #2 will be relocated by 1988 at an estimated cost of \$500,000.

In addition, there are tentative plans of relocating Fire Station #3 to the Redlands area. Formal plans for this station should be developed by 1987.

Finally, the Fire Department is proposing a Fire Training facility to be built within the Grand Junction Fire Department service area by 1988.

The standards concerning fire department location and operation are set forth by a rating bureau or the Insurance Service Office (ISO). This standard is a five minute response time from the fire station to a high value district (commercial, industrial, multi-family) and to a residential urban area.

22 23 24 25 26 27 28 29 30 31

GRAND JUNCTION RURAL

GRAND JUNCTION

○ Fire Stations

FIRE DISTRICTS

CLIFTON

CENTRAL ORCHARD MESA

FIRE STATIONS WITHIN GRAND JUNCTION, 1984	
Fire Stations	Location
Station 11	330 South 8th
Station 12	1135 North 18th
Station 13	582 25 1/2 Road
Station 14	251 27 Road

OTHER FIRE STATIONS	
a.	Orchard Mesa
b.	Clifton

INTERGOVERNMENTAL AGREEMENT BOUNDARY

The Bureau takes into consideration the location of fire hydrants, water main sizes and response time, and rates fire districts on a scale of 1 to 10, with number 1 being the optimal rating. The City of Grand Junction is rated a "6," while the adjacent rural area is rated from "8" to "9."

Through application of the running area standards of the Insurance Service Office, there are three areas that lack sufficient fire protection: 1) Airport Area, [2] Redlands Area and, [3] the Whitewater Area.

There is currently an effort underway by local officials in Grand Junction to reduce the Insurance Service Office rating of the City of Grand Junction from a Class 6 to a 4. Major factors restricting this effort is response time, inadequate water flow and fire hydrants. It is recommended that the Fire Protection Program and the on-going improvements to water mains be continued. This would result in greater protection and potentially lower insurance rates.

ISSUES

- The Grand Junction Fire Department needs to continue to expand its fire fighting capacity through development/redevelopment of fire-stations, improvements to water flow lines, and additional fire hydrants. This will improve community safety as well as decrease costs of fire insurance for Grand Junction residents.

PUBLIC BUILDINGS

The public buildings emphasized in this section include the City Hall/County Courthouse complex, the new State Office Building, and a brief discussion on city-owned properties within the downtown area. [These are the buildings which serve the general public and not necessarily the specialized needs of the community.]

Other major public buildings for specialized services will be covered in the appropriate chapters of the Comprehensive Plan. Table 12-9 lists a partial inventory of the major local, state, and federal buildings located in the downtown area.

Table 12-9
MAJOR PUBLIC BUILDINGS IN THE DOWNTOWN AREA

<u>Buildings</u>	<u>Location</u>	<u>Sq. Footage</u>
City Hall	5th/Road	22,000
Old City Shops	River Rd.	21,500
New City Shops	River Rd.	32,000
County Courthouse	6th/Road	57,850
County Road Dept.	S. 9th	52,800
Two Rivers Plaza	2nd/Main	27,000
State Office Bldg.	6th/Pitkin	36,000
Federal Office Bldg.	4th/Road	42,350
City/County Library	4th/Grand	33,575
	Total	325,075

Currently within Grand Junction, the trend has been towards consolidation at

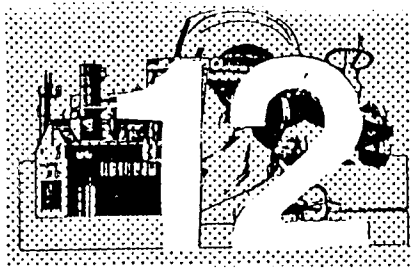
all levels of governmental administrative offices. The new State Office Building, opened in mid-February, 1984, has consolidated many of the state services which were previously dispersed throughout the area. While it is generally desirable and convenient for most government facilities to centralize in one location, it is not always an alternative. Many specialized public facilities are still dispersed throughout the area.

A spatial analysis to determine the amount of additional space required for public buildings can provide an understanding of present conditions in relation to future demands. State and national standards for governmental space requirements can be utilized as a starting point in the spatial analysis.

Other factors, including cost/benefit analysis, location, forecasted population, timing, and joint City/County needs assessment and alternatives such as locating similar governmental agencies should also be considered in a spatial analysis.

ISSUES

- There has been relocation and decentralization of City and County offices without a spatial analysis.



PUBLIC FACILITIES AND SERVICES

POLICIES

SEWER POLICIES

1. It is the policy of Grand Junction to work with all local governmental entities and special districts to coordinate short- and long-term capital improvement needs, plans and projects. While maintaining its role as Manager, the City will work with all those concerned on questions pertaining to service, extension policies, rate setting and other management decisions.
2. The City of Grand Junction does not encourage the formation of special districts. If they are formed, it is the position of the City that once the initial debt is paid, the district should dissolve and the appropriate jurisdiction assume ownership of the system.
3. The use of existing facilities and services should be maximized to ensure the use of present public investments. If development locates outside the 201 service area and desires to connect to the Persigo system, the development and/or Mesa County should submit a new 201 service plan outlining how the additional

volume of wastewater will be accommodated and any adverse impacts mitigated. In addition, the development should pay its own way plus compensate for any lost revenues within the service area. As is the policy in the Grand Junction Development Code supports the concept that utilities should guide the location of new development and should support planned land use patterns.

DRAINAGE POLICIES

1. Generally, new developments should retain or detain drainage above two year historic runoff and up to ten year developed runoff on the site. Alternatives to retention or detention should be justified by appropriate engineering studies. Innovative site planning will be encouraged in order to accommodate these standards, including arrangements with adjoining land owners to promote economy of scale.
2. Responsibility for drainage systems coordination should be assumed by one agency with proper and adequate staffing.

3. Whenever feasible, large open drainages, under the jurisdiction of the City of Grand Junction, should be improved but not piped.
4. Mitigation of sedimentation, salinity and flood hazards from upper drainage basins should be explored.

associations can administratively combine and contract for maintenance and operation, thus achieving economy of scale.

5. Mitigation of sedimentation and salinity in irrigation systems should be considered in the design and construction of new systems or modifications to existing systems.

IRRIGATION POLICIES

1. All new developments shall provide irrigation systems for untreated water wherever feasible and dedicate appropriate water rights.
2. Design of irrigation systems should be such that the efficient use of water is maximized while the potential for conflicts between users is minimized.
3. All subdivision irrigation systems should be of sufficient scale to operate adequately and be under the control of a homeowners' or water users' association.
4. Alternatives should be explored for assigning authority and responsibility for irrigation laterals. For example, subdivision

SOLID WASTE POLICIES

1. Support Mesa County in its efforts to reserve additional land use sites.
2. Cost effectiveness of the City's solid waste disposal services should be determined.
3. The City shall exclude from regular collection the smallest portion of the waste stream possible to reduce the potential for illegal disposal of the wastes.
4. The City shall not knowingly accept, transport, or dispose of any regulated quantities of hazardous waste as a part of its waste collection and disposal program.

5. The City shall encourage the development of appropriate hazardous waste collection, transportation, and disposal facilities.
6. The City shall cooperate with the Mesa County Health Department, the lead local agency on hazardous waste, in the development of further policies, procedures and programs.

PUBLIC BUILDINGS POLICIES

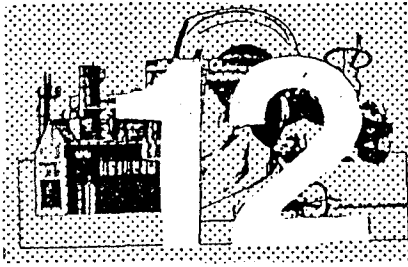
1. The City of Grand Junction should consider current and projected spatial analyses before departmental relocations are made. Any spatial analysis should be considered in conjunction with a Mesa County analysis where appropriate.

POLICE DEPARTMENT POLICIES

1. Cost benefit analysis for delivery of police service should be made regarding any major annexation.

FIRE DEPARTMENT POLICIES

1. Cost benefit analysis for delivery of fire service should be made regarding any major annexation.



PUBLIC FACILITIES AND SERVICES

IMPLEMENTATION TASKS

SEWER

Work with the special district council to insure long range development coordination.

Develop 201 service plan update and evaluation criteria for proposed interceptors, outside the present Persigo service area, that wish to tap into the Persigo system.

DRAINAGE

Amend City regulations to limit drainage discharge from new developments.

Agency responsible for Grand Junction area drainage should be determined.

Review and update the 1975 Master Drainage Plan with segmented drainage analysis so that if retainage occurs, individual as well as collective retainage plans can be implemented.

Discuss methods of retention and detention in the upper drainage basins with other affected county, state, and federal agencies, and where possible, adopt equivalent standards.

IRRIGATION

Establish recommended designs for subdivision irrigation systems.

Investigate methods for improving the functioning of homeowners' or water users' associations.

Work with irrigation suppliers to assign responsibility and authority for irrigation laterals.

SOLID WASTE

Support Mesa County's efforts to appropriate additional landfill sites for future use.

Develop a method of evaluating the costs of a City run disposal system vs. private and service level delivery improvements.

The City shall further develop hazardous waste policies, procedures and implementation tasks in cooperation with the Mesa County Health Department.

POLICE DEPARTMENT

Maintain existing Police Department at present service levels.

FIRE DEPARTMENT

It is important to maintain Fire Department services at the present ISO rating of 6 and work towards improving the rating of the department to that of 4.

PUBLIC BUILDINGS

The City of Grand Junction will review the need for a spatial analysis.