

MAJOR STREET PLAN
PREPARED FOR THE
SARATOGA PLANNING COMMISSION.

MAY, 1978

SUBMITTED BY



PLANNING/TRANSPORTATION/ENGINEERING
WATER RESOURCES/LAND SURVEYING

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SARATOGA MAJOR STREET PLAN

CHAPTER I

INTRODUCTION

The skeleton of any community is its street system. This system provides access and facilitates the movement of people and goods throughout the community. The street pattern also determines, to a great extent, the distribution of land uses and orientation of blocks and lots. Few physical facilities of any community are quite as permanent as the streets. After a street is constructed and the utilities are in place, relocation is both difficult and costly.

Streets serve several functions. The most important include:

- Furnishing avenues for vehicular traffic
- Accommodate the installation of various utilities and drainage facilities
- Provide light, air and open space to abutting properties
- Provide access to properties

Realizing these things, the Saratoga Planning Commission commissioned a Major Street Plan for the Town and surrounding area. The Plan is meant to guide growth and development and serve as a first step in a street improvement program. The Plan is to extend one mile from the corporate limits, consistent with Wyoming Statutes (WS 34-114). The Plan will, as much as possible, be consistent with the Town's objective of maintaining a small town, rustic atmosphere.

The following are some suggested statements of policy to guide implementation and use of the Saratoga Major Street Plan.

- The Town of Saratoga and Carbon County recognize that the street and highway system must be consistent with and contribute to the overall needs of the area
- The land uses adjacent to the Town's streets will be influenced by the types and design of these streets. Therefore, proper movement of traffic will require coordinated planning efforts to carefully balance the need for traffic mobility and the need for land access.

- As land is subdivided for development or sale, adequate public rights-of-way will be secured in suitable locations in accordance with the Major Street Plan
- The Major Street Plan is but one element of Saratoga's planning efforts. Other planning efforts should build upon this plan and reinforce it where possible. All planning efforts must complement and be consistent with each other.

Outline Of The Study

Chapter II, Inventory, discusses previous studies and the existing conditions in Saratoga. The operating characteristics of the streets and related information are listed.

Forecasts of population and land use are discussed in Chapter III. These forecasts are drawn from the Saratoga Land Use Plan and the statistics listed in that report.

Chapter IV presents several alternative Major Street Plans and discusses the major items found in these alternatives. These alternatives were presented to the Saratoga Planning Commission on April 5, 1978 and were used for discussion purposes.

The Recommended Plan is presented in Chapter V. It is an adaptation of the ideas listed in the alternative plans. A list of the routes by classification is also discussed and Typical Sections for these routes are shown. The Design Standards for the Major Street Plan is also listed.

Chapter VI discusses implementation procedures and suggests procedures to be used to review and change the Major Street Plan. Several modifications to the Department of Economic Planning and Development's Model Subdivision Regulations are also suggested.

CHAPTER II

INVENTORY

The Saratoga Region

Saratoga is a town in Carbon County in south-central Wyoming. The 1970 Census listed the population at 1,181 and the 1977 population is estimated to be 2,900 by the Department of Economic Planning and Development. The Town has a long history of tourist activities and tourism remains an important part of the local economy. Logging, lumber, and agriculture are important segments of the local economy also. The construction and service industries are growing in Saratoga because of the population influx due to mining activity in the Hanna area.

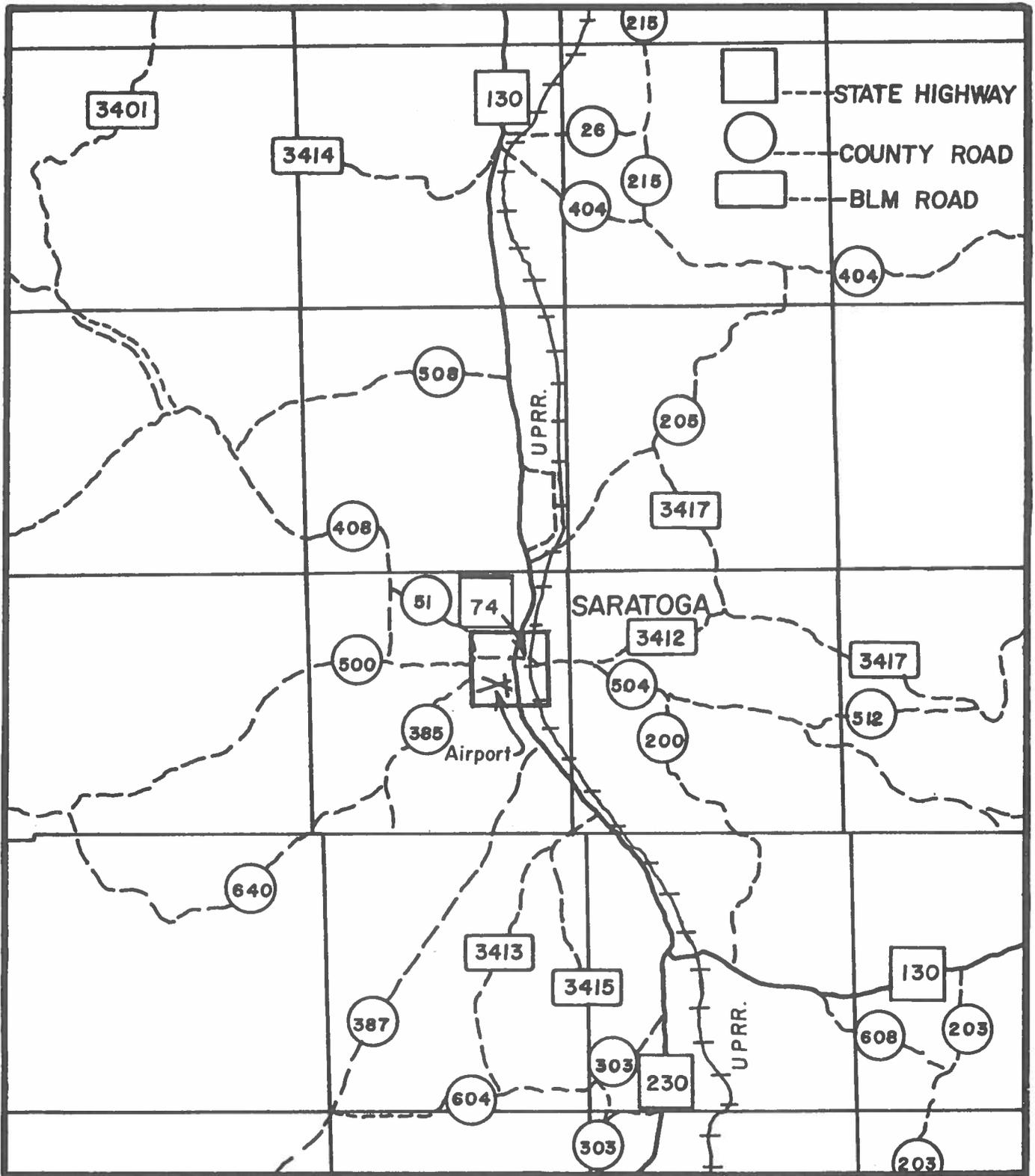
Figure 1 shows Saratoga and the street and highway network surrounding the Town. The Town is served by Wyoming 130 which connects to Interstate 80, twenty-one miles to the north and Wyoming 230 on the south. Wyoming 74 connects Wyoming 130 to Carbon County 504 in the downtown area. The major crossings of the North Platte River are on Wyoming 130 and Wyoming 74 within the Saratoga Corporate Limits. Carbon County roads 51, 385, 500 and 504 also connect Saratoga with other points in the County.

The Union Pacific Railroad provides Saratoga with freight service approximately three times a week. Saratoga Municipal Airport has a paved 8,400 foot runway and is located within the corporate limits.

Previous Studies And Other Information Sources

Saratoga Land Use Plan, Fall 1977, by the Saratoga Planning Commission.

This report discussed all the services available in Saratoga and identified problem areas. Town goals for improving the quality of life and physical services are indicated with objectives for achieving those goals. The Land Use Plan is to serve as the basis for zoning and subdivision regulations that are now being developed. These zoning and subdivision regulations will be extremely important since implementation of the Major Street Plan and Land Use Plan will be dependent upon them. Parts of the Land Use Plan will be discussed throughout this report.



SARATOGA REGION

SARATOGA
MAJOR STREET PLAN

FIGURE 1

BRW/NOBLITT

Carbon County Transportation Plan, June 1975, by HNB Consulting Engineers, for the Carbon County Regional Planning Office.

This study covered the entire County and the recommendations dealt with the County Highway System. Page 18 of the report did list a U.S. Forest Service recommendation to upgrade County Road 500 because of logging activity west of Saratoga.

Wyoming State Airport System Plan, Dec. 1976, by Jack Noblitt & Associates, for the State of Wyoming.

This study provides information on the airport and proposed airport improvements. The proposal to extend the runway to 9,000 feet will affect growth and transportation facilities in the southwest area of Saratoga. The study also provided some additional information on population projections for Saratoga.

Model Subdivision Regulations, March 1977, by the Department of Economic Planning and Development.

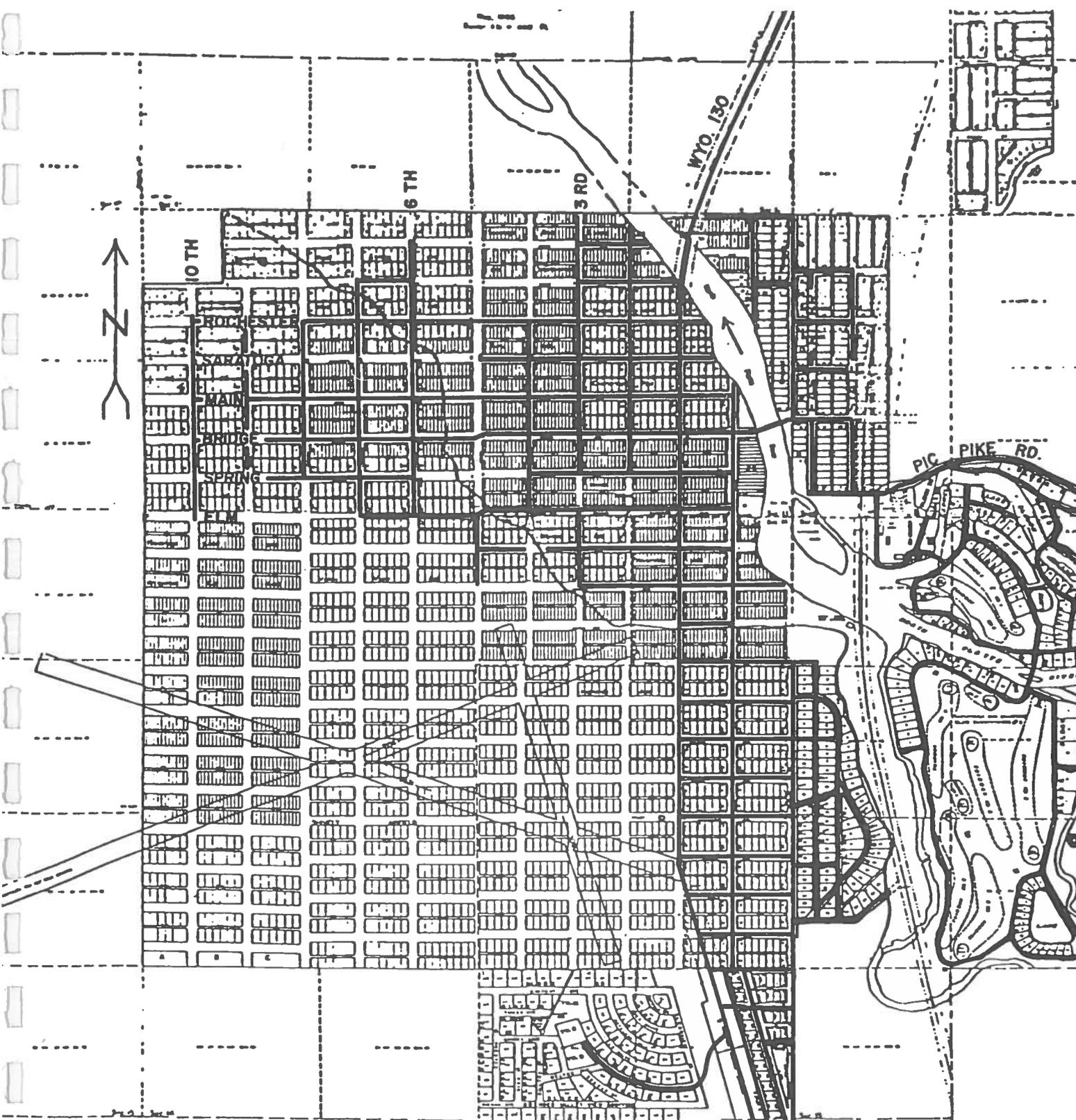
This report was consulted in order to determine how best to implement the Major Street Plan. Several proposed modifications to these regulations are presented in a later chapter. The Carbon County Council of Governments indicated that the Model Subdivision Regulations would be tailored and modified to fit Saratoga's needs.

In addition, the Wyoming Statutes on Planning, Article 6, WS 15-1-601 to WS 15-1-612, were consulted to determine the exact procedures for implementation of the Major Street Plan.

Conversations were also held with the Programming Section and the Planning Branch of the Wyoming Highway Department. These conversations were useful in several respects. Information on planned improvements was obtained. The Functional Classification map for the State was also discussed in order to have the Saratoga Major Street Plan compatible with the Wyoming Highway Department Functional Classification Map.

Existing Streets And The Developed Area

The existing streets and developed area of Saratoga are shown in Figure 2. The streets shown in this figure were taken from the Existing Land Use Map for Saratoga provided by the Carbon County Council of Governments. The developed area closely follows the existing streets. A visual inspection was made on March 15, 1978 and verified on April 5, 1978.



EXISTING STREETS

Perhaps the best statement of existing street conditions is found in the Saratoga Land Use Plan:

"The streets of Saratoga are in a complete state of disrepair with only the two main arteries having hard surface paving. The Town currently has no curbs or gutters - except in the downtown area. Gravel streets are prone to frost heaves and washboard problems. The existing alleys are in basically the same conditions as the streets.

The streets, for the most part, are void of sign designations and house numbering. Streets that have signs are usually illegible in twilight and darkness."

It should be noted that many of these problems are now being corrected.

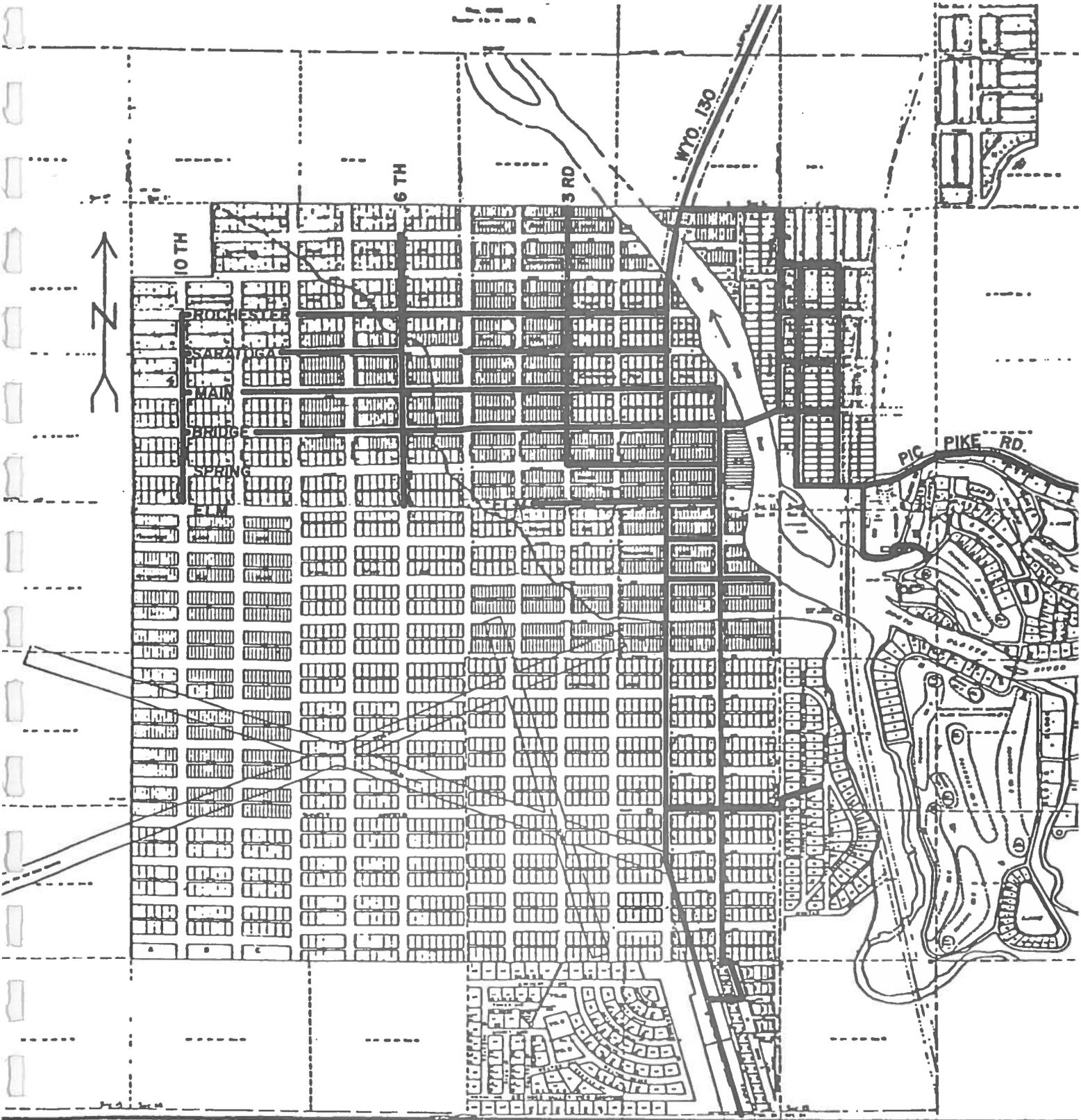
The Community Profile, published by the Department of Economic Planning and Development lists Saratoga's streets as being ten percent paved.

Intersections between the Country Club Heights subdivision and the older streets is a problem as they do not match. Where a new street does not match an existing street, they should be offset by at least 120 feet to allow for proper traffic flow. This problem will also occur in the Valley View Subdivision if it is developed according to the Town map. Through lots or double frontage lots, in both of these subdivisions, will be a continuing problem because of the high cost to landowners to provide street improvements.

The remaining residential streets in Saratoga are gravel surfaced or un-improved. No provision for drainage was found except for natural runoff patterns. The posted speeds for streets in Saratoga, except for Wyoming 130, is 20 mph, but the mud, ruts, and washboards make even that speed unrealistic during wet periods. Dust is a problem during the dry periods. Street drainage east of the Hugus-Mullison Ditch is necessary. Fourth Street was closed because of mud on March 15, 1978. The intersection of Fifth Street and Elm was passable only because the mud was frozen. Intersections in west Saratoga were undefined because of the mud. Streets within the Saratoga Inn are not City streets, but are private easements.

Major Throughfares

Mr. Kenneday, Saratoga Police Chief, was contacted to determine the most used streets. These streets are shown in Figure 3. The main



MAJOR THOROUGHFARES

north-south route in Saratoga is First Street, or Wyoming 130. The main east-west route is Bridge Avenue and Wyoming 74. Crossings of the Hugus Ditch, North Platte River, and the airport restrict travel in Saratoga. The Elementary School also stops north-south travel for three blocks. Sixth Street appears to be the next major north-south route west of Wyoming 130. The other north-south streets generally serve the local area. Rochester and Main Avenue are the other main east-west routes. The others serve local areas because they are either stopped by the airport, Hugus Ditch, or the North Platte River.

Traffic Volumes And Traffic Controls

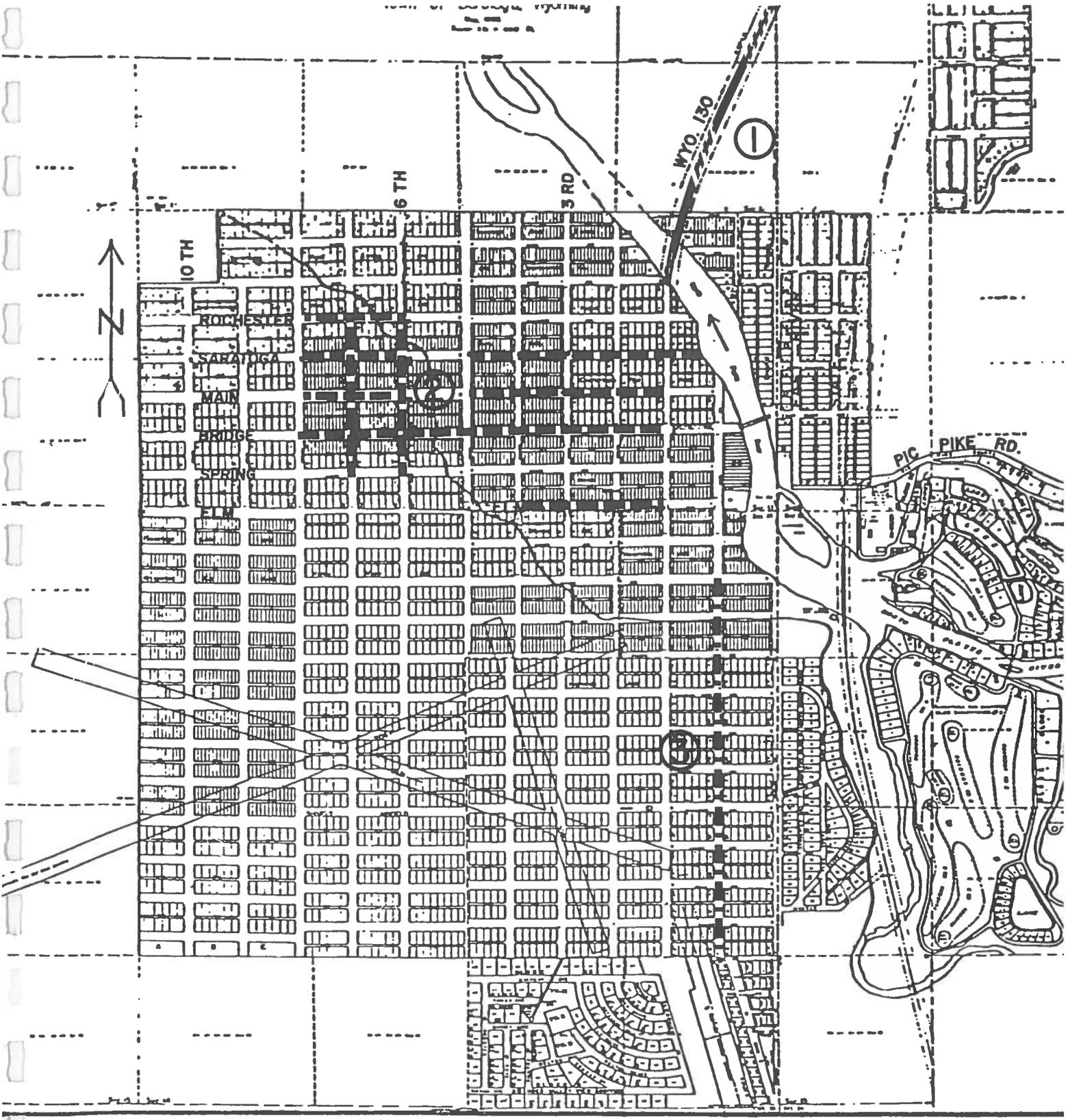
The 1976 Wyoming Traffic Book by the Wyoming Highway Department was consulted in order to determine the peak volume of cars on Saratoga's streets. Wyoming 130 carried 1,680 vehicles per day in the downtown area. Wyoming 74 (Bridge Avenue) carried 1,610 vehicles per day in the downtown area. Traffic volumes for other streets in Saratoga are not available, but it is doubtful that traffic volumes on other streets would be higher than those mentioned.

Bridge Avenue and Wyoming 130 (First Street) are both signed as through streets. Walnut Avenue is a through street between Wyoming 130 and the Hobo Pool. There is no traffic control other than signing in Saratoga at present. A study is now being conducted for a traffic signal at the Bridge Avenue - Wyoming 130 intersection by the Wyoming Highway Department, but the results are not yet available.

Planned Improvements

Planned street improvements are shown in Figure 4. Item 1 is widening and isolated reconstruction of Wyoming 130. This project ends at the south end of the North Platte River bridge. The project is being financed using Consolidated Primary Funds available from the Wyoming Highway Department. This project is scheduled for the summer of 1978.

Also scheduled for this year, is crushed gravel surfacing of 2.5 miles of Town streets. These streets are indicated as Item 2. This project is a part of the Off-System Roads Program available through Carbon County and the Wyoming Highway Department. The Programming Section of the Highway Department indicated that there might be a delay in this project as the County wanted to match State and Federal funds with labor and other services rather than cash payments.



PLANNED IMPROVEMENTS

- ① Widening and Isolated Reconstruction
- ② Crushed Gravel Surfacing
- ③ Signing for a Through Street

Mr. Kenneday indicated that River Street is to be signed as a through street. This project is shown as Item 3 on Figure 4. This project is scheduled for Spring or Summer of 1978.

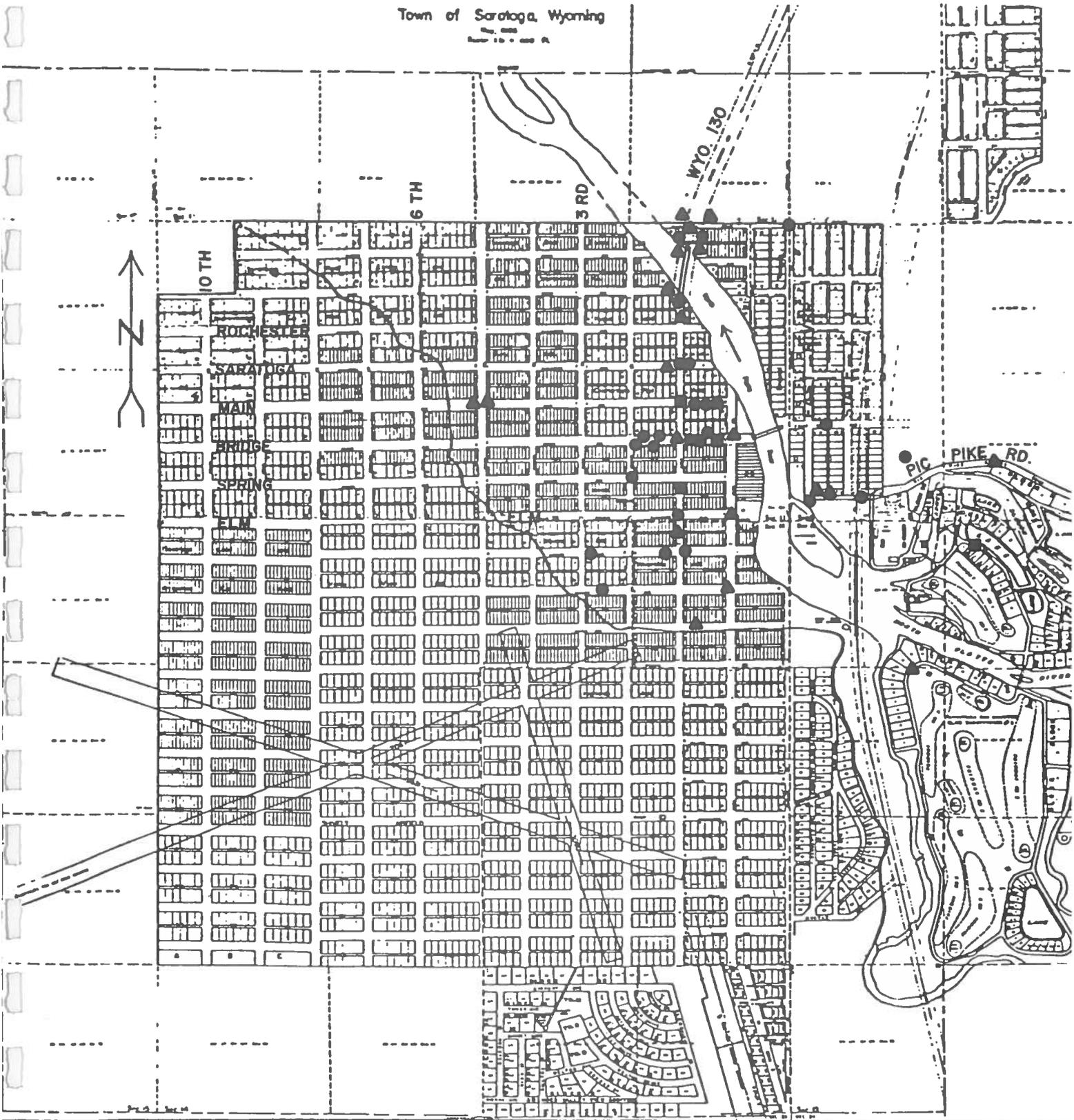
The Town also plans to place 20,000 tons of gravel on various streets this year and an Improvement District for Snowy Range Heights is also underway.

Accident History

Figure 5 shows the 1977 Accident Locations. This information was provided by the Saratoga Police Department. The figure shows that the accidents are concentrated along the two highest volume streets in Saratoga. In addition, it is thought that the diagonal parking in the downtown area is responsible for most of the accidents on Bridge Avenue. The accidents at the intersection of Pic Pike Road and East River Street show the need for a better connection for those routes. Additional accident information, i.e. weather conditions, time of day, etc. are needed to further analyze the accident problems.

Planned Land Development

Several proposed land developments are shown in Figure 6. This information is taken from preliminary plats and presentations made to the Saratoga Planning Commission. As shown in the figure, Saratoga is primarily growing to the west. A plat was not available for the Mobile Home Park in south Saratoga. A plat for the future Saratoga Inn Development in south Saratoga was also not available, but it is felt that these developments will reinforce existing travel patterns. The Swanson and Sintek subdivisions will primarily depend upon Bridge Avenue for east-west travel while the McNellis subdivision and the Planned Unit Development will use Rochester Avenue. The new school site will place additional traffic volumes on Elm Avenue, Sixth Street, Tenth Street, and Bridge Avenue.



1977 ACCIDENT LOCATIONS

- ▲ Single Vehicle Accidents
- Multiple Vehicle Accidents
- Bicycle - Vehicle Accidents

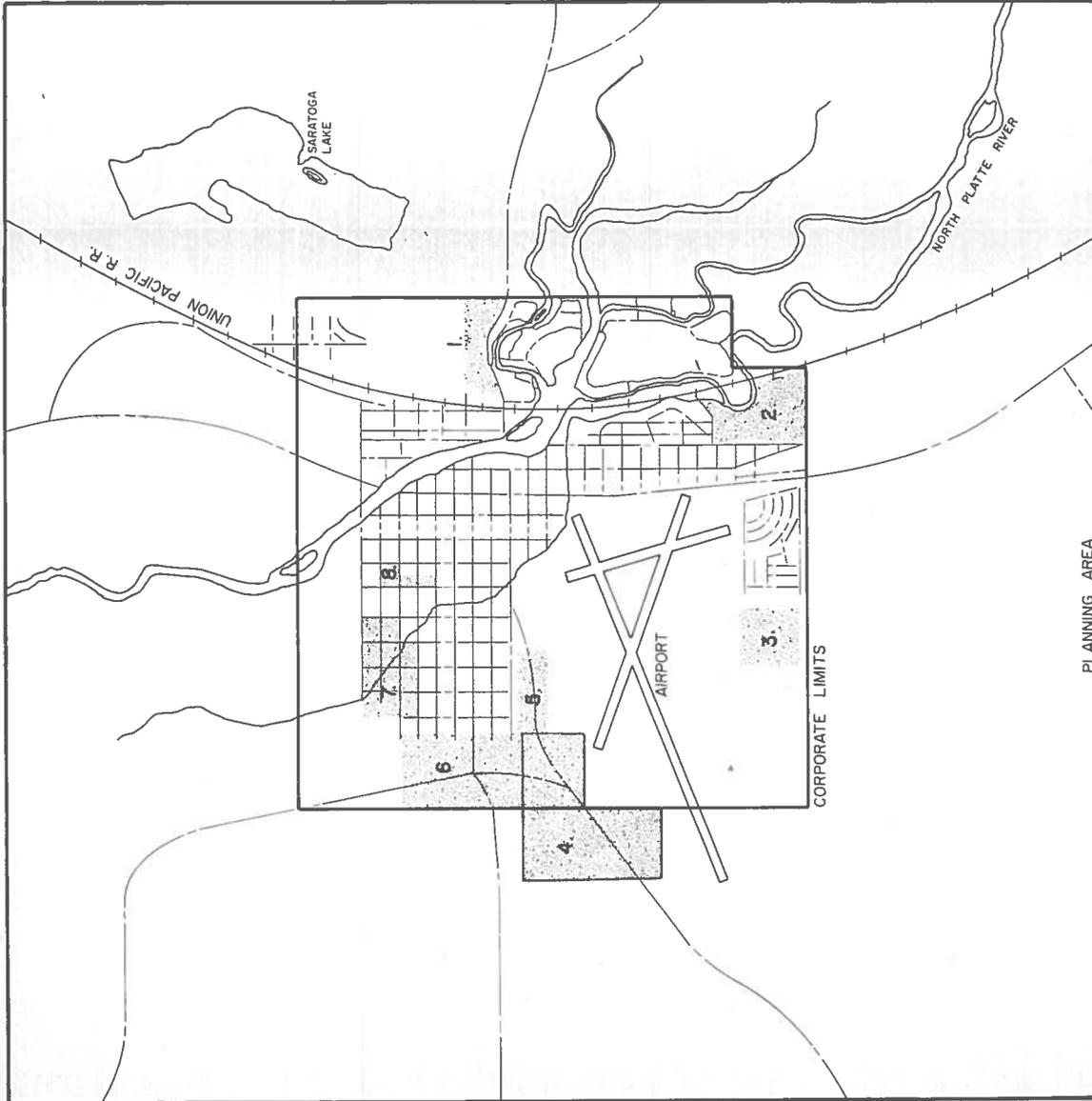
SARATOGA
MAJOR STREET PLAN

PROPOSED LAND DEVELOPMENTS

- 1) SARATOGA INN
- 2) SARATOGA INN
- 3) MOBILE HOME PARK
- 4) SWANSON SUBDIVISION
- 5) SCHOOL SITE
- 6) SINTEK SUBDIVISION
- 7) McNELLIS SUBDIVISION
- 8) PLANNED UNIT DEVELOPMENT



FIGURE 6



PLANNING AREA

CORPORATE LIMITS

AIRPORT

SARATOGA
LAKE

NORTH PLATTE RIVER

UNION PACIFIC R.R.

CHAPTER III
POPULATION AND LAND USE FORECASTS

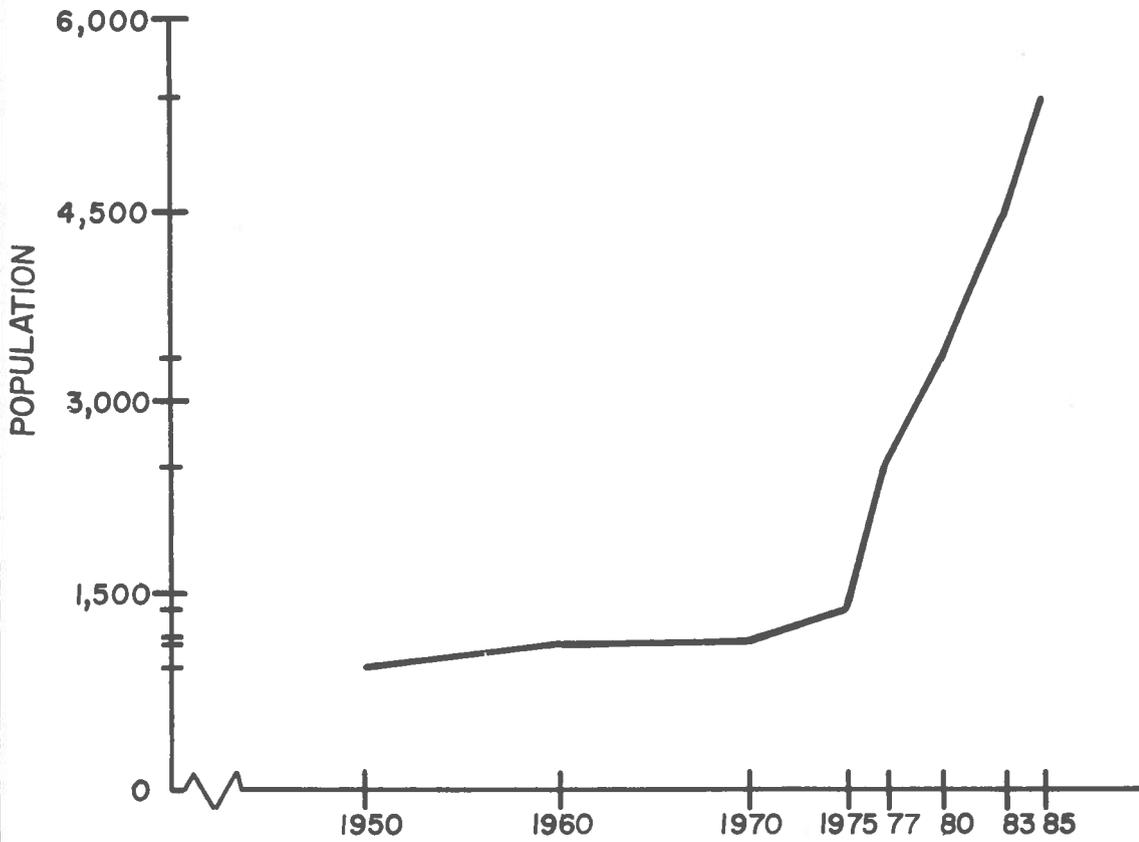
Introduction

The information in this section is taken from the Saratoga Land Use Plan. It is thought to be more valid than the population projections developed by the State Planning Coordinator's Office for several reasons. First, those projections are made on a county-wide basis and use basic industries as the forecasting unit. Problems arise in trying to distribute that population among towns in an area as sparsely settled as Carbon County. Second, population increases for Saratoga will be both from the Basic Industries Sector (people employed in mining and energy development) and the Services Sector (services to the Basic Sector, commercial establishments, etc.). And finally, the State Planning Coordinator's Office forecasts have been shown to be too conservative. There is a very fine balance between accuracy in projections and projections sufficient for long-range planning. A two-lane street, once in place, can handle volumes from zero to approximately 10,000 vehicles per day with only minor improvements. Obviously, some improvements, say a hospital, are much more dependent upon accuracy so that the facility's capacity approximates demand for that service.

Population Forecasts

The population increases that Saratoga is now experiencing are due to energy development. The expansion of the Hanna coal fields, forty miles to the north, has created this "boom" condition. Saratoga is now experiencing a demand for housing, recreation, and basic municipal services. The Planning Commission feels that the "boom" conditions have a time span of approximately twenty years. The population of Saratoga has increased over one-hundred percent since 1970. The Planning Commission forecasts a ten percent yearly increase through 1985. This growth rate is shown in Figure 7. However, population increases should not be as dramatic as 1985 approaches since there will not be as much energy related construction. Streets built in the near future should just be approaching capacity twenty years from now. Problems then will be at intersections and delay times due to intersection problems.

POPULATION GRAPH



POPULATION PROJECTION FROM PAGE 32, SARATOGA LAND USE PLAN

1950	926	1977	2500
1960	1133	1980	3328
1970	1181	1983	4431
1975	1408	1985	5361

FIGURE 7

BRW/NOBLITT

Future Land Use

The Future Land Use for Saratoga is also taken from the Land Use Plan. The Plan calls for a continuation of highway business along Wyoming 130 and a compact central business district. Residential land use will predominate west of Wyoming 130, with some commercial area at the intersection of County Roads 500, 51 and 385. Industrial land will be available in the area of the airport and along the Union Pacific Railroad in northeast Saratoga. Land south of the airport is to be residential. However, the majority of residential development will occur in west Saratoga. It should be noted though, that as Saratoga grows west, the airport will become more of a barrier to travel and it will be more difficult to expand airport facilities and operations.

CHAPTER IV
ALTERNATIVE STREET PLANS

Introduction

For planning and design purposes, roadways are most effectively classified by function. The two functions of a road are: to provide traffic mobility and to provide land access. In many aspects, these functions are incompatible; for traffic mobility, high and continued speeds are desirable while land access demands low and variable speeds. Functional classification weighs these two purposes so that a roadway can serve both to some degree. Also, given a functional classification, design standards and planning guidelines can be applied to encourage the use of the road as intended.

The categories used in the following alternatives are taken from the National Highway Functional Classification Study Manual by the Federal Highway Administration of the Department of Transportation published in 1969. These categories are used by the Wyoming Highway Department for the State Highway System and in the eleven cities over 5,000 people in Wyoming. These categories are as follows:

Principal Arterials - Streets and highways serving major metropolitan activity centers, the highest traffic volume corridors, the longest trip desires, and a high proportion of total urban area travel on a minimum of mileage. Service to abutting land should be subordinate to the provision of travel service to major traffic movements. This system carries the major portion of trips entering and leaving an urban area, as well as the majority of through movements desiring to bypass the central city, and normally will carry important intraurban as well as intercity bus routes.

Minor Arterials - Streets and highways interconnecting with and augmenting the urban principal arterial system and providing services to trips of moderate length at a somewhat lower level of travel mobility. The system places more emphasis on land access and distributes travel to geographic areas smaller than those identified with the

higher system. It includes all arterials not classified as principal.

Collector Streets - Streets penetrating neighborhoods, collecting traffic from local streets in the neighborhoods, and channeling it into the arterial systems. A minor amount of through traffic may be carried on collector streets, but the system primarily provides land access service and carries local traffic movements within neighborhoods, commercial, and industrial areas.

Local Streets - Streets not classified in a higher system, primarily providing direct access to abutting land and access to the higher systems. They offer the lowest level of mobility and usually carry no bus routes. Service to through traffic is deliberately discouraged.

Several other points were considered in developing these alternatives. Existing travel patterns must be recognized and the Major Street Plan developed from them. The Plan should also use existing facilities wherever possible. The Plan should also be consistent with the terrain and other natural features, as well as the existing and future land uses. While a Major Street Plan represents the ultimate street system within the planning period, it should recognize the community's needs and be consistent with its ability to implement the system. The Major Street Plan should also be compatible with other plans for the area and reinforce these plans where possible.

Alternative No. 1

This alternative is shown as Figure 8.

Principal Arterials. - Wyoming 130 is the only listed principal arterial.

Minor Arterials. - County Road 500 - Bridge Ave-Pic Pike Road is the main east-west route. The connection between Bridge Ave. and Pic Pike Road is realigned north of the new Saratoga Inn Subdivision to provide a more direct connection. County Road 51 is realigned to the approximate location of 12th Street, creating more land for other uses in this area as well as a better intersection with Bridge Ave.

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ALTERNATIVE 1

- PRINCIPAL ARTERIAL - - - - -
- MINOR ARTERIAL - - - - -
- COLLECTOR - - - - -

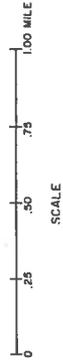
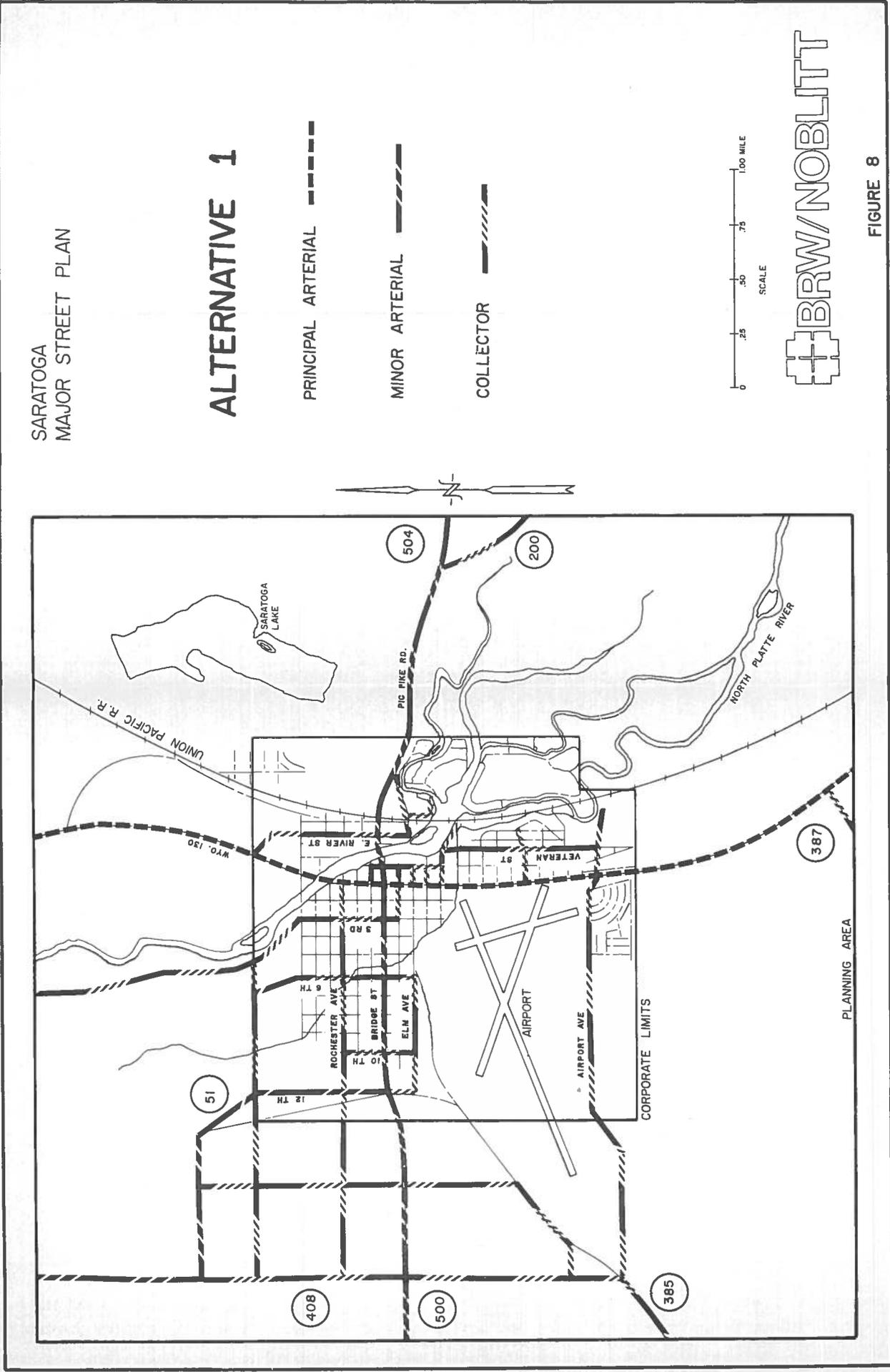


FIGURE 8



Collectors. - County Roads 200, 387, and 385 are listed in this category as they are important, but low volume rural connections. East River Street connects Wyoming 130 with Bridge Ave. and then connects with Pic Pike Road. River Street extends from Main Ave. to Walnut Ave. and Main Ave., Spring Ave., Elm Ave., Hickory Ave., Walnut Ave., and Maple Ave. compromise the circulatory system in the downtown area. Walnut Ave. is listed as it connects the Hobo Pool. Greenwood Ave. and Sage Ave. and Veterans Ave. serve the residential areas east of Wyoming 130. Airport Ave. extends to meet County Road 385 and the extension of County Road 408. Room is available to extend the runway to 9000 feet as suggested in the Wyoming State Airport System Plan. Rochester Ave. is extended west to County Road 408 and a new street is suggested between County Road 408 and the extension of 3rd Street along the present corporate boundary. A new street is suggested about half-way between 12th Street and County Road 408. 12th Street would be a collector from Bridge Ave. to Elm Ave. Elm Ave. to 6th Street would serve the new high school as would 10th Street from Elm Ave. to Rochester Ave. 6th Street extends to the proposed route along the north corporate limits. 3rd Street would become a scenic river drive along the North Platte River. It is suggested that the scenic river drive be maintained to a rural standard rather than paved north of the residential area as this would help preserve the rural nature of the road and discourage through traffic.

Alternative No. 2

This alternative is shown as Figure 9.

Principal Arterials. - Wyoming 130 is the only principal arterial.

Minor Arterials. - A partial loop around Saratoga is envisioned connecting Wyoming 130, County Roads 51 and 408, and Airport Ave. Bridge Ave. and Pic Pike Road are also listed in this category. The spacing between the east-west sections is approximately one mile.

Collectors. - Wyoming 130 is connected to east Saratoga by East River Street and Chatterton Street. East River Street also connects Bridge Ave. to the old segment of Pic Pike Road. The circulatory system in the downtown area extends on both sides of Wyoming 130. Walnut Ave., Greenwood Ave, and Sage Ave. serve the residential areas east of Wyoming 130. Rochester Ave. connects Wyoming 130 and 6th Street. 3rd

SARATOGA
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ALTERNATIVE 2

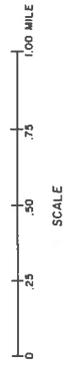
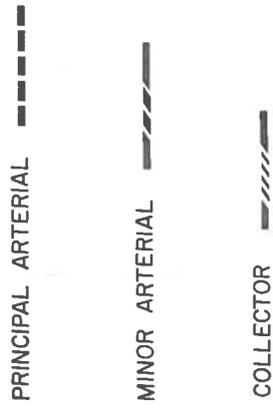
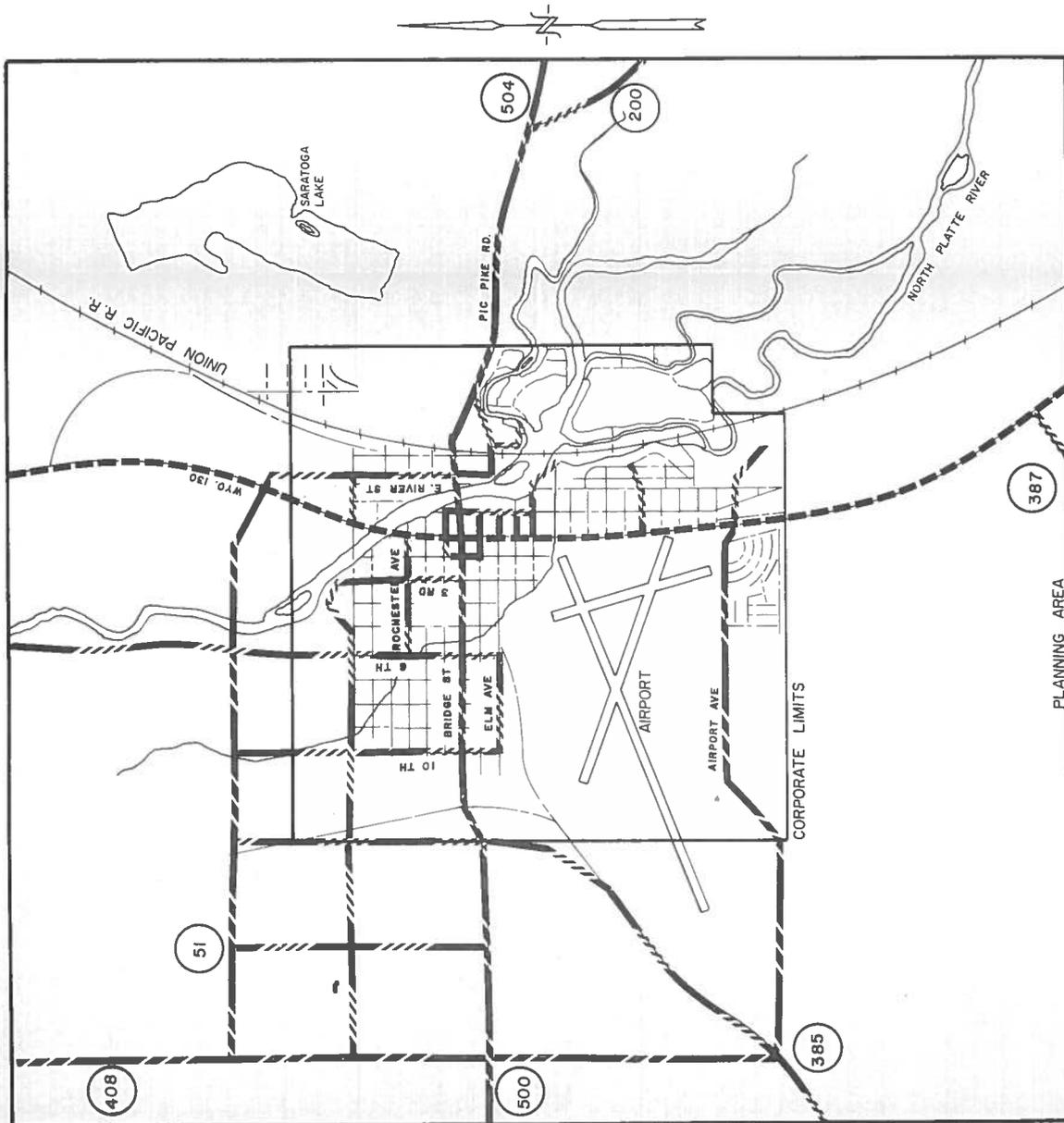


FIGURE 9



Street connects with a western extension of Chatterton Ave. to connect with County Road 408. 6th Street becomes the scenic river drive. 6th Street, Elm Ave. and 10th Street would serve the new school site. County Roads 51 and 385 are realigned to what would be 14th Street. A new route is suggested half-way between 14th Street and County Road 408.

Alternative No. 3

This alternative is shown as Figure 10.

Principal Arterials. - Again, Wyoming 130 is the only principal arterial.

Minor Arterials. - Bridge Ave. and Pic Pike Road are listed in this category. County Road 51 is listed in this category also, but would be realigned to approximately 14th Street and intersect with County Road 385. County Road 385 and Airport Ave. would become an airport loop. This loop is not feasible if the airport runway will be lengthened.

Collectors. - Service roads are envisioned serving Wyoming 130 both north and south of Saratoga. A loop of collector streets would serve the industrial and light industrial areas in east Saratoga as well as connect to Wyoming 130. The circulatory system in the downtown area extends both west of Wyoming 130 and north to Rochester Ave. River Street extends south to Sage Ave. 6th Street would be the scenic river drive and be the western termini of Rochester Ave. and 3rd Street. The new school site would be served by 6th Street, Elm Ave., 10th Street, and County Road 51. New routes are suggested along the western extension of Chatterton Ave. and equidistant between 14th Street and County Road 408.

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ALTERNATIVE 3

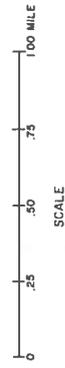
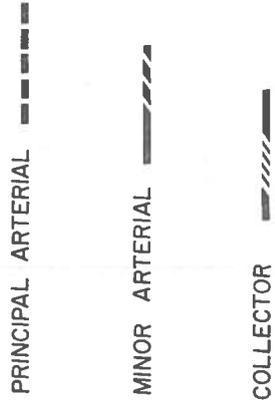
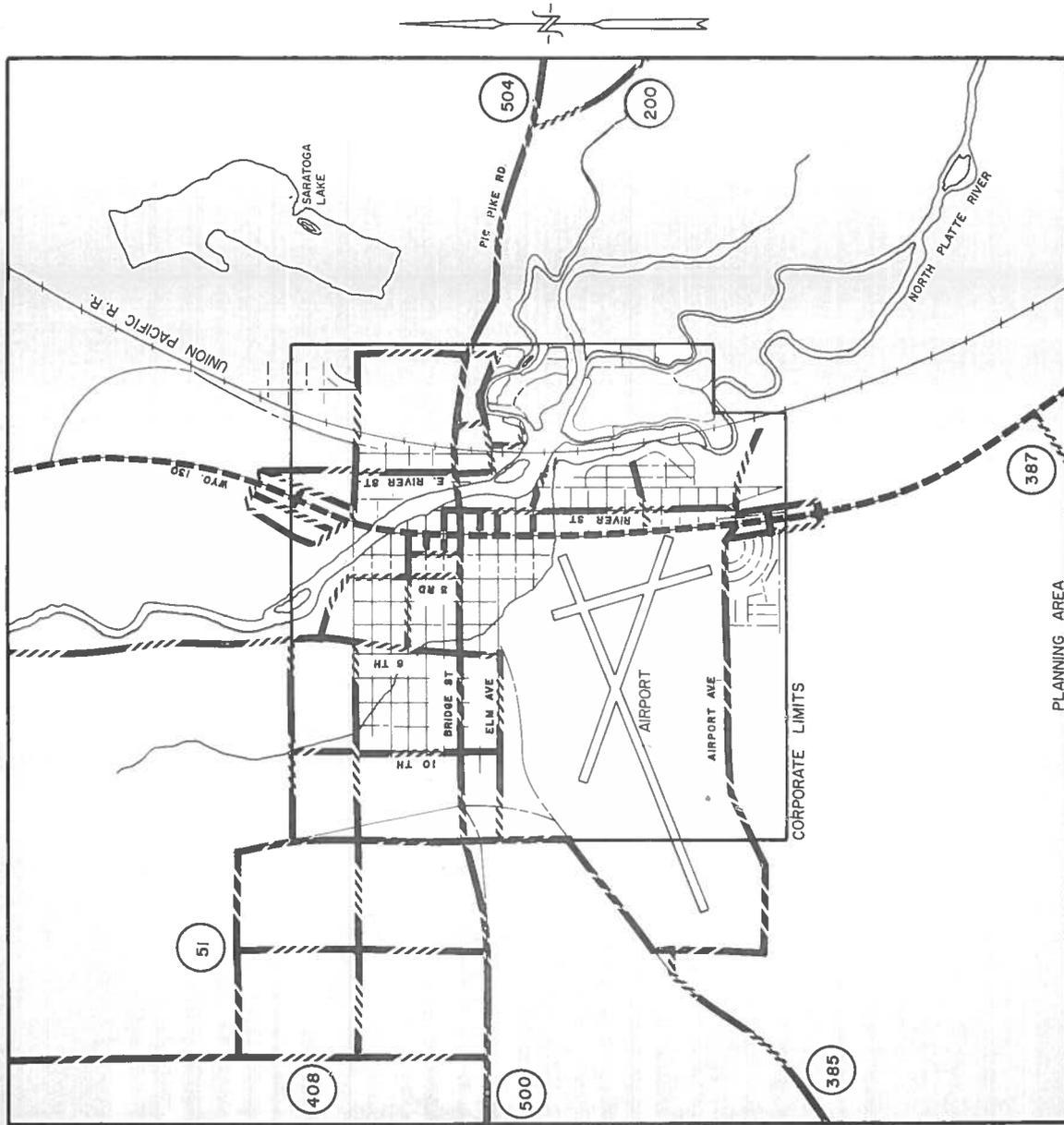


FIGURE 10



CHAPTER V
RECOMMENDED PLAN

Introduction

The three alternatives presented in Chapter IV were presented to the Saratoga Planning Commission at their meeting on April 5, 1978. They were presented as discussion topics and the best ideas of those alternatives form the Recommended Plan. The Recommended Plan, Typical Sections, and Design Standards suggested at that meeting are presented in this chapter.

Recommended Plan

The Recommended Plan is shown as Figure 11.

Principal Arterials. - Wyoming 130 should continue as the major travel corridor for Saratoga.

Minor Arterials. - Bridge Ave. and Pic Pike Road, now function as a minor arterial and will continue as a minor arterial. It was felt that realigning the connection between these roads was impractical, but the intersection where they meet (East River Street and Pic Pike Road) needs to be improved. County Roads 51, 408 extended, and Seria Ave. and a new route extending east from County Road 51 to Wyoming 130 would create a loop around Saratoga. County Road 51, as it extends south to Bridge Ave. would be realigned to 13th Street.

Collectors. - State Street would extend north from Pic Pike Road to connect to Wyoming 130 at the intersection of County Road 51 extended. State Street would also be connected to Wyoming 130 by a new road just north of Chatterton Ave. River Street would extend from Main Ave. south to Greenwood Ave. Then Walnut Ave., Greenwood Ave., and Sage Ave. would serve the residential areas east of Wyoming 130. The downtown circulatory system would include Main and Spring Ave. between River and 2nd Street, with Elm Ave. and Hickory Ave. between Wyoming 130 and River Street Rochester Ave. would extend west to County Road 408. 6th Street would become the scenic river drive and 3rd Street would extend north and west to 6th Street. 10th Street would extend north to the northern segment of the loop. Elm Ave. would connect 6th and 10th Streets. It was thought to extend Elm Ave. east to Wyoming 130 as a school bus route,

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RECOMMENDED PLAN

PRINCIPAL ARTERIAL 

MINOR ARTERIAL 

COLLECTOR 

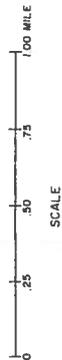
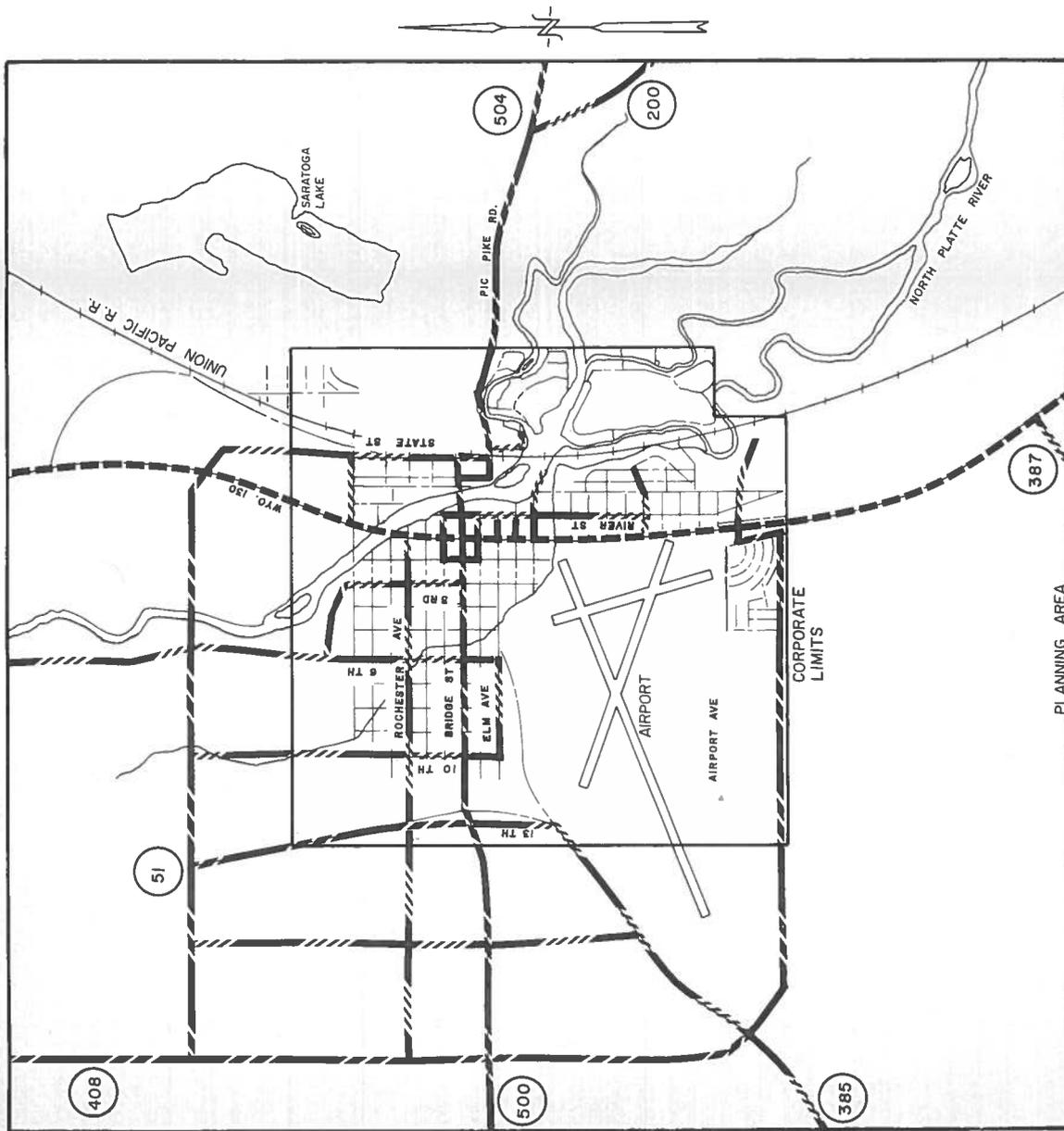


FIGURE 11



but school officials have indicated that they will use Bridge Ave. and 6th Street or 10th Street. County Road 385 would be realigned to 13th Street and a new route is suggested equidistant between County Road 408 and 13th Street.

In addition, it was suggested that Airport Ave. intersect Wyoming 130 at Sage Ave. providing a good intersection. The intersections of Pine Ave. and River Street, and Greenwood Ave. and Veterans Ave. would also need to be reworked. The access easement to the Saratoga Inn Subdivision and the bridge would need to be improved.

Typical Sections

Typical Sections were also discussed at the April 5th meeting. Local streets in the existing area of Saratoga should be forty foot in width since off-street parking was not provided as the area developed. However, in the new subdivision areas, thirty-four foot wide streets would suffice, as on-street parking would be discouraged. Collector streets and Minor Arterial streets would both be forty-four feet wide and would differ only in the right-of-way requirements. Sidewalks can be placed either next to the curb or separated from the curb. These typical sections are shown in Figures 12 and 13. A rural typical section for the scenic river drive is shown in Figure 14. Cost estimates for these typical sections are also shown on Figure 14. These cost estimates are approximate as the engineering data for the streets is not now available. The assumptions used to develop these cost estimates are:

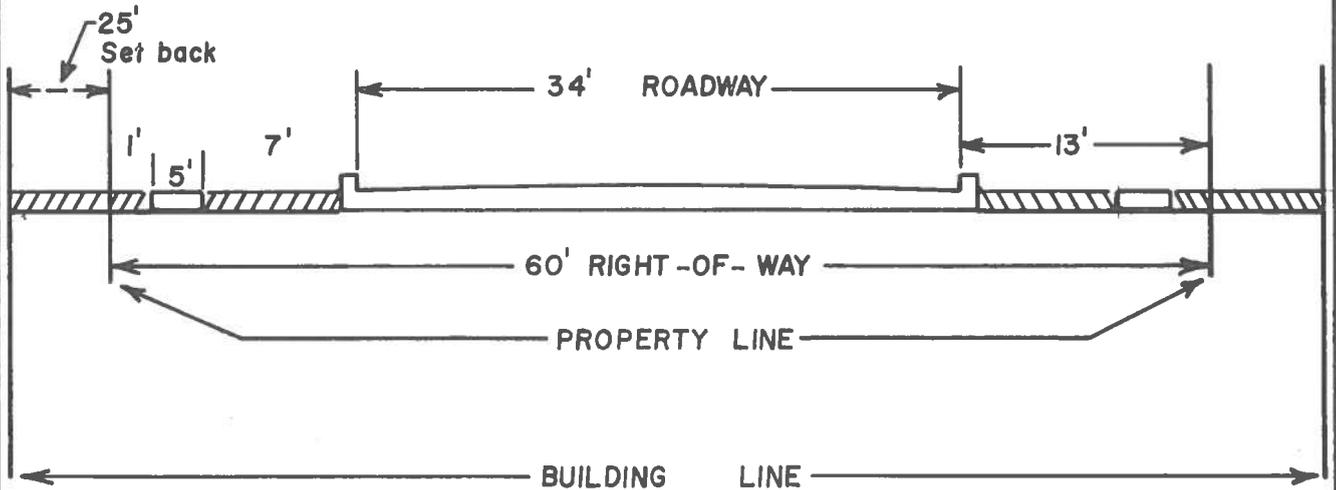
1. An average of 1 foot of excavation for streets and 6 inches excavation for sidewalks. No fill was also assumed.
2. 6 Inches of crushed base would be needed and an adequate site was nearby.
3. 2 Inches of plant mix pavement was assumed adequate and oil and haul was included in the estimate.

Design Standards

The Design Standards presented are based on the typical sections and the recommendations of the Institute of Traffic Engineers. Acceptance and use of design standards helps to ensure a safe, efficient, and economical street system, consistent with the volumes, speeds and characteristics of the vehicles and drivers who use them. Additional roadway construction costs will be recouped many times over in lower maintenance costs, fewer accidents, user savings, and energy conserved.

TYPICAL SECTIONS

LOCAL STREETS
60' RIGHT-OF-WAY
NEW SUBDIVISIONS



 - Grass or other Plantings.

LOCAL STREETS
60' RIGHT-OF-WAY
BUILT UP AREA

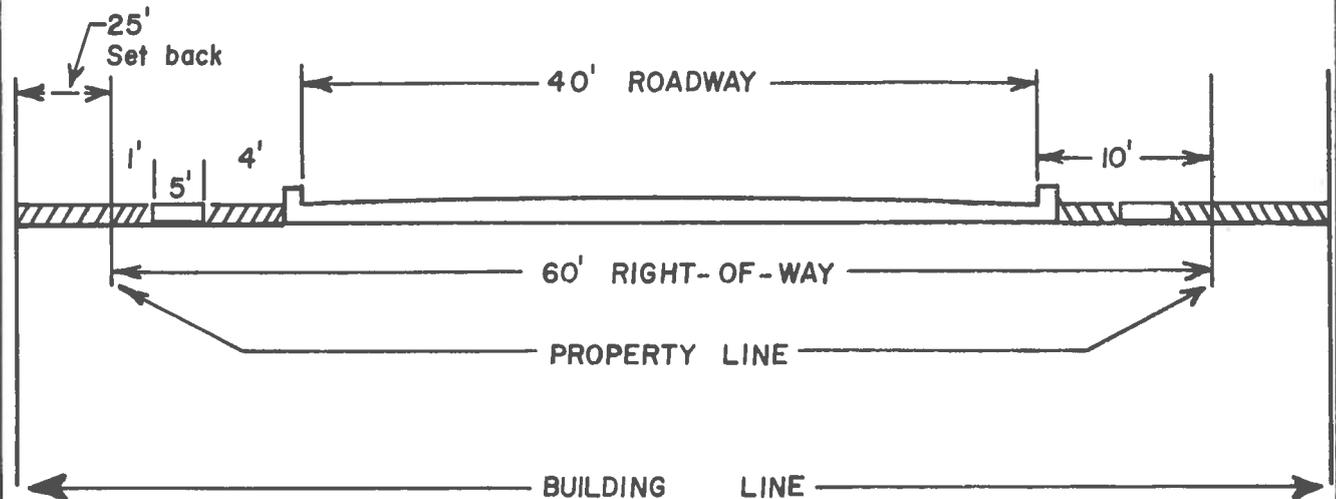


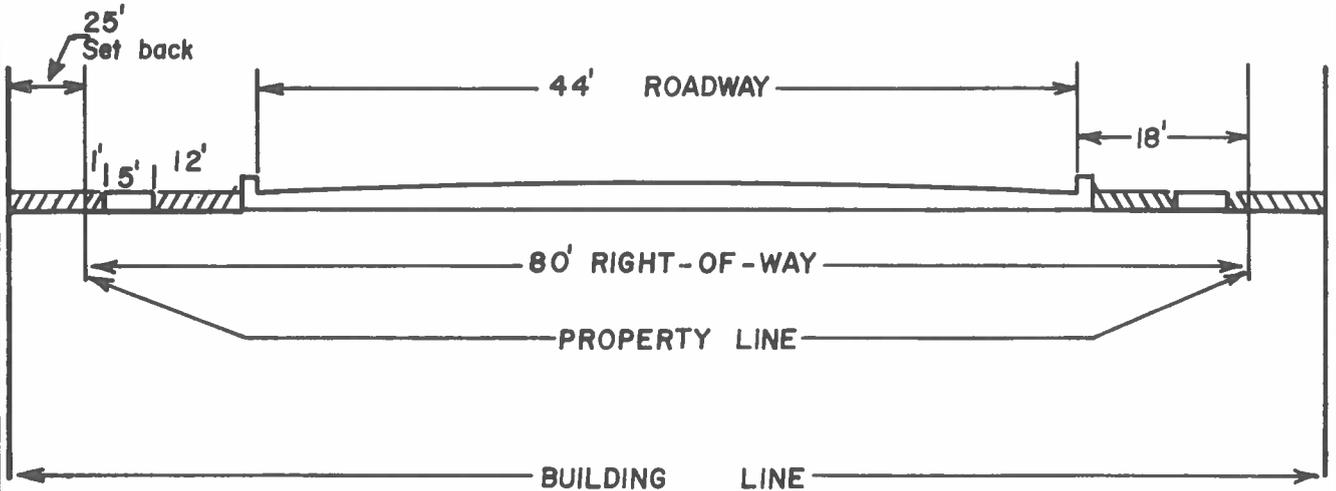
FIGURE 12

 BRW/NOBLITT

TYPICAL SECTIONS

COLLECTOR STREETS

80' RIGHT - OF - WAY



- Grass or other Plantings.

MINOR ARTERIAL STREETS

100' RIGHT - OF - WAY

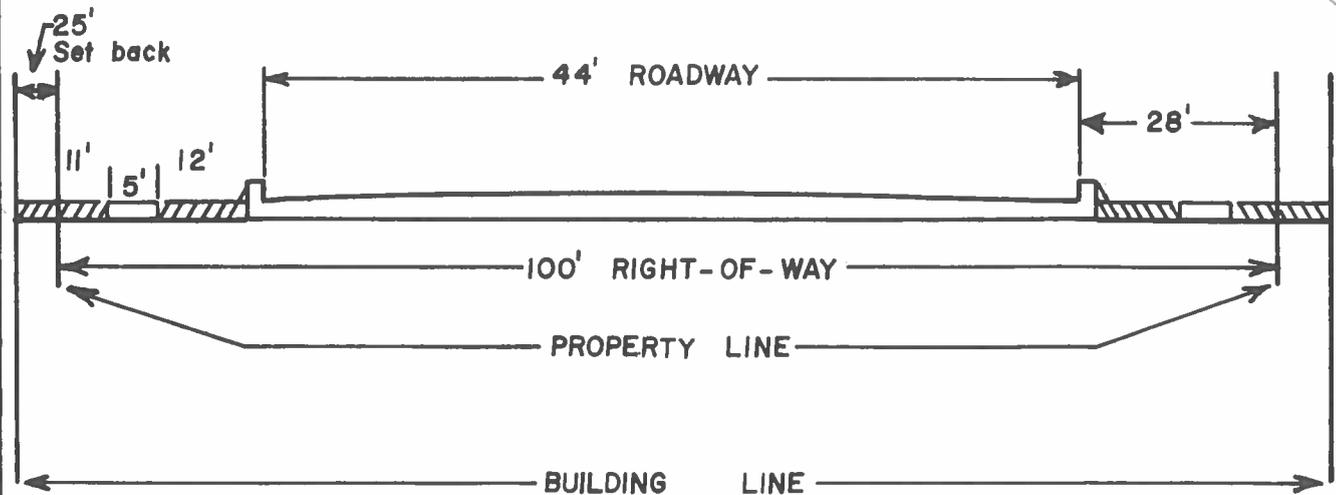
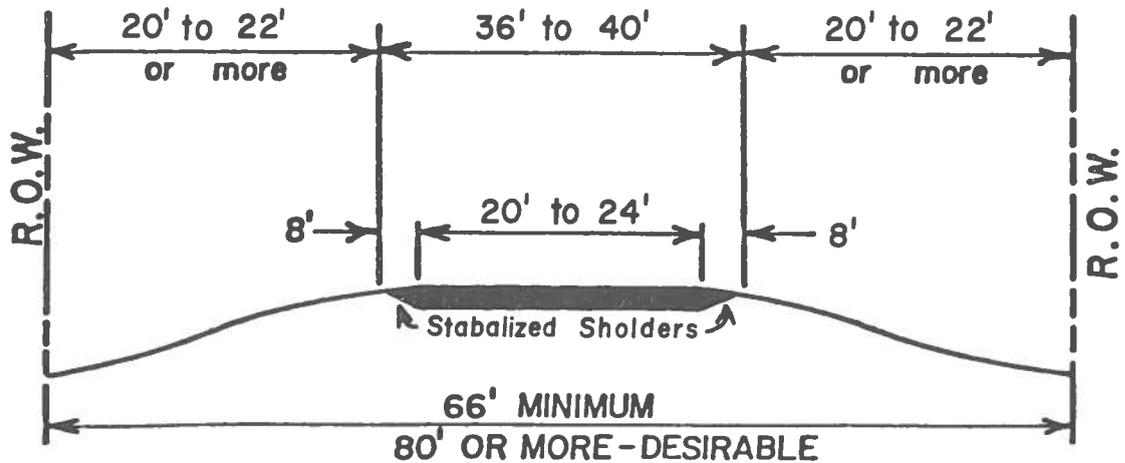


FIGURE 13

BRW/NOBLITT

RURAL SECTION



MORE RIGHT-OF-WAY COULD BE REQUIRED DEPENDING ON TOPOGRAPHY.

ESTIMATED STREET COSTS BASED ON THE TYPICAL SECTIONS

34'	WIDTH	\$ 270,000.00 / MILE
40'	WIDTH	\$ 290,000.00 / MILE
44'	WIDTH	\$ 315,000.00 / MILE

Each additional foot of street width will cost about \$ 4,000

ESTIMATES INCLUDE

Excavation, Crushed Base, Plant Mix Pavement

Prime Coat, Concrete Sidewalks, Curb and Gutter,

also Double Gutter where necessary.

BRW/NOBLITT

FIGURE 14

SARATOGA MAJOR STREET PLAN
DESIGN STANDARDS

<u>STANDARD</u>	<u>PRINCIPAL ARTERIAL</u>	<u>MINOR ARTERIAL</u>	<u>COLLECTOR</u>	<u>LOCAL STREET</u>
Service Function	Primary	Primary	Secondary	Discouraged
Movement of Traffic	Discouraged	Discouraged	Secondary	Primary
Access to Property	Over 3 Miles	Over 1 Mile	Less Than 1 Mile	Less Than 1 Mile
Principle Trip Length				
Access Control	Encouraged	Encouraged	None	None
Spacing	1 to 5 Miles	½ to 1 Mile	¼ to ½ Mile	300 to 500 feet
Design Elements				
Number of Lanes	2 to 4	2	2	2
Land Width	12 Feet	12 Feet	12 Feet	12 Feet
Number of Parking Lanes	2	2	2	*
Parking Lane Width	10 Feet	10 Feet	10 Feet	*
Sidewalks and Curbs	4 Feet Minimum	4 Feet Minimum	4 Feet Minimum	4 Feet Minimum
	8 Feet or Greater in CBD ⁺	8 Feet or Greater in CBD ⁺		
Right-of-Way (Minimum)**	As needed	100 Feet	80 Feet	60 Feet
Design Speed (mph)	55	40	30	20 to 30
Degree of Curvature	80 Desirable	140 Desirable	140 Desirable	
	12.50 Maximum	230 Maximum		
Stopping Site Distance	350 Feet	275 Feet	200 Feet	200 Feet
Street Grades (Maximum)	4%	4%	8%	10%
	0.5%	0.5%	0.5%	0.5%
Building Setback (Minimum)***	As specified by the Zoning Ordinances			

* In the older sections of Saratoga where a 40 foot Typical Section is to be used, then two 8 foot parking lanes will be available. But in the new section of Saratoga where a 34 foot Typical Section is to be used, on-street parking should be discouraged and limited to emergency and temporary conditions.

** More right-of-way could be required depending on topography or other special conditions.

*** Measured from the Property Line.

+ Central Business District

CHAPTER IV

PLAN IMPLEMENTATION

Implementation Procedures

Since the Major Street Plan encompasses the land within the Town of Saratoga, and land under the jurisdiction of the Carbon County Commissioners, the Plan should be adopted by both of these governing bodies. In addition, a public hearing should be held so that the public has a chance to comment on the Plan. It is suggested that formal adoption procedures be as follows:

1. A Public Hearing be held, after the necessary advertisements, by the Planning Commission. The comments made at this hearing should be studied and the Plan modified, if necessary. The Plan should then be formally approved by the Planning Commission and recommended to the Saratoga Town Council and Carbon County Commissioners.
2. The Plan should then be presented to and adopted by ordinance by the Saratoga Town Council.
3. The Plan should then be presented to and adopted by ordinance by the Carbon County Commissioners.

In addition, a copy of the Plan and the adopting ordinances should be sent to the Superintendent and Chief Engineer of the Wyoming Highway Department for use in administering the State Highways within the area covered by the Plan.

Subdivision and Zoning Regulations

Local Subdivision and Zoning Regulations should reinforce the intent of the Plan and be consistent with the Design Standards and Typical Sections in the Plan. This does not imply that the Plan is inflexible, but that these standards are desirable. Variance procedures are a necessary part of Subdivision and Zoning Regulations.

The Department of Economic Planning and Development for Wyoming drafted Model Subdivision Regulations in June of 1976 and reprinted the book in March of 1977. These Model Subdivision Regulations were reviewed

and several changes in these regulations are suggested as an aid in implementing the Major Street Plan. These changes are suggested so that the Model Subdivision Regulations reflect Saratoga's needs and the intent of the Major Street Plan.

Chapter 1, Section 4.

Subsection a

Proposed streets shall compose a convenient and efficient traffic circulation system, properly related to the Saratoga Major Street Plan. Streets shall be of such width, grade and location to accommodate prospective traffic, provide adequate light and air, and to provide access by service and emergency vehicles, and be consistent with the design standards of the Major Street Plan. (This section was changed to emphasize that Saratoga does have a Major Street Plan and accompanying design standards.)

Chapter 4, Section 4.

Subsection b

Arterial and Collector Streets shall conform to the width designated on the Master Street Plan wherever a subdivision falls in an area for which a Master Street Plan has been adopted. For territory where such a street plan has not been completed at the time the preliminary plat is submitted to the Planning Commission, Arterial and Collector streets shall be provided as required by the Planning Commission, with minimum widths of one hundred (100) feet for Arterial streets and eighty (80) feet for Collector streets. (This section again emphasizes the Major Street Plan.)

Subsection h

Street grades. Except where due to special circumstances, street grades over any sustained length shall not exceed the following percentages: on major public streets four percent; on collector streets eight percent; on local

and subdivision streets ten percent; on private streets fifteen percent. (This section changes the proposed street grades to the recommendations of the Institute of Traffic Engineers.)

Several recommendations found in the Model Subdivision Regulations can also be relaxed. They are as follows:

Chapter 4, Section 2.

Subsection C.2

Access from Principal and Minor Arterials. Lots shall not, in general, derive access exclusively from a principal or minor arterial street. Where driveway access from a principal or minor arterial street may be necessary for several adjoining lots, the Planning Commission may require that such lots be served by a combined access drive in order to limit possible traffic hazards on such streets. Where possible, driveways should be designed and arranged so as to avoid requiring vehicles to back into traffic on principal or minor arterials. (Collector streets were suggested for access control which should not be necessary for Saratoga.)

The remaining sections of the Model Subdivision Regulations appear adequate from the perspective of the Major Street Plan.

Review And Changes To The Major Street Plan

It is suggested that a public hearing be held yearly to allow comment on the Major Street Plan. If the comments warrant changes, then the change would be recommended to the Town Council and County Commissioners for adoption.

As was mentioned in the discussion of Alternatives in Chapter IV, the proposed new routes are very generally located. They suggest that a roadway of that type is needed in that approximate location. They will be specifically located when the land is developed or as a project is initiated. Subsequently, the Planning Commission from time to time will have to weigh proposals to change routes shown on the Plan against new subdivision plans. Where changes are minor, the differences can be negotiated between the affected parties, but when major changes are proposed, a public hearing should be held and the Major Street Plan adjusted accordingly.