Example of post energy boom planning | "First Street arterial development plan," Craig, Colorado

Christopher C. Behan
The University of Montana

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AN EXAMPLE OF POST ENERGY BOOM PLANNING:
"FIRST STREET ARTERIAL DEVELOPMENT PLAN"
CRAIG, COLORADO

By
Christopher C. Behan
B.A. University of Montana, 1981
A Professional Paper Presented in Partial Fulfillment of the
Degree of Master of Science
UNIVERSITY OF MONTANA
1986

Approved by:
[Signature]
Chairman, Board of Examiners

[Signature]
Dean, Graduate School

[Signature]
Date: Dec. 11, 1986
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INTRODUCTION

During the 1970s and early 1980s, an international scramble for energy resources made many areas of the resource-rich rural western United States attractive for the exploration of various energy minerals. Areas previously uneconomical to explore because of transportation or construction costs, suddenly gained the full attention of energy developing companies and utilities. Such attention often led to massive growth in the small, predominately agricultural towns which happened to be located near a particular project.

By the mid-1980s world interest in energy products declined as fears of exhausting the global resources were soothed, controlling cartels fell into disarray and prices dropped. The United States' official goal of energy self-reliance was abandoned with the changing of governmental administration. Thus incentives for further exploration in the rural regions decreased at nearly the same time many of the large construction projects started years earlier were completed. The result for most western boom towns was economic "bust".

A somewhat typical western "boom-bust" town was Craig, Colorado, located in Moffat County which occupies the northwestern corner of the state. The eastern half of the
county, particularly the Craig area, is rich in coal, oil and uranium. The southwestern portion of the county is underlain by vast reserves of oil-shale. From 1975 to 1982, there was both intense exploration and development of these minerals in the county. In addition, a three unit, coal-fired, 1275 megawatt electric generating plant was constructed near Craig. By 1985, much of the exploration activity had ceased and the power plant and was on-line. Craig's population had tripled and then halved in less than ten years.

The sociological problems of energy boom towns have been well documented. There has been far less documentation of planning in such towns, except to mention failures. Still less has been written about any aspect of such towns after the crowds of people left. This paper presents and analyzes the first regulation-oriented plan introduced in Craig since the boom, the "First Street Arterial Development Plan".

To understand the situational context of that plan, the "boom-bust" town phenomenon and its historical relationship with Moffat County and the City of Craig is briefly explored. The plan itself is then presented, followed by analysis of its purposes, potential and place in the local planning framework as an example of post-energy boom planning.
CHAPTER I

CRAIG, COLORADO
SPATIAL LOCATION OF MOFFAT CO. AND CITY OF CRAIG

Moffat County occupies the northwest corner of Colorado. It contains 4,734 square miles of land, a size almost identical to that of the State of Connecticut. Approximately 58% of the land is under federal, state or county ownership. Most of the land is made up of sparsely vegetated, semi-arid low hills, with a county-wide average elevation of 6,500 feet. In Moffat County there are no massive mountain ranges which characterize much of the western half of Colorado. The City of Craig, the county seat, is in the central portion of the eastern quarter of the county, (see Location Map, page 19). It is situated at the junction of Colorado State Highway 13, which is the primary north-south route in western Colorado, and U.S.Highway 40, which runs between Denver and Salt Lake City, Utah. Craig is the largest community within a 100-mile radius and the second largest town in western Colorado.

The nearest towns of size to Craig are: Salt Lake City 289 miles to the west, Rock Springs, Wyoming to the northwest 173 miles, Denver to the southeast 210 miles and Grand Junction 156 miles to the south.

1) Note: all distances are shortest route, highway miles as found in the 1980 Colorado State Highway Map.
ECONOMIC DEVELOPMENT HISTORY

Just prior to the 1850s the Moffat County area was inhabited by the Ute Indian Tribe and several white fur trappers who worked the Green, Little Snake and Yampa River drainages. By the end of the 1850s the fur trade had given way to cattle grazing. The Ute Indians of the area were moved in the 1880s to reservations in Utah and southern Colorado, to allow white settlers full control of the land for open grazing. Introduced into the area around 1900, sheep eventually became the dominant livestock. Crop agriculture, for the most part, has always been dry-land farming of wheat and other grains. A small percentage is dependent on irrigation from the three primary rivers cutting the county. A short growing season and dry conditions limit the amount of farming possible in the area. Agriculture, particularly sheep ranching, has been the most stable employer in the county to date.

In 1903, with construction in progress, the Denver and Salt Lake Railroad halted plans to connect the two cities by rail. The rails stopped at Craig. Because of nearby coal seams and proximity to the Yampa River, Craig was to become the most important stop along the route. A few years later group of Denver bankers and investors successfully pushed for the continuation of the line which would eventually become the Denver, Rio Grande & Western Railroad. Among those bankers was David H. Moffat, for whom the county was
named when it was formed in 1911 from the western two-thirds of Routt County.

From 1926 to 1948 Texaco operated an oil refinery in Craig. The source of its product was oil fields north of Craig and in southern Wyoming. When dismantled, it was moved to Casper, Wyoming to service growing oil production in western Wyoming.

Energy related development fluctuated with the demand for coal from 1920 to the early 1970s. In 1973 and 1974 contracts were signed by various mining companies to provide coal deliveries to a proposed electrical generating plant. The Colorado Ute Power Station is a three-unit 1,275 megawatt facility, built in two phases between 1975 and 1983. Presently, power generated by the plant lights cities to the east and south through newly built corridor lines. Coal not used by the plant, or from mines not under contract is shipped east by rail. The mines are all dragline bucket type surface strip mines.

Other energy related developments in or near Moffat County include: the Union Carbide uranium mine 30 miles west of Craig (abandoned in the early 1980s); various coal mines and a one-unit power plant 17 miles east of Craig in Routt County. Portions of large oil-shale mining and processing operations based to the south in Rio Blanco and Garfield Counties were abandoned by 1983. Two hydroelectric dams have been proposed on the Yampa River, the Juniper and
Cross Mountain Reservoirs, 25 and 50 miles west of Craig respectively. The two dams would have a combined electrical output of 78 megawatts. Cutbacks in federal funding of water projects make the future of these dams uncertain.

THE BOOM

It should be recognized that while Craig, like all boomtowns, had its own set of problems during its rapid growth phase, there are some common ones which vary in intensity with the characteristics of the communities. Many of these towns of the rural west found themselves in similar situations. For the energy related boomtowns of the 1970s common characteristics were relative isolation, 75 to 100 miles from its nearest neighbor, populations of 2000 to 8000 residents, predominately agricultural economies, and self-reliance for many goods and most services (Gilmore, 1975:536; Massey, 1980:139). In many of the towns, as in Craig, there was a large number of elderly and poor in the pre-boom population (Larson, 1980; Simpson, 1985 interview). The people living in such rural communities tended to have resided there for more than one generation and typically were highly individualistic, patriotic, and held to a belief that owning land was a god-given right (Toole, 1976). Perhaps because of this attitude, Craig, like many small western towns, had little land-use control, no mental or social services and few tax-costly items such as water or sewer systems (Massey, 1980:195; Simpson, 1985 interview). Rule
making and enforcement was by informal consensus (Gold, 1985:22). In fact, Craig had no official police department until 1977 (Freudenberg, 1979:57).

In western agriculture the advent of heavily mechanized farming and ranching brought a shift away from subsistence to a greater dependence on profits from harvests. When past the age of working for little or nothing, children of ranchers found themselves forced to look for work in nearby towns or out of the region (Bleiker, 1980:149). For people with a tradition of close family ties this was a difficult situation.

The National Environmental Policy Act (NEPA-1970) forced industry, planning to begin large scale operations in an area, to develop at least some initial support from the local populace. Such development companies can point to many economic theories which are based on the assumption that whenever an industry whose primary market is not local enters a town, the general economy of the entire area goes up (Polzin, 1979). Therefore, when a development is proposed, it may be initially accepted as a way to serve the country, increase the prosperity of the region (Blevins and Thompson, 1983:153), and keep the young from moving away (Moen, 1980:11). The people of Craig seem to have found such arguments plausible as there was little local opposition to the Yampa Project (Rural Electric Administration, 1974).

In 1970, Moffat county held 6,525 residents, of whom
4,205 lived in Craig (Bureau of Census, 1970:19). Two years after construction began on the Yampa Project in 1975, the county's population was estimated to be 10,221 (Craig Area Comprehensive Plan, 1977:4). In 1978, at the peak of construction on the first phase of the plant, the population of Craig was nearly 11,000 (Freudenberg, 1979:57). Coal, oil and uranium exploration in the county more than made up for some construction employment decline until 1980, when work began in earnest on the third unit of the power plant. By 1982, Moffat County had an estimated population of 14,500 and Craig 13,000, (Moffat County Master Plan Summary Report, 1982:1). It should be noted that much of the apparent rural population decline between 1970 and 1980 can be accounted for in the expansion of Craig's corporate limits to include several large residential subdivisions.

The social and physical landscape of the Craig area changed dramatically during the boom years. New shopping malls, subdivisions and buildings seemed to spring up overnight. New community water and sewer treatment facilities were built to serve a population of 25,000 to 30,000 (Moffat County Master Plan Summary Report, 1982:2). Many apartment complexes were constructed as well as the large mobile home parks that typify western boomtowns (Massey and Lewis, 1979:88). Much of the money invested in the town's expansion was from outside banks and corporations. Consequentially, many of the dollars generated "leaked out" of the local economy (Little and Lovejoy, 1979:169), benefiting cities in
other parts of the country more than Moffat County.

The social problems reported as associated with boomtowns by many researchers (Cortese and Jones, 1979; Davenport, 1979; 1980; Gilmore, 1976; Gold, 1979; 1985; Massey, 1980; etc), were, in Craig, most overtly visible in the crime rate. From 1977 to 1979, personal crimes increased 220%, family disturbances 250%, child behavior problems 1000%, alcohol complaints 550%, and drug related problems 1400% (Freudenberg, 1979:57). Many original residents complained of increased traffic and were afraid for their safety at community events such as picnics or rodeos (Freudenberg, 1979:57; Simpson, 1985 interview).

There was an increase in the availability of jobs, including those for the young. However, construction jobs at the new mines or at the power plant generally went to skilled, experienced newcomers. Unskilled personnel were hired during periods of peak construction but were soon laid off in the interest of productivity (Pankonin, 1985 interview; Kneese and Brown, 1981:200). Many jobs opened in businesses servicing the construction or exploration activities and at the new stores and motels. However, many of Moffat County's youth still "left for jobs in Denver and to get away from Craig" (Simpson, 1985 interview). They were ultimately replaced by young people from other regions of the country searching for opportunity. Virtually all white-collar jobs connected with the boom went to outsiders famil-
iar with the maintenance and operations of the plants and mines.

Business in general thrived during the boom. By some local estimates Craig's business pinnacle was reached when K-mart, McDonalds, Taco Belle, Holiday Inn, Pizza Hut and Safeway opened in the same month (Simpson, 1985 interview). The older businesses typified by patient, personalized service such as boot and saddle makers or general stores, closed.

The boom also brought sky-rocketing inflation and a housing shortage to Craig. Apartment buildings and houses could not be built fast enough to keep up with the influx of workers and their families (Gibbons, 1985 interview). Those on fixed incomes, such as the elderly, were at a tremendous disadvantage. Many such life-long residents sold their belongings and left the area.

THE BUST

By the end of 1983, stabilizing oil prices reduced the frantic search for new sources of energy minerals nationally and in Moffat County. The third unit of the power plant was nearly finished and on-line. The coal mines cut back on expansion efforts and were running efficiently with just a few workers. In the counties to the south, the huge oil-shale project shut down completely. Thoughts, even hopes, of a continuing boom from that project, leading to a 1990
Moffat County population projection of 39,000 (Colorado Department of Natural Resources, 1979:89), died quickly.

By the summer of 1985, almost two-thirds of the businesses in Craig had closed. The large mobile home parks were nearly empty. Construction on several residential subdivisions was halted, leaving them partially developed, often with houses half built. The population of Craig was estimated to be near 8,000 in 1985 and decreasing rapidly (Gibbons, 1985 interview). A general slow-down in construction of energy-related facilities across the country left many transient workers "stuck in Craig" and unemployed (Simpson, 1985 interview).

From a sociological standpoint, the partial return to rural life and relative isolation has not, as of 1986, worked out well in Craig. For example, juvenile delinquency is at an all time high, teen pregnancy rates rival any in the nation and crime has not diminished proportional to the population, according to Richard Gibbons, the County Planning Director. This trend follows findings by sociologists in other boomtowns "gone bust". They have found that many family, interpersonal and psychological problems related to populations during a boom are intensified rather than abated in the decline period (Gold, 1986 interview). The original residents remaining have found their town urbanized, themselves less provincial and perhaps dependent on products not available before the boom. They mourn the loss of the
original community and are ambivalent toward the newcomers who are associated with the industry which caused the boom (Gold 1985:77; Gibbons, 1986 interview). For their part, the newcomers who stayed on to live and conduct business in Craig would like to be thought of as locals, but aren't (Gibbons, 1986 interview). Some try to fit in by joining service organizations or involving themselves in community leadership (Gold, 1985:85; Gibbons, 1986 interview). For example, both the leadership and a majority of the membership of the 1985-86 Craig Chamber of Commerce is composed of relative newcomers to the area (Craig Chamber of Commerce brochure, 1985:5).

Residents outside the Craig area found themselves generally unaffected by the boom or the bust, except by actions taken by the county government to alleviate problems in the town such as zoning and taxes. Out of such actions the Moffat County rural residents have become a third major power in county politics along with the pre-boom power structure of Craig and the newcomer population associated with industry. In general it is corporate policy of the companies owning the power plant and the mines to stay out of any dealings with local decision making. It seems to Robert Simpson, former City Planning Office Manager, that supervisory personnel from the plant and mines tend to stay out of all local politics unless instructed otherwise.
PLANNING IN MOFFAT COUNTY

Purely advisory comprehensive planning along with some zoning in the Craig area was instituted in the mid-1960s. Subdivision regulations were adopted by the county in 1972. Until 1976 there was little implementation of these plans and regulations, as enforcement was informal and they were written primarily to satisfy state and federal requirements in obtaining various grant monies (Gibbons, 1985 interview). Historically, in Moffat County, all planning functions were housed in the County Planning Office and reviewed by the Joint City-County Planning Board. That Board was composed of interested citizens who reported to and were appointed by, the Craig City Council and Board of County Commissioners. In the late 1970s, that system was expanded into one which includes a City Planning Office and Planning Board which reports directly to the City Council. The County is in turn served by its own Planning Office and Planning Board which advises the County Commissioners. To further complicate the scheme, the Joint City-County Planning Board, now composed of representatives of the other boards and elective offices, meets to discuss areas of mutual concern to both jurisdictional entities. Both the City and County Planning Offices are staffed with one full time planner, as they were throughout the boom.

The county is operating under the 1982 Moffat County Master Plan which was updated and revised somewhat in 1986.
Almost all of the plan is devoted to the Craig area. The City of Craig uses that plan as an advisory document but has not formally adopted it, therefore it is legally operating under the 1977 Craig Area Comprehensive Plan.

Money for formal plans has always been provided by state agencies. The two comprehensive plans currently being used were both sponsored by energy extraction impact assistance funds paid to the state by development companies. Throughout the boom various state agencies acted in the behalf of Moffat County to obtain state and industry financing of public works. In 1975, the state set up the Front End Finance Advisory Committee, composed of representatives of the public, various industries, and state and local governments. This committee advised both the Budget Committee of the State Legislature and relevant corporate offices about problems and possible solutions during the boom. The committee was disbanded by 1981.

Because of the amount of federal land and mineral rights affected by many of the operations around Craig, Environmental Impact Statements (EIS) were required under NEPA. Most of the studies were completed prior to 1976, and therefore pre-date court actions which expanded the importance of socio-economic impacts on local communities (Nelson 1982:). The growth in Craig centered on the construction of the Yampa Project power plant. The EIS prepared for this project stated that the construction period should be "lengthened in order to spread production employment as
evenly as possible" (Rural Electrification Administration, 1974:176). This would have stemmed the flood of construction workers and thus the service sector and mine expansion associated with the project. However, since this course of action had no enforcement device or statement of the degree of lengthening, it was ignored (Freudenberg, 1979:59). The federal government's posture was that industries should study and mitigate their own impact. Questions of quality of life and social well-being were left to state and local authority (Van Weyhe, 1985 interview). This stance caused a problem in Craig and in other boomtowns as state lawmakers lack the jurisdictional authority to put "teeth into regulations on companies" using exclusively federal or private land (Collins, 1985 interview).

In general, industry does not want to be forced into the role of planning and constructing public facilities or rectifying social problems they believe they only indirectly cause. They believe this is a role for governments (Lindaur, 1975). Many times companies will adopt a "good neighbor" policy, providing limited technical and economic help for communities. This implies that they do have the technical expertise to aid community planners and will provide or fund technical planning work if asked (Bleiker, 1980:150), or forced (Van Weyhe, 1985 interview). Monetary assistance from industry in the Craig area included prepayment of county and state property, impact and severance
taxes, along with some direct financial help and lobbying efforts in development of new facilities such as water systems and schools.

The various efforts to mitigate environmental and social problems meshed nicely in Moffat County as compared to some other energy boom areas (Collins, 1985 interview). Nevertheless, most decisions ultimately were the responsibility of local planning offices and elected officials who lacked the technical expertise, preparedness and political sophistication to deal with the intensity with which development occurred or the speed with which it stopped (Pankonin, 1985 interview).

From 1983 until 1985 there was no major planning effort conducted in Moffat County. Local officials found day-to-day planning mundane in comparison to the fevered pitch of the recent past. They also feared public backlash against actions taken without an emergency as rationalization (Gibbons, 1986 interview). Planning regulations and zoning were considered to be "crisis management" during the boom and not something to inflict on fellow locals. By 1984 a growing number of newcomers in the business community felt that planning was good for attracting new, "clean" industry and began to press for more (Gibbons, 1986 interview).

During the spring of 1985, there was open discord between the various planning and governmental bodies over the handling of residential and industrial subdivisions along First Street. Originally designed to route truck
traffic away from the central business district during the boom, it had become an arterial street to serve future industry or residential areas. It also serves as the corporate boundary between the city and county.

Money for a working plan to coordinate city and county actions in this area was sought and received from the state. The administrative agency providing the money was the Rural Community Assistance Program, which usually hires graduate student interns to perform its tasks.

To be effective as a regulatory mechanism, the plan had to be specific and regulatory. To be adoptable, it also had to be palatable to the three major power groups in the county and their representatives in city and county governments. The following chapter contains The First Street Arterial Development Plan created between June and September of 1986. It is, in turn, followed by an analysis of the plan and its place in the present political structure of Moffat County.
CHAPTER
II
FIRST STREET
ARTERIAL
DEVELOPMENT
PLAN

A JOINT PROJECT OF:

MOFFAT COUNTY AND CITY OF CRAIG
COLORADO

PREPARED BY:

CHRIS BEHAN, GRADUATE INTERN
COLORADO RURAL COMMUNITY ASSISTANCE PROGRAM

AUGUST, 1985
Preliminary plans for an east-west, cross-town arterial, which would eventually become First Street began in the early 1970's. First Street was included in a 1974 Major Thoroughfare Plan prepared for the Joint Moffat County and City of Craig Planning Commission. That plan was approved by the Planning Commission and adopted by the Board of County Commissioners. The plan stated that the primary function of an arterial street was to provide relatively uninterrupted movement of traffic around a built-up area. The provision of access to the street from abutting property was to be subordinate to that function.

The mid-1970's brought an energy extraction boom to Northwestern Colorado. Moffat County, in particular the Craig area, was affected by the boom from several directions: new and upgraded coal mines, oil and oil shale exploration and the construction of a coal-fired electrical generating plant. Because of the tremendous physical and social impact of growth on rural towns and counties, various federal and state agencies made development assistance money available through grant programs. Most important for Moffat County were the Oil Shale Impact Assistance and Mineral Severance Tax assistance programs. First Street, primarily because of the level of prior study and planning it had received, qualified for funding under these programs.
First Street, as planned, was built in two major phases. The first phase ran about one half mile south of and roughly parallel to, State Highway 40. From the newly completed route of Highway 13 on the west end, it was one and a half miles to Ranney Street on the east end (see Location Map page 19). Phase Two continued the easterly route nearly one and a quarter miles, then was angled northeast for one half mile so as to intersect with Highway 40. In addition, plans called for the subdivider of the land between Highways 13 and 40 on the west end to extend the street, as development occurred, northwesterly between the two highways. Phase One was completed and paved by 1979, including all but the final quarter mile through the subdivision property. Phase Two construction, planned for 1980 and 1981, was delayed by litigation over crossings of the Denver Rio Grande Railway. The final paving to the eastern intersection with State Highway 40 was completed in 1985 (see Location Map, page 19).

On its route, First Street passes through and provides access to a variety of land uses and zoning districts. It also crosses both city and county jurisdictions. The diversity of existing uses in addition to the future development potential which would be created by the street's completion, prompted the City of Craig and County of Moffat, in accordance with a recommendation of the Joint City-County Planning Commission, to initiate this study. Financial assistance
was provided by the Colorado Department of Local Affairs, through the Rural Community Assistance Program. The intent of the study was to propose standards, with an emphasis on access control, for future development along First Street. The standards were developed to minimize accidents and property damage, and protect the functional integrity of the street's capacity and flow. In addition, the standards' simultaneous functions were to protect the right of abutting land owners to reasonable access.

Authorization to regulate vehicular access to a public street, to otherwise plan for the eventual development of a public street, and to adopt such regulatory devices as a part of the county Master Plan is provided by the following state statutes:

C.R.S. 30-28-106(3)(a) C.R.S. 31-23-206(1)(a)
C.R.S. 31-23-208 C.R.S. 31-23-214(1)

The study was organized into five sections: 1) design criteria; 2) proposed standards; 3) selected area analysis; 4) maps of First Street and adjacent areas; and 5) recommendations for the implementation of the standards and plan. The maps show the existing right-of-way, pavement, existing and proposed driveway locations, and ownership of the abutting land. The numerical system used to identify owners is one which the State of Colorado has designed for use by all County Assessors in the state. The Moffat County Assessor's
Office was instituting this system in 1985. The number code is divided into twelve digits which enable agencies to locate a property with increasing precision (see Figure 1).

For the purposes of this study, the last six digits were used since the first six would have been generally redundant. When areas become too complex for six digits, the preceding two were added to ease identification. Township and Range, section numbers and quarter sections are shown on the maps (see Figure 1 below). The property lines and ownership, as well as the configuration of streets, right-of-ways and subdivisions, were derived from subdivision plats, Assessor's files and maps, and information solicited from officials in city and county employ. They are meant to show the relationships of property and access for planning purposes and cannot be used as legal documents. Areas of complexity, which are not readily represented on a map or that require further explanation, are labeled as such and discussed within the Selected Analysis section.

DESIGN STANDARDS

Ideally, the function of an arterial street is to provide relatively uninterrupted long distance travel through or around a developed area. While traffic movement is important, access to lands abutting the arterial is of high concern. Initially, a new arterial operates efficiently and provides a high level of service. Because of that service, it is an attractive place to locate residential, commercial and industrial development. As development occurs, traffic increases, and so do accidents and congestion. Both of these problems are generally centered around intersections and driveways. Studies in Oregon and Indiana (Tri-County Regional Planning Commission, 1982:6), show a strong correlation between increases in accidents and the total number of driveways per mile. Other considerations involved in roadway safety include driveway design, sight restrictions, curb turning radii, and relative vehicle speeds. Those studies also indicate the four main types of accidents on arterial streets to be:

1) Rear-end collisions which occur when a vehicle slows to enter a driveway.

2) Sideswipes by vehicles changing lanes to avoid vehicles entering driveways.

3) Rear-end accidents downstream from the driveway involving vehicles which have not gained traffic speed.

4) Collisions involving vehicles using closely
spaced driveways, and of driveways close to intersections.

It seems evident that access to and from a street is the primary culpable design factor in most accidents. Therefore, a balance must be struck to provide reasonable and efficient land access without significantly degrading the carrying capacity and safety of the arterial. If problems arise on a street and are allowed to continue, people may avoid using it, shifting, perhaps to residential streets. That would defeat the intention of the arterial street and reduce the exposure which originally made the abutting lands valuable.

The design standards used in this study address the primary concerns of available literature on arterials in general and the concerns expressed by officials of Craig and Moffat County on First Street in particular (see Figure 2, page 27). It should be stressed that implementation of the standards should generally coincide with future developments along the street unless there are current unsafe conditions which require immediate action. The following design standards are guidelines, not compulsory requirements, and should be considered as recommendations only.
<table>
<thead>
<tr>
<th>LANE WIDTH (Minimum)</th>
<th>ROADWAY DESIGN (COLORADO DIV. OF HIGHWAYS)</th>
<th>HIGHWAY CODE NO. 3 (COLORADO DIV. OF HIGHWAYS)</th>
<th>ARTERIAL STREET DESIGN CRITERIA</th>
<th>TRI-COUNTY URBAN PLANNING AND DESIGN CRITERIA</th>
<th>MANAGING ACCESS ALONG COMMERCIAL STREETS</th>
<th>ACCESS MANAGEMENT FOR STREET AND HIGHWAY</th>
<th>COUNTY ROAD SUPERVISOR</th>
<th>PROPOSED FIRST STREET STANDARDS</th>
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<tr>
<td>12'</td>
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<tr>
<td>RIGHT OF WAY (Minimum)</td>
<td>150'</td>
<td>200'</td>
<td>150'</td>
<td>100'</td>
<td>180'</td>
<td>150'</td>
<td>100'</td>
<td>100'</td>
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<td>DRIVEWAY WIDTH 2 Way:</td>
<td>16'-24'</td>
<td>16'-24'</td>
<td>16'-30'</td>
<td>40'</td>
<td>-</td>
<td>24'</td>
<td>30'</td>
<td>25'</td>
</tr>
<tr>
<td>low vol/short veh</td>
<td>25'-35'</td>
<td>25'-35'</td>
<td>30'-50'</td>
<td>40'-50'</td>
<td>-</td>
<td>35'</td>
<td>30'-40'</td>
<td>40'</td>
</tr>
<tr>
<td>high vol/long veh</td>
<td>16'</td>
<td>16'</td>
<td>15'</td>
<td>25'</td>
<td>-</td>
<td>15'</td>
<td>16'</td>
<td>16'</td>
</tr>
<tr>
<td>1 Way:</td>
<td>16'</td>
<td>16'</td>
<td>20'</td>
<td>16'</td>
<td>25'</td>
<td>20'</td>
<td>20'</td>
<td>20'</td>
</tr>
<tr>
<td>low vol/short veh</td>
<td>15'</td>
<td>15'</td>
<td>15'</td>
<td>25'</td>
<td>20'</td>
<td>20'</td>
<td>20'</td>
<td>20'</td>
</tr>
<tr>
<td>high vol/long veh</td>
<td>15'</td>
<td>15'</td>
<td>20'</td>
<td>16'</td>
<td>25'</td>
<td>20'</td>
<td>20'</td>
<td>20'</td>
</tr>
<tr>
<td>DISTANCE BETWEEN DRIVEWAYS (Minimum)</td>
<td>4'-25'</td>
<td>4'-25'</td>
<td>10'-20'</td>
<td>4'-15'</td>
<td>-</td>
<td>25'</td>
<td>4'-25'</td>
<td>4'-25'</td>
</tr>
<tr>
<td>DISTANCE BETWEEN DRIVEWAYS (Maximum)</td>
<td>300'</td>
<td>300'</td>
<td>200'-300'</td>
<td>230'</td>
<td>230'</td>
<td>350'</td>
<td>300'</td>
<td>300'</td>
</tr>
<tr>
<td>NUMBER OF DRIVEWAYS PER PARCEL (Maximum)</td>
<td>1</td>
<td>1 (UNLESS UNSAFE CONDITION EXISTS)</td>
<td>1 (UNLESS 2ND PARCEL SERVES ANOTHER PARCEL)</td>
<td>2 (MAXIMUM)</td>
<td>2 (2ND ON 300 POREL, 6000 F.O.P.)</td>
<td>2 (2ND ON 300 POREL, LESS THAN 6000)</td>
<td>2 (OTHERS AT 300 SPACING IF UNSAFE OR ABNORMAL CONDITIONS)</td>
<td></td>
</tr>
<tr>
<td>DRIVEWAY DISTANCE FROM INTERSECTIONS signaled unsignaled</td>
<td>-</td>
<td>500'</td>
<td>250'</td>
<td>100'</td>
<td>-</td>
<td>-</td>
<td>500'</td>
<td>500'</td>
</tr>
<tr>
<td>SIGHT DISTANCE Driveways:</td>
<td>1350'</td>
<td>1375'</td>
<td>1570'</td>
<td>325'</td>
<td>-</td>
<td>1400'</td>
<td>1450'</td>
<td>500'</td>
</tr>
<tr>
<td>left turn exit - long veh short veh</td>
<td>3500</td>
<td>3500</td>
<td>3500</td>
<td>3500</td>
<td>3500</td>
<td>3500</td>
<td>3500</td>
<td>1000'</td>
</tr>
<tr>
<td>left turn enter - long veh short veh</td>
<td>765'</td>
<td>450'</td>
<td>765'</td>
<td>450'</td>
<td>765'</td>
<td>765'</td>
<td>765'</td>
<td>765'</td>
</tr>
<tr>
<td>intersections: nonsignaled - long veh short veh</td>
<td>1300'</td>
<td>1225'</td>
<td>1225'</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1300'</td>
</tr>
</tbody>
</table>
1) Lane width should be a minimum of twelve feet. This width provides adequate maneuverability for the semi-trucks with standard length trailers which will be using the street. This minimum is maintained presently throughout the length of First Street.

2) The right-of-way width for arterials as stated in the 1982 Moffat County Master Plan, is 100 to 180 feet. Most of the literature consulted for this study also suggests right-of-ways of 100 feet or more. However, First Street has had some problems in obtaining that width, most particularly in the stretch from Mack Lane to Ranney Street. Therefore, the proposed minimum standard is 80 feet, which will allow some future development and construction along the right-of-way without causing much stress between landowners and government.

3) Minimum driveway width standards include two major categories of two-way and one-way driveways. Under each category are two classes of use: those driveways experiencing primarily low volume, (less than five vehicles per hour), or short vehicles, (single units of less than 30 feet in overall length); and those driveways whose primary traffic is high volume (greater than five vehicles per hour) or long vehicles (single units exceeding 30 feet in overall length). For the two-way, low volume/short vehicle category, a 25 foot minimum has been chosen to help increase turning speeds and avoid slowing of traffic. The two-way, high volume/long vehicle minimum standard was set at 40 feet to
accommodate large trucks. The one-way categories of low volume/short vehicle and high volume/long vehicle were set at 16 feet and 20 feet respectively for each "in" and "out" driveway. It should be emphasized that these widths are minimum widths measured at the opening into the street, and that as the width of a driveway is enlarged, the speed a vehicle can enter or exit is increased, thus avoiding the slowing of upstream traffic and the potential for resulting rear-end accidents. Driveway width should be adequately designed for the largest vehicle which would commonly use the access. This would reduce conflicts between vehicles exiting the driveway and those turning left across traffic into the driveway. The turning radii of the driveway in relation to the street also plays a major role in the speed a vehicle can enter or exit. There are no general standards for driveway turning radii, but the abilities of the largest vehicle to commonly use the access should be considered (Figure 3, page 30), along with the desired traffic design speed of 45 miles per-hour. A driveway design speed of 15 miles-per-hour should be attainable, if adequately designed.

4) The minimum distances between all driveways should be 300 feet, measured from the center-lines or midpoints of the driveways. This spacing allows for the vehicle acceleration and deceleration rates considered necessary to maintain safe traffic operation (State Highway Access Code, 1982). Three hundred feet is a minimum; every effort should be
FIGURE-3

Design Vehicle Turning Paths

MINIMUM TURNING PATH FOR P' DESIGN VEHICLE

MINIMUM TURNING PATH FOR SU DESIGN VEHICLE

MINIMUM TURNING PATH FOR BUS DESIGN VEHICLE

MINIMUM TURNING PATH FOR WB-50' DESIGN VEHICLE

applied to maximize the distance between driveways.

Each property has its own individual characteristics, therefore, each potential access also has individual virtues and drawbacks; all should be weighed carefully.

5) The standard for the number of driveways per parcel has been placed at one, recognizing the right of an owner to have reasonable access to his land, home or business. If a parcel has more than 300 feet of frontage, additional driveways can be considered if unsafe or out of the ordinary circumstances do not dictate otherwise. However, since potential accidents are reduced in proportion to the reduction of driveway frequency, the use of an inexpensive internal road to serve distant portions of a parcel may be more appropriate than additional driveways. The use of accesses on collector streets and combined use or shared accesses should be encouraged, especially in areas where more than one driveway is desired by an owner of a parcel.

6) A driveway should be located at least 500 feet from an intersection, signaled or nonsignaled. If closer, capacity of an intersection may be reduced by the slowing of traffic as vehicles enter and exit the driveways. They can also increase potential for accidents, as drivers approaching the area must make decisions and take evasive actions.

7) Adequate sight distance at driveway entrances is required to allow exiting drivers a sufficient view of the highway traffic, as well as to provide through-drivers the
time necessary for perception, reaction, and braking to avoid collision with a vehicle entering onto the street (see Figure 4).

If standards set to cover left turns in and out of a driveway are maintained, sight distances required for right turns and stopping should be sufficient. As shown in figures 4 and 5, (this page and page 33), the line of sight from a driveway to an approaching vehicle is across adjacent land. To maintain safe sight along this path, each driveway should be analyzed individually for obstructions such as trees, utility poles, or buildings. Maintaining an uncluttered right-of-way in most instances is sufficient, unless the driveway in question is located on the inside of a curve. The sight distance standards chosen for vehicles longer than
FIGURE 5

Sight Distance at Four-Way Intersections

30 feet turning left out of a driveway across traffic is 1,000 feet; for those shorter than 30 feet, it is a distance of 350 feet. Vehicles longer than 30 feet turning left across traffic into a driveway should have at least 765 feet of clear sight; those shorter than 30 feet should have 450 feet. In the case of nonsignaled arterial intersections, when vehicles approaching from either street are presumably moving at design speed, the sight distance should be 1,300 feet (see Figure 5, page 33).

In addition to the criteria listed on the Design Matrix, there are several other items which deserve attention and standardization:

8) All driveways should intersect the street at a 90 degree angle. Accident potential increases exponentially the further the driveway angle is skewed from 90 degrees (see Figure 6, page 35). Turning maneuvers against the skew angle are difficult and sight is impaired. The only exception to this would be in the case of one way driveways which allow only right turn entrance and exit.

9) As the area bordering First Street fills in with development and traffic increases, developers should install curb and gutter along their frontage on the street. The recommended curb style is the "Barrier" or "New Jersey" type. This curb is nearly vertical and not only helps prevent the haphazard location of driveways by requiring a curb cut, but aids in deflecting vehicles which might cause
Basic Driveway Design Considerations

Driveway/Roadway Angle = 90°

Return radius = 25 to 40 feet

Standard Two-Way Driveway

<table>
<thead>
<tr>
<th>Width</th>
<th>30' to 40'</th>
</tr>
</thead>
<tbody>
<tr>
<td>Radius</td>
<td>25' to 40'</td>
</tr>
<tr>
<td>Angle</td>
<td>90°</td>
</tr>
<tr>
<td>Profile</td>
<td>1.5% grade change for a minimum of 25 feet from the edge of street pavement. Beyond this distance grade should be no more than 8%.</td>
</tr>
</tbody>
</table>

property damage. In addition, when combined with a gutter appropriate to the location, it provides efficient water drainage system. This type of curb is already installed on portions of First Street.

10) Eventually, the desirable pavement width of First Street should be 36 feet. This would provide room for two lanes of traffic and a two-way or continuous left turn lane. The continuous left turn lane is a common technique used to preserve arterial capacity. They are most effective on arterials with evenly distributed, well spaced access points. The space occupied by the continuous left turn lane could also be easily modified with medians, should future traffic problems warrant. Street widening and modification should be, generally, the fiscal responsibility of developers.

11) Driveway design should include paving. Without driveway paving, the intended driveway speed is difficult to maintain because of surface degradation and ill-defined maneuver paths. Driveways should be constructed with a minimum upward slope of 1 1/2%. Street paving should be continued in for the first 25 feet of the driveway. Such a grade reduces the opportunity for water in the street gutter to run into the driveway and onto the abutting property.

12) To reduce possible conflicts of cross traffic travel, opposing driveways should be offset. A 200 foot minimum separation should be required, though 300 feet is
more desirable. Offsetting driveways also reduces the possible congestion of simultaneous entering or exiting vehicles and queuing of left turn vehicles, as in the case of a four-way intersection (see Figures 7 and 8, page 38).

13) On-street parking should not be permitted on First Street. There are few, if any, areas along the street which will accommodate parking without restricting both sight distance from driveway exits and the ability of through traffic to see exiting vehicles at a distance appropriate to evade a possible collision. Off-street parking areas should be designed with an adequate internal circulation and parking layout. Poor internal traffic design can impact external traffic flow by allowing on-site problems to back up into the traffic stream. If trucks are used to deliver or pick up items, there should be enough room for them to turn around and back up and still allow internal traffic to move and vehicles to enter the site. There should also be sufficient storage area to hold vehicles waiting to exit without affecting incoming traffic. This is also a function of driveway width (see Figure 9, page 39). If parking is permitted only in designated areas the need for future sidewalks along most of First Street would be essentially eliminated.

14) Frontage roads can add flexibility to the operation of an arterial street. Such a road provides maximum access service to properties abutting the arterial. It also
FIGURE-7
Offset Standards

(A) "Preferred"

(B) "Alternate"


FIGURE-8
24 Conflict Points

reduces the frequency and severity of conflicts on the arterial by preventing left turns at each access point and by removing slower turning vehicles from the through-lanes. Frontage roads should be considered whenever there are more than three driveways per quarter mile of street frontage. They should have 40 feet of right-of-way and 12 foot lanes. If possible, frontage roads should not intersect primary cross streets such as highways, but should enter the arterial at least 500 feet from an intersection.

SELECTED AREA AND ACCESS ANALYSIS

Each property abutting First Street, as well as selected adjoining properties considered generally oriented to First Street, were analyzed in accordance with the preceding design standards to determine the optimum location of access driveways, as well as other appropriate design criteria. The more strategic properties are discussed in this section and are designated by a letter enclosed by parentheses on the following Arterial Development Plan Maps. The lettering progresses from the western end of First Street to the east. Items "A" thru "H" are on Map One, "I" thru "N" on Map Two, "O" thru "U" on Map Three, and "V" thru "X" on Map Four.

A) The portion of parcel 03-100-001 south of the future First Street right-of-way would be best served by one, or at the most, two roads crossing the drainage easement by bridge. The road should be located so as to intersect First Street at a 90 degree angle, and offset the future frontage road by at least 200 feet or be directly opposed to it to create a four-way intersection. The former, if implemented, would avoid the congestion and possible need for signalization that would result from a four-way intersection. Careful attention should be paid to the curve and intersection to the northwest if the offset is in that direction. Parcel 03-100-901 to the south is U.S. Bureau of Land Management land currently designated as a site for a future elementary school. Any future road design should take
into account the potential for parental and school bus traffic.

B) A frontage road to run along State Highway 40 but veering southwest to intersect with the centerline of First Street at approximately the center of parcel 03-100-001, was proposed by the 1982 Moffat County Master Plan under the section entitled "Frontage Road System". This road, if developed along with the property and First Street's extension to Highway 40, would provide maximum access to the "B" (Business) and "C" (Commercial) zoned properties it crosses. It would also reduce the need for driveways along First Street.

C) It is recommended that the parcels 03-101-001 and 002, which are currently undeveloped, should be served by a common driveway on the property line separating them. The parcels are both currently zoned "B" (Business). Because of the proximity to a curve on Douglas Street, and the presumption that the properties will develop similarly, a joint driveway is recommended.

D) The 19 foot curb cut in parcel 02-204-005- should be removed. It presently serves undeveloped land zoned "B" (Business). The reason for recommending removal is that proximity to the unconstructed, but platted, Cedar Court would form a through intersection with Spruce Drive. A driveway, if located off of Cedar Court 200 feet from the centerline of First Street, should provide adequate access to the parcel when developed. In order to increase traffic circula-
tion in the area north of First Street and to provide increased access to nearby properties, it is recommended that Cedar Court be extended to intersect with U.S. Highway 40 frontage road to the north.

E) The 20 foot curb cut on the east portion of the undeveloped parcel 02-204-006 should be removed. The parcel is currently zoned "B" (Business). This driveway's proximity to that serving the developed lot to the east, 02-204-007, and its narrow width makes it a good candidate for removal. The parcel would be better served by a larger driveway off of Cedar Court as indicated on Plan Map 1.

F) Access to the parcel 02-205-001 has several limiting factors. First, the drainage easement and ditch must be bridged to provide direct access to First Street. Secondly, such a driveway would be too close to either the intersection of Spruce Street and First Street or to Highway 13 and First Street. Thirdly, its eastern property line borders Highway 13 right-of-way, onto which access would be difficult. Therefore, access is recommended off of Spruce Drive. Two accesses are proposed, in order to accommodate differing topography and development potential on the parcel.

G) Removal is recommended for the 35 foot driveway currently serving the "C" (Commercial) zoned 02-207-300 parcel. That driveway is at the bottom of a grade approach of First Street to the intersection with Highway 13. It is also in close proximity to the intersection of First Street.
and Commerce Street. When the southwest side of First is developed, this intersection has the potential to become heavily used. Therefore, to avoid congestion, removal of the driveway should be considered. The parcel would be adequately served by an existing 36 foot driveway located on Commerce Street 220 feet from the centerline of the First Street right-of-way.

H) Parcel 02-300-001 is zoned "L-I" (Light Industrial). Access is provided by an existing private road to the City Waste Water Treatment Facility in parcel 300-901. Future access should be limited to both this existing road and the platted, but unconstructed, road in the northwestern corner of the parcel. The two roads should provide adequate access to the parcel and thus avoid costly bridging of the drainage channel.
I) Parcels 018-001 through 018-007 on Plan Map Two are undeveloped property in a "L-I" (Light Industrial) zoned area. The future driveways shown on the map are located as they are on the final plat of this subdivision. Their relatively close spacing and number makes it difficult to place access on adjacent parcels and across First Street. It is recommended that Woodbury Drive be barricaded in some fashion at its platted end to prevent additional access problems in relation to the driveways. It is further recommended that Barker Street be barricaded at its southern end point to prevent future industrial traffic from invading this residential street. Should intense development occur in this area, a frontage road, or in the case of similar industry occupying the parcels, an internal road network with a common access should be considered.

J) The portion of parcel 02-400-002 which abuts First Street runs 2,275 feet from its border with parcel 02-300-001 to Mack Lane. It is currently zoned "A" (Agriculture). If subdivided or intensely developed, a frontage road or internal road network is recommended. A frontage road would stretch from the current private drive portion of Mack Lane south of First Street, to one future road to the west. That road should serve the western portion of the parcel and should be located at least 500 feet east of Doyan Avenue and 200 feet from the centerline of opposing existing or platted driveways. In the case of light development, it would be difficult to locate driveways in the center third of the
parcel and not experience congestion, increased accident occurrence, and conflict with industrial vehicles from the north side of First Street. Therefore, a frontage road or driveways designed to minimize conflict with the street is recommended.

K) Parcel 02-100-006 is split into two major lots and zoned "R-3" (Multi-Family) and "L-I" (Light Industrial). The proposed driveway location is on the line separating the two major lots. If developed separately, the driveway should still serve both areas. Installing driveways to the west would add to possible congestion. If they are located further east, they would be too close to Mack Lane. The property could also be served by an access from Mack Lane.

L) This driveway serves as access to a waste water system lift pump. It is required to conduct periodic maintenance on the pump.

M) Parcel 01-300-017 is currently zoned "A" (Agriculture). If this land is subdivided or rezoned and developed, the existing 18 foot driveway in the northwest corner of the parcel should be relocated either onto the currently private drive portion of Mack Lane or east on First Street at least 125 feet. One desirable location to the east would be at the property boundary with parcel 300-901, especially in the case of similar development occurring simultaneously. If Mack Lane is improved to collector street status, or made a through intersection, relocation should
also be considered. In any case, options should remain open for the acquisition of road right-of-way on the private portion of Mack Lane south of First Street. The extension of Mack Lane south of First Street should be considered a probability, depending on how properties develop in the area.

Parcel 01-300-901 is the location of abandoned sewage lagoons owned by the City of Craig. Presumably, development will occur there in the future, whether by the current municipal owners or others. This parcel would be best served by a single road located either directly across from Ledford Drive to create a four-way intersection, or at least 200 feet offset to Ledford drive. A possible second access could be located in conjunction with parcel 300-107 on their mutual boundary. There are currently four curb cuts or driveways serving the parcel, one of which serves a house. Removal of all the driveways is recommended as development occurs. If the portion on which the house is located is sold separately as a residence, its driveway would remain and the primary road access for the remainder of the land would need to be located accordingly.

The First Street right-of-way from the eastern edge of Mack Lane east approximately 1,310 feet is 60 feet. This width does not allow adequate room for future construction or development of the street. Expansion of the right-of-way to the 80 foot minimum standard or 100 foot ideal width in this area would be easiest to achieve on parcels 300-017 and
The most opportune timing for this expansion would be as the properties were in the permitting process of development or subdivision.

N) Parcels 01-200-008 and 200-009 are currently undeveloped "L-I" (Light Industrial) zoned properties. The First Street right-of-way width along this frontage is currently 70 feet. To provide adequate room for future development of the street, a minimum width of 80 feet or ideally, a width of 100 feet is necessary. Expanding the right-of-way into these parcels would alleviate some of the First and Ranney Street problems caused by unmatched right-of-way lines across Ranney. Expansion should take place during the planning stage of development of the properties, unless a more opportune time presents itself. The proposed driveway located on parcel 200-009 is a compromise. It would be better located, if at all possible, on Ranney Street.
0) Two existing driveways in the western portion of parcel 01-100-001 should be removed. They are the "in" and "out" ramps of an unused truck weighing station. Because of the congested nature of the First and Ranney Street intersection, the undeveloped nature of this parcel, and available access from Ranney, Second and Breeze Streets, few First Street driveways are proposed for this property. Existing driveways can be easily improved to provide both broader service and connection into the partially existing internal road network.

P) The area surrounding the Ranney Street intersection is the most heavily congested section of First Street. Buildings and utility poles on both sides of Ranney Street constrict sight distance. Both driveways and an open access parking area are in close proximity to the intersection. To further complicate the situation, the eastern approach to the intersection is curved several times to avoid utility poles. When the utility company, future developers, or municipal authorities move these poles, the road should be straightened. Eventually, there will be signals installed at this intersection, which will solve some of the sight distance problems. Removal of the open parking area and future consolidation of driveways would help prevent conflicts between existing vehicles and through traffic. An alternative would be to widen the road to provide a left turn lane and install exiting acceleration lanes on the driveways.
Q) The existing 40 foot driveway serving the portion of parcel 01-100-001, zoned "H-I" (Heavy Industrial), serves a large woodchip pile. To the east of this driveway is a platted but unconstructed road. As this area develops, access to should be off of this road, with the existing driveway removed.

R) Parcels 06-200-008 and 200-009 are currently using a common driveway located on their joint property line. The currently unused driveway 175 feet west of the first should be removed because of its proximity to the better common one.

S) Access to the two southwestern lots of parcel 06-210-007 should be off of Second Place. Locating a driveway for either parcel on First Street would not be advisable, as the bridge crossing of Fortification Creek obstructs sight distance both of and from exiting or through traffic vehicles.

T) Currently, the lots of parcel 06-300-901 on either side of Preece Avenue are served by open-access parking. It is recommended that the open access be removed and access to the parking lots be created off of Preece Avenue, with the possible exception of one driveway which could provide access to the three western lots of the parcel.

U) At present, parcel 210-007 is served by a driveway on First Street and an open parking area on Preece
Avenue. The open area extends to within 10 feet of the First Street right-of-way. To prevent industrial vehicles from entering First Street at other than a 90 degree angle, the southern boundary of the parking area should be moved north 50 to 100 feet or an entrance should be provided by a driveway with its centerline 260 feet north on Preece Avenue.
V) The area of parcel 05-200-016 abutting First Street is zoned "H-I" (Heavy Industrial). At the time of right-of-way acquisition, an agreement was made to allow a total of six access points, three on each side of the right-of-way spaced so each of the six would be 300 feet from the next. In addition, compensation for land which would be taken up by service roads which would connect the driveways was paid for by Moffat County. Because of the size of the parcel, it is difficult to predict where development will occur or where accesses would be needed. An effort should be made to place driveways off of Stockdrive. In the event of intensive development, frontage roads may best serve the area.

W) Currently, access to and from parcel 06-100-024 is by way of a driveway in the northeast corner. Because of the nature of the existing business, a drive-in theater, traffic peaks are predictable, but potentially heavy. The driveway enters First Street as it makes a right angle turn to intersect U.S. Highway 40. Entering vehicle queues could impede wide turning vehicles and possibly back up to the point of interfering with vehicles entering First Street from Highway 40. This can probably be alleviated by moving the ticket booth further into the property to allow queue storage off of First Street. Exiting traffic should be controlled to allow vehicles using First Street to pass.

X) The intersection of First Street and U.S. Highway 40 is currently paved with short acceleration and deceleration...
tion lanes. The Colorado Highway Department will soon have plans on future developments for the intersection. As development and traffic increases on First Street, this intersection may not be adequate in its present condition. Signalization or relocation will probably have to be considered.
IMPLEMENTATION

Implementation of access control and development standards fairly and effectively entails developing a regulatory mechanism that can fairly apply design standards without causing unreasonable hardship for abutting land owners. Such a program must be within statutory authority and must not be so stringent as to make implementation difficult or impossible due to public resistance, litigation, or administrative complexities.

The first task in implementation is to nurture a "corridor-wide" perspective among administrators and developers. This means that rather than look at driveways and developments in an isolated parcel-by-parcel manner, it is necessary to treat the arterial as a total traffic corridor, irrespective of political boundaries or jurisdiction. Each new driveway should be considered with potential land use development, traffic patterns, existing access, sight distance, proximity to intersections, lot width, parking lot design, driveway design, the design vehicle, and traffic generation potential, in mind. There should be coordination and blending with existing access systems so as to prevent piece-meal development.

Local governments have the authority to manage and influence land development in the public interest through comprehensive planning, zoning, subdivision and building regulation. These techniques can define the arterial
street, determine internal site design and circulation requirements, among other specific characteristics. Comprehensive plans establish the informational base and policy commitment to development and access control. Such plans identify the arterial and collector street systems and can explain access control problems and their ramifications.

One way of implementing design standards is through the creation of zoning regulations. They could establish design and operational criteria against which development proposals would be judged. They can impose regulations specifically concerned with access control along designated arterials. These regulations should deal with driveway design, spacing, location, etc.

Site specific conditions often require attention resulting in the site-specific application of design standards. For this reason, subdivision and site plan review should be utilized in access and design standard implementation in relation to the arterial street. Driveway or access permits could be linked to such review processes or separate permits issued for each separate driveway. Currently, Moffat County has such a separate driveway permitting system (see Figure 10, page 60). Site development plans should show access, internal circulation, parking, landscaping, access locations of adjacent development, existing driveways and intersecting roadways for 500 feet or more on either side of the proposed development.

Land adjacent to an arterial such as First Street may
develop and pass through many uses with varying access needs over time. Thus, each time a parcel changes use, is redeveloped or experiences an addition to an existing use, a new site review should be made and new permit issued.

It may be unreasonable to assume that all the costs of implementing a program should be borne by private landowners or developers of land currently in use. However, First Street is a young arterial, and few immediate problems exist. As the area develops and grows, standards can be implemented and most problems associated with arterial streets avoided.

Presently, Moffat County has subdivision review, driveway permitting, and compliance certification to regulate and enforce access and design standards (see Figures 10, 11, 11a, pages 60, 61, 62 respectively). The City of Craig also has a subdivision review process. A driveway permitting system could well serve the City of Craig for regulation of access to properties already subdivided, recently annexed, or not covered by subdivision regulation. A site-specific review process, such as the County's Certificate of Compliance, would aid the city in implementation of access control and development design in relation to First Street and other arterials and streets.
Moffat County Road Department

APPLICATION FOR
DRIVeway PERMIT

Permit No

District No

Road

Supervisor

Application Date 19

THR, for the purpose of obtaining access to

Applicant hereby requests permission and authority from the Road Department to construct a driveway approach (es) on the right-of-way of Moffat County Road, adjacent to his property located on the

Road Name

State Nature of Business

Applicant submits herein for the construction and approval of the Department a sketch of the proposed installation showing all necessary specification detail including:

1. Frontage of lot along road,
2. Distance from centerline of road to property line,
3. Number of driveways requested,
4. Width of proposed driveway(s) and angle(s)
5. Distance from driveway to road intersection, if any,
6. Size and shape of area separating driveways if more than one approach, and
7. setback distance of building(s) and/or Gasoline pump island(s)

The applicant binds and obligates himself to construct and maintain the driveway approach (es) in accordance with the provisions, specifications, and conditions enumerated in this document.

GENERAL PROVISIONS

FIRST: The applicant represents all parties in interest, and affirms that the driveway approach (es) is to be constructed by him for the bona fide purpose of securing access to his property and not for the purpose of doing business or servicing vehicles on the road right-of-way.

SECOND: The Applicant shall furnish all labor and materials, perform all work, and pay all costs in connection with the construction of the driveway (s) and its appurtenances on the right-of-way. All work shall be completed within 30 days of the Permit date.

THIRD: The type of construction shall be as designated and/or approved by the Road Department and all materials used shall be of satisfactory quality and subject to inspection and approval of the Department.

FOURTH: The traveling public shall be protected during the installation with proper warning signs and signals and the Department and its duly appointed agents and employees shall be held harmless against any action or personal injury or property damage sustained by reason of the exercise of the Permit.

FIFTH: The Applicant shall assume responsibility for the removal or clearance of snow, ice or sleet upon any portion of the driveway approach (es) even though deposited on the driveway(s) in the course of the Department’s snow removal operations.

SIXTH: In the event it becomes necessary to remove any right-of-way fence, the post on either side of the entrance shall be securely braced before the fence is cut to prevent any sagging of the remaining fence, and all posts and wire removed shall be turned over to the Road Department.

SEVENTH: No revisions or additions shall be made to the driveway (s) or its appurtenances on the right-of-way without the written permission of the Department.

EIGHTH: Provisions and specifications outlined herein shall apply on all roads under the jurisdiction of the Department.

SPECIAL CONDITIONS

In signing this application and upon receiving Department authorization and permission to install the driveway approach (es) described herein the Applicant signifies that he has read, understands and accepts the foregoing provisions and conditions and agrees to construct the driveway (s) in accordance with the accompanying specification plan reviewed and approved by the Department.

Witness

Signed

Address

Telephone Number

PERMIT GRANTED THIS DAY OF , 19, SUBJECT TO THE PROVISIONS, SPECIFICATIONS AND CONDITIONS

MOFFAT COUNTY ROAD DEPT

By

Supervisor

NOTE TO APPLICANT This permit shall be made available at the site where and when work is being done

APPLICANT PLEASE NOTE A work sketch or drawing of the proposed driveway (s) must accompany application No application will be accepted or processed if permit granted, without the required specification plan.
FIGURE-II-

MOWAT COUNTY
CERTIFICATE OF COMPLIANCE
WITH
ZONING, FLOODPLAIN, AND SUBDIVISION REGULATIONS

Pursuant to Section 512, Moffat County Zoning Resolution, a Certificate of Compliance with Zoning, Floodplain, and Subdivision Regulations is required as part of the Building Permit procedure within the unincorporated area of Moffat County. Any decision of the Building Official and/or Zoning Enforcement Officer may be appealed to the Moffat County Board of Zoning Adjustments, and such appeal shall be heard within 15 working days of the date of appeal.

Property Location:

Property Address:

Property Owner: Phone:

Contact Person: Phone:

Address:

Lot Size
Height
Yard Setbacks
Fences/Hedges/Walls
Signs
Zero Lot Line Development
Access Road/Driveways
R.O.W. Dedication
Sidewalks/Lighting
Utilities
Density
Floor Area
Accessory Buildings
Parking/Loading
Planned Unit Development
Floodplain
Streets/Curbs/Gutters
Drainage
Sewer/Water
Fire Hydrants

Comments:

Reviewed by: Date:

✓ Meets standards
X Does not meet standards see comments
N/A Not applicable
No building permit shall be issued within the unincorporated area of the County unless a Certificate of Compliance with Zoning, Floodplain and Subdivision Regulations has been completed by the County Building Official and/or the County Zoning Enforcement Officer, as may be designated by the Board of County Commissioners from time to time. Such Certificate of Compliance shall verify that the construction plans are in compliance with all of the property development standards of this Resolution, of the County Floodplain Regulations, and of the County Subdivision Regulations.

Said Certificate of Compliance shall be issued in conjunction with the Building Permit, and a signed and dated copy filed with the County Planning Department, together with a copy of the Site (Plot) Plan and Elevation Plan. Any decision of the Building Official or the Zoning Enforcement Officer may be appealed the the Moffat County Board of Zoning Adjustments, and such appeal shall be heard within 15 working days of the date of appeal.

CHAPTER III

ANALYSIS

Craig

MOFFAT COUNTY, COLORADO

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THE PLAN AS WRITTEN

As originally conceived, the First Street Development Plan was to be primarily a series of maps detailing existing and potential access points, along with recommendations as to standards for future placement of various driveway types. As the study progressed it became evident that an entire development plan with implementation devices was needed to take into account the wide-rangeing of land-use types along the street.

When presented for consideration by the local planning boards, the plan contained twenty-three standards which addressed safety and efficient traffic flow with recommended access types and locations. Analysis of potential problem areas was included, as were implementation recommendations. The final result was, by historical Craig and Moffat County standards, a very strict and far-reaching plan.

RULES, TABOOS, HIDDEN AGENDAS

There were two overt rules established as internal planning department policy to govern the editorial content of the plan. First, decisions on standards could only be made after consulting local officials and the available literature on arterial street development. The literature used had to be distinctly rural in content. That proved to be virtually impossible, given time constraints and the availability of literature on rural transportation planning.
to an office on a small budget. The Planning Advisory Service of the American Planning Association helped as much as they could in searching for such material, but the sources ultimately used had an obvious urban bias. It was felt that involving current and former officials from both the city and county would give the plan depth, legitimacy and a sense of tradition.

The second overt rule was to make the final document easily read and as non-threatening as possible to sensitive officials and community leaders. Throughout the document it is stated that policing of the standards and recommendations would occur only as development transpired, or if public safety was threatened. In addition, the implementation section of the plan simply outlines how local elected officials have the power to plan and enforce those plans. The section only mentions introductory ways in which to enforce the standards and future access locations.

In addition to the groundrules, there were several taboos and "hidden agendas" which had to be heeded. None were terribly secret, but were not volunteered until questions arose on sensitive subjects or personalities.

Those covert programs which were addressed to a certain extent in the construction of the plan all originated in official offices or boards. Most had little to do with the topics covered by the plan. For example: the County Commissioners enjoyed slighting the City Council who, the Commissioners felt, was overly conservative on planning issues.
and too liberal in allowing "variance" to most regulations. The Commissioners were, in turn, under attack from City officials for having proposed a highway bypass northwest of Craig to divert both north and south bound truck and hazardous materials traffic away from the city. Community business leaders felt that the bypass would also divert tourist business. They and the City Council needed to be reassured that the First Street Plan would not re-establish the original purpose of the street, a similar bypass serving to keep heavy industrial traffic out of the city center, and thus create an opportunity for both north-south and east-west bound tourists to bypass Craig's central business district.

The County Planning Office hoped the plan would open the door to more intensive planning by being easily converted to a city or county-wide transportation plan. At least, it was hoped, this one could to be expanded to cover development of the area served by the new bypass. The Planning Office also wished that the plan would indicate to the city that more cooperation was needed between them and the county in matters of zoning and regulation enforcement. Perhaps, even the consolidation of planning efforts into one office might result!

The City Planning Board saw the First Street plan as an opportunity to express their irritation at repeated City Council overrulings perceived as part of a pattern of
general disregard for their decisions and advice.

In all, many of the disagreements leading to the various "hidden agendas" seemed to arise out of the history of a relatively liberal City Planning Board serving a conservative, business oriented City Council. The opposite situation seemed to be the case in the County. In addition, the City seemed to lean more toward the "newcomer" power base while the county appeared to support the rural and old Craig power constituencies. Both the City and the County were, however, very growth oriented.

Beyond the background politics, there was an abundance of "advice" given from all quarters concerning certain landowners along First Street. Some owners were very influential and a hands-off attitude was suggested. Others carried the label of "trouble maker" and were to be given special attention when regulations were written. It is interesting to note that almost all of the advice recommending a "hands-off attitude" concerned long time residents whereas out-of-state corporations or individuals were earmarked for vengeful acts.

An example of the former is the case in which one of Craig's founding families had a driveway which did not conform to several of the proposed standards. The engineer who obtained much of the original right-of-way pointed out that there was also a seemingly disfunctional "S" curve at that point. The historic explanation of the curve was that the occupant stated she: "would not give up the house for
any amount of money" and, if it was condemned for road right-of-way she would make sure the street ended at that point. The engineer, convinced that the occupant and her family had the power to do just that, routed the street around the house. Whether this family or others actually had the influence or not, local officials took for granted they did. Therefore, the plan states: "that removal of driveways and enforcement of standards should take place only as development or change in land-use occurs". To be legal under state and federal law, this statement must contemplate impartial application to all, not just owners in favor with local officials. The Denver, Rio Grande & Western Railroad is a good example of an entity intensely disliked by both City and County officials. The railroad circumvented many local customs and was in court with both the City of Craig and Moffat County several times during and after the boom for seemingly innocuous reasons. For instance the second phase of construction on First Street was delayed four years by suits involving the crossing of a little used spur line. Though one of Moffat County's major landowners, the railroad seems to have taken a dim view of any local control over their holdings. It was suggested by several official sources that the railroad should be denied access points along their proposed industrial park's one-half mile frontage. They received two.

Most official and unofficial concerns dealt with in
the plan were addressed privately or in public hearings during the plan's adoption process.

HISTORY OF ADOPTION

To be adopted as an official document under state law, the First Street Development Plan needed to be considered for adoption by all three of the planning boards previously described. It would then be reviewed by the City Council and Board of County Commissioners for recommendations or refusal in their respective jurisdictions.

The First Street plan was presented officially to both the County and City Planning Boards and then, unofficially to the Joint Board, in August of 1985. The unofficial meeting of the Joint Board was attended by several City Council members and by one County Commissioner, who was also the Ex-Officio member of the County Planning Board. Several minor changes were suggested and agreed to during each presentation. Official adoption proceedings were postponed until December, 1985, because of difficulty in setting an acceptable date for the Joint Board to meet. On December 5 that board, composed primarily of City Officials, met and passed the plan on for review by the City and County. Only three members of the public attended, one seeking reassurance that his 1979 right-of-way agreement with the County would be honored. The other two were representatives of an industry along First Street who wished to discuss the donation of right-of-way land, for a street to connect First to
the downtown area (not discussed in the plan). On December 16, the County Planning Board adopted the plan unanimously. Public participation was limited to a discussion of the proposed right-of-way donation mentioned at the Joint City-County Planning Board meeting. Later that week the unmodified plan was accepted by the County Commissioners. The following week the City Planning Board discussed, adopted, and sent the plan for review by the Council. One year later, the City Council had still not accepted or rejected the plan, as it was still waiting for inclusion of the updated City and County zoning maps which the Council had earlier requested. That task was assigned to the City Planning Office Director who later resigned. There is, as of December, 1986, still no evidence of intent to replace him. Although the plan is officially in a "state of limbo" in the City, several of its recommendations for implementation have been adopted. The driveway permitting process is operating. Site evaluation is now an accepted aspect of development decisions.

The situation in which the First Street Development Plan finds itself is not without precedent. For example the Moffat County Master Plan was similarly tabled in 1983 and never formally adopted by the City of Craig.

PERCEPTIONS

Several questions can be asked at this point. First, what are the perceptions of this plan by the public and
business sector? Outwardly, the community at large has a lackadaisical attitude over this and most other planning efforts. This attitude may be caused by the historical lack of enforcement of land-use regulations on locals. As a local planning official who wished to remain anonymous, expressed it: "locals will be accommodated...the requirements will be enforced on out-of-towners who don't know any better or just expect planning regulations...people here are interested in doing things like the cities on the East Slope and feel planning is good press for attracting new industry; just as long as it doesn't get enforced on themselves or their neighbors". An equally bleak picture is painted by eminent boomtown sociologist Raymond Gold (interview, 1986). He felt that a town like Craig, in a post energy boom economic bust, may have a population which feels a "lack of control" similar to boom times. With the new mix of people in the town, the people may feel "leaderless" and therefore apathetic toward all regulations.

A less pessimistic view would have to start with acceptance of the fact that much of the standards' enforcement would be by variance, and that the public will remain apathetic unless confronted with either strict enforcement or a crisis problem situation. Such a view would also have to take into account the meager growth potential the area has unless or until there is another boom. Ironically, the attitude which would enforce rules exclusively on outside
corporations and the locals who aid them, will serve to limit problems along First Street. There are few major developments, industrial or residential, which will not require outside money or another economic boom. There are, even by admission of somewhat cynical officials, people interested in using planning to attract business and industry; even if they may also be the first to accommodate such new businesses by bending the rules. Now, there is also, by virtue of the interest in, and reception of the First Street Plan, at least a casual commitment to planning by local governing bodies. There appears, therefore, to be a real potential for good planning in Moffat County. Together with the ample opportunity around Craig to view the unattractive, environmentally unsound developments that can result with a lack of foresight, planning or concern; Moffat County is a ready-made planning advocacy classroom for very patient, hardy teachers.
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