

THE DEVELOPMENT AND APPLICATION OF  
A METHOD FOR SELECTING CLASS III  
RECREATIONAL BICYCLE TOURING ROUTES

by

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## CHAPTER I

### INTRODUCTION

#### The Recent Bicycle Boom

According to a recent survey, bicycling is the nations' fastest growing recreational pastime. When one considers that just a few short years ago the bicycle was considered to be nothing more than a child's toy, the facts surrounding the renewal of interest in bicycling are phenomenal. In 1960, the bicycling population of the United States was estimated at 23.5 million. Sales for that year totaled 3.7 million and only twelve percent of these sales were for adults. In comparison, in 1972, bicycle sales had increased to 13.9 million with over fifty percent of these sales being for adult use. In 1972, 1973 and 1974, bicycles out sold cars for the first time since World War I. Experts estimated that in 1974, there were over one hundred million bicyclists on America's roads.<sup>1</sup> See Figure 1.

#### Reasons For The Renewed Interest In Bicycling

The reasons behind this sudden increase in bicycling

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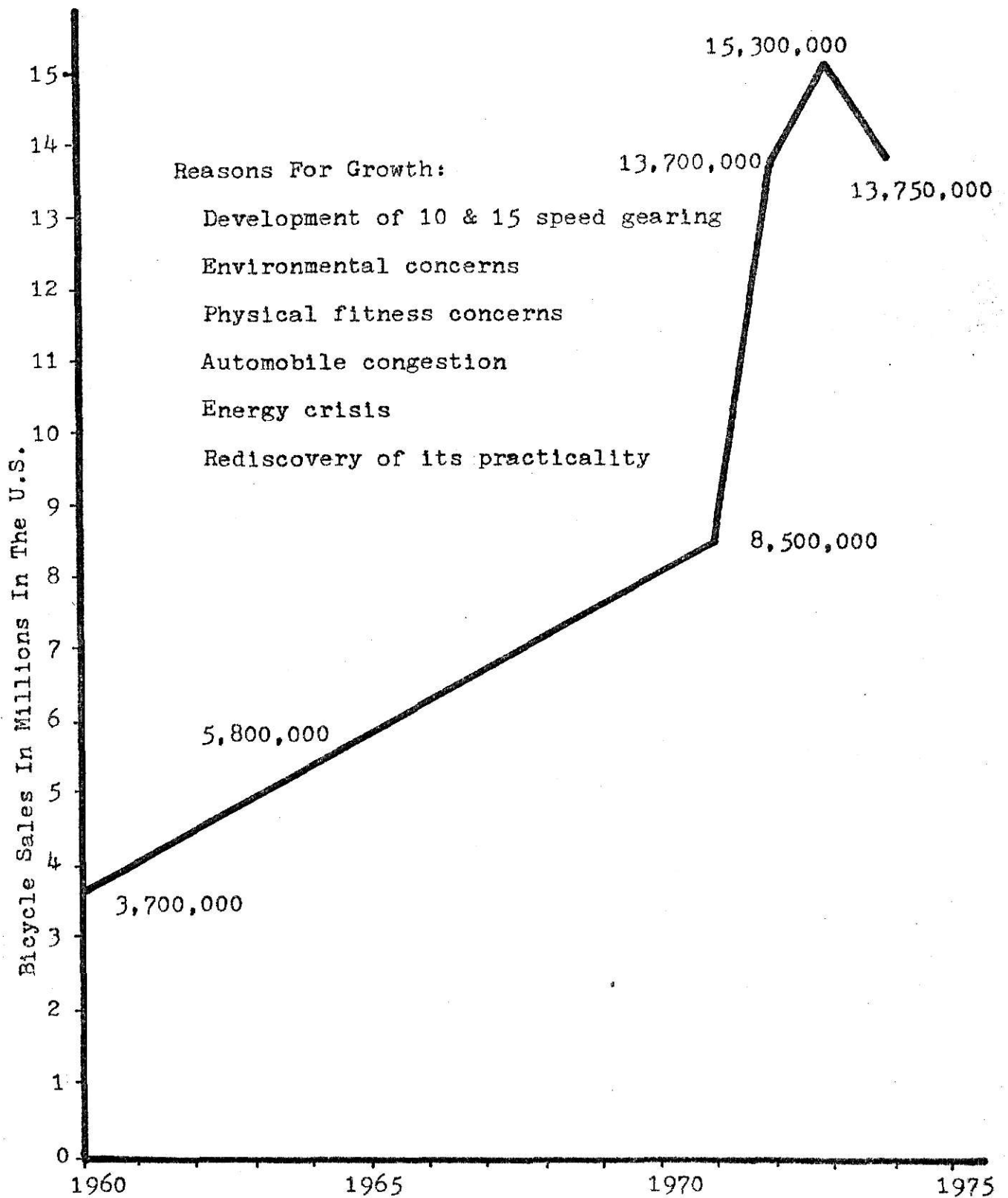


Figure 1

Recent Growth In Bicycle Sales

interest and participation are many. In part, it has been brought about by the energy crisis and increased public awareness of environmental problems such as air pollution, noise pollution, fuel shortages and urban congestion. Other reasons include the increasing public awareness of the importance of physical fitness and the growing desire of many persons for a more intimate relationship with their environment. Bicycling offers a quick, convenient, non-polluting form of transportation. It also offers a means of combining healthful<sup>2</sup> exercise with an outdoor ride that is close to nature.

#### The Need For Bicycle Touring Routes

According to the Bicycle Institute of America, there are now over one hundred million bicyclists in the United States. Although the persons using their bicycles for weekend or other long distance travel are few in number (probably under 100,000), this condition is expected to change radically in the future. Bicycle touring is expected to experience the same type of growth that backpacking has in recent years. In fact, this growth has already started. Ten years ago, only ten to thirty people attempted a cross continent trip by bicycle each year.

In recent years the number has jumped to 5,000 - 10,000 annually. Tens of thousands of American and International bicyclists are expected to ride the Trans-America Bicycle Trail,

4,100 miles in length, in the summer of 1976.

Early study by Bikecentennial, Inc. indicated that widespread growth in bicycle touring was being held back by a lack of facilities. According to the Bureau of Outdoor Recreation's 1972 "Existing Trails Inventory" there were:

- 4,995 miles - Bicycling Trails
- 14,784 miles - Motor Trails
- 13,676 miles - Horseback Trails
- 26,247 miles - Hiking Trails.

Since a bicyclist travels 12-18 miles per hour compared to 2-4 miles per hour for a backpacker, it is obvious that bicycling requires four to six times as much trail as backpacking for a full days outing. These figures indicate that there is a shortage of bicycling trails. Long range planning of cross state and cross region facilities is needed.

Secretary of Transportation, Claude S. Brinegar, acknowledged this need in the following statement. "We are very enthusiastic about the concept of a transcontinental bikeway as a Bikecentennial project and feel that this project would provide a unique opportunity for foreign visitors and Americans to meet and travel in many quiet and beautiful areas of the country. From the many letters and newsclips that we receive, particularly during the summer, there is a demonstrated interest in and need for safe routes for long distance recreational bicycle travel. Experienced cyclists favor the existing secondary roads for this purpose . . .". Mr. Brinegar issued



this statement in support of the Bikecentennial trail.

Research by Bikecentennial, Inc. has pointed out that a single cross continent route is only a small beginning towards meeting the total need. According to Mr. Dan Burden, Executive Director of Bikecentennial, '76, a total system should be launched to serve each region of the United States. This system should include popular cross continent routes, coastal routes, as well as shorter state trails and popular regional loops.

#### Goals And Objectives

In response to the previously established need for safe bicycle touring routes, the major goal of this study was to partially fulfill that need in the state of Kansas.

In fulfilling that goal, the study attempted to accomplish the following objectives:

- (a) To develop a method for selecting and evaluating the recreation potential of class III (shared roadway) bicycle touring routes.
- (b) To apply this method in selecting and evaluating class III bicycle touring routes through various regions of the state.
- (c) To select at least one tour in each of the ten planning divisions in the state.

- (d) To prepare a booklet which will describe the selected routes and provide other information which might be useful to bicycle tourists. This booklet will be published and distributed at a later date.

## CHAPTER II

### BACKGROUND INFORMATION

#### Bikeway Classifications

The term bikeway encompasses a full range of bicycling facilities, from fully grade separated facilities to those which share existing roads with motor vehicles and are designated by signing only. Within this range there are three distinct classes of bikeways.

Class I: A separate trail or path which is for the exclusive use of bicycles. Where such a trail or path shares a highway right-of-way, it is separated from motor vehicular traffic by an open space or barrier. This is often called a bicycle trail. See Figure 2.

Class II: A portion of the roadway which has been designated for preferential or exclusive use by bicycles. It is distinguished from the rest of the roadway by a painted stripe, curb or similar device. It is often called a bicycle lane. See Figure 3.

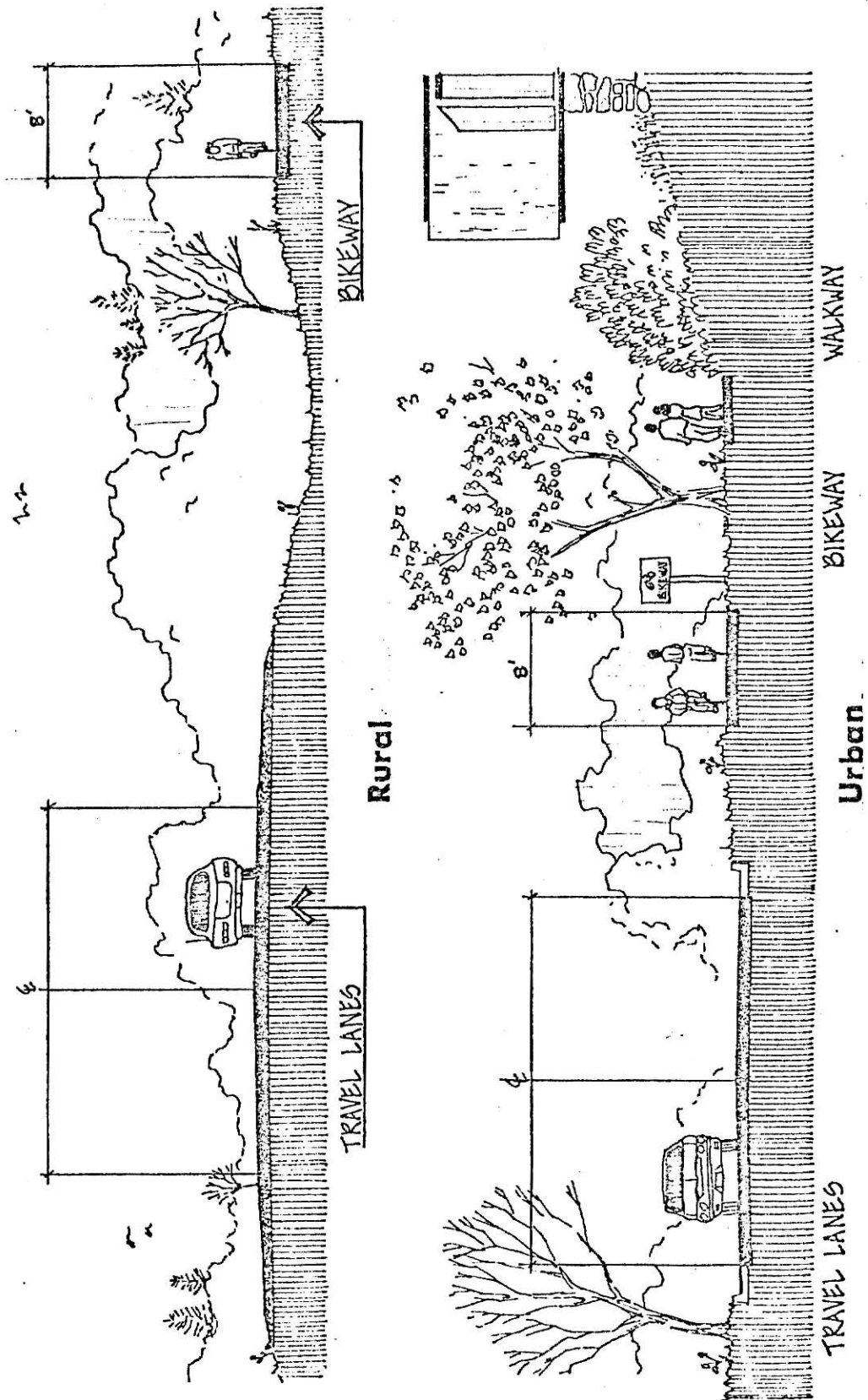


FIGURE 2  
Class I Bikeways

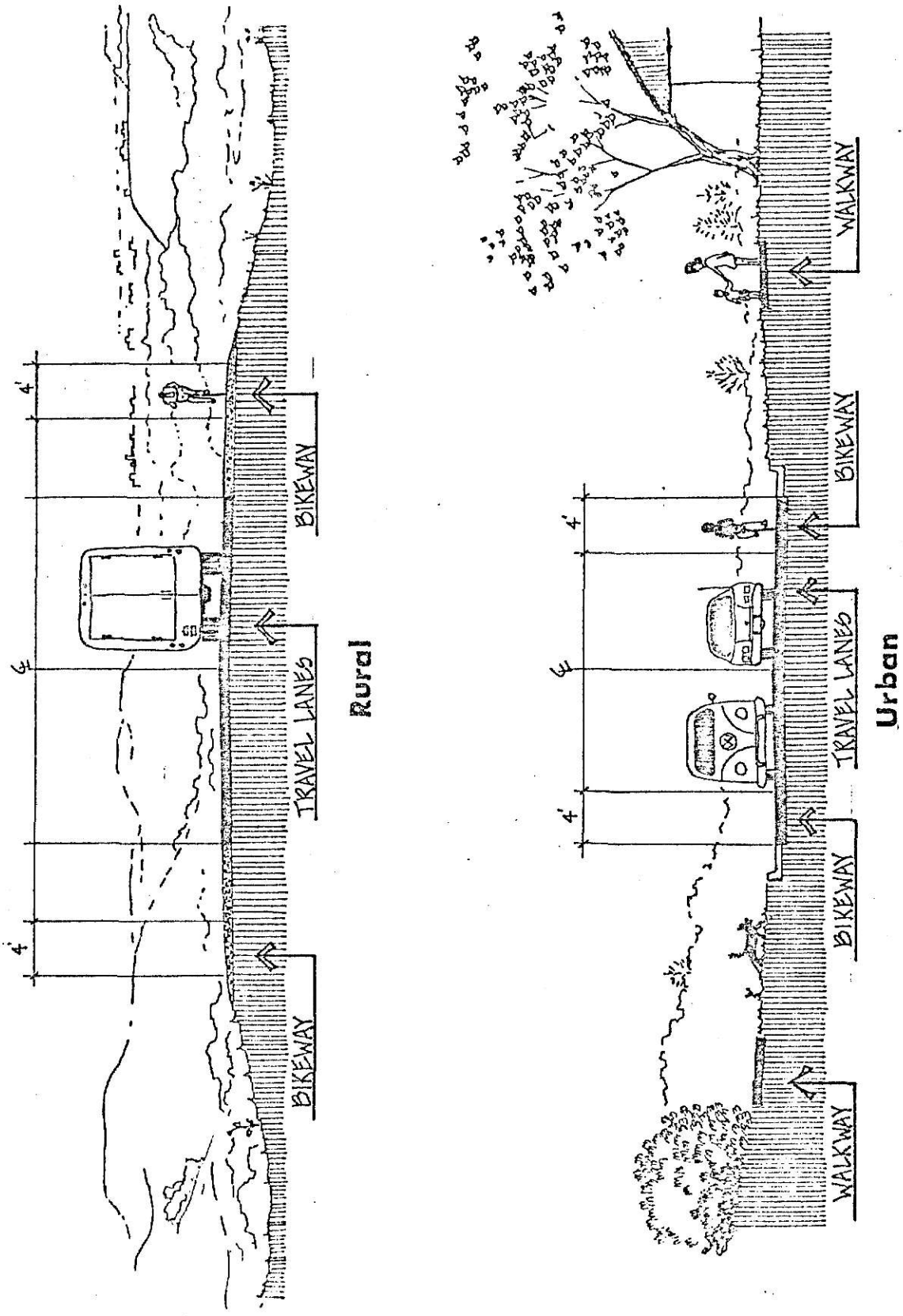


FIGURE 3

Class II Bikeways

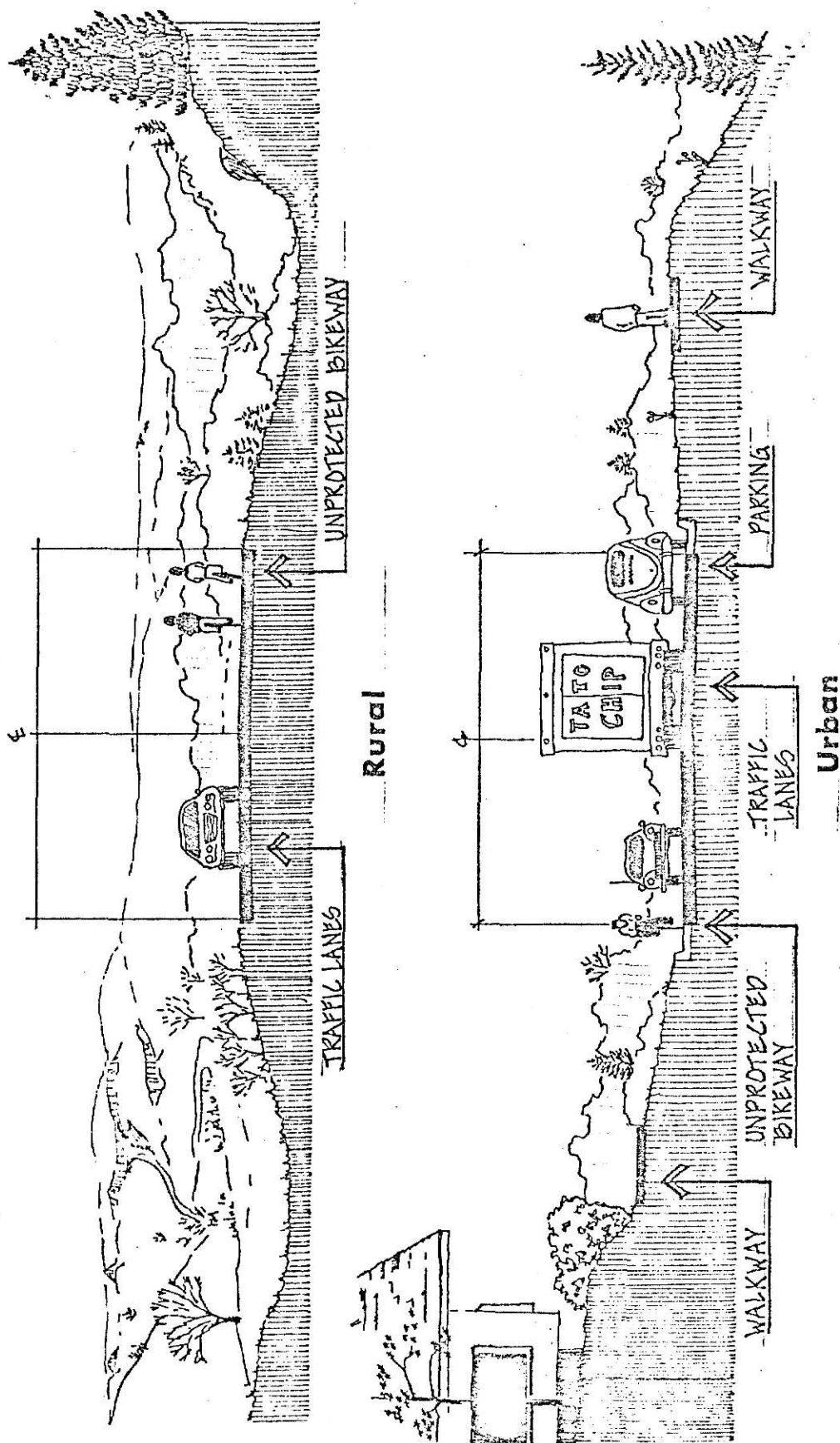


FIGURE 4

Class III Bikeways

Class III: Shared roadway - a roadway which is officially designated as a bicycle route but which is open to motor vehicular traffic and upon which no bicycle lane has been designated. See Figure 4.

Protected Lane: This is a variation of the class II on street bike lane in which a positive physical barrier is placed between bicycles and moving motor vehicles. This physical barrier may consist of a raised median strip, bumper blocks or a lane of parked cars.

#### Advantages And Disadvantages Of Each Bikeway Classification

Class I bikeways have the advantage of being the safest of the three types since conflict with automobiles is reduced to a minimum. They have the disadvantage of being expensive - prohibitively so in many cases. Because of the narrow width on bikeways, maintenance and upkeep may be difficult. Security from vandalism is sometimes a problem in remote areas.

Class II bikeways are less expensive than class I bikeways, however, they are less safe. They also expose the biker to higher levels of air pollution. Class II bike lanes are mostly used in urban areas where they primarily benefit commuters.

Class III routes are the least expensive to build since

they require only signing to designate the bikeway. However, they offer the least safety to the bicyclist. The signing serves only to alert motorists to the possible presence of bicyclists. It also provides direction to bicyclists on the route. Ideally this type of route can channel bicycle traffic to roads and streets with lower traffic volumes or desirable grades between points of interest and activity

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centers. However, their usefulness in urban areas is questionable, as illustrated by the recent experience of Palo Alto, California.

In 1967, Palo Alto implemented a signed bike route system of twenty-seven miles (fifteen percent of the city's street miles) as a one year test demonstration. In a survey of Palo Alto's bicyclists, sixty-five percent of the respondents indicated that they never, or seldom, used the signed routes. Where usage was reported, it was mostly incidental or coincidental rather than intentional. Part of the reason for this lack of use was because the route did not serve the desired destination points. Another important reason was that the cyclist simply was unwilling to go out of his way to use a route that offered no obvious travel or safety advantages.

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For long distance touring, class III routes are often the only economically feasible alternative. For touring, they have some distinct advantages over the separate path. For



instance, on long distance trips the cyclist is in need of many types of services. A carefully planned tour over existing backroads will meet most of the biker's needs. Stores, cafes, and service stations already exist on these roads. Class III routes also allow the cyclist to travel on a wider road surface. This is an important safety factor on long descents and steep climbs. Class III routes also allow the cyclist to travel through a natural environment, fully exposed to natural, cultural and historical attractions which

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a class I trail might be forced to bypass.

#### History Of Bicycle Touring

"We may look for a time in the near future when a cycling route from the atlantic to the Pacific will be made and mapped and when good roads and good cycle-paths will be so connected in a continuous chain between the two great oceans that a cross continent journey awheel will be the popular 10 weeks tour of every cyclist whose time and purse will permit."

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--The Century Magazine, September, 1896.

As shown by the above quote, bicycle touring has been around for some time. The first reports of long distance, recreational trips began to occur in the 1890's when America was in the midst of a great bicycle boom.

The first to make a round-the-world trip was Thomas Beelen of San Francisco. He rode a fifty inch highwheeler to New York City, took a boat to England, pedaled across the Island,

toured the continent and pedaled across Europe and Asia to the Pacific Coast where he took a boat to Nagasaki, Japan. After pedaling through Japan, he sailed for San Francisco,  
17  
three years after he had begun the historic trip.

The next round-the-world trip was begun in June of 1870 by two young midwesterners, W. L. Sactleben of Alton, Illinois, and Thomas Allen of Fergusen, Missouri. These two had their problems along the way, and in some places, had to fight to retain possession of their bicycles. At one point, they were forced to use their guns to keep a Chinese mob at bay. In spite of these problems, they sucessfully completed their  
18  
journey in 1894.

The next American to try the round-the-world trip was not so fortunate. Twenty-five year old Frank Lenz pedaled out of Pittsburg on May 15, 1892, on his way around the world. He was under contract to "Outing" Magazine to write a series of articles about his trip. Lenz vanished in Turkey in the spring of 1894. Evidence, found by a private investigator hired by "Outing" magazine, indicated that Lenz had been  
19  
murdered.

Lenz' death had a quieting effect on round-the-world trips, partly because of the dangers, and partly because Americans had found that they could ride as many miles as  
20  
they wanted to at home.

During the 1890's and early twentieth century, an era which has been referred to as the "Golden Age of the Bicycle", bicycles played a very important role in the life of most Americans. Aside from being an acceptable means of transportation for any type of excursion, the bicycle was used more than ever for the purpose of exercise and sport. Bicycling clubs for racing and touring sprang up around the country. 21 Weekend trips and extended excursions became quite common.

Kansas was not left out of this bicycling activity. The first bicycle club in Kansas was organized in 1886. Dodge City had an active touring club in 1892. The Kansas division of the League of American Wheelmen was organized in the early 1890s. Because of the great number of cyclists in Kansas and the surrounding states, bicycling road maps were issued in 1898 by this Kansas group. Road maps were not issued by 22 the State Highway Department until 1918.

Weekend trips and extended excursions were quite common for bicyclists in this era. One newspaper account, from this period, tells about seventeen Topekans riding from Topeka to Junction City to attend a meeting of the Junction City Cycle Club and to participate in the bicycle races. The group wore uniforms, each man carried a knapsack on his back and there was a bugler to give commands and direct the tour. The group had lunch in St. Marys and dinner in Wamego. They attended

the meeting of the Wamego Cycle Club that evening and made  
 it to Junction City the next day. <sup>23</sup> Many accounts of similar  
 trips by Kansas cyclists may be found in a bicycling pub-  
 lication called, "The Kansas Cyclist". This monthly pub-  
 lication was published from May, 1895, to February, 1897.  
 Copies of these are on file in the library of the Kansas  
 Historical Society.

As the twentieth century progressed, the bicycle was  
 caught and passed by the horseless carriage. Bicycle tour-  
 ing (as well as bicycling in general) had to take a backseat  
 to the automobile. True, there were always a few hardy souls  
 who rode their bikes everywhere, but for the majority of  
 Americans, the automobile was the only way to go. The bicycle  
 began to be considered a child's toy - an imitation automobile -  
 to be endured only until a person was old enough to drive. <sup>24</sup>

But now the bikes are back. The nation is again experienc-  
 ing a bicycle boom. More people than ever are taking to the  
 roads, intent on seeing the country by bicycle. The coast  
 to coast trail envisioned nearly eighty years ago, is now a  
 reality. Tens of thousands of bicyclists are expected to  
 ride over the Trans-America Bicycle Trail in 1976. Thousands  
 more will be seeing the country on trails of their own  
 choosing as bicycling again becomes a national craze. <sup>25</sup>

## What Is Bicycle Touring?

Touring has been called the true joy of bicycling. There is no better way to see the country, with the possible exception of walking. An advantage the bicycle gives a traveler is an increased mobility and luggage carrying capacity, while still moving slow enough to allow the rider to see all the detail, to really experience and feel the area he is traveling.  
26  
ing.

Bicycle touring means different things to different people. Some people like to plan everything, down to the smallest detail, and others like to take off on the spur of the moment, following their fancy without even looking at a map. Some people like to race along, competing to see who can cover the most miles in a day, and others like to go  
27  
slowly, enjoying the scenery along the way.

Bicycle tours can be short or long. You can spend a pleasant afternoon exploring the sites in your hometown, or  
28  
you can spend months (even years) traveling thousands of miles.

Bicycle tourists can travel light, staying in motels and hotels, or they can camp along the way. The latter would mean carrying all the necessary camping gear on their bikes. Some groups use a back-up vehicle which is called a sag wagon. This is used to carry all the gear for the entire group.

## The Ideal Touring Route

There are almost as many ideas of what makes a good bicycle tour as there are kinds of bicycle tourists. To some, ideal cycling country means flat surfaces. Other people enjoy the visual stimulus provided by rugged and varied terrain. Some crave the artistic and historic highlights along the way; others like to ride for the mere joy of chalking up miles.<sup>30</sup>

Most bicyclists prefer to travel roads that carry a low volume of automobile traffic. However, some like to experience the better restaurants and hotels and this usually means heavier traffic.<sup>31</sup>

Bicyclists generally prefer to ride on paved roads only as most light weight ten-speed bikes do not handle well on loose gravel. Some enjoy getting back to nature and escaping the urban scene so much, that they are willing to travel on gravel to get there.<sup>32</sup>

This wide range of ideas about what makes an ideal touring route presents problems to those who are planning the routes. The planners try to please as many as possible.

It is generally accepted that a good route should have light automobile traffic, many points of interest, adequate overnight accommodations and scenic beauty. The best combination of these qualities is what was strived for in selecting recreational routes through Kansas.<sup>33</sup>

## CHAPTER III

### DEVELOPMENT OF A METHODOLOGY FOR SELECTING CLASS III BICYCLE TOURING ROUTES

#### Identification of Design Factors

It seems reasonable to assume that the first step in developing a methodology should be to research the subject. That is how this study began. In an attempt to identify all the factors which should be given consideration in selecting class III bicycle touring routes, bicycling organizations and government agencies concerned about providing recreational bikeways were contacted.

Through these contacts and study of previous efforts in Kansas and other states, it was learned that there are many factors which should be given consideration when selecting and/or developing recreational bikeways. Factors of major importance to the success of this type of facility are the scenic opportunities and recreational opportunities along the route. Safety factors, such as traffic volumes and speeds, are also of major importance.

All of the factors identified which should be given

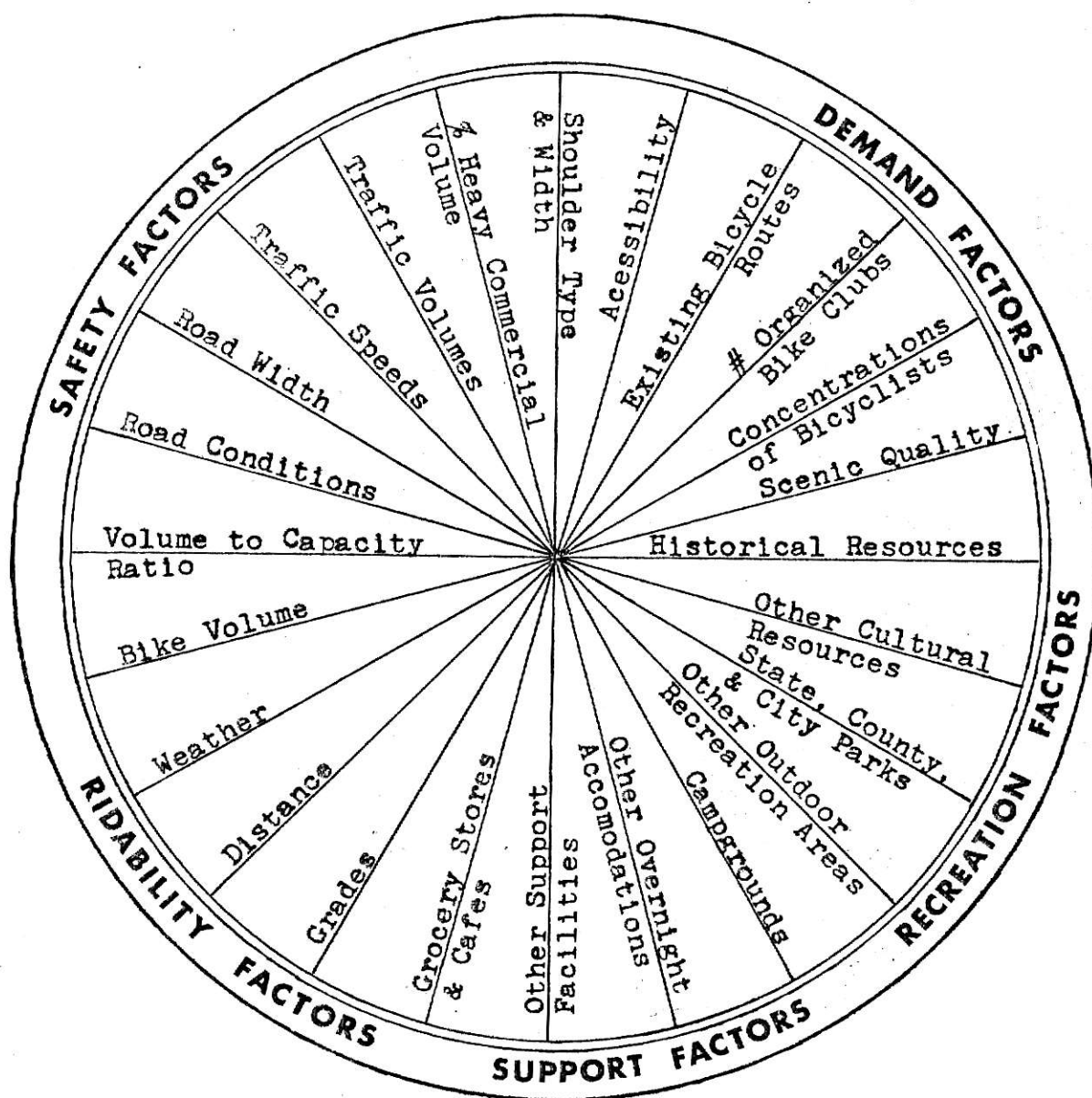


FIGURE 5

Design Factors



consideration in selecting class III recreational bicycle touring routes are listed below in Figure 5. For simplification, the design factors can be separated into five classifications as shown by Figure 5. All of the factors are closely related. An example is that scenic views and recreational opportunities are of little value to the cyclist busy dodging trucks and fighting traffic.

#### Demand Factors

For the purposes of this project, demand factors may be defined as those things which present an interest in bicycling and a need for bicycle touring facilities. They can influence the success of a system of recreational trails if the bikeway planner uses them appropriately, as indicators of the regions with the greatest need for bicycle touring routes.

While overall trends indicate a demand for recreational bicycle trails, the fact remains that the present and future demand for this type of facility (class III bicycle touring routes) in sparsely populated regions of Kansas is difficult to determine. By incorporating the demand factors, discussed below, into the general guidelines for trail development, the bikeway planner can help to insure the success of a regional recreational bikeway system.

The past and present number of cyclists within the planning region or area is a good indication of present and future demand

for this type of bicycling facility. Bicycle registrations are one source of this type of information, however, Kansas is not one of the few states that have statewide bicycle registration. In the absence of this information, surveys, 37  
questionnaires and bicycle sales records are alternative sources. Gathering this type of data can be very time consuming and costly even on projects dealing with a single city. Costs are prohibitive on a statewide project of this type.

### 1. Existing Bicycle Facilities

Existing bicycle facilities, such as bicycle shops and existing trails or bikeways, are a design factor because they indicate a higher than normal interest in cycling within the region. The number of bicycle shops in a community, in relation to the population, can be an indication of the interest in bicycling in that community.

### 2. Colleges and Universities

College towns usually have a higher percentage of young people and bicyclists. Therefore these towns are a demand factor in planning regional recreational bikeway systems.

### 3. Organized Bicycle Clubs

The presence of an organized bicycle club or clubs within a community indicates a concentration of bicyclists and a strong interest in cycling within the community. If recreational touring is the main emphasis of the club, it is an indication

there is a need for recreational touring routes in that region. Often these bicycle clubs will have their own favorite tours which should be given consideration when developing a state-wide system of recreational trails.

#### 4. Population Centers

Selection of routes that are accessible to large population centers, where greater number of bicyclists may be found, is one way of insuring the routes will be used.

#### Safety Factors

Many factors can be identified as having some bearing on the safety of a road with it's suitability for use as a class III bicycle facility. Little has been written concerning the safety of class III routes in a rural situation. Most proposals containing minimum safety criteria for class III routes were intended to be applicable to urban situations with relatively low traffic speeds.

Improved safety for cyclists and motorists is the main reason for developing any type of bicycle facility. A system of class III recreational routes can accomplish this objective if they are properly selected with the safety factors (discussed below) as the prime determinant for route locations.

##### 1. Motor Vehicle Speeds

This is the most important factor affecting the safety

of bicyclists sharing the road with motor vehicles. Cyclists' greatest danger is caused by the speed differential between bicycles and motorized vehicles. Obviously, the lower the speed limit on a given road, the safer it will be for bicyclists.

## 2. Motor Vehicle Volumes

The amount of traffic is a very important determinant of safety on class III routes. Some warrants indicate that traffic volumes should be less than 2,000 vehicles per day with 5,000 vehicles per day as the maximum allowable.

## 3. Road Width

In their guidelines for bicycle routes, the Standing Committee on Engineering Operations of the American Association of State Highway and Transportation Officials suggest that a street should be designated for use as a class III route only where the width of the outer lane is greater than ten feet where volumes are light, or greater than twelve feet where volumes are heavier. A highway without sufficient room for a bicycle to pull to the right to allow motor vehicles to pass safely within its travel lane is considered unsafe.

## 4. Surface Condition of the Road

A smooth and well-maintained road surface should be one's goal when selecting class III bicycle touring routes. Many a bicyclist has carefully planned a long distance trip on carefully selected low traffic roads, only to discover upon

riding the route, that the roads were low in traffic for a reason; the reason being that the roads were in poor condition, with the road surface deteriorated to a cobblestone-like surface full of chuckholes and large pieces of broken asphalt. All routes should be test ridden before being recommended to others as an acceptable route.

42

The recreational class III route should also include as little gravel road as possible. Many bicycle tourists ride on sew up tires because of their free rolling qualities. These tires, however, are unsuitable for use over rough, gravel roads. The constant shaking and vibration of the lightweight ten-speed bike traveling on gravel is also very hard on the bike as well as the rider.

This is not to say that a route should be immediately eliminated if it contains some gravel road. It should be test ridden first and if it is a desirable route from all other aspects --use it. Some gravel roads may be found that are more suitable than others. If it is hard packed and smoothly graded, as many dirt roads in Kansas are, it may make a better route than a paved road with higher traffic volumes.

##### 5. Shoulder Type, Width and Conditions

Where traffic volumes are high, it is advisable to have a paved shoulder. Where stopping sight distances are shorter

than desirable (as over the tops of hills), it would be advisable to pave the shoulder. A shoulder of any type increases the safety of a bicyclist as it provides an emergency escape route.

#### 6. Percentage of Heavy Commercial Traffic

Roads which have a high percentage of heavy commercial traffic are not desirable for class III bicycle routes. At high speeds the air turbulence created by large trucks can cause a bicyclist to loose control and weave from his path.

Most highways in Kansas have approximately ten percent of their traffic volume in heavy commercial traffic. It is preferable for bicycle routes to have less than ten percent heavy commercial volume.

#### 7. Stopping Sight Distances

Stopping sight distances for bikeways can be calculated in the same manner as for highways. The standard formula is:

$$S = \frac{1.47 T V + \frac{V^2}{(30 F + G)}}{45}$$

Where:

S = Stopping distance in feet  
 T = Perception/reaction time (2.5 seconds for bicyclists)  
 V = Initial speed in MPH  
 F = Coefficient of friction (2.5 for bicycles)  
 G = Grade, rise/run, ft./ft.

#### 8. Anticipated Bicycle Volumes

Potential usage of this type of facility is very difficult

to estimate. This is true particularly in areas where this type of facility does not exist. In these areas there are no accurate records of the number of cyclists and the number of recreational trips being made are not available. In the case of rural class III recreational routes such as these, almost all of the travel will be of the generated type. The actual degree of usage on the routes depends on many things. This includes the continued increase in bicycling activity, the recreational potential of the routes and the degree of awareness of the routes. It is certain that if bicyclists are not aware of the routes, the use of them will be limited.

An estimate of future use of the system can be made by looking at similar systems of recreational trails in other states. If the experiences of Arkansas, Wisconsin, Oregon, Tennessee and other states are any indication, the routes will be used enough to justify the very minimal cost of implementing this type of trail system. The bicycle volumes on these routes will still be low when compared to urban bikeway systems.

#### 9. Miscellaneous Safety Hazards

There are many miscellaneous safety hazards which may occur along class III bicycle routes. Some, such as loose sand, gravel, wet leaves, vicious dogs, etc. are too changeable to consider in planning. The best solution to this is

a set of safety tips and an educational program for all bicyclists receiving descriptive trail literature.

There are stationary and permanent hazards to be noticed during the test ride and they should be taken into consideration. These hazards are drainage grates, bad railroad crossings, cattle guards, chuckholes and poor road surface. If there are hazards, the route should not be considered unless the responsible unit of government will repair or correct the problem. Warning signs might be helpful in some cases to alert the cyclists to the danger.

#### Recreational Resource Factors

As mentioned before, many things interact to determine the recreational potential of a trail. It is commonly accepted that the major determinants in the designation of class III recreational bicycle routes should be low traffic volume, scenic quality and recreational opportunities. Specific recreational factors identified, which should be given consideration are:

Scenic Quality, scenic regions, scenic routes, scenic points

Historical Sites, trails, museums

Cultural Resources, art galleries

Outdoor Recreation Areas, federal reservoirs, state,

county and city parks

Other Points of Interest, geological, archaeological sites, etc



### Ridability Factors

Ridability factors are those things which determine the degree of difficulty which any particular route might present to bicycle tourists. This category of factors includes weather conditions such as wind, temperature and precipitation. It also includes physical factors such as length and steepness of grades, distances between stops, and road surface conditions.

These types of factors can be extremely variable from day to day, and from one area to the next on a route. Despite their variability and unpredictability, they should be considered whenever possible in the selection of bicycle touring routes.

### Support Facility Factors

Support facilities are also a major determinant of the recreational potential and feasibility of a bicycle touring route. For the purposes of this study they may be defined as any of the goods and services which a bicyclist may need when riding on class III bicycle touring routes. Definitely these goods and services should be considered when designating bicycle touring routes. Support facilities identified are:

Overnight Accomodations - youth hostels, motels, hotels,  
campgrounds

Grocery Stores, cafes, restaurants

Highway Reststops, service stations, comfort stations

Bicycle Shops

Telephone Booths, etc..

### Adoption Of General Guidelines

The next step in developing a methodology for selecting class III bicycle touring routes was to establish general guidelines for selection and development. The following guidelines were adopted from the sources indicated with minor additions and alterations.

General Guidelines For The Development Of  
A System Of Rural Class III Bicycle Touring Routes

1. To interest the average cyclist, bicycle routes should be developed around a theme. The most common themes are  
48  
historical and natural.

2. Preliminary routes should be carefully test ridden and evaluated to determine the safest, most enjoyable routes. The safety evaluation should consider traffic volumes, speeds, road width, road surface conditions and anticipated bicycle  
49  
volumes.

3. Ideally the routes should be easily accessible to large centers of population and other concentrations of  
50  
bicyclists such as university or college towns.

4. The routes should be easily accessible to travelers through other transportation systems such as airports, train  
51  
stations and bus depots.

5. Planning for a system of rural bicycle routes should include consideration of future railroad abandonments which  
52  
might be developed into the system.

6. As far as possible the trails should follow or be  
53  
located in environmental corridors. For the purposes of this study environmental corridor may be defined as an area which has a greater concentration of natural resources, greater diversity of land forms, vegetation, or water features which

contribute to more interesting and beautiful scenery. Environmental corridors also have greater concentrations of manmade resources due to the natural tendency of early day settlers to locate in the more scenic and resource-rich regions.

7. Planning for the routes should include consideration of the availability of overnight accommodations. A low cost accommodation should be available every 40 - 60 miles. This distance allows for both moderate and long distance options for the amount of travel in one day.<sup>54</sup>

8. The routes should include varied and interesting geography. They should give a true representation of the area but for added interest, an attempt should be made to include any unusual and spectacular land forms.<sup>55</sup>

9. Due to the fact that most bicycle tourists are experienced bicyclists and in excellent physical condition, the routes need not necessarily avoid hills and rugged terrain. Many cyclists may actually prefer this type of terrain because they consider it more interesting and enjoyable than the monotony of a flatter terrain.<sup>56</sup>

10. In order to provide for different degrees of ability in bicyclists, an attempt should be made to develop routes of different degrees of difficulty. All routes should be ranked accordingly in order to forewarn cyclists of the degree of ability and physical stamina necessary to enjoy the route.<sup>57</sup>

11. The routes should provide opportunities to explore and enjoy the great variety of cultural differences, life styles and customs of the various regions. 58

12. The trails or routes must be as continually attractive as possible. For the routes to be viable they must travel through continuous corridors of scenic, historic, cultural and recreational attractions. If the trail merely connects isolated islands of attraction with long monotonous stretches between, it will be much less appealing. 59

#### Adoption Of Useable Safety Criteria

The next step in developing a methodology for the selection of class III touring routes was continuing research into the factors affecting the safety of the routes. This led to the selection of criteria which could be used in determining if a road is acceptable in regard to safety.

Safety criteria for class III is most commonly found in the form of warrants. Several European countries, as well as various groups within the United States, have established warrants (criteria) for use in selecting the type of bicycle facility (class I, II or III) appropriate for various situations. These criteria are usually based on two variables - anticipated bicycle volume and motor vehicle volume. A committee of the American Association of State Highway and

Transportation Officials suggest, in their Guide For Bicycle Routes, that volume to capacity ratio of the road and the motor vehicle speed might also logically be included.<sup>60</sup>

Since it has already been determined that the goal of this study is to select class III touring routes in the State of Kansas, the criteria discussed above served only as guidelines in determining an acceptable range for traffic counts, road widths, etc.. Table 1, 2 and 3 are examples of warrants used in other places.

The criteria shown in Table 1 are based on German criteria which has been adopted and used with little modification<sup>61</sup> in several states. These criteria were used as a check to see if the roads selected as preliminary routes were suitable for use as a class III bicycle touring route. However, it must be noted that much of the data used, is a rough guess at best. Data as to the percentage of heavy commercial traffic, road widths and stopping sight distances are not readily available for many of the roads to be considered.

In their Guide For Bicycle Routes, the Standing Committee on Engineering Operations of the American Association of State Highway and Transportation Officials suggest as a general guide that separate (class I) facilities should be provided where (a) bicycle volumes will be two hundred or more per day in conjunction with motor vehicle volumes of 2,000 (A.D.T.) or

TABLE 1  
RURAL BIKE ROUTE WARRANTS  
TWO-LANE RURAL HIGHWAYS

SPEED LIMIT	<40	≥40	50	>50		
A. SPEED FACTOR	0.7	0.8	0.9	1.0		
MOTOR VEHICLE VOLUME (MVV)						
CURRENT AVERAGE DAILY TRAFFIC (ADT)	<1500	>1500	>2000	>2500	>3000	>3500
CURRENT MAXIMUM HOURLY VOLUME (HV)			<350	<425	>500	>575
B. MVV FACTOR	1.0	1.5	2.0	2.5	3.0	3.5
BICYCLE VOLUME (BV)						
AVERAGE DAILY TRAFFIC (ADT)		<100	<150	<200	<250	>250
MAXIMUM HOURLY VOLUME (HV)				<30	<40	>40
C. BV FACTOR		1.0	1.5	2.0	2.5	3.0
TRAFFIC LANE WIDTH						
		<11	11	>11		
D. LANE FACTOR		1.2	1.1	1.0		
HIGHWAY VISION (SSD)						
		≤300	400	500	≥600	
E. STOPPING SIGHT DISTANCE FACTOR		1.3	1.2	1.1	1.0	
TRUCK VOLUME (TV)						
		<10%	10%	>10%		
F. TV FACTOR		0.9	1.0	1.1		

A x B x C x D x E x F = <2 Shared Roadway

▪ ≥2 Bicycle Way (Shoulder)

▪ ≥7 Bike Path

The above table is taken from "Guidelines for Developing Rural Bike Routes" by Wisconsin Department of Natural Resources and Wisconsin Department of Transportation.

TABLE 2

## RURAL BIKE ROUTE WARRANTS

## MULTILANE HIGHWAYS

HIGHWAY	CURRENT MOTOR VEHICLE		BICYCLE VOLUME		BIKE ROUTE TYPE
	DAILY	HOURLY	DAILY	HOURLY	
6 Lane-Div	---	---	---	---	PATH
4 Lane-Div	<15,000		<200	<30	BICYCLE WAY (SHOULDER)
4 Lane-Div	>15,000	---	---	---	PATH

The above table is taken from "Guidelines for Developing Rural Bike Routes" by Wisconsin Department of Natural Resources and Wisconsin Department of Transportation.



**THIS BOOK IS OF  
POOR LEGIBILITY  
DUE TO LIGHT  
PRINTING  
THROUGH OUT IT'S  
ENTIRETY.**

**THIS IS AS  
RECEIVED FROM  
THE CUSTOMER.**

WARRANTS	TYPE OF FACILITY										
	CLASS III			CLASS II-ROADWAY			CLASS II-SHOULDER			CLASS I	
	RECOMMENDED CONDITIONS AND CRITERIA	MINIMUM CONDITIONS AND CRITERIA	PROHIBITIVE CONDITIONS AND CRITERIA	RECOMMENDED	MINIMUM	PROHIBITIVE	RECOMMENDED	MINIMUM	PROHIBITIVE	RECOMMENDED	MINIMUM
a. ADT: ADT, or #6 Month ADT	≤ 2,000 ≤ 3,000	≤ 5,000 ≤ 5,000	> 5,000 > 5,000	≤ 5,000 ≤ 5,000	≤ 7,500 ≤ 7,500	≤ 10,000 ≤ 10,000	≤ 7,500 ≤ 7,500	≤ 10,000 ≤ 10,000	≥ 15,000 ≥ 15,000	> 10,000 > 10,000	≥ 15,000 ≥ 15,000
b. Speed: 85% MPH	≤ 28	≤ 37	≥ 38	≤ 28	≤ 37	≥ 38	≤ 32	≤ 42	≥ 43	≥ 38	≥ 43
c. Available Space Ft.	> 4	> 3	≤ 2	> 5	≥ 4	< 4	≥ 8 *	≥ 4 *	< 4 *	< 4	< 4
d. Truck Volumes % Number	< 5 < 150	< 5 < 250	> 5 > 250	< 6 < 300	< 6 < 450	> 6 > 450	< 6 < 450	< 6 < 600	> 6 > 600	N.A. > 600	N.A. > 1,000
e. Bicycle Daily Min. Volumes: Daily Max.	> 20 ≤ 100	> 20 ≤ 200	N.A. > 200	> 50 ≤ 300	> 50 ≤ 500	N.A. > 650	> 50 ≤ 400	> 50 ≤ 600	N.A. > 800	N.A. > 400	N.A. > 600
Peak Hr.	≤ 50	≤ 100	> 100	≤ 75	≤ 100	> 150	≤ 100	≤ 100	> 150	> 100	> 150
											> 200

# 6 month ADT = April to September

\* Available shoulder space

N.A. = Not Applicable

The above chart is from "Bikeways Guide" by the Maryland State Highway Administration

ADT = Average Daily Traffic

TABLE 3

Warrants For Determining  
Class Of Bikeway

Table 4

## Adopted Safety Criteria

TRAFFIC COUNTS

desirable     ADT < 2,000

maximum     ADT  $\geq$  5,000

Where traffic counts exceed 3,000 ADT for any significant distance (over 3 miles) there must be paved shoulders for the route to be acceptable.

ROAD WIDTHS

10' per lane where traffic is  
light ( < 2,000 ADT)

12' per lane where traffic is  
heavier ( > 2,000 ADT)

ROAD SURFACE

The road surface must be smooth and relatively free of chuckholes and other miscellaneous hazards.

ADT = Average Daily Traffic

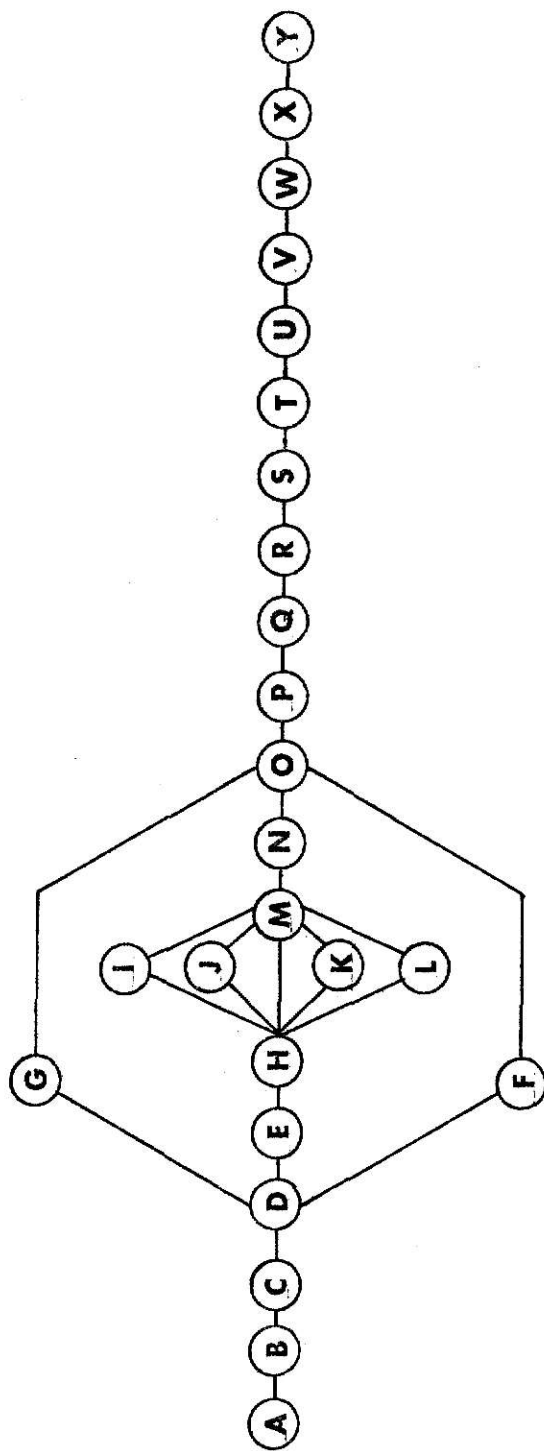
more, or (b) where motor vehicle volumes will be in conjunction with motor vehicle speeds of over 40 mph or higher. They also suggest that a street should be used for a bicycle route only when the width of the outer lane is greater than ten feet where volumes are light, and greater than twelve feet where  
62  
volumes are heavier.

In consideration of the criteria presented above and in the warrants presented in Table 1, 2 and 3, the following safety criteria have been selected for use in this project. See Table 4.

#### Introduction Of A Methodology For The Selection Of Class III Bicycle Touring Routes

After completing initial background research, in which an attempt was made to identify all the design factors, (design factors being those things which influence the safety and recreational potential of a bicycle route) a methodology was developed which would allow the design factors to be considered in a logical sequence. This method is outlined in Figure 6.

The first six steps outlined in Figure 6 are actually a part of the research necessary to develop the method. They are included in the outline because they are necessary steps if the method is to be applied effectively to new situations.



- A** PROBLEM IDENTIFICATION  
**B** ESTABLISH GOALS AND OBJECTIVES  
**C** BACKGROUND RESEARCH  
**D** FORMULATE APPROACH  
**E** IDENTIFY DESIGN FACTORS  
**F** ADOPT GENERAL GUIDELINES  
**G** ADOPT SAFETY CRITERIA  
**H** RESEARCH INFORMATION FOR RESOURCE INVENTORIES  
**I** OUTDOOR RECREATION AREAS, OVERLAYS OF:  
**J** HISTORICAL/CULTURAL RESOURCES,  
**K** SCENIC RESOURCES,  
**L** EXISTING BICYCLING RESOURCES,  
**M** COMPOSITE OF ALL RESOURCES  
**N** SELECT PRELIMINARY ROUTES  
**O** TRAFFIC COUNT-SAFETY CHECK  
**P** PREPARE TRANSPARENT  
**Q** PREPARE RECREATIONAL POTENTIAL MAPS  
**R** TEST RIDE  
**S** LOCATE SUPPORT FACILITIES  
**T** EVALUATE RECREATIONAL POTENTIAL  
**U** DIFFICULTY RATING  
**V** EVALUATE DATA  
**W** MAKE FINAL SELECTIONS  
**X** PREPARE TOUR MAPS  
**Y** PREPARE TOUR DESCRIPTIONS  
**Z** PRESENTATION IN TRAILS BROCHURE

FIGURE 6

Flow Chart For Method

After adopting general guidelines, safety criteria and determining the design factors, the next step is the inventory-  
ing of resources. The resources selected for inventorying are chosen because of their favorable influence on the success of the route. The resources are recorded on transparent (acetate) overlays. There are four overlays; one for historical - cultural resources, one for public outdoor recreation resources, one for scenic resources and one for the demand factors such as cities with organized bicycling groups and other indications of bicycling interest. These are overlayed on a base map showing existing roads and population centers. A composite of the resource inventories is prepared by running an ozlid print of the overlays and base map together.

Analysis of the composite of resource inventories and base map reveals areas of resource concentration. Giving consideration to the design factors and general guidelines, preliminary routes are selected within the areas of resource concentrations. Existing informal bike routes recommended by bicycling groups in the state are added to the list of preliminary routes for further evaluation.

The next step is to conduct a safety evaluation of all the routes. First the routes are checked against the safety criteria adopted (see Table 4) and the criteria presented in Table 1. All of the preliminary routes which meet the adopted



















safety criteria are then test ridden and evaluated for their recreational potential.

The recreational potential evaluation consists of assigning point values to the resources which were determined to have an influence on the recreational potential of the trail. Before the test ride, tour maps are prepared at a scale of one quarter inch equals one mile ( $\frac{1}{4}" = 1 \text{ mi.}$ ). A key is developed (see Figure 7) for recording the location and availability of resources and support facilities on the maps. All relevant information available is recorded on the tour maps before the test ride. Additional information on the location and availability of support facilities is recorded as it becomes available during the test ride.

After the test ride, the number of each type of resource is recorded on a recreational potential evaluation form. See Table 5. The total of the point values for each tour is divided by the length of the route, to give a rating in points per mile which will be called the recreational potential rating of the trail. This rating, along with the safety evaluations, will be used in making the final selection of class III touring routes. Design judgement must also be used in making the final selections. This is to insure that the objective of at least one touring route in each of the planning regions is included in the final selections.

FIGURE 7

## Legend For Touring Maps



















	Historical Site
	Historical Site, Managed for Recreation
	Historical Site, On National Register
	Historical Site, On National Register, Managed for Recreation
	Federal Recreation Area
	State Recreation Area
	Selected City and County Recreation Areas
	Miles of Trail within Scenic Region
	Miles of Trail on Scenic Routes
	Campground w/ partial facilities (no shower)
	Campground w/ full facilities
	Highway Rest Stop
	Service Station
	Motel
	Grocery Store
	Cafe
	Bike Shop
	All Facilities In The Near Vacinity



## RECREATIONAL POTENTIAL EVALUATION

Table 5

Trail No.  
NameApproximate Length  
Difficulty Rating

SYMBOL	ITEM	QUANTITY	VALUE	SUBTOTAL
	Historical Site			
	Historical Site, Managed for Recreation			
	Historical Site, on National Register			
	Historical Site, on National Register, Managed for Recreation			
	Federal Recreation Area			
	State Recreation Area			
	Selected City and County Recreation Areas			
	Miles of Trail within Scenic Region			
	Miles of Trail on Scenic Routes			
	Campground w/ partial facilities ( no shower)			
	Campground w/ full facilities			
	Highway Rest Stop			
	Service Stations			
	Motel			
	Grocery Store			
	Cafe			
	Bike Shops			
	All Facilities in Near Vacinity			

Total Points  
Length in Miles =

Rules governing the recreational potential evaluation must be established to insure that each trail is evaluated fairly. This increases the validity of the data. The rules established for this project are listed below.

#### Rules for Recreational Potential Evaluation

1. Support Facilities: Since one of each type of support facility is adequate to meet the needs of most bicycle tourists, points will be awarded only once, per stopping place for each type of support facility.

2. Non-loop Trails: Most of the tours are loops, meaning that the riders return to the starting point via a different path than they left. On non-loop tours, riders will retrace their path on the return trip. To get the recreational potential rating of non-loop trails, the sum of all points awarded (round trip) is divided by twice the trail length or the round trip distance. Points are given for support facilities passed on the return trip but they are not awarded a second time for recreational facilities being passed for a second time on the return trip.

## Difficulty Ratings

During the test ride, the tours will be evaluated as to their difficulty to ride. When making the final selection of tours, an attempt will be made to select tours of various degrees of difficulty.

The difficulty of each trip is established by attempting to analyze distances, terrain, road conditions and availability of support facilities. This is not an exact science due to the other variable factors which could change the degree of difficulty. Some of the variable factors are wind, temperature, other weather factors, the degree of physical stamina of the rider and the amount of time taken.

The ratings, described below, were adapted from the North American Bicycle Atlas published by American Youth Hostels.

- \* Easy trip - short distances, usually 5-15 miles, fairly flat.
- \*\* Fairly easy - slightly longer distances, 15-30 miles. May include some hills, but not many.
- \*\*\* Intermediate trips for the average cyclist; may be too much for beginners, 30-60 miles per day.
- \*\*\*\* Difficult trip - trip may include many hills, longer mileages per day, poorer roads, heavier traffic or fewer accommodations. 60-80 miles per day, definitely for experienced cyclists.
- \*\*\*\*\* Very hard - trip may include a great number of steep hills, long stretches without accommodations, poorer roads and longer distances per day. Only experienced bicycle tourists to tackle these.

## CHAPTER IV

### APPLICATION OF THE METHODOLOGY FOR SELECTION OF PRELIMINARY ROUTES














#### Resource Inventory

The resources, found on the following pages, were inventoried because of their existing possibility to add to the recreational potential of a route.

A key (see Figure 8) was developed to allow the location of the resources to be recorded in symbolic form on transparent (acetate) overlays over a base map which shows existing roads, cities and county boundary lines.

Figure 8

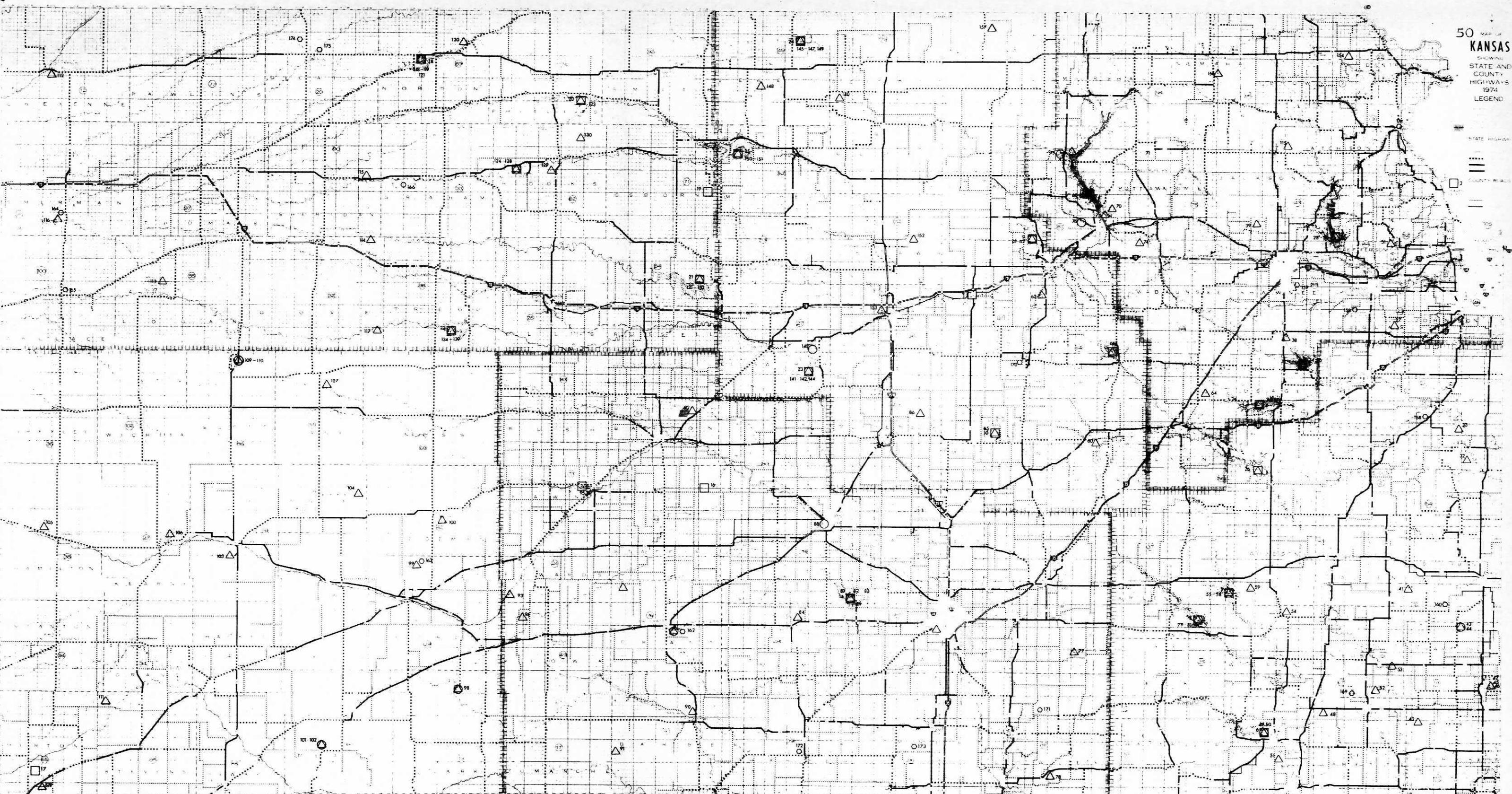
## KEY FOR PLOTTING RESOURCES ON ACETATE OVERLAYS

<u>Resources</u>	<u>Symbol</u>
Historical Site - - - - -	
Historical Site, Managed for Recreation - - - - -	
Historical Site, On National Register - - - - -	
Historical Site, On National Register, Managed for Recreation - - - - -	
Federal Recreation Area - - - - -	
State Recreation Area - - - - -	
Selected City and County Recreation Areas - - - - -	
Miles of Trail within Scenic Region - - - - -	
Miles of Trail on Scenic Routes - - - - -	
Organized Bicycling Clubs - - - - -	
City with Urban Bikeway System - - - - -	
Areas of Concentrations Of Bicycling Interest - - - - -	
Bikecentennial Trail - - - - -	

### Public Outdoor Recreation Resources

This inventory includes Federal recreation areas, State recreation areas and selected county and city recreation area. The information is recorded in Table 6 and Figure 9. Most of the information came from the 1975  
64  
Outdoor Recreation Plan For Kansas.





# RESOURCE INVENTORIES

## FIGURE 9 OUTDOOR RECREATION AREAS

**A METHOD FOR SELECTING BICYCLE TOURING ROUTES IN KANSAS**  
**A MASTER'S THESIS** by **JAMES E. WILLIAMS**  
 DEPARTMENT OF LANDSCAPE ARCHITECTURE, KANSAS STATE UNIVERSITY FALL 1976  
 FUNDED BY THE KANSAS DEPARTMENT OF ECONOMIC DEVELOPMENT

TABLE 6

(Numerical Key for Figure 9)

## FEDERAL RECREATION AREAS IN KANSAS

Region 01	County	Name
1	Coffey	John Redmond Reservoir
2	Jefferson	Perry Reservoir
3	Leavenworth	Fort Leavenworth
4	Osage	Melvern Reservoir
5	Osage	Pomona
<u>Region 02</u>		
6	Montgomery	Elk City Reservoir
7	Woodson	Toronto Reservoir
<u>Region 03</u>		
8	Dickinson	Eisenhower Center
9	Geary, Clay	Milford
10	Marion	Marion Reservoir
11	Morris	Council Grove Reservoir
12	Riley, Pottawatomie Marshall	Tuttle Creek Reservoir
<u>Region 04</u>		
13	Greenwood	Fall River Reservoir
14	Sedgwick Reno Kingman	Cheney Reservoir



TABLE 6 Cont'd.

(Numerical Key for Figure 9)

## FEDERAL RECREATION AREAS IN KANSAS

<u>Region 05</u>	<u>County</u>	<u>Name</u>
15	Pawnee	Fort Larned
16	Stafford	Quivira National Wildlife Refuge
<u>Region 06</u>		
	None	
<u>Region 07</u>		
17	Morton	Cimarron National Grasslands
<u>Region 08</u>		
	None	
<u>Region 09</u>		
18	Norton	Norton Dam and Reservoir
19	Osborne	U.S. Geodetic Center
20	Phillips	Kirwin Nat'l Wildlife Refuge
21	Russell	Wilson Dam and Reservoir
22	Trego	Cedar Bluff Reservoir
<u>Region 10</u>		
23	Ellsworth	Kanopolis Dam and Reservoir
24	Jewell	Lovewell Dam and Reservoir
25	Mitchell	Glen Elder Dam and Reservoir
<u>Region 11</u>		
	None	

TABLE 6 Cont'd.

(Numerical Key for Figure 9)

## STATE RECREATION AREAS IN KANSAS

<u>Region 01</u>	<u>County</u>	<u>Name</u>
26	Coffey	John Redmond Reservoir FF & GMA
27	Douglas	Douglas County State Lake
28	Jefferson	Perry State Park-Dela. Area
29		Perry State Park-Jeff. Point
30		Perry Reservoir Game Mang. Area
31	Leavenworth County	Leavenworth Co. St. Lake & GMA
32	Linn	Marais de Cygnes Wildgame Mang. Area
33	Miami	Miami Co. St. Lake FF & GMA
34	Osage	Pomona State Park
35		Melvern State Park
36		Pomona Reservoir FF & GMA
37		Melvern Reservoir FF & GMA
38		Osage Co. State Lake
39	Shawnee	Shawnee Co. State Lake
40		State Capitol Grounds
<u>Region 02</u>		
41	Bourbon	Bourbon Co. St. Lake & GMA
42	Cherokee	Strip Pits Wildlife Mang. Area

TABLE 6 Cont'd.

(Numerical Key for Figure 9)

## STATE RECREATION AREAS IN KANSAS

Region 02 (Con)	County	Name
43	Crawford	Lake Crawford State Park
44		Lake Crawford FF & G
45		State Fish Hatchery FF & G
46		Pittsburg Quail Farm
47		Crawford State Lake No. 1
48	Labette	Big Hill Game Mang. Area
49	Montgomery	Elk City State Park
50		Elk City Reservoir FF & GMA
51		Montgomery Co. State Lake
52	Neosho	Neosho Co. State Lake
53		Neosho Co. WMA
54	Wilson	Wilson Co. State Lake FF & G
55	Woodson	Toronto State Pk.-Holiday Hill
56		Toronto State Pk.-Woodson Cove
57		Toronto State Pk.-Toronto Point
58		Toronto Reservoir FF & GMA
59		Woodson Co. State Lake & FF & G

TABLE 6 Cont'd.

(Numerical Key for Figure 9)

## STATE RECREATION AREAS IN KANSAS

Region 03	County	Name
60	Chase	Chase Co. State Lake
61	Clay	Milford Game Mgt. Area
62	Geary	Milford State Park
63		Geary Co. State Lake
64	Lyon	Lyon Co. St. Lk.-Reading Lk.
	(part of John Redmond GMA-the rest in Coffey Co.)	
65	Marion	Marion Reservoir GMA
66	Morris	Council Grove GMA
67	Pottawatomie	Randolf State Park
	(Tuttle Creek)	
68		River Pond State Park
69		Spillway State Park
70		Pottawatomie Co. St. Pk #1
71		Pottawatomie Co. St. Pk #2
72		Tuttle Creek Game Mang. Area
73	Riley	Fancy Creek State Park
	(Tuttle Creek Res.)	
74		Deep Creek Fishing Area
75		Rocky Ford Fishing Area
76		L. P. Washburn Rec. Area

TABLE 6 Cont'd.

(Numerical Key for Figure 9)

## STATE RECREATION AREAS IN KANSAS

<u>Region 04</u>	<u>County</u>	<u>Name</u>
77	Butler	Lake Clymer State Lake
78	Cowley	Cowley Co. State Lake
79	Greenwood	Fall River Game Mang. Area
80		Fall River St. Pk.-South Shore
81		Fall River St. Pk.-Quarry Bay
82	Kingman	Cheney St. Pk.-West Shore Area
83		Cheney St. Pk. Game Mang. Area
84		Kingman Co. St. Lake & GMA
85	McPherson	Maxwell Game Refuge
86		McPherson Co. State Lake
87	Reno	Cheney St. Pk.-East Shore Area
88		Ka. St. Fairgrounds-Hutchinson
89	Sedgwick	Cheney St. Pk.-Below Dam
<u>Region 05</u>		
90	Barber	Barber Co. State Lake
91		Public Domain Land
92	Barton	Cheyenne Bottoms
93	Edwards	Public Domain Land
94	Kiowa	Kiowa Co. State Lake

TABLE 6 Cont'd.

(Numerical Key for Figure 9)

## STATE RECREATION AREAS IN KANSAS

<u>Region 05 (Con) County</u>		<u>Name</u>
95	Pawnee	Larned State Hospital Grounds
96	Pratt	Fish and Game Museum Hdq.
97		Pratt Sand Hills Game Mang. Area
<u>Region 06</u>		
98	Clark	Clark Co. State Park & GMA
99	Ford	Hain Lake
100	Hodgeman	Hodgeman Co. State Lake & GMA
101	Meade	Meade State Park
102		Meade Game & Fish Mang. Area
<u>Region 07</u>		
103	Finney	Finney Co. Game Refuge
104		Finney Co. State Lake & GMA
105	Hamilton	Hamilton Co. State Lake
106	Kearny	Lake McKinney
107	Lane	Lane Co. State Lake
108	Morton	Morton Co. Game Mang. Area
109	Scott	Scott Co. State Park
110		Scott Fish & Game Mang. Area
111	Stevens	Public Domain Lands

TABLE 6 Cont'd.

(Numerical Key for Figure 9)

## STATE RECREATION AREAS IN KANSAS

<u>Region 08</u>	<u>County</u>	<u>Name</u>
112	Cheyenne	St. Francis Game Mang. A. FF & G
113	Logan	Logan Co. State Lake & GMA
114	Sheridan	Sheridan Co. FF & GMA
115		Sheridan Co. State Lake
116	Sherman	Sherman Co. State Lake & GMA
<u>Region 09</u>		
117	Gove	Gove Co. Public Domain Land FF & G
118	Norton	Prairie Dog St. Pk.-Leota Cove
119		Prairie Dog St. Pk.-South Shore
120		Almena Diversion GMA
121		Norton FF & GMA
122		Norton Sanitarium Gun Club
123	Phillips	Kirwin Reservoir FF & G
124	Rooks	Webster Res.-Dam Site Cabin Area
125		" - Group Camp Area-N. Shore
126		Webster St. Pk.-North Shore
127		" -South Shore
128		Webster FF & G Mang. Area
129		Rooks Co. State Lake FF & G
130		Woodston Diversion GMA

TABLE 6 Cont'd.

(Numerical Key for Figure 9)

## STATE RECREATION AREAS IN KANSAS

<u>Region 09 (Cont) County</u>		<u>Name</u>
131	Russell	Wilson State Park
132		Wilson FF & G Management Area
133		Wilson Game Mang. Area
134	Trego	Cedar Bluff Gr. Camp-N. Shore
135		Cedar Bluff St. Pk.-N. Shore
136		Cedar Bluff St. Pk.-S. Shore
137		Cedar Bluff N. Sh.-Cabin Area
138		Cedar Bluff S. Sh.-Cabin Area
139		Cedar Bluff FF & GMA
<u>Region 10</u>		
140	Cloud	Jamestown Waterfowl Mang. Area
141	Ellsworth	Kanopolis State Park-E. Shore
142		" -S. Shore
143		Mushroom Rock State Park
144		Kanopolis FF & GMA
145	Jewell	Lovewell N. Shore Cabin Area
146		Lovewell St. Pk.-Cedar Point
147		" -Oak Hill Area
148		Jewell Co. State Lake
149		Lovewell FF & GMA



TABLE 6 Cont'd.

(Numerical Key for Figure 9)

## STATE RECREATION AREAS IN KANSAS

<u>Region 10 (Cont) County</u>		<u>Name</u>
150	Mitchell	Glen Elder State Park
151		Glen Elder FF & GMA
152	Ottawa	Ottawa Co. State Lake & GMA
153	Saline	Saline Co. State Lake.
<u>Region 11</u>		
154	Brown	Brown Co. State Lake
155	Jackson	Nebo Water Shed Lake FF & G
156	Nemaha	Nemaha Co. State Lake & GMA
157	Washington	Washington Co. State Lake & GMA

TABLE 6 Cont'd.

(Numerical Key for Figure 9)

## SELECTED COUNTY RECREATION AREAS

<u>Region 01</u>	<u>County</u>	<u>Name</u>
158	Douglass	Lone Star Lake
159	Shawnee	Lake Shawnee
<u>Region 02</u>		
160	Bourbon	Elm Creek Lake
<u>Region 04</u>		
161	Sedgwick	Lake Afton
<u>Region 05</u>		
162	Pratt	Pratt County Lake
<u>Region 06</u>		
163	Ford	Ford County Lake
<u>Region 08</u>		
164	Sherman	County Lake
165	Wallace	Sharon Springs Co. Lake and Park
<u>Region 09</u>		
166	Graham	Antelope County Lake and Park
167	Norton	County Lake & Park

TABLE 6 Cont'd.

(Numerical Key for Figure 9)

## SELECTED MUNICIPAL RECREATION AREAS

<u>Region 01</u>	<u>County</u>	<u>Name</u>
	None	
<u>Region 02</u>		
168	Miami	John Brown Memorial Park
169	Neosho	Parsons City State Lake
<u>Region 03</u>		
170	Dickinson	Herrington City Lake
<u>Region 04</u>		
171	Cowley	Winfield City Lake
172	Harper	Anthony City Lake
173	Sumner	Wellington City Lake
<u>Region 05</u>	None	
<u>Region 06</u>	None	
<u>Region 07</u>	None	
<u>Region 08</u>		
174	Decatur	Oberlin City Lake
175		Oberlin Sappa Park
<u>Region 09</u>	None	
<u>Region 10</u>	None	
<u>Region 11</u>		
176	Atchison	Jackson Park

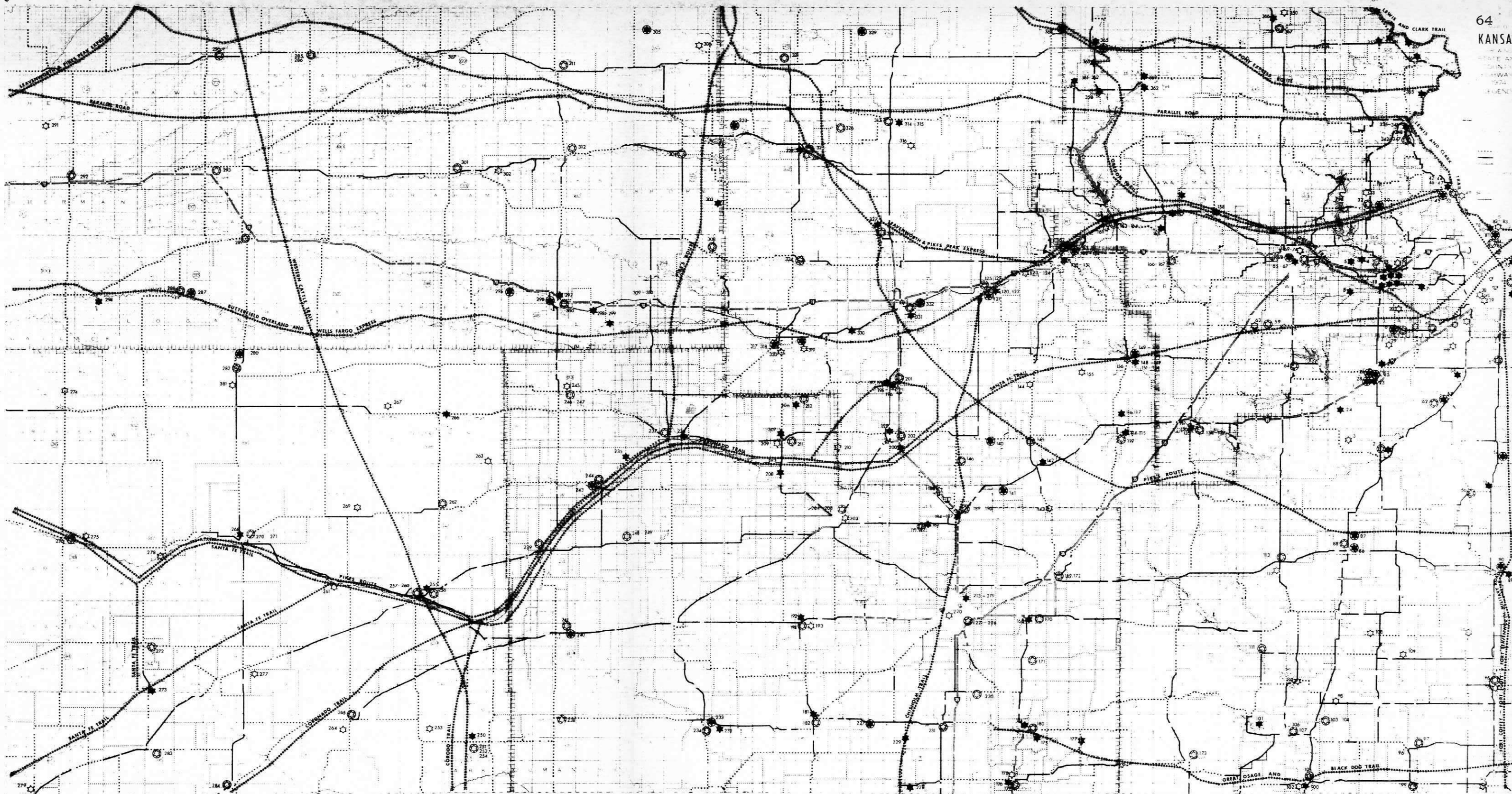
Historical and Cultural Recreation Resources - Overlay Number 2

This inventory includes selected historical and cultural points of interest such as museums and art galleries. It also shows the location of Historical trails which offer possibilities for theme trail development. The information is recorded in Table 7 and Figure 10. The information came from The 1975 Outdoor Recreation Plan for Kansas, <sup>65</sup> The 1975 Official Museum Directory <sup>66</sup> and from Kansas, <sup>67</sup> last issue/1975.

# **ILLEGIBLE DOCUMENT**

**THE FOLLOWING  
MAP(S) / PLAN(S) IS OF  
POOR LEGIBILITY IN  
THE ORIGINAL**

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# RESOURCE INVENTORIES

## FIGURE 10 HISTORICAL / CULTURAL RESOURCES

A METHOD FOR SELECTING BICYCLE TOURING ROUTES IN KANSAS  
A MASTER'S THESIS by JAMES E. WILLIAMS  
DEPARTMENT OF LANDSCAPE ARCHITECTURE, KANSAS STATE UNIVERSITY FALL 1976  
FUNDED BY THE KANSAS DEPARTMENT OF ECONOMIC DEVELOPMENT



TABLE 7

(Numerical Key for Figure 10)

## HISTORICAL SITES, MUSEUMS AND POINTS OF INTEREST

Region 01	On National Register of Historic Places	Museum or Recreational Facility
<u>Anderson County</u>		
1. Anderson Co. Courthouse-Garnett	X	
2. Anderson Co. Historical Museum-in Anderson Co. Courthouse-Garnett		X
3. S. S. Tipton House-Harris		
<u>Douglas County</u>		
4. Constitution Hall-Lecompton	X	
5. Lane University- "	X	
6. Old Castle Hall-Baldwin	X	X
7. Charles Pilla House-Eudora	X	
8. J. C. Steele House-Clinton	X	
9. Ludington House-Lawrence	X	
10. Col. J. Blood House- "	X	
11. Haskell Institute- "	X	
12. Dyche, Green & Spooner Halls-Lawrence	X	X
13. Old West Lawrence Historic Dist.- "	X	
14. Watkins National Bank- "	X	
15. Zimmerman House- "	X	
16. Oakridge House		
17. John Palmer Usher House		
18. Douglas Co. Courthouse-Lawrence		
19. Old Lawrence City Library- "		
20. Coal Creek Library-Vinland		
21. Battle of Black Jack-Rural		
22. Baker University-Baldwin (William A. Quayle Bible Collection)		X
<u>Franklin County</u>		
23. Raay Jones House-Rural	X	
24. Silkville Community-Rural	X	
25. Dietrich Cabin-Ottawa	X	X
26. Downtown Ottawa Historical District	X	X
27. Franklin Co. Courthouse-Ottawa	X	X
28. Old Santa Fe Depot- "	X	X
29. James H. Ransom House		

TABLE 7 Cont'd.

(Numerical Key for Figure 10)

## HISTORICAL SITES, MUSEUMS AND POINTS OF INTEREST

Region 01	On National Register of Historic Places	Museum or Recreational Facility
<u>Jefferson County</u>		
30. Union Block-Oskaloosa	X	X
31. First Lutheran Church-Valley Falls		
32. Frontier Hse.-Oskaloosa		X
33. Battle of Hickory Point-Rural		
<u>Johnson County</u>		
34. Alex Major's Hse.-Leawood	X	
35. Shawnee Mission-Fairway	X	X
36. J. B. Mahaffie Stage Coach Hse.-Rural		
37. Lone Elm Campground		
38. Frank & George Hodges Houses-Olathe		
39. Martin V. B. Parker Hse.- "		
40. Lanesfield Historical Society-Edgerton		X
41. Johnson Co. Historical Mus.-Shawnee		X
<u>Leavenworth County</u>		
42. AXA Building-Leavenworth	X	
43. David Brewer House- "	X	
44. Fred Harvey " "	X	
45. Fort Leavenworth-Fort Leavenworth	X	
National Registered Landmark		X
46. Quarry Creek Arch. Site- "	X	
47. Lansing Man Arch. Site-Ru. Lansing	X	
48. Sen. Wm. A. Harris Hse.- W. Linwood	X	
49. Memorial Chapel		
50. Governor's Quarters-Ft. Leavenworth		
51. Headquarters, Ward Mem. Bldg. "		
52. Fort Leavenworth Museum "		X
53. Leavenworth Historical Museum-Leavenworth		X
<u>Linn County</u>		
54. Marais des Cygnes Massacre Site-Rural	X	Park X
55. Battle of Mine Creek	X	
56. Linn Co. Historical Society-Mound City		X



TABLE 7 Cont'd.

(Numerical Key for Figure 10)

## HISTORICAL SITES, MUSEUMS AND POINTS OF INTEREST

Region 01	On National Register of Historic Places	Museum or Recreational Facility
<u>Miami County</u>		
57. John Brown Cabin-Osawatomie	X	X
58. Miami Co. Cthse.-Paola	X	
59. Santa Fe Depot-Burlingame	X	
60. Holy Rosary Catholic Church-Rural		
61. Log Cabin Mus.-Louisburg		X
62. Old Stone Church-Osawatomie		X
<u>Osage County</u>		
63. Samuel Hunt Gravesite-W. Burlingame		
64. Osage Co. His. Society- Lyndon		X
<u>Shawnee County</u>		
65. Charles Curtis House-Topeka	X	
66. St. Joseph's Cath. Ch.- "	X	
67. State Capitol- "	X	
68. Pottawatomie Baptist Mission-Rural	X	X
69. Ward Meade House-Topeka		
70. Memorial Bldg.- "		
71. Menninger Clinic Bldg.-Topeka		
72. Thacher Bldg.- "		
73. Governor's Mansion- "		
74. Stonehouse-Silver Lake		
75. Kansas St. His. Society Mus.-Topeka		X
76. Menninger Foundation, Mus. & Archives-Topeka		X
77. Topeka Zoological Park-Topeka		X
<u>Wyandotte County</u>		
78. Huron Cemetery-Kansas City	X	
79. St. Augustine Hall- "	X	
80. Trowbridge Arch. Site- "	X	
81. Grinter Place-Muncie	X	
82. Sauer Castle-Kansas City		
83. Westheight Manor Dist.-Kansas City		
84. Wyandotte Co. Museum-Bonner Springs		X
85. Agricultural Hall of Fame- "		X

TABLE 7 Cont'd.

(Numerical Key for Figure 10)

## HISTORICAL SITES, MUSEUMS AND POINTS OF INTEREST

Region 02	On National Register of Historic Places	Museum or Recreational Facility
<u>Allen County</u>		
86. Allen County Jail-Iola	X	X
87. Gen. Funston Home-Rural, N. Iola	X	X
88. Allen Co. Historical Society-Iola		X
<u>Bourbon County</u>		
89. Ft. Scott, Carroll Plaza-Ft. Scott	X	
90. Ft. Scott Historical Museum-	"	X
91. Cripser Building-	"	
<u>Cherokee County</u>		
92. Baxter Springs Massacre Site		
<u>Crawford County</u>		
93. Commerce Bldg.-Pittsburg		
94. Farlington Town Hall-Farlington		
95. Crawford Co. His. Museum-Pittsburg		X
<u>Labette County</u>		
96. John A. Mathews Well & Trad. Post-Oswego		
97. Oswego Historical Museum-	"	X
98. Bender Mounds-W. of Parsons		
99. Chetopa Historical Museum-Chetopa		X
<u>Montgomery County</u>		
100. Condon Nat'l. Bank-Coffeyville	X	
101. Infinity Arch. Site-Elk City Res.- (Independence Vicinity)	X	
102. W. P. Brown Mansion-Coffeyville		X
103. Bender Museum-Cherryvale		X
104. Cherryvale Museum, Inc.-Cherryvale		X
105. Dalton Museum-Coffeyville		X
106. Montgomery Co. His. Mus.-Independence	X	
107. Independence Museum-	"	X

TABLE 7 Cont'd.

(Numerical Key for Figure 10)

## HISTORICAL SITES, MUSEUMS AND POINTS OF INTEREST

Region 02	On National Register of Historic Places	Museum or Recreational Facility
<u>Neosho County</u>		
108. Mission Neosho Site-Shaw		
109. Osage Catholic Mission		
<u>Wilson County</u>		
110. Norman No. 1 Site-US 75		
111. Wilson County Historical Museum-Fredonia		X
<u>Woodson County</u>		
112. Ft. Belmont Site-S/W Yates Center		
113. Woodson Co. His. Society- "		X
<u>Region 03</u>		
<u>Chase County</u>		
114. Chase Co. Cthse.-Cottonwood Falls	X	
115. Samuel N. Wood Hse.-E. "	X	
116. Lower Fox Creek School-N. Strong City	X	
117. Spr. Hill Farm & Stk. Ranch- "	X	
118. Clements Bridge-S. Clements		
119. Roniger Memorial Mus.-Cottonwood Falls		X
<u>Dickinson County</u>		
120. C. H. Lebold House-Abilene	X	
121. Eisenhower Home- "	X	
122. Union Pacific Depot-Solomon	X	
123. Dickinson Commun. High School-Chapman		
124. St. Patrick's Cath. Church-N/E "		
125. Old Abilene Town-Abilene		X
126. Dickinson Co. Historical Society-Abilene		X
127. Dwight D. Eisenhower Library-	"	X
128. Museum of Independent Telephone	"	X
129. Western Museum-	"	X

TABLE 7 Cont'd.

(Numerical Key for Figure 10)

## HISTORICAL SITES, MUSEUMS AND POINTS OF INTEREST

Region 03	On National Register of Historic Places	Museum or Recreational Facility
<u>Geary County</u>		
130. Christian Wetzel Cabin (east of Junction City)	X	
131. Bogan Arch. Site-Milford Res.	X	
132. Main Post Area, Terr. Cap., Ft. Riley	X	
133. Custer's House-	"	
134. U.S. Cavalry Museum-	"	X
<u>Lyon County</u>		
135. Wm. Allen White House-Emporia	X	
136. Hartford Collegiate Institute-Hartfd.	X	
137. Emporia Gazette Bldg.-Emporia		
138. Biology Dept. Museum-Emporia St. T.C.		X
139. Lyon Co. Historical Society-Emporia		X
<u>Marion County</u>		
140. Sodhouse - Hillsboro	X	X
141. Old Peabody Library-Peabody	X	X
142. Harvey House-Florence	X	
143. Burns Union School-Burns		
144. Lost Springs-West of Lost Springs		
145. Marion Co. Historical Society, Inc., Marion		X
146. Mennonite Immigrant Historical Foundation- Historical Museum Complex-Goessel		X
<u>Morris County</u>		
147. Farmers & Drovers Bk.-Council Grove	X	
148. Last Chance Store-	"	X
149. Kaw Methodist Mission-	"	X
150. Council Oak-	"	X
151. Post Office Oak-	"	X
152. Hays Tavern-	"	X
153. Council Grove His. Dist.-	"	X
154. Wm. Young Arch. Site- " Res.	X	
155. Diamond Springs-S/W of Wilsey		
156. Custer Elm-Council Grove		

TABLE 7 Cont'd.

(Numerical Key for Figure 10)

## HISTORICAL SITES, MUSEUMS AND POINTS OF INTEREST

Region 03	On National Register of Historic Places	Museum or Recreational Facility
<u>Pottawatomie County</u>		
157. Old Dutch Mill-Wamego	X	
158. Pottawatomie Ind. Pay Sta.-St.Marys	X	
159. Vermillion Creek Crossing-N/W Belvue	X	
<u>Riley County</u>		
160. Goodnow Memorial Home-Manhattan	X	
161. Damon Runyon Birthpl.- "		
162. U.S.Cavalry Museum-Ft. Riley		X
163. Kansas St. Univ. Herbarium-Manhattan		X
164. Riley County Historical Museum- "		X
<u>Wabaunsee County</u>		
165. Beecher Bible & Rifle Church-Wabaunsee	X	
166. Mill Creek Museum-Alma		X
167. Palenske Zwanziger Memorial Museum-Alma		X
<u>Region 04</u>		
<u>Butler County</u>		
168. C. N. James Cabin-Augusta	X	
169. John Friend Log Cabin-El Dorado		X
170. Augusta Historical Museum-Augusta		X
171. Douglass Museum-Douglass		X
172. Butler Co. His. Society-El Dorado		X
<u>Chautauqua County</u>		
173. Emmett Kelly Museum-Sedan		X
<u>Cowley County</u>		
174. W. P. Hackney House-Winfield	X	
175. Magnolia Ranch-S/E of "	X	
176. Cherokee Strip Opening Site-S.Ark.C.	X	
177. Helium Bearing Gas Well Site-Dexter	X	
178. Old Ark. C. High School-Arkansas City	X	
179. Cherokee Strip Living Museum- "		X
180. Cowley Co. Historical Society-Winfield		X

TABLE 7 Cont'd.

(Numerical Key for Figure 10)

## HISTORICAL SITES, MUSEUMS AND POINTS OF INTEREST

Region 04		On National Register of Historic Places	Museum or Recreational Facility
	<u>Harper County</u>		
181.	Old Runnymede Church-Harper	X	
182.	Harper Art Association		X
	<u>Harvey County</u>		
183.	Warkentin Homestead-Halstead	X	
184.	Warkentin Mill-Newton	X	
185.	Bethel College Adm. Bldg.-N.Newton	X	
186.	Warkentin House-Newton	X	
187.	Carnegie Library- "	X	
188.	King Antique Car Mus.-Hesston		X
189.	Kauffman Museum- North Newton		X
190.	Mennonite Library and Archives-North Newton		X
191.	Kansas Health Museum-Halstead		X
	<u>Kingman County</u>		
192.	Kingman City Bldg.-Kingman	X	
193.	Kingman Co. Fire Department		
194.	Kingman Co. Historical Museum		X
	<u>McPherson County</u>		
195.	Smoky Valley Roller Mill & Co. Museum	X	Lindsborg X
196.	Swedish Pavilion-Lindsborg	X	
197.	Paint Creek Arch. Site-" Vicinity	X	
198.	Sharps Creek Arch. Site-" "	X	
199.	Opera House-McPherson	X	
200.	Kansas Indian Treaty Site-Dry Turkey Creek, Southeast of McPherson	X	
201.	Birger Sandzen Mem. Gallery-Lindsborg		X
202.	McPherson City College Museum-McPherson		X
	<u>Reno County</u>		
203.	First Salt Well-South Hutchinson		
204.	Hutchinson Planetarium-Hutchinson		X
205.	Reno Co. Historical Society-Haven		X

TABLE 7 Cont'd.

(Numerical Key for Figure 10)

## HISTORICAL SITES, MUSEUMS AND POINTS OF INTEREST

Region 04	On National Register of Historic Places	Museum or Recreational Facility
<u>Rice County</u>		
206. Tobias-Thompson Arch Complex-Geneseo	X	
207. Malone Arch. Site- Lyons vicinity	X	
208. Cooper Hall-Sterling	X	
209. Buffalo Bill's Well-S/W of Lyons		X
210. Stone Coral Site, Rice-McPherson Co Ln		
211. Rice Co. Historical Museum-Lyons		X
212. Geneseo Museum-Geneseo		X
<u>Sedgwick County</u>		
213. Old Courthouse- Wichita	X	
214. Wichita City Hall- "	X	
215. Henry J. Allen House-"	X	
216. Carey House - "	X	
217. Friend's Univ. Hall- "	X	
218. B. H. Campbell House-"	X	
219. Rock Island Depot- "	X	
220. Scottish Rite Temple-"		
221. Historic Wichita Cow Town-Wichita		X
222. Wichita Historical Museum Ass'n.		X
223. Wichita Municipal Zoo		X
224. Wichita Art Museum		X
225. Wichita Art Association, Inc.		X
226. Edwin A. Ulrich Mus. of Art, WSU		X
<u>Sumner County</u>		
227. Susanna Salter House-Argonia	X	X
228. Buresh Arch. Site-Caldwell vicinity	X	
229. Chisholm Trail		
230. Bartlett Arboretum-Belle Plaine		X
231. Chisholm Trail Museum-Wellington		X

TABLE 7 Cont'd.

(Numerical Key for Figure 10)

## HISTORICAL SITES, MUSEUMS AND POINTS OF INTEREST

Region 05	On National Register of Historic Places	Museum or Recreational Facility
<u>Barber County</u>		
232. Medicine Lodge Peace Treaty Site	X	
233. Carry Nation House-Medicine Lodge	X	X
234. Medicine Lodge Stockade Museum		X
<u>Barton County</u>		
235. Pawnee Rock-off US 56	X	X
236. Walnut Creek Crossing Site-E. Gr. Bd.	X	
237. Arlin Baker Art Gallery-Great Bend		X
<u>Comanche County</u>		
238. Comanche County Historical Society Museum Coldwater		X
<u>Edwards County</u>		
239. Edwards County Historical Museum-Kinsley		X
<u>Kiowa County</u>		
240. Greensburg Well-Greensburg	X	X
241. Celestial Museum- "		X
<u>Pawnee County</u>		
242. Pratt Archaeological Site	X	
243. Ft. Larned Nat'l. His. Landmark		X
244. Santa Fe Trail Historic Museum-Larned		X
<u>Rush County</u>		
245. Rush Co. Courthouse-LaCrosse		
246. Post Rock Museum- "		X
247. Barbed Wire Museum- "		X
<u>Stafford County</u>		
248. Van Arnsdale Antique Car Museum-Macksville		X
249. Ernst Antique & Museum- "		X



TABLE 7 Cont'd.

(Numerical Key for Figure 10)

## HISTORICAL SITES, MUSEUMS AND POINTS OF INTEREST

Region 06	On National Register of Historic Places	Museum or Recreational Facility
<u>Clark County</u>		
250. First National Bank-Ashland	X	
251. Santa Fe Museum-	"	
252. Harold Krier Field Aerobatic Museum-Ashland		X
253. St. Jacob's Well-N/W Ashland		
254. Pioneer Museum-Ashland		X
<u>Ford County</u>		
255. Mueller-Schmidt House-Dodge City	X	
256. Kansas Soldier Home-Ft. Dodge		
257. Historic Old Front Street-Dodge City		X
258. Beeson Museum-	"	X
259. Boot Hill Cemetery & Museum-	"	X
260. Home of Stone-	"	X
<u>Gray County</u>		
261. Cimarron Crossing		
<u>Hodgeman County</u>		
262. T. S. Haun House-Jetmore	X	
263. Duncan Crossing		
<u>Meade County</u>		
264. Lone Tree Massacre Site S/W Meade		
265. Dalton Gang Hide Out & Museum-Meade		X
<u>Ness County</u>		
266. Ness County Bank-Ness City	X	
267. George Washington Carver Homestead Site-South of Beeler		

TABLE 7 Cont'd.

(Numerical Key for Figure 10)

## HISTORICAL SITES, MUSEUMS AND POINTS OF INTEREST

Region 07	On National Register of Historic Places	Museum or Recreational Facility
<u>Finney County</u>		
268. Windsor Hotel-Garden City	X	
269. Site of Ravanna-near Kalvesta		
270. Finney Co. Historical Society-Garden City		X
271. Finnup Park and Lee Richardson Zoo-	"	X
<u>Grant County</u>		
272. Grant Co. Library & Museum-Ulysses		X
273. Wagon Bed Springs-S. of Ulysses	X	
<u>Greeley County</u>		
274. Barrel & Jumbo Springs-N. of K-96, (near Tribune)		
<u>Hamilton County</u>		
275. Ft. Aubrey Site-E. of Syracuse		
276. Hamilton Co. Historical Museum-Syracuse		X
<u>Haskell County</u>		
277. Santa Fe Townsite-Jct. of US-83 & US-160		
<u>Kearny County</u>		
278. Chauteau Island		
<u>Morton County</u>		
279. Point of Rocks-W. of K-27 near Elkhart		
<u>Scott County</u>		
280. El Cuartelejo-Lake Scott St. Park	X	X
281. Battle Canyon-N. of Scott City		
282. Herbert L. Steele Hse.-Lk. Scott St. Park		X
<u>Stevens County</u>		
283. Stevens Co. Gas & Historical Museum-Hugoton		X
<u>Seward County</u>		
284. Seward-Coronado Museum-Liberal		X

TABLE 7 Cont'd.

(Numerical Key for Figure 10)

## HISTORICAL SITES, MUSEUMS AND POINTS OF INTEREST

Region 08	On National Register of Historic Places	Museum or Recreational Facility
<u>Decatur County</u>		
285. Last Indian Raid Museum-Oberlin		X
286. Decatur Co. His. Mus.- "		X
<u>Logan County</u>		
287. Old Logan Co. Cthse.-Russell Springs	X	
288. Butterfield Trail Historical Museum-Russell Spr.		X
289. Fick Fossil Museum-Oakley		
<u>Rawlins County</u>		
290. Rawlins Co. Historical Museum-Atwood		X
<u>Sherman County</u>		
291. Kidder Massacre Site N. of Edson		
292. Pioneer Museum-Goodland		X
<u>Thomas County</u>		
293. Sod Town Prairie Pioneer Museum-Colby		X
<u>Wallace County</u>		
294. Pond Creek Station-E.Wallace US-40	X	
<u>Region 09</u>		
<u>Ellis County</u>		
295. Walter P. Chrysler Home-Ellis	X	X
296. Fort Hays-Hays	X	X
297. First Presbyterian Church-Hays	X	
298. St. Fidelis Cath. Ch.-Victoria	X	
299. Geo. Grant Villa- S/E of "	X	
300. Sternberg Memorial Museum-Hays		X
<u>Graham County</u>		
301. Oil Museum- Hill City		X
302. Nicodemus Township Hall-Nicodemus		

TABLE 7 Cont'd.

(Numerical Key for Figure 10)

## HISTORICAL SITES, MUSEUMS AND POINTS OF INTEREST

Region 09	On National Register of Historic Places	Museum or Recreational Facility
<u>Osborne County, Geodetic Center of U. S.</u>		
303. Meade's Ranch-S/W of Osborne	X	
304. Buffalo Hunter Museum- "		X
<u>Smith County</u>		
305. "Home on the Range" Cabin-W. Smith	X	
	Center	
306. Geographic Center of U.S.-Lebanon		
<u>Norton County</u>		
307. Station 15-Norton		X
<u>Russell County</u>		
308. Garden of Eden-Lucas		X
309. Fossil Station Museum-Russell		X
310. Oil Patch- Russell		
<u>Phillips County</u>		
311. Fort Bissel- Phillipsburg		X
<u>Rooks County</u>		
312. Log Hotel Museum- Stockton		X
<u>Region 10</u>		
<u>Cloud County</u>		
313. Cloud County Historical Society-Concordia		X
314. Nazareth Convent & Academy-Concordia	X	
315. Brown Grand Opera House- "	X	
316. Boston Corbett Homestead Site-S/E "		
<u>Ellsworth County</u>		
317. Perry Hodgden House-Ellsworth	X	X
318. Ft. Harker Guardhouse-Kanopolis	X	X
319. Ft. Harker Officer's Quart.- "		
320. Arthur Larkin Hse.-S. of Ellsworth		

TABLE 7 Cont'd.

(Numerical Key for Figure 10)

## HISTORICAL SITES, MUSEUMS AND POINTS OF INTEREST

Region 10	On National Register of Historic Places	Museum or Recreational Facility
<u>Jewell County</u>		
321. Jewell County Historical Museum-Mankato		X
<u>Mitchell County</u>		
322. F. H. Hart House-Beloit	X	
323. Old Cawker City Library-Cawker City	X	
324. St. John the Bapt. Church-Beloit		
325. Little Red School House- "		X
326. Hobby Corner Museum-Scottsville		X
<u>Ottawa County</u>		
327. Minneapolis Archaeological Site	X	
328. Ottawa Co. Historical Society-Minneapolis		X
<u>Republic County</u>		
329. Pawnee Indian Village Site (Republic vicinity)	X	
<u>Saline County</u>		
330. Brookville Hotel-Brookville	X	
331. Schwartz House-Salina	X	
332. Whiteford Arch. Site-E. of Salina	X	X
333. Smoky Hill Historical Museum- "		X
<u>Lincoln County</u>		
334. Lincoln Historical Museum-Lincoln		X

TABLE 7 Cont'd.

(Numerical Key for Figure 10)

## HISTORICAL SITES, MUSEUMS AND POINTS OF INTEREST

Region 11	On National Register of Historic Places	Museum or Recreational Facility
<u>Atchison County</u>		
335. Muchnic Home-Atchison	X	
336. W. W. Hetherington House-Atchison	X	
337. Price Villa-	"	X
338. B. P. Waggener Home-	"	X
339. Edgar Watson Howe Home-	"	X
340. Amelia Earhart Birthplace-	"	X
341. Atchison Post Office-	"	X
342. Seven Mile House- west of	"	
343. Mount St. Scholastic Convent-	"	
344. Atchison Co. Courthouse-	"	
345. J. P. "Paddy" Brown House-	"	
346. A. J. Harwi House-	"	
347. McInteer Villa-	"	
348. Benedictine College Museum-	"	X
<u>Brown County</u>		
349. Davis Memorial-Hiawatha		
350. Sycamore Springs Water Tower- (northwest of Morrill)		
<u>Doniphan County</u>		
351. Iowa, Sac & Fox Presbyterian Mission (1½ miles east of Highland)	X	
352. Irvin Hall Junior College-Highland	X	
353. Poulet House-White Cloud	X	
354. Doniphan Co. Courthouse-Troy	X	
355. White Cloud School	X	
356. Doniphan Archaeological Site (Doniphan vicinity)	X	
357. Fanning Archaeological Site- (Fanning vicinity)	X	

TABLE 7 Cont'd.

(Numerical Key for Figure 10)

## HISTORICAL SITES, MUSEUMS AND POINTS OF INTEREST

Region 11		
	On National Register of Historic Places	Museum or Recreational Facility
<u>Marshall County</u>		
358.	Blue Rapids Library	X
359.	Frankfort School	X
360.	Barrett School House (1½ miles south of Frankfort)	X
361.	Perry Hutchinson House-Waterville	X
362.	Samuel Powell House- "	X
363.	Alcove Springs-4Mi. N. of Bl. Rapids	X
364.	Pony Express Barn-Marysville	X X
365.	Marshall Co. Courthouse- "	X
<u>Nemaha County</u>		
366.	Old Albany School House (2 miles north of Sabetha)	X
367.	Albany Historical Society, Inc. (Sabetha)	
<u>Washington County</u>		
368.	Hollenberg Pony Express Station- 1½ miles east of Hanover	X X

Scenic Resources - Overlay Number Three

This inventory includes areas of higher scenic quality as determined by the Kansas Park and Resource Authority, and scenic routes selected by the Kansas Department of Transportation. The information is recorded on Figure 11.

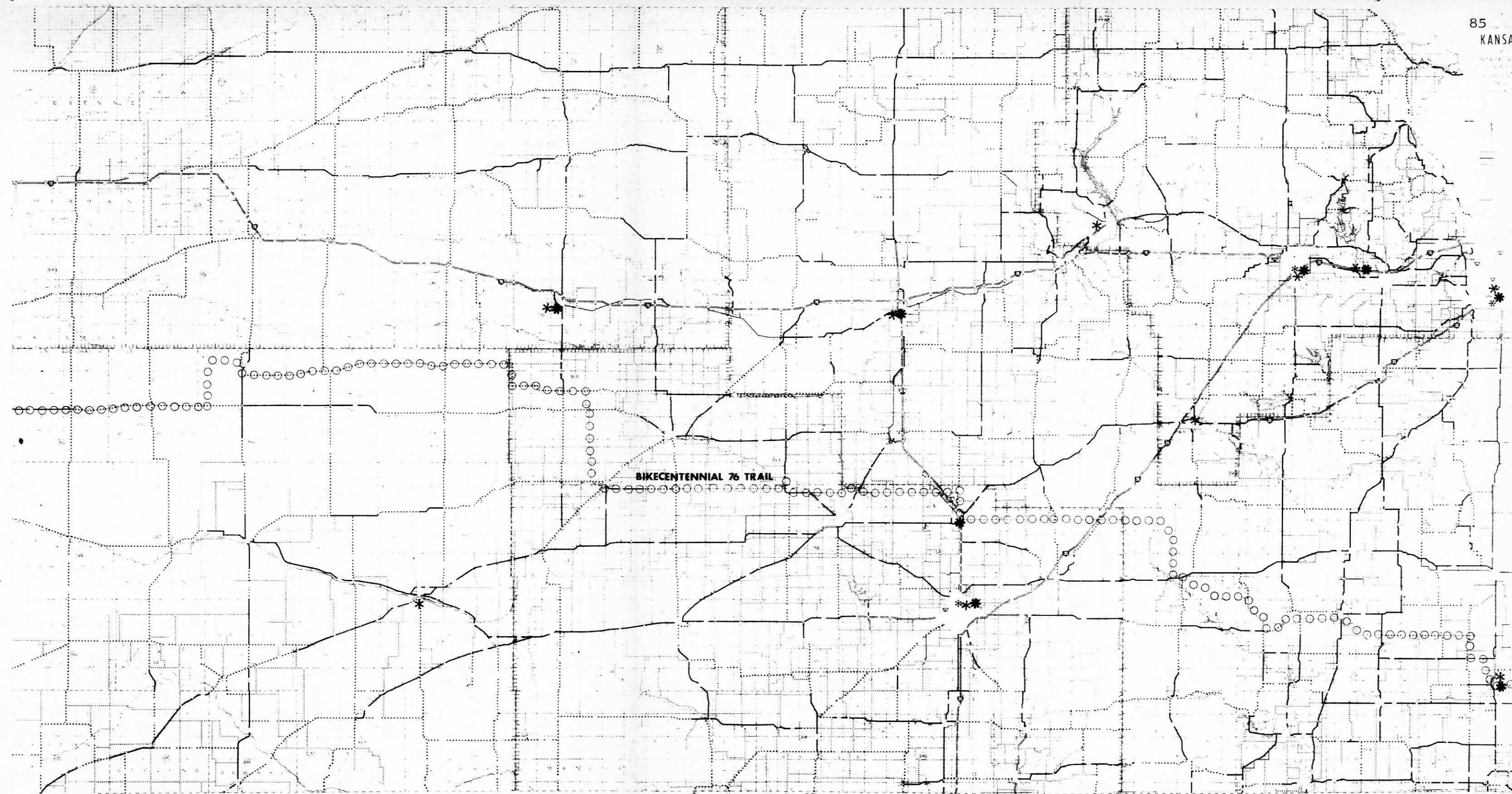




Existing Bicycling Resources - Overlay Number Four

This inventory will show existing informal class III bicycle touring routes in Kansas, cities with urban bikeways and organized bicycle clubs in Kansas. The information is recorded in Table 8 and Figure 12. The information was taken from an unpublished report, Bikeways in Kansas by the Bicycle Task Force Committee of the former Kansas Highway Commission.





# RESOURCE INVENTORIES

## FIGURE 12 EXISTING BICYCLING RESOURCES

A METHOD FOR SELECTING BICYCLE TOURING ROUTES IN KANSAS  
 A MASTER'S THESIS by JAMES E. WILLIAMS  
 DEPARTMENT OF LANDSCAPE ARCHITECTURE, KANSAS STATE UNIVERSITY FALL 1976  
 FUNDED BY THE KANSAS DEPARTMENT OF ECONOMIC DEVELOPMENT

TABLE 8

## EXISTING BICYCLING FACILITIES IN KANSAS

Organized Bicycle Clubs in Kansas

Region 01 Kaw Valley Bicycle Touring Club (Topeka)

Johnson County Bicycle Club

Mt. Oread Bicycle Club (Lawrence)

Region 02 Quivira Cyclist (Pittsburg)

Region 03 None

Region 04 Oz Bicycle Club of Wichita

Prairie Pedallers (Newton)

Region 05 None

Region 06 None

Region 07 None

Region 08 None

Region 09 Wheatland Bicycle Club (Hays)

Region 10 Saline Wheelman

Region 11 None

Cities with Urban Bikeway Systems

Region 01 Johnson County

Topeka

Region 04 Wichita

## TABLE 8 Cont'd.

## EXISTING BICYCLING FACILITIES IN KANSAS

Recreational Trails

Bikecentennial 76 Trail

Many unmarked trails by various bicycle clubs

Areas with Concentrations of Bicyclists and Some Colleges Listed

Dodge City, St. Marys of the Plains and Dodge City Junior College

Emporia, Emporia State Teachers College

Hays, Fort Hays State College

Johnson County, Johnson County Junior College

Lawrence, Kansas University

Manhattan, Kansas State University

Pittsburg, Pittsburg State Teachers College

Salina, Marymount College and Kansas Wesleyan University

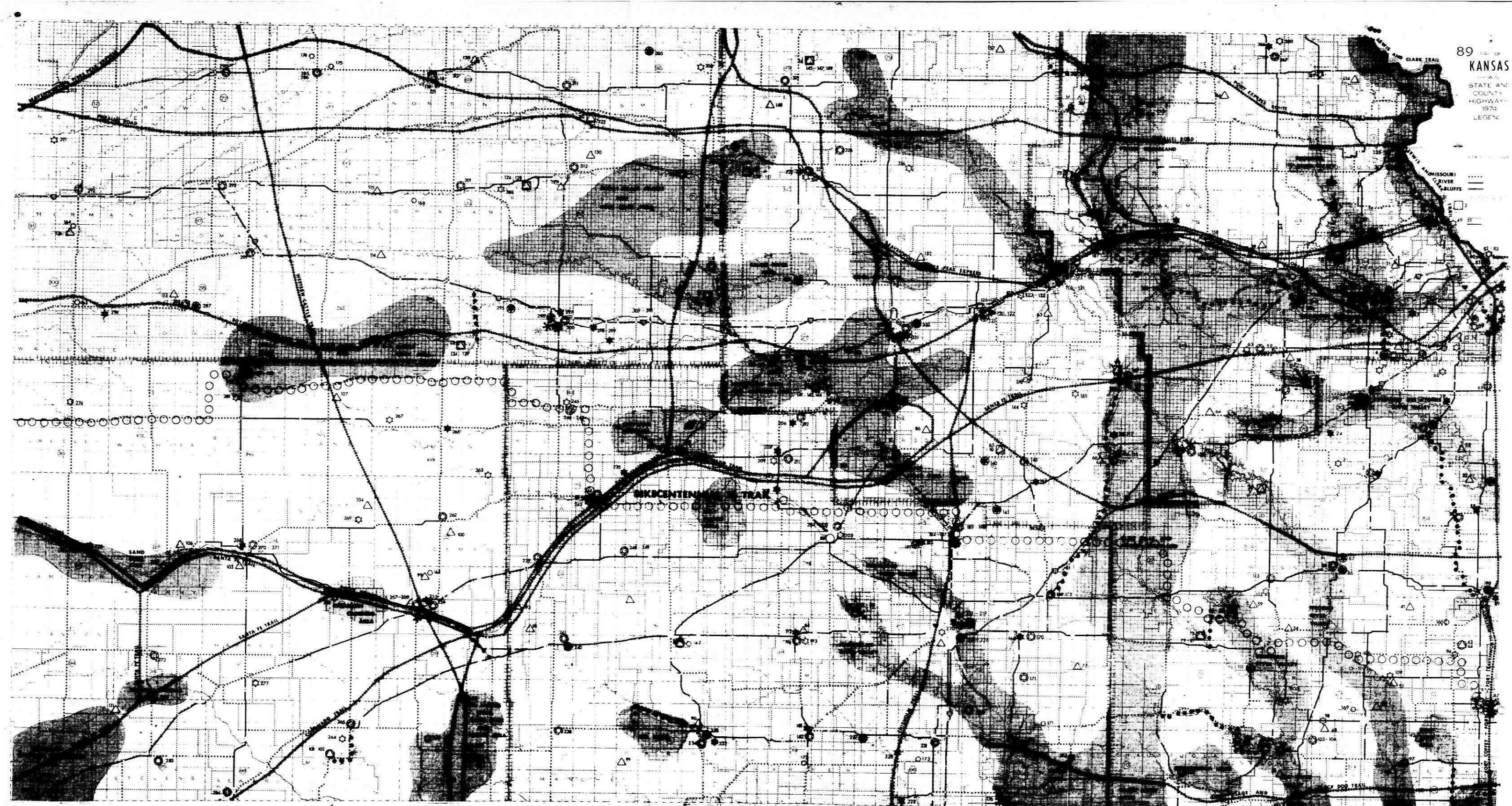
Topeka, Washburn University

Wichita, Wichita State University and Friends University

Composite - All Overlays and Base Map

By running an ozlid print of the base map together with the four acetate overlays mentioned above, a composite of the resource inventories can be shown on one map. This composite (Figure 13) reveals areas of resource concentrations which offer the most opportunities for recreational bicycle trails.





# RESOURCE INVENTORIES

FIGURE 13 COMPOSITE / ALL RESOURCES

A METHOD FOR SELECTING BICYCLE TOURING ROUTES IN KANSAS  
A MASTER'S THESIS by JAMES E. WILLIAMS  
DEPARTMENT OF LANDSCAPE ARCHITECTURE, KANSAS STATE UNIVERSITY FALL 1976  
FUNDED BY THE KANSAS DEPARTMENT OF ECONOMIC DEVELOPMENT

### Selection of Preliminary Routes

Following the General Guidelines as closely as possible, preliminary routes were selected within the areas of resource concentration. (Table 9 and Figure 14)

#### Input from Kansas Cyclist

A list of existing bicycle tours (with tour maps and descriptions) was submitted by Mr. Larry Christie, President of the Kansas Chapter of The League of American Wheelmen and active member of the Oz Bicycle Club of Wichita. These tours were added to the list of preliminary routes for further evaluation. (Numbers 1,2,3,4,5,7,9,10 and 11, Table 9)





# RESOURCE INVENTORIES

## FIGURE 14 PRELIMINARY ROUTES

**A METHOD FOR SELECTING BICYCLE TOURING ROUTES IN KANSAS**  
**A MASTER'S THESIS** by **JAMES E. WILLIAMS**  
 DEPARTMENT OF LANDSCAPE ARCHITECTURE, KANSAS STATE UNIVERSITY FALL 1976  
 FUNDED BY THE KANSAS DEPARTMENT OF ECONOMIC DEVELOPMENT

TABLE 9

PRELIMINARY TRAILS	ROUND TRIP LENGTH
1. Chalk Bluffs Tour	72 mi.
2. Wilson Reservoir Tour	70 mi.
3. Larned-Pawnee Rock	36 mi.
4. Larned-Ft. Larned	14 mi.
5. Grouse Creek Area	52 mi.
6. Grouse Creek Area Alt. A	47 mi.
7. Red Hills Tour	40 mi.
8. Red Hills Tour Alt. A via U.S. 160	46 mi.
9. Lindsborg	44 mi.
10. Manhattan-Fort Riley	64 mi.
11. Heart of the Flint Hills	100 mi.
12. Bartlett Arboretum Tour	48 mi.
13. Limestone, Oak, and Bluestem	91 mi.
14. McDowell Creek Road	37 mi.
15. Milford Reservoir Tour	46 mi.
16. Blue River Valley Tour	66 mi.
17. Pony Express Tour	75 mi.
18. Topeka-Perry Reservoir	54 mi.
19. Missouri Bluffs Tour	64 mi.
20. Arkansas River Sand Dunes	52 mi.

TABLE 9 Cont'd.

PRELIMINARY TRAILS	ROUND TRIP LENGTH
21. Cimarron National Grasslands Tour	60 mi.
22. Topeka-Pomona-Ottawa-Baldwin	123 mi.
23. Lonestar-Lake Tour	40 mi.
24. Chautauqua Hills Tour	104 mi.
25. Elk City Reservoir Tour	30 mi.
26. Smoky Hill Trail	44 mi.
27. Cherokee Lowlands Tour	33 mi.
28. Pittsburg Strip Pitts Tour	40 mi.
29. Fort Scott-Crawford State Park	58 mi.
30. Independence-Coffeyville	40 mi.
31. Fort Scott-Osawatomie	120 mi.
32. Mushroom Rock Country	69 mi.
33. Rock City Tour	60 mi.
34. Fort Hays Tour	30 mi.
35. Wild West Tour	112 mi.

### Safety Evaluation

All of the routes listed in Table 9 were run through a safety evaluation to determine their degree of suitability for class III rural bike routes. The first step in the safety evaluation was the preparation of Safety Evaluation maps at a scale of one quarter inch equaling one mile. See Figure 15 - Figure 46. All available data on traffic counts, percentage of heavy commercial traffic and road widths, etc. was recorded on these maps. This data was checked against the safety criteria adopted in Chapter III.

The next step was a numerical evaluation of the routes according to the criteria presented in the German Warrants (Table 1). The results of this evaluation are presented in Table 10.

For the purposes of this evaluation, much of the data had to be approximated. For instance, stopping sight distances are not available for many of the roads in Kansas. Stopping sight distances also vary at different locations along the route, according to the terrain and geometry of the road. Most of the roads in Kansas which were designed, as opposed to merely being upgraded from beginnings as wagon trails and dirt paths, were designed for seventy mile per hour travel with a value of 600 feet as the minimum stopping sight distance required. This was the value used for

stopping sight distance on most of the routes. For hilly routes, or routes on winding roads, a value of 500 feet was used as an approximate stopping sight distance.

Routes, which had wide variations in traffic counts between different sections of the route, were evaluated in sections according to their traffic counts. Sections are shown on the safety evaluation maps. (Figure 15 - Figure 46)

The routes eliminated by the safety evaluation include Numbers 10, 12, 22, 29 and 30 as shown on Figure 14 and Table 9. These were eliminated because higher traffic volumes and/or inadequate stopping sight distances caused them to rate poorly in the safety evaluation. (Table 10)



TABLE 10

## SAFETY EVALUATION

-TN-	Trail Name	Fig. MPH	MVV	BV	TLW	SSD	TV%	Rating
1.	Chalk Bluffs Tour	15	30-55 >1500	<100	≥11	≥600	>10	1.65
2.	Wilson Reservoir Tour	16	30-55 <1500	<100	≥11	≤500	>10	1.21
3.	Larned-Pawnee Rock	17	30-55 <1500	<100	≥11	≥600	>10	1.1
4.	Larned-Fort Larned	17	30-55 >2000	<100	≥11	≥600	>10	2.2
5.	Grouse Creek Area	18	30-55 <1500	<100	≥11	≥600	>10	1.1
5A	2 mi. stretch east of Ark. City	18	30-55 >3000	<100	≥11	≥600	>10	3.3
6.	Grouse Creek Area, Alt. A	18	30-55 >1500	<100	≥11	≥600	>10	1.65
7.	Red Hills Tour	19	30-55 <1500	<100	≥11	≥600	>10	1.0
8.	Red Hills Tour, Alt. A	19	30-55 <1500	<100	≥11	≥600	>10	1.0
9.	Lindsborg Tour	20	30-55 >1500	<100	≥11	≥600	>10	1.65

TN = Trail Number

Fig. = Figure No. of Safety Check Map

MPH = Speed Limit

MVV = Motor Vehicle Volume

&lt;2 = Shared Roadway

BV = Bicycle Volume

TLW = Traffic Lane Width

SSD = Stopping Sight Distance

TV% = Truck Volume (% of MVV)

≥7 = Separate Bike Path (see Table 1)

TABLE 10 Cont'd.

## SAFETY EVALUATION

-TN-	Trail Name	Fig.	MPH	MVV	BV	TLW	SSD	TV%	Rating
10.	Manhattan-Fort Riley	21	30-55	>2000	<100	≥11	≥600	>10	2.2
10A		21	30-55	≥3500	<100	≥11	≥600	>10	3.85
11.	Heart of the Flint Hills	22	30-55	<1500	<100	≥11	≥600	<10	.9
11A	1 mi. section between Cottonwood Falls and Strong City	22	30-55	>2500	<100	≥11	≥600	<10	2.5
12.	Bartlett Arboretum Tour	23	30-55	>1500	<100	≥11	≥600	>10	1.65
12A		23	30-55	>3000	<100	≥11	≥600	>10	3.2
13.	Limestone, Oak and Bluestem	24	30-55	<1500	<100	≥11	≥500	>10	1.21
13A		24	30-55	>2000	<100	≥11	≥500	>10	2.42
14.	McDowell Creek Road	25	30-55	<1500	<100	≥11	≥400	>10	1.1
14A	US 177, Paved shoulder	25	30-55	>3000	<100	≥11	≥500	>10	3.63
15.	Milford Reservoir Tour	26	30-55	<1500	<100	≥11	≥600	>10	1.1
15A		26	30-55	>2500	<100	≥11	≥600	>10	2.75
15B		26	30-55	>1500	<100	≥11	≥600	>10	1.65

TABLE 10 Cont'd.

## SAFETY EVALUATION

-TN-	Trail Name	Fig.	MPH	MVV	BV	TLW	SSD	TV%	Rating
16.	Blue River Valley Tour	27	30-55	<1500	<100	≥11	≥600	>10	1.1
16A	1.5 mile section	27	30-55	>1500	<100	≥11	≥600	>10	1.65
17.	Pony Express Tour	28	30-55	<1500	<100	≥11	≥600	>10	1.1
17A		28	30-55	>3000	<100	≥11	≥600	>10	3.3
17B		28	30-55	>2000	<100	≥11	≥600	>10	2.2
18.	Perry Reservoir Tour	29	30-55	<1500	<100	≥11	≥600	>10	1.1
18A		29	30-55	>2500	<100	≥11	≥600	>10	2.75
19.	Missouri Bluffs Tour	30	30-55	>1500	<100	≥11	≥500	>10	1.82
19A	1 mile southwest of Atchison	30	30-55	>3500	<100	≥11	≥600	>10	3.85
20.	Arkansas River Sand Dunes	31	30-55	>1500	<100	≥11	≥600	>10	1.65
21.	Cimarron National Grasslands	32	30-55	<1500	<100	≥11	≥600	>10	1.1
22.	Topeka-Pomona Reservoir	33	30-55	>1500	<100	≥11	≥600	>10	1.65
22A	Near Ottawa	33	30-55	>2500	<100	≥11	≥600	>10	2.75



TABLE 10 Cont'd.

## SAFETY EVALUATION

-TN-	Trail Name	Fig.	MPH	MVV	BV	TLW	SSD	TV%	Rating
23.	Lonestar Lake Tour	34	30-55	<1500	<100	≥11	≥500	<10	1.1
23A	U.S.56	34	30-55	>1500	<100	≥11	≥500	<10	1.65
24.	Chautauqua Hills	35	30-55	<1500	<100	≥11	≥600	>10	1.21
24A		35	30-55	>2500	<100	≥11	≥600	>10	2.75
24B		35	30-55	>2000	<100	≥11	≥600	>10	2.2
24C		35	30-55	>1500	<100	≥11	≥600	>10	1.65
25.	Elk City Reservoir	36	30-55	<1500	<100	≥11	≥600	>10	1.21
25A		36	30-55	>2500	<100	≥11	≥600	>10	2.75
26.	Smoky Hill Trail	37	30-55	<1500	<100	≥11	≥600	>10	1.1
26A		37	30-55	>2000	<100	≥11	≥600	>10	2.2
27.	Cherokee Lowlands Tour	38	30-55	>1500	<100	≥11	≥600	>10	1.65
27A		38	30-55	>2000	<100	≥11	≥600	>10	2.2
28.	Pittsburg Strip Pit Area	39	30-55	<1500	<100	≥11	≥600	>10	1.1
28A		39	30-55	>2000	<100	≥11	≥600	>10	2.2

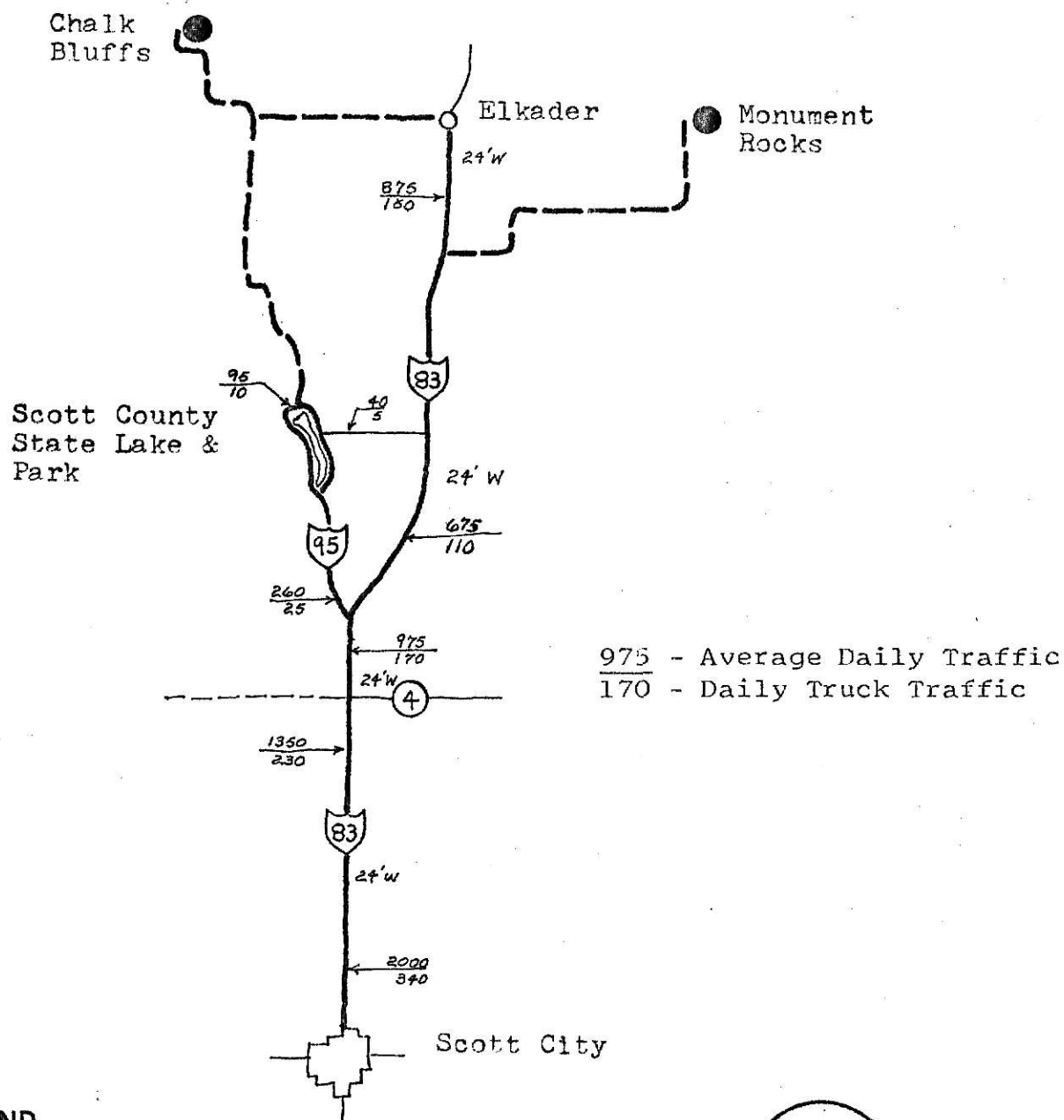
TABLE 10 Cont'd.

## SAFETY EVALUATION

-TN-	Trail Name	Fig.	MPH	MVV	BV	TLW	SSD	TV%	Rating
29.	Fort Scott-Crawford State Park	40	30-55	<1500	<100	≥11	≥600	>10	1.1
29A		40	30-55	>3500	100	≥11	≥600	>10	3.85
30.	Independence-Coffeyville	41	30-55	>1500	100	≥11	≥600	>10	1.65
30A		41	30-55	>3500	100	≥11	≥600	>10	3.85
31.	Fort Scott-Osawatomie	42	30-55	<1500	100	≥11	≥600	<10	1.0
31A	2 mile section on U.S. 169	42	30-55	>3000	100	≥11	≥600	<10	2.7
32.	Mushroom Rock Tour	43	30-55	<1500	100	≥11	≥600	>10	1.1
33.	Rock City Tour	44	30-55	<1500	100	≥11	≥600	>10	1.1
33A	2 mile section north of Salina	44	30-55	>2000	100	≥11	≥600	>10	2.2
34.	Fort Hays Tour	45	30-55	<2000	100	≥11	≥600	>10	2.2
34A	1 mile section east of Hays	45	30-55	>3500	100	≥11	≥600	>10	3.85
35.	Wild West Tour	46	30-55	>1500	100	≥11	>400	>10	1.98

Figure 15

Trail No. 1

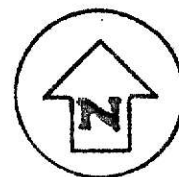
**LEGEND**

paved road —————

unpaved road - - - - -

road on the route —————

road not on the route ————



SCALE 1/4" = 1mi.

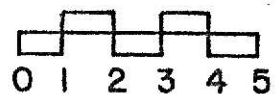
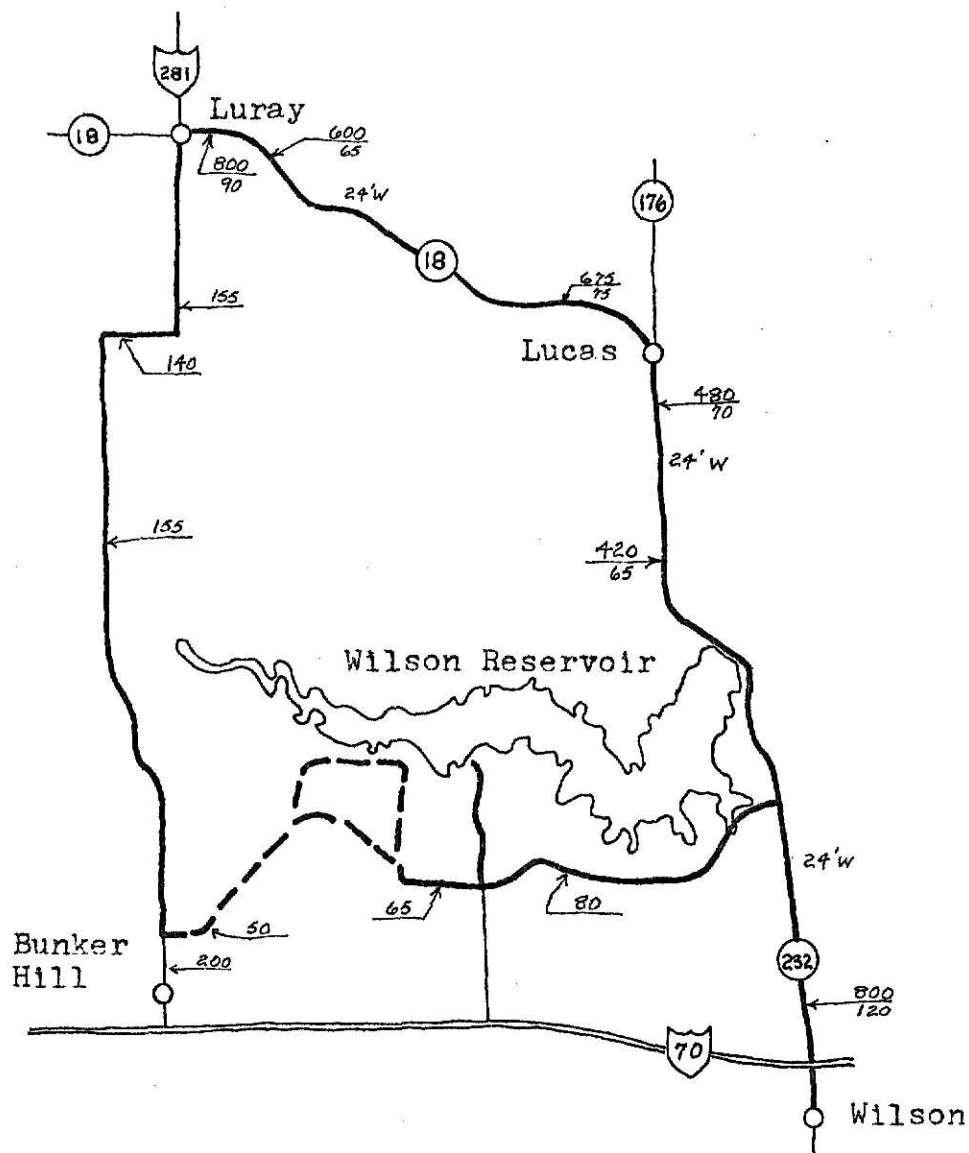


Figure 16

Trail No. 2



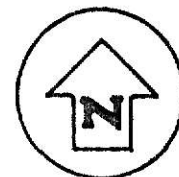
## LEGEND

paved road —————

unpaved road - - - - -

road on the route —————

road not on the route ————



SCALE 1/4" = 1mi.

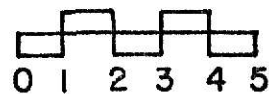
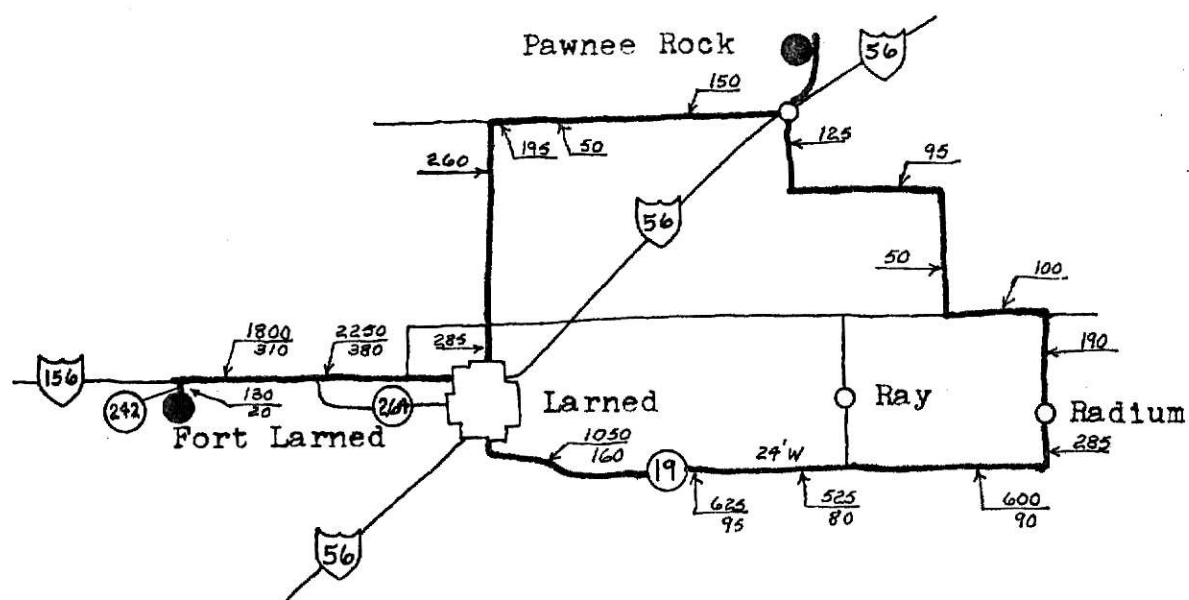


Figure 17

Trail No. 3  
and No. 4



## LEGEND

paved road ———

unpaved road - - - - -

road on the route ———

road not on the route ———



SCALE 1/4" = 1mi.

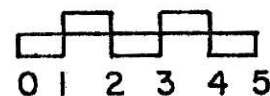
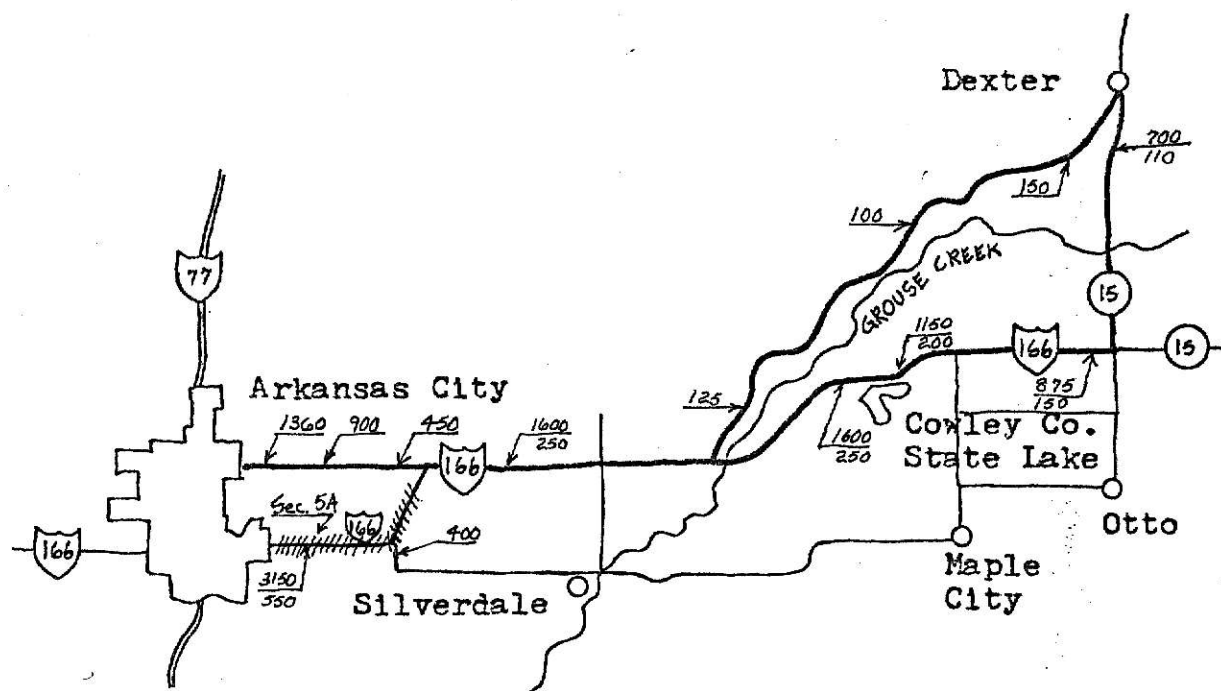


Figure 18

Trail No. 5  
and No. 6



# 5 Return via Maple City; # 6 Return via Cowley Co. State Lake

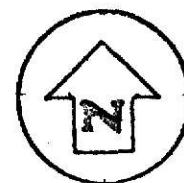
### LEGEND

paved road —————

unpaved road - - - - -

road on the route ————

road not on the route ————



SCALE 1/4" = 1mi.

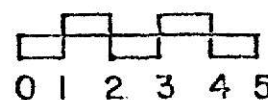
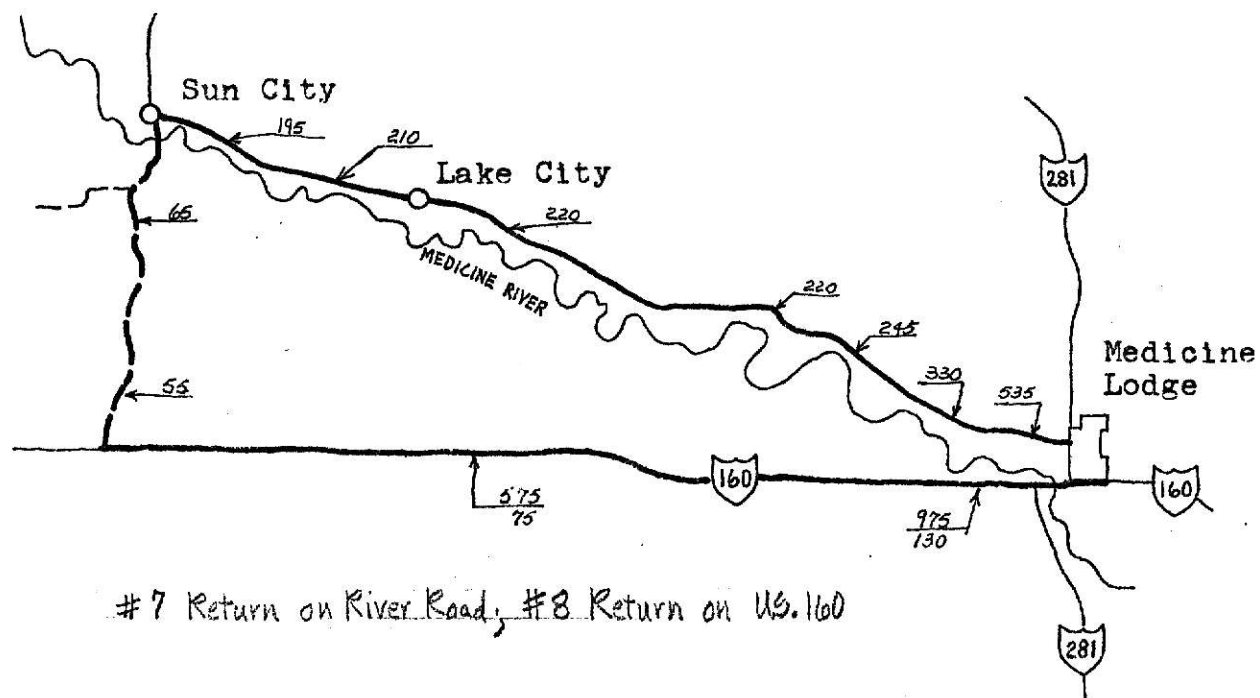


Figure 19

Trail No. 7  
and No. 8



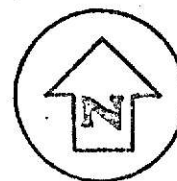
### LEGEND

paved road —————

unpaved road - - - - -

road on the route —————

road not on the route —————



SCALE 1/4" = 1mi.

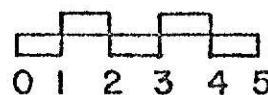
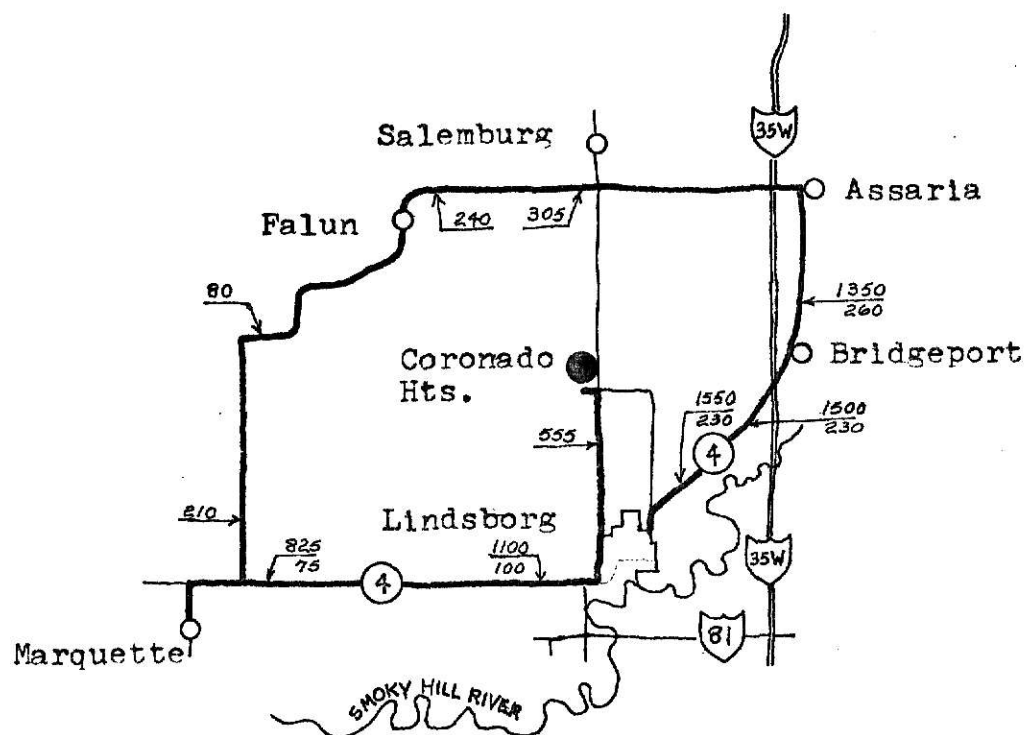


Figure 20

Trail No. 9



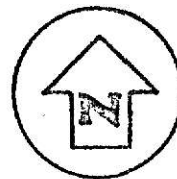
## LEGEND

paved road —————

unpaved road - - - - -

road on the route —————

road not on the route —————



SCALE 1/4" = 1mi.

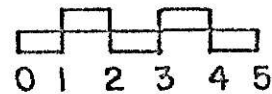
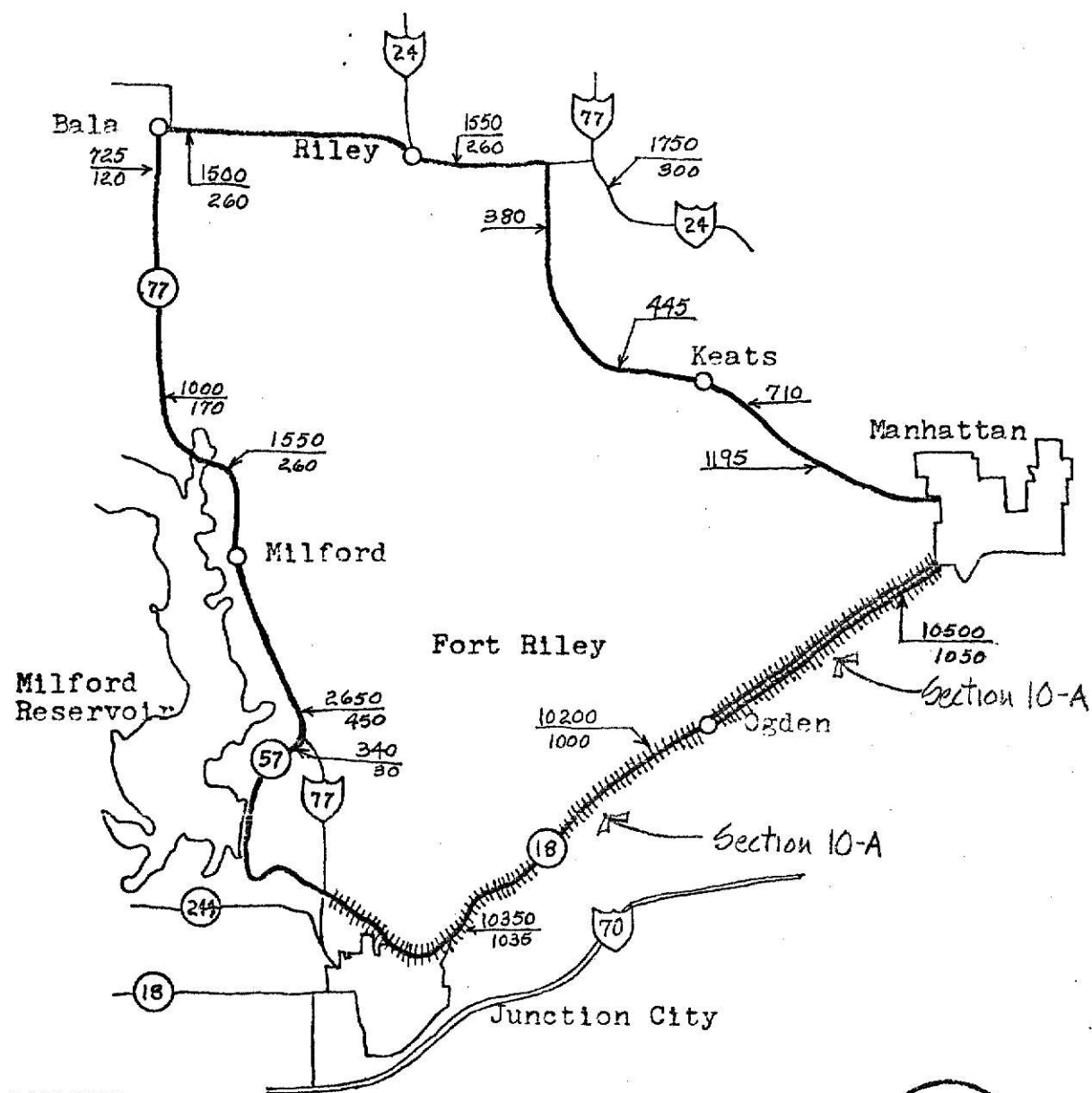


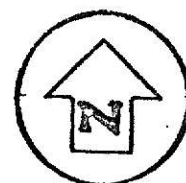


Figure 21  
Trail No. 10



# LEGEND

- paved road ———
- unpaved road - - - - -
- road on the route ———
- road not on the route ———



SCALE 1/4" = 1mi.

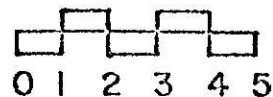
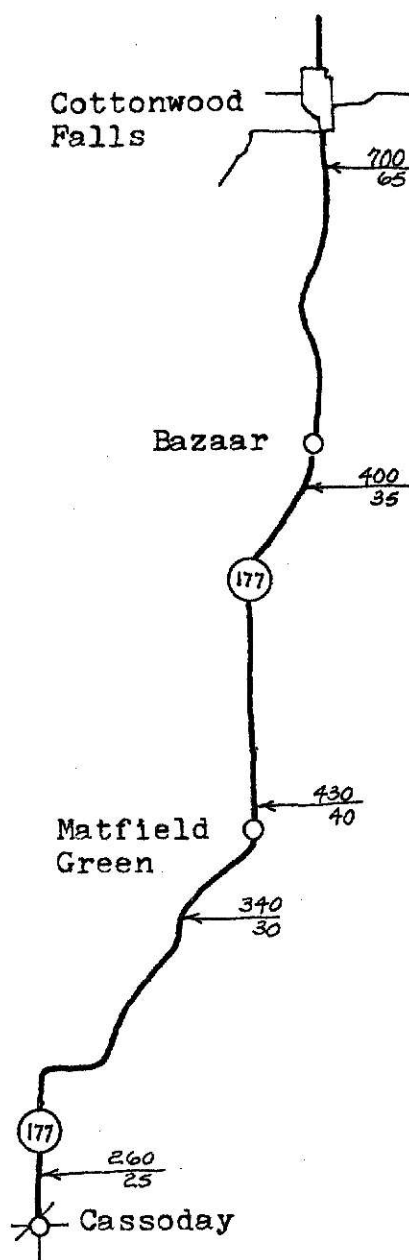
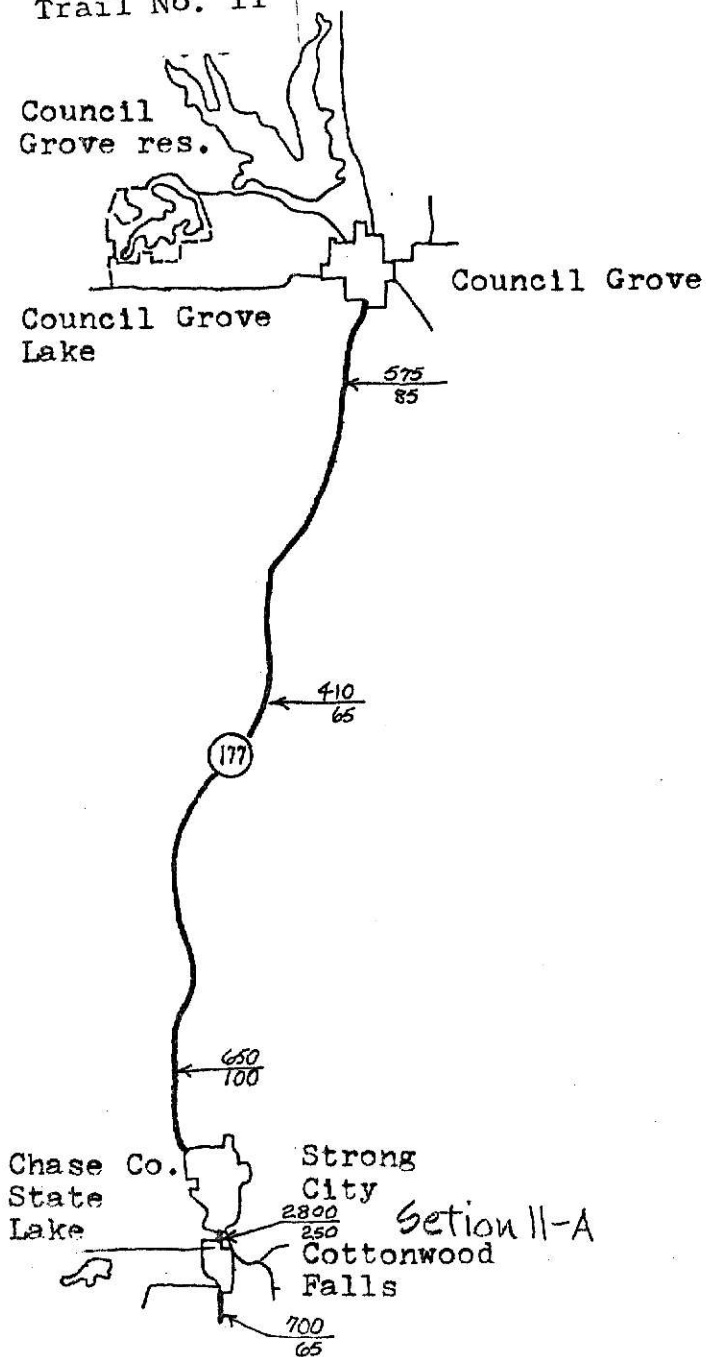


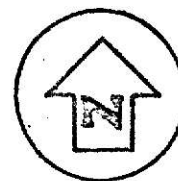
Figure 22

Trail No. 11



LEGEND

- paved road —————
- unpaved road - - - - -
- road on the route ————
- road not on the route ————



SCALE 1/4" = 1mi.

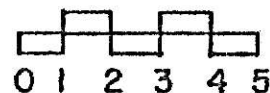


Figure 23

Trail No. 12

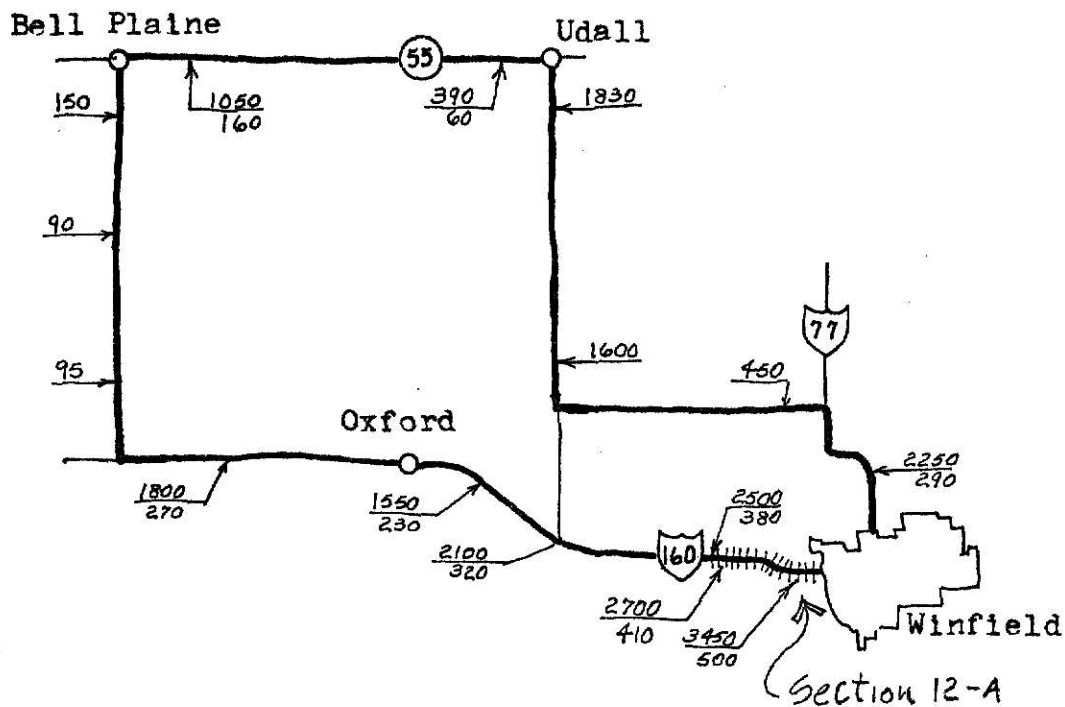
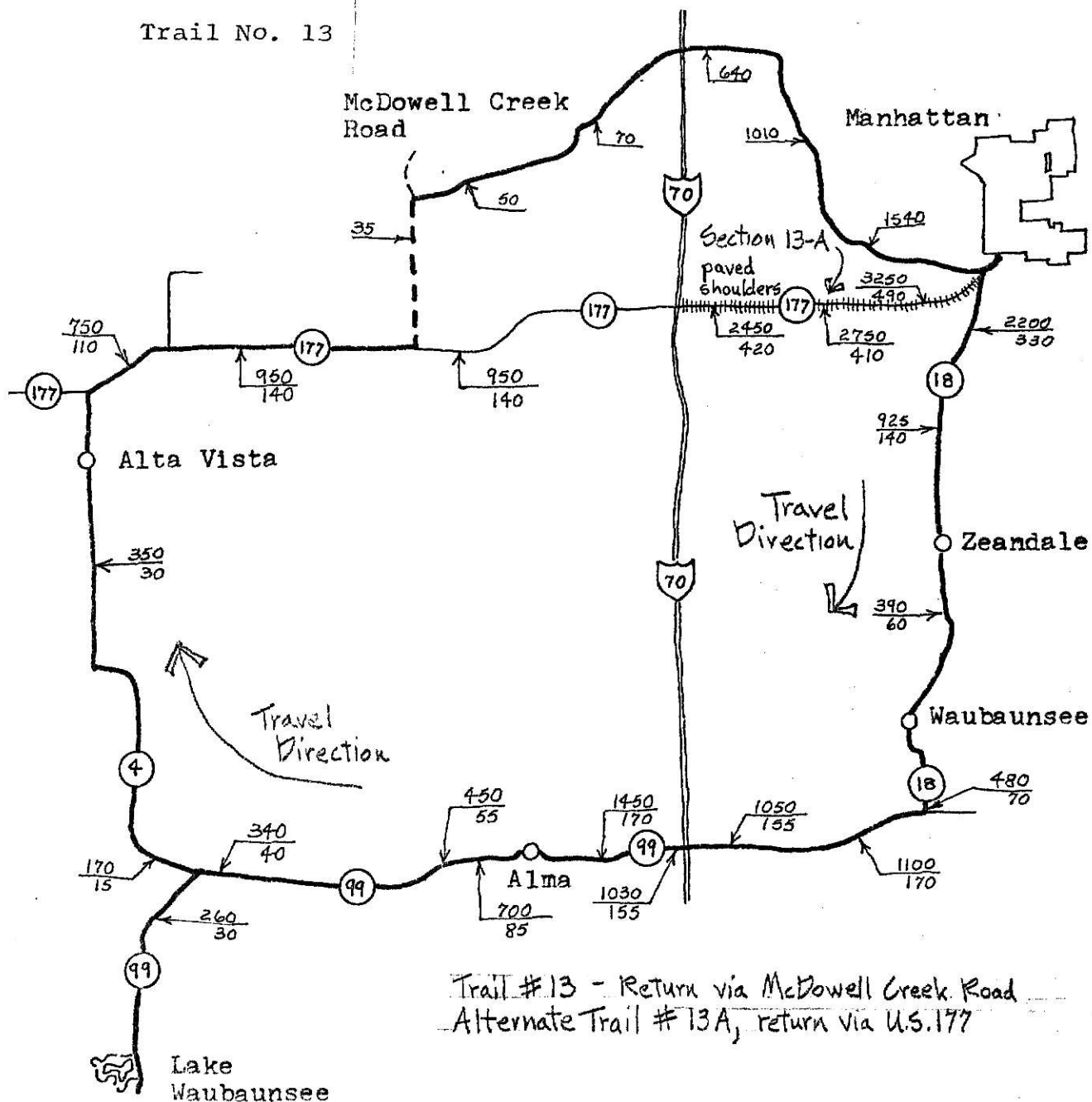


Figure 24

Trail No. 13



Trail #13 - Return via McDowell Creek Road  
 Alternate Trail #13A, return via U.S. 177

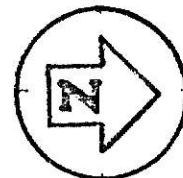
## LEGEND

paved road —————

unpaved road - - - - -

road on the route —————

road not on the route ————



SCALE 1/4" = 1 mi.

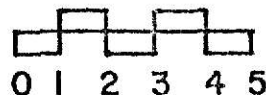
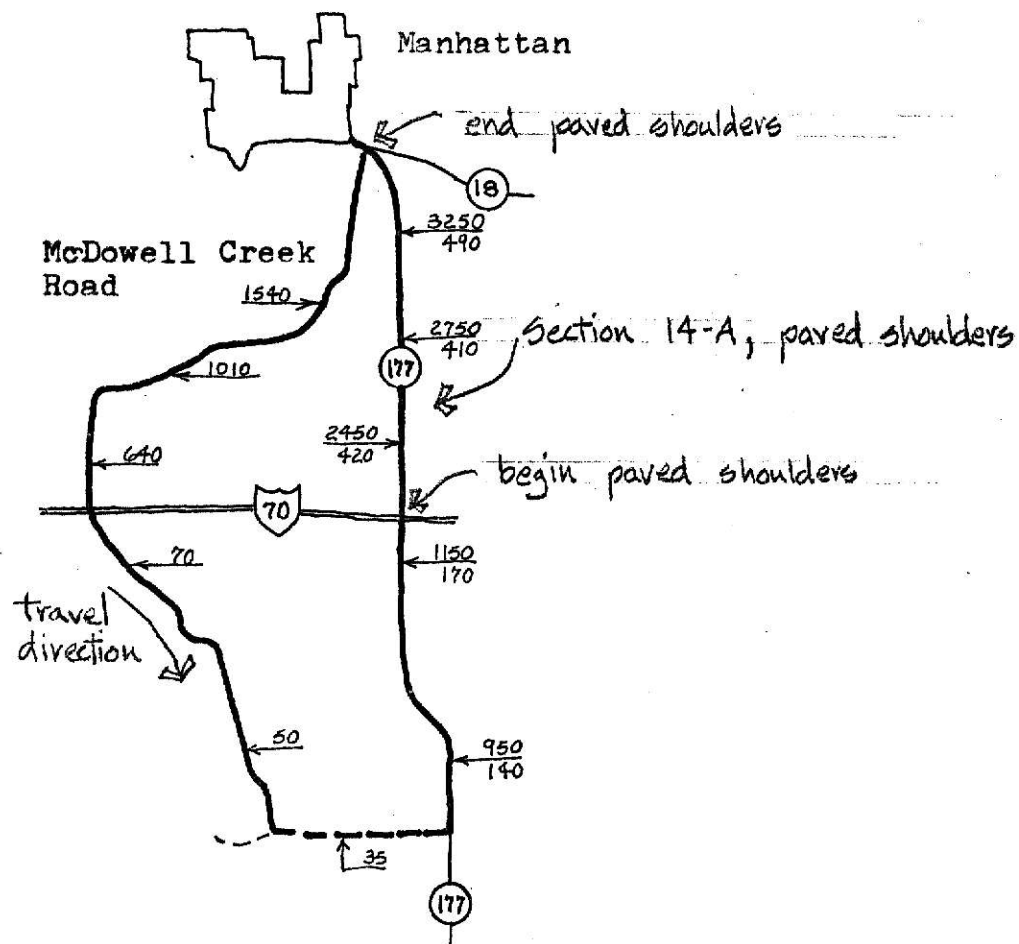
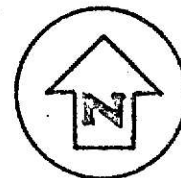


Figure 25

Trail No. 14

**LEGEND**

- paved road —————
- unpaved road - - - - -
- road on the route —————
- road not on the route —————



SCALE 1/4" = 1mi.

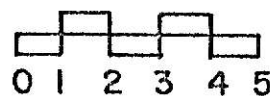
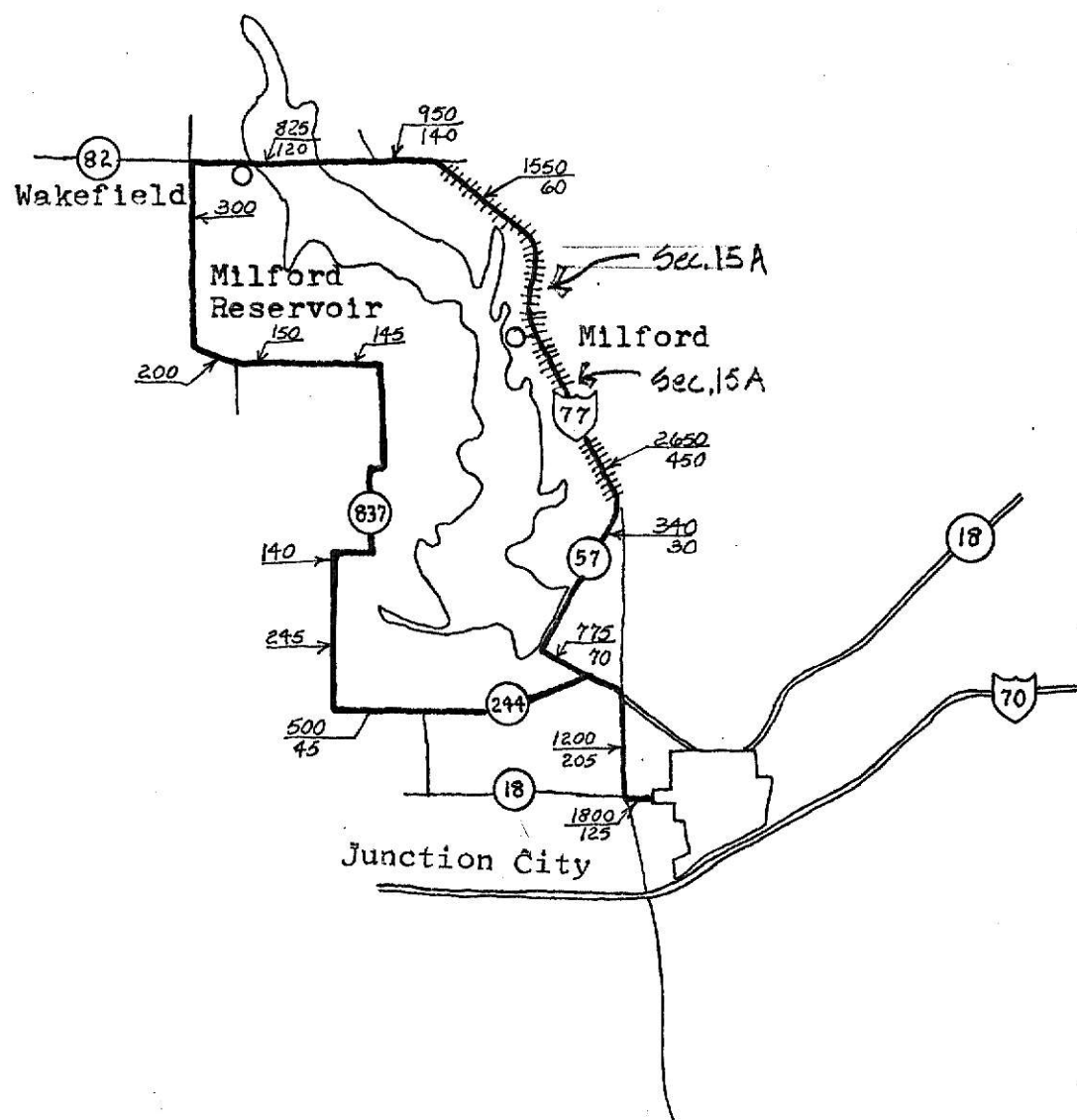


Figure 26

Trail No. 15



## LEGEND

- paved road ———
- unpaved road - - - - -
- road on the route ———
- road not on the route ———



SCALE 1/4" = 1mi.

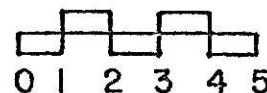
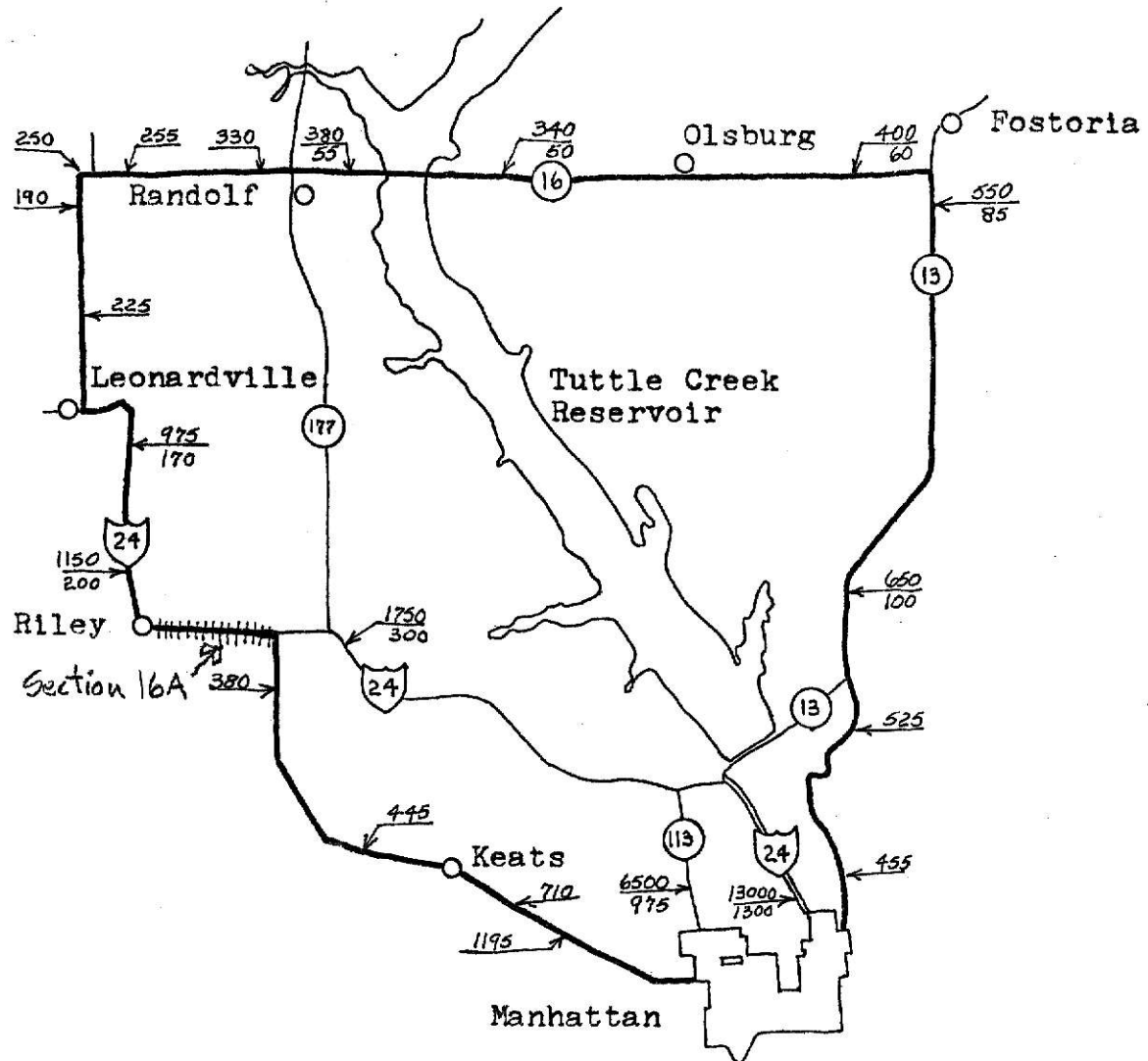


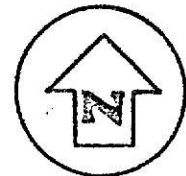
Figure 27

Trail No. 16



## LEGEND

- paved road ———
- unpaved road - - - - -
- road on the route ———
- road not on the route ———



SCALE 1/4" = 1mi.

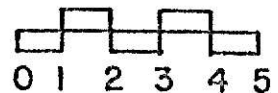


Figure 28

Trail No. 17

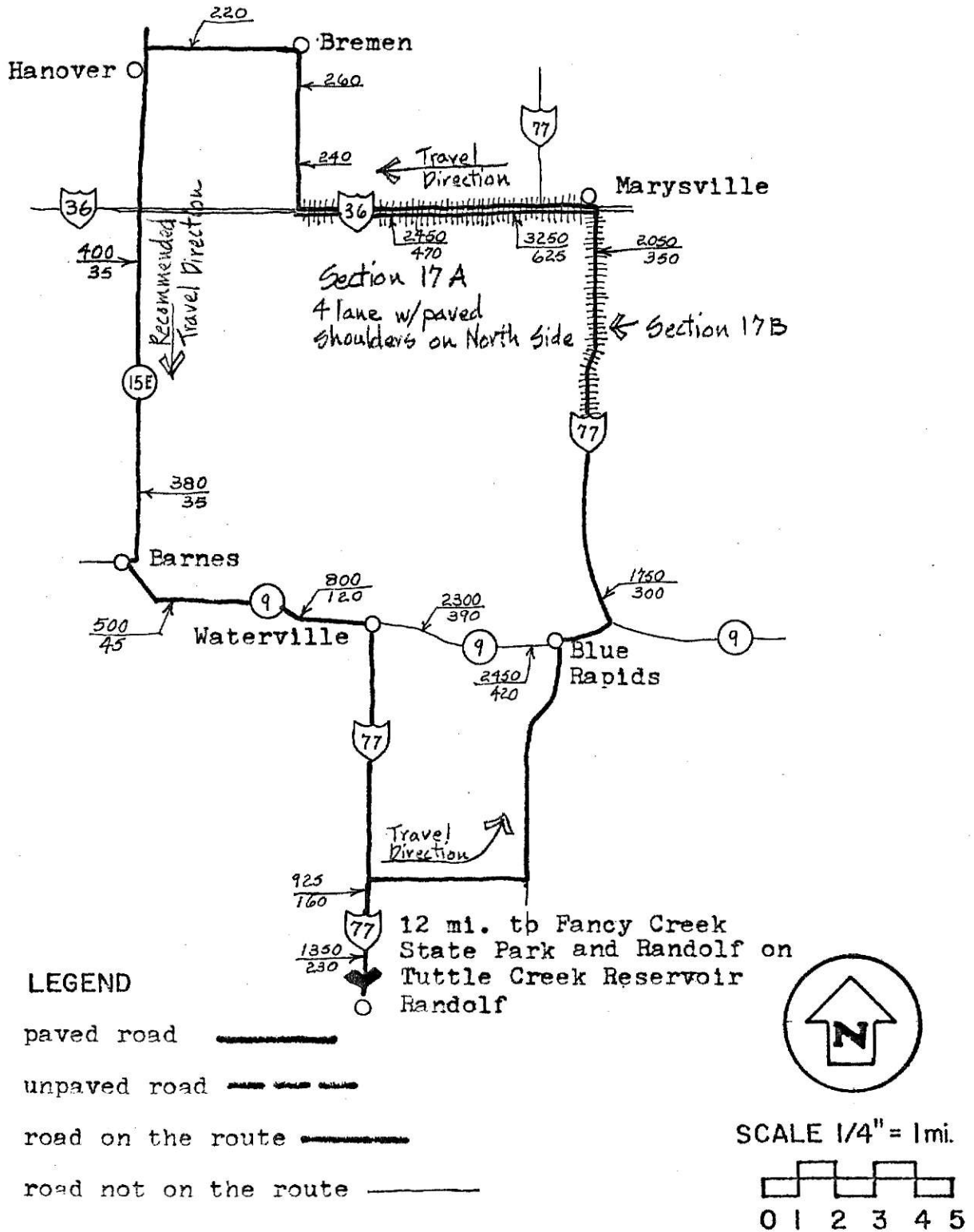
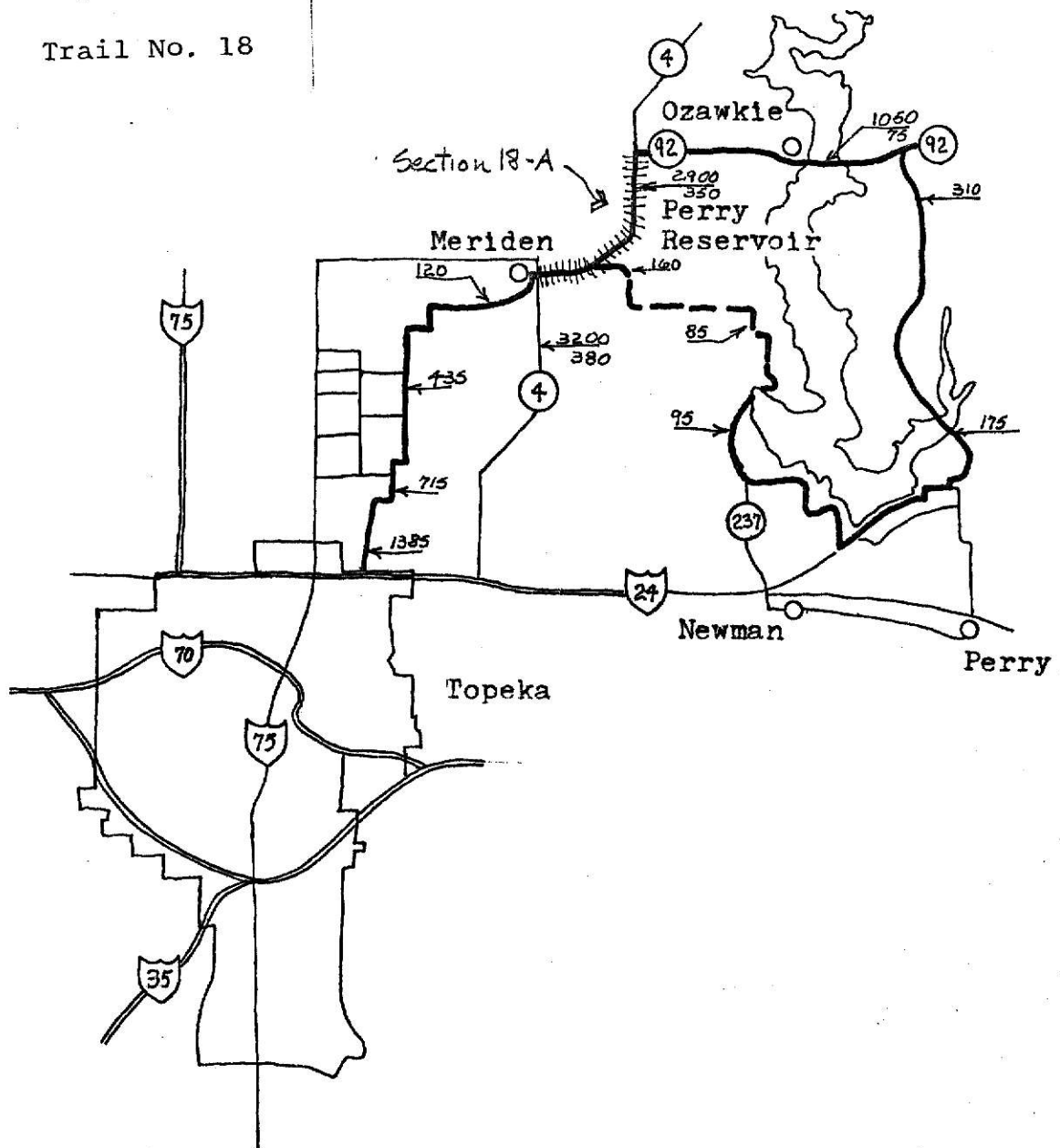








Figure 29

Trail No. 18

**LEGEND**paved road unpaved road road on the route road not on the route 

SCALE 1/4" = 1mi.

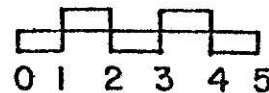
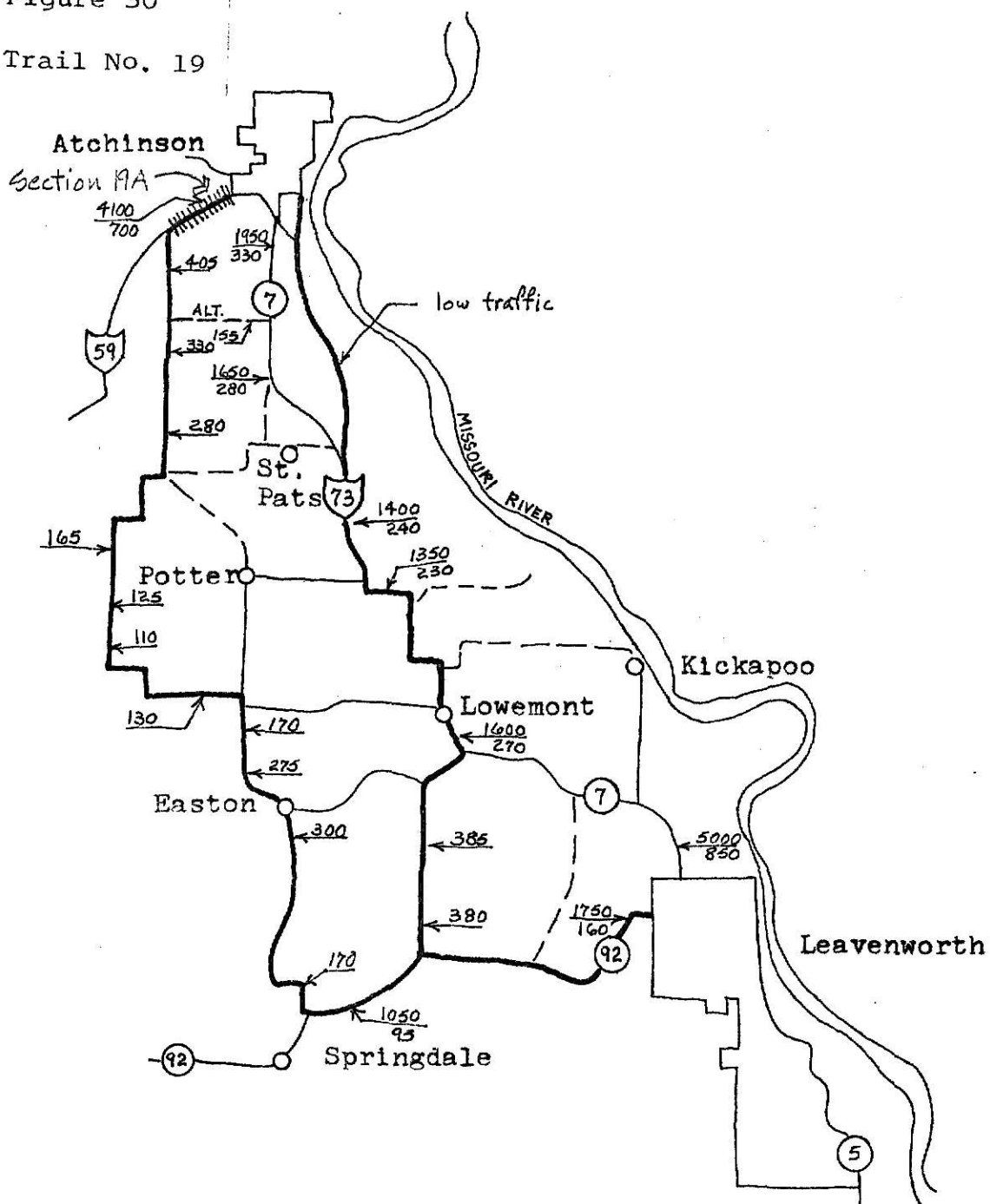


Figure 30

Trail No. 19



## LEGEND

- paved road —————
- unpaved road - - - - -
- road on the route ————
- road not on the route ————

SCALE 1/4" = 1mi.

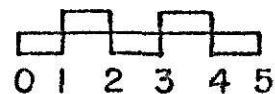
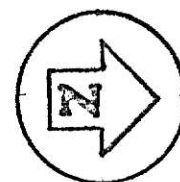
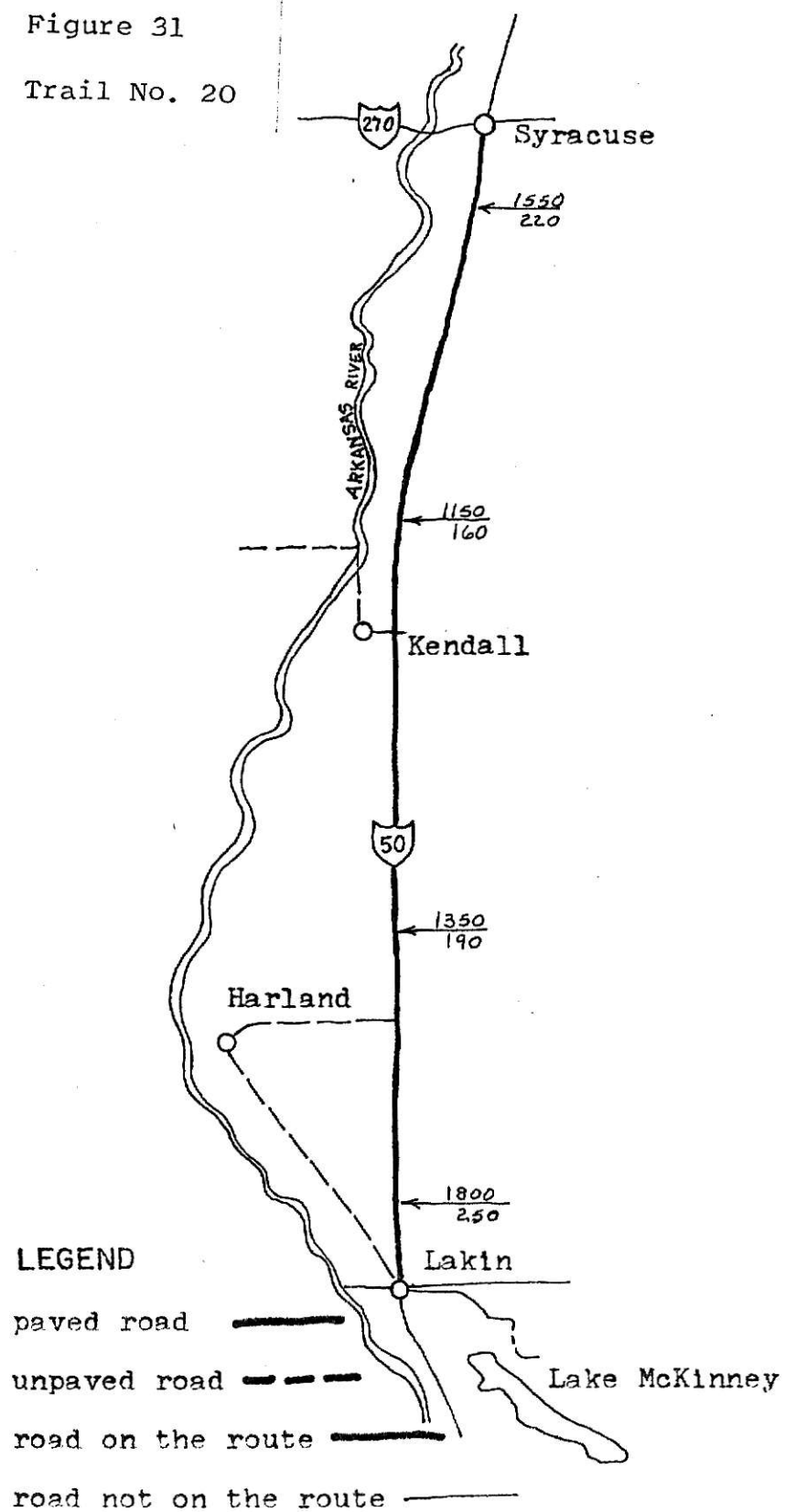


Figure 31

Trail No. 20



SCALE 1/4" = 1 mi.

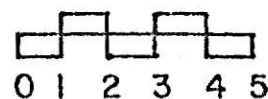
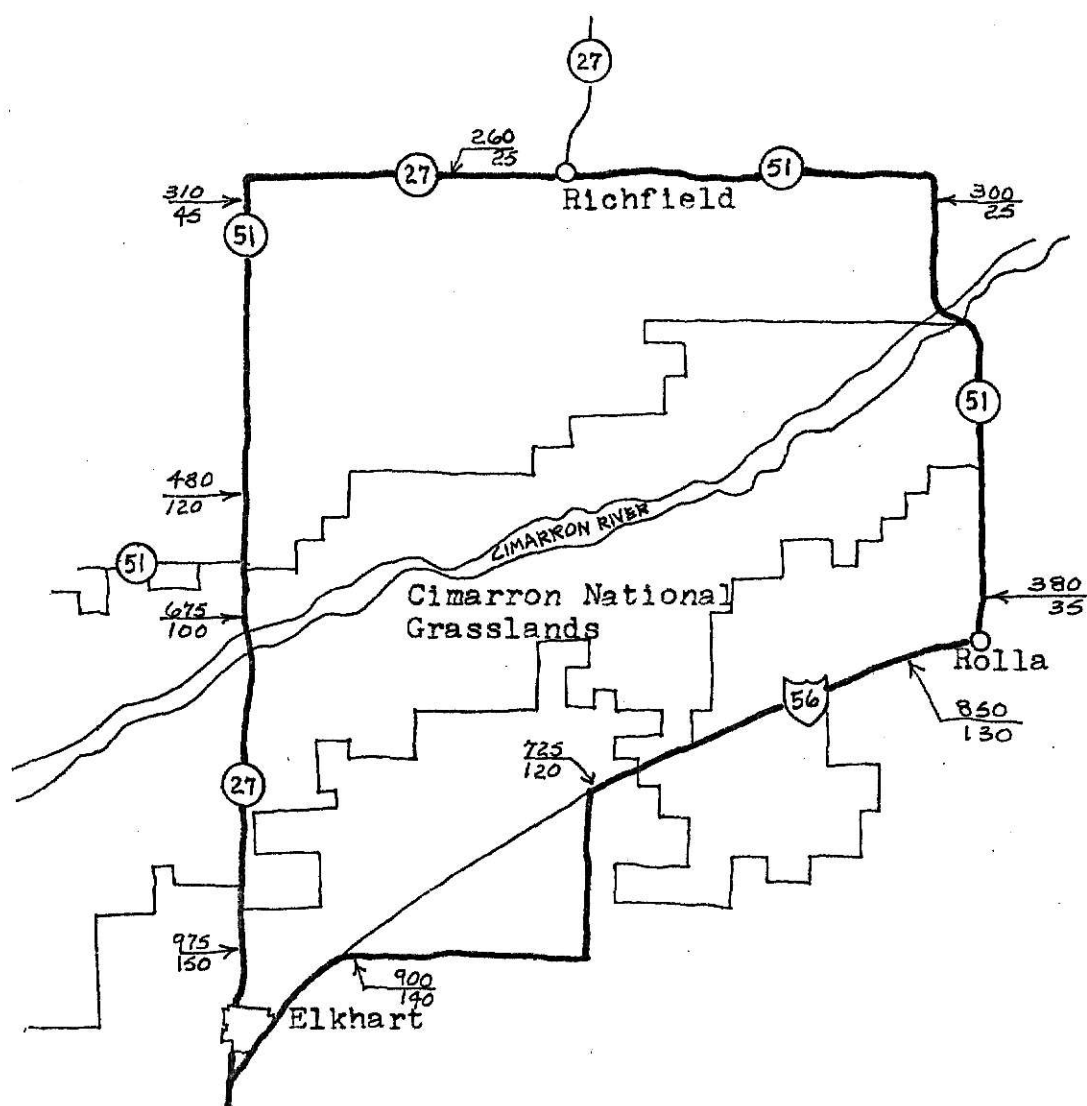


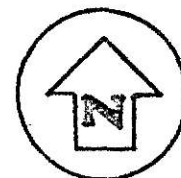
Figure 32

Trail No. 21



## LEGEND

- paved road —————
- unpaved road - - - - -
- road on the route —————
- road not on the route ————



SCALE 1/4" = 1mi.

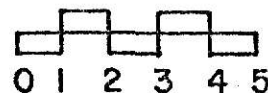


Figure 33

Trail No. 22

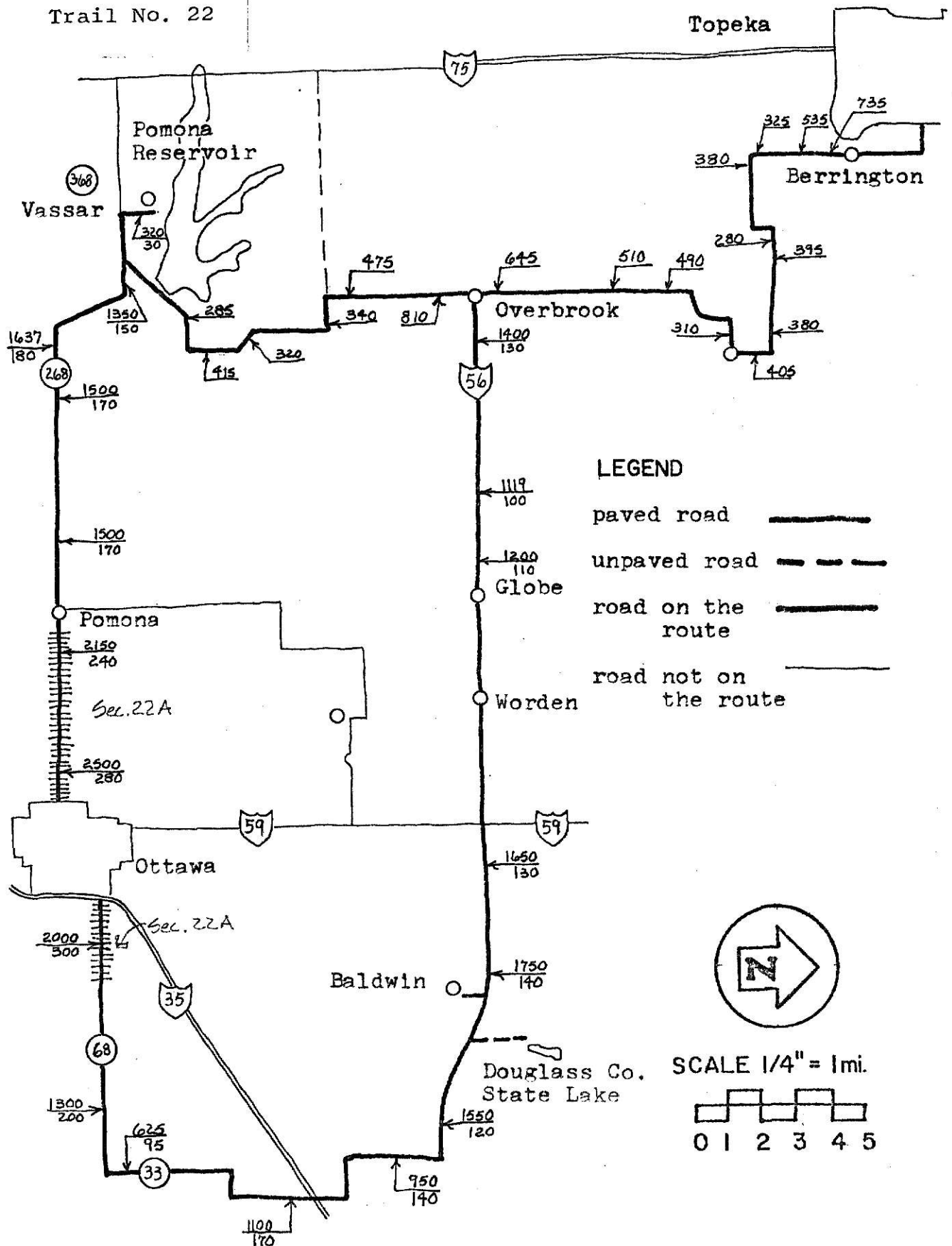
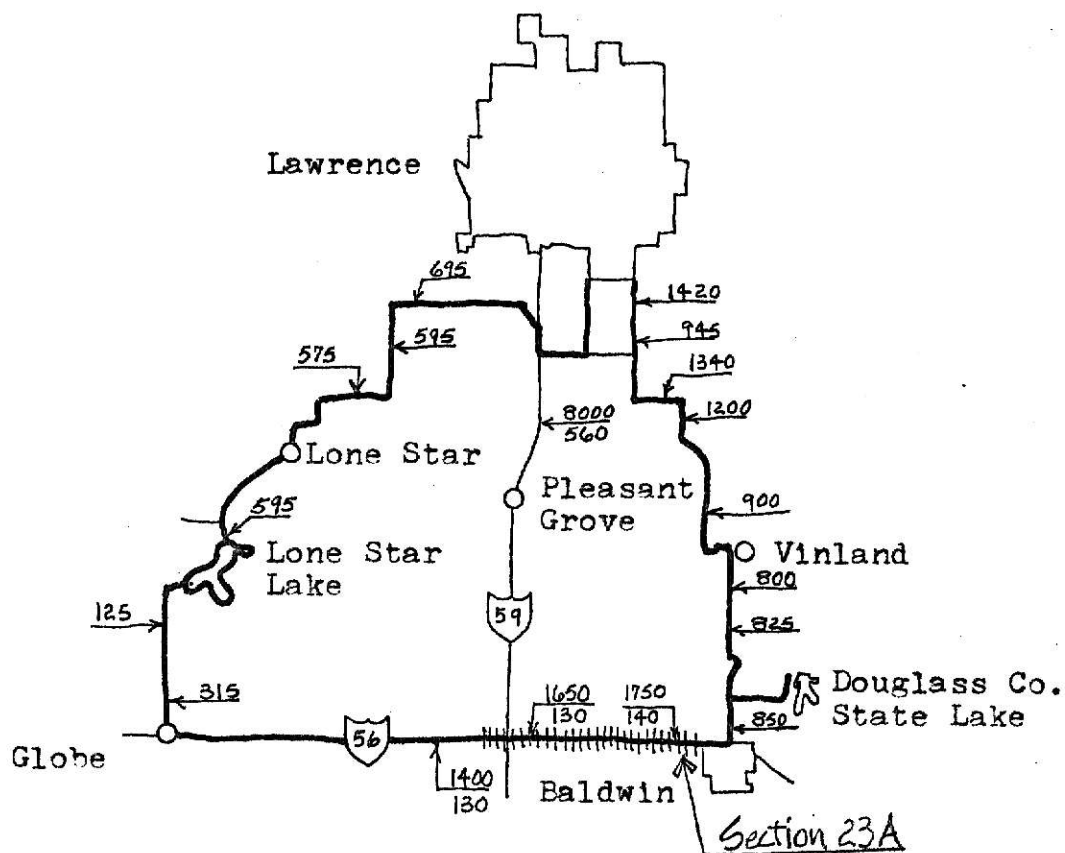


Figure 34

Trail No. 23



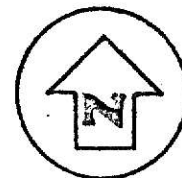
## LEGEND

paved road —————

unpaved road - - - - -

road on the route ————

road not on the route ————



SCALE 1/4" = 1mi.

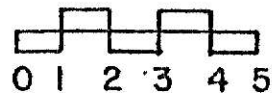


Figure 35

Trail No. 24

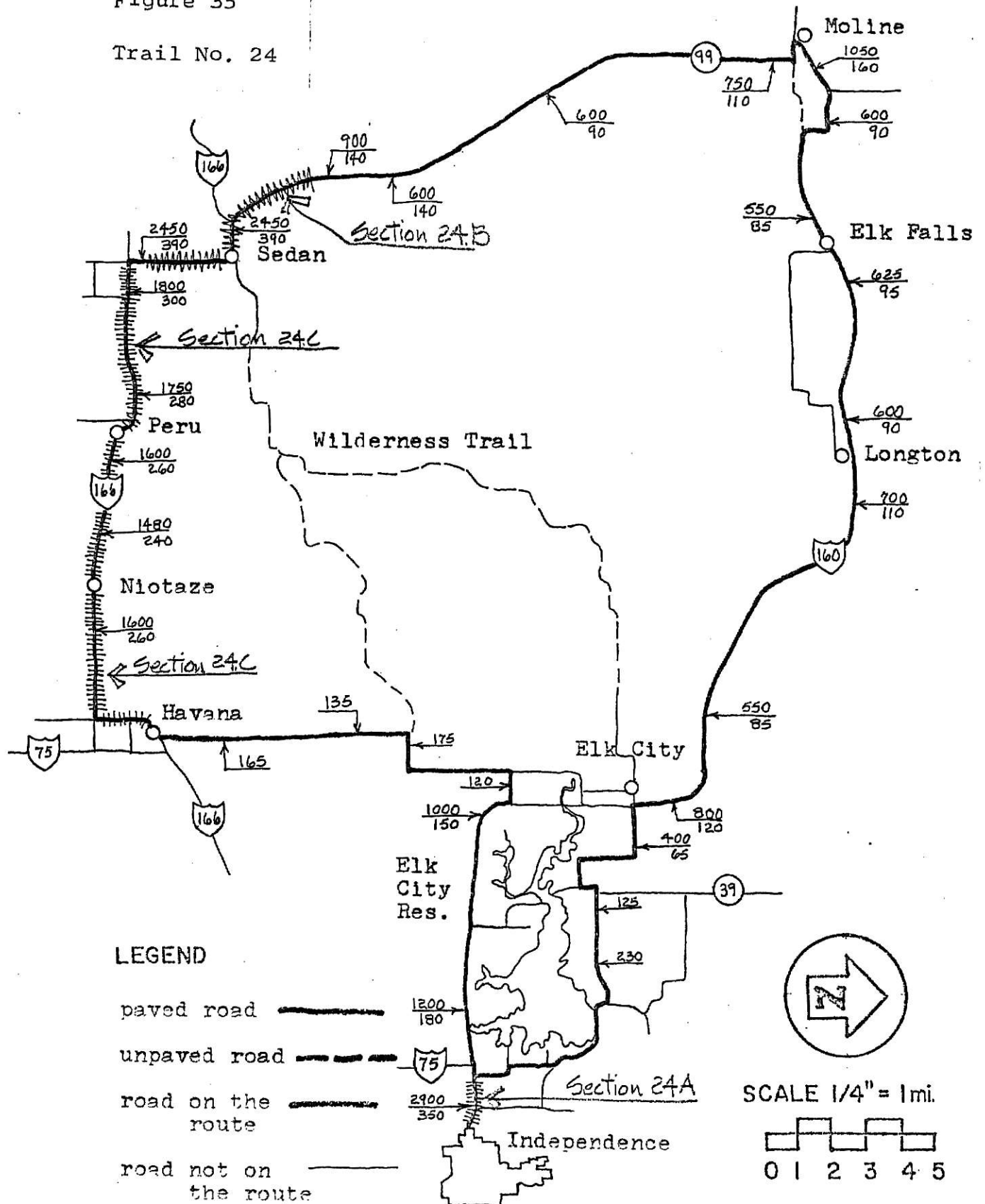
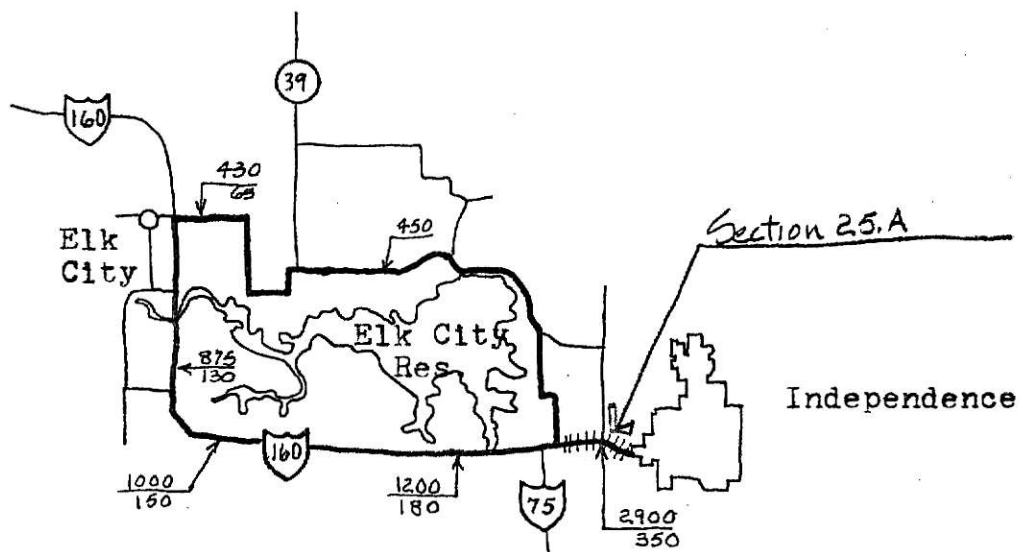






Figure 36

Trail No. 25



## LEGEND

- paved road 
- unpaved road 
- road on the route 
- road not on the route 



SCALE 1/4" = 1mi.

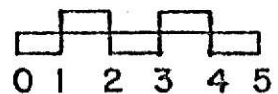
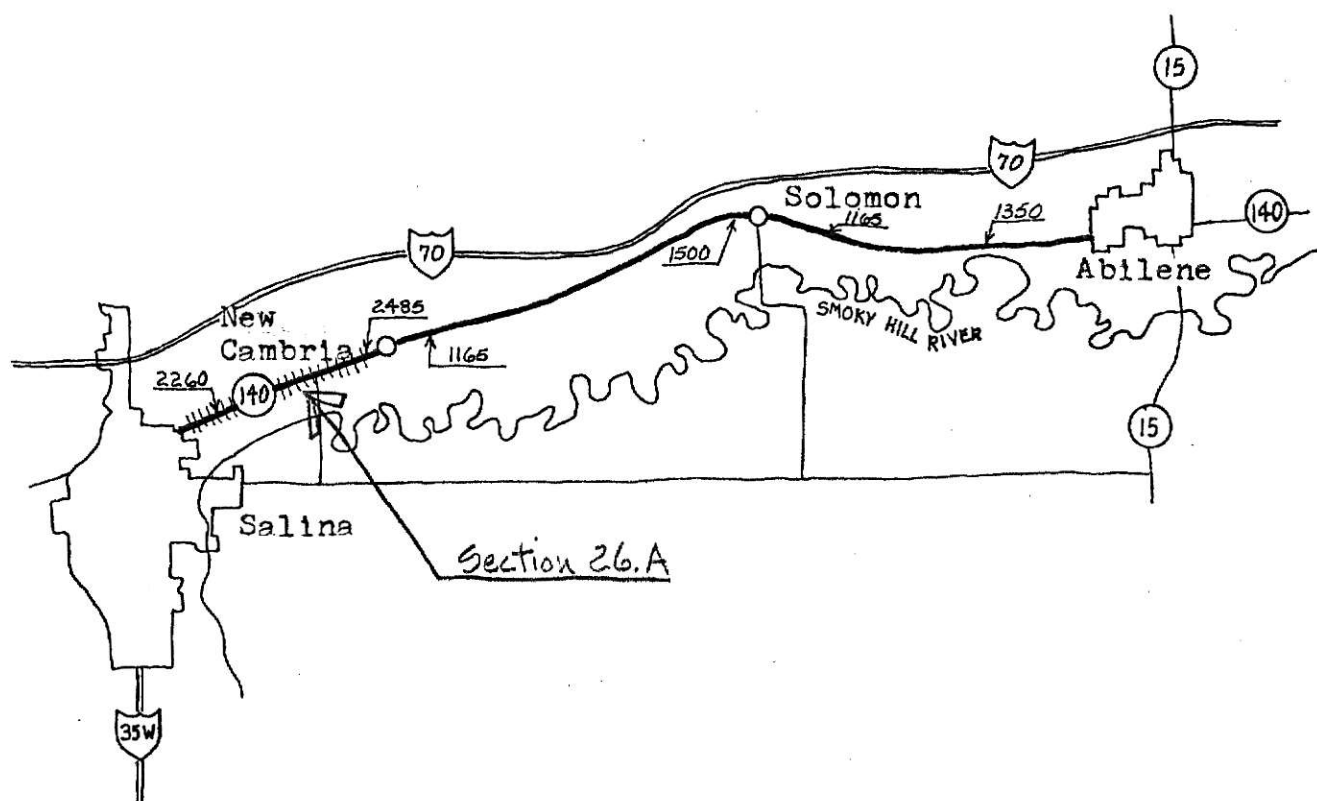




Figure 37

Trail No. 26



## LEGEND

- paved road —————
- unpaved road - - - - -
- road on the route —————
- road not on the route ————



SCALE 1/4" = 1mi.

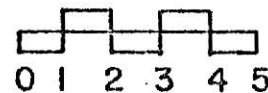
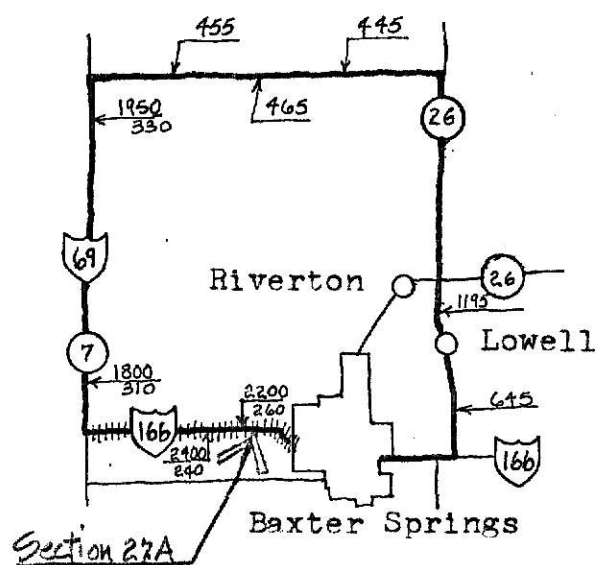


Figure 38

Trail No. 27



## LEGEND

- paved road —————
- unpaved road - - - - -
- road on the route —————
- road not on the route —————



SCALE 1/4" = 1mi.

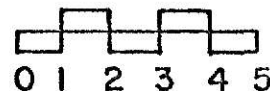
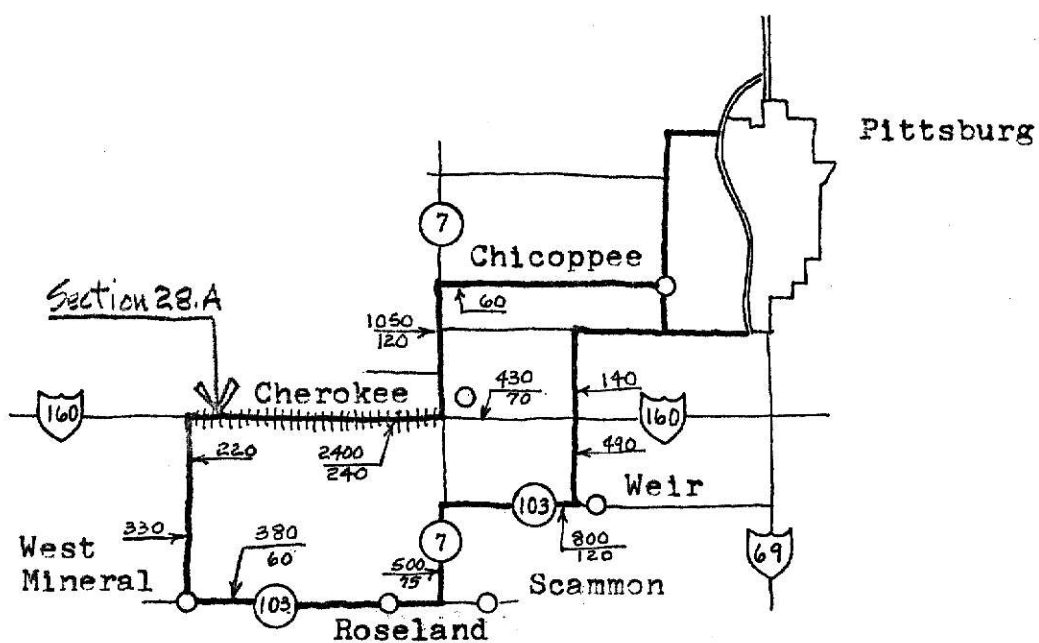


Figure 39

Trail No. 28



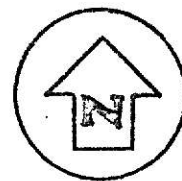
## LEGEND

paved road —————

unpaved road - - - - -

road on the route ————

road not on the route ————



SCALE 1/4" = 1mi.

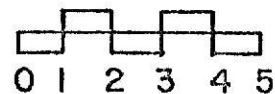
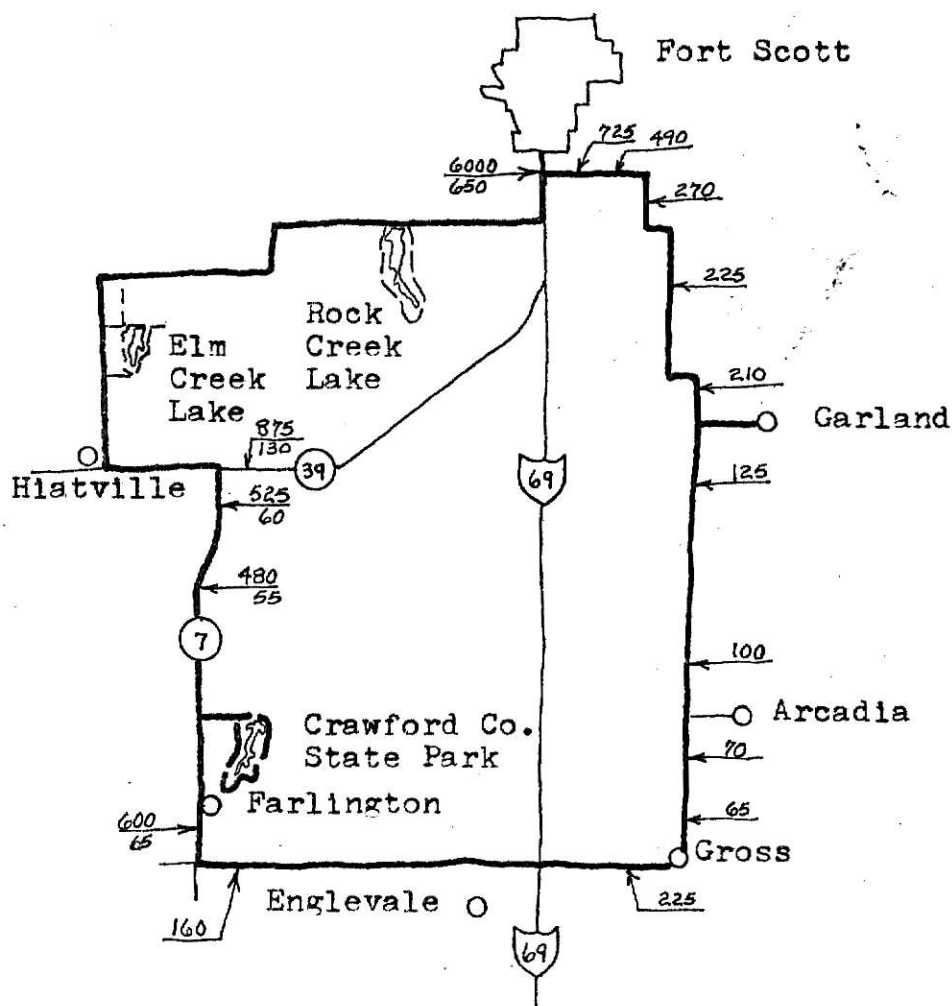


Figure 40

Trail No. 29



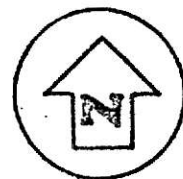
## LEGEND

paved road —————

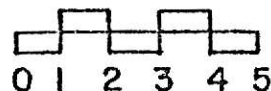
unpaved road - - - - -

road on the route ————

road not on the route ————



SCALE 1/4" = 1mi.

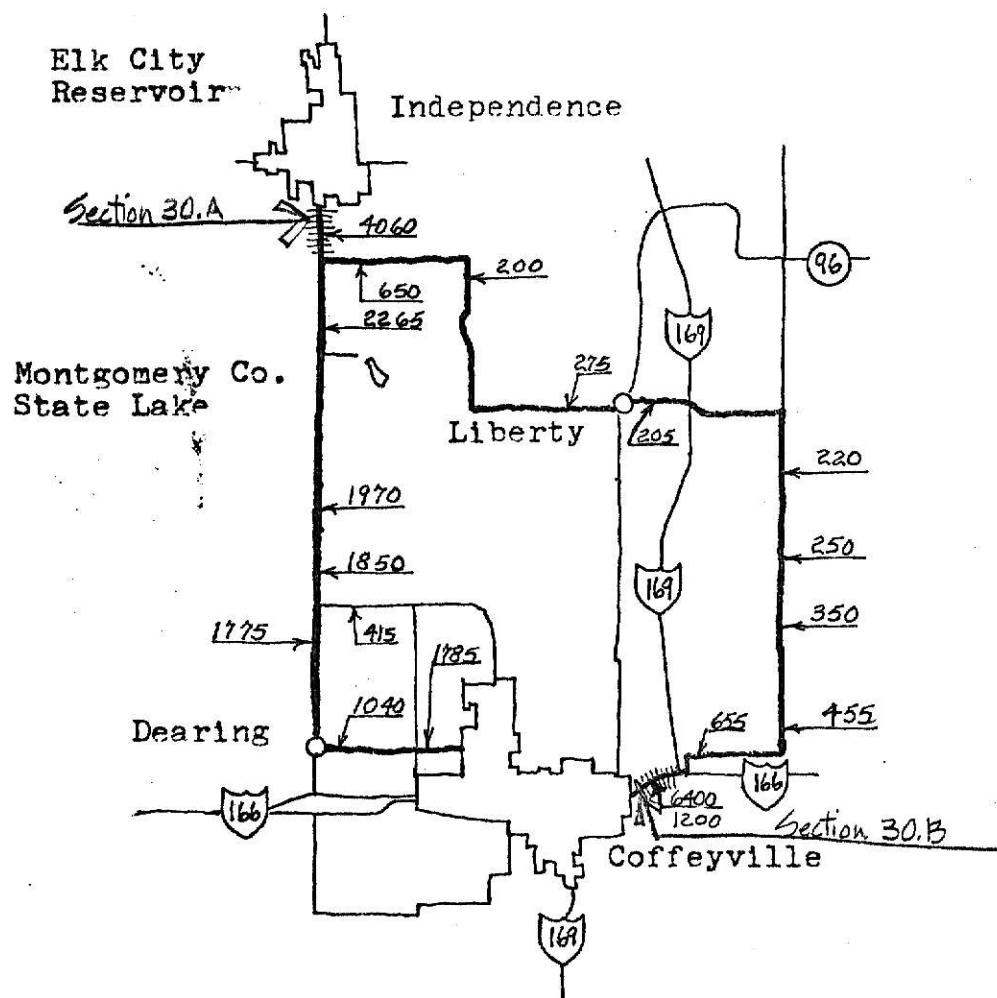


**THIS BOOK  
CONTAINS  
NUMEROUS PAGES  
THAT HAVE INK  
SPLOTCHES IN THE  
MIDDLE OF THE  
TEXT. THIS IS AS  
RECEIVED FROM  
CUSTOMER.**

**THESE ARE THE  
BEST IMAGES  
AVAILABLE.**

Figure 41

Trail No. 30



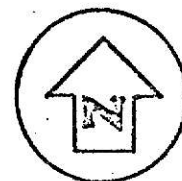
## LEGEND

paved road —————

unpaved road - - - - -

road on the route ————

road not on the route ————



SCALE 1/4" = 1mi.

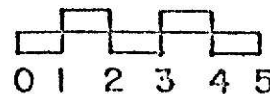


Figure 42

Trail No. 31

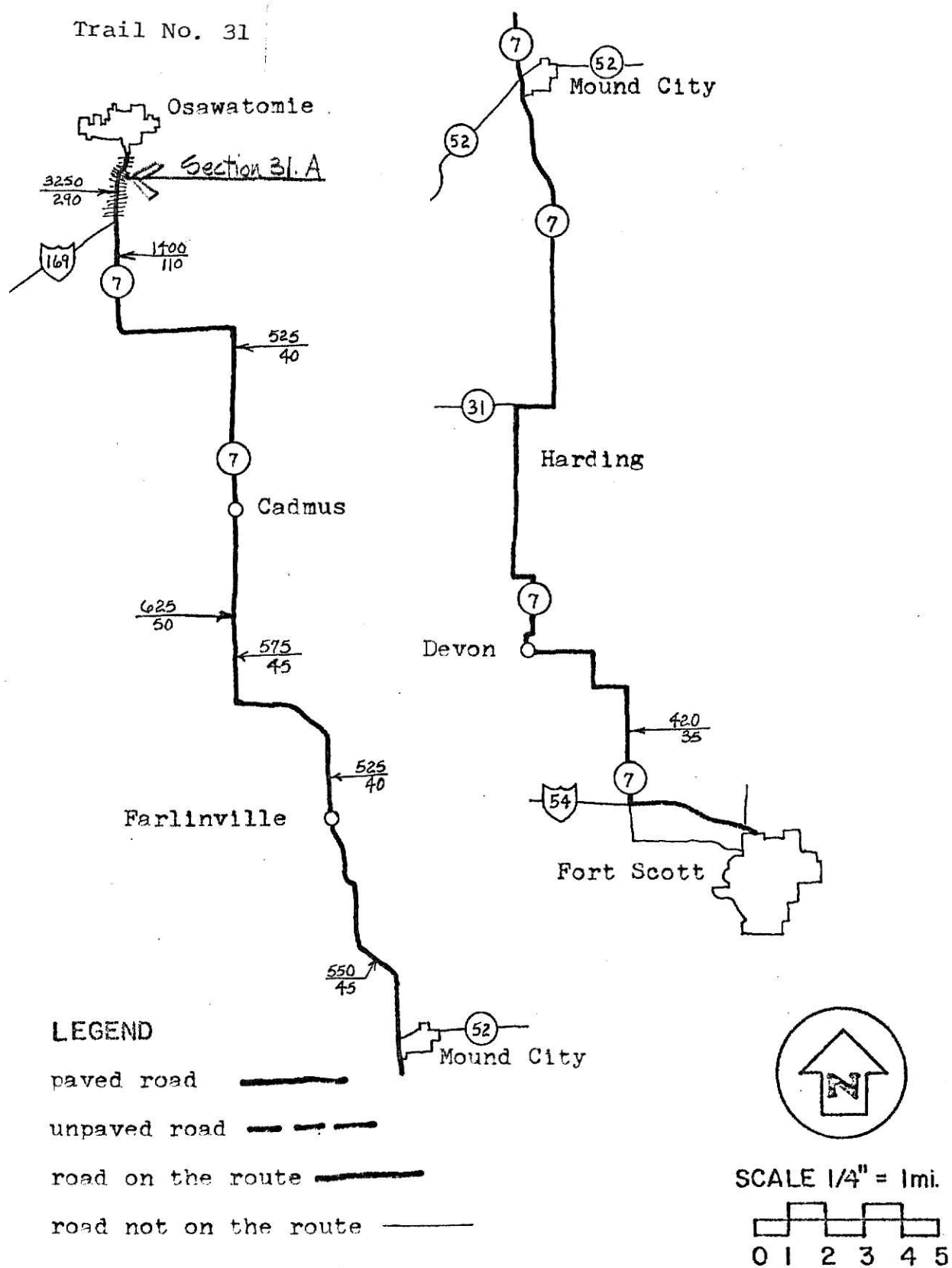
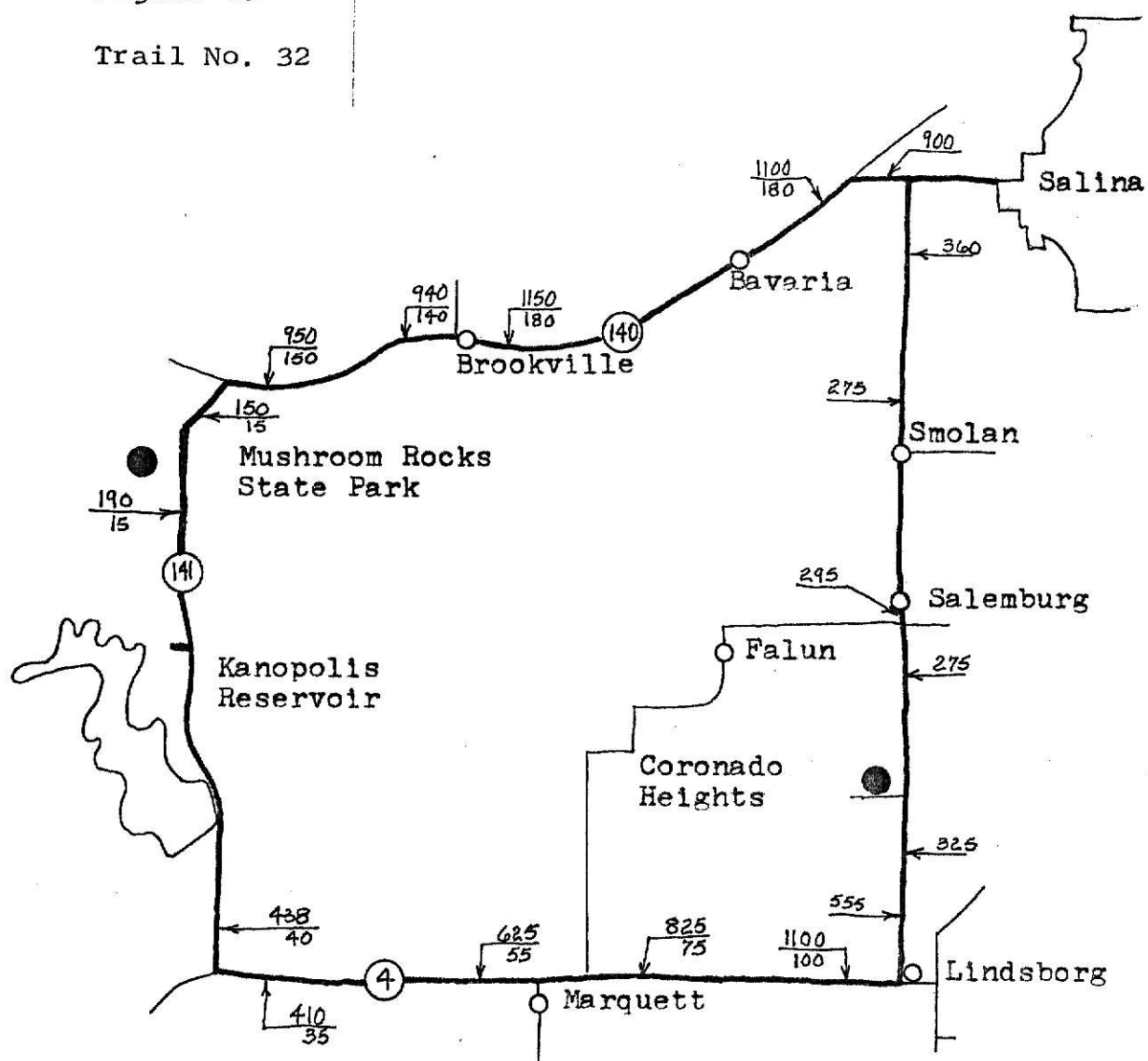


Figure 43

Trail No. 32



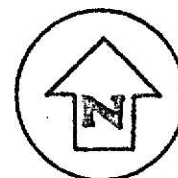
## LEGEND

paved road —————

unpaved road - - - - -

road on the route —————

road not on the route ————



SCALE 1/4" = 1mi.

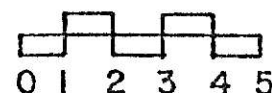
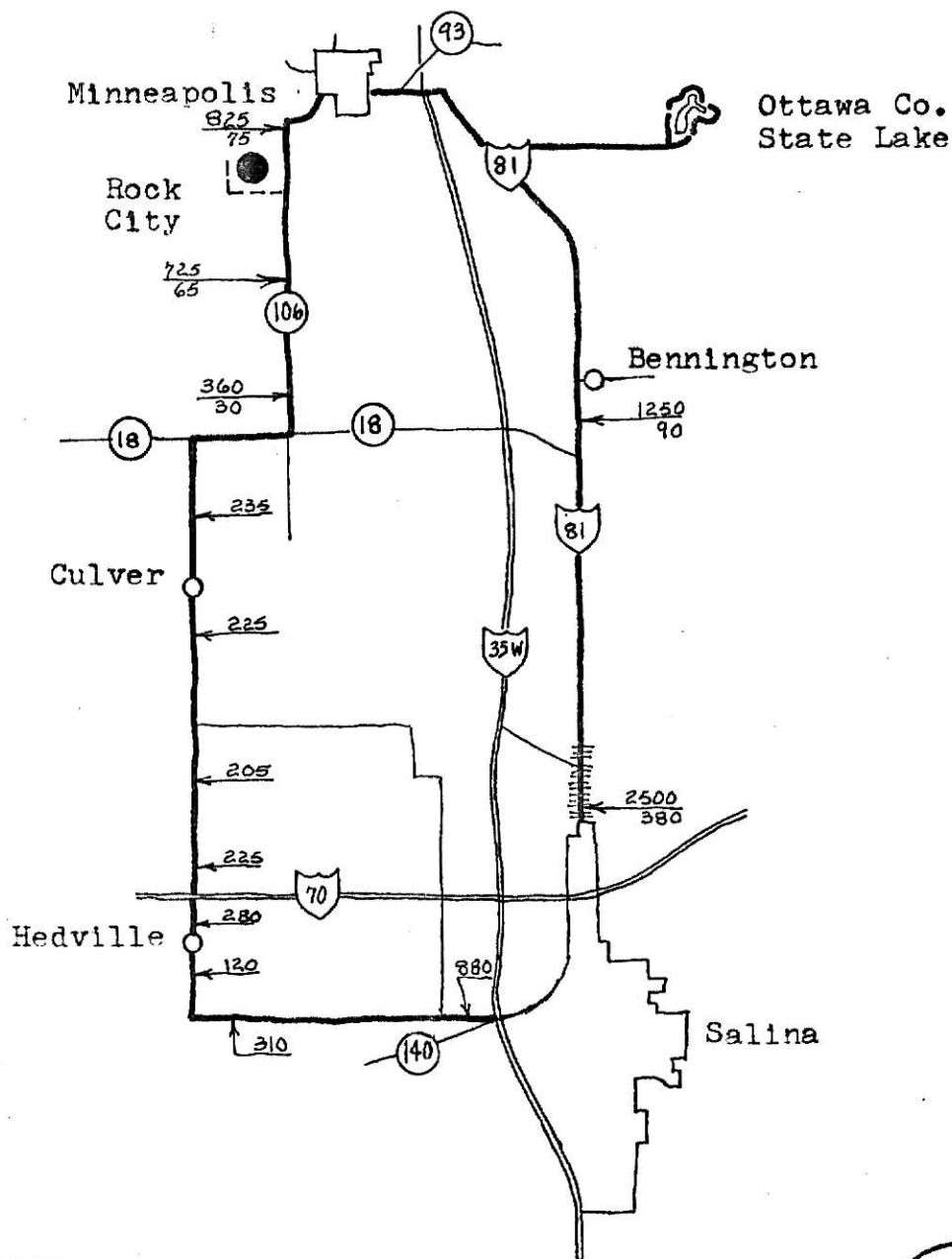






Figure 44


Trail No. 33




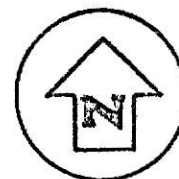
## LEGEND

paved road 

unpaved road 

road on the route 

road not on the route 



SCALE 1/4" = 1mi.

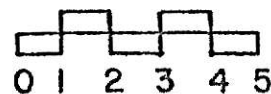
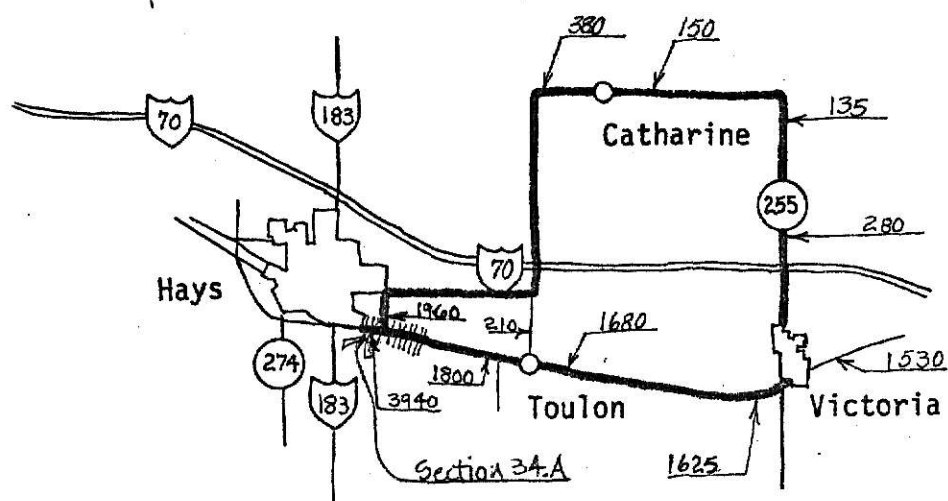


Figure 45

Trail No. 34



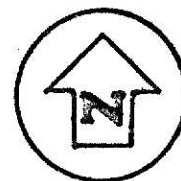
## LEGEND

paved road ———

unpaved road - - - -

road on the route ———

road not on the route ———



SCALE 1/4" = 1mi.

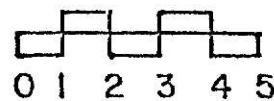
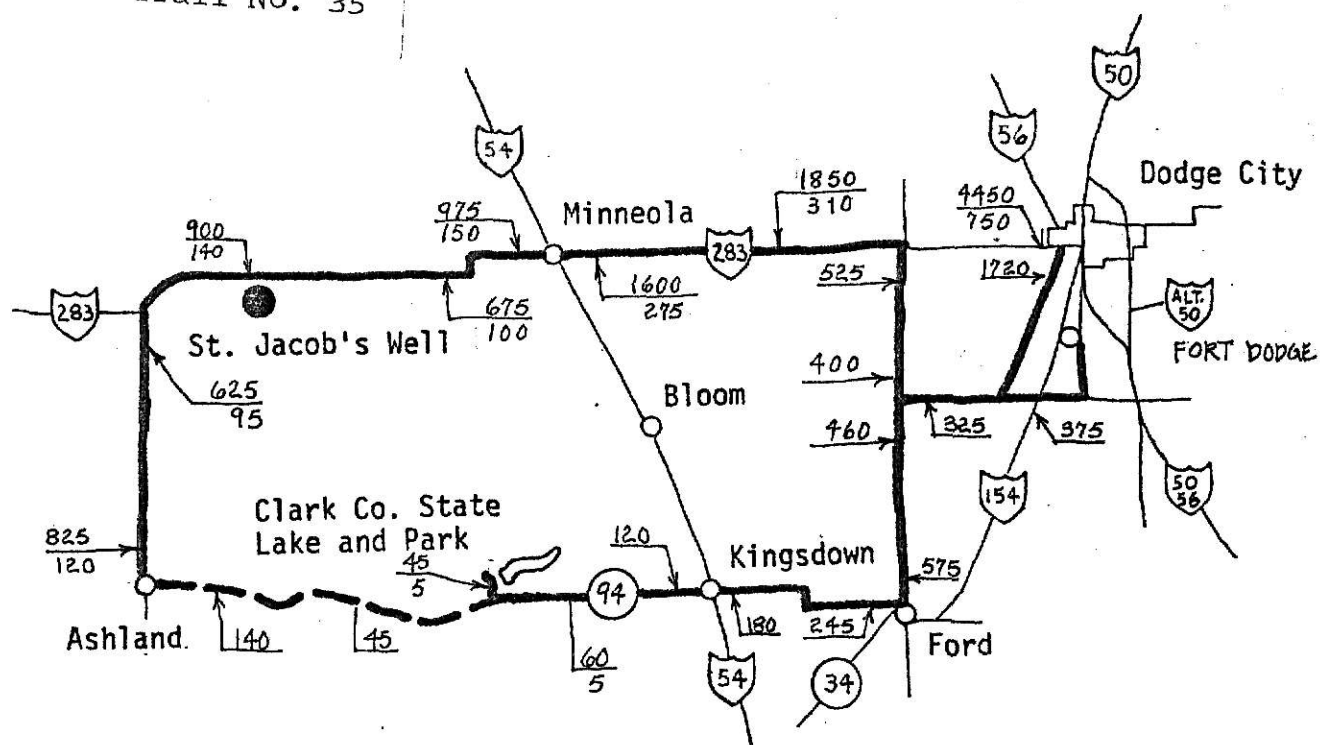


Figure 46

Trail No. 35



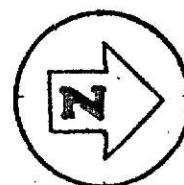
## LEGEND

paved road —————

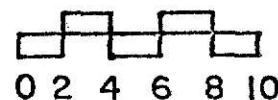
unpaved road - - - - -

road on the route —————

road not on the route —————



SCALE 1/8" = 1mi.



## Recreational Potential Evaluation

The routes which met the minimum standards for safety criteria and passed the safety evaluation were set aside for more detailed evaluation of their recreational potential as described in Chapter III. These tours are listed in Table 11.

### Recreational Potential Evaluation Maps

Maps were drawn up for each of the routes at a scale of one quarter inch equaling one mile. ( $\frac{1}{4}" = 1 \text{ mi.}$ ) All information available on scenic areas, recreational facilities, etc. was recorded on these maps. Information, which became available during the test ride, and location of support facilities along the tour was recorded. (Figure 47 - Figure 77)

### Test Ride

A test ride or drive was taken over each of the routes listed in Table 9. The primary purpose of this was to record information on the availability of support facilities and the difficulty of the route. Due to inclement weather and lack of time, it was not possible to cover all of the routes by bicycle. However, all of the routes were covered by bicycle and automobile. The information gathered helped to eliminate some of the routes due to poor road conditions and lack of support facilities.

During the test rides, notes were taken on the terrain,

traffic volume and speed, road conditions and other factors which might influence the difficulty ratings. See page in Chapter III for more information on difficulty rating and Table 53 for the actual ratings.

#### Recreational Potential Evaluation Forms

After the test rides were completed, all the information which had been recorded on the recreational potential evaluation maps was transferred to recreational evaluation forms, (Table 12 - Table 44). These forms also give the trail length and difficulty rating.

#### Recreational Potential Rating

The final recreational potential rating was arrived at by dividing the total number of points per trail by the length of the trail in miles. The results of the recreational potential evaluation are summarized in Table 45.

TABLE 11

PRELIMINARY TRAILS	ROUND TRIP LENGTH	SAFETY EVALUATION PASS--FAIL
1. Chalk Bluffs Tour	72 mi.	X
2. Wilson Reservoir Tour	70 mi.	X
3. Larned-Pawnee Rock	36 mi.	X
4. Larned-Ft. Larned	14 mi.	X
5. Grouse Creek Area	52 mi.	X
6. Grouse Creek Area, Alt. A	47 mi.	X
7. Red Hills Tour	40 mi.	X
8. Red Hills Tour, Alt. A via U.S. 160	46 mi.	X
9. Lindsborg	44 mi.	X
10. Manhattan-Fort Riley	64 mi.	X
(Eliminated due to traffic)		
11. Heart of the Flint Hills	100 mi.	X
12. Bartlett Arboretum Tour	48 mi.	X
13. Limestone, Oak, and Bluestem	91 mi.	X
14. McDowell Creek Road	37 mi.	X
15. Milford Reservoir Tour	46 mi.	X
16. Blue River Valley Tour	66 mi.	X
17. Pony Express Tour	75 mi.	X
18. Topeka-Perry Reservoir	54 mi.	X
19. Missouri Bluffs Tour	64 mi.	X
20. Arkansas River Sand Dunes	52 mi.	X

TABLE 11 Cont'd.

PRELIMINARY TRAILS	ROUND TRIP LENGTH	SAFETY EVALUATION PASS--FAIL
21. Cimarron National Grasslands Tour	60 mi.	X
22. Topeka-Pomona-Ottawa-Baldwin	123 mi.	X
23. Lonestar-Lake Tour	40 mi.	X
24. Chautauqua Hills Tour	104 mi.	X
25. Elk City Reservoir Tour	30 mi.	X
26. Smoky Hill Trail	44 mi.	X
27. Cherokee Lowlands Tour	33 mi.	X
28. Pittsburg Strip Pitts Tour	40 mi.	X
29. Fort Scott-Crawford State Park	58 mi.	X
(Eliminated due to poor road conditions)		
30. Independence-Coffeyville	40 mi.	X
(Eliminated due to traffic)		
31. Fort Scott-Osawatomie	120 mi.	X
32. Mushroom Rock Country	69 mi.	X
33. Rock City Tour	60 mi.	X
34. Fort Hays Tour	30 mi.	X
35. Wild West Tour	112 mi.	X

Figure 47

Trail No. 1

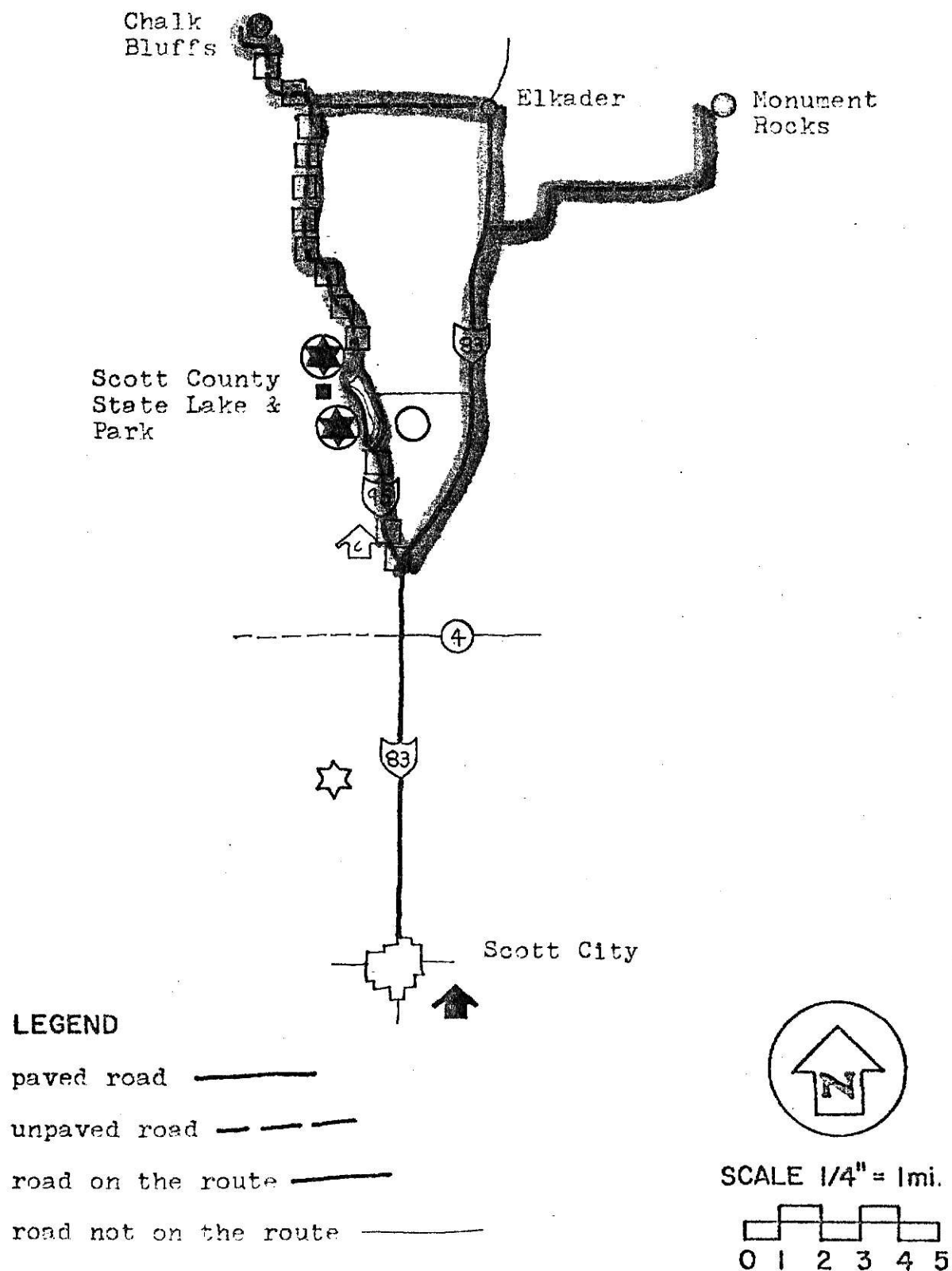
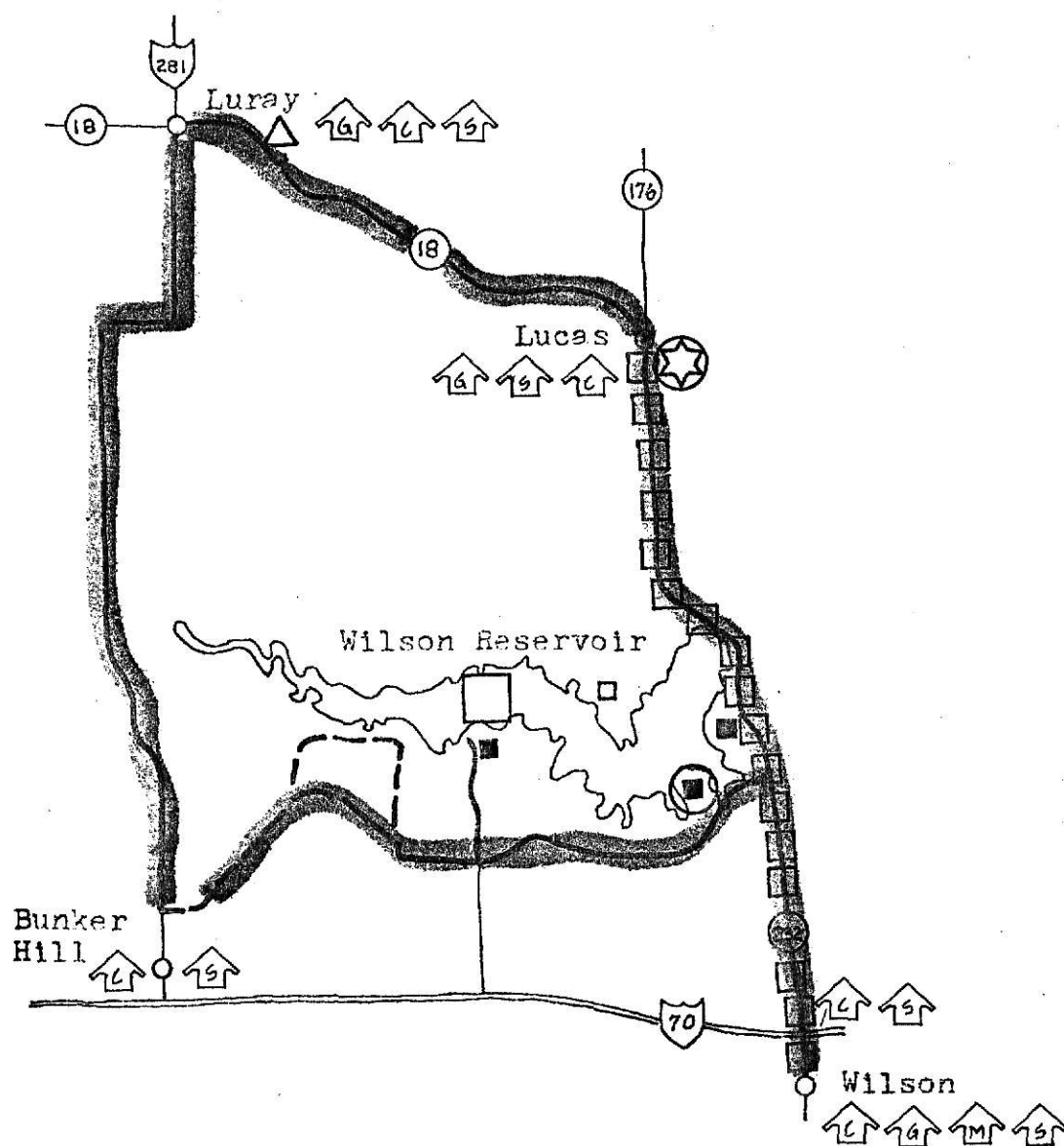




Figure 48

Trail No. 2



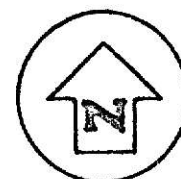
## LEGEND

paved road ———

unpaved road - - - -

road on the route ———

road not on the route ———

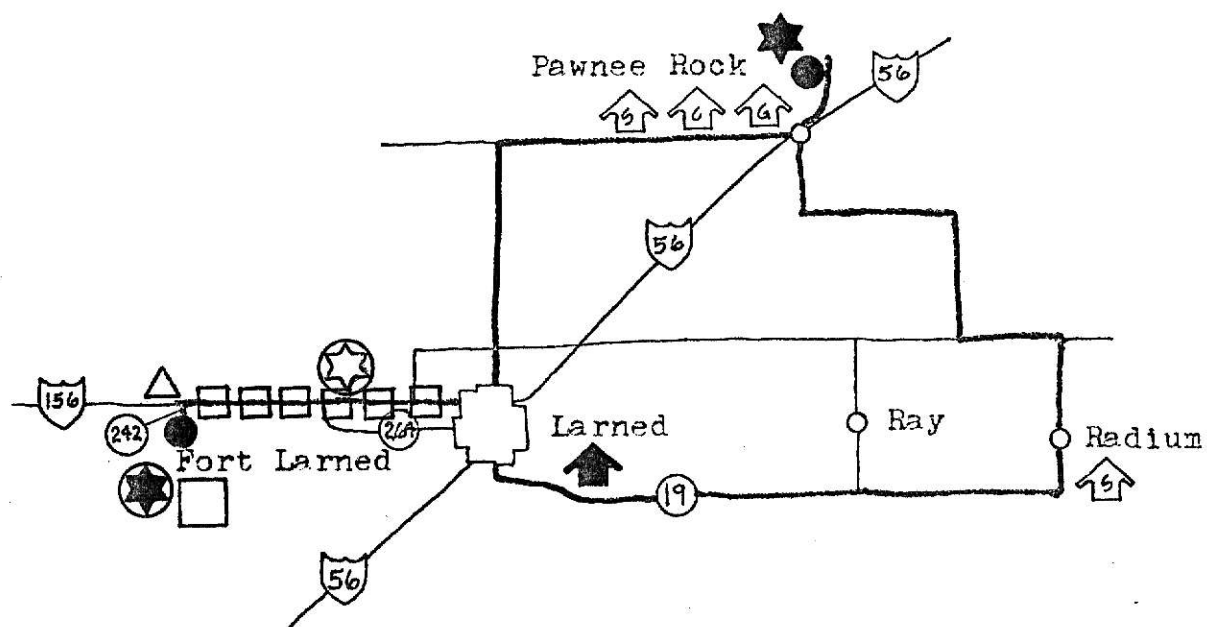


SCALE 1/4" = 1mi.



Figure 49

Trail No. 3  
and No. 4



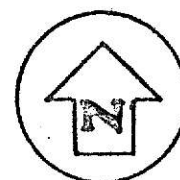
## LEGEND

paved road —————

unpaved road - - - - -

road on the route ————

road not on the route ————

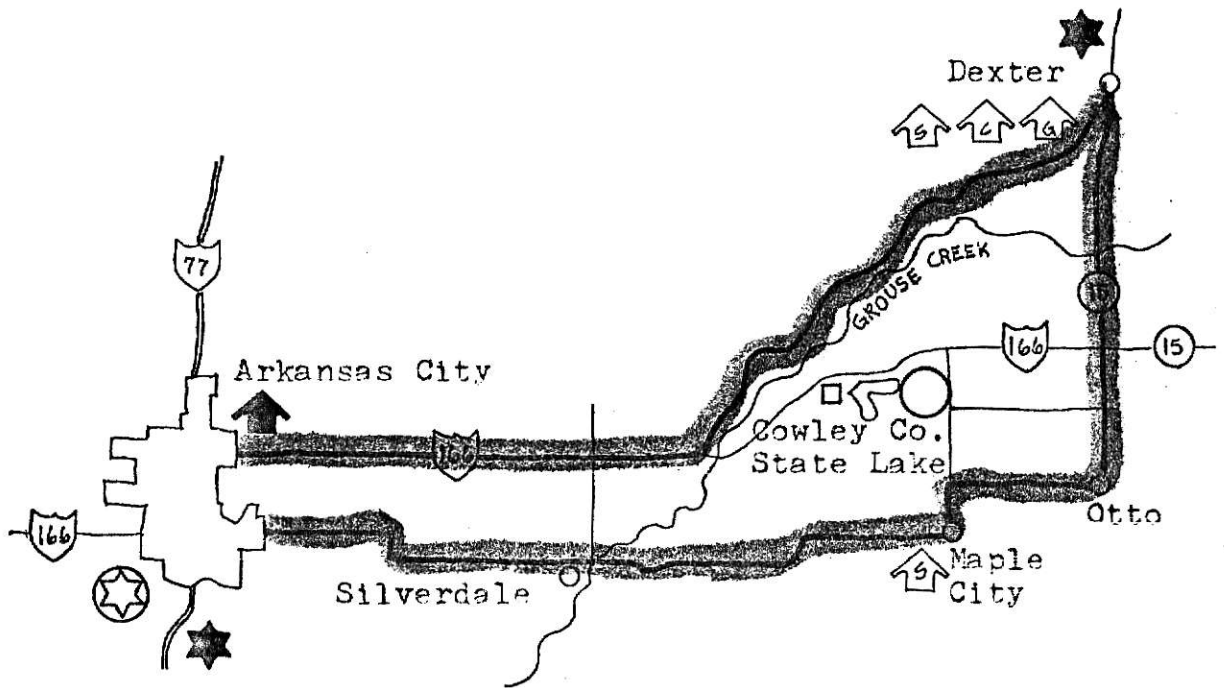


SCALE 1/4" = 1mi.



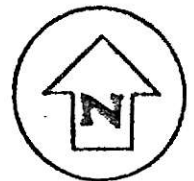
Figure 50

Trail No. 5



LEGEND

- paved road —————
- unpaved road - - - - -
- road on the route —————
- road not on the route ————



SCALE 1/4" = 1mi.

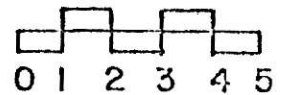
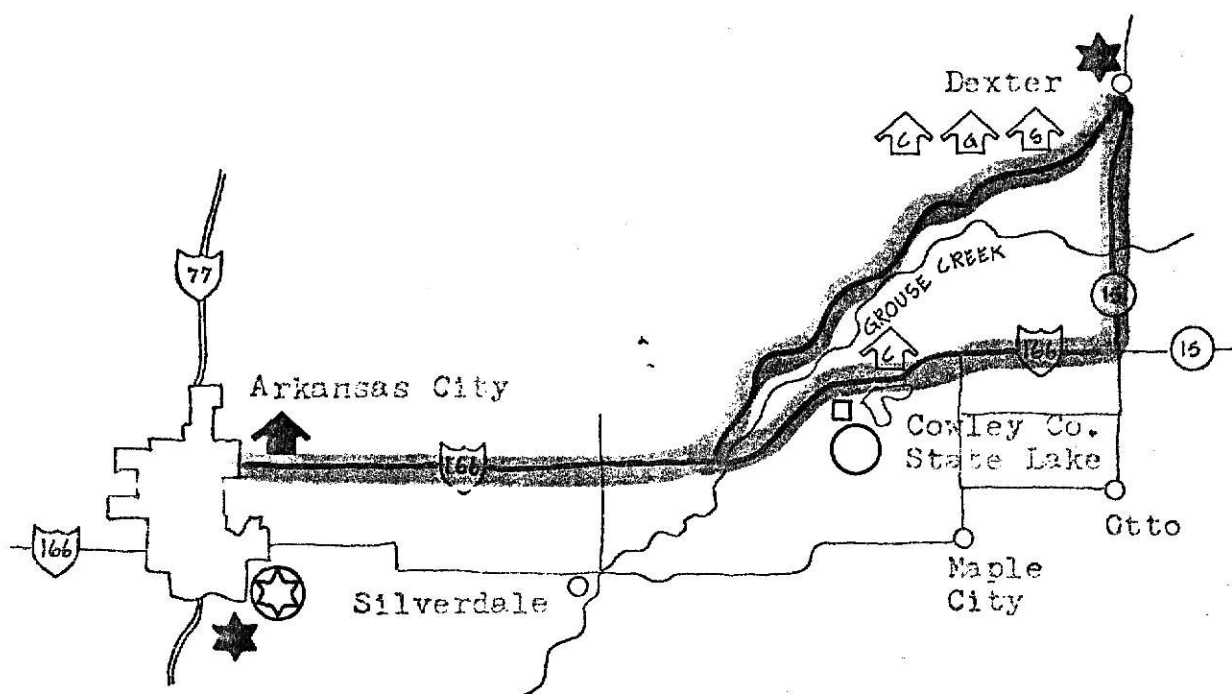


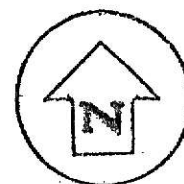
Figure 51

Trail No. 5  
and No. 6



LEGEND

- paved road —————
- unpaved road - - - - -
- road on the route —————
- road not on the route ————



SCALE 1/4" = 1mi.

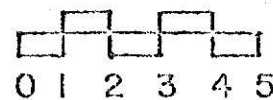
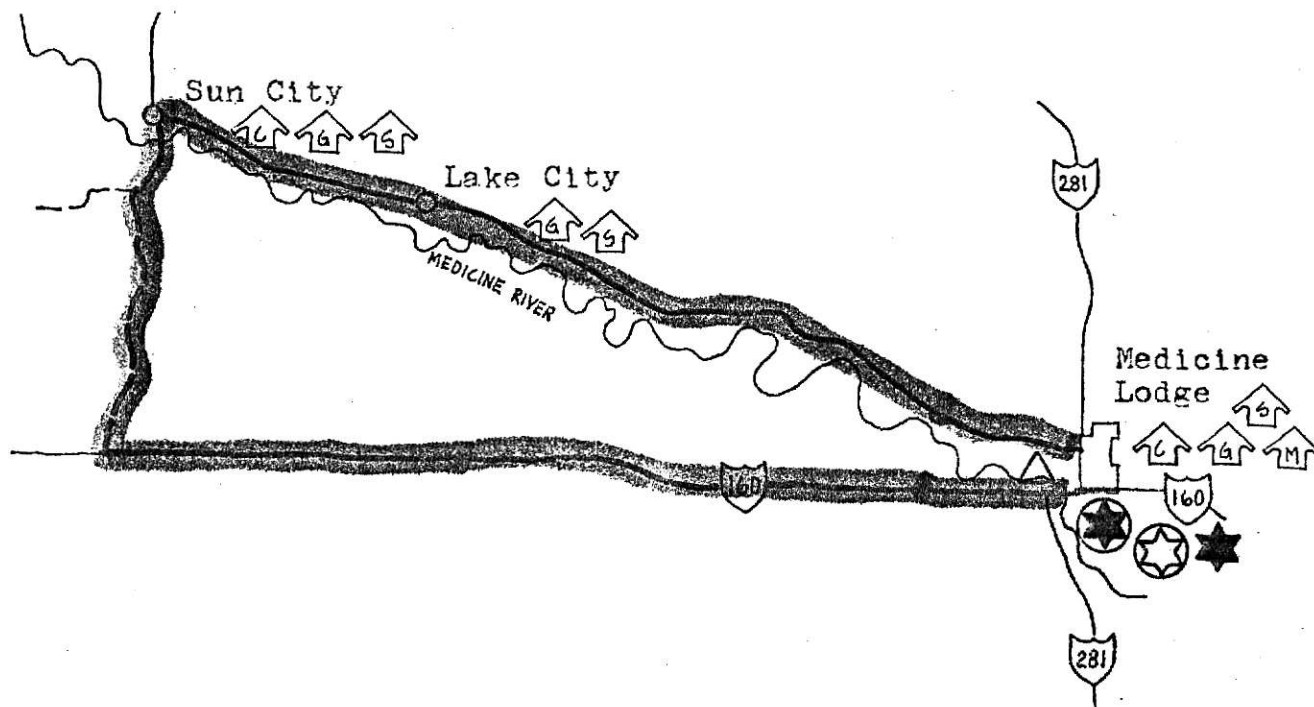


Figure 52

Trail No. 7  
and No. 8



Trail #7 - Return via River Road; Trail #8 - Return via U.S. 160

### LEGEND

- paved road —————
- unpaved road - - - - -
- road on the route —————
- road not on the route ————



SCALE 1/4" = 1mi.

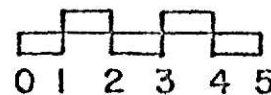
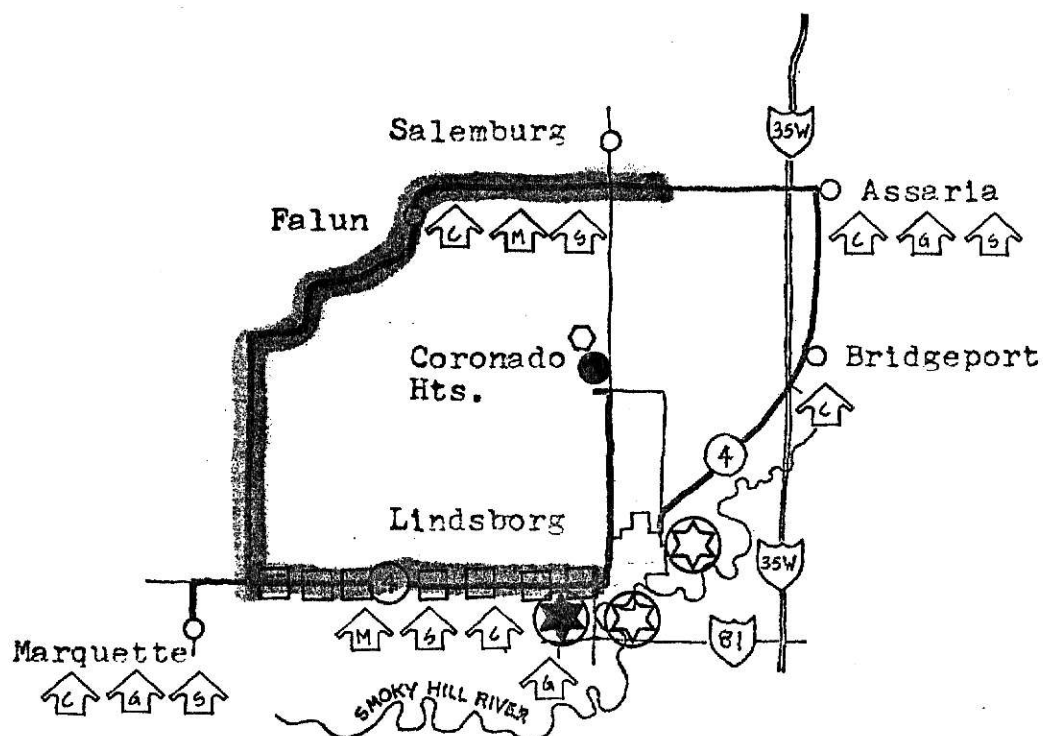


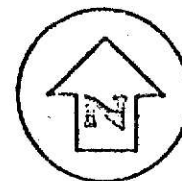
Figure 53

Trail No. 9



## LEGEND

- paved road —————
- unpaved road - - - - -
- road on the route —————
- road not on the route ————



SCALE 1/4" = 1mi.

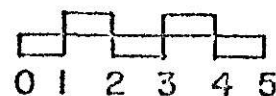
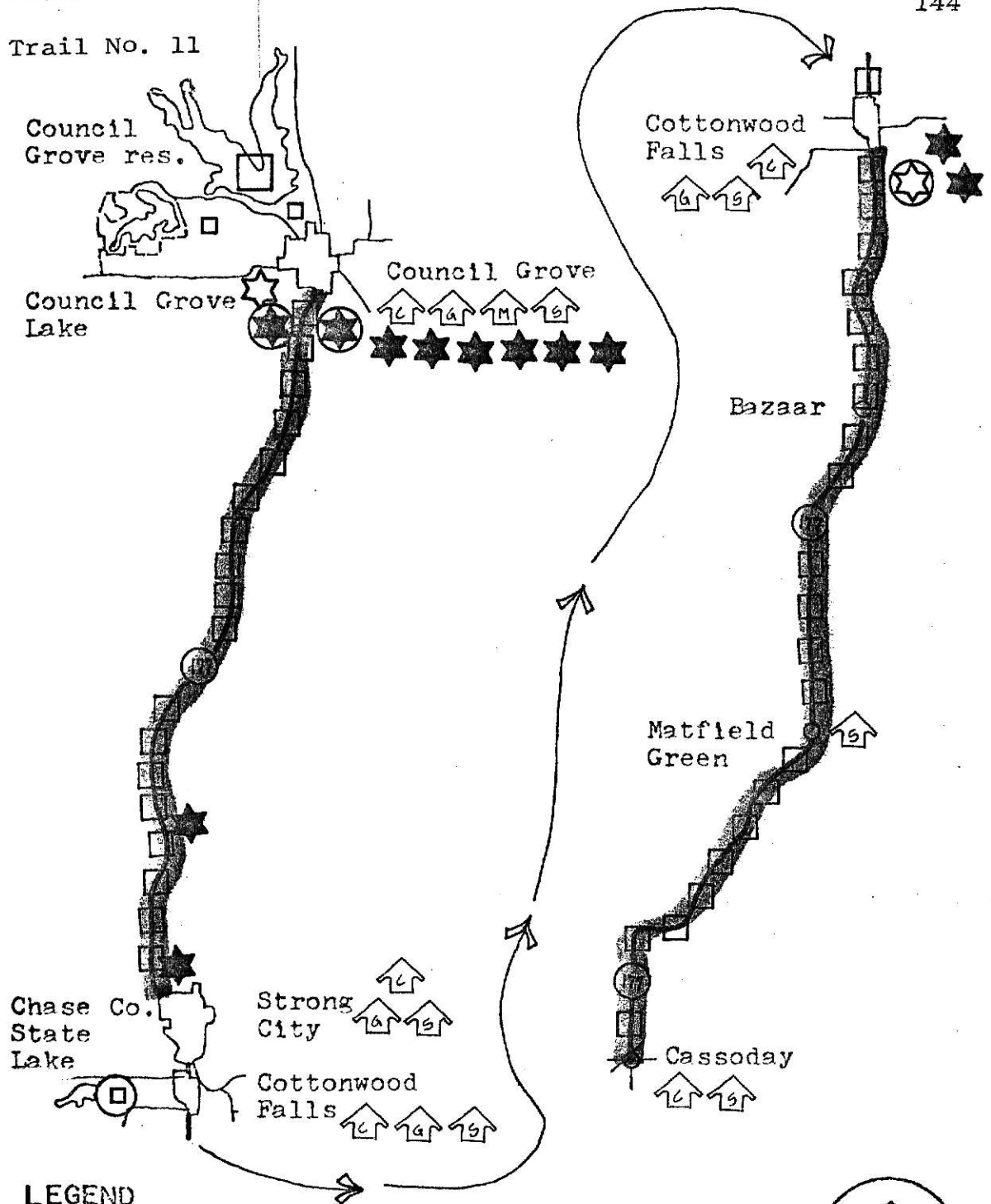


Figure 54

Trail No. 11



LEGEND

- paved road —————
- unpaved road - - - - -
- road on the route ————
- road not on the route ————



SCALE 1/4" = 1mi.

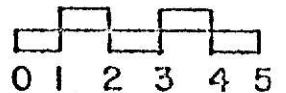
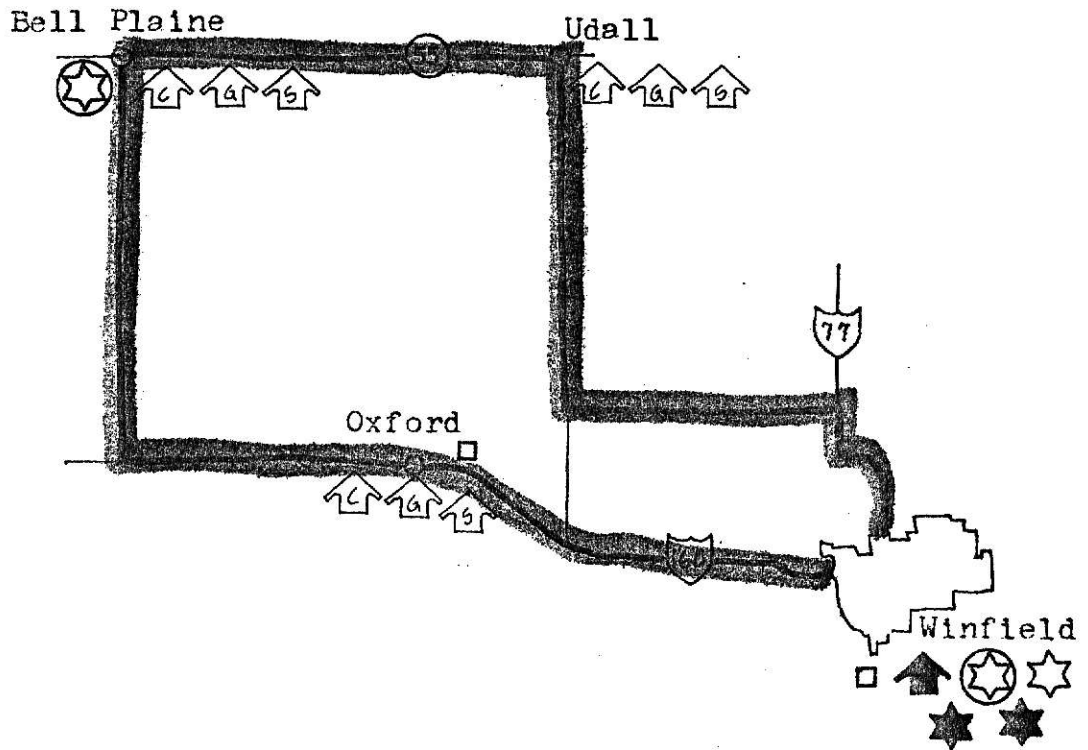


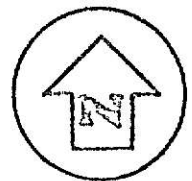
Figure 55

Trail No. 12



LEGEND

- paved road —————
- unpaved road - - - - -
- road on the route ————
- road not on the route ————



SCALE 1/4" = 1mi.

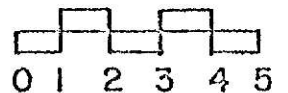




Figure 56

Trail No. 13

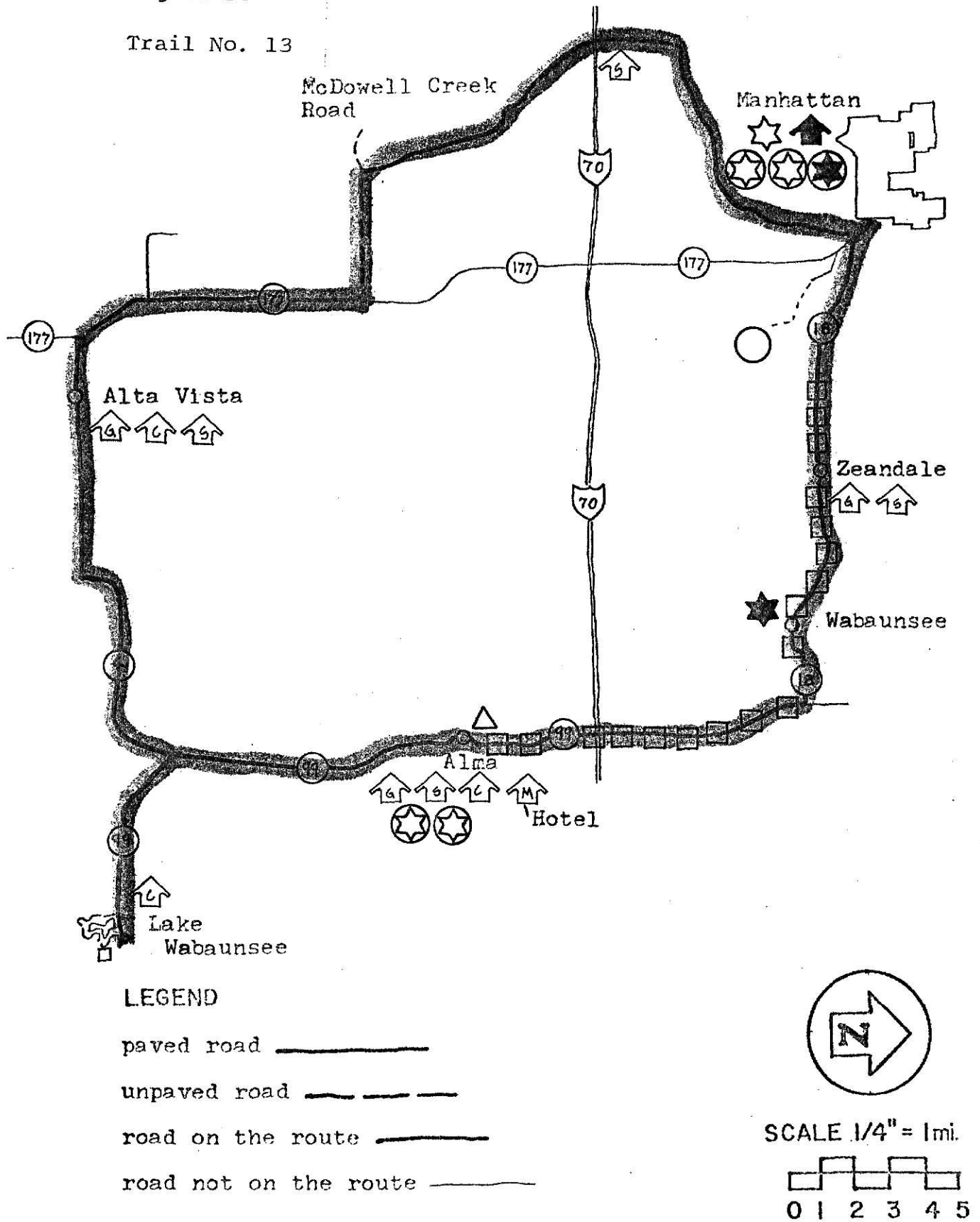
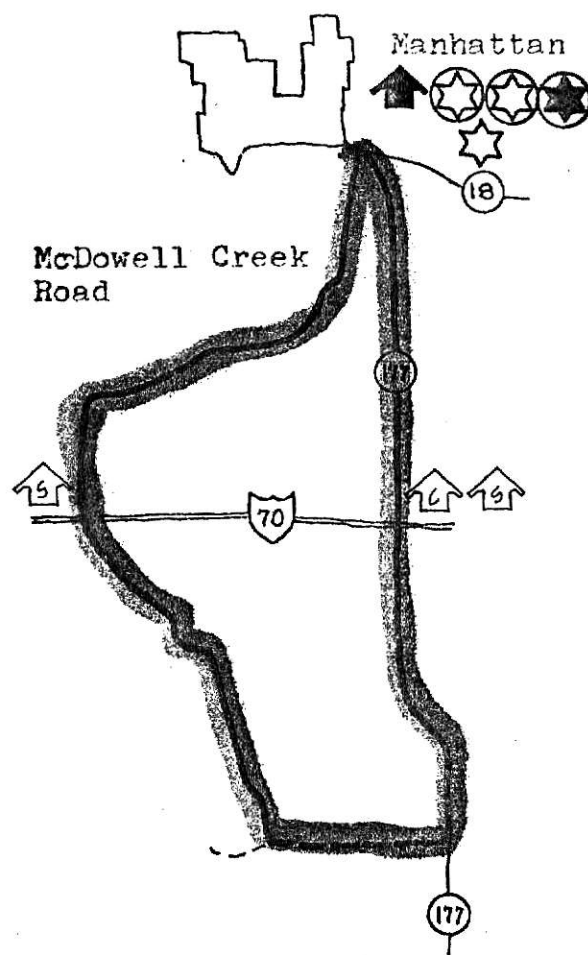


Figure 57

Trail No. 14



## LEGEND

paved road \_\_\_\_\_

unpaved road - - - -

road on the route \_\_\_\_\_

road not on the route \_\_\_\_\_



SCALE 1/4" = 1mi.

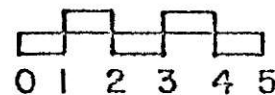
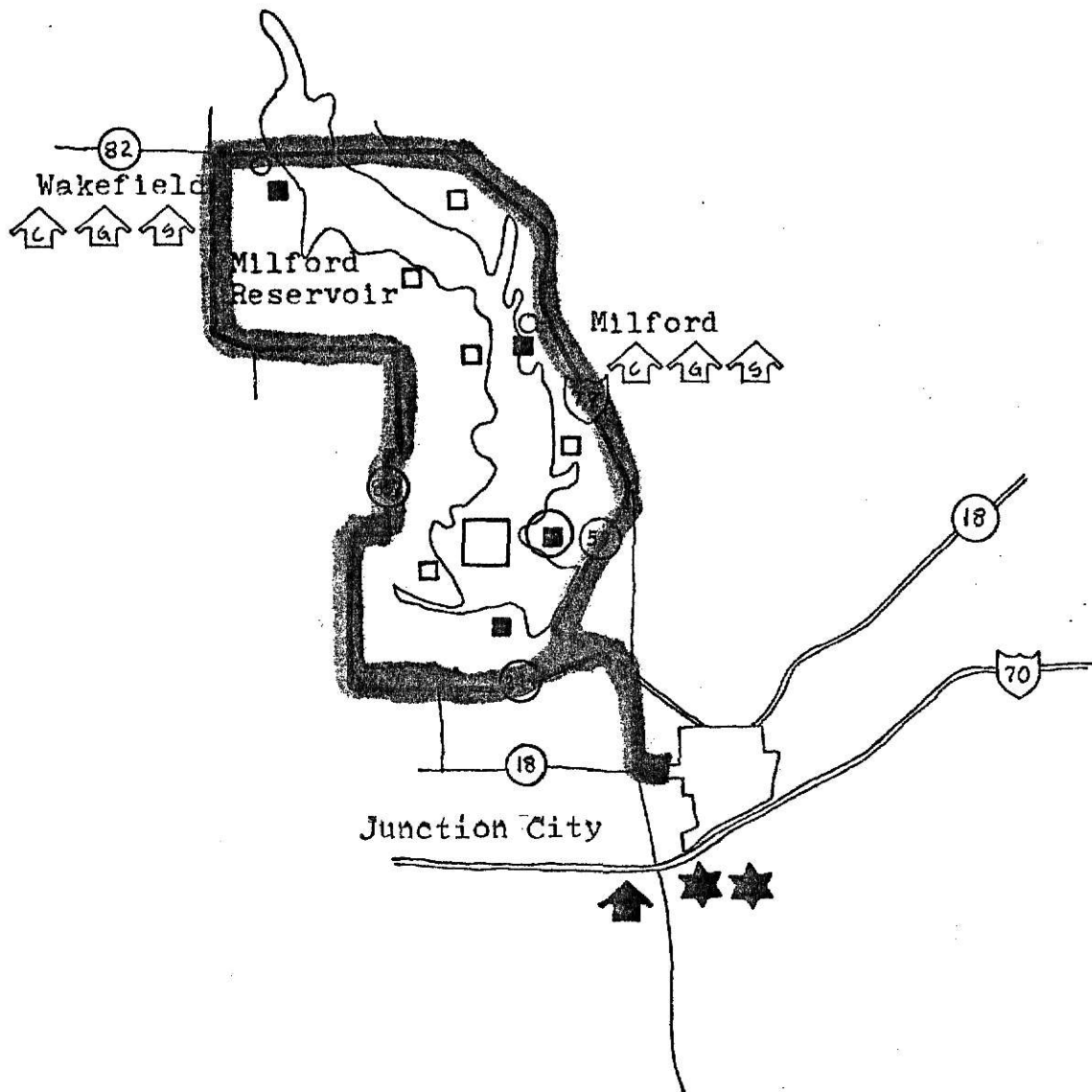


Figure 58

Trail No. 15



## LEGEND

paved road \_\_\_\_\_

unpaved road - - - - -

road on the route \_\_\_\_\_

road not on the route \_\_\_\_\_



SCALE 1/4" = 1mi.

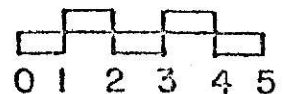
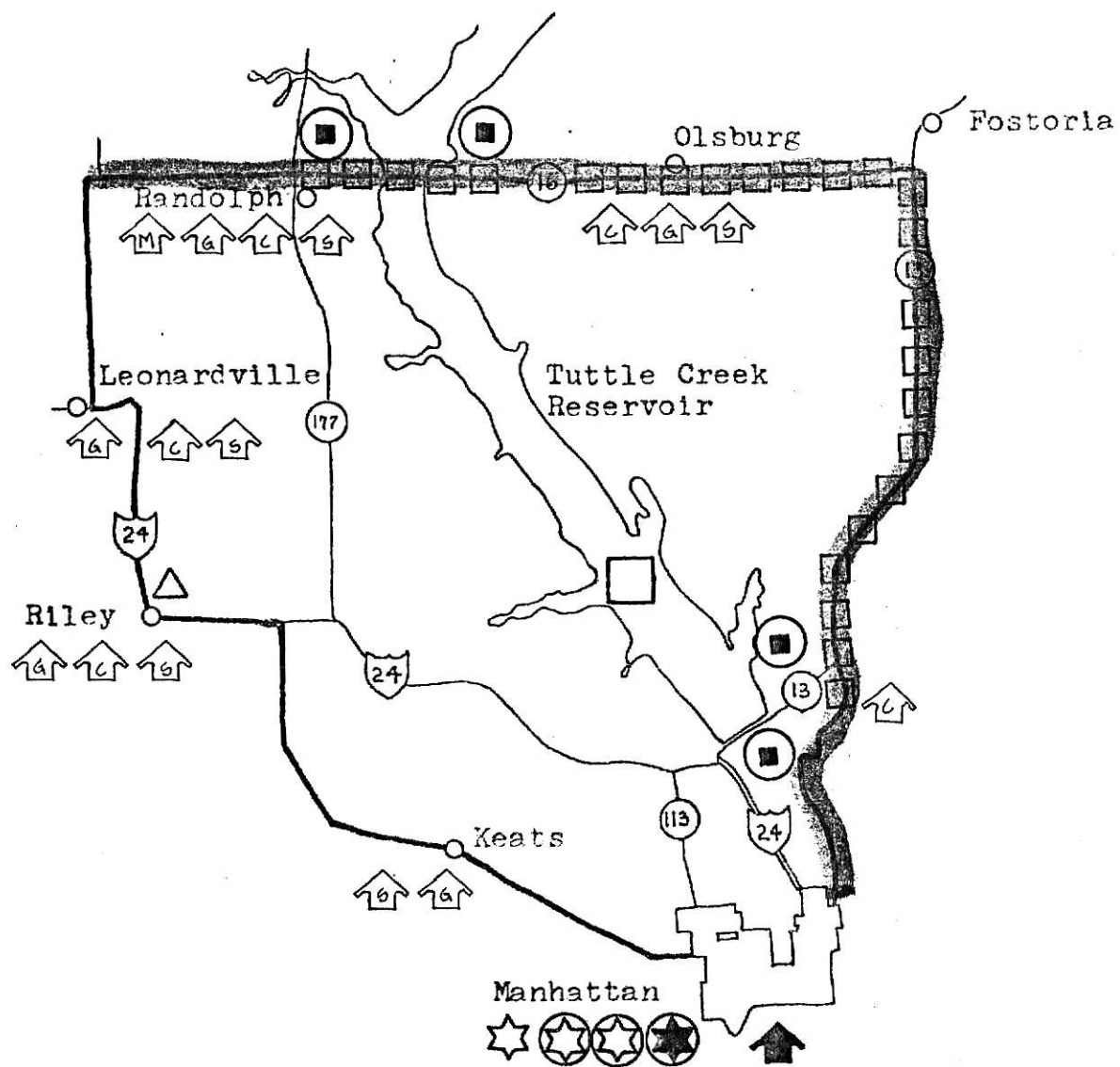


Figure 59

Trail No. 16



## LEGEND

- paved road —————
- unpaved road - - - - -
- road on the route ————
- road not on the route ————



SCALE 1/4" = 1mi.

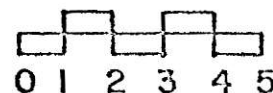


Figure 60

Trail No. 17

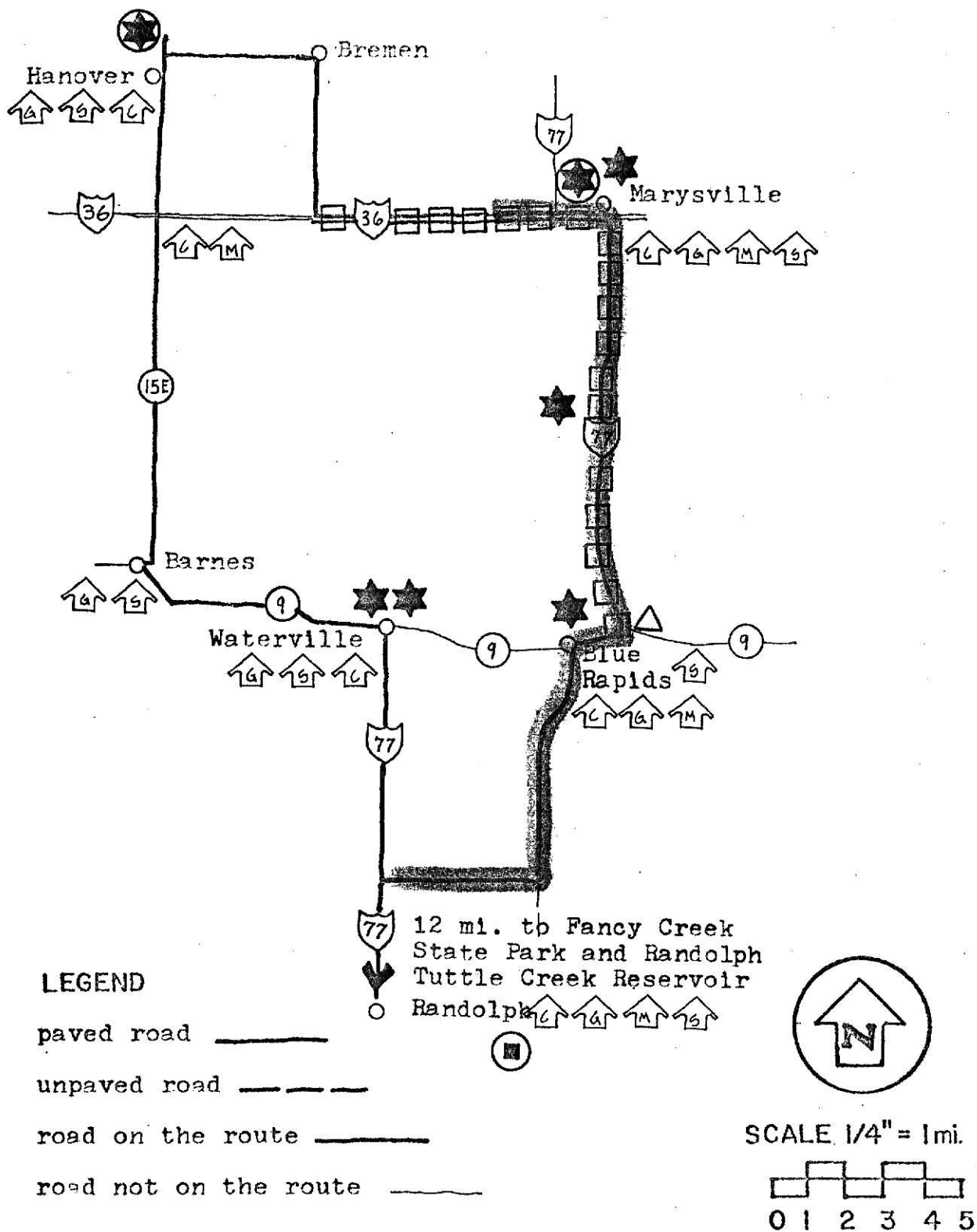
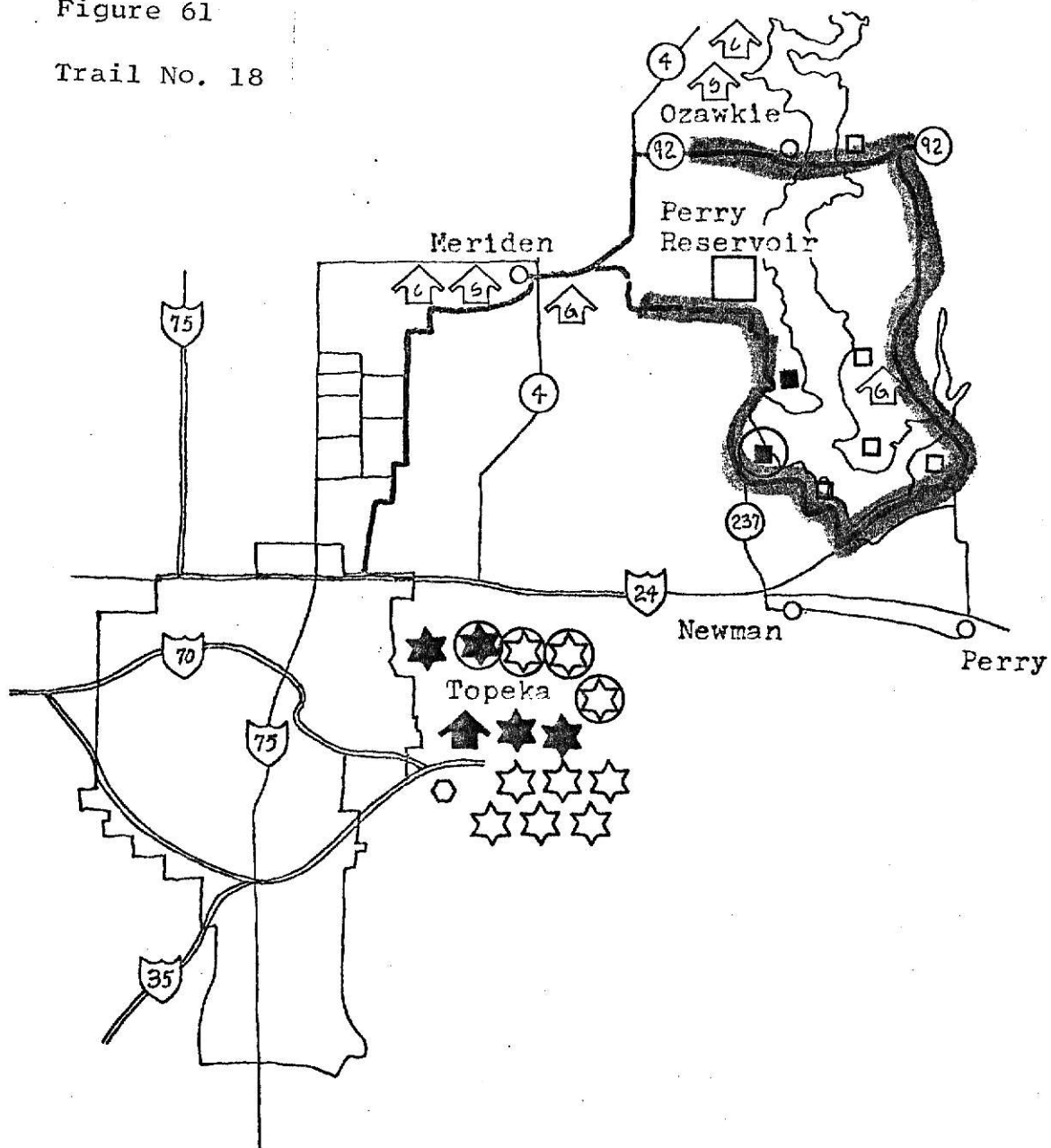


Figure 61

Trail No. 18



## LEGEND

paved road —————

unpaved road - - - - -

road on the route ————

road not on the route ————



SCALE 1/4" = 1mi.

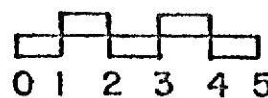
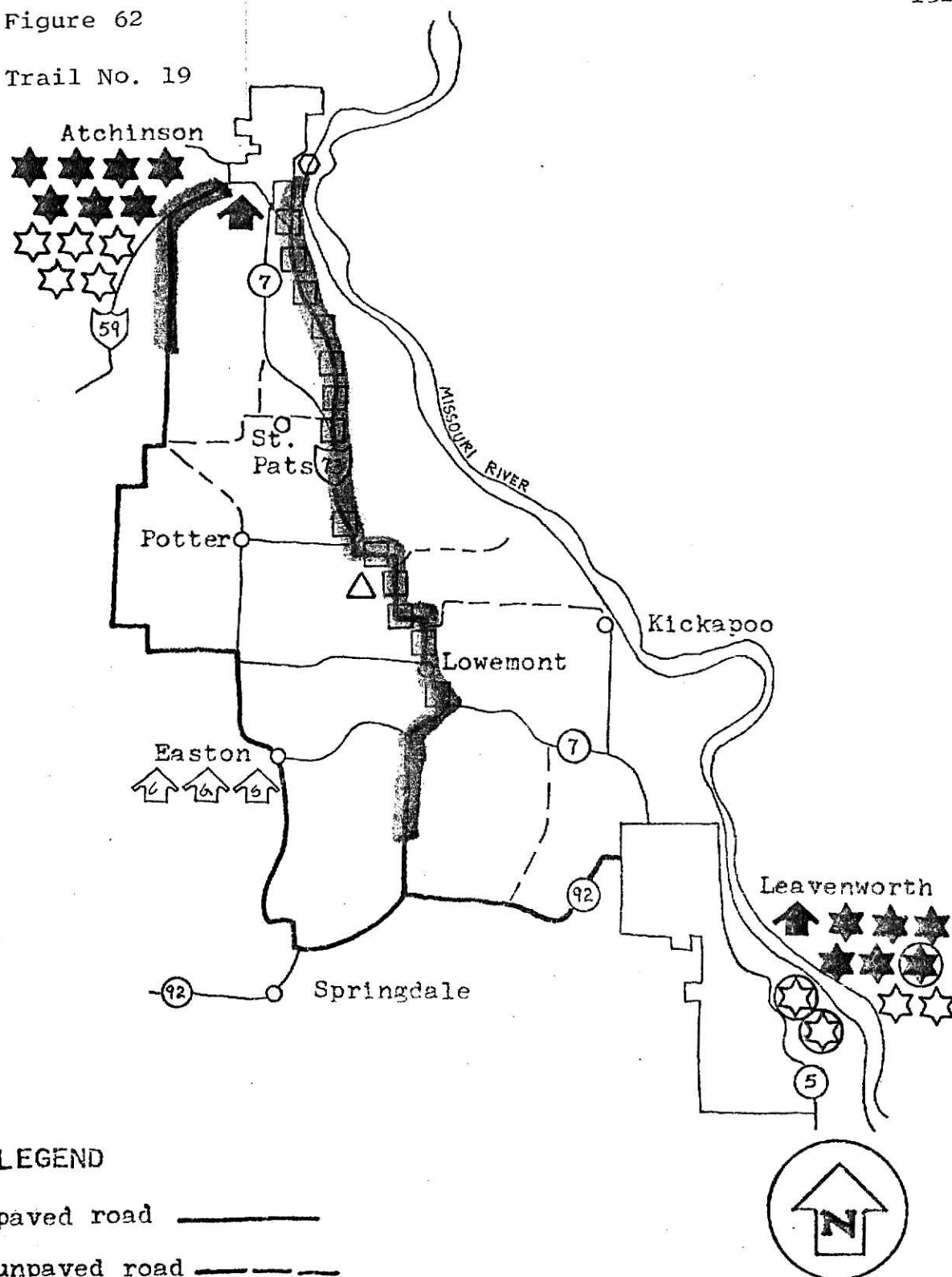


Figure 62

Trail No. 19



## LEGEND

paved road —————

unpaved road - - - - -

road on the route ..... (dotted line)

road not on the route ——— (thin solid line)

SCALE 1/4" = 1mi.

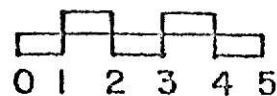


Figure 63

Trail No. 20

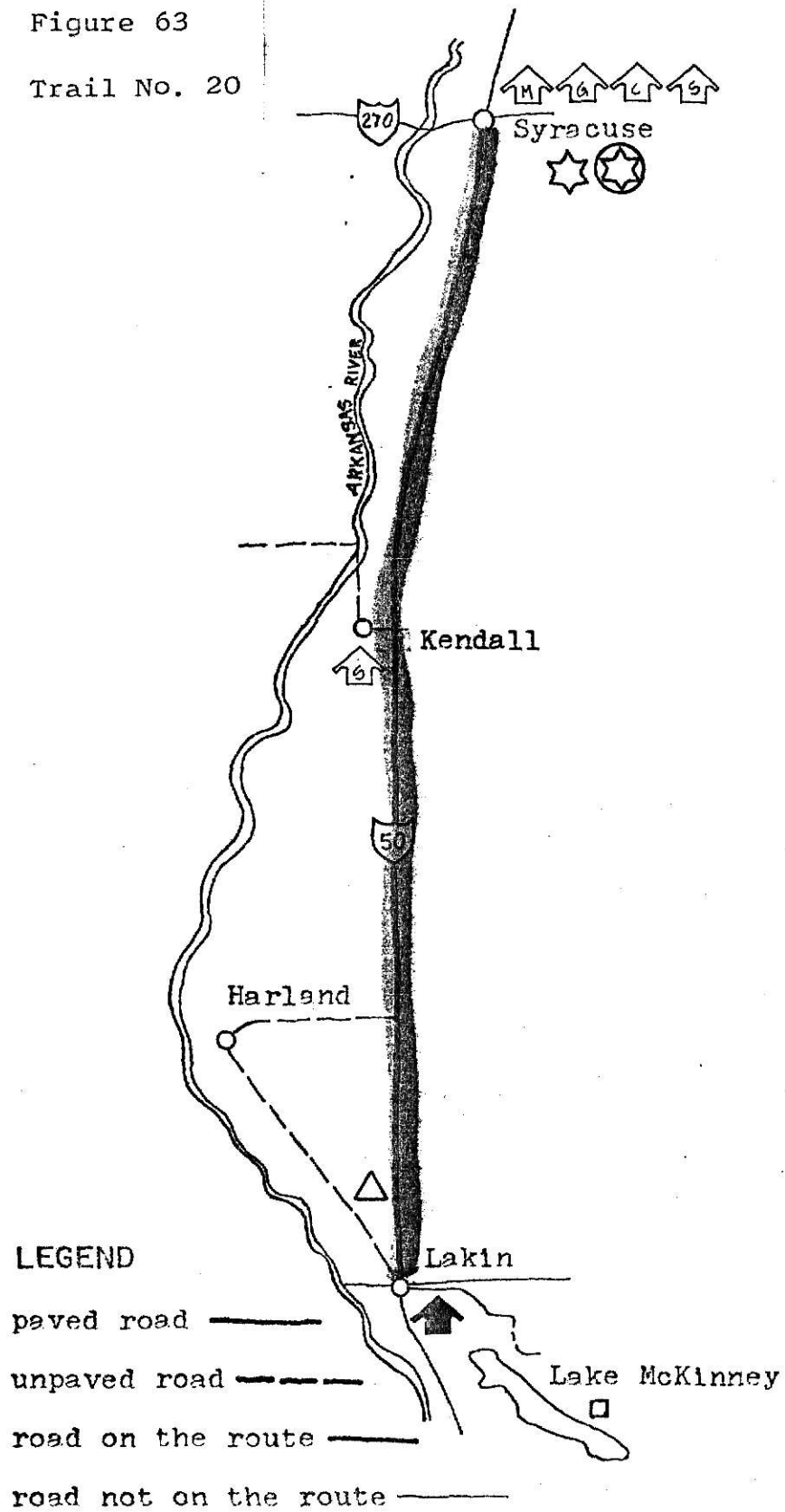




Figure 64

Trail No. 21

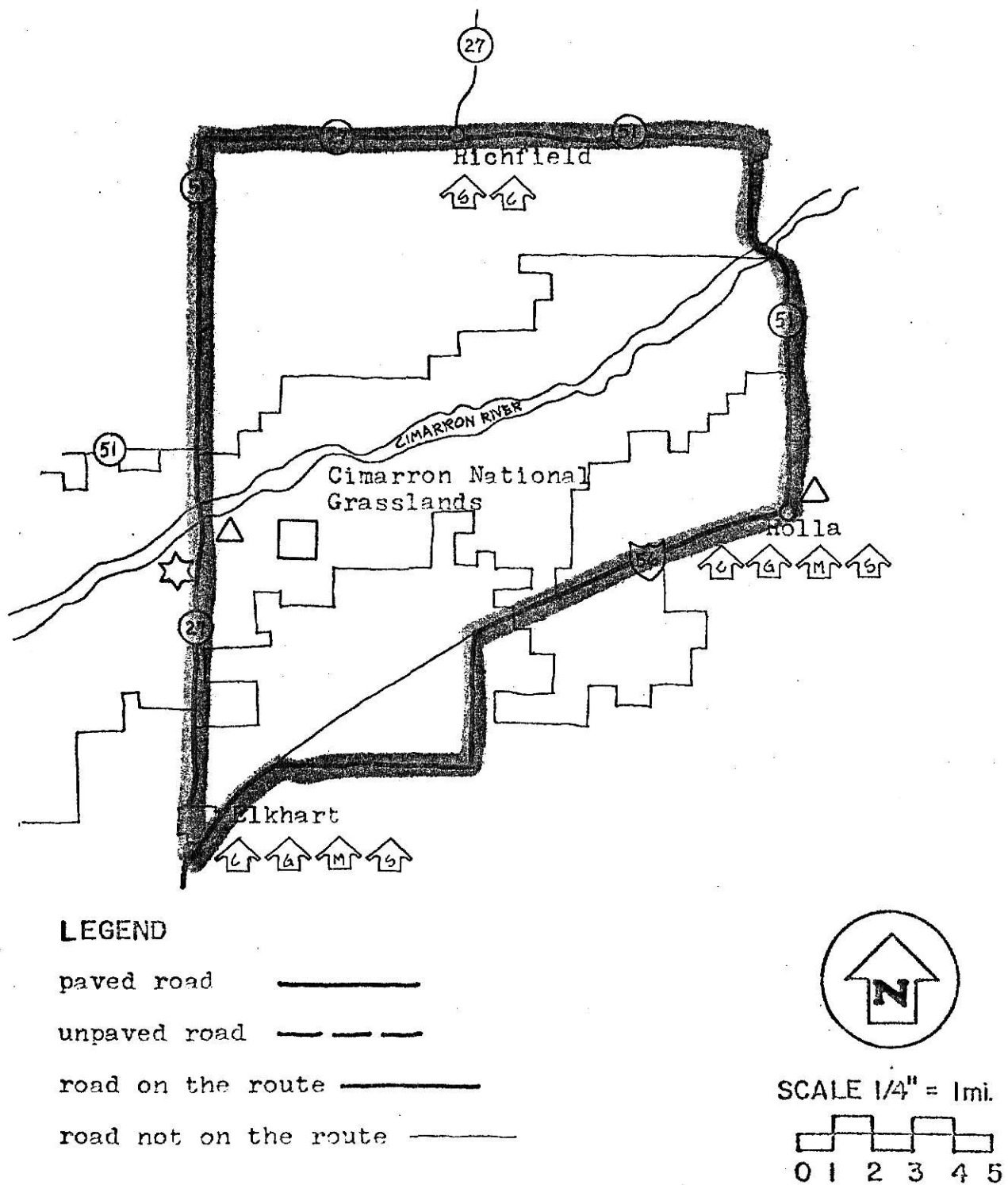


Figure 65

Trail No. 22

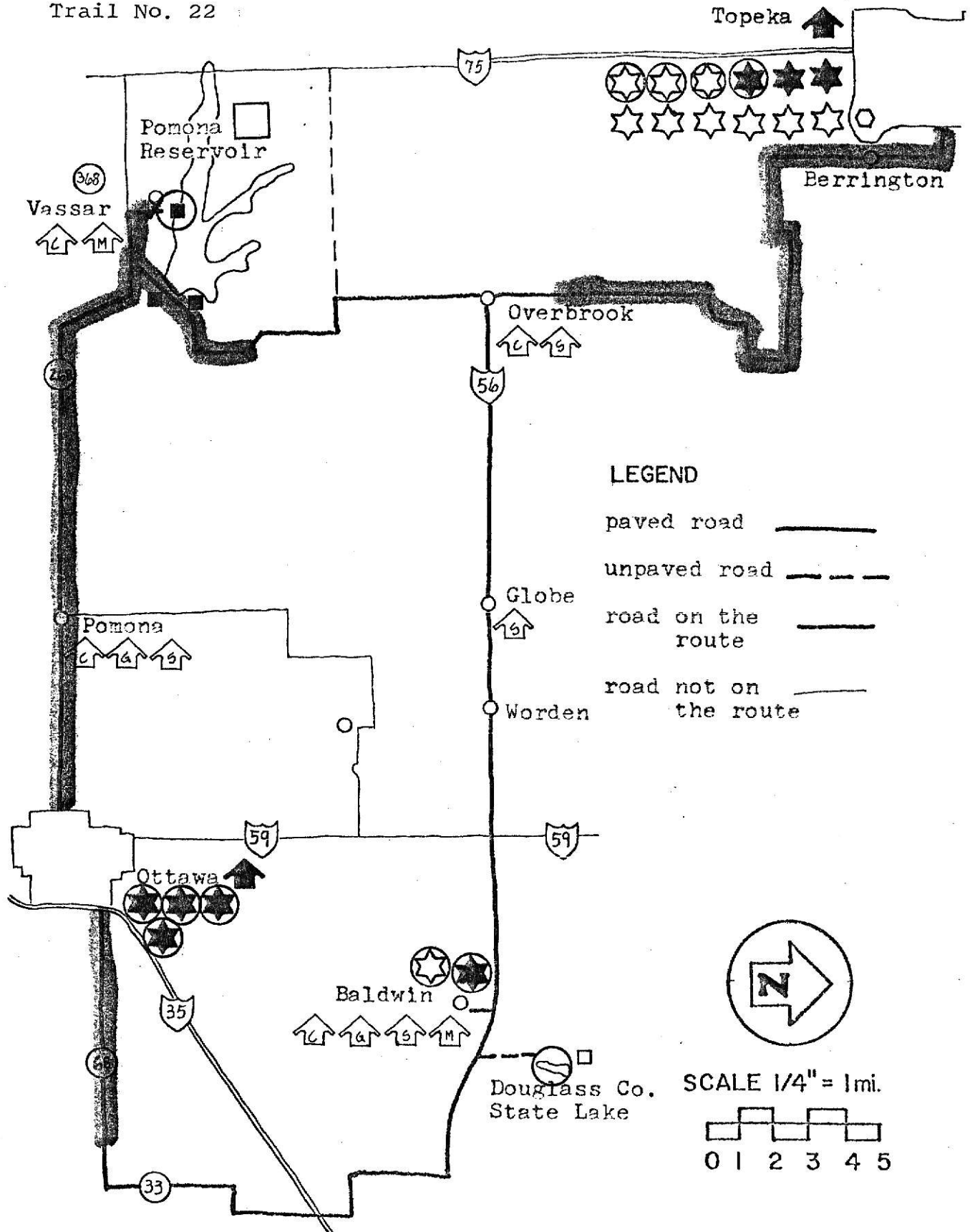
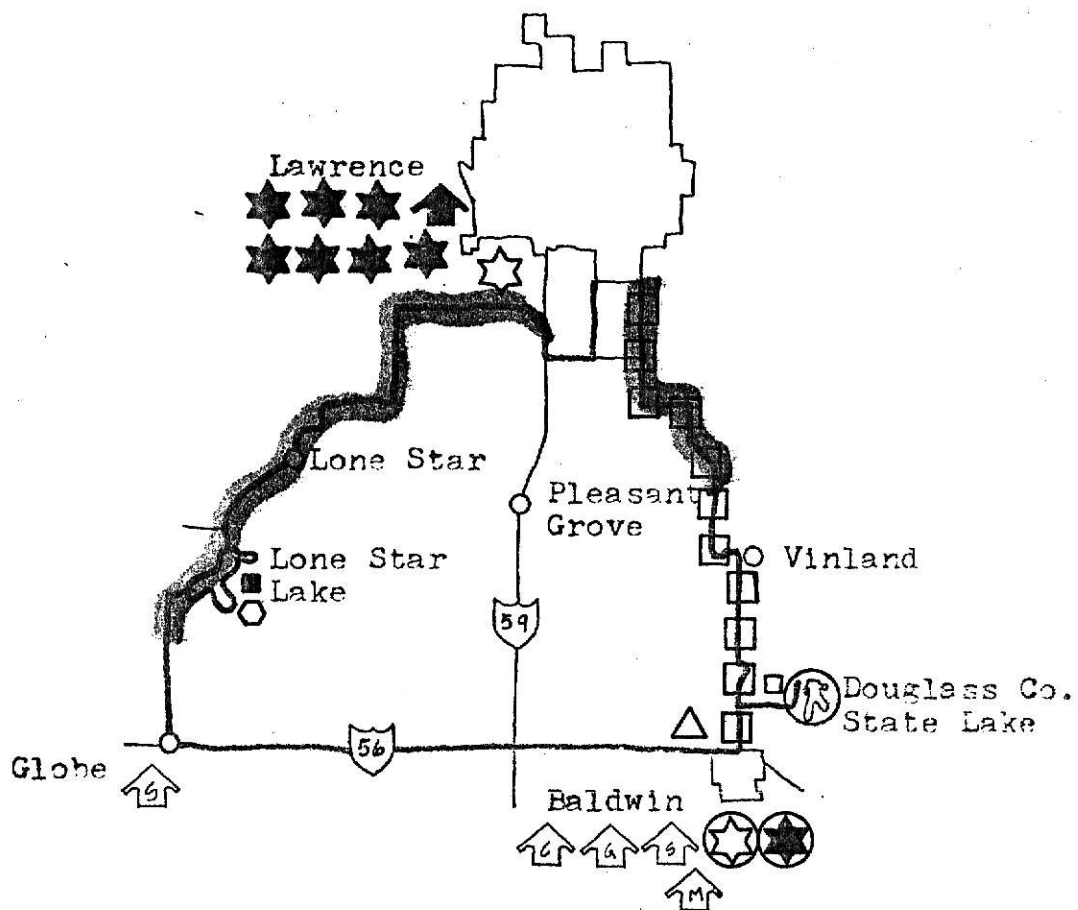


Figure 66

Trail No. 23



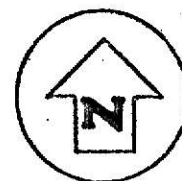
## LEGEND

paved road

unpaved road

road on the route

road not on the route



SCALE 1/4" = 1mi.

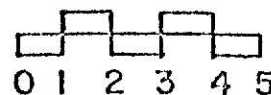


Figure 67

Trail No. 24

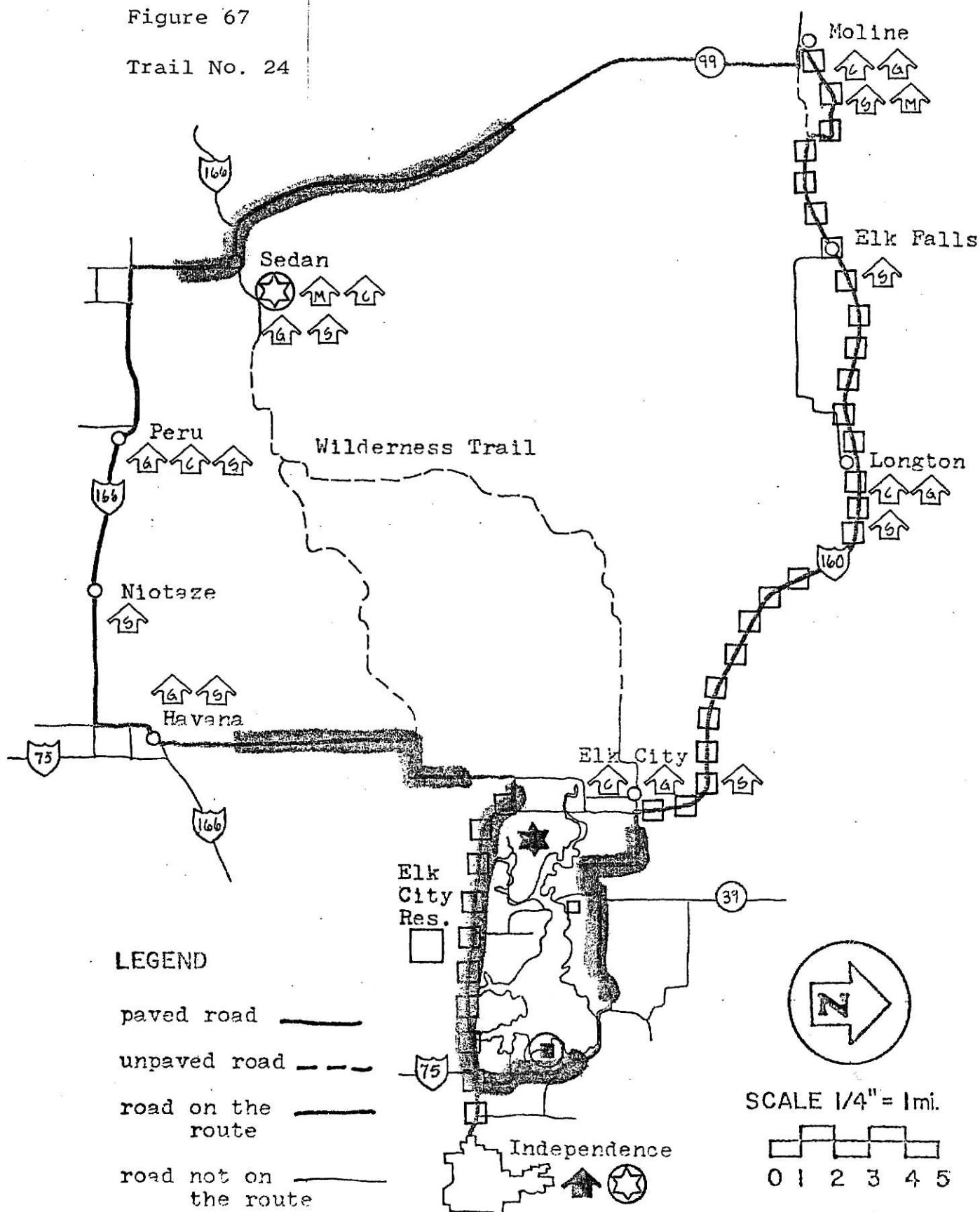
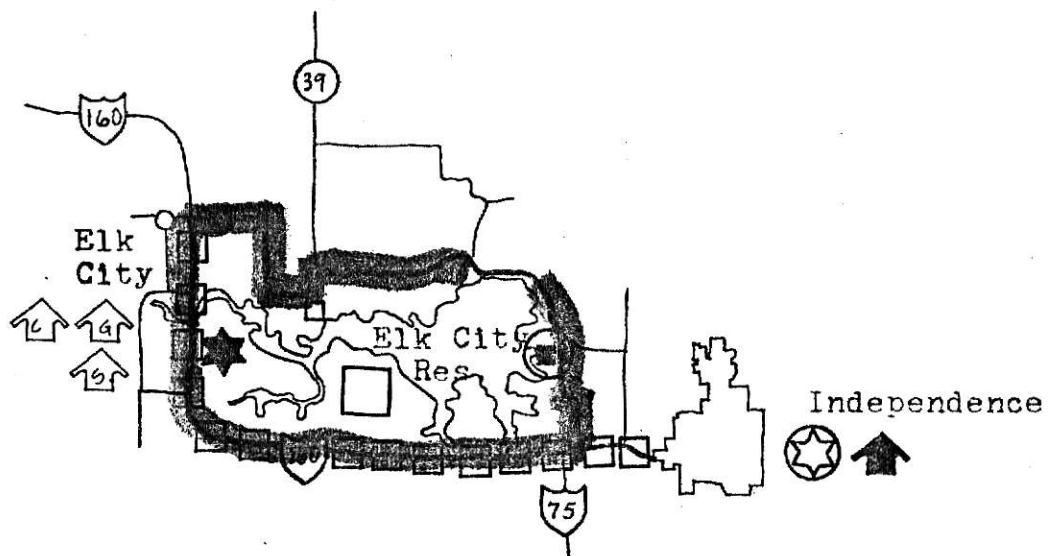


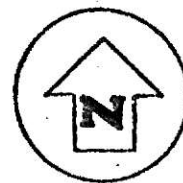
Figure 68

Trail No. 25



## LEGEND

- paved road —————
- unpaved road - - - - -
- road on the route —————
- road not on the route —————



SCALE 1/4" = 1mi.

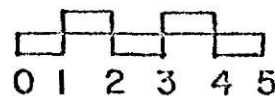
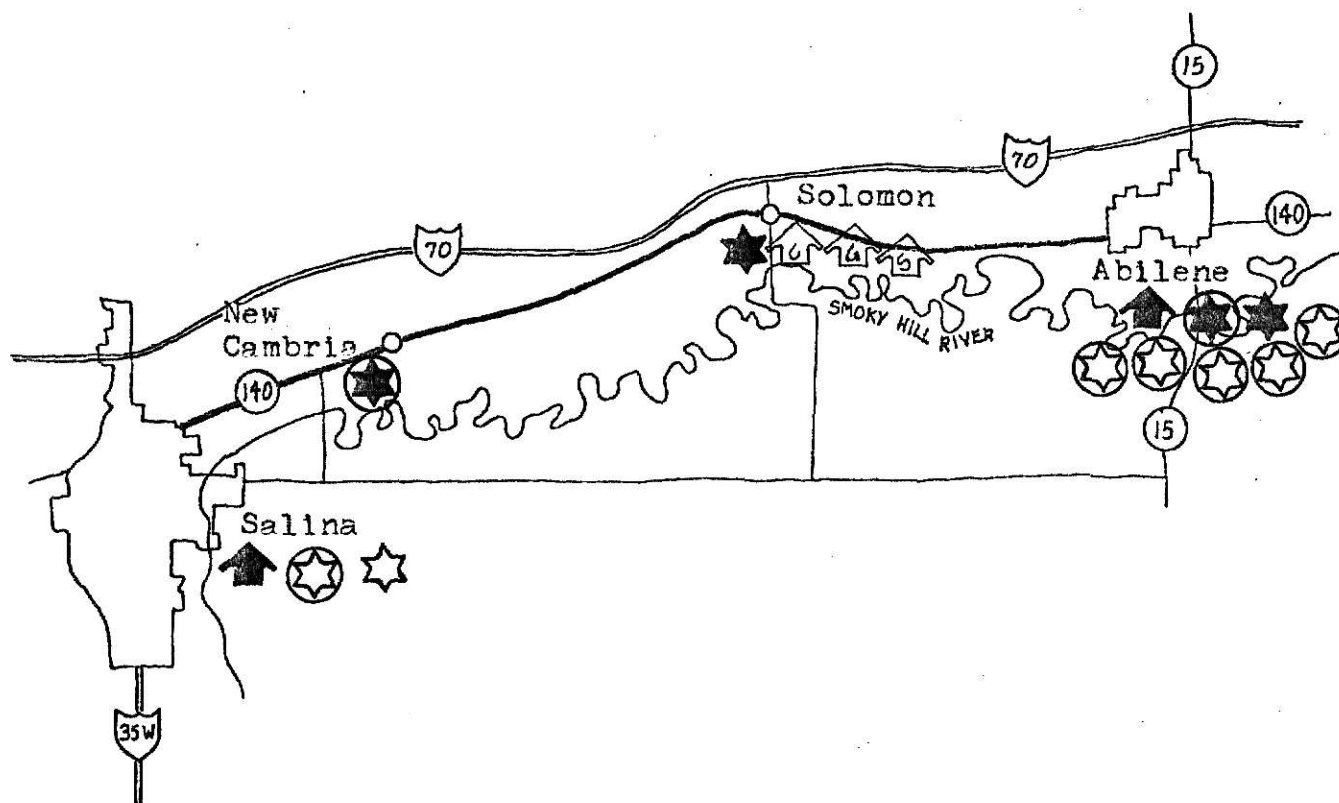


Figure 69

Trail No. 26



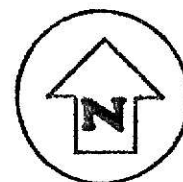
## LEGEND

paved road —————

unpaved road - - - - -

road on the route —————

road not on the route —————



SCALE 1/4" = 1mi.

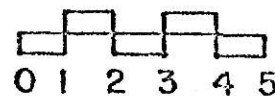
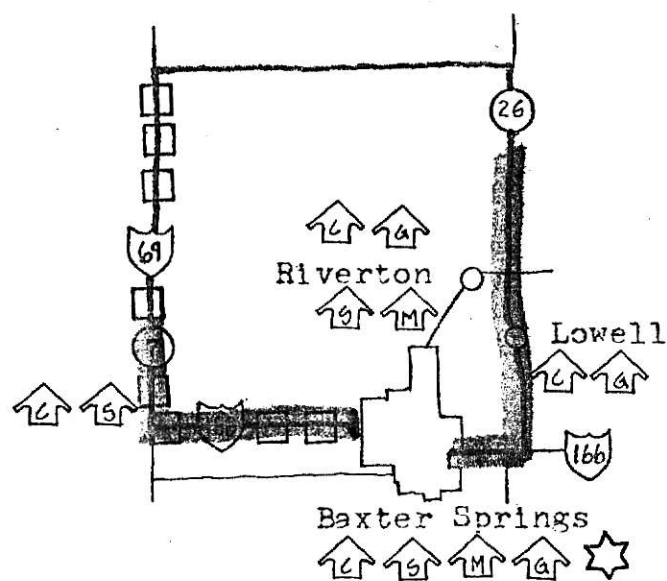


Figure 70

Trail No. 27



## LEGEND

paved road —————

unpaved road - - - - -

road on the route —————

road not on the route —————



SCALE 1/4" = 1mi.

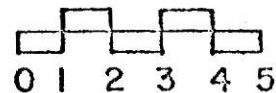
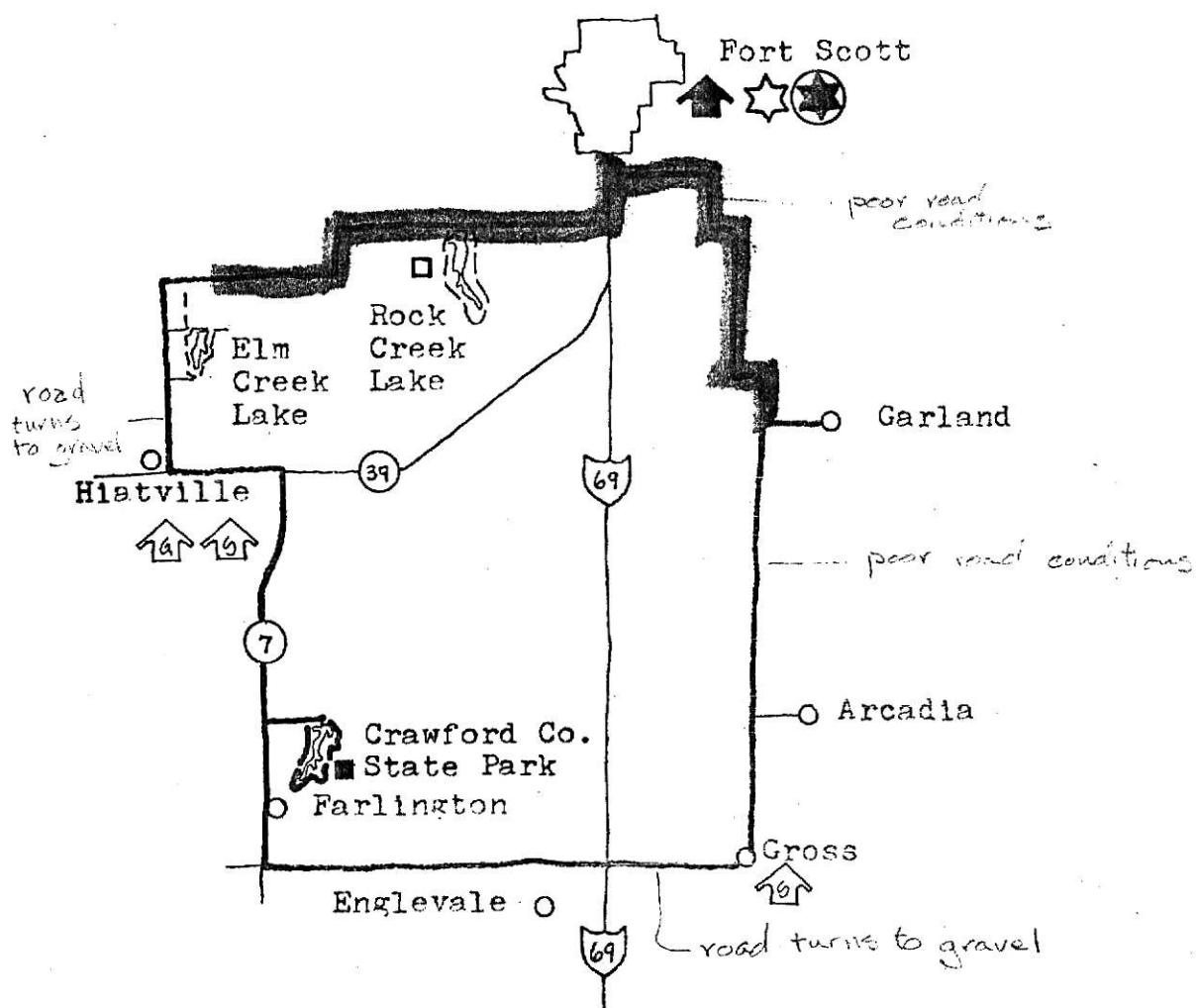






Figure 72

Trail No. 29



## LEGEND

paved road —————

unpaved road — — — — —

road on the route —————

road not on the route —————



SCALE 1/4" = 1mi.

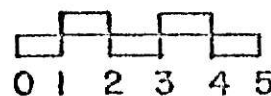
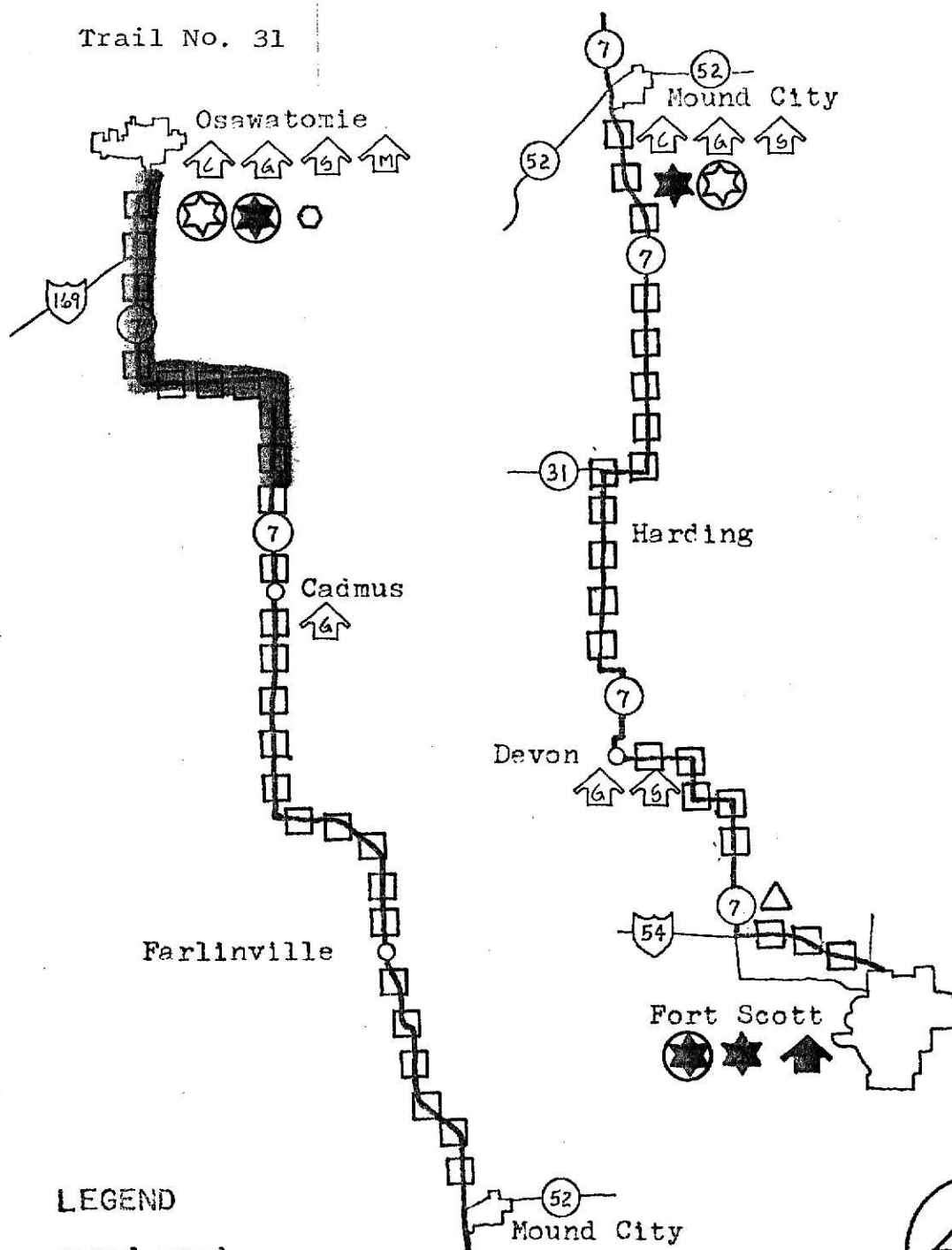


Figure 73

Trail No. 31



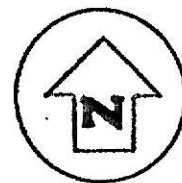
## LEGEND

paved road

unpaved road

road on the route

road not on the route



SCALE 1/4" = 1mi.

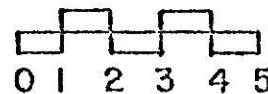
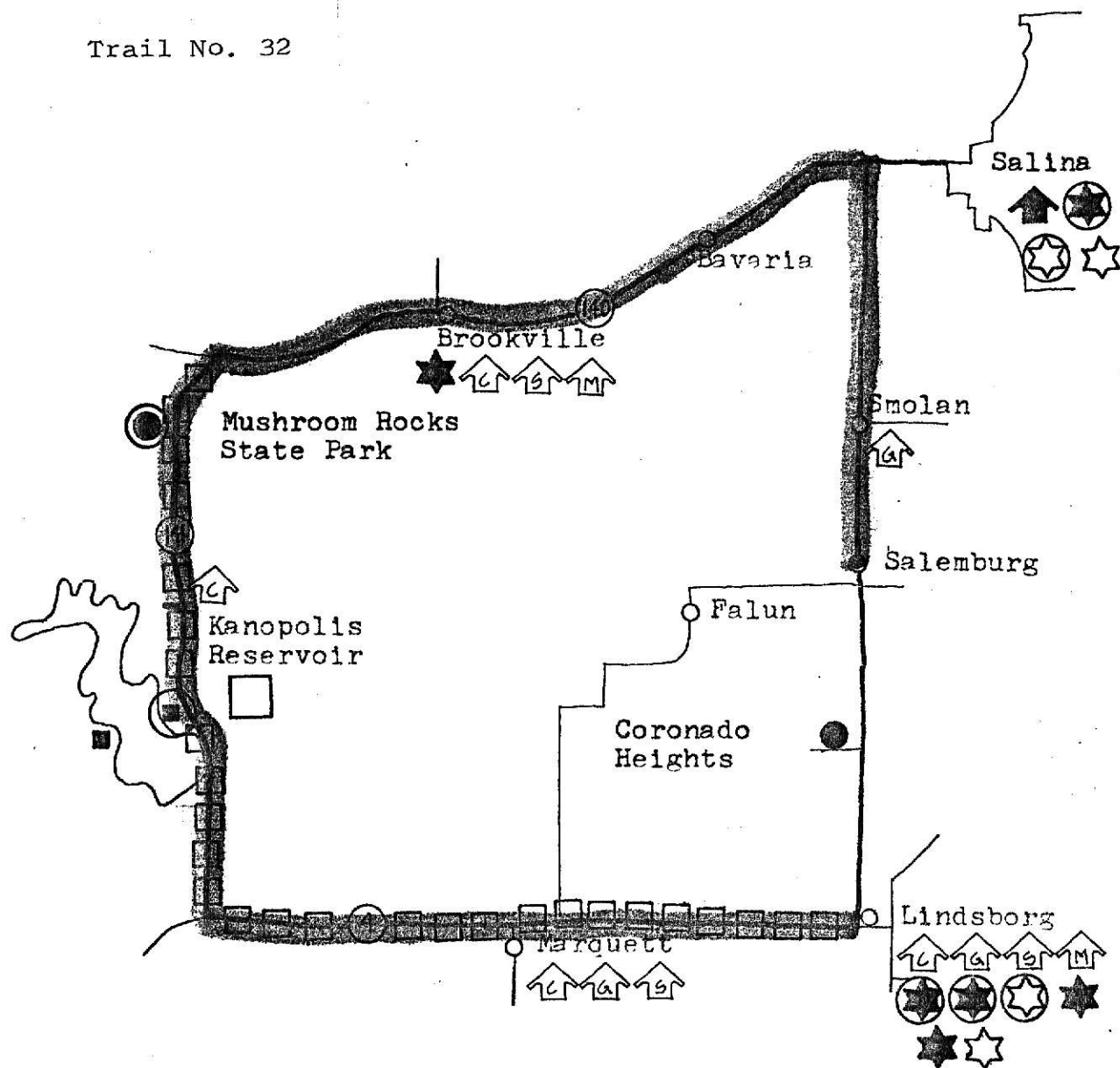


Figure 74

Trail No. 32



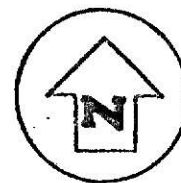
## LEGEND

paved road —————

unpaved road - - - - -

road on the route ————

road not on the route ————



SCALE 1/4" = 1mi.

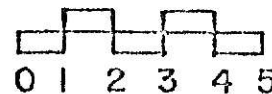
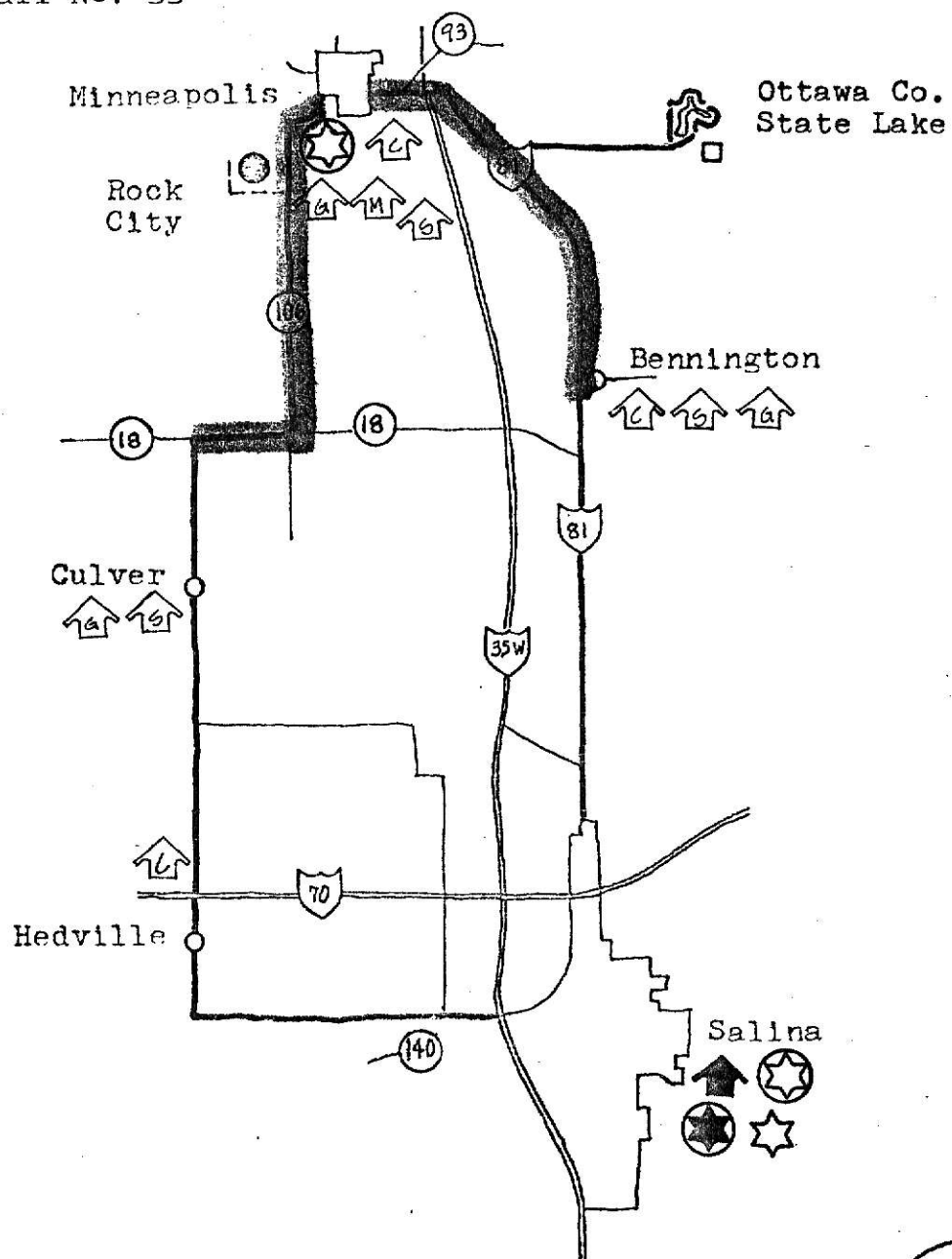


Figure 75

Trail No. 33

**LEGEND**

- paved road —————
- unpaved road - - - - -
- road on the route ————
- road not on the route ————



SCALE 1/4" = 1mi.

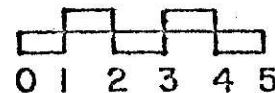
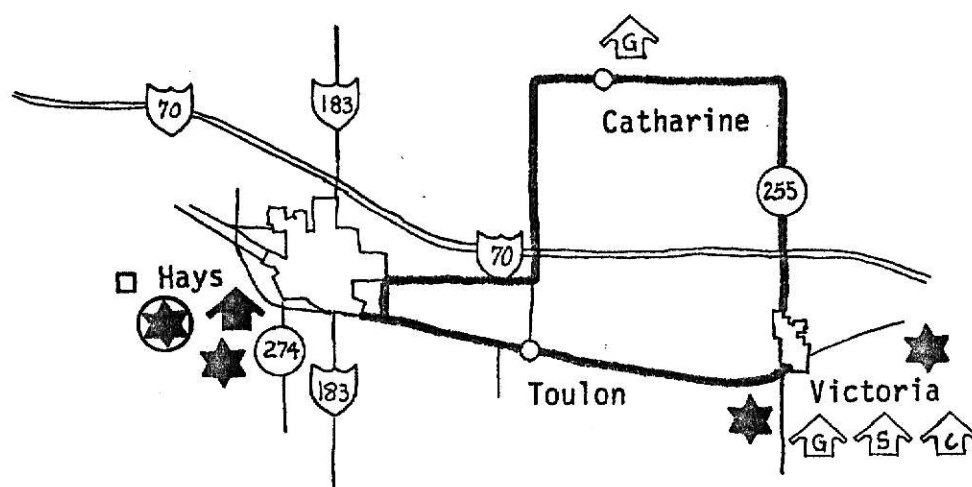


Figure 76

Trail No. 34



## LEGEND

paved road —————

unpaved road - - - - -

road on the route ————

road not on the route ————



SCALE 1/4" = 1 mi.

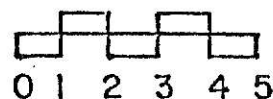
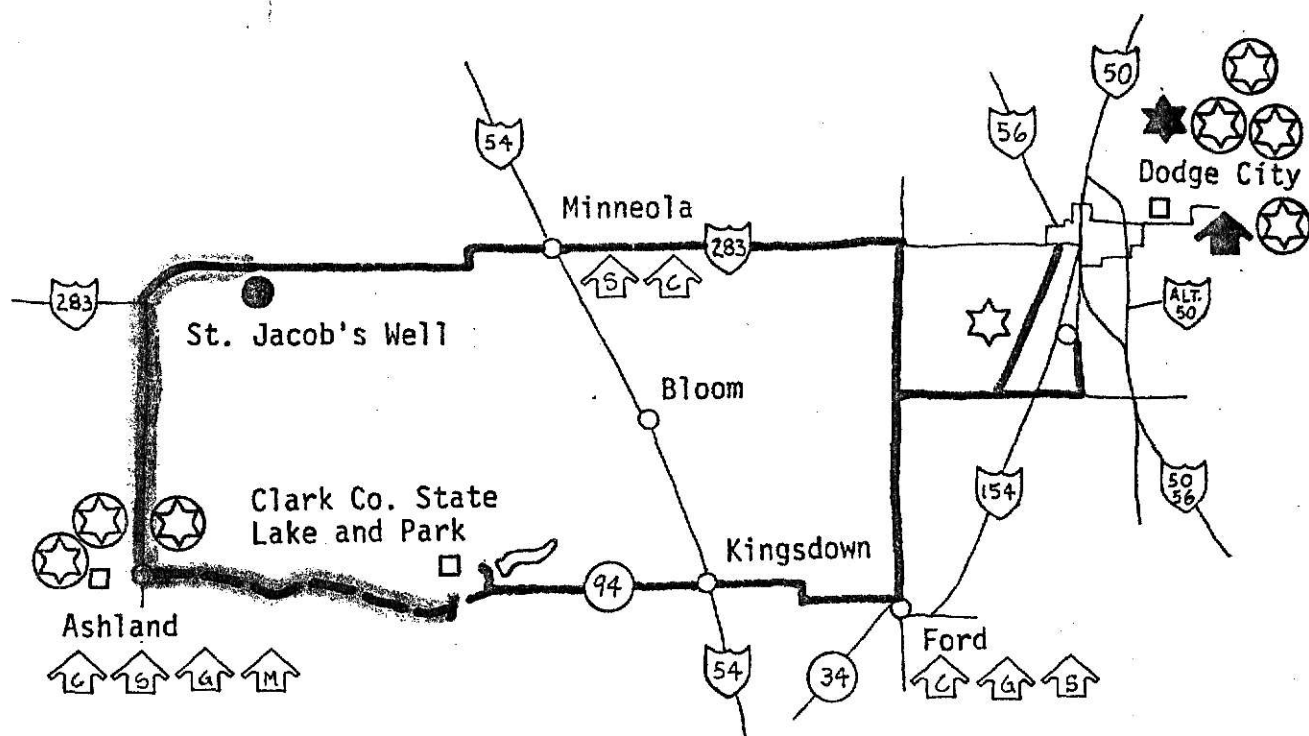


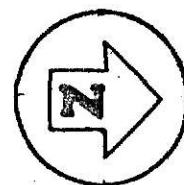
Figure 77

Trail No. 35

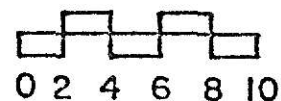


## LEGEND

- paved road —————
- unpaved road - - - - -
- road on the route —————
- road not on the route —————



SCALE 1/8" = 1 mi.



# **ILLEGIBLE DOCUMENT**

**THE FOLLOWING  
DOCUMENT(S) IS OF  
POOR LEGIBILITY IN  
THE ORIGINAL**

**THIS IS THE BEST  
COPY AVAILABLE**

## RECREATIONAL POTENTIAL EVALUATION



















Table 12

Trail No. 1

Name Chalk Bluffs Tour

Approximate Length 72 mi.

Difficulty Rating \*\* —\*\*\*

SYMBOL	ITEM	QUANTITY	VALUE	SUBTOTAL
	Historical Site	1	1	1
	Historical Site, Managed for Recreation	0	3	0
	Historical Site, on National Register	0	2	0
	Historical Site, on National Register, Managed for Recreation	2	4	8
	Federal Recreation Area	0	4	0
	State Recreation Area	1	4	4
	Selected City and County Recreation Areas	0	3	0
	Miles of Trail within Scenic Region	28	1 pt/mi	28
	Miles of Trail on Scenic Routes	16	1 pt/mi	16
	Campground w/ partial facilities ( no shower)	1	4	4
	Campground w/ full facilities	1	6	6
	Highway Rest Stop	0	1	0
	Service Stations	0	2	0
	Motel	0	4	0
	Grocery Store	0	3	0
	Cafe	1	3	3
	Bike Shops	0	2	0
	All Facilities in Near Vacinity	1	15	15

$$\frac{\text{Total Points}}{\text{Length in Miles}} = \frac{85}{72} = 1.18$$

Total 85



## RECREATIONAL POTENTIAL EVALUATION



















Table 13

Trail No. 2

Approximate Length 70 mi.

Name Wilson Reservoir Tour

Difficulty Rating \*\*\* — \*\*\*\*

SYMBOL	ITEM	QUANTITY	VALUE	SUBTOTAL
	Historical Site	0	1	1
	Historical Site, Managed for Recreation	1	3	3
	Historical Site, on National Register	0	2	0
	Historical Site, on National Register, Managed for Recreation	0	4	0
	Federal Recreation Area	1	4	4
	State Recreation Area	1	4	4
	Selected City and County Recreation Areas	0	3	0
	Miles of Trail within Scenic Region	70	1 pt/mi	70
	Miles of Trail on Scenic Routes	16	1 pt/mi	16
	Campground w/ partial facilities ( no shower)	1	4	4
	Campground w/ full facilities	3	6	18
	Highway Rest Stop	1	1	1
	Service Stations	5	2	10
	Motel	1	4	4
	Grocery Store	3	3	9
	Cafe	5	3	15
	Bike Shops	0	2	0
	All Facilities in Near Vicinity	0	15	0

$$\frac{\text{Total Points}}{\text{Length in Miles}} = \frac{159}{70} = 2.27 \quad \text{Total } 159$$

## RECREATIONAL POTENTIAL EVALUATION



















Table 14

Trail No. 3

Approximate Length 36 mi.

Name Larned - Pawnee Rock

Difficulty Rating \*\*

SYMBOL	ITEM	QUANTITY	VALUE	SUBTOTAL
	Historical Site	0	1	0
	Historical Site, Managed for Recreation	1	3	3
	Historical Site, on National Register	1	2	2
	Historical Site, on National Register, Managed for Recreation	0	4	0
	Federal Recreation Area	1	4	4
	State Recreation Area	0	4	0
	Selected City and County Recreation Areas	0	3	0
	Miles of Trail within Scenic Region	0	1 pt/mi	0
	Miles of Trail on Scenic Routes	14	1 pt/mi	14
	Campground w/ partial facilities ( no shower)	0	4	0
	Campground w/ full facilities	0	6	0
	Highway Rest Stop	1	1	1
	Service Stations	2	2	4
	Motel	0	4	0
	Grocery Store	1	3	3
	Cafe	1	3	3
	Bike Shops	0	2	0
	All Facilities in Near Vicinity	1	15	15

$$\frac{\text{Total Points}}{\text{Length in Miles}} = \frac{49}{36} = 1.36$$

Total 49

## RECREATIONAL POTENTIAL EVALUATION



















Table 15

Trail No. 4

Approximate Length 14 mi. rd. trip

Name Larned - Ft. Larned

Difficulty Rating \*

SYMBOL	ITEM	QUANTITY	VALUE	SUBTOTAL
	Historical Site	0	1	0
	Historical Site, Managed for Recreation	1	3	3
	Historical Site, on National Register	0	2	0
	Historical Site, on National Register, Managed for Recreation	1	4	4
	Federal Recreation Area	1	4	4
	State Recreation Area	0	4	0
	Selected City and County Recreation Areas	0	3	0
	Miles of Trail within Scenic Region	0	1 pt/mi	0
	Miles of Trail on Scenic Routes	14	1 pt/mi	14
	Campground w/ partial facilities ( no shower)	0	3	0
	Campground w/ full facilities	0	6	0
	Highway Rest Stop	2	1	2
	Service Stations	0	2	0
	Motel	0	4	0
	Grocery Store	0	3	0
	Cafe	0	3	0
	Bike Shops	0	2	0
	All Facilities in Near Vicinity	1	15	15

$$\frac{\text{Total Points}}{\text{Length in Miles}} = \frac{42}{14} = 3.0$$

Total 42

## RECREATIONAL POTENTIAL EVALUATION



















Table 16

Trail No. 5

Approximate Length 52 mi.

Name Grouse Creek Area

Difficulty Rating \*\*\*

SYMBOL	ITEM	QUANTITY	VALUE	SUBTOTAL
	Historical Site	0	1	0
	Historical Site, Managed for Recreation	1	3	3
	Historical Site, on National Register	2	2	4
	Historical Site, on National Register, Managed for Recreation	0	4	0
	Federal Recreation Area	0	4	0
	State Recreation Area	0	4	0
	Selected City and County Recreation Areas	0	3	0
	Miles of Trail within Scenic Region	52	1 pt/mi	52
	Miles of Trail on Scenic Routes	0	1 pt/mi	0
	Campground w/ partial facilities ( no shower)	0	3	0
	Campground w/ full facilities	0	6	0
	Highway Rest Stop	0	1	0
	Service Stations	2	2	4
	Motel	0	4	0
	Grocery Store	1	3	3
	Cafe	1	3	3
	Bike Shops	0	2	0
	All Facilities in Near Vacinity	1	15	15

$$\frac{\text{Total Points}}{\text{Length in Miles}} = \frac{84}{52} = 1.62$$

Total 84

## RECREATIONAL POTENTIAL EVALUATION



















Table 17

Trail No. 6

Approximate Length 48 mi.

Name Grouse Creek Area

Difficulty Rating \*\*\*

SYMBOL	ITEM	QUANTITY	VALUE	SUBTOTAL
	Historical Site	0	1	0
	Historical Site, Managed for Recreation	1	3	3
	Historical Site, on National Register	1	2	2
	Historical Site, on National Register, Managed for Recreation	0	4	0
	Federal Recreation Area	0	4	0
	State Recreation Area	1	4	4
	Selected City and County Recreation Areas	0	3	0
	Miles of Trail within Scenic Region	48	1 pt/mi	48
	Miles of Trail on Scenic Routes	0	1 pt/mi	0
	Campground w/ partial facilities ( no shower)	1	3	3
	Campground w/ full facilities	0	6	0
	Highway Rest Stop	0	1	0
	Service Stations	1	2	2
	Motel	0	4	0
	Grocery Store	1	3	3
	Cafe	2	3	6
	Bike Shops	0	2	0
	All Facilities in Near Vacinity	1	20	20

Total Points  
Length in Miles =  $\frac{91}{48} = 1.9$

Total 91

## RECREATIONAL POTENTIAL EVALUATION

Table 18

Trail No. 7

Approximate Length



















40 mi.

Return

Name Red Hills Tour

Difficulty Rating \*\*

via  
Lake City

SYMBOL	ITEM	QUANTITY	VALUE	SUBTOTAL
	Historical Site	0	1	0
	Historical Site, Managed for Recreation	1	3	3
	Historical Site, on National Register	1	2	2
	Historical Site, on National Register, Managed for Recreation	1	4	4
	Federal Recreation Area	0	4	0
	State Recreation Area	0	4	0
	Selected City and County Recreation Areas	0	3	0
	Miles of Trail within Scenic Region	40	1 pt/mi	40
	Miles of Trail on Scenic Routes	40	1 pt/mi	40
	Campground w/ partial facilities ( no shower)	0	4	0
	Campground w/ full facilities	0	6	0
	Highway Rest Stop	0	1	0
	Service Stations	4	2	8
	Motel	1	4	4
	Grocery Store	4	3	12
	Cafe	2	3	6
	Bike Shops	0	2	0
	All Facilities in Near Vicinity	0	15	0

$$\frac{\text{Total Points}}{\text{Length in Miles}} = \frac{119}{40} = 2.98$$

Total 119



## RECREATIONAL POTENTIAL EVALUATION



















Table 19

Trail No. 8

Approximate Length 46 mi.

Name Red Hills Tour

Difficulty Rating \*\*\*

SYMBOL	ITEM	QUANTITY	VALUE	SUBTOTAL
	Historical Site	0	1	0
	Historical Site, Managed for Recreation	1	3	3
	Historical Site, on National Register	1	2	2
	Historical Site, on National Register, Managed for Recreation	1	4	4
	Federal Recreation Area	0	4	0
	State Recreation Area	0	4	0
	Selected City and County Recreation Areas	0	3	0
	Miles of Trail within Scenic Region	46	1 pt/mi	46
	Miles of Trail on Scenic Routes	24	1 pt/mi	24
	Campground w/ partial facilities ( no shower)	0	4	0
	Campground w/ full facilities	0	6	0
	Highway Rest Stop	1	1	1
	Service Stations	3	2	6
	Motel	1	4	4
	Grocery Store	3	3	9
	Cafe	2	3	6
	Bike Shops	0	2	0
	All Facilities in Near Vacinity	0	15	0

$$\frac{\text{Total Points}}{\text{Length in Miles}} = \frac{105}{46} = 2.28$$

Total 105

## RECREATIONAL POTENTIAL EVALUATION



















Table 20

Trail No. 9

Approximate Length 44 mi.

Name Lindsborg Loop

Difficulty Rating \*\*

SYMBOL	ITEM	QUANTITY	VALUE	SUBTOTAL
	Historical Site	0	1	0
	Historical Site, Managed for Recreation	2	3	6
	Historical Site, on National Register	0	2	0
	Historical Site, on National Register, Managed for Recreation	1	4	4
	Federal Recreation Area	0	4	0
	State Recreation Area	0	4	0
	Selected City and County Recreation Areas	1	3	3
	Miles of Trail within Scenic Region	22	1 pt/mi	22
	Miles of Trail on Scenic Routes	8	1 pt/mi	8
	Campground w/ partial facilities ( no shower)	0	3	0
	Campground w/ full facilities	0	6	0
	Highway Rest Stop	0	1	0
	Service Stations	4	2	8
	Motel	2	4	8
	Grocery Store	2	3	6
	Cafe	5	3	15
	Bike Shops	0	2	0
	All Facilities in Near Vacinity	0	20	0

$$\frac{\text{Total Points}}{\text{Length in Miles}} = \frac{80}{44} = 1.82$$

Total 80











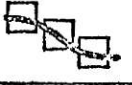









## RECREATIONAL POTENTIAL EVALUATION

Table 21

Trail No. 11

Approximate Length 100 Mi. Rd. Trip

Name Heart of the Flint Hills Difficulty Rating \*\*\*\*

SYMBOL	ITEM	QUANTITY	VALUE	SUBTOTAL
	Historical Site	1	1	1
	Historical Site, Managed for Recreation	1	3	3
	Historical Site, on National Register	10	2	20
	Historical Site, on National Register, Managed for Recreation	2	4	8
	Federal Recreation Area	1	4	4
	State Recreation Area	1	4	4
	Selected City and County Recreation Areas	0	3	0
	Miles of Trail within Scenic Region	100	1 pt/mi	100
	Miles of Trail on Scenic Routes	100	1 pt/mi	100
	Campground w/ partial facilities ( no shower)	3	4	12
	Campground w/ full facilities	0	6	0
	Highway Rest Stop	0	1	0
	Service Stations	10	2	20
	Motel	1	4	4
	Grocery Store	7	3	12
	Cafe	8	3	24
	Bike Shops	0	2	0
	All Facilities in Near Vacinity	0	15	0

$$\frac{\text{Total Points}}{\text{Length in Miles}} = \frac{312}{100} = 3.12$$

Total 312

## RECREATIONAL POTENTIAL EVALUATION



















Table 22

Trail No. 12

Approximate Length 48 mi.

Name Winfield - Bartlett  
Arboretum

Difficulty Rating \*\*\*

SYMBOL	ITEM	QUANTITY	VALUE	SUBTOTAL
	Historical Site	1	1	1
	Historical Site, Managed for Recreation	2	3	6
	Historical Site, on National Register	2	2	4
	Historical Site, on National Register, Managed for Recreation	0	4	0
	Federal Recreation Area	0	4	0
	State Recreation Area	0	4	0
	Selected City and County Recreation Areas	0	3	0
	Miles of Trail within Scenic Region	48	1 pt/mi	48
	Miles of Trail on Scenic Routes	0	1 pt/mi	0
	Campground w/ partial facilities ( no shower)	2	4	8
	Campground w/ full facilities	0	6	0
	Highway Rest Stop	0	1	0
	Service Stations	3	2	6
	Motel	0	4	0
	Grocery Store	3	3	9
	Cafe	3	3	9
	Bike Shops	0	2	0
	All Facilities in Near Vacinity	1	15	15

$$\frac{\text{Total Points}}{\text{Length in Miles}} = \frac{106}{48} = 2.21$$

Total 106









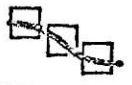









## RECREATIONAL POTENTIAL EVALUATION

Table 23

Trail No. 13

Approximate Length 91 mi.

Name Limestone, Oak &amp; Bluestem Difficulty Rating \*\*\*\*

SYMBOL	ITEM	QUANTITY	VALUE	SUBTOTAL
	Historical Site	0	1	0
	Historical Site, Managed for Recreation	4	3	12
	Historical Site, on National Register	1	2	2
	Historical Site, on National Register, Managed for Recreation	1	4	4
	Federal Recreation Area	0	4	0
	State Recreation Area	1	4	4
	Selected City and County Recreation Areas	0	3	0
	Miles of Trail within Scenic Region	91	1 pt/mi	91
	Miles of Trail on Scenic Routes	17	1 pt/mi	17
	Campground w/ partial facilities ( no shower)	1	4	4
	Campground w/ full facilities	0	6	0
	Highway Rest Stop	0	1	0
	Service Stations	4	2	8
	Motel or Hotel	1	4	4
	Grocery Store	3	3	9
	Cafe	2	3	6
	Bike Shops	0	2	0
	All Facilities in Near Vicinity	1	15	15

$$\frac{\text{Total Points}}{\text{Length in Miles}} = \frac{186}{91} = 2.04$$

Total 186

## RECREATIONAL POTENTIAL EVALUATION



















Table 24

Trail No. 14

Approximate Length 37 mi.

Name McDowell Creek Road

Difficulty Rating \*\*

SYMBOL	ITEM	QUANTITY	VALUE	SUBTOTAL
	Historical Site	1	1	1
	Historical Site, Managed for Recreation	2	3	6
	Historical Site, on National Register	0	2	0
	Historical Site, on National Register, Managed for Recreation	1	4	4
	Federal Recreation Area	0	4	0
	State Recreation Area	0	4	0
	Selected City and County Recreation Areas	0	3	0
	Miles of Trail within Scenic Region	37	1 pt/mi	37
	Miles of Trail on Scenic Routes	0	1 pt/mi	0
	Campground w/ partial facilities ( no shower)	0	4	0
	Campground w/ full facilities	0	6	0
	Highway Rest Stop	0	1	0
	Service Stations	2	2	4
	Motel	0	4	0
	Grocery Store	0	3	0
	Cafe	1	3	3
	Bike Shops	0	2	0
	All Facilities in Near Vacinity	1	15	15

$\frac{\text{Total Points}}{\text{Length in Miles}} = \frac{70}{37} = 1.89$

Total 70

## RECREATIONAL POTENTIAL EVALUATION









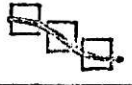









Table 25

Trail No. 15

Approximate Length 46 mi.

Name Milford Reservoir Tour

Difficulty Rating \*\*

SYMBOL	ITEM	QUANTITY	VALUE	SUBTOTAL
	Historical Site	0	1	0
	Historical Site, Managed for Recreation	0	3	0
	Historical Site, on National Register	2	2	4
	Historical Site, on National Register, Managed for Recreation	0	4	0
	Federal Recreation Area	1	4	4
	State Recreation Area	1	4	4
	Selected City and County Recreation Areas	0	3	0
	Miles of Trail within Scenic Region	46	1 pt/mi	46
	Miles of Trail on Scenic Routes	0	1 pt/mi	0
	Campground w/ partial facilities ( no shower)	4	4	16
	Campground w/ full facilities	4	6	24
	Highway Rest Stop	0	1	0
	Service Stations	2	2	4
	Motel	0	4	0
	Grocery Store	2	3	6
	Cafe	2	3	6
	Bike Shops	0	2	0
	All Facilities in Near Vacinity	1	15	15

$$\frac{\text{Total Points}}{\text{Length in Miles}} = \frac{129}{46} = 2.8$$

Total 129

## RECREATIONAL POTENTIAL EVALUATION



















Table 26

Trail No. 16

Approximate Length 66 mi.

Name Blue River Valley Tour

Difficulty Rating \*\*\*

SYMBOL	ITEM	QUANTITY	VALUE	SUBTOTAL
	Historical Site	1	1	1
	Historical Site, Managed for Recreation	2	2	4
	Historical Site, on National Register	0	3	0
	Historical Site, on National Register, Managed for Recreation	1	4	4
	Federal Recreation Area	1	4	4
	State Recreation Area	4	4	16
	Selected City and County Recreation Areas	0	3	0
	Miles of Trail within Scenic Region	32	1 pt/mi	32
	Miles of Trail on Scenic Routes	24	1 pt/mi	24
	Campground w/ partial facilities ( no shower)	0	4	0
	Campground w/ full facilities	4	6	24
	Highway Rest Stop	1	1	1
	Service Stations	5	2	10
	Motel	1	4	4
	Grocery Store	5	3	15
	Cafe	5	3	15
	Bike Shops	0	2	0
	All Facilities in Near Vicinity	1	15	15

$$\frac{\text{Total Points}}{\text{Length in Miles}} = \frac{169}{66} = 2.56$$

Total 169



## RECREATIONAL POTENTIAL EVALUATION



















Table 27

Trail No. 17

Name Pony Express Tour

Approximate Length 75 mi.

Difficulty Rating \*\*\*

SYMBOL	ITEM	QUANTITY	VALUE	SUBTOTAL
	Historical Site	0	1	0
	Historical Site, Managed for Recreation	0	3	0
	Historical Site, on National Register	5	2	10
	Historical Site, on National Register, Managed for Recreation	2	4	8
	Federal Recreation Area	0	4	0
	State Recreation Area	1	4	4
	Selected City and County Recreation Areas	0	3	0
	Miles of Trail within Scenic Region	24	1 pt/mi	24
	Miles of Trail on Scenic Routes	18	1 pt/mi	18
	Campground w/ partial facilities ( no shower)	0	4	0
	Campground w/ full facilities	1	6	6
	Highway Rest Stop	1	1	1
	Service Stations	6	2	12
	Motel	4	4	16
	Grocery Store	5	3	15
	Cafe	5	3	15
	Bike Shops	0	2	0
	All Facilities in Near Vacinity	0	15	0

$$\frac{\text{Total Points}}{\text{Length in Miles}} = \frac{129}{75} = 1.72$$

Total 129



















## RECREATIONAL POTENTIAL EVALUATION

Table 28

Trail No. 18

Approximate Length 54 mi.

Name Topeka - Perry Reservoir Difficulty Rating \*\*\*

SYMBOL	ITEM	QUANTITY	VALUE	SUBTOTAL
	Historical Site	1	1	1
	Historical Site, Managed for Recreation	3	3	9
	Historical Site, on National Register	3	2	6
	Historical Site, on National Register, Managed for Recreation	1	4	4
	Federal Recreation Area	1	4	4
	State Recreation Area	1	4	4
	Selected City and County Recreation Areas	1	3	3
	Miles of Trail within Scenic Region	28	1 pt/mi	28
	Miles of Trail on Scenic Routes	0	1 pt/mi	0
	Campground w/ partial facilities ( no shower)	4	4	16
	Campground w/ full facilities	2	6	12
	Highway Rest Stop	0	1	0
	Service Stations	2	2	4
	Motel	0	4	0
	Grocery Store	2	3	6
	Cafe	2	3	6
	Bike Shops	0	2	0
	All Facilities in Near Vacinity	1	15	15

$$\frac{\text{Total Points}}{\text{Length in Miles}} = \frac{118}{54} = 2.19$$

Total 118



## RECREATIONAL POTENTIAL EVALUATION



















Table 29

Trail No. 19

Approximate Length 64 mi.

Name Missouri Bluffs Tour

Difficulty Rating \*\*\*—\*\*\*\*

SYMBOL	ITEM	QUANTITY	VALUE	SUBTOTAL
	Historical Site	7	1	7
	Historical Site, Managed for Recreation	2	3	6
	Historical Site, on National Register	12	2	24
	Historical Site, on National Register, Managed for Recreation	1	4	4
	Federal Recreation Area	0	4	0
	State Recreation Area	0	4	0
	Selected City and County Recreation Areas	1	3	3
	Miles of Trail within Scenic Region	26	1 pt/mi	26
	Miles of Trail on Scenic Routes	16	1 pt/mi	16
	Campground w/ partial facilities ( no shower)	0	4	0
	Campground w/ full facilities	0	6	0
	Highway Rest Stop	1	1	1
	Service Stations	1	2	2
	Motel	0	4	0
	Grocery Store	1	3	3
	Cafe	1	3	3
	Bike Shops	0	2	0
	All Facilities in Near Vacinity	2	15	30

$$\frac{\text{Total Points}}{\text{Length in Miles}} = \frac{125}{64} = 1.95$$

Total 125









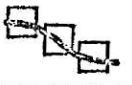









## RECREATIONAL POTENTIAL EVALUATION

Table 30

Trail No. 20

Approximate Length 78 mi. Rd. trip

Name Arkansas River Sand Dunes Difficulty Rating \*\*\*

SYMBOL	ITEM	QUANTITY	VALUE	SUBTOTAL
	Historical Site	1	1	1
	Historical Site, Managed for Recreation	1	3	3
	Historical Site, on National Register	0	2	0
	Historical Site, on National Register, Managed for Recreation	0	4	0
	Federal Recreation Area	0	4	0
	State Recreation Area	0	4	0
	Selected City and County Recreation Areas	0	3	0
	Miles of Trail within Scenic Region	52	1 pt/mi	52
	Miles of Trail on Scenic Routes	0	1 pt/mi	0
	Campground w/ partial facilities ( no shower)	1	4	4
	Campground w/ full facilities	0	6	0
	Highway Rest Stop	2	1	2
	Service Stations	2	2	4
	Motel	1	4	4
	Grocery Store	1	3	3
	Cafe	1	3	3
	Bike Shops	0	2	0
	All Facilities in Near Vicinity	1	15	15

$$\frac{\text{Total Points}}{\text{Length in Miles}} = \frac{91}{78} = 1.17$$

Total 91

## RECREATIONAL POTENTIAL EVALUATION

Table 31



















Trail No. 21

Approximate Length 60 mi.

Name Cimarron National

Difficulty Rating \*\*\*

Grasslands Tour

SYMBOL	ITEM	QUANTITY	VALUE	SUBTOTAL
	Historical Site	1	1	1
	Historical Site, Managed for Recreation	0	3	0
	Historical Site, on National Register	0	2	0
	Historical Site, on National Register, Managed for Recreation	0	4	0
	Federal Recreation Area	1	4	4
	State Recreation Area	0	4	0
	Selected City and County Recreation Areas	0	3	0
	Miles of Trail within Scenic Region	60	1 pt/mi	60
	Miles of Trail on Scenic Routes	0	1 pt/mi	0
	Campground w/ partial facilities ( no shower)	0	4	0
	Campground w/ full facilities	0	6	0
	Highway Rest Stop	2	1	2
	Service Stations	3	2	6
	Motel	2	4	8
	Grocery Store	2	3	6
	Cafe	3	3	9
	Bike Shops	0	2	0
	All Facilities in Near Vacinity	0	15	0

$$\frac{\text{Total Points}}{\text{Length in Miles}} = \frac{96}{60} = 1.60$$

Total 96



















## RECREATIONAL POTENTIAL EVALUATION

Table 32

Trail No. 22

Bald-Approximate Length 123 mi.

Name Topeka-Pomona-Ottawa- win Difficulty Rating \*\*\*\*

SYMBOL	ITEM	QUANTITY	VALUE	SUBTOTAL
	Historical Site	6	1	6
	Historical Site, Managed for Recreation	4	3	12
	Historical Site, on National Register	2	2	4
	Historical Site, on National Register, Managed for Recreation	6	4	24
	Federal Recreation Area	1	4	4
	State Recreation Area	1	4	4
	Selected City and County Recreation Areas	1	3	3
	Miles of Trail within Scenic Region	56	1 pt/mi	56
	Miles of Trail on Scenic Routes	0	1 pt/mi	0
	Campground w/ partial facilities ( no shower)	1	4	4
	Campground w/ full facilities	3	6	18
	Highway Rest Stop	0	1	0
	Service Stations	4	2	8
	Motel	2	4	8
	Grocery Store	2	3	6
	Cafe	4	3	12
	Bike Shops	0	2	0
	All Facilities in Near Vacinity	2	15	30

$$\frac{\text{Total Points}}{\text{Length in Miles}} = \frac{199}{123} = 1.62$$

Total 199

## RECREATIONAL POTENTIAL EVALUATION



















Table 33

Trail No. 23

Approximate Length 40 mi.

Name Lawrence-Lonestar Tour

Difficulty Rating \*\*

SYMBOL	ITEM	QUANTITY	VALUE	SUBTOTAL
	Historical Site	1	1	1
	Historical Site, Managed for Recreation	1	3	3
	Historical Site, on National Register	7	2	14
	Historical Site, on National Register, Managed for Recreation	1	4	4
	Federal Recreation Area	0	4	0
	State Recreation Area	1	4	4
	Selected City and County Recreation Areas	1	3	3
	Miles of Trail within Scenic Region	20	1 pt/mi	20
	Miles of Trail on Scenic Routes	9	1 pt/mi	9
	Campground w/ partial facilities ( no shower)	1	4	4
	Campground w/ full facilities	1	6	6
	Highway Rest Stop	1	1	1
	Service Stations	2	2	4
	Motel	1	4	4
	Grocery Store	1	3	3
	Cafe	1	3	3
	Bike Shops	0	2	0
	All Facilities in Near Vicinity	1	15	15

$$\frac{\text{Total Points}}{\text{Length in Miles}} = \frac{98}{40} = 2.45$$

Total 98

## RECREATIONAL POTENTIAL EVALUATION



















Table 34

Trail No. 24

Approximate Length 104 mi.

Name Chautauqua Hills Tour

Difficulty Rating \*\*\*\*

SYMBOL	ITEM	QUANTITY	VALUE	SUBTOTAL
	Historical Site	0	1	0
	Historical Site, Managed for Recreation	2	3	6
	Historical Site, on National Register	1	2	2
	Historical Site, on National Register, Managed for Recreation	0	4	0
	Federal Recreation Area	1	4	4
	State Recreation Area	1	4	4
	Selected City and County Recreation Areas	0	3	0
	Miles of Trail within Scenic Region	38	1 pt/mi	38
	Miles of Trail on Scenic Routes	40	1 pt/mi	40
	Campground w/ partial facilities ( no shower)	1	4	4
	Campground w/ full facilities	1	6	6
	Highway Rest Stop	0	1	0
	Service Stations	8	2	16
	Motel	2	4	8
	Grocery Store	6	3	18
	Cafe	5	3	15
	Bike Shops	0	2	0
	All Facilities in Near Vicinity	1	15	15

$$\frac{\text{Total Points}}{\text{Length in Miles}} = \frac{176}{104} = 1.69$$

Total 176











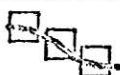









## RECREATIONAL POTENTIAL EVALUATION

Table 35

Trail No. 25

Approximate Length 30 mi.

Name Elk City Reservoir Tour Difficulty Rating \*\*\*—\*\*\*\*

SYMBOL	ITEM	QUANTITY	VALUE	SUBTOTAL
	Historical Site	0	1	0
	Historical Site, Managed for Recreation	1	3	3
	Historical Site, on National Register	1	2	2
	Historical Site, on National Register, Managed for Recreation	0	4	0
	Federal Recreation Area	1	4	4
	State Recreation Area	1	4	4
	Selected City and County Recreation Areas	0	3	0
	Miles of Trail within Scenic Region	28	1 pt/mi	28
	Miles of Trail on Scenic Routes	14	1 pt/mi	14
	Campground w/ partial facilities ( no shower)	1	4	4
	Campground w/ full facilities	1	6	6
	Highway Rest Stop	0	1	0
	Service Stations	1	2	2
	Motel	0	4	0
	Grocery Store	1	3	3
	Cafe	1	3	3
	Bike Shops	0	2	0
	All Facilities in Near Vicinity	1	15	15

$$\frac{\text{Total Points}}{\text{Length in Miles}} = \frac{88}{30} = 2.93$$

Total 88

## RECREATIONAL POTENTIAL EVALUATION



















Table 36

Trail No. 26

Name Smoky Hill Trail

Approximate Length 44 mi.

Difficulty Rating \*\*

SYMBOL	ITEM	QUANTITY	VALUE	SUBTOTAL
	Historical Site	1	1	1
	Historical Site, Managed for Recreation	6	3	18
	Historical Site, on National Register	2	2	4
	Historical Site, on National Register, Managed for Recreation	2	4	8
	Federal Recreation Area	0	4	0
	State Recreation Area	0	4	0
	Selected City and County Recreation Areas	0	3	0
	Miles of Trail within Scenic Region	0	1 pt/mi	0
	Miles of Trail on Scenic Routes	0	1 pt/mi	0
	Campground w/ partial facilities ( no shower)	0	4	0
	Campground w/ full facilities	0	6	0
	Highway Rest Stop	0	1	0
	Service Stations	1	2	2
	Motel	0	4	0
	Grocery Store	1	3	3
	Cafe	1	3	3
	Bike Shops	0	2	0
	All Facilities in Near Vacinity	2	15	30

$$\frac{\text{Total Points}}{\text{Length in Miles}} = \frac{69}{44} = 1.57$$

Total 69



## RECREATIONAL POTENTIAL EVALUATION



















Table 37

Trail No. 27

Approximate Length 33 mi.

Name Cherokee Lowlands Tour

Difficulty Rating \*\*

SYMBOL	ITEM	QUANTITY	VALUE	SUBTOTAL
	Historical Site	1	1	1
	Historical Site, Managed for Recreation	0	3	0
	Historical Site, on National Register	0	2	0
	Historical Site, on National Register, Managed for Recreation	0	4	0
	Federal Recreation Area	0	4	0
	State Recreation Area	0	4	0
	Selected City and County Recreation Areas	0	3	0
	Miles of Trail within Scenic Region	16	1 pt/mi	16
	Miles of Trail on Scenic Routes	12	1 pt/mi	12
	Campground w/ partial facilities ( no shower)	0	4	0
	Campground w/ full facilities	0	6	0
	Highway Rest Stop	0	1	0
	Service Stations	3	2	6
	Motel	2	4	8
	Grocery Store	3	3	9
	Cafe	4	3	12
	Bike Shops	0	2	0
	All Facilities in Near Vacinity	0	15	0

$$\frac{\text{Total Points}}{\text{Length in Miles}} = \frac{64}{33} = 1.94$$

Total 64

## RECREATIONAL POTENTIAL EVALUATION









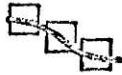









Table 38

Trail No. 28

Approximate Length 40 mi.

Name Pittsburg Strip Pits

Difficulty Rating \*\*

SYMBOL	ITEM	QUANTITY	VALUE	SUBTOTAL
	Historical Site	1	1	1
	Historical Site, Managed for Recreation	1	3	3
	Historical Site, on National Register	0	2	0
	Historical Site, on National Register, Managed for Recreation	0	4	0
	Federal Recreation Area	0	4	0
	State Recreation Area	0	4	0
	Selected City and County Recreation Areas	0	3	0
	Miles of Trail within Scenic Region	14	1 pt/mi	14
	Miles of Trail on Scenic Routes	0	1 pt/mi	0
	Campground w/ partial facilities ( no shower)	0	4	0
	Campground w/ full facilities	0	6	0
	Highway Rest Stop	0	1	0
	Service Stations	3	2	6
	Motel	1	4	4
	Grocery Store	2	3	6
	Cafe	2	3	6
	Bike Shops	0	2	0
	All Facilities in Near Vacinity	1	15	15

$$\frac{\text{Total Points}}{\text{Length in Miles}} = \frac{55}{40} = 1.38$$

Total 55

## RECREATIONAL POTENTIAL EVALUATION



















Table 39

Trail No. 30

Approximate Length 24 mi. Rd. trip

Name Dodge City—Fort Dodge

Difficulty Rating \*

SYMBOL	ITEM	QUANTITY	VALUE	SUBTOTAL
	Historical Site	0	1	0
	Historical Site, Managed for Recreation	2	3	6
	Historical Site, on National Register	1	2	2
	Historical Site, on National Register, Managed for Recreation	0	4	0
	Federal Recreation Area	0	4	0
	State Recreation Area	0	4	0
	Selected City and County Recreation Areas	0	3	0
	Miles of Trail within Scenic Region	0	1 pt/mi	0
	Miles of Trail on Scenic Routes	0	1 pt/mi	0
	Campground w/ partial facilities ( no shower)	0	4	0
	Campground w/ full facilities	0	6	0
	Highway Rest Stop	0	1	0
	Service Stations	0	2	0
	Motel	0	4	0
	Grocery Store	0	3	0
	Cafe	0	3	0
	Bike Shops	0	2	0
	All Facilities in Near Vacinity	1	15	15

$$\frac{\text{Total Points}}{\text{Length in Miles}} = \frac{23}{24} = .96$$

Total 23

## RECREATIONAL POTENTIAL EVALUATION



















Table 40

Trail No. 31

Approximate Length 120 mi.

Name Fort Scott—Osawatomie

Difficulty Rating \*\*\*—\*\*\*\*

SYMBOL	ITEM	QUANTITY	VALUE	SUBTOTAL
	Historical Site	0	1	0
	Historical Site, Managed for Recreation	2	3	6
	Historical Site, on National Register	2	2	4
	Historical Site, on National Register, Managed for Recreation	2	4	8
	Federal Recreation Area	0	4	0
	State Recreation Area	0	4	0
	Selected City and County Recreation Areas	1	3	3
	Miles of Trail within Scenic Region	20	1 pt/mi	20
	Miles of Trail on Scenic Routes	120	1 pt/mi	120
	Campground w/ partial facilities ( no shower)	0	4	0
	Campground w/ full facilities	0	6	0
	Highway Rest Stop	2	1	2
	Service Stations	5	2	10
	Motel	1	4	4
	Grocery Store	7	3	21
	Cafe	3	3	9
	Bike Shops	0	2	0
	All Facilities in Near Vicinity	1	15	15

$$\frac{\text{Total Points}}{\text{Length in Miles}} = \frac{222}{120} = 1.85$$

Total 222









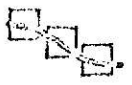









Table 41 RECREATIONAL POTENTIAL EVALUATION

Trail No. 32

Approximate Length 69 mi.

Name Mushroom Rock Tour

Difficulty Rating \*\*\*

SYMBOL	ITEM	QUANTITY	VALUE	SUBTOTAL
	Historical Site	2	1	2
	Historical Site, Managed for Recreation	2	3	6
	Historical Site, on National Register	3	2	6
	Historical Site, on National Register, Managed for Recreation	3	4	12
	Federal Recreation Area	1	4	4
	State Recreation Area	2	4	8
	Selected City and County Recreation Areas	0	3	0
	Miles of Trail within Scenic Region	54	1 pt/mi	54
	Miles of Trail on Scenic Routes	28	1 pt/mi	28
	Campground w/ partial facilities ( no shower)	0	4	0
	Campground w/ full facilities	2	6	12
	Highway Rest Stop	0	1	0
	Service Stations	3	2	6
	Motel	2	4	8
	Grocery Store	3	3	9
	Cafe	4	3	12
	Bike Shops	0	2	0
	All Facilities in Near Vicinity	1	15	15

Total Points =  $\frac{182}{69} = 2.64$

Total 182



















Table 42 RECREATIONAL POTENTIAL EVALUATION

Trail No. 33

Approximate Length 60 mi.

Name Rock City Tour

Difficulty Rating \*\*\*

SYMBOL	ITEM	QUANTITY	VALUE	SUBTOTAL
	Historical Site	1	1	1
	Historical Site, Managed for Recreation	2	3	6
	Historical Site, on National Register	0	2	0
	Historical Site, on National Register, Managed for Recreation	1	4	4
	Federal Recreation Area	0	4	0
	State Recreation Area	1	4	4
	Selected City and County Recreation Areas	0	3	0
	Miles of Trail within Scenic Region	18	1 pt/mi	18
	Miles of Trail on Scenic Routes	0	1 pt/mi	0
	Campground w/ partial facilities ( no shower)	1	4	4
	Campground w/ full facilities	0	6	0
	Highway Rest Stop	0	1	0
	Service Stations	3	2	6
	Motel	1	4	4
	Grocery Store	3	3	9
	Cafe	3	3	9
	Bike Shops	0	2	0
	All Facilities in Near Vicinity	1	15	15

Total Points =  $\frac{80}{60} = 1.33$

Total 80











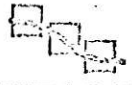









Table 43 RECREATIONAL POTENTIAL EVALUATION

Trail No. 34

Approximate Length 30 mi.

Name Fort Hays



















Difficulty Rating \*\*

SYMBOL	ITEM	QUANTITY	VALUE	SUBTOTAL
	Historical Site	0	1	0
	Historical Site, Managed for Recreation	0	3	0
	Historical Site, on National Register	3	2	6
	Historical Site, on National Register, Managed for Recreation	1	4	4
	Federal Recreation Area	0	4	0
	State Recreation Area	0	4	0
	Selected City and County Recreation Areas	0	3	0
	Miles of Trail within Scenic Region	0	1 pt/mi	0
	Miles of Trail on Scenic Routes	0	1 pt/mi	0
	Campground w/ partial facilities ( no shower)	1	4	4
	Campground w/ full facilities	0	6	0
	Highway Rest Stop	0	1	0
	Service Stations	1	2	2
	Motel	0	4	0
	Grocery Store	2	3	6
	Cafe	1	3	3
	Bike Shops	0	2	0
	All Facilities in Near Vicinity	1	15	15

Total Points =  $\frac{40}{30} = 1.33$

Total 40

Table 44 RECREATIONAL POTENTIAL EVALUATION  
 Trail No. 35 Approximate Length 100 mi.  
 Name Wild West Tour Difficulty Rating \*\*\*\*\*

SYMBOL	ITEM	QUANTITY	VALUE	SUBTOTAL
	Historical Site	1	1	1
	Historical Site, Managed for Recreation	7	3	21
	Historical Site, on National Register	1	2	2
	Historical Site, on National Register, Managed for Recreation	0	4	0
	Federal Recreation Area	0	4	0
	State Recreation Area	1	4	4
	Selected City and County Recreation Areas	1	3	3
	Miles of Trail within Scenic Region	24	1 pt/mi	24
	Miles of Trail on Scenic Routes	0	1 pt/mi	0
	Campground w/ partial facilities ( no shower)	3	4	12
	Campground w/ full facilities	0	6	0
	Highway Rest Stop	0	1	0
	Service Stations	3	2	6
	Motel	1	4	4
	Grocery Store	2	3	6
	Cafe	3	3	9
	Bike Shops	0	2	0
	All Facilities in Near Vicinity	1	15	15

Total Points  
 Length in Miles =  $\frac{107}{100} = 1.07$

Total 107



## CHAPTER V

### RESULTS

#### Results and Analysis of the Data

The results of the study to date are summarized in Table 9 (List of Preliminary Routes), Table 10 (Summary of the Safety Evaluation), Table 11 (Routes for Further Evaluation), Table 45 (Results of the Recreational Potential Evaluation) and Table 46 (Routes and Recreational Potential Rating Separated into Length Categories).

#### Analysis of the Data

Analysis of the data revealed that the method has an built in bias towards the shorter trails. This bias is probably due to the fact that it is much easier to select a short trail, in the 40 to 60 mile range, entirely within an area designated as scenic region or an area of resource concentration, than it is to select a longer trail within these regions. This bias, which is responsible for the shorter trails receiving a higher rating in the recreational potential evaluation, is illustrated by Figure 78.

This inbuilt bias can be removed by comparing trails with similar lengths. The trails were separated into categories according to length (Table 46). With the trails separated, it was possible to select the best trails in each length category.

TABLE 45  
SUMMARY OF SAFETY CHECK  
AND RECREATIONAL POTENTIAL EVALUATION

Trail No.	Trail Name	Safy. Ck.		Rec. Po. Rating	Rec. Eval.	
		Mil.	Pass-Fail		Pass	Fail
1.	Chalk Bluffs Tour	72	X	1.18	X	
2.	Wilson Reservoir Tour	70	X	2.27	X	
3.	Larned-Pawnee Tour	36	X	1.36	X	
4.	Larned-Fort Larned	14	X	3.00	X	
5.	Grouse Cr. via Maple City	52	X	1.62		X
6.	Grouse Creek Area Alt. A	47	X	1.79	X	
7.	Red Hills Tour	40	X	2.98	X	
8.	Red Hills Tour Alt. A via U.S. 160	46	X	2.28	X	
9.	Lindsborg Tour	44	X	1.80	X	
10.	Manhattan-Fort Riley	—		X	—	—
11.	Heart of the Flint Hills	100	X	3.12	X	
12.	Bartlett Arboretum	48	X	2.21		X
13.	Limestone, Oak, Bluestem	91	X	2.04	X	
14.	McDowell Creek Road	37	X	2.03	X	
15.	Milford Reservoir Tour	46	X	2.80		X
16.	Blue River Valley Tour	66	X	2.5	X	
17.	Pony Express Tour	75	X	1.72	X	
18.	Perry Reservoir Tour	54	X	2.19	X	
19.	Missouri Bluffs Tour	64	X	1.95	X	

TABLE 45 Cont'd.

## SUMMARY OF SAFETY CHECK

## AND RECREATIONAL POTENTIAL EVALUATION

Trail No.	Trail Name	Mi.	Saf. Ck. Pass-Fail	Rec. Po. Rating	Rec. Eval. Pass-Fail
20.	Ark. River Sand Dunes	78	X	1.17	X
21.	Cimmarron Nat'l Grassland	60	X	1.60	X
22.	Topeka-Pomona Reservoir	123	X	1.62	X
23.	Lonestar Lake Tour	40	X	2.45	X
24.	Chautauqua Hills Tour	104	X	1.69	X
25.	Elk City Reservoir Tour	30	X	2.93	X
26.	Smoky Hill Trail	44	X	1.57	X
27.	Cherokee Lowlands Tour	33	X	1.79	X
28.	Pittsburg Strip Pit Area	40	X	1.38	X
29.	Ft. Scott-Crawford St. Pk.—		X	—	—
30.	Independence-Coffeyville	—	X	—	—
31.	Fort Scott-Osawatomie	120	X	1.85	X
32.	Mushroom Rock Tour	69	X	2.64	X
33.	Rock City Tour	60	X	1.33	X
34.	Fort Hays Tour	30	X	1.33	X
35.	Wild West Tour	100	X	1.07	X



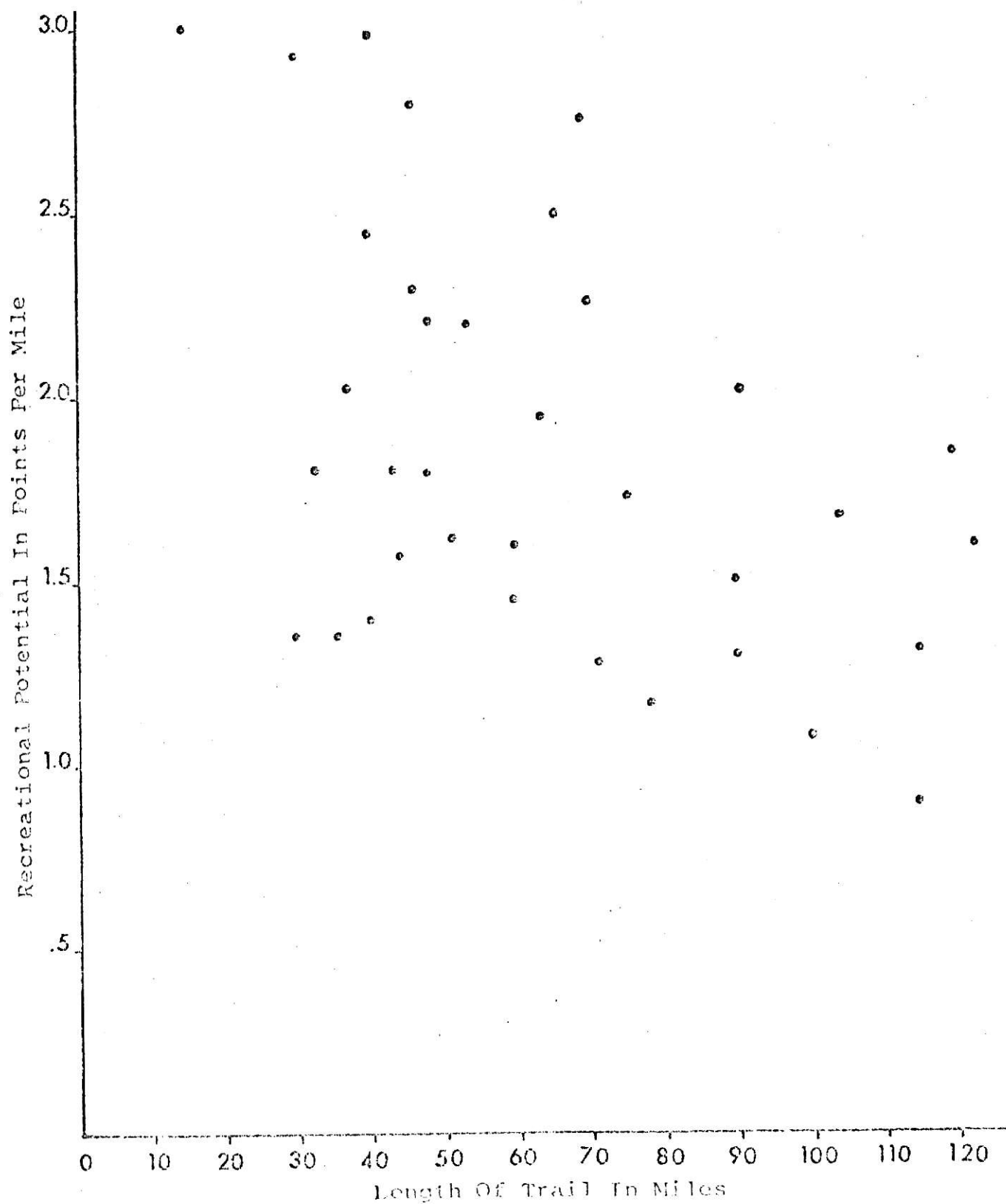


FIGURE 78

Tendency Of Shorter Trails  
Towards Higher Ratings

### Final Selections

Nineteen class III bicycle touring routes were chosen from a total of thirty-five preliminary routes. Preliminary routes had been chosen in corridors of resource concentration and on roads which met the adopted safety criteria.

The final selections were based in part on the results of (a) the recreational potential evaluation, (b) the safety evaluation, and (c) a design judgement which was necessary to fulfill the objective of developing a wide variety of trip types, lengths and degrees of difficulty. It was also necessary to use design judgement to insure that at least one route was chosen in each of the planning regions of Kansas, as set forth in the original objectives of the project. The final selections are listed in Table 47 by Planning Region.

### Validity of the Method

It is felt that the method developed in this study is a valid means of selecting class III recreational bicycle trails. This is granting that the data used as input is correct. No evaluation or analysis can be more correct than the data on which it is based. There is need for more accurate data on the location and quality of scenic regions and more accurate detailed information on traffic volumes

and safety criteria. The validity of the method could be increased considerably by using information which gives a more accurate picture of the boundaries of scenic regions and a numerical rating of the quality of the regions. This type of information was not readily available at the time of this study.

TABLE 47

## FINAL SELECTIONS BY PLANNING REGION

Region	Trail No.	Trail Name
01	19	Missouri Bluffs Tour
	23	Lonestar Lake Tour
02	29	Fort Scott-Osawatomie Tour
	27	Cherokee Lowlands Tour
03	11	Heart of the Flint Hills
	13	Limestone, Oak and Bluestem Tour
03	26	Smoky Hill Trail
09		
10		
04	6	Grouse Creek Tour
	24	Chautauqua Hills Tour
05	7	Red Hills Tour
	3	Fort Larned-Pawnee Rock
06	35	Wild West Tour
07		
08	1	Chalk Bluffs Tour
09	2	Wilson Reservoir Tour
10	32	Mushroom Rock Country
11	17	Pony Express Tour
11-03	16	Blue River Valley Tour



## CHAPTER VI

### CONCLUSION AND RECOMMENDATIONS

Nineteen class III recreational bicycle trails were selected from a field of thirty-five trails on the basis of their relative safety and recreational potential. It is hoped that the trails selected in this study will be presented to bicyclists in the form of a brochure or a state bicycling map. This would be one step towards filling the need for recreational bicycle trails in Kansas. If met with favor by Kansas bicyclists and out-of-state tourists, the trails should be re-evaluated periodically by the State Park and Resource Authority with consideration given to signing and upgrading to class II or class I trails as demand and traffic conditions warrant.

A mock up for the bicycling brochure, to be printed by the Kansas Department of Economic Development, was developed and presented to that department. (Appendix A)

## Need For A Comprehensive Interconnecting System And State Bicycling Map

A study should be done to develop a statewide system of interconnecting recreational and transportation trails for bicyclists. Although it was beyond the scope of this thesis, such a study would be very beneficial to bicyclists in Kansas and neighboring states.

This study should result in the production of a state bicycling map which outlines all roads with traffic volumes and other conditions suitable for bicycling. This bicycling map could be color coded to indicate various traffic volumes and the relative degree of safety of each road. This map should also show state parks, camping sites and other points  
71  
of interest. Such a map would allow bicyclists to plan their own trips with less difficulty and a greater degree of safety.

Recognition of bicycling as a viable form of transportation also calls for transportation routes. Wisconsin has been a pioneer in developing a system of long distance transportation routes. These were developed with the objective of establishing direct travel routes on low traffic  
72  
volume roads between major population centers.

## FOOTNOTES

## FOOTNOTES

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## ABSTRACT

THE DEVELOPMENT AND APPLICATION OF  
A METHOD FOR SELECTING CLASS III  
RECREATIONAL BICYCLE TOURING ROUTES

by

JAMES EARL WILLIAMS

B.S., Kansas State University, 1972

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AN ABSTRACT OF A MASTER'S THESIS

submitted in partial fulfillment of the

requirements for the degree

MASTER OF LANDSCAPE ARCHITECTURE

Department of Landscape Architecture

KANSAS STATE UNIVERSITY

Manhattan, Kansas

1976

## ABSTRACT

In recent years there has been a tremendous increase in bicycling activity. According to a recent survey, bicycling is the nations' fastest growing outdoor activity.

Bicycle touring is a part of this increased bicycling activity, and although it has experienced tremendous growth, recent studies have shown that widespread growth in bicycle touring is being held back by lack of facilities. According to the Bureau of Outdoor Recreation's "Existing Trails Inventory", there were the following types and amounts of trails in the United States in 1972:

4,995 miles	- Bicycle Trails
14,784 miles	- Motor Trails
13,676 miles	- Horseback Trails
26,247 miles	- Hiking Trails.

Since bicycling requires four to six times as much linear trail for a full day's outing compared to hiking or horseback riding, a serious lack of facilities is evident. In 1975, Kansas lacked any type of long distance, recreational bicycle trails which were state supported and maintained.

In consideration of these facts, the objectives of this study were to:

(a) Develop a method for selecting and evaluating the recreational potential of class III recreational bicycle routes;

(b) apply the method to a case study in which a minimum of ten routes, one per planning region in Kansas, will be selected, test ridden and evaluated;

(c) prepare the mockup for a brochure describing the routes and giving other information which might be useful to Kansas bicyclists.

A method of selecting class III, or shared, roadway bicycle routes was developed by careful research into bicycling and studying previous work on selecting long distance bicycle routes. An attempt was made to identify all factors which should be given consideration in selecting class III bicycle touring routes and an approach was formulated for considering these factors in a logical sequence.

The method consisted of:

- (1) Adopting general guidelines and safety criteria;
- (2) inventorying all resources which could contribute to the recreational potential of a route;
- (3) plotting these resources on transparent overlays over a base map of existing roads to locate corridors of resource concentrations and high scenic quality;
- (4) selecting preliminary routes within the corridors of resource concentration;
- (5) making a selection of the preliminary routes which meet the general guidelines;

(6) evaluating the routes in terms of safety and eliminating those which do not meet the adopted safety criteria;

(7) test riding the trails (which passed the safety evaluation) to determine the degree of difficulty and the availability and locations of support facilities;

(8) evaluating the relative recreational potential of each route by assigning numerical values to each resource, totaling the value of all resources along the trail and dividing by the length of the trail to give a recreational potential rating in points per mile;

(9) analyzing the recreational potential evaluation, the safety evaluations and the difficulty ratings to make final selections which meet and fulfill the original objectives while meeting the general guidelines.

Using the procedure outlined above, nineteen class III bicycle touring routes were selected from a field of thirty-five preliminary routes.

The third objective was accomplished by writing the text and preparing the mockup for a small booklet entitled, "Biking Through Kansas". This booklet contained tour maps, tour descriptions and other information such as safety tips and laws and regulations applicable to bicyclists. This mockup was presented to the Kansas Department of Economic Development, Tourism Department.

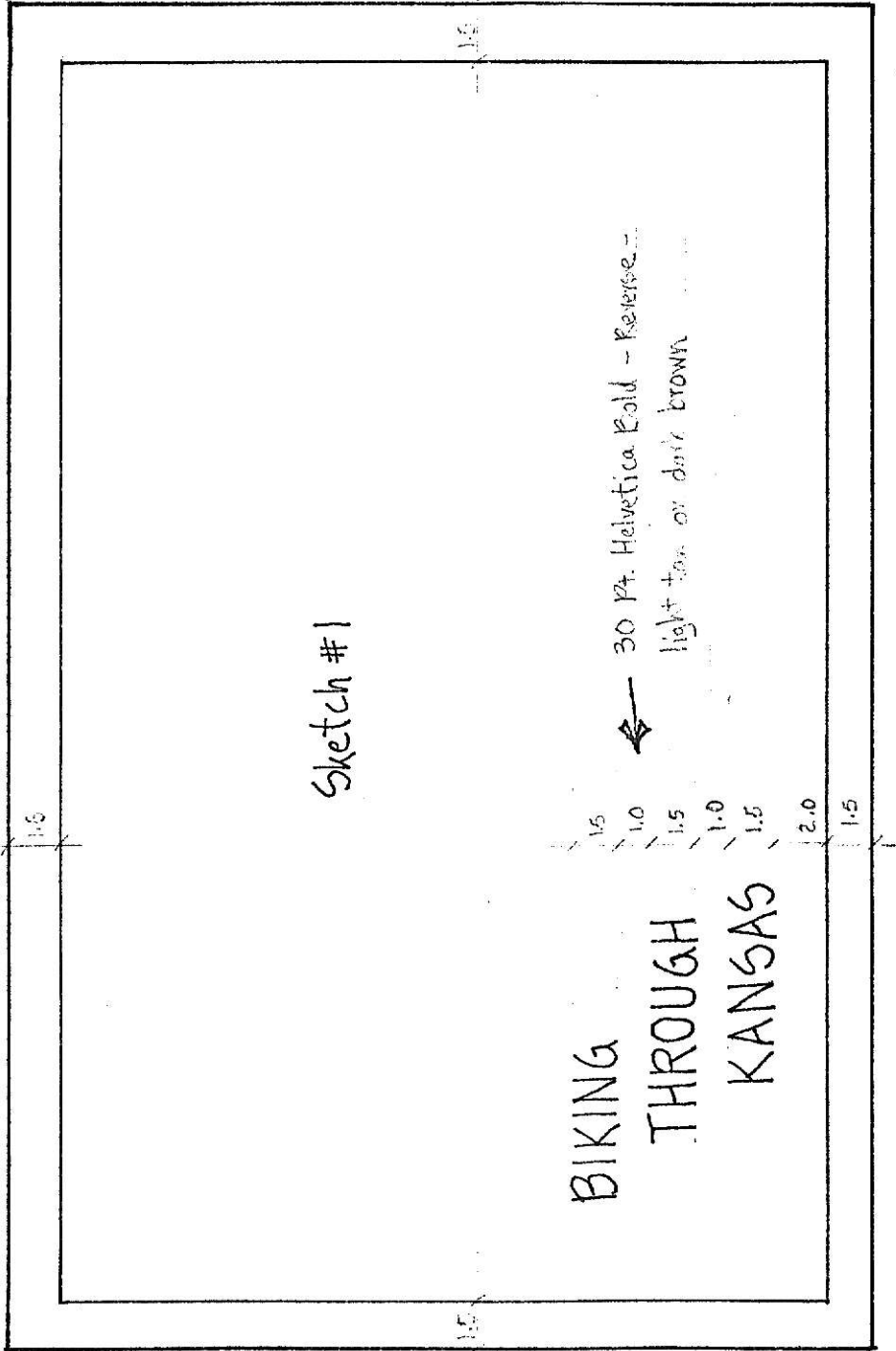
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BICYCLING BROCHURE

MOCK-UP FOR BICYCLING BROCHURE

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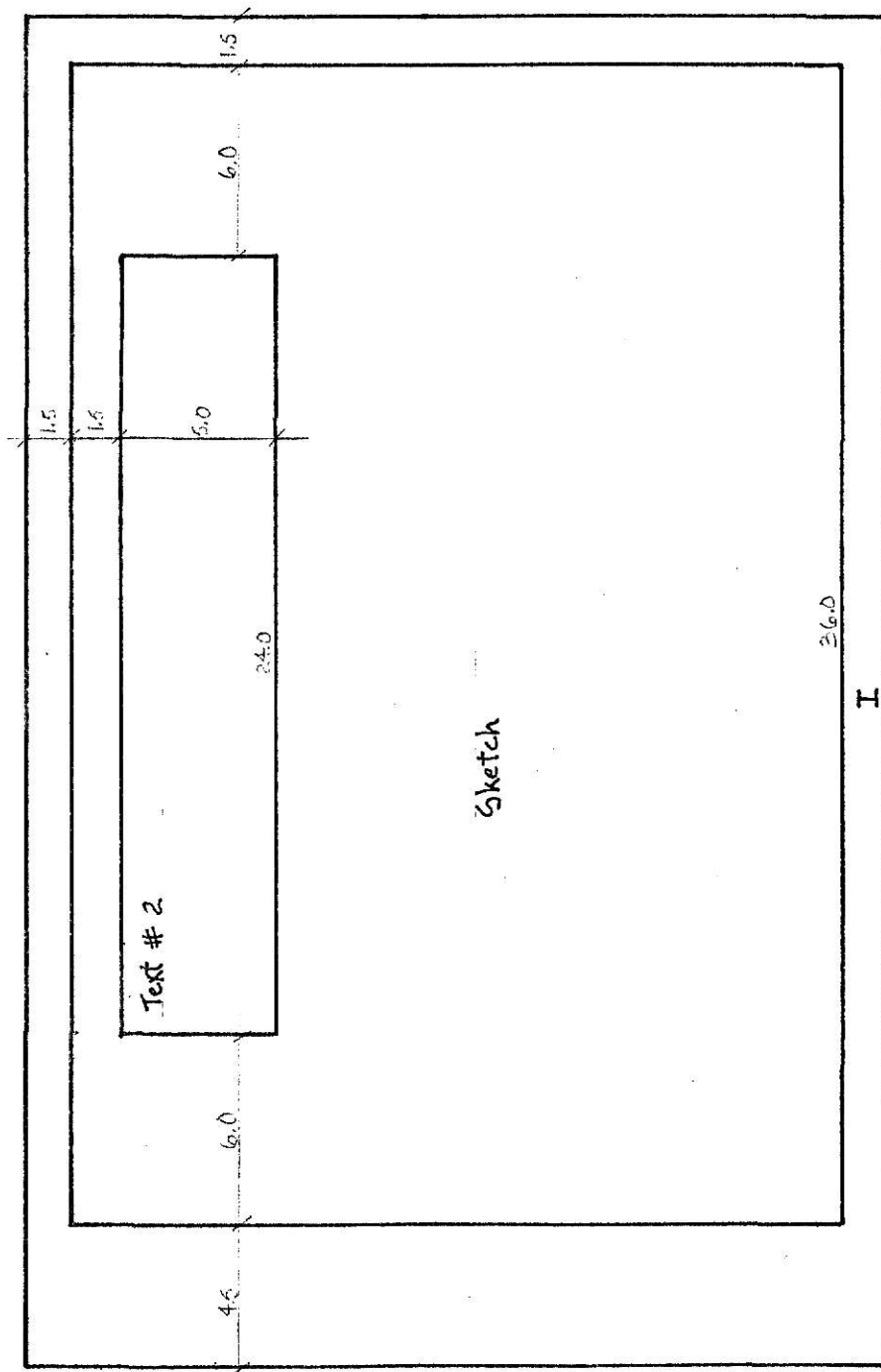


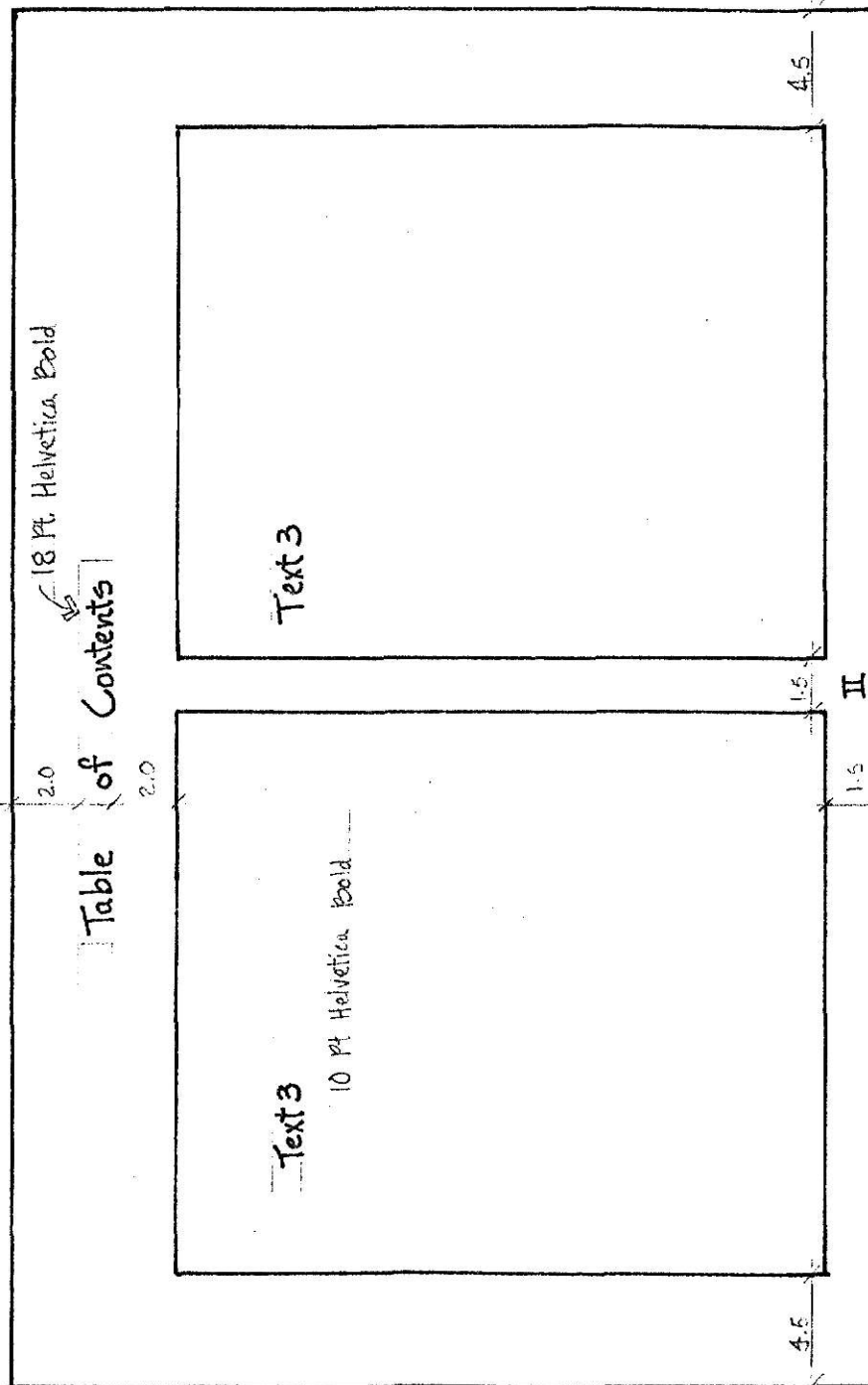
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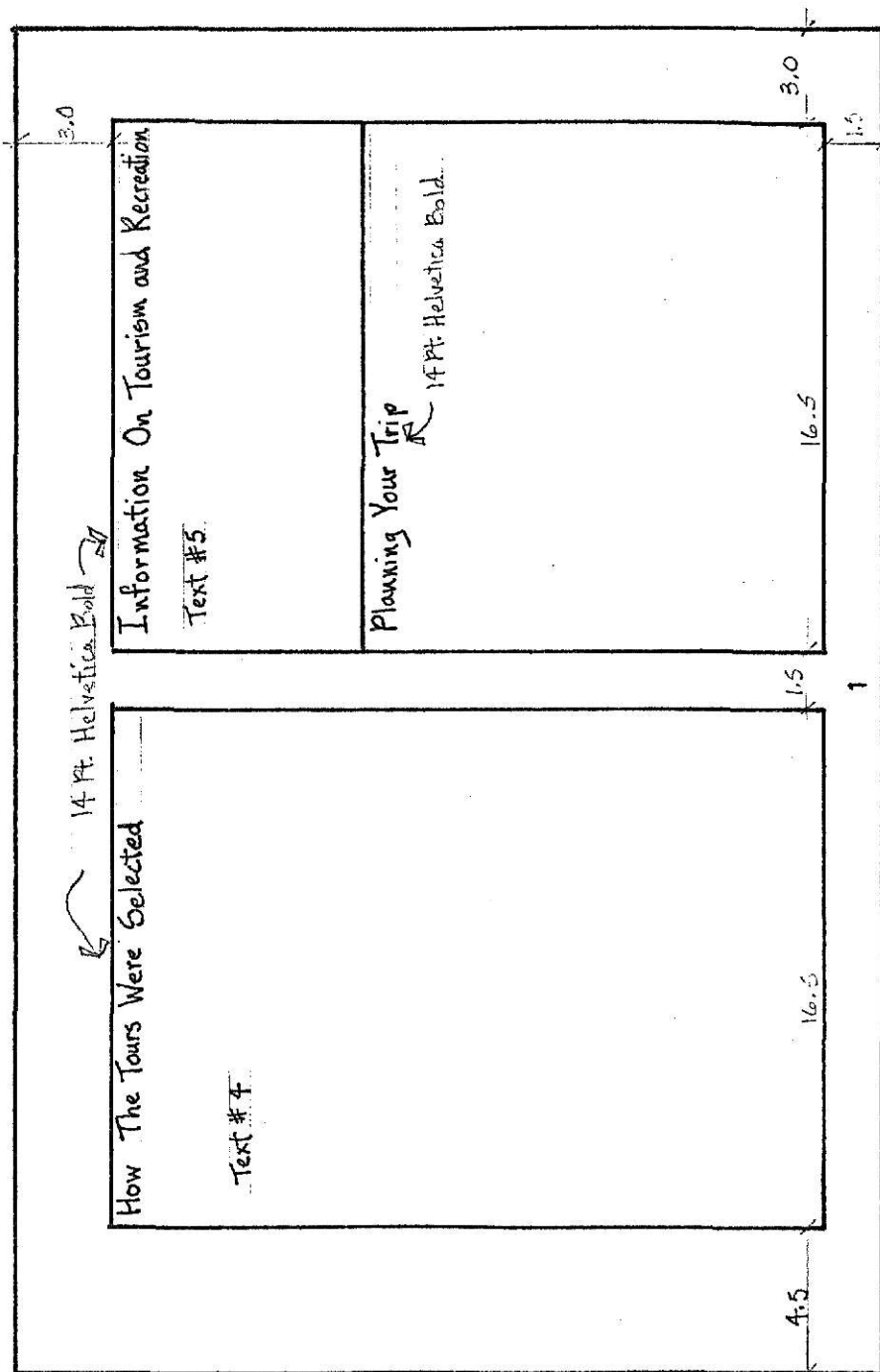
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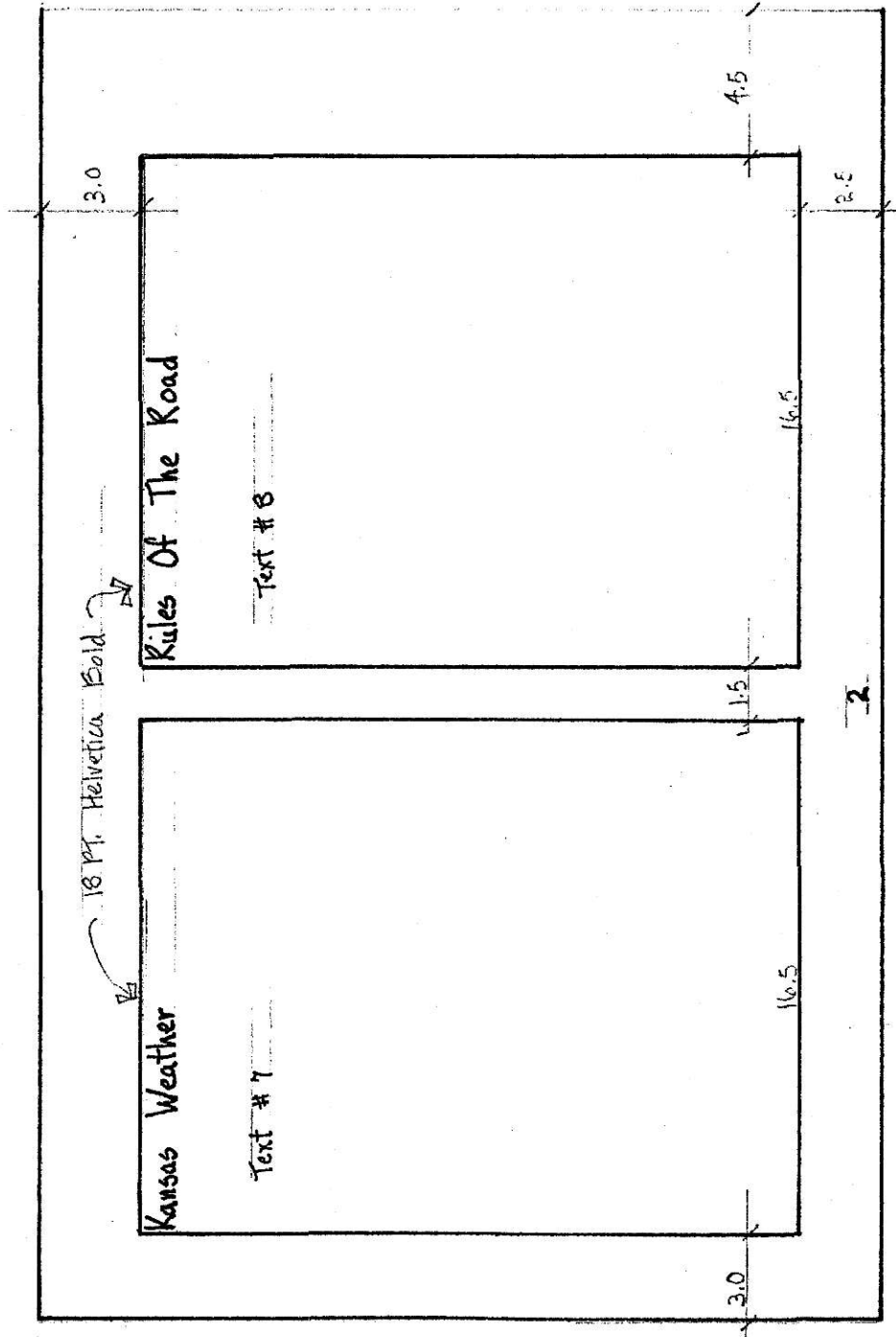
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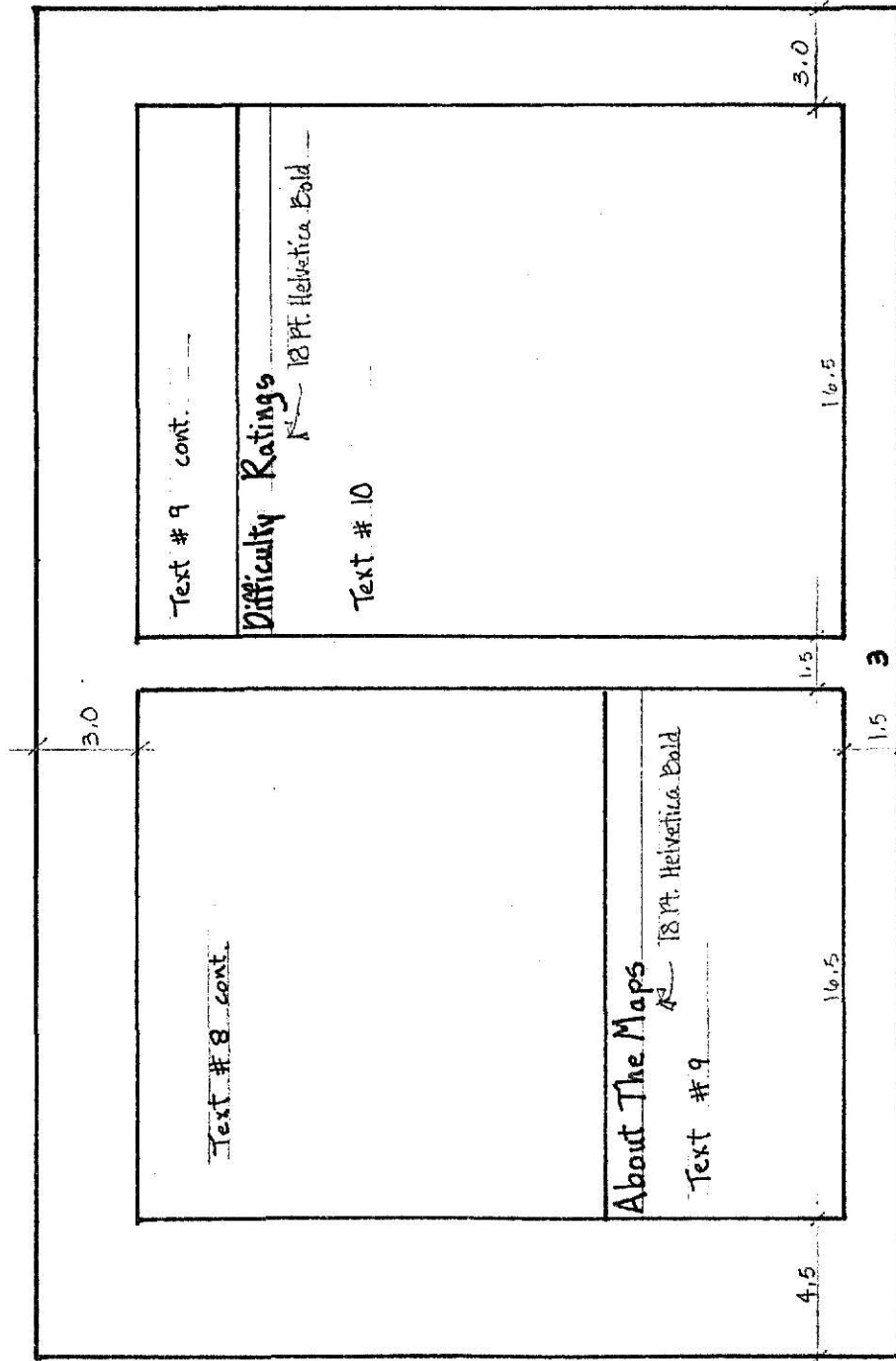
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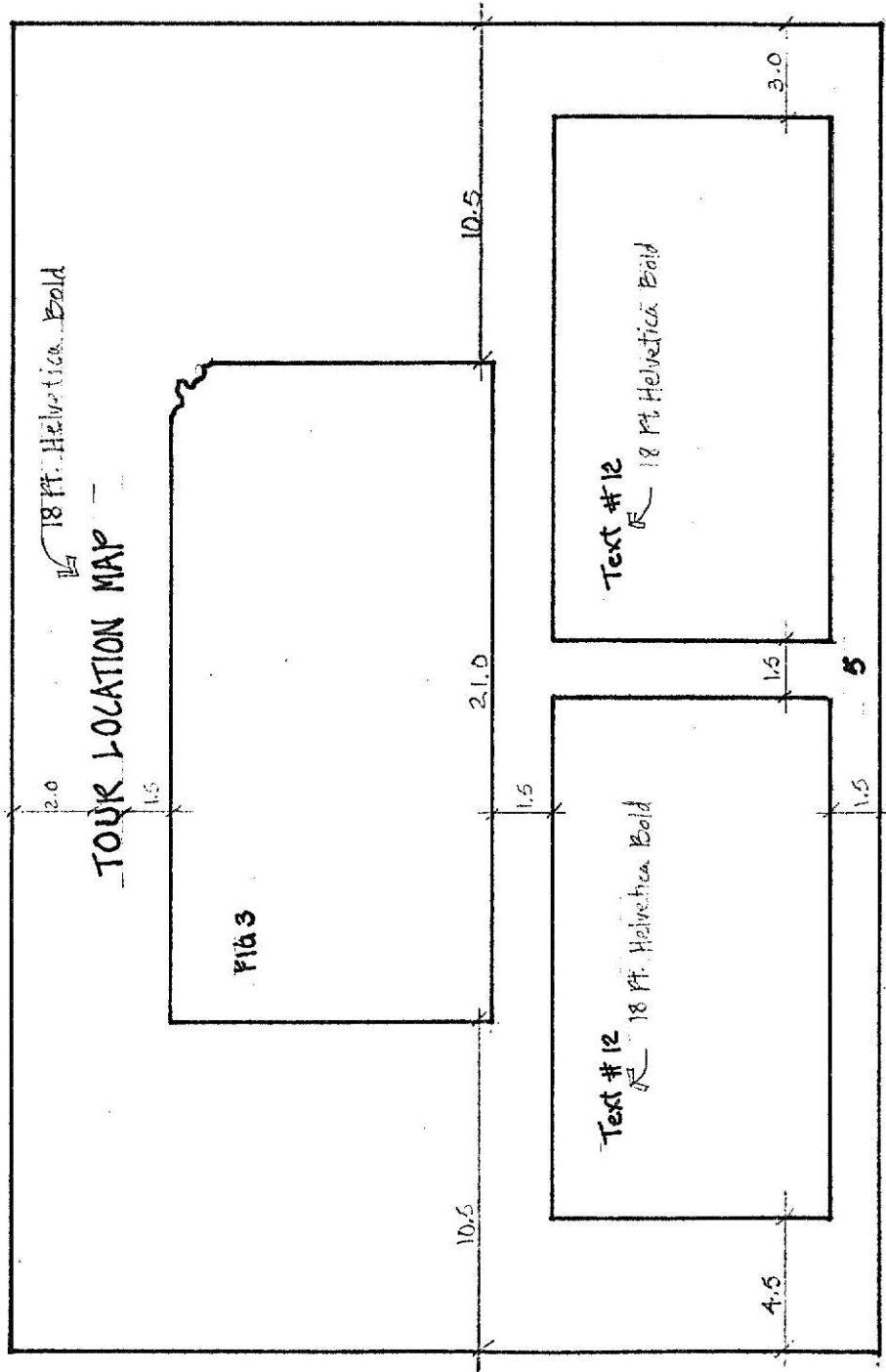


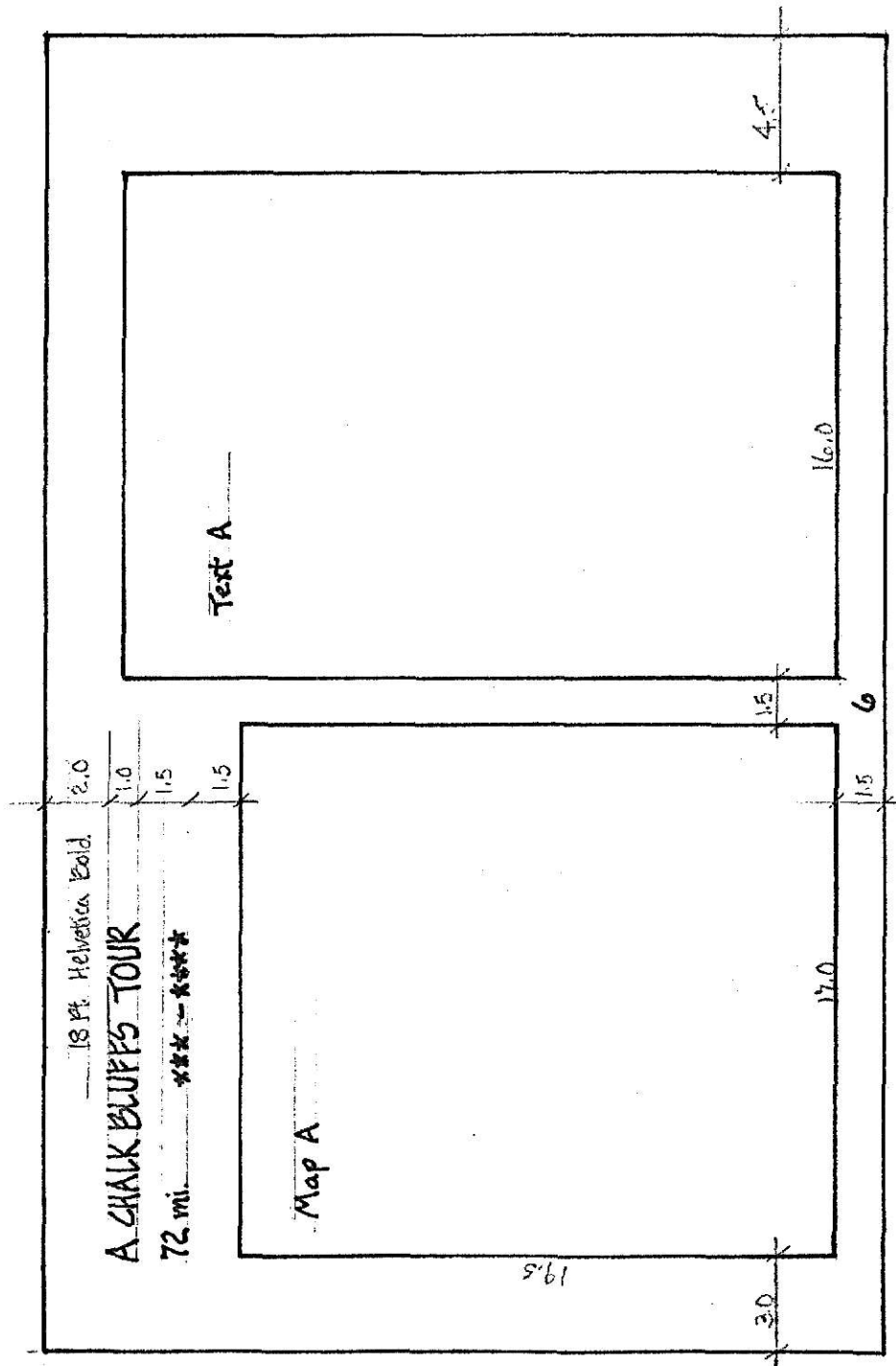


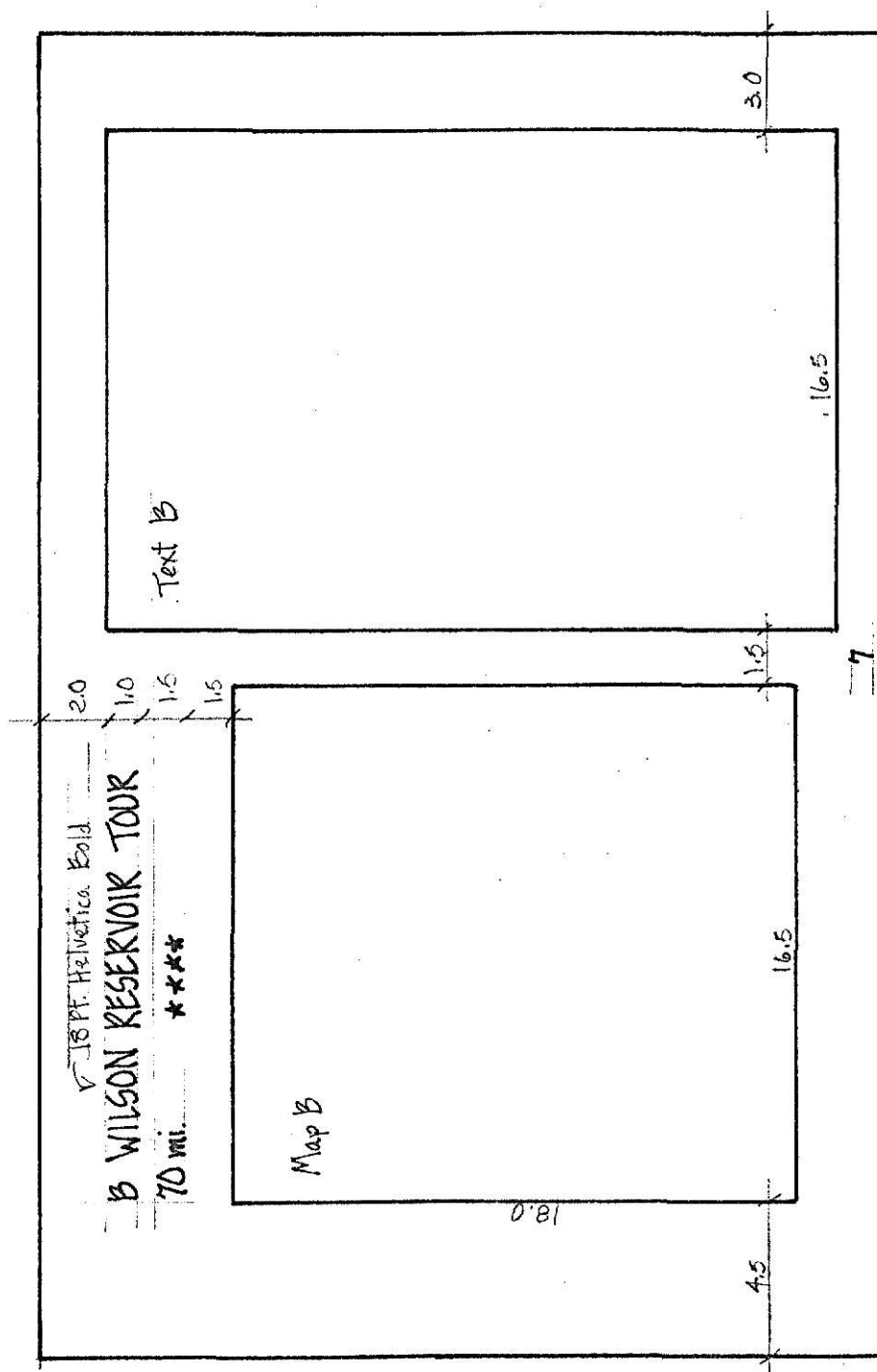


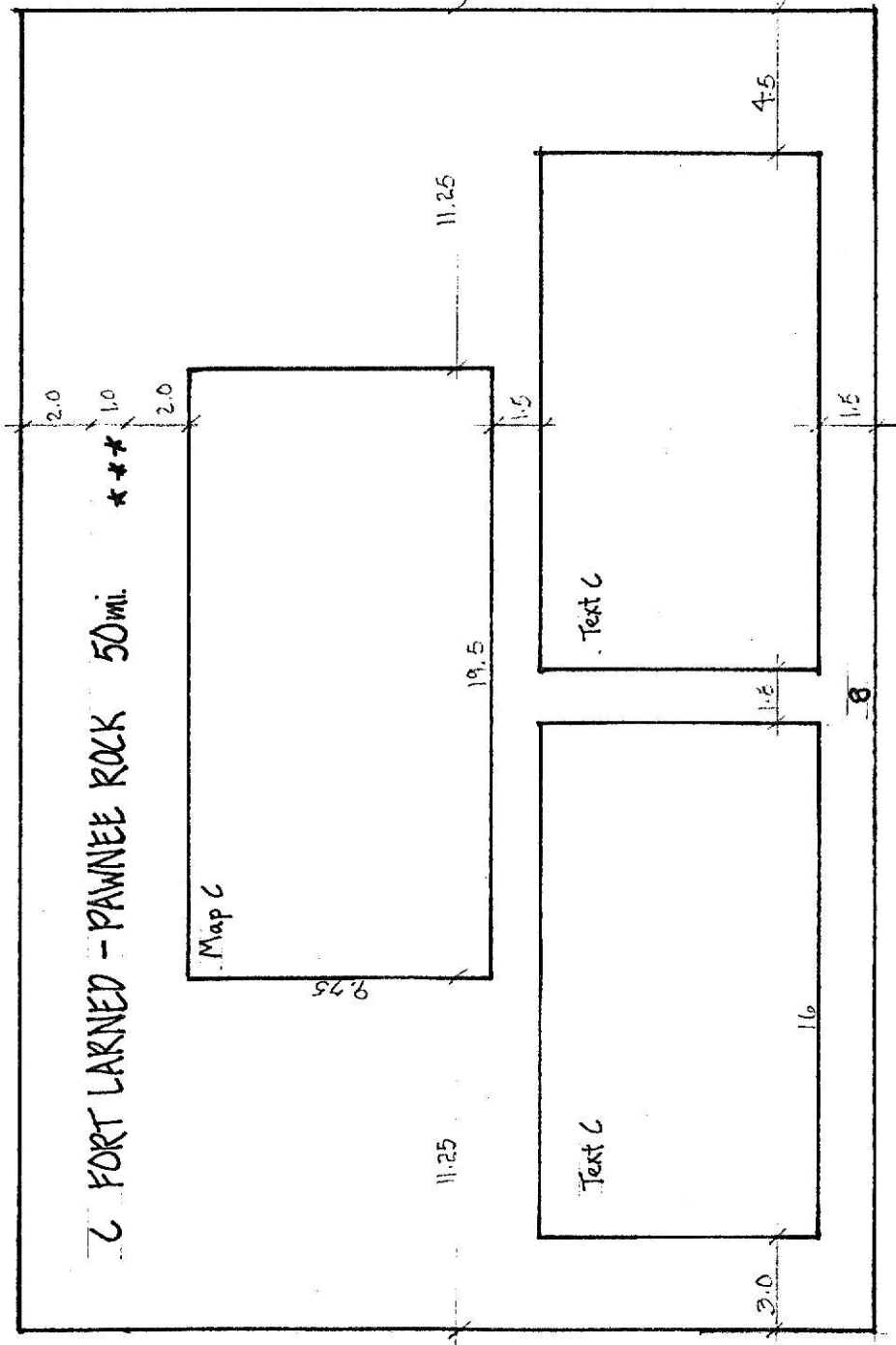
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Paved Road			
Unpaved Road			
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State Park			

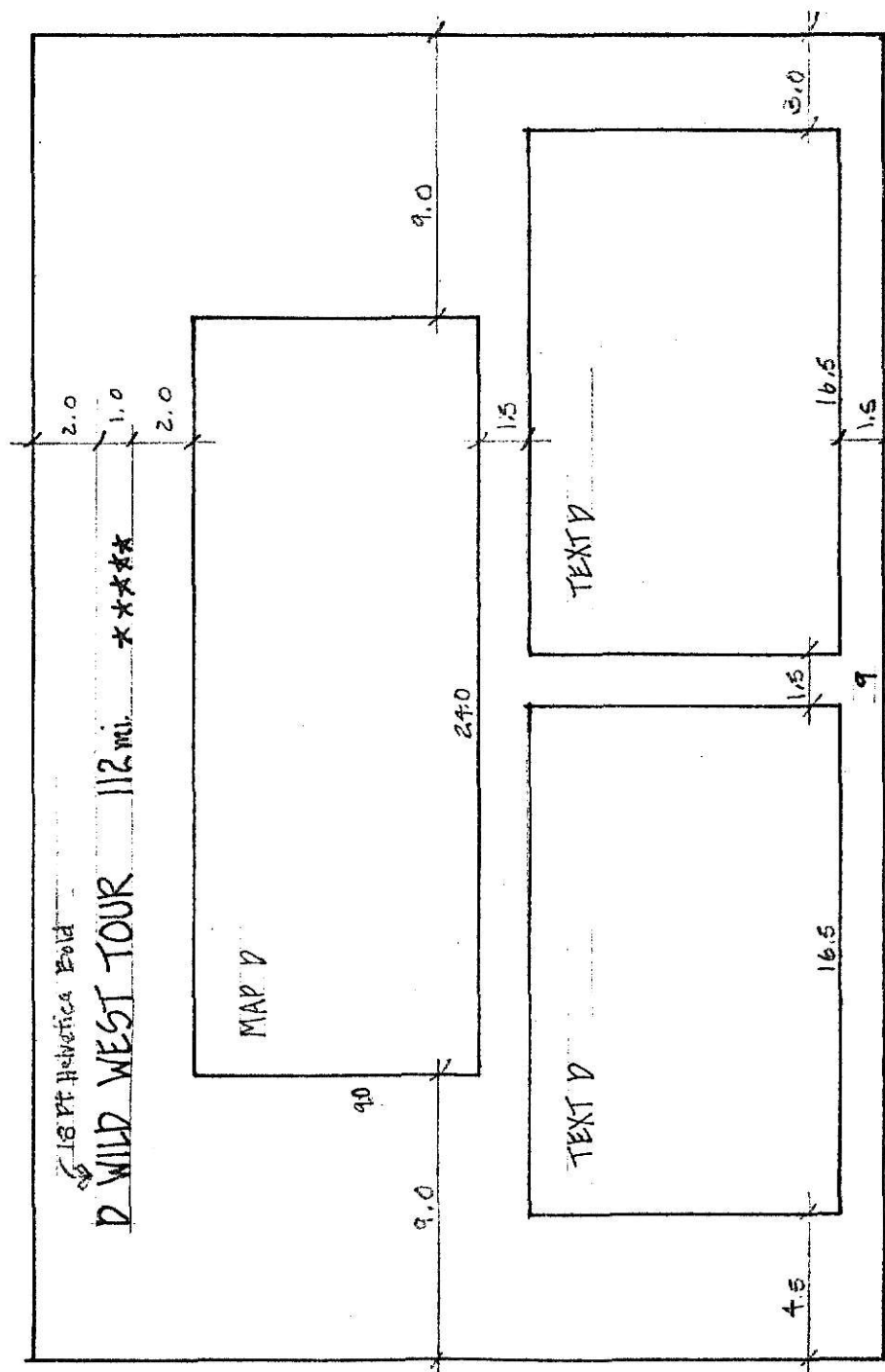


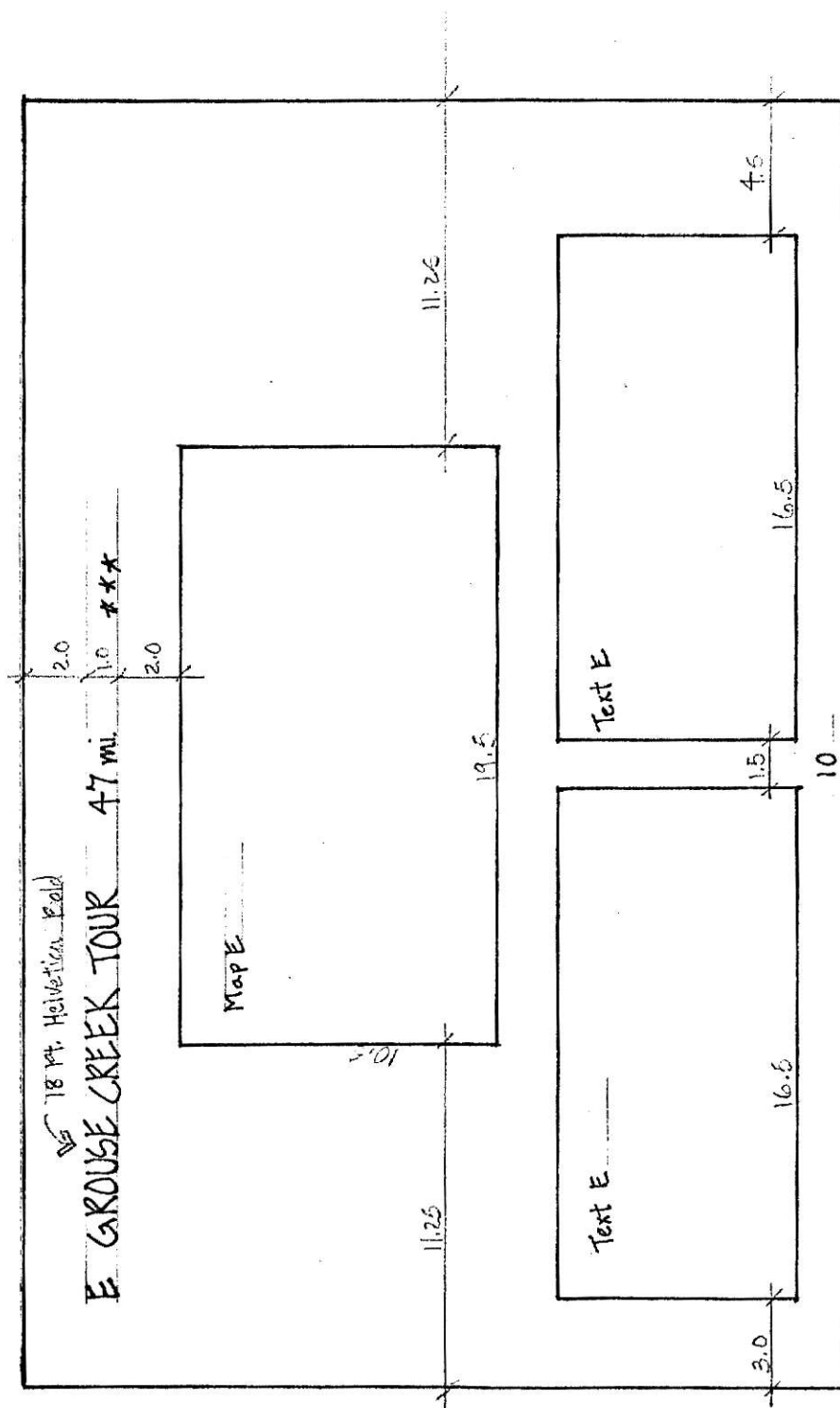


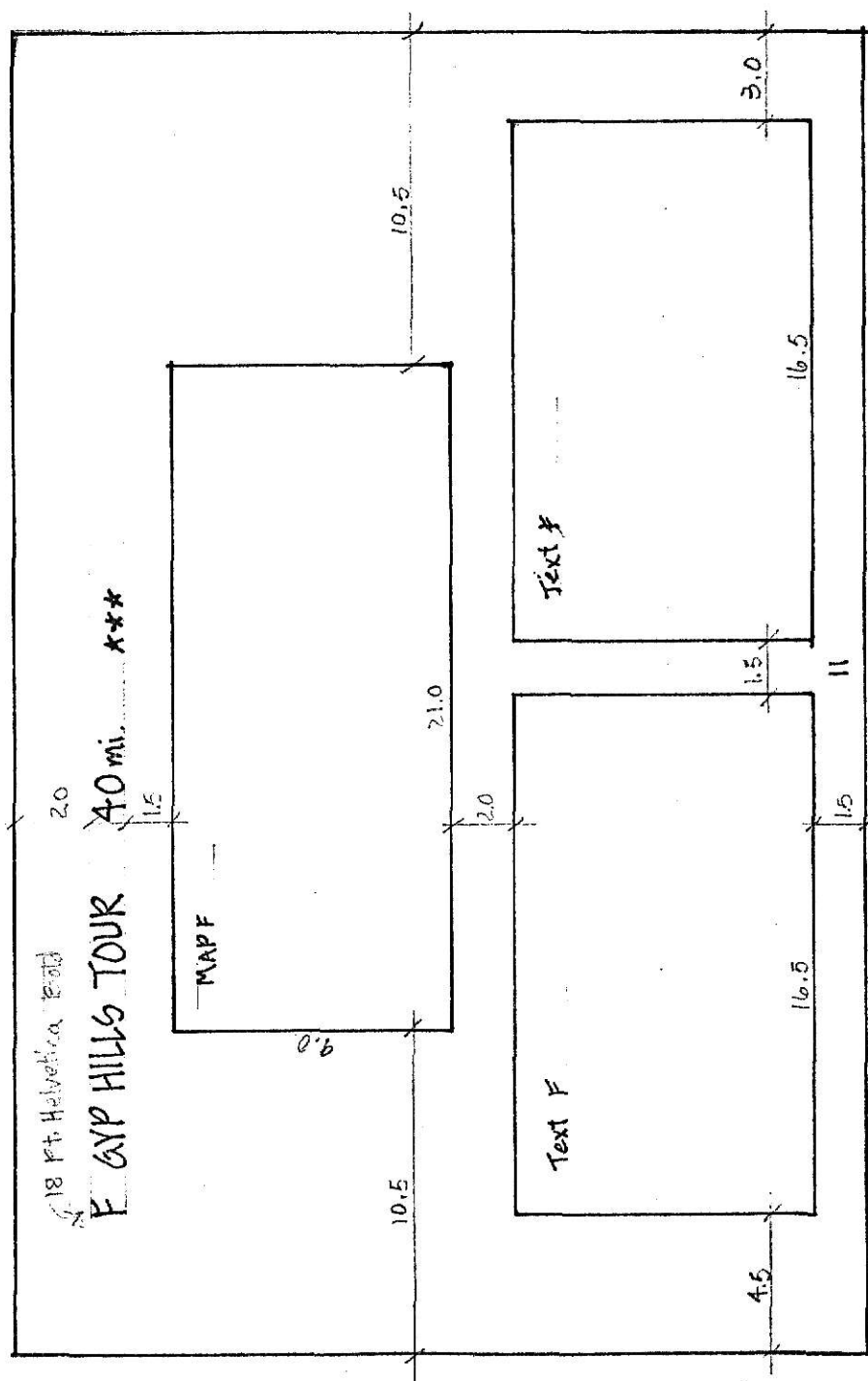


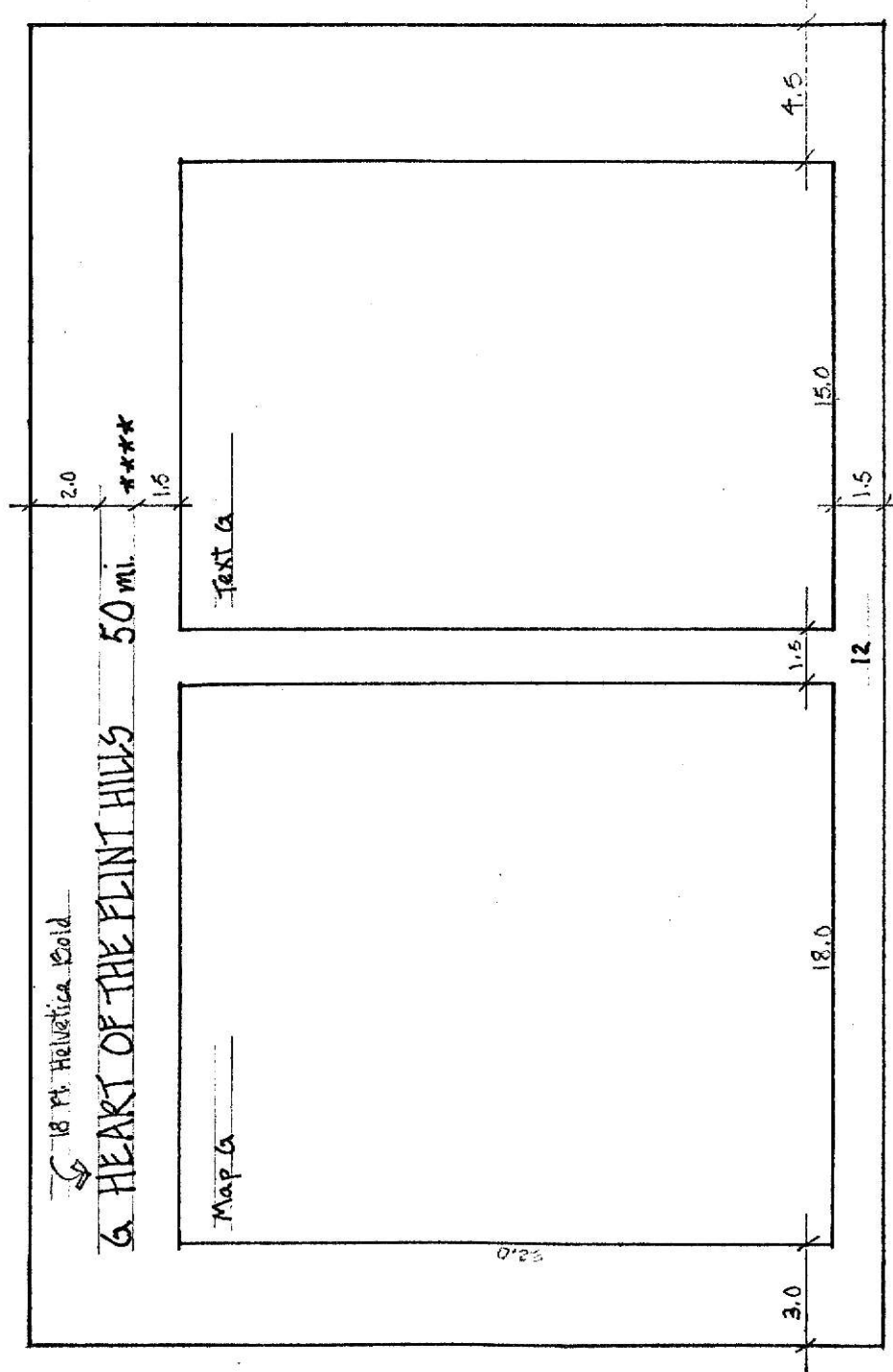




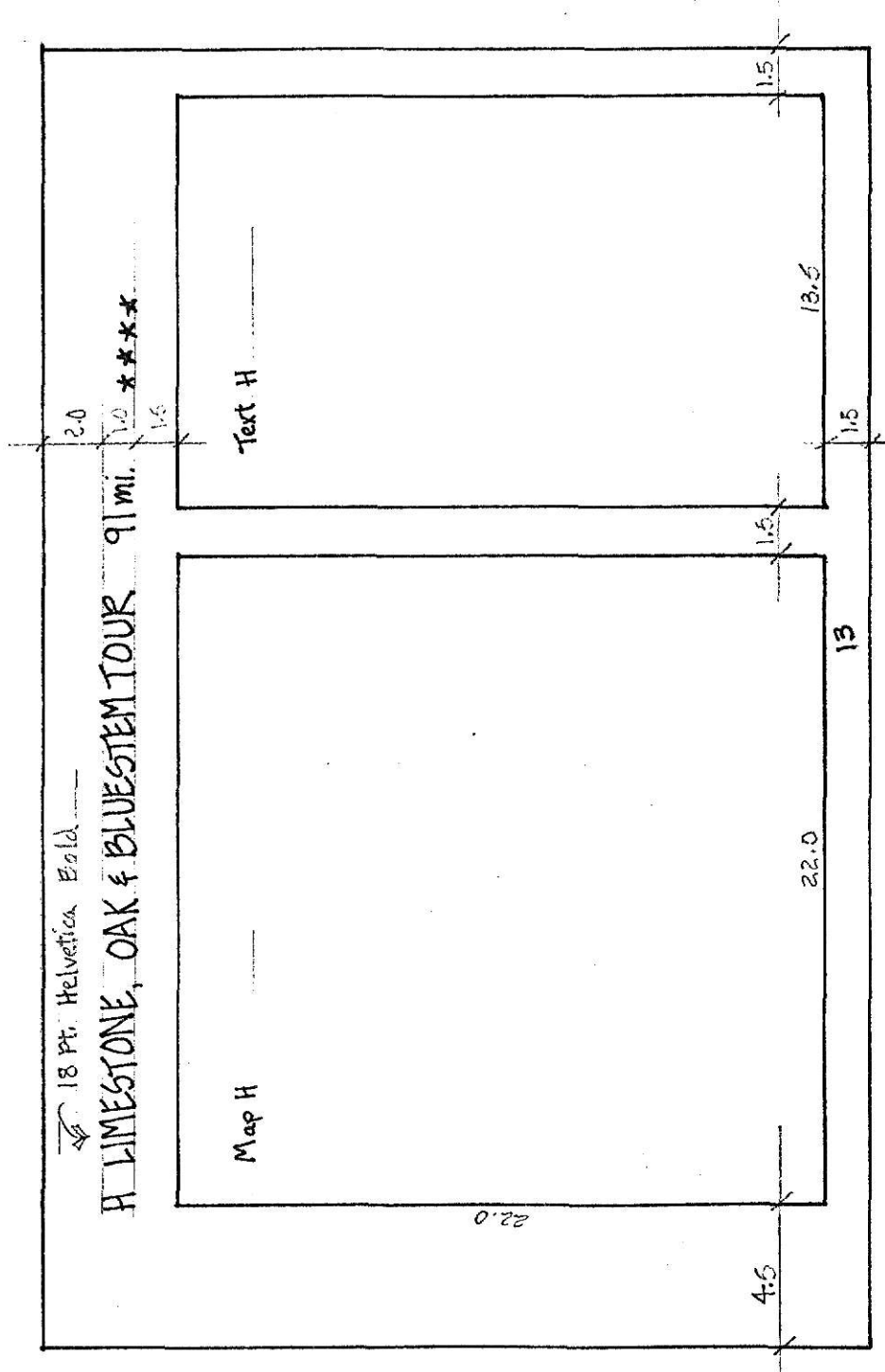


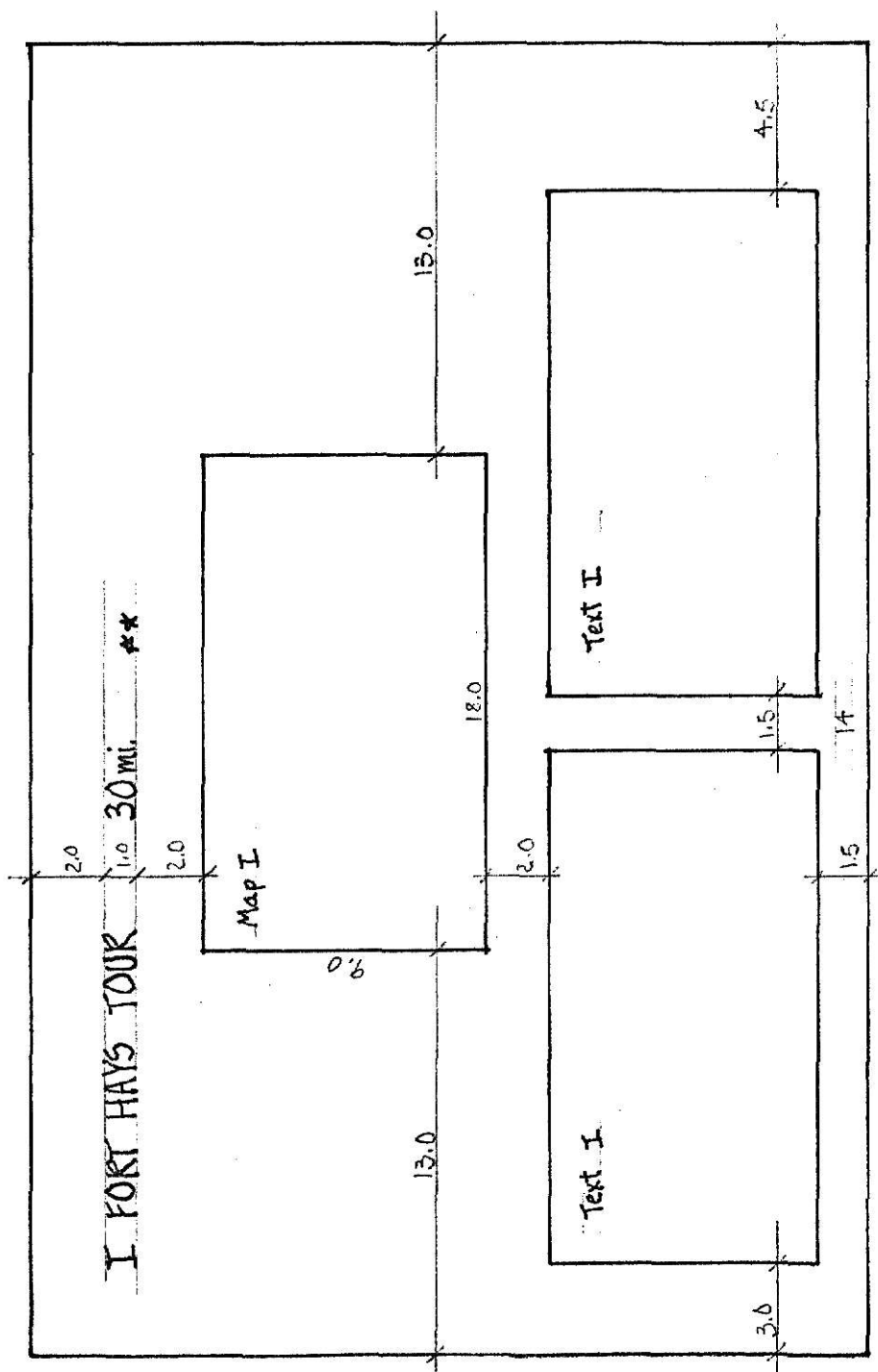


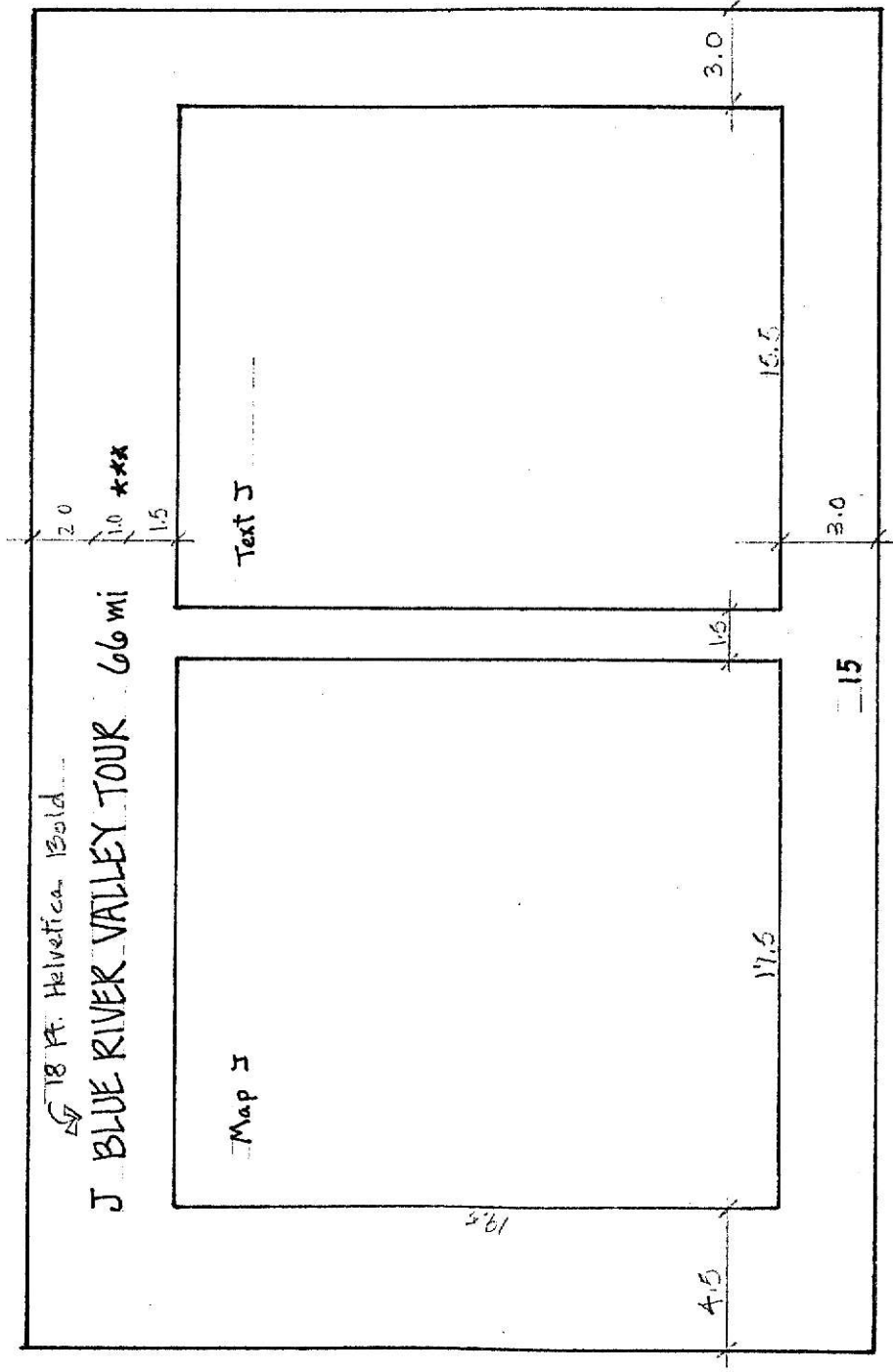


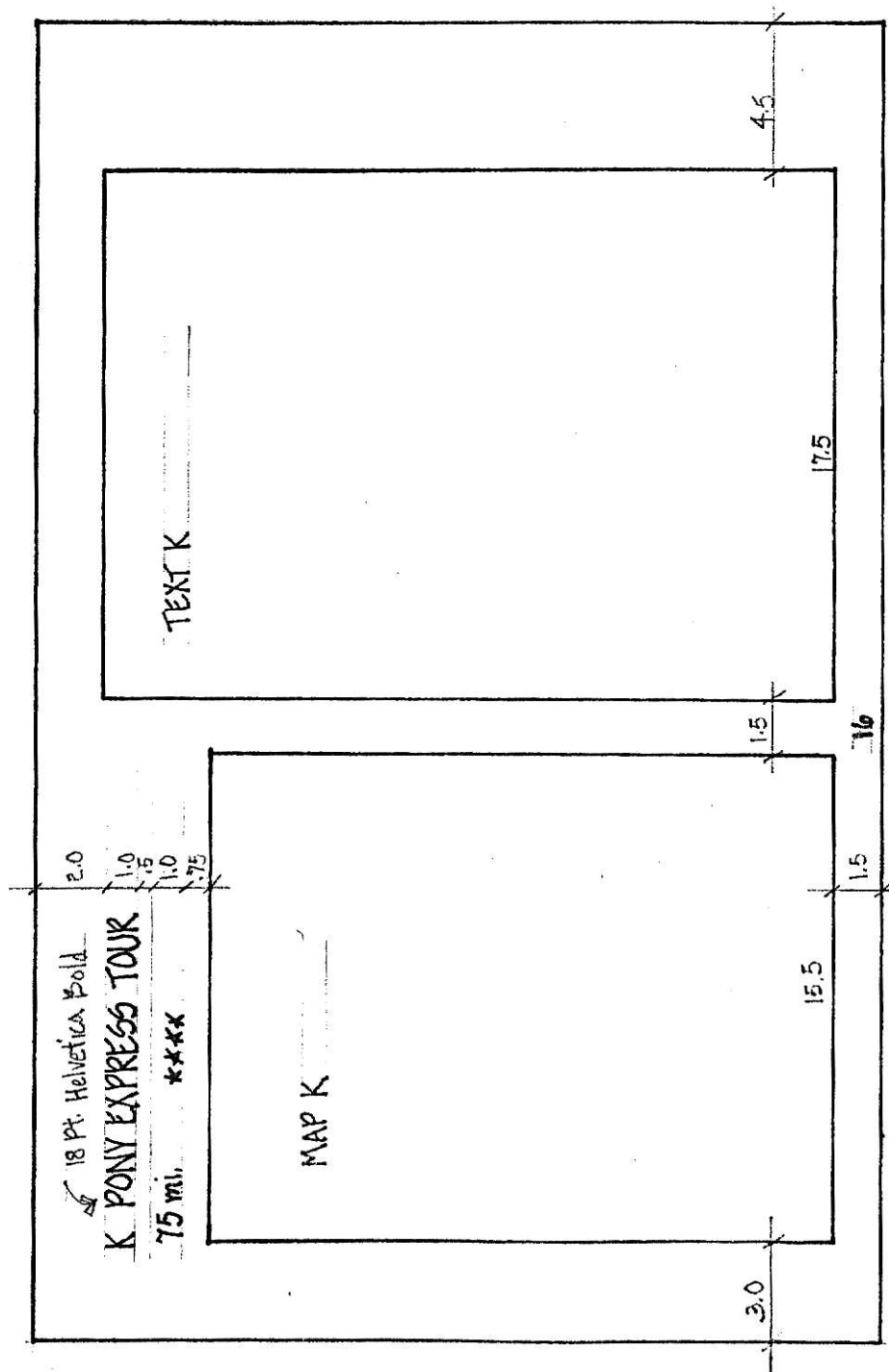


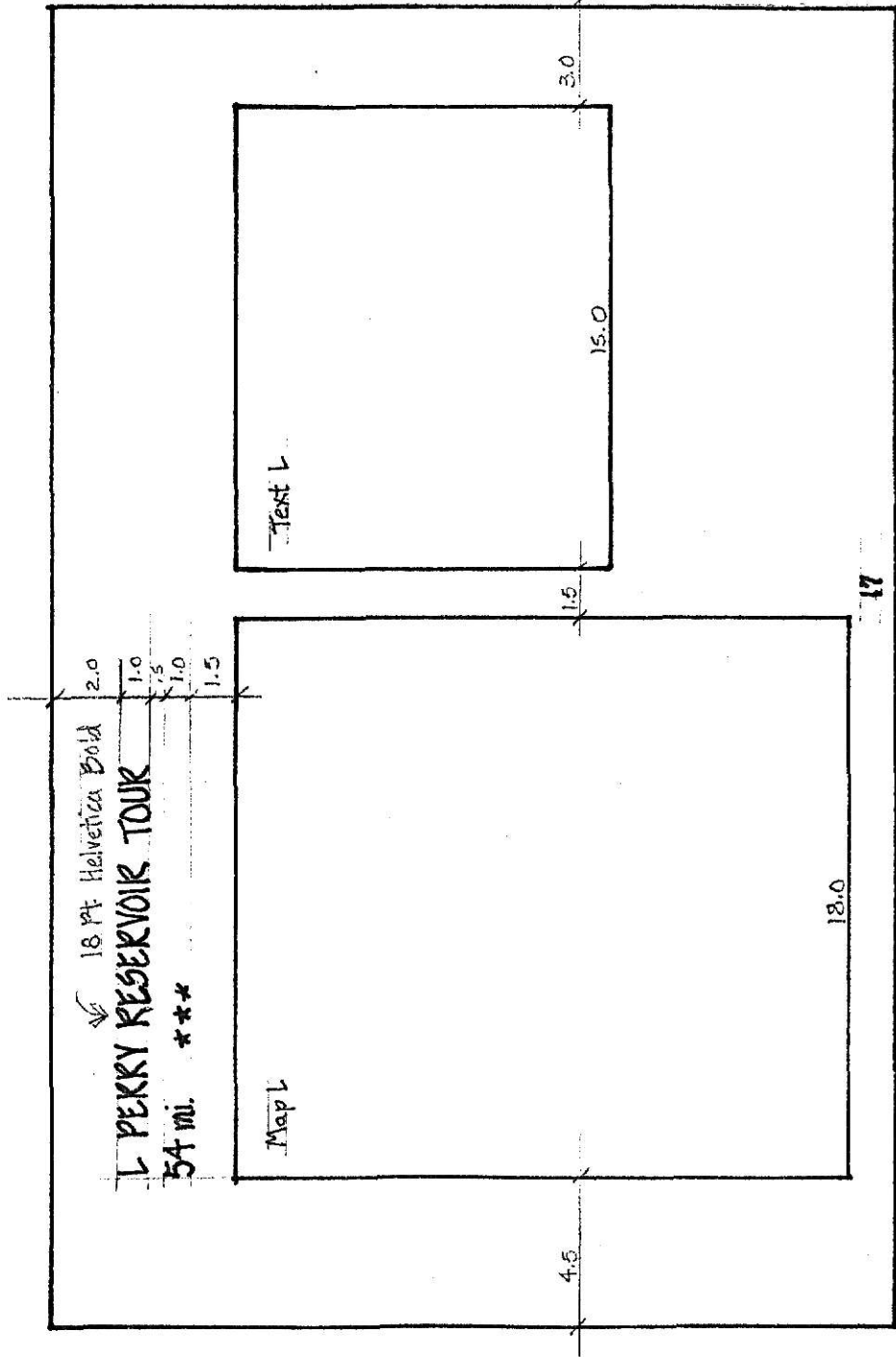


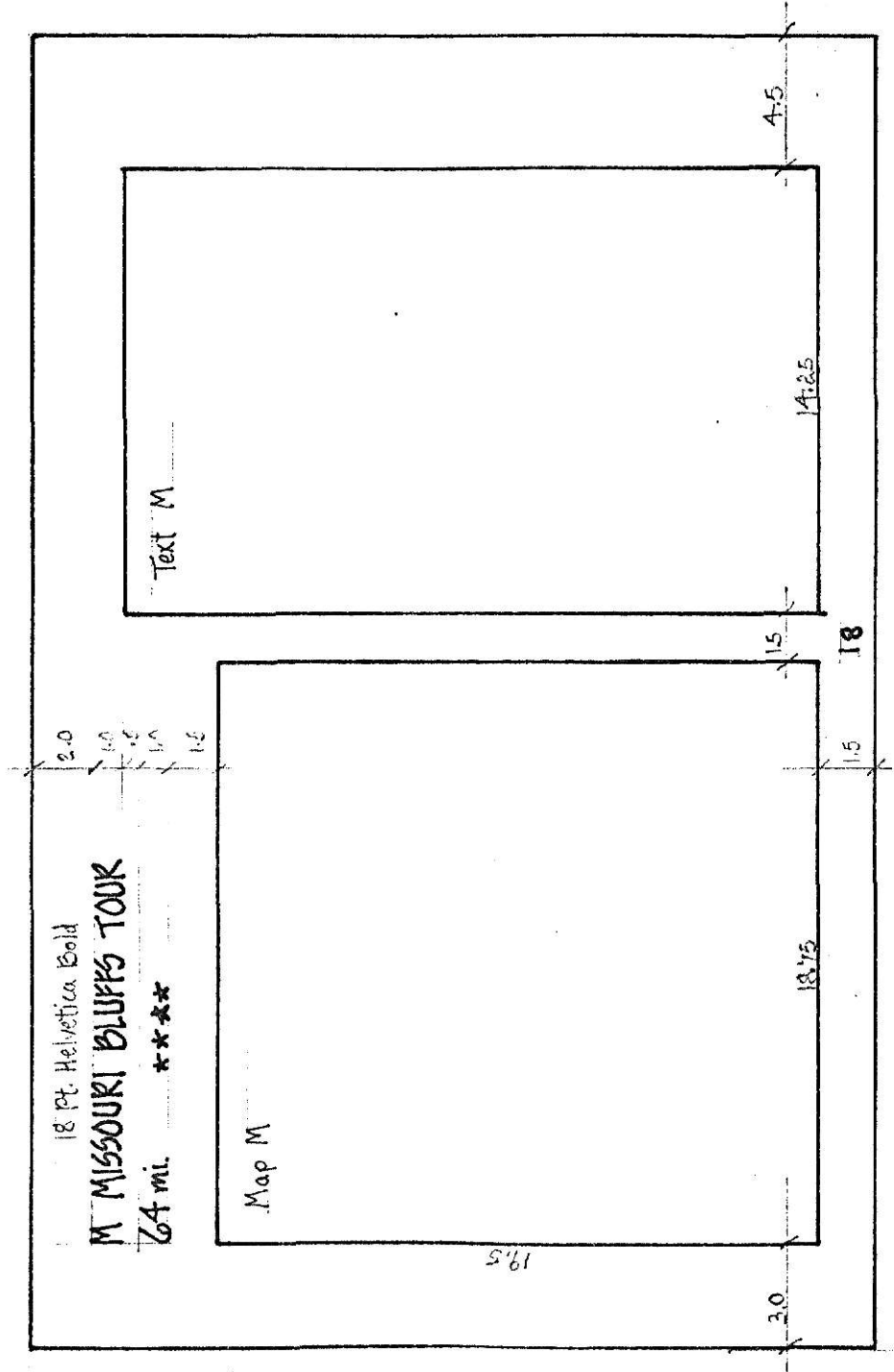


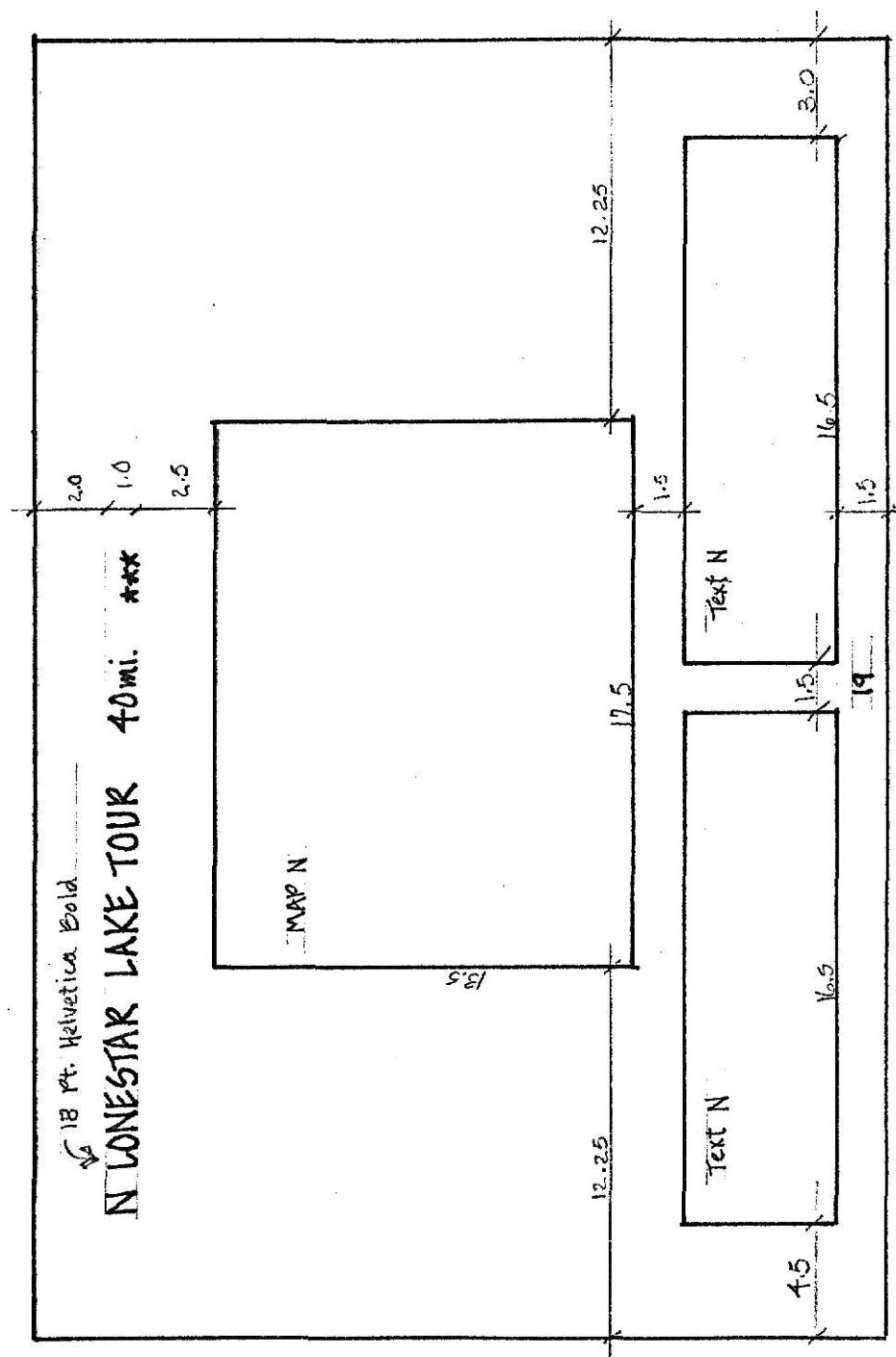


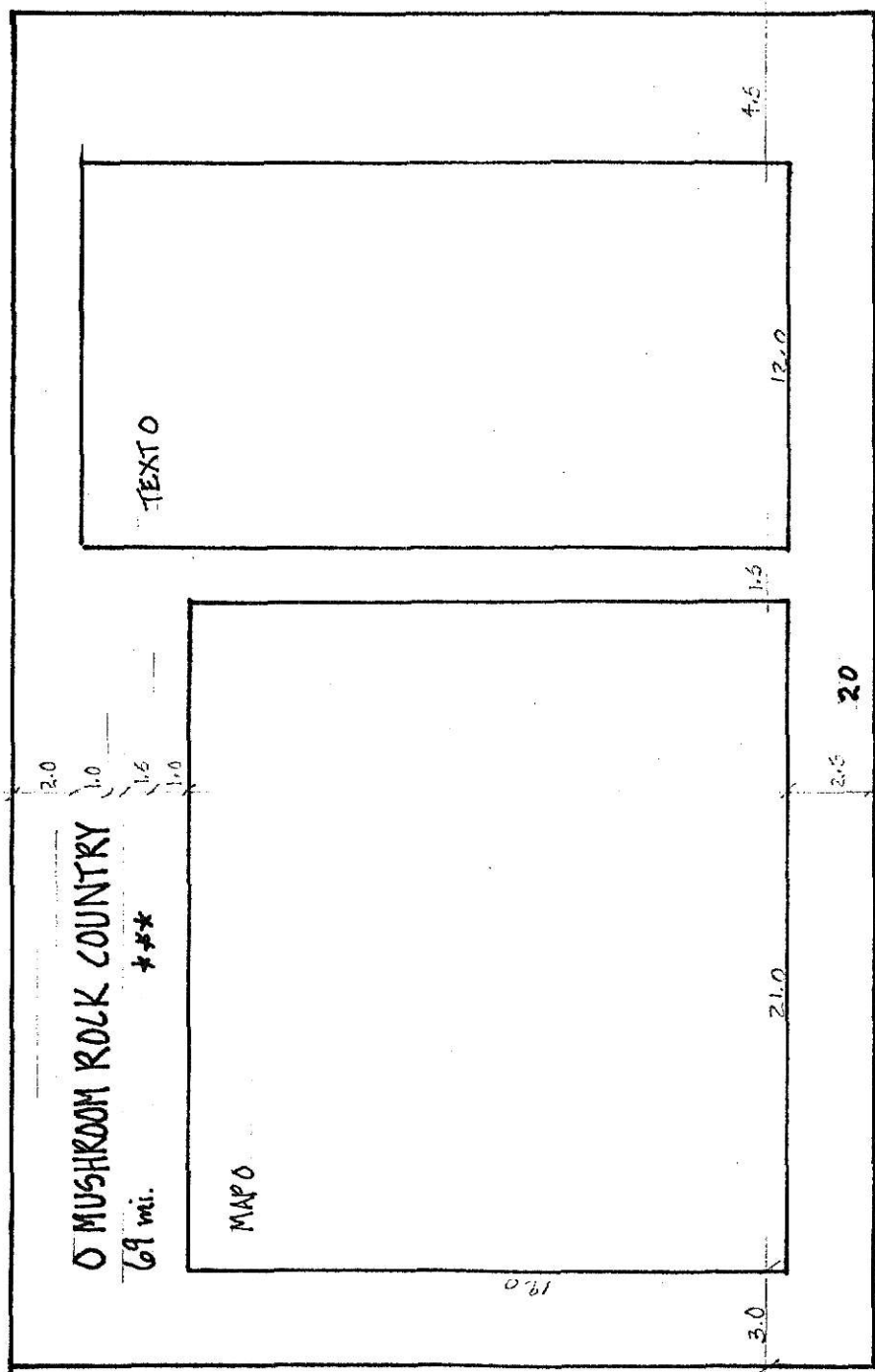




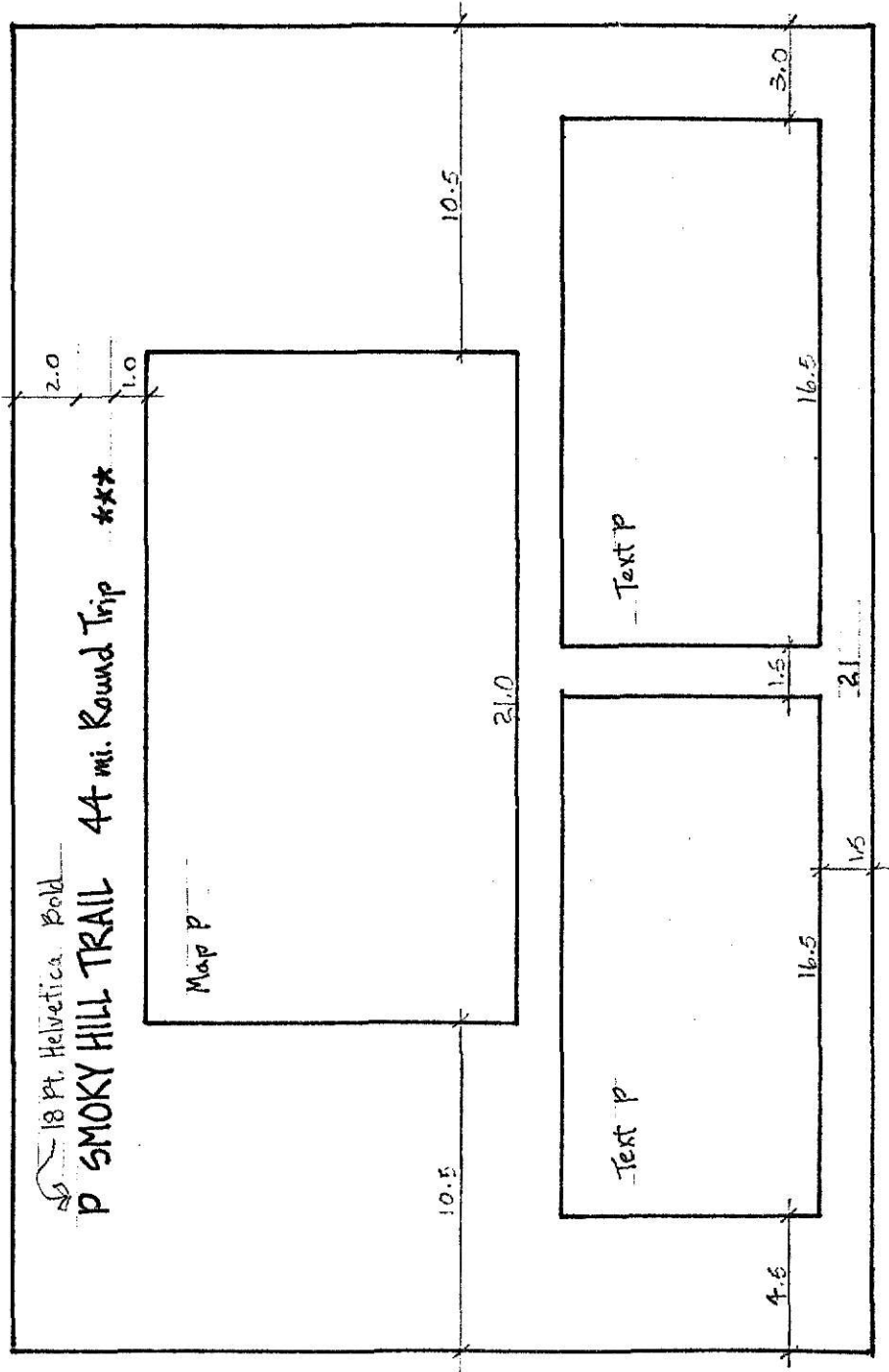


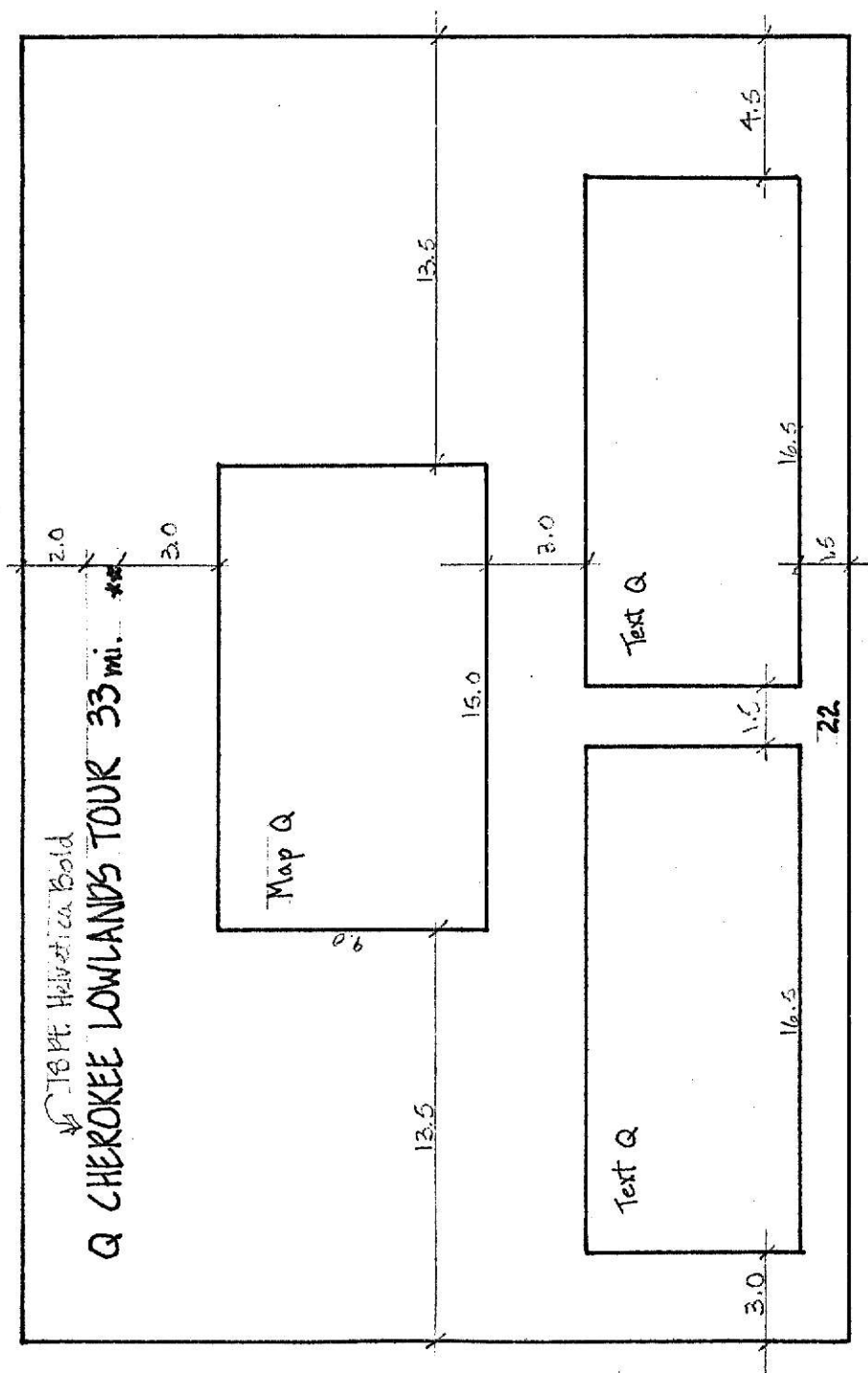


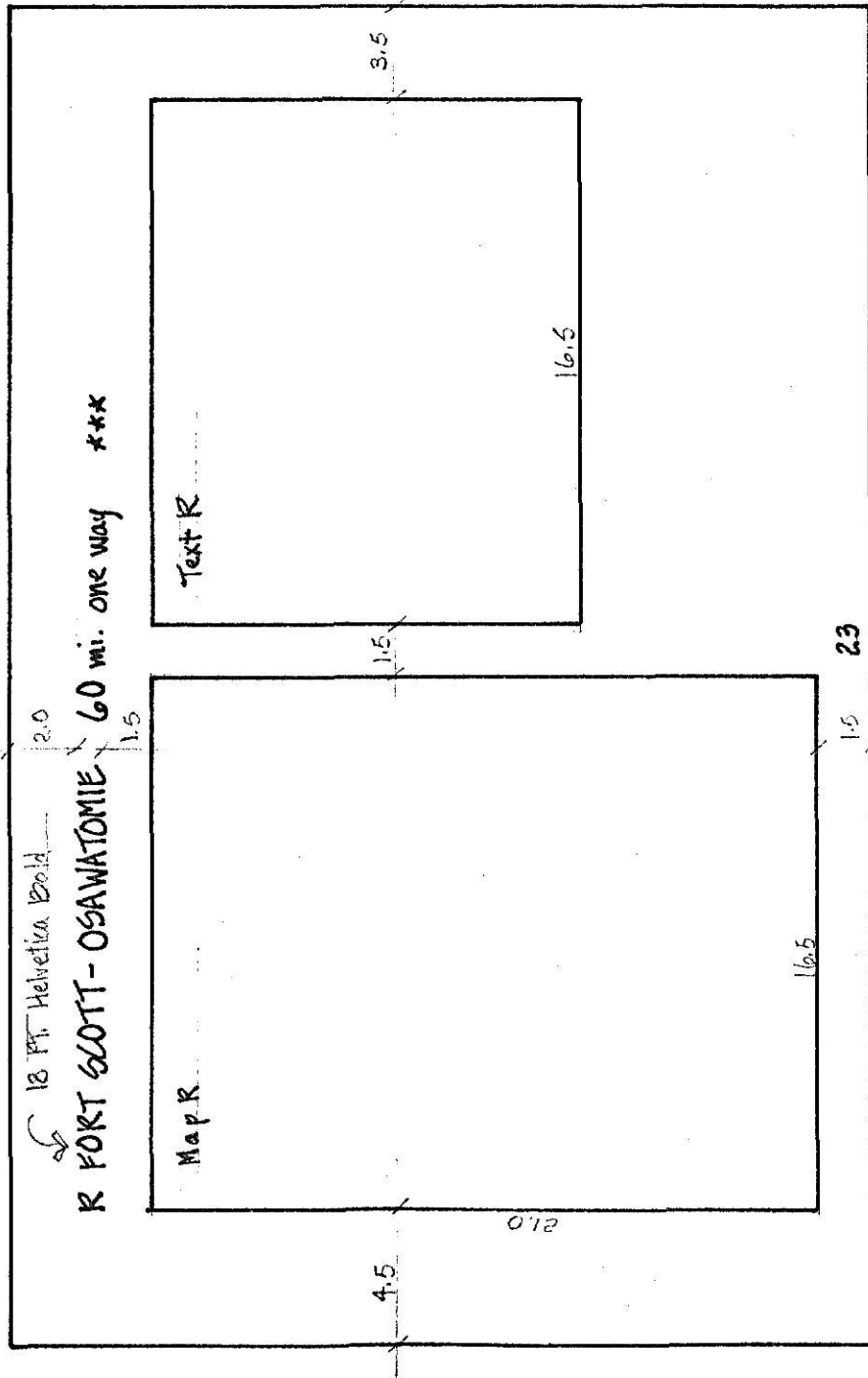


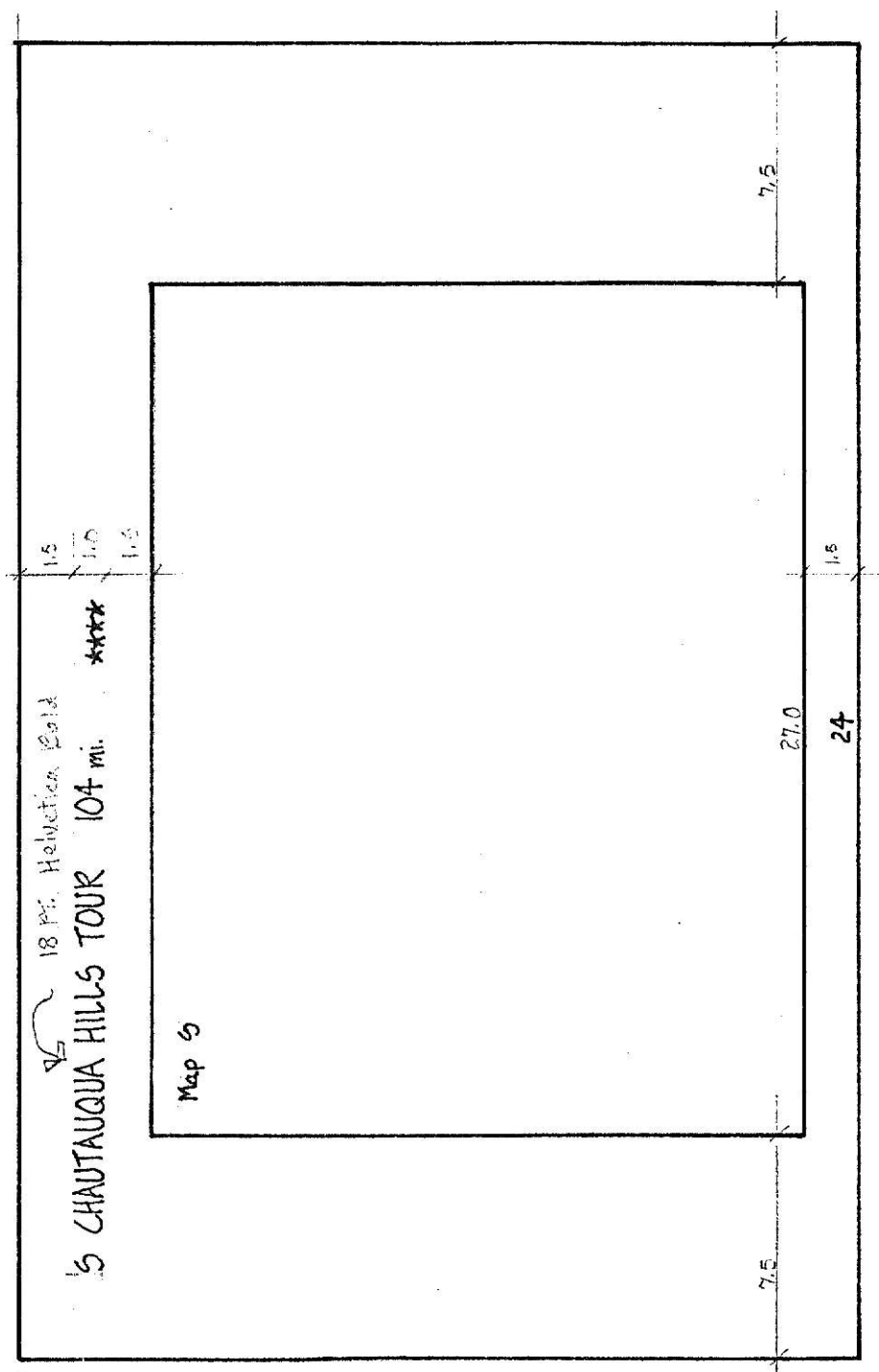


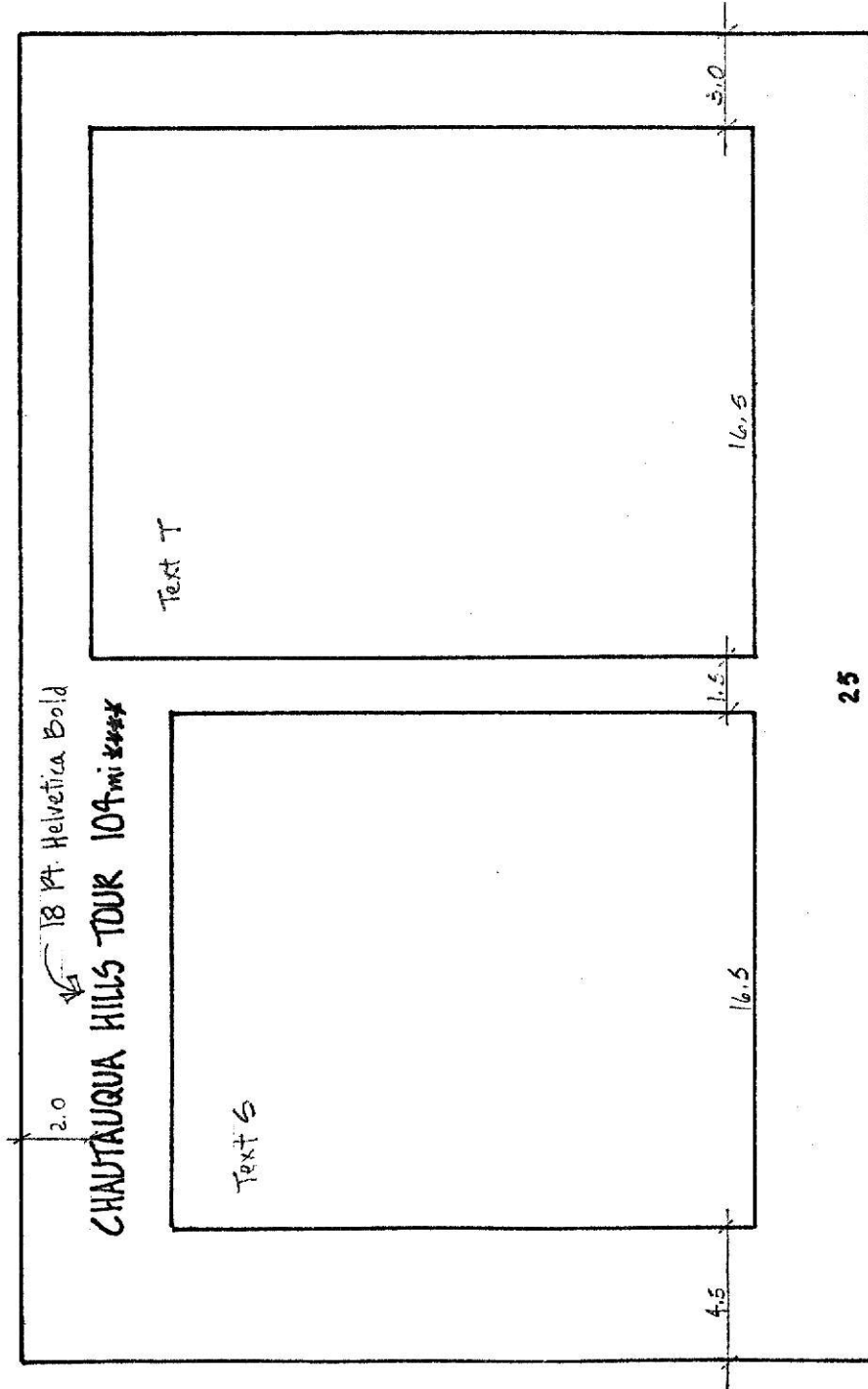


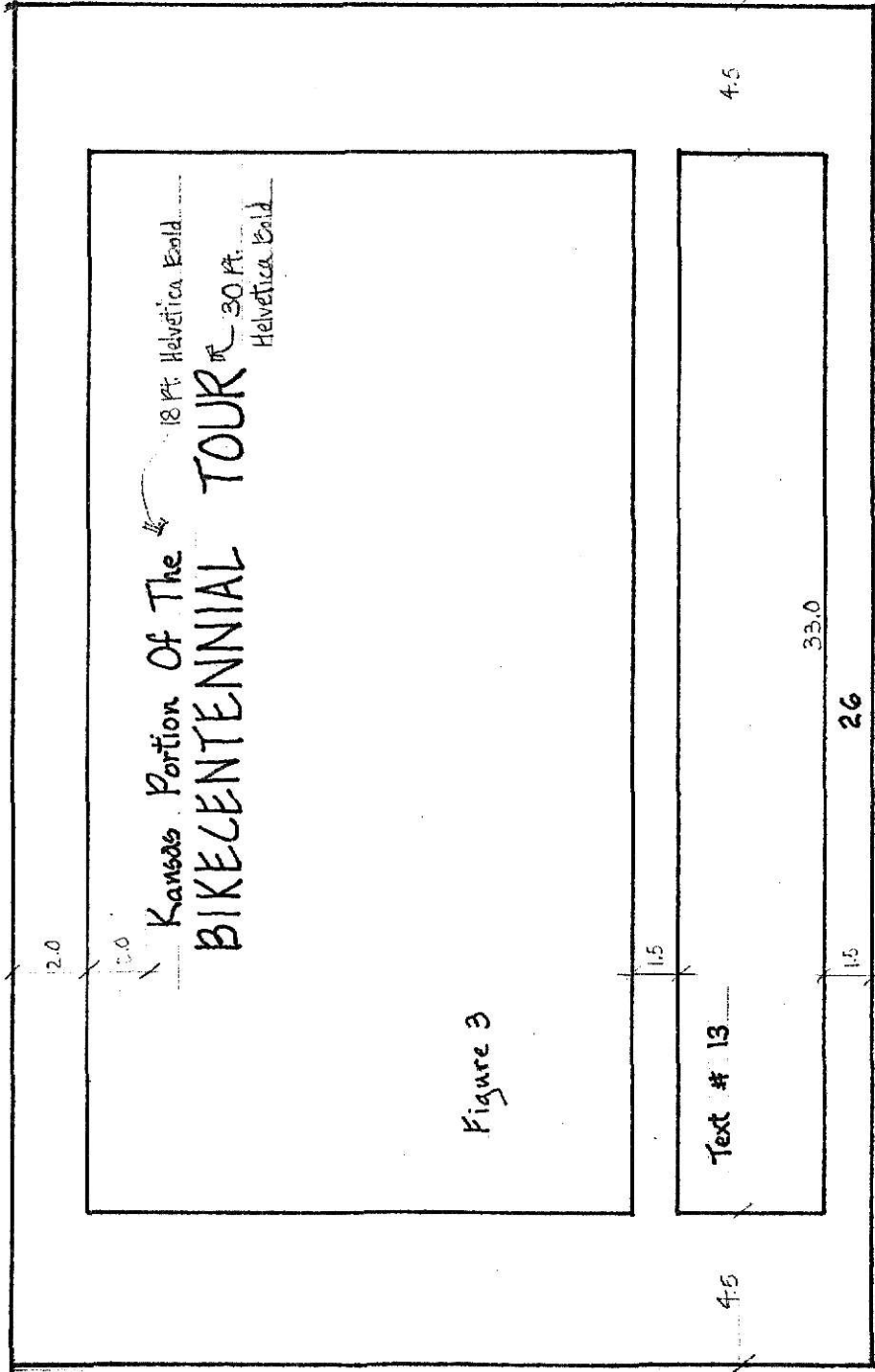


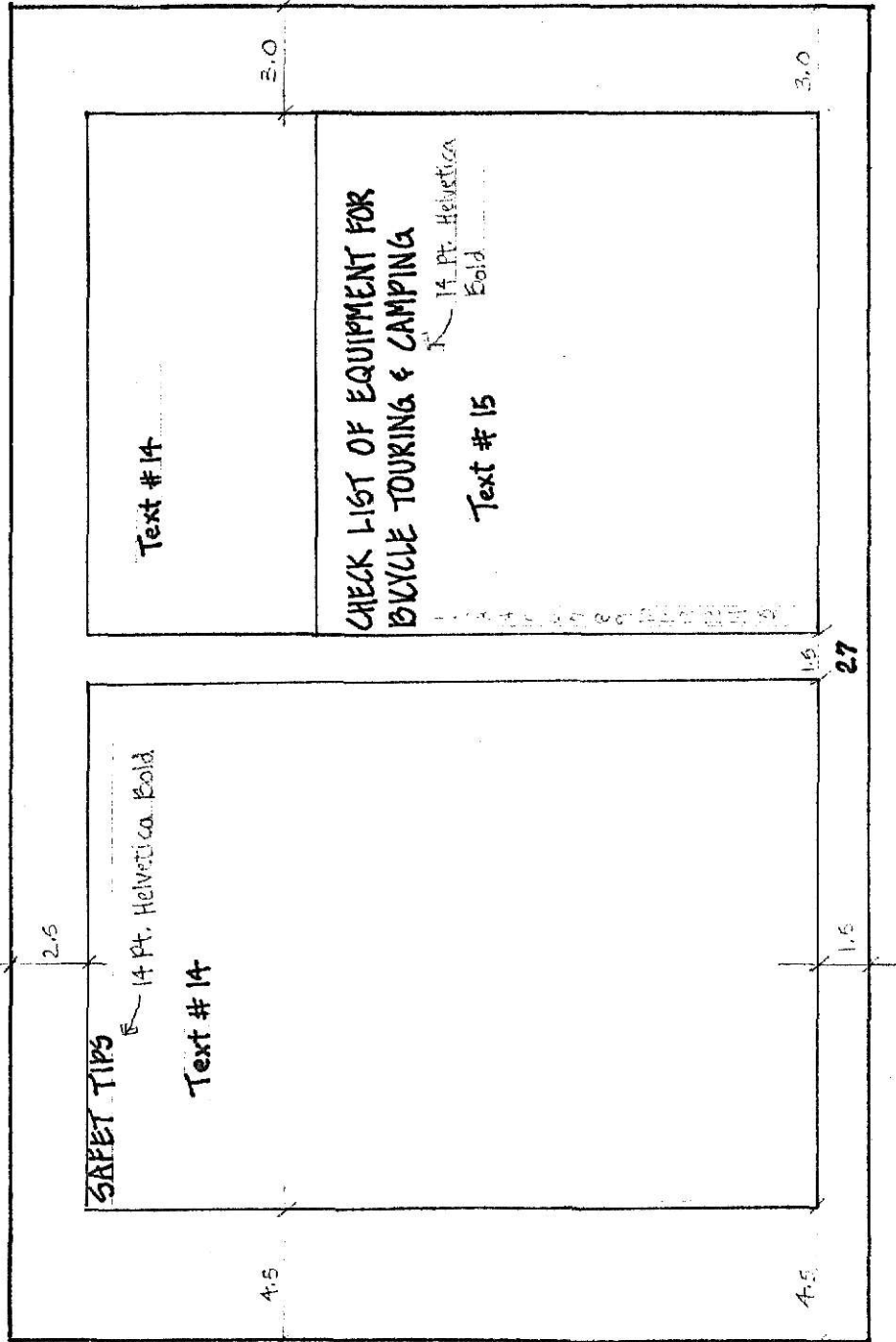












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TEXT FOR BICYCLING BROCHURE

## TEXT A

## CHALK BLUFFS TOUR

72-80 Miles \*\*\*-\*\*\*\*

Starting at Scott City, a very enjoyable ride can be taken on U.S. 83 to Scott County State Lake and Park. This scenic park, with full camping facilities, swimming, beach and showers is located in a rugged area of beautiful rock rimmed canyons and deep arroyos. A monument in the park marks the archaeological site of the El Quarteleyo ruins, built by the Picurie Indians and occupied from 1650 to 1720. Leaving the park on a gravel road, one travels through an area of spectacular chalk bluffs and eroded badlands. These chalk bluffs are nationally known for their reptilian fossils. Traveling north and east, the route takes one to the awe inspiring Monument Rocks. Commonly called the Kansas Pyramids, these water eroded chalk sediments rise 60 feet above the Smoky River Valley floor. These lonely spires are all that remain of the chalk and shale beds that once completely filled the river valley. They have been designated as the first national natural landmark in Kansas by the U.S. Department of the Interior.

Although this tour involves some dirt and gravel roads, it traverses such an interesting and beautiful area of the state, that it merits consideration from all bicycle tourists. Combined with camping, it makes an excellent two-day trip.

## TEXT B

WILSON RESERVOIR

70 Miles

\*\*\*\*

Starting in Wilson, this tour takes one north through an area of unique beauty with deep canyons and steep sandstone hills devoid of trees and brush. Nestled among these hills is beautiful Wilson Reservoir with sparkling blue water and natural sand beaches. Excellent camping facilities, with modern shower and toilet buildings, are available at Wilson State Park. Traveling north from Wilson Reservoir through more rugged hill country, the tour takes one to Lucas, home of the man-made Garden of Eden. This unusual attraction was started in 1907 by Civil War veteran, S. P. Dinsmoor, who built his home of native limestone, which he aptly named his "stone log cabin." Dinsmoor spent the next 22 years building a mausoleum, his own coffin, and his unique concrete statuary which depicts his version of the Biblical story. From here the tour continues in a wide loop through the scenic post rock region until it returns via Luray and Bunker Hill to Wilson.

This is a difficult tour, but the beautiful scenery and interesting attractions make it well worth while.

## TEXT C

FORT LARNED--PAWNEE ROCK TOUR      50 Miles      \*\*\*

Starting in Larned, two excellent bicycle tours can be taken in this historic region. One ride (14 miles round trip) can be taken from Larned to Fort Larned which has been designated as a National Historic Landmark. Fort Larned was established in the 1850s to protect the Sante Fe Trail. Today, every building in the original quadrangle still stands. Furnished in early military fashion, they now serve as museums and are open to the public for a nominal fee. Also located on U.S. 156, just west of Larned, is the Sante Fe Trail Historic Museum. This fine new facility is full of antiques and culture from early Sante Fe Trail days.

The second bicycle tour from Larned takes one to Pawnee Rock (36 miles round trip). Pawnee Rock served as a landmark on the Sante Fe Trail and was also used by the Plains Indians as a lookout and ambush spot. It is now a state park with a shelter house and monument.

These trips make an easy tour and can be quite scenic in spring and early summer when the wildflowers are blooming.

## TEXT D

WILD WEST TOUR

100 Miles

\*\*\*\*\*

Beginning in Dodge City, this tour takes you through historic southwestern Kansas. Although all of Kansas is rich in old west history, Dodge City with its historic Old Front Street, Boot Hill Cemetery, museums and other sites has to rate as one of the top attractions.

From Dodge City, the route travels through a region of unique, natural sinkholes. One of these, known as St. Jacob's Well, is reported to be bottomless and it has never gone dry. It was an important watering stop for early day travelers. From here the route takes you to Ashland where you will find the Clark County Pioneer Museum, the Sante Fe Museum and the Harold Krier Aerobatic Museum. From Ashland, bikers have the option of retracing their path or returning to Dodge City via Clark County State Lake. The latter alternative includes 16 miles of gravel road through rugged but beautiful canyon country. From this state lake, which is one of the prettiest in Kansas, bikers can return to Dodge City on K-94 and paved secondary roads.

## TEXT E

GROUSE CREEK AREA

47 Miles

\*\*\*

This tour takes one through a beautiful region in the lower Flint Hills. The country varies from gently rolling fields to steep hills and wooded river valleys; but scenery is not the only lure. There are many points of interest in Arkansas City and Dexter, and Cowley County State Lake makes a refreshing stop on the way home.

Dexter is the home of Henry's candy factory, world famous for fine candies. Also near Dexter is the site where helium was first discovered.

Arkansas City is the home of the Cherokee Strip Museum, which commemorates the famed run into Oklahoma Territory. Also near Arkansas City is a new 200 acre nature center designed to promote environmental awareness. It is located in a wooded area near the city and guided tours are available.

## TEXT F

## RED HILLS TOUR

40 Miles

\*\*

This tour begins in Medicine Lodge, the heart of the scenic Gyp Hills area. Medicine Lodge is steeped in history--it is the home of the Medicine Lodge Stockade Museum, the Carry Nation home (also a museum), and the historical Medicine Lodge Peace Treaty site. From Medicine Lodge the route follows the meandering Medicine River in a northwesterly direction to the secluded village of Sun City. Along the route the cyclist can view an outstanding area of white gypsum-capped mesas and buttes rising 300-500 feet above the valley floor. Many deeply eroded ravines with near vertical walls of scarlet siltstone and dense cedar covered floors provide a contrast of color throughout the year. The unique geological formations encountered in this corridor are typical only of the Gyp Hills area.

## TEXT G

HEART OF THE FLINT HILLS

100 Miles

\*\*\*\*

Starting in Cassoday, a small prairie town on K-177, this tour takes one northward through the heart of the Flint Hills to Matfield Green and on to Cottonwood Falls where the cyclist will find the Chase County Courthouse. Completed in French Renaissance style in 1873, this tall and stately native stone structure is the oldest active courthouse in the state. Located in the courthouse square is the Roniger Memorial Museum which is filled with Indian and pioneer relics. Passing through Strong City, the route continues northward on K-177. Riding the ridges of rolling hills, the tour offers panoramic views of grassy slopes dotted with grazing cattle and sparkling farm ponds. This tour ends in Council Grove, a historic town on the Old Sante Fe Trail. Council Grove has been designated a national historic landmark by the National Park Service and offers the bicycle tourist many historic attractions such as the Kaw Methodist Mission, Post Office Oak, Hays Tavern, Last Chance Store, Council Oak and Custer Elm. Recreation and camping facilities are available at Council Grove Reservoir a few miles north of town.



## TEXT H

LIMESTONE, OAK AND BLUESTEM

91 Miles

\*\*\*\*

Beginning in Manhattan, this tour heads east on K-18 through the Kansas River Valley, meandering along the base of the steep tree-covered Flint Hills to Wabaunsee, home of the historic Beecher Bible and Rifle Church. Turning south, the route takes one to Alma, home of the Alma Hotel, famous for gourmet cooking. Other attractions in Alma include scenic native stone buildings, the Wabaunsee County Historical Museum, and the Minnie Panenske Zwanziger Memorial Museum. Continuing southward, this tour takes the cyclist to Lake Wabaunsee which has camping and recreational facilities. From Lake Wabaunsee, the tour returns to Manhattan via Alta Vista and K-177. Bikers also have the option of returning to Manhattan on McDowell Creek Road, one of the most scenic roads in the state.

This tour is best done as a two-day trip with an overnight stop in Alma or at Lake Wabaunsee. If a weekend trip is planned, be sure to carry extra food as the stores in the small towns are usually closed on Sundays.

## TEXT I

FORT HAYS TOUR

30 Miles

\*\*

Beginning in Hays, a short enjoyable tour can be taken to Victoria where the St. Fidelis Church may be seen. Often called the "Cathedral of the Plains," this native limestone structure was built by hardy Russian immigrants through great personal sacrifices. Hays itself has many interesting attractions which should not be missed by the bicycle tourist including the Frontier Historical Park at the south edge of the city. In Forsythe Library, at Fort Hays State College, are many interesting museum displays. Hays also has a self-guided tour of 27 markers and monuments which mark the old stomping grounds of colorful frontier characters such as Wild Bill Hickock, General George Custer, "Dog" Kelley, Calamity Jane, and "Prairie Dog Dave" Morrow.

## TEXT J

BLUE RIVER VALLEY TOUR

66 Miles

\*\*\*-\*\*\*

This tour begins in Manhattan, home of Kansas State University, the first land grant college in the United States. Manhattan offers many educational and historic attractions such as the Goodnow Home Museum, Riley County Historical Museum, and Sunset Park and zoo. Traveling northward on Casement Road, the route takes you to Tuttle Creek Reservoir. This sparkling blue lake stretches for miles above a dam which ranks as the seventh largest earthen dam in the world. From the dam of Tuttle Creek, the route continues northeasterly, meandering through rich green Flint Hills dotted with red cedars and herds of grazing cattle. At the junction of K-16, the tour swings westerly through tall grass prairie country before again encountering Tuttle Creek Reservoir. Here the route crosses Tuttle Creek on the state's longest bridge, affording an awe inspiring view in both directions. There are state parks on both sides of the lake which offer excellent camping facilities. On the east shore of the lake, an interesting side trip can be taken into Randolph Wildlife Refuge.

## TEXT K

## PONY EXPRESS TOUR

75 Miles

\*\*\*\*

This tour can be combined with the Blue River Valley Tour which passes through Randolph and offers the cyclist further opportunities for exploring this historic and beautiful part of Kansas. When combined, these tours make a nice three-day trip. Starting at Randolph, the tour proceeds north on K-177. Twelve miles north of Randolph, the route turns east and then north again to Blue Rapids. From Blue Rapids the route continues northward to Marysville, a famous stop on the Pony Express and Overland Stage Lines. Marysville is the home of the Marysville Pony Express Barn, built in 1859 which is now a local museum (open summers only). From Marysville, the tour takes one west on U.S. 36 for eight miles before turning north to Bremen. This is a fairly heavily traveled four lane road, but it has paved shoulders on the north side and thus should provide safe touring. The next stop is the Hollenberg Pony Express Station, one and one-half miles east of Hanover. It is said to be the only unaltered, unmoved, pony express station remaining and is administered by the State Historical Society as

a historic site museum. From Hanover, the tour takes one south to Waterville, the home of the historic old Weaver Hotel. This hotel has been remodeled to house a modern restaurant and sleeping rooms. During the summer, a theater company performs in the old Waterville Opera House.

## TEXT L

PERRY RESERVOIR TOUR

54 Miles

\*\*\*

From Topeka, capitol of our state, and home of many historic and cultural attractions, it is possible to take a very pleasant ride to Perry Reservoir and Perry State Park. Perry Reservoir is nestled among tree-covered hills and provides scenic beauty along with excellent camping and recreation facilities. Perry State Park has a swimming beach, bathhouse and shower facilities. From Perry State Park, bikers have the option of a short route on gravel road to Meriden, or a longer ride on paved road via the east shore and Ozawie for the return trip.

## TEXT M

MISSOURI BLUFFS TOUR

64 Miles

\*\*\*\*

This tour connects Atchison and Leavenworth, two of the oldest and most historic cities in Kansas. Both cities offer so many attractions that it is difficult to name them all. Leavenworth, located on the west bank of the Missouri River, was a major port for river boats transporting supplies to early settlers. One of the highlights to see in the city is the Leavenworth Historical Museum, located in a century old hilltop mansion. Immediately north of the city is Fort Leavenworth which served as an important frontier outpost on the Leavenworth feeder branches of the Oregon and Santa Fe trails. Historic attractions such as the old Territorial Governor's House, the Post Chapel, and the Fort Leavenworth museum, offer the visitor an opportunity to become familiar with the history of the area. From Leavenworth, the route winds its way north through tree covered hills and along the Missouri River bluffs, offering a panoramic view of the "Old Missouri". Some of the highlights in Atchison are the Benedictine College Museum, the Amelia Earhart birthplace, the Atchison Post Office and the Price Villa.

## TEXT N

LONESTAR TOUR

40 Miles

\*\*\*

From Lawrence, home of the University of Kansas, this route winds through the scenic Wakarusa River Valley and between hills covered with stately oaks, sugar maples, and sycamores, to the peaceful beauty of Lonestar Lake. This little lake provides excellent facilities for camping, swimming, and picnicing. From Lonestar Lake, the tour goes east on U. S. 56 to Baldwin. Located on the old Santa Fe Trail, it is the home of Baker University, the state's oldest four-year college. Baldwin, and the surrounding countryside, is covered with hard maples and pin oaks which provide a riot of color for a "Maple Leaf Festival" each fall. Some of the cultural and historic points of interest that should not be missed in Baldwin are the Bishop Quayle Bible Collection in the Baker University Library and Old Castle Hall, the oldest college building in the state. In Lawrence be sure to see the Dyche Museum of Natural History and the Kansas Museum of Art, both located on the KU campus.



## TEXT O

MUSHROOM ROCK COUNTRY

69 Miles

\*\*\*

This tour can be done in one day, but bikers may elect to spend two or three days enjoying the wide open spaces and interesting sites along the way. From Salina the tour proceeds west on K-140 to Brookville where there is a picturesque old cattlemen's hotel which is nationally famous for its fried chicken, hot biscuits, and old fashioned atmosphere. Continuing southwest through the Smoky Hills, the tour takes one to Mushroom Rock State Park which contains unique windcarved sandstone creations shaped like giant toadstools. The next stop is Kanopolis Reservoir, a beautiful lake with excellent camping facilities. From Kanopolis the tour travels through an area which was settled over a century ago by hardy immigrants. Lindsborg, the center of this area, has many shops which feature Swedish food and Scandinavian imports. The return trip to Salina is by Coronado Heights with its castle-like picnic shelter at the summit.

## TEXT P

SMOKY HILL TRAIL

44 Miles

\*\*

This short tour follows the historic Smoky Hill Trail between Abilene and Salina on old U.S. 40. Abilene marks the end of the historic Chisholm Trail, upon which more than a million head of cattle were driven. Old Abilene Town is an authentic reproduction of life as it was in the cattle drive years along the Chisholm Trail. Abilene also is the home of the Dwight D. Eisenhower Memorial complex which houses a large museum, library, his boyhood home and "a place of Meditation," a chapel in which President Eisenhower is entombed. Other sites to see in Abilene are Micro Zoo, the National Greyhound Hall of Fame and the Dickinson County Historical Museum.

## TEXT Q

CHEROKEE LOWLANDS TOUR

33 Miles

\*\*

This tour gives the biker a chance to explore a historic part of southeastern Kansas. Baxter Springs, where the tour begins, was the site of several Civil War battles. In the western section of the city, a national cemetery was established at the gravesite of 100 or more soldiers killed by Quantril's Raiders in a Civil War battle which was fought in the heart of the city. From Baxter Springs the tour heads eastward through low oak covered hills to the junction of K-26 where it turns northward towards Lowell and Riverton. Four miles past Reverton the route turns west and then returns to Baxter Springs via U.S. 69 and U.S. 166 through an area which was once devoted to strip mining. This area of abandoned strip pits is being turned into a virtual sportsman's paradise with many fishing lakes and recreation areas.

## TEXT R

\*\*\*-\*\*\*

FORT SCOTT--OSAWATOMIE

60 Miles one way

This tour starts in Fort Scott, a modern city that grew up around historic old Fort Scott. The fort was established in 1842 to help protect travelers from marauding Indians. Today its well preserved buildings can be seen in Carrol Plaza within the city. Proceeding northward from Fort Scott, the route winds through colorful rolling hills and timbered valleys. At Mound City, a national monument and small park commemorating local struggles of the Civil War is located. The route ends in Osawatomie which contains excellent overnight accommodations as well as a variety of historic and scenic attractions. John Brown Memorial State Park, in the western part of the city, contains a log cabin which was used by John Brown during the territorial struggles. It is now a museum.

## TEXT S

## CHAUTAUQUA HILLS TOUR

104 Miles

\*\*\*\*

Starting in Moline, this rugged tour takes one through the lower Flint Hills into the heavily wooded Chautauqua Hills. It wanders through hills covered with scrub oak, red cedar, and redbud trees to Elk City Reservoir.

This fine, clear water lake is contained in a basin surrounded by limestone boulders and rock outcroppings.

There are many fine campsites around the lake, or if preferred, one could go on to Independence which has excellent accommodations for an overnight stay. Local attractions include the Riverside Park and Zoo and the Montgomery County Historical Museum. The return trip on U.S. 166 takes the biker through many interesting small towns such as Havanna, Niotaze, Peru and Sedan, the Chautauqua county seat.

This tour also offers the bicyclist the option of a shorter trip around Elk City Reservoir (30 miles).

Either trip provides an excellent opportunity to combine bicycle touring with camping. For those who don't mind country roads, the wilderness trail provides an opportunity for further exploration of the Chautauqua Hills.

## TEXT T

Wichita Bikeway System

86 Miles

\*

The city of Wichita has more than 86 miles of bicycle routes and trails which focus on 85 points of interest such as parks, historic sites, schools, etc.. The bike routes have been located on low traffic roads and arranged so that one can enjoy a short trip or a scenic tour of the entire city. For more information on the Wichita Bikeway System write:

W-SCMAPD

104 South Main

Wichita, Kansas 67202

Or call the Wichita Answer Center, 316-262-0494.

## TEXT #1

## ACKNOWLEDGEMENTS

This booklet has benefited from the continued advice and interest of many people. Specifically, the author would like to express his sincere appreciation to the following persons and agencies for their contributions: Norma and Larry Christie, Oz Bicycle Club of Wichita and the Kansas Chapter of The League of American Wheelmen; Robert L. Page, Department of Landscape Architecture, Kansas State University; Clyde Woods, Kansas Department of Transportation; Jim Richardson, National Field Director, Bikecentennial 76; Kansas Park and Resource Authority; U. S. Department of Transportation; the Bureau of Outdoor Recreation, U. S. Department of the Interior; and the Kansas Historical Society.

## TEXT #2

## INTRODUCTION

This is a call to adventure; a chance to really experience Kansas, to feel free, rolling along with the wind in your hair and the sun on your back. Friendly people, scenic beauty, and historic places lie around every corner. Come and experience a free-as-the-breeze feeling, biking through Kansas.

## TEXT #3

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The page numbers for Text # 3 are pertinent to the brochure only.

## TEXT #4

## HOW THE TOURS WERE SELECTED

Many factors were taken into consideration in selecting these tours including historical points, scenery, traffic volume and availability of overnight accommodations. No effort was made to avoid hilly terrain in order to make the routes easier since this type of country might offer exactly what some of the more experienced bicycle tourists want. Be sure to read the narrative descriptions and consider the difficulty ratings before starting your trip. Keep in mind that while all of the tours listed were selected to travel low traffic roads, a certain degree of danger always exists when bicycles are mixed with automobiles. These are suggested routes only and use of these Class III routes is at the cyclist's own risk.

## TEXT #5

## INFORMATION OF TOURISM AND RECREATION

For more information regarding tourist and recreational facilities in the state of Kansas contact:

Kansas Department of Economic Development  
Travel Division  
503 Kansas Avenue  
Topeka, Kansas 66603

## TEXT #6

## PLANNING YOUR TRIPS

When planning your trips, you can obtain detailed county maps at a cost of 10 cents each from the Kansas Department of Transportation, State Office Building, Topeka, Kansas 66612. Traffic volume maps are also available from the state Department of Transportation and topographic maps are available from U. S. Geological Survey, Denver Federal Center, Bldg. 41, Denver, Colorado 80225.

## TEXT #7

## WEATHER

Variability is the keynote of Kansas weather. The state lies across the path of alternate masses of warm moist air moving north from the Gulf of Mexico and cool dry air moving south from the Arctic regions. When cycling through Kansas you should be prepared for fast and frequent changes in the weather.

Kansas is a windy state. In fact, its name is derived from Indian language and means winds. Prevailing winds in the warmer months are out of the south and in winter are out of the north. When planning a one-way trip, one can usually capitalize on these winds by planning to travel from south to north. On loop trips it is often helpful to travel in a direction that will let one have the southerly wind at his or her

back on the return trip or as coach Billy stretches

## TEXT #8

## RULES OF THE ROAD

1. Every person riding a bicycle upon a roadway shall be granted all of the rights, and be subject to all of the responsibilities applicable, to the driver of a motor vehicle.
2. No bicycle shall be used to carry more persons at a time than the number for which it is designed and equipped.
3. Every person operating a bicycle upon a roadway shall ride as near to the right as practicable, exercising due care when passing a standing vehicle or one proceeding in the same direction.
4. Persons riding bicycles upon a roadway shall not ride more than two abreast, except on paths or roadways set apart for the exclusive use of bicycles.
5. No person operating a bicycle shall carry any package or bundle which prevents that person from keeping at least one hand upon the handle bars.
6. Every bicycle, when in use at night time, shall be equipped with a lamp on the front which shall emit a white light visible from a distance of at least 500 feet to the front and with a red reflector visible from all distances from 100 - 600 feet to the rear when directly in front of the lawful lower beams of head lamps on a motor vehicle.

## TEXT #8 Cont'd.

## RULES OF THE ROAD

7. Every bicycle shall be equipped with a brake which will enable the operator to make the braked wheel skid on dry, level, clean pavement.

Adapted from: Standard Traffic Ordinance for Kansas Cities  
by the League of Kansas Municipalities.

## TEXT # 9

## ABOUT THE MAPS

All of the maps in this booklet are shown at a scale of one eighth inch equals one mile ( $1/8"=1$  mi.) with the exception of the Bikecentennial Tour. The legend below applies to all of the tour maps. Near each of the maps one will find the tour length (round trip) and a difficulty rating for the tour.

## TEXT #10

## DIFFICULTY RATINGS

- \* Easy Trip--short distances, usually 5-15 miles, fairly flat.
- \*\* Fairly easy--slightly longer distances, 15-30 miles.  
May include some hills, but not many.
- \*\*\* Intermediate--trips for the average cyclist, may be a bit too much for beginners. Mileage per day ranges from 30-60 miles.
- \*\*\*\* Difficult--trip may include many hills, poorer roads, heavier traffic or fewer accommodations. One should be able to ride 60-80 miles per day for these trips. Definitely for experienced bicyclists.
- \*\*\*\*\* Very hard--trips may include a great number of steep hills, long stretches without accommodations, poorer roads and longer distances per day. One should be an experienced bicycle tourist to tackle these.

Adapted from North American Bicycle Atlas, American Youth Hostels, Inc..

## TEXT #11

## LEGEND

Road on the route	Bike shop
Road not on the route	Cafe
Paved road on the route	Grocery store
Unpaved road on the route	Service station
Fourlane divided highway	Hotel or motel
State park	All five of the above
	Public campground, no showers
	Public campground with showers

## TEXT #12

## LIST OF TOURS

A Chalk Bluffs Tour	K Pony Express Tour
B Wilson Reservoir Tour	L Perry Reservoir Tour
C Fort Larned--Pawnee Rock	M Missouri Bluffs Tour
D Wild West Tour	N Lonestar Lake Tour
E Grouse Creek Tour	O Mushroom Rock Country
F Red Hills Tour	P Smoky Hill Trail
G Heart of the Flint Hills	Q Cherokee Lowlands Tour
H Limestone, Oak and Bluestem Tour	R Fort Scott--Osawatomie Tour
I Fort Hays Tour	S Chautauqua Hills Tour
J Blue River Valley Tour	T Wichita Bikeway System

## TEXT #13

## BIKECENTENNIAL TOUR

The Bikecentennial tour offers an opportunity to rediscover America by bicycle this summer. Three years of careful research has gone into the selection of quiet backroads that capture the essence of America. The 4,100 mile trail spans the nation, traversing 25 national forests, 2 national parks, vast stretches of wilderness areas, as well as prairies, grasslands and short stretches of desert. For more information on organized tours contact: Bikecentennial 76, P.O. Box 1034, Missoula, Montana 59801.



## TEXT #14

## SAFETY TIPS

1. Be seen. Wear brightly colored clothing and use a light at night and on cloudy days.
2. Be predictable. Ride in a straight line and always signal your intentions such as turns, stops, etc..
3. Check your bike daily to ascertain that it is in good working order with no loose parts or frayed cables.
4. Cross railroad tracks, drainage grates, and cattle guards at right angles.
5. Keep an eye on the road surface. Watch for wet leaves, oil slicks, sand and gravel which could cause skidding accidents.
6. Think ahead and plan your pace so that you don't arrive at blind curves or narrow bridges at the same time as overtaking vehicles.
7. Wear protective glasses to keep dirt and wind blown objects out of your eyes.
8. Ride defensively and always yield the right-of-way. Never assume that a driver sees you until he stops.

## TEXT #15

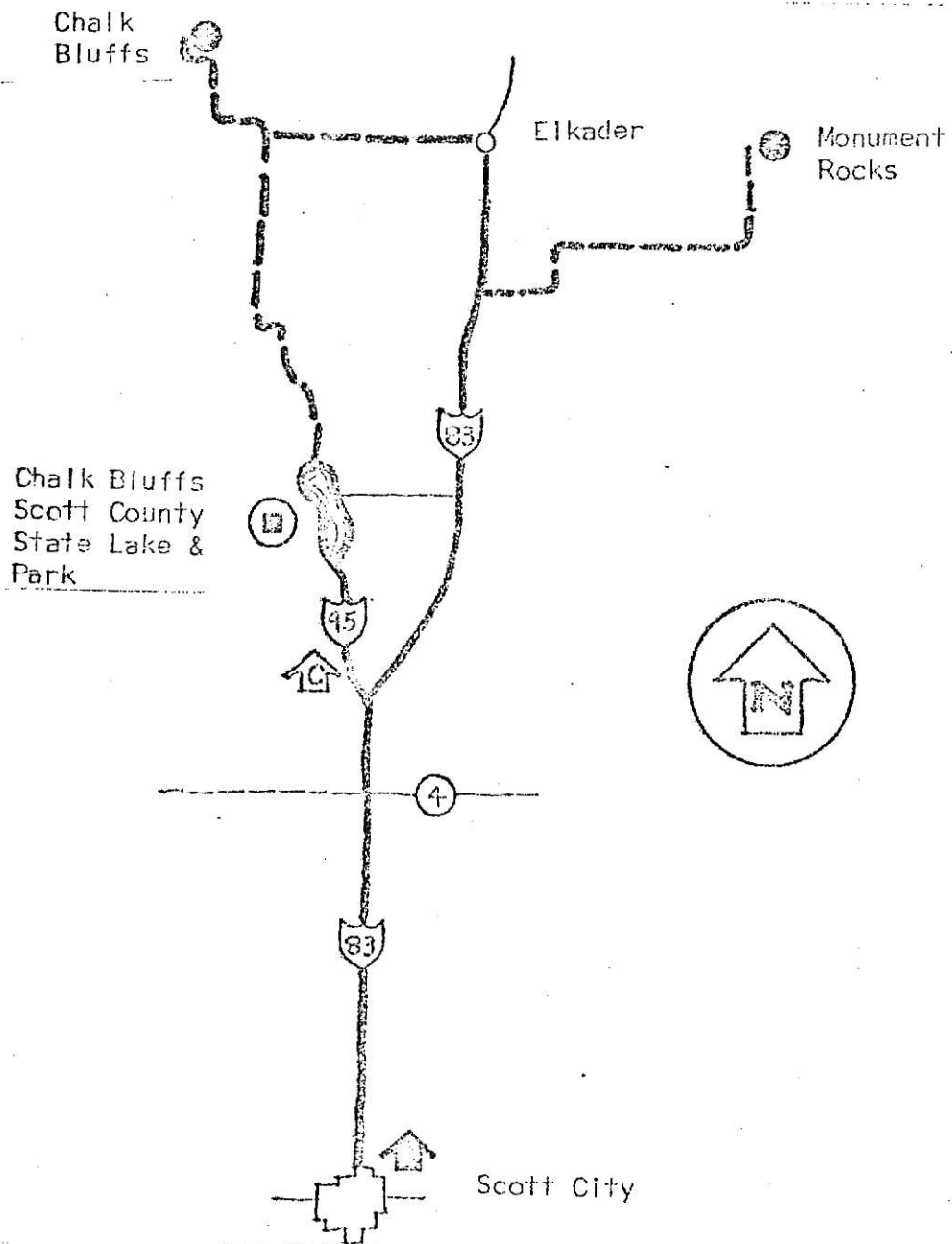
## A CHECKLIST OF EQUIPMENT FOR BICYCLE TOURING AND CAMPING

1. Sleeping bag
2. Ground sheet and foam pad
3. Lightweight tent
4. Raincoat or poncho
5. One spare change of clothing
6. Swim suit
7. Sun glasses
8. First aid kit
9. Cooking and eating utensils
10. Emergency food
11. Soap, shaving kit, toothbrush, toothpaste, etc.
12. Matches
13. Extra map
14. Tool kit: 4" crescent wrench, spoke wrench, 3" slotted screwdriver, spare spokes, spare chain links, chain rivet extractor, spare tube, and tube patch kit.

## TOUR MAPS FOR BICYCLING BROCHURE

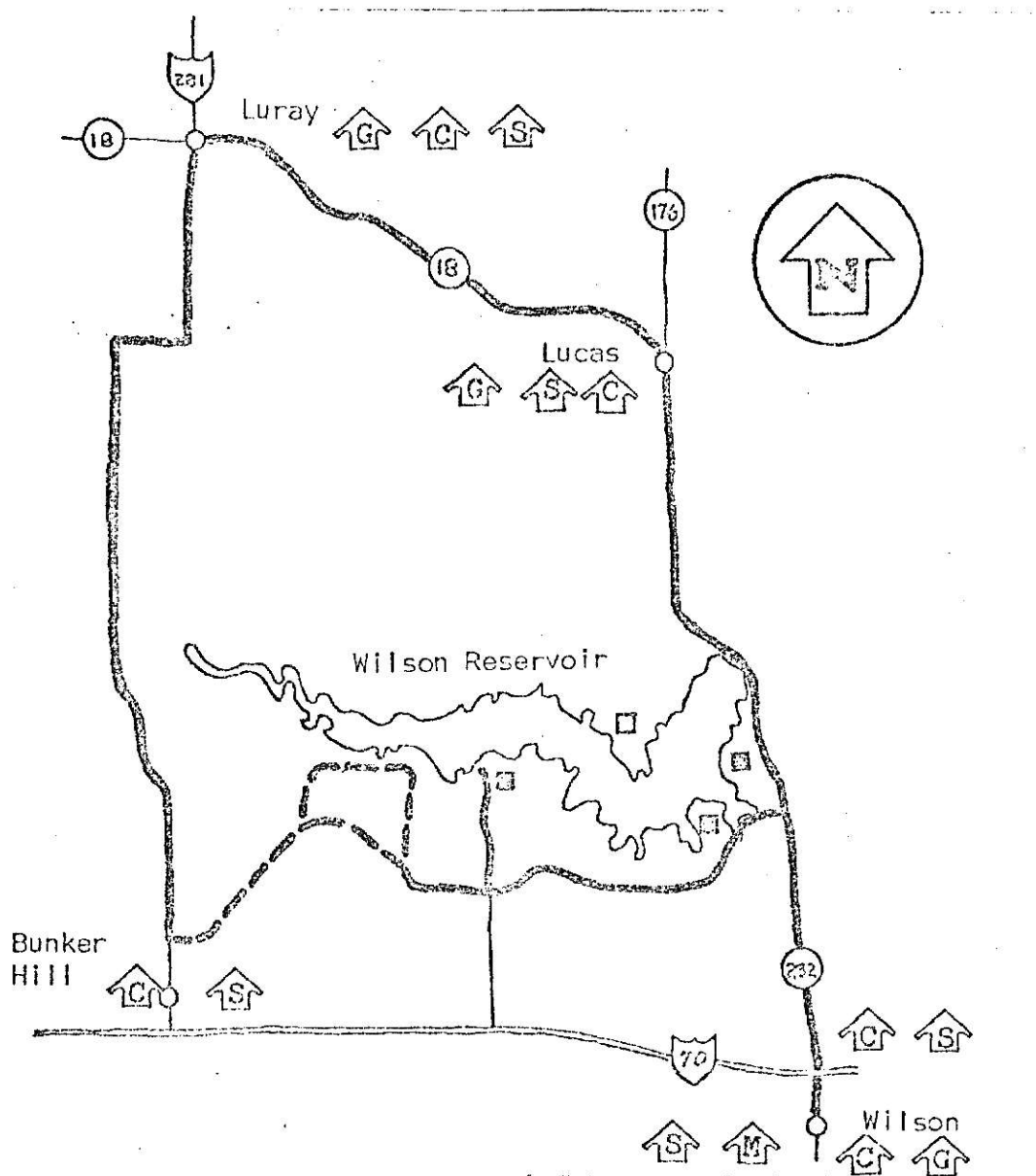
## MAP A

## CHALK BLUFFS TOUR



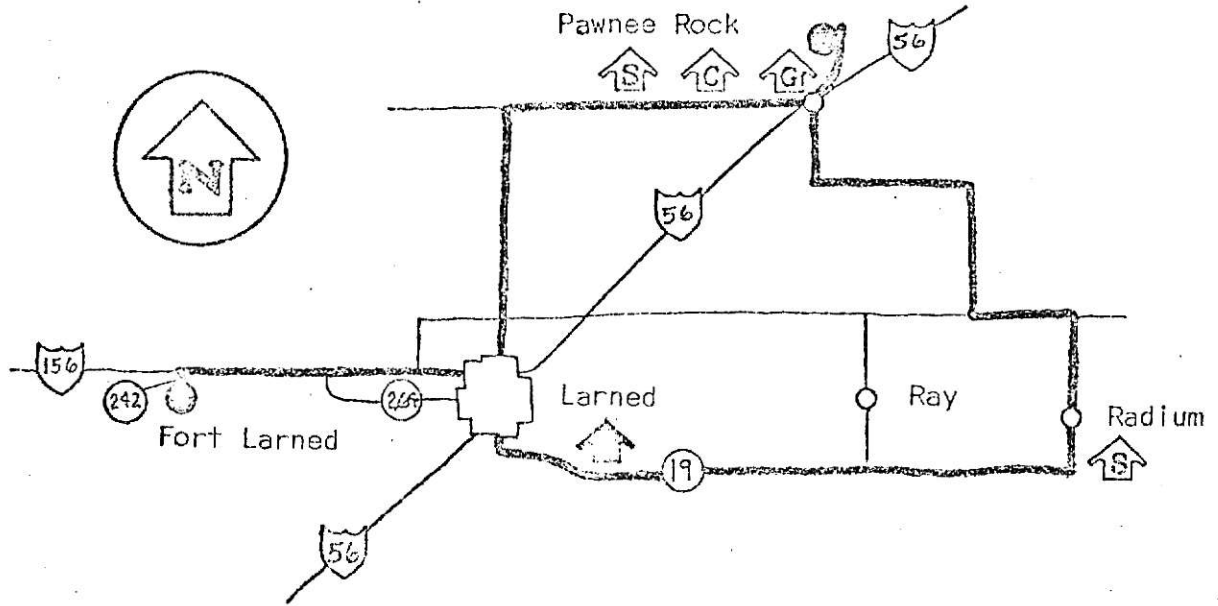
## MAP B

## WILSON RESERVOIR TOUR

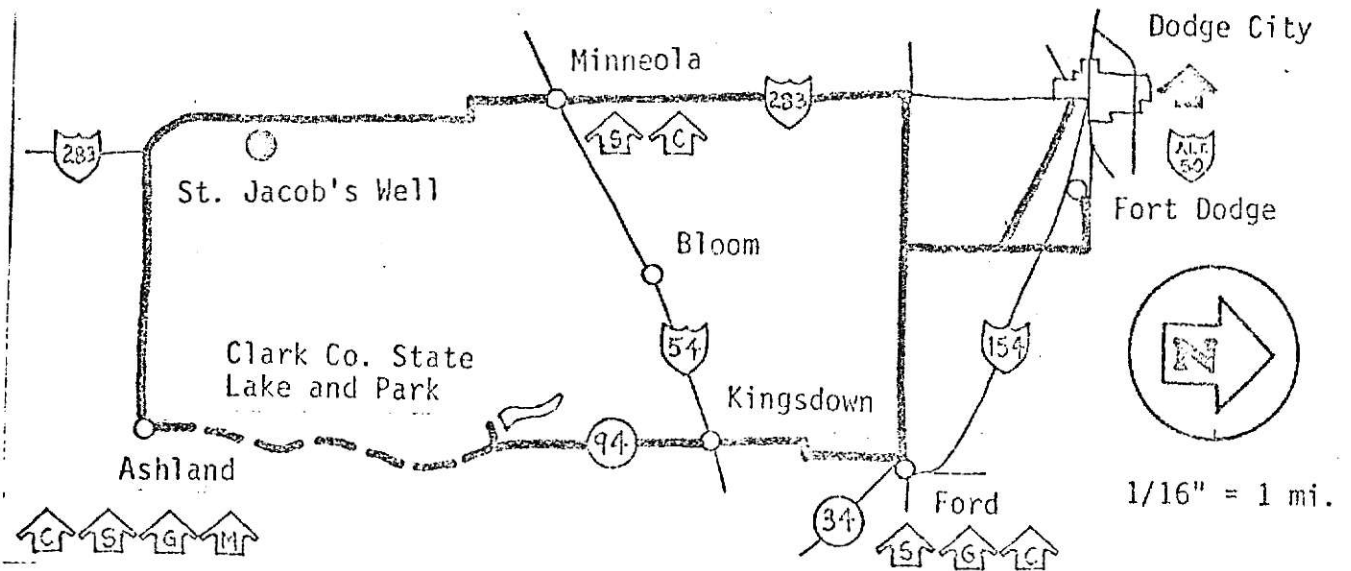


MAP C

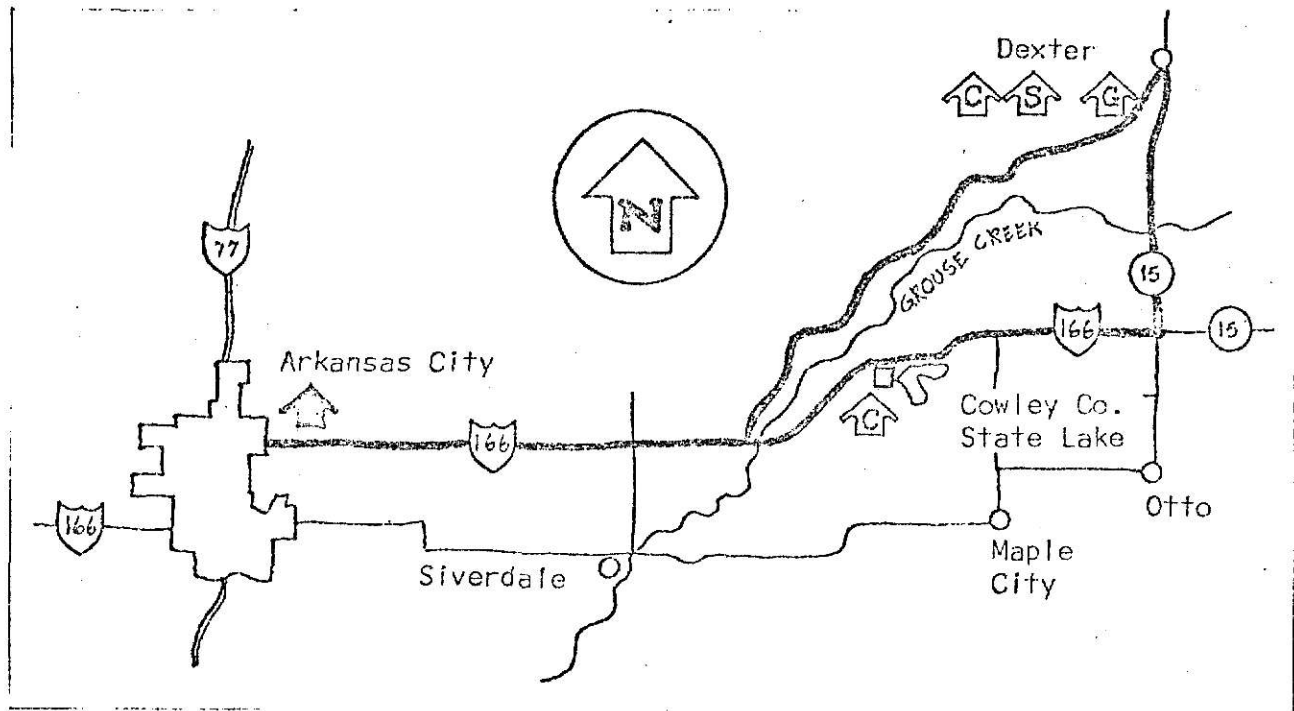
FORT LARNED--PAWNEE ROCK



MAP D  
WILD WEST TOUR

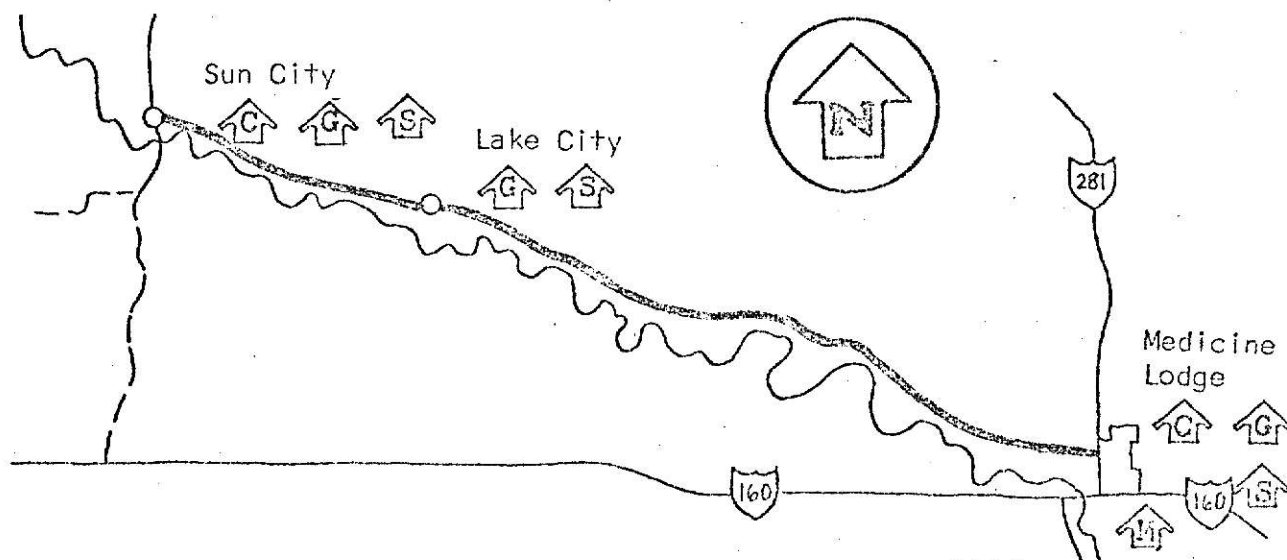


MAP E  
GROUSE CREEK TOUR



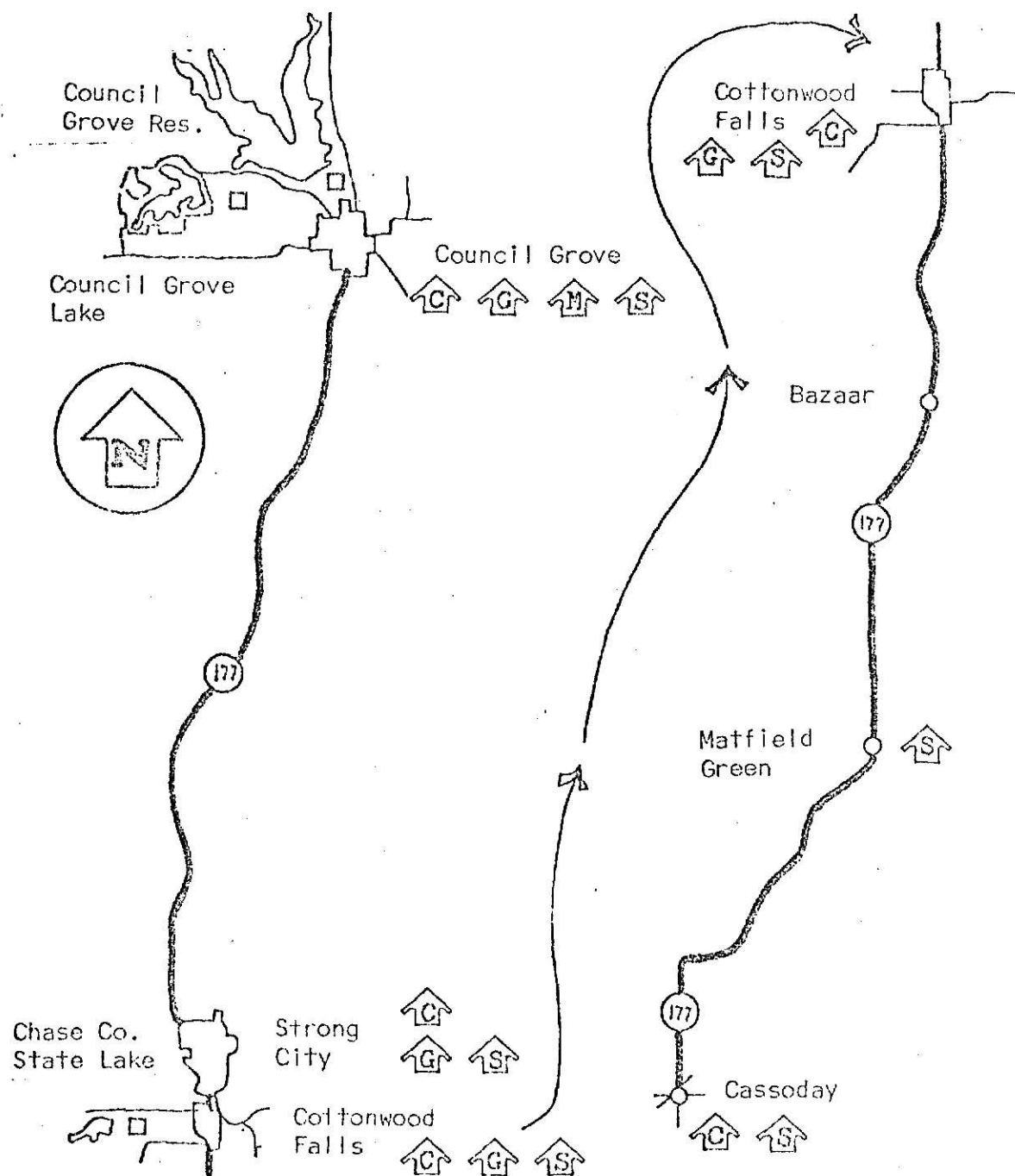


MAP F  
GYP HILLS TOUR



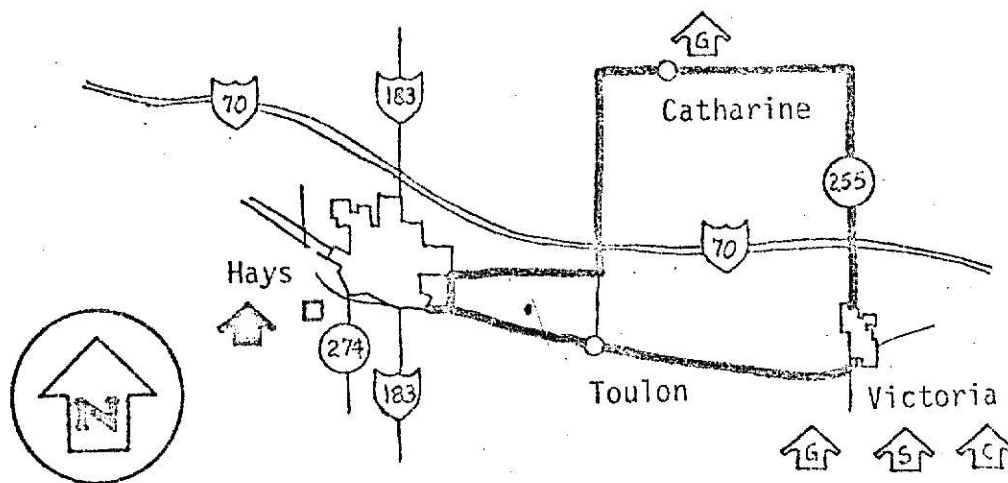
## MAP G

## HEART OF THE FLINT HILLS



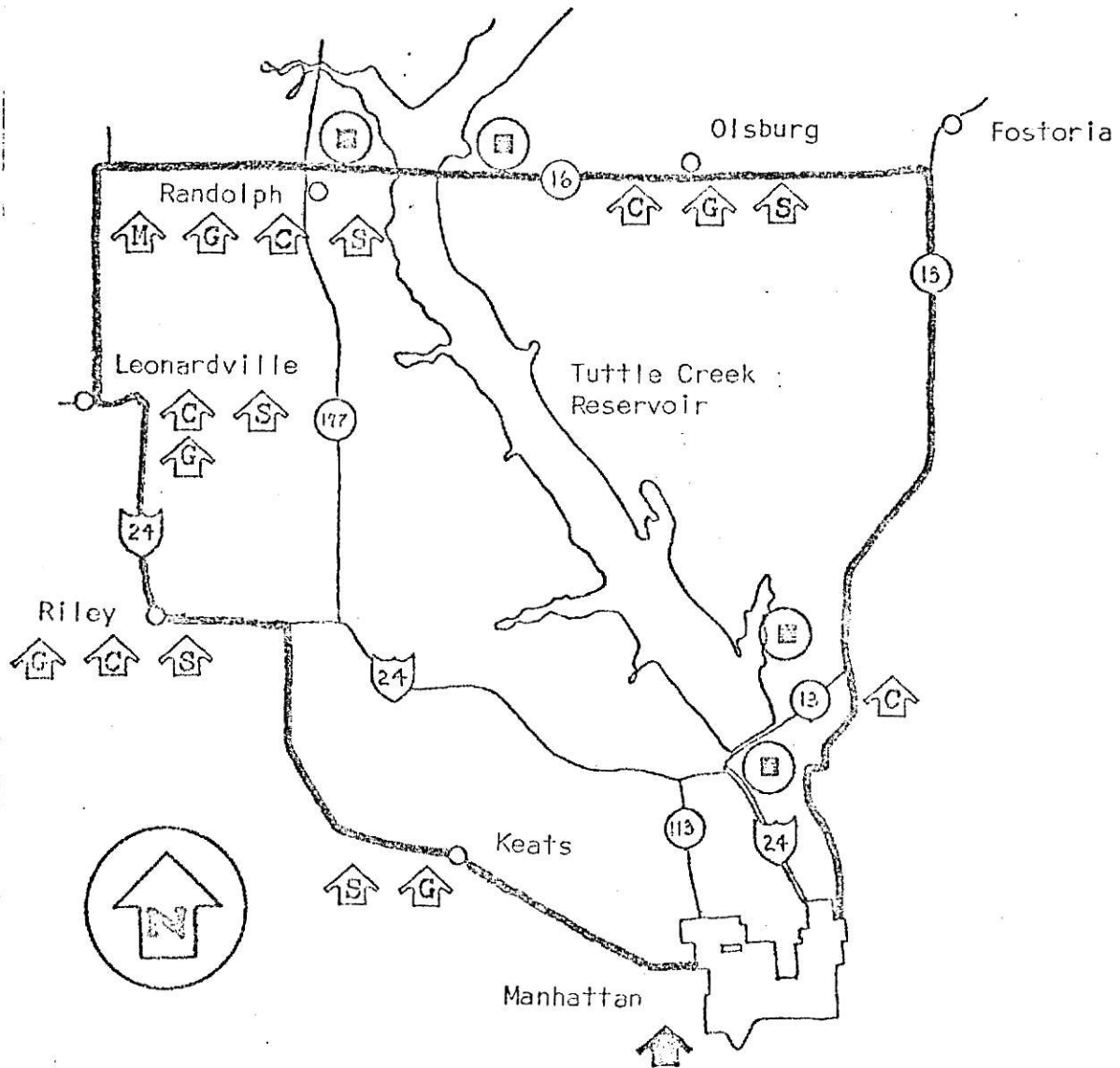


MAP I  
FORT HAYS TOUR

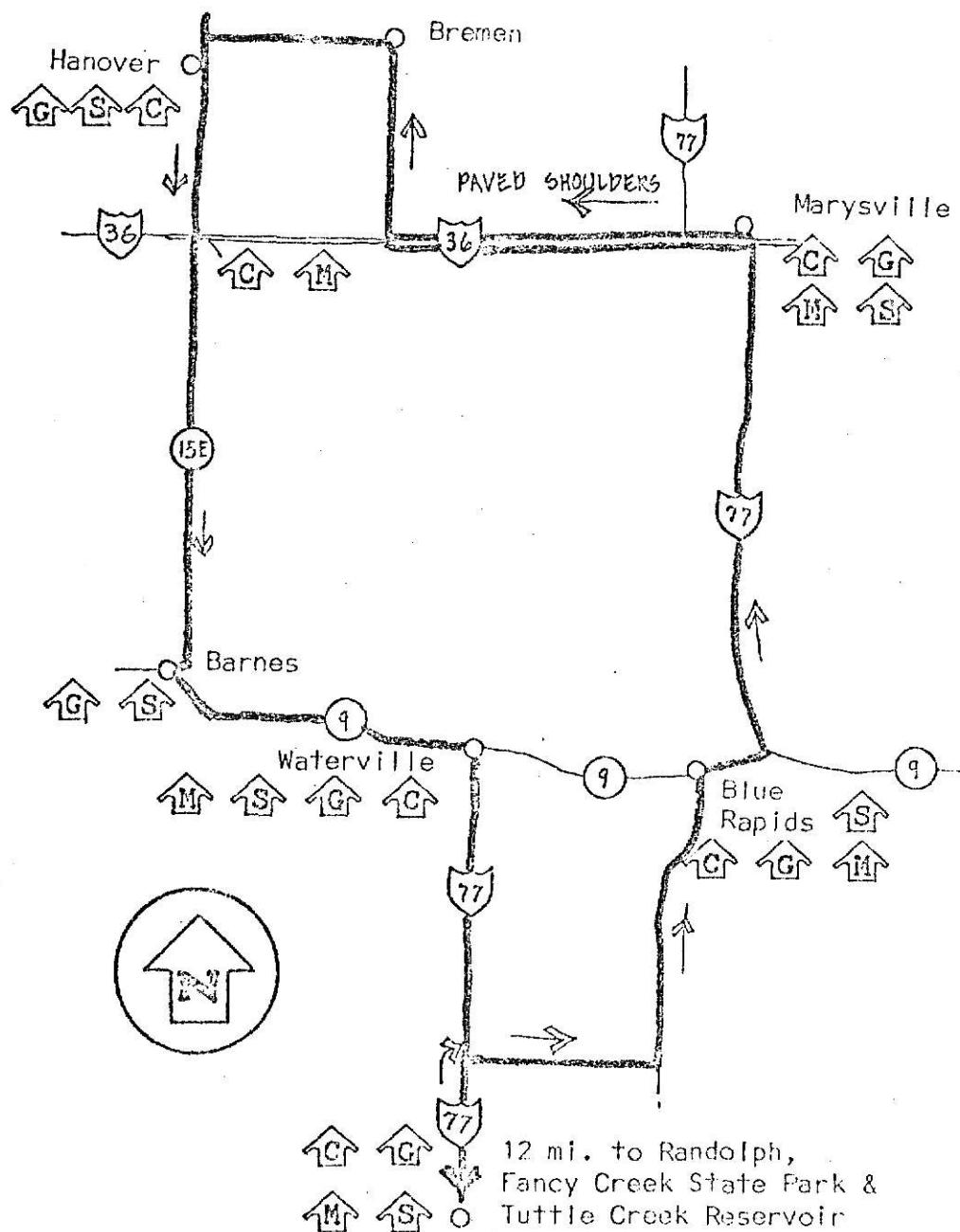


## MAP J

## BLUE RIVER VALLEY TOUR

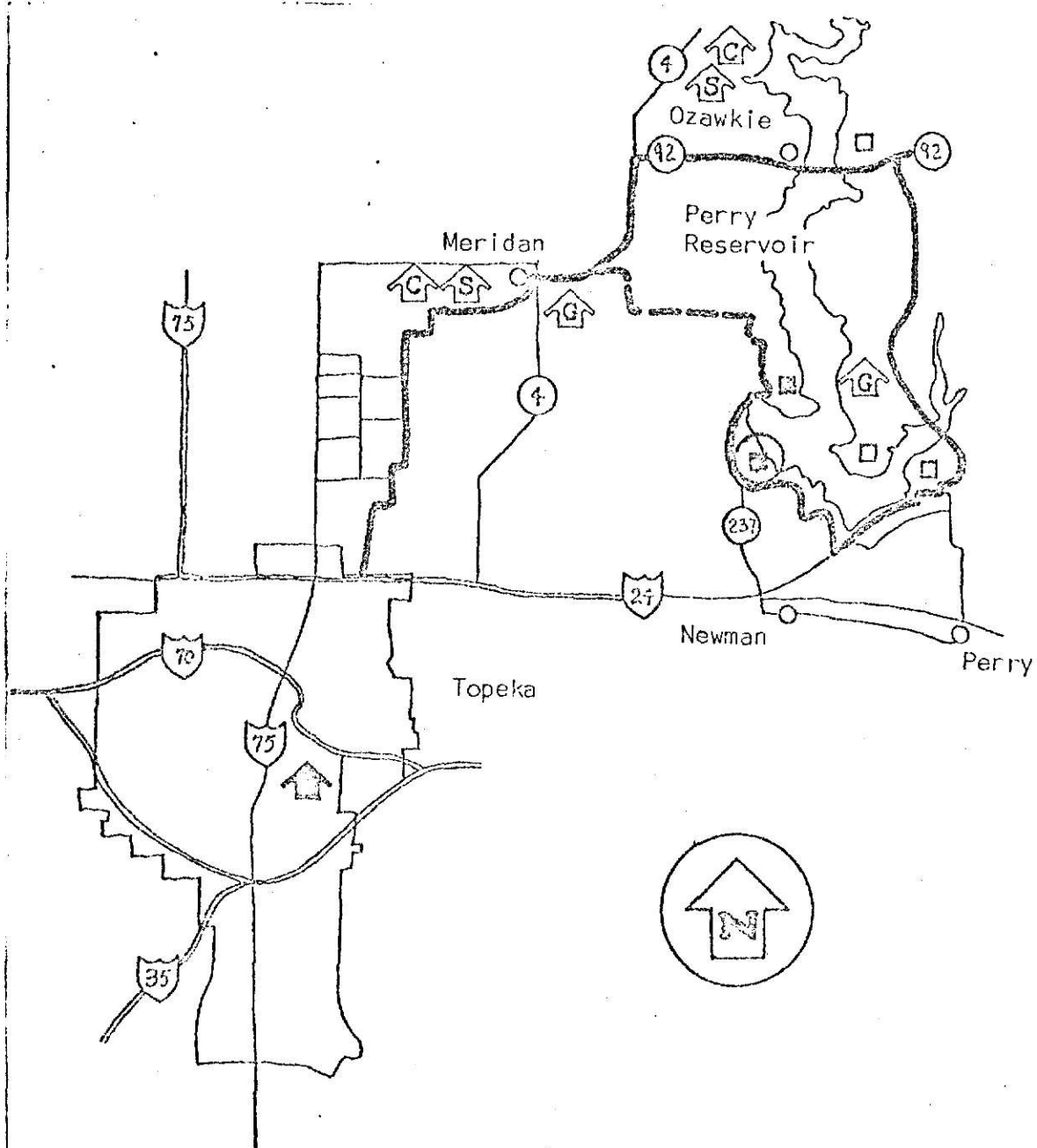


MAP K  
PONY EXPRESS TOUR



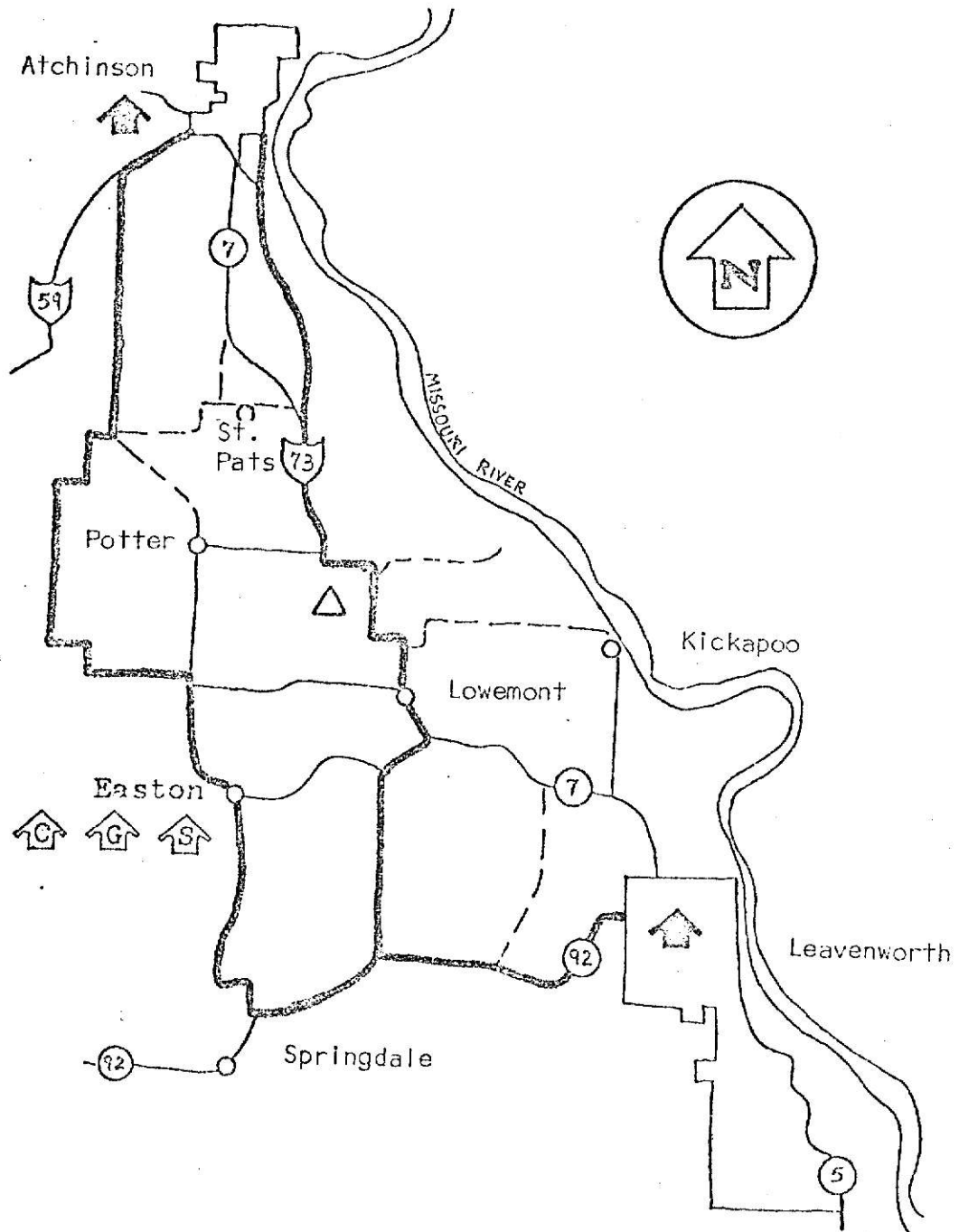
## MAP L

## PERRY RESERVOIR TOUR



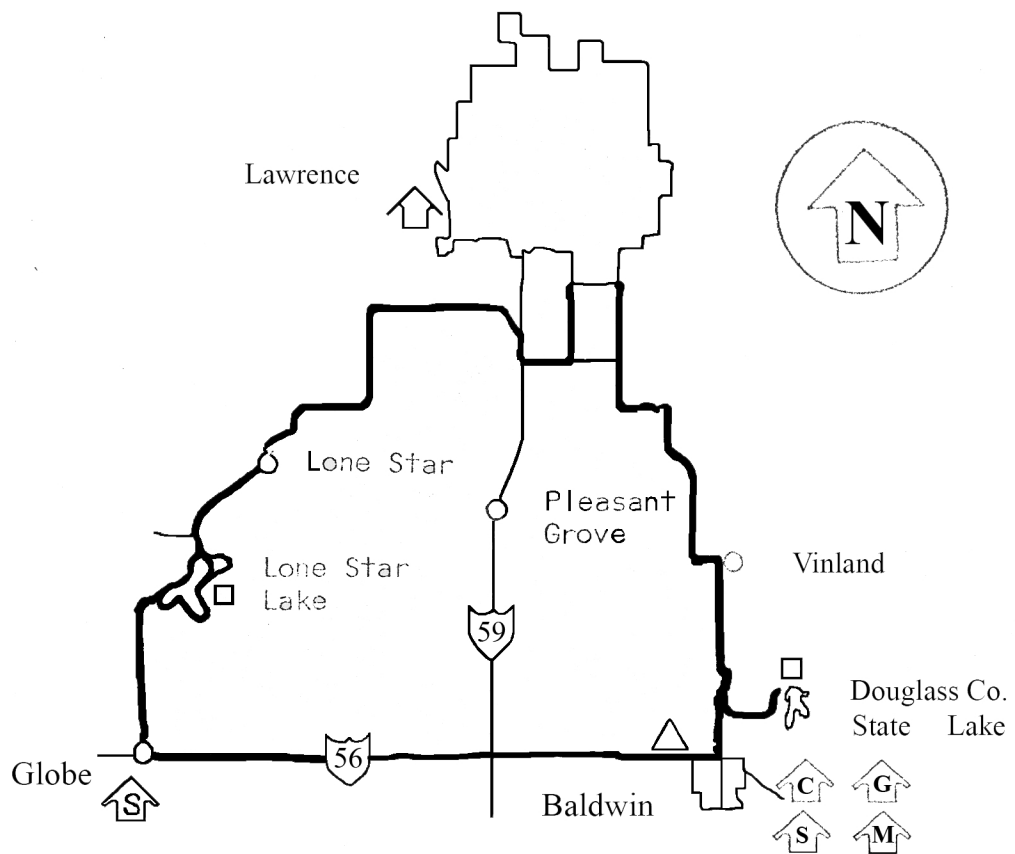
## MAP M

## MISSOURI BLUFFS TOUR

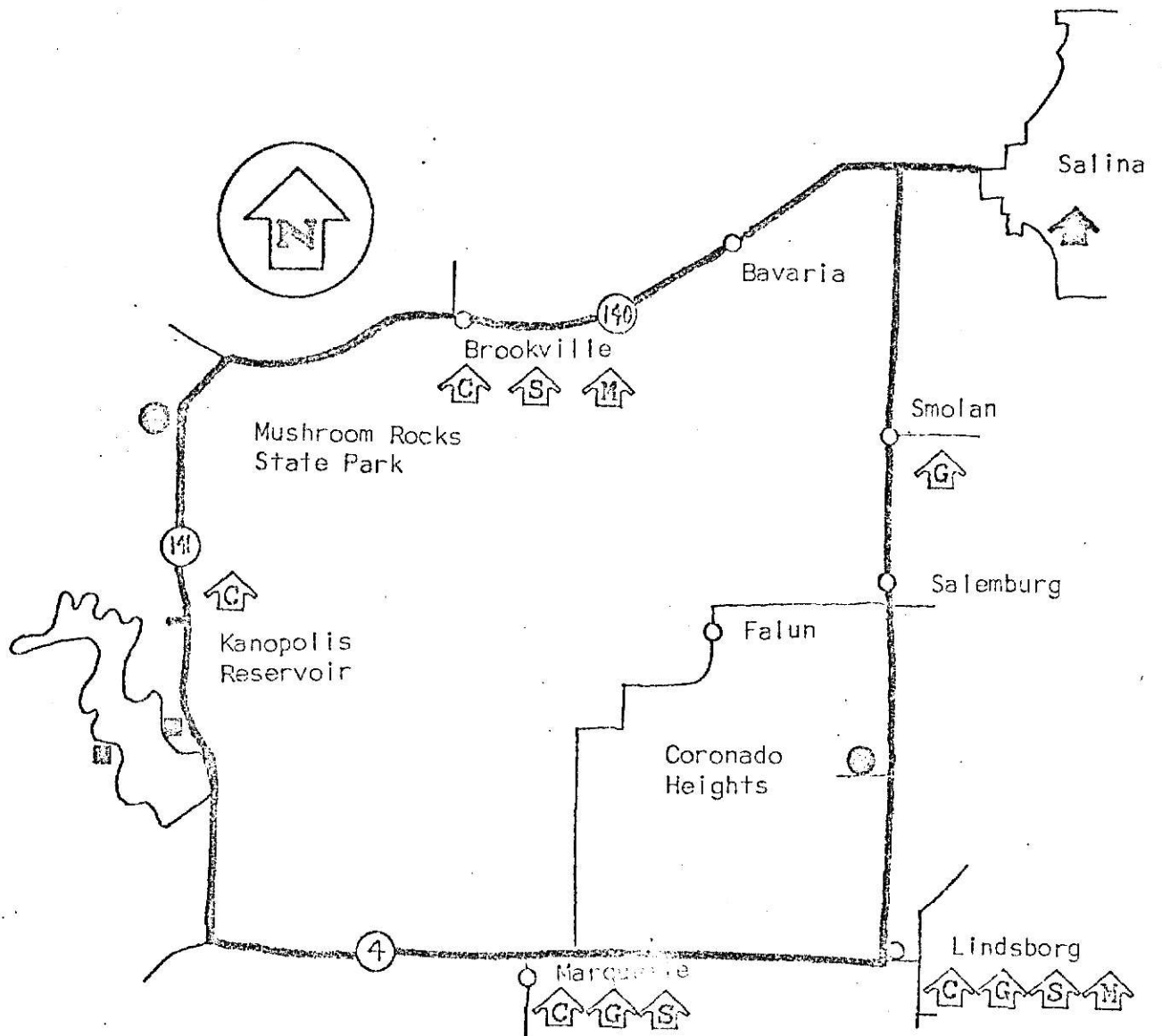




MAP N  
LONESTAR LAKE TOUR

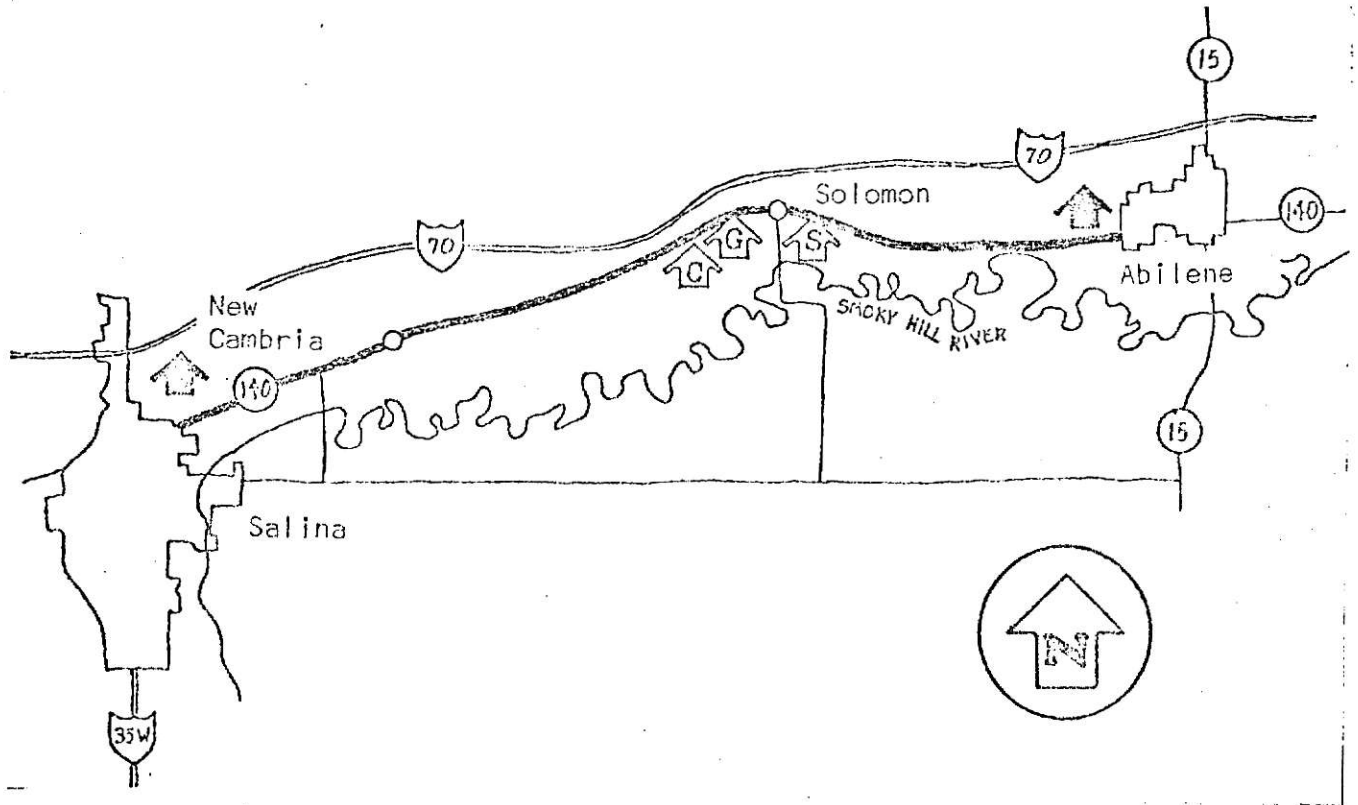


MAP O  
MUSHROOM ROCK COUNTRY



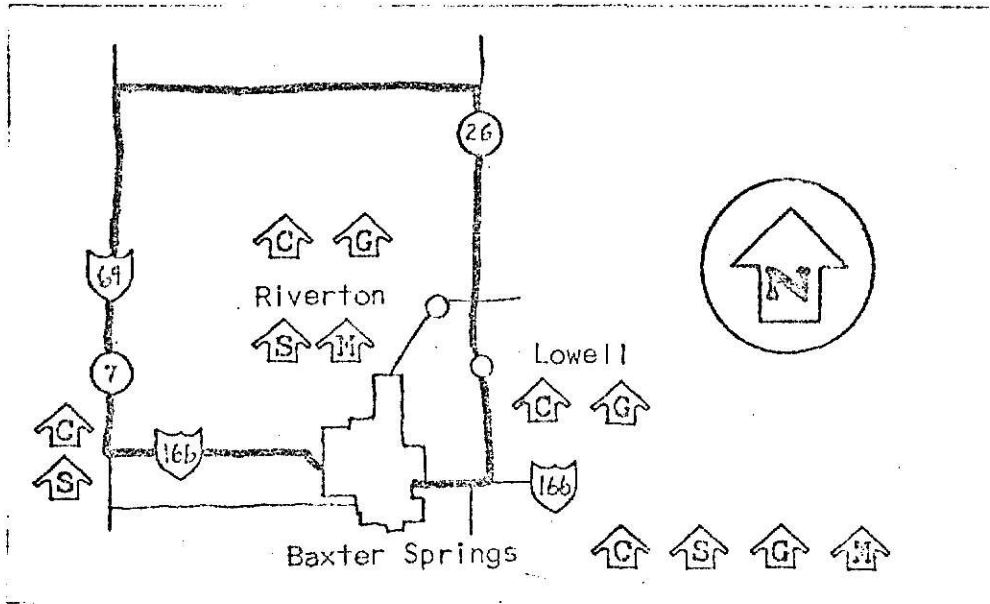
## MAP P

## SMOKY HILL TRAIL



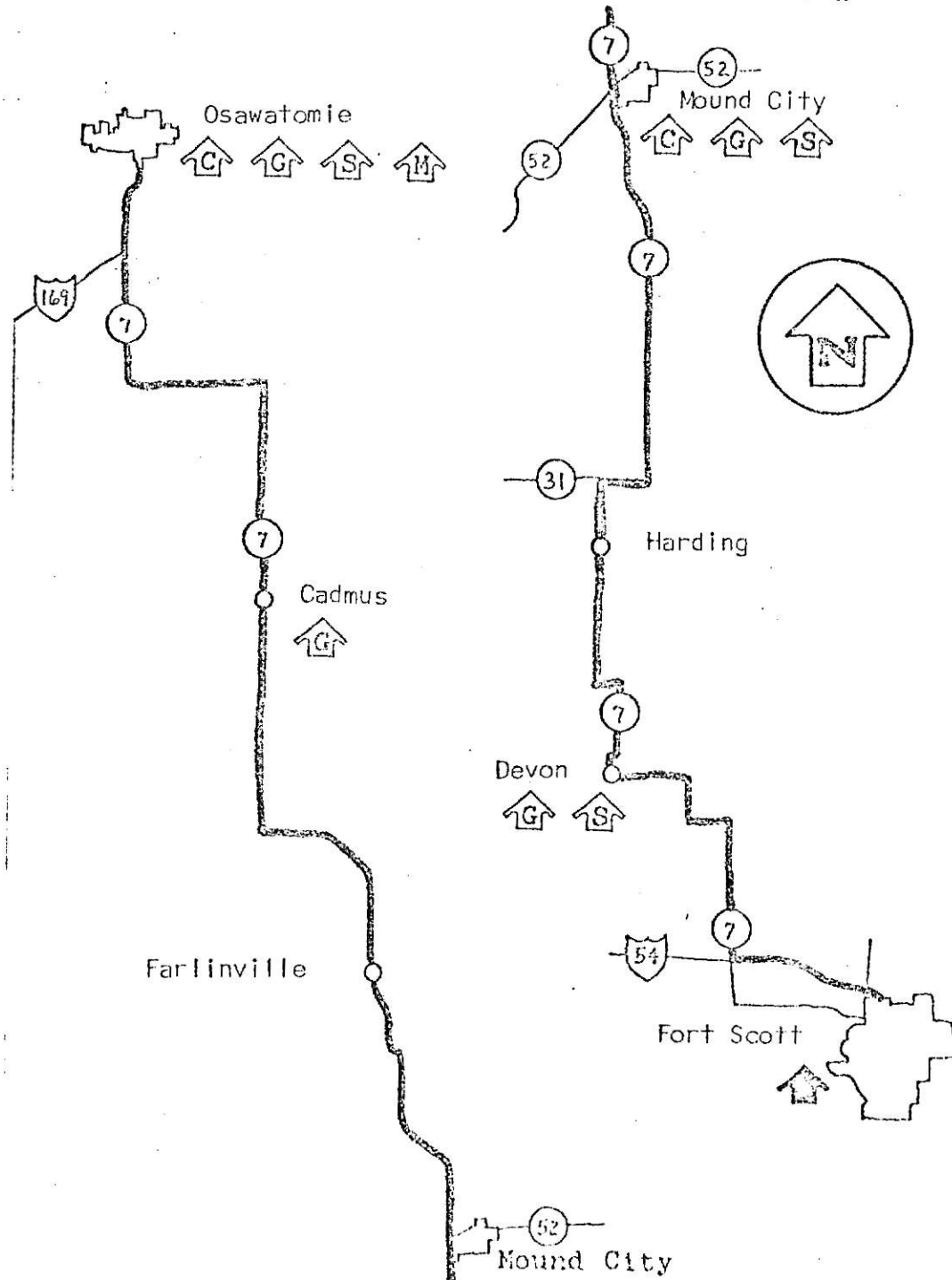
## MAP Q

## CHEROKEE LOWLANDS TOUR



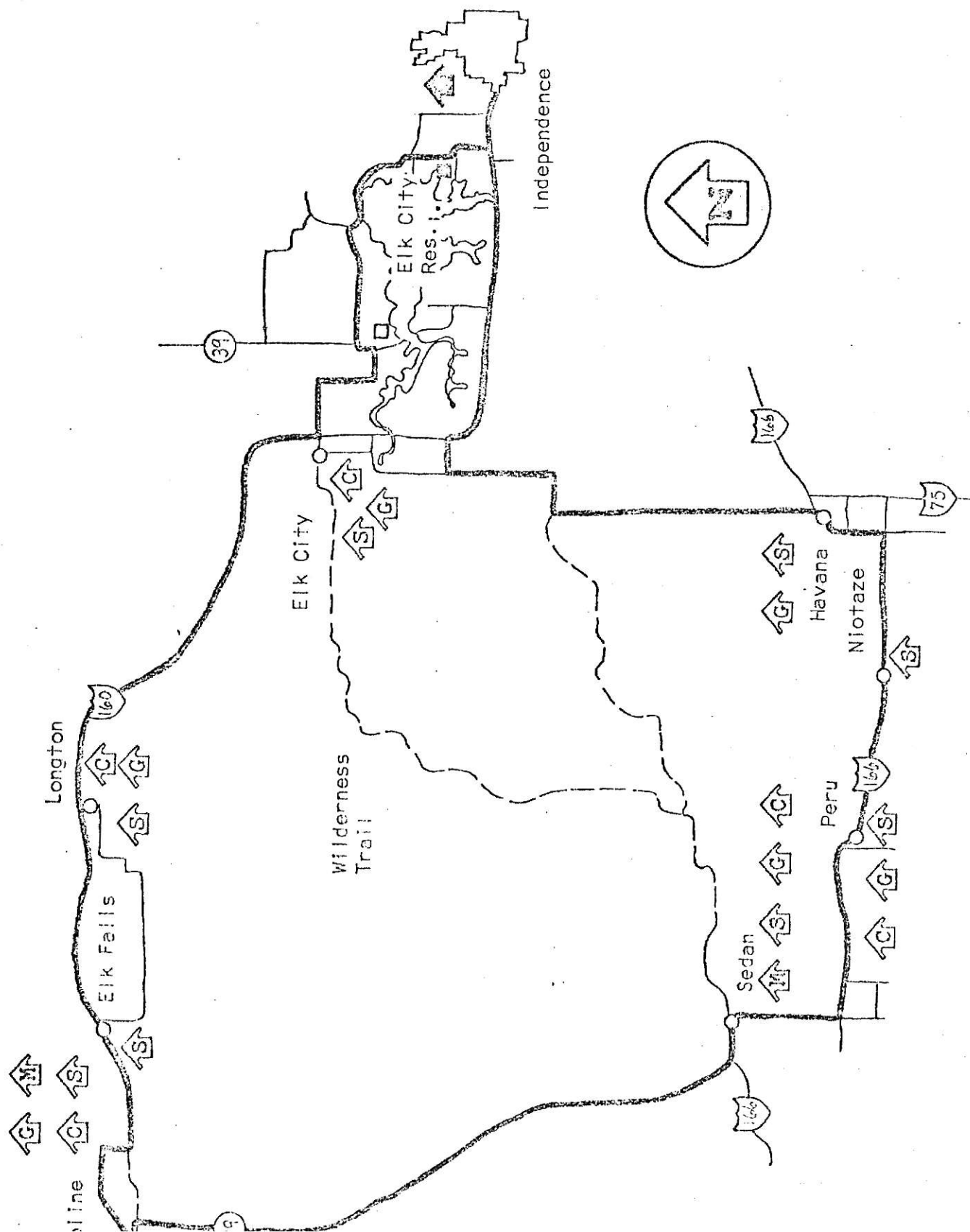
## MAP R

## FORT SCOTT--OSAWATOMIE TOUR

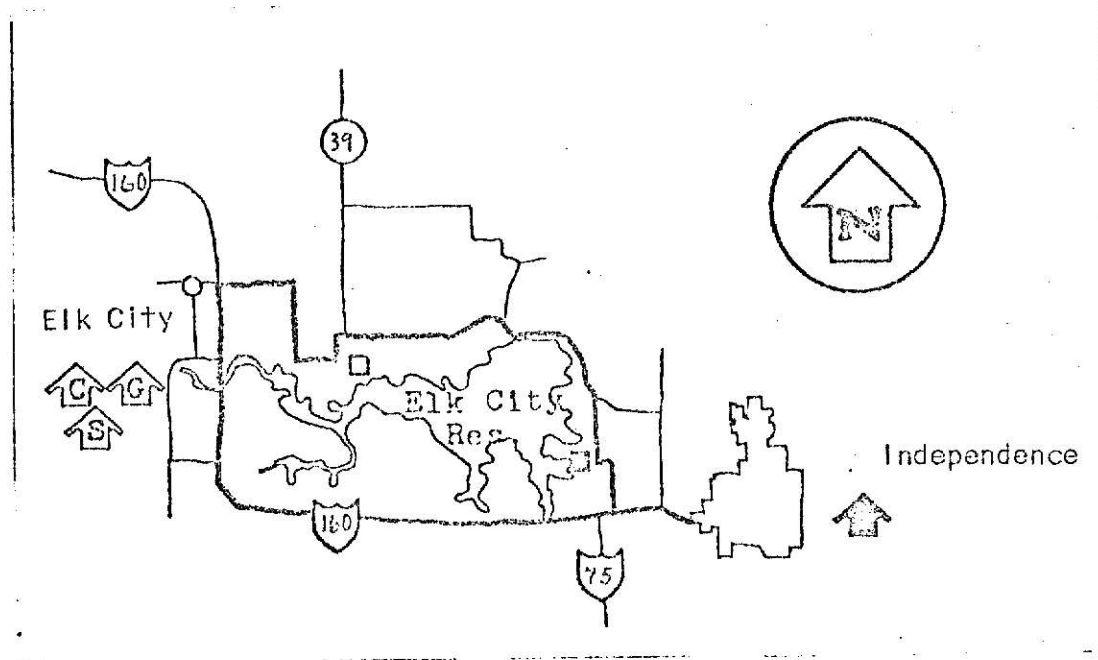


## MAP S

## CHAUTAUQUA HILLS TOUR



MAP T  
ELK CITY RESERVOIR



## SKETCHES FOR BICYCLING BROCHURE

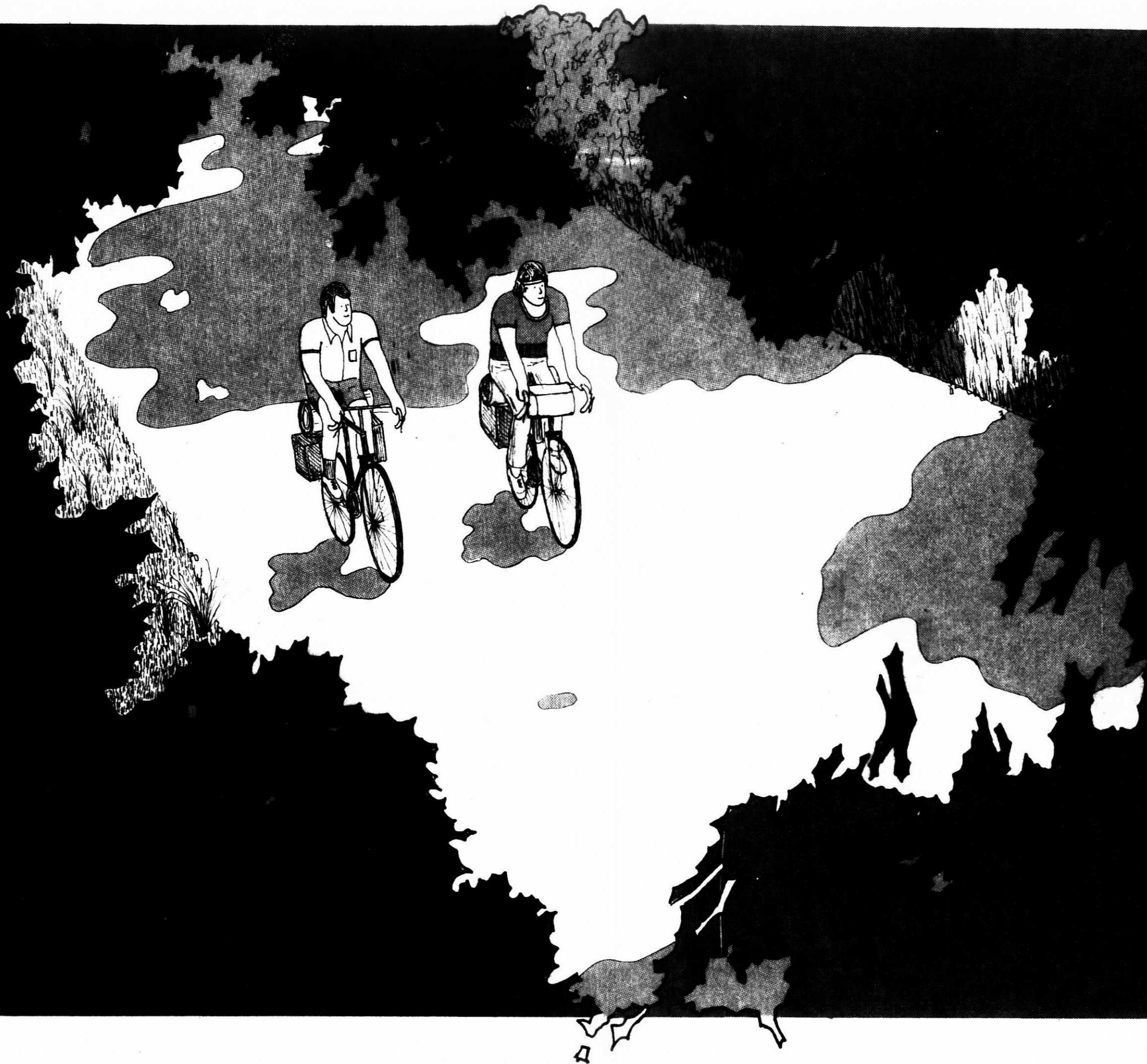


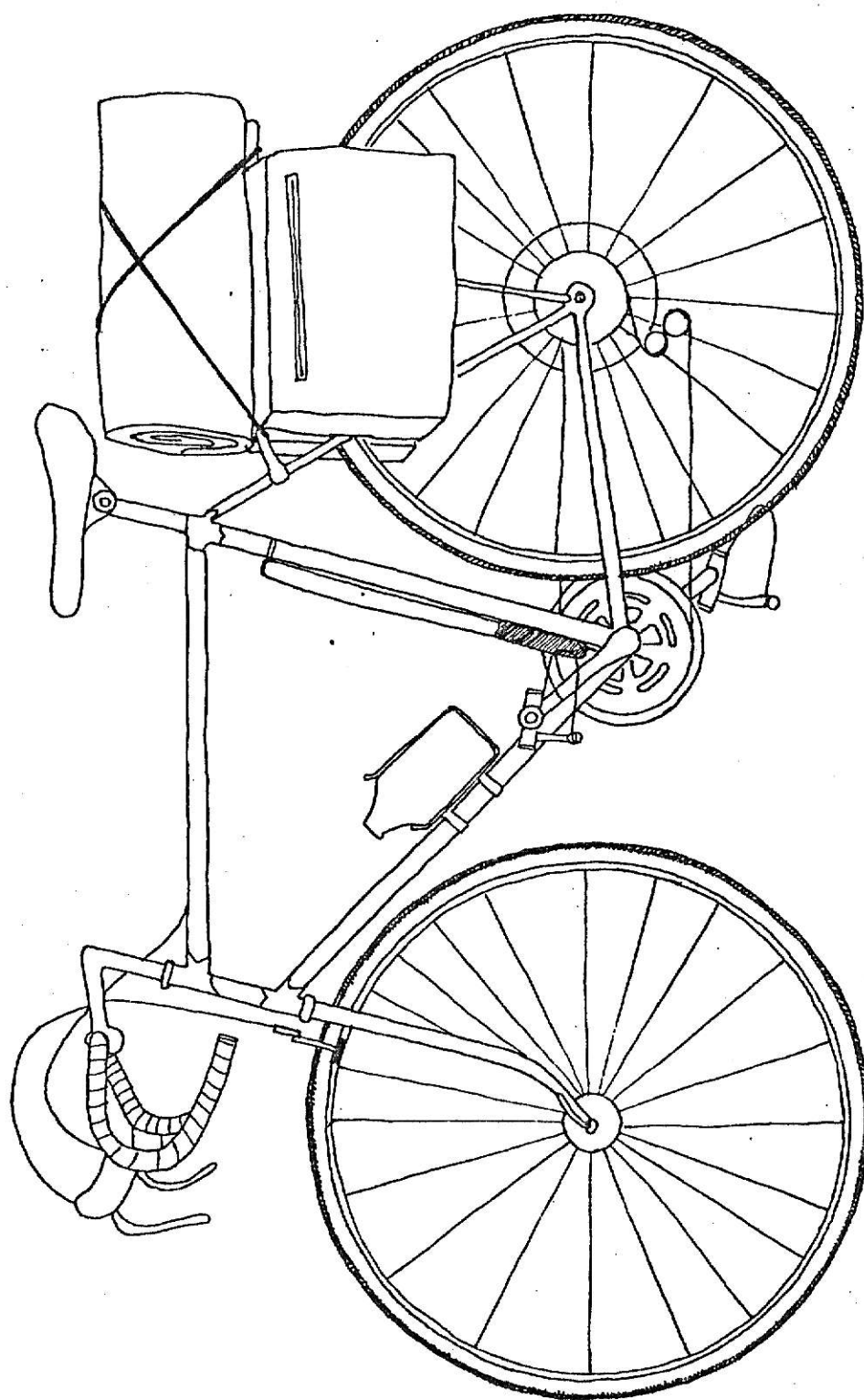
312

Sketch No. 1

**THE FOLLOWING  
PAGE WAS BOUND  
WITHOUT A PAGE  
NUMBER.**

**THIS IS AS  
RECEIVED FROM  
CUSTOMER.**

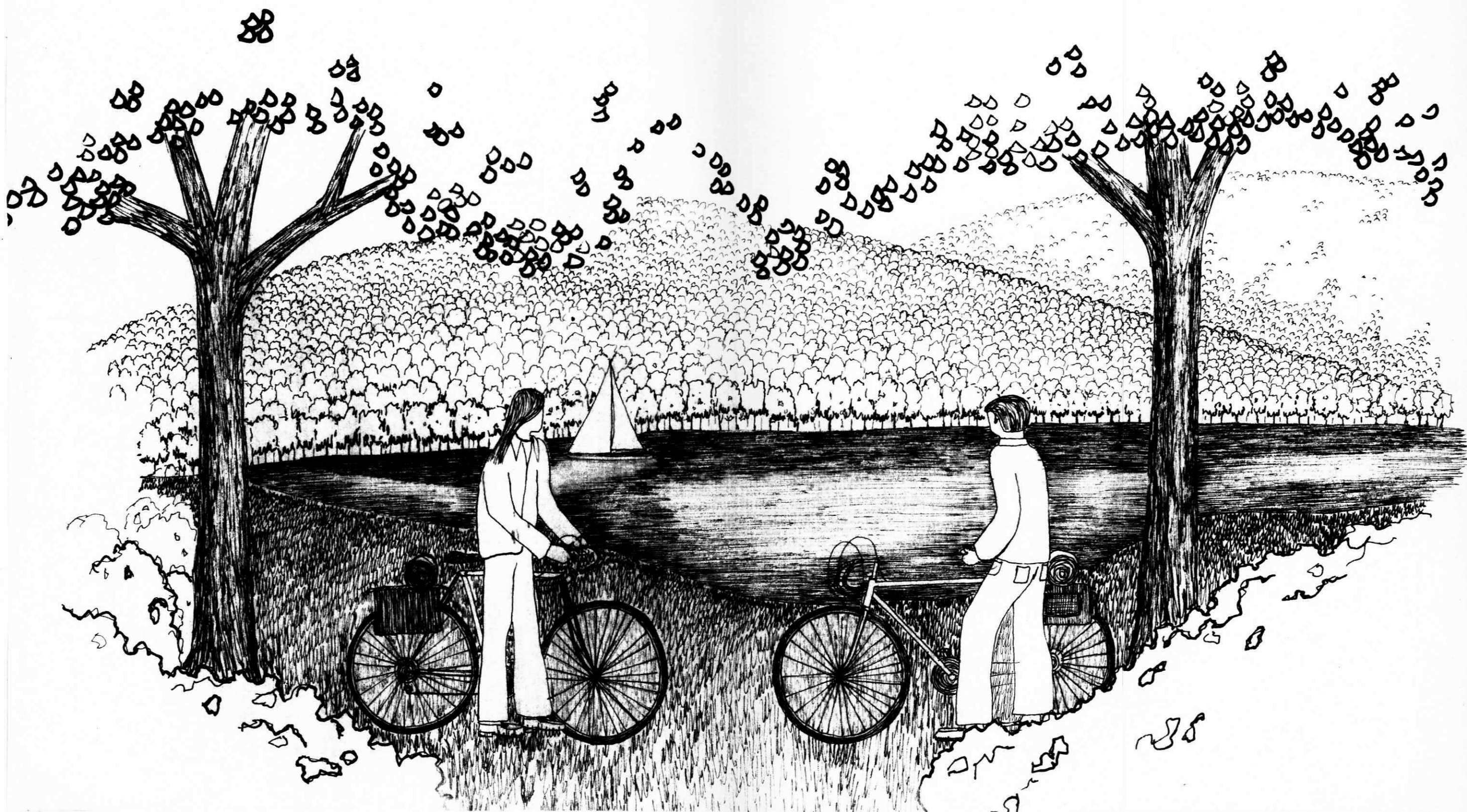




9"

Sketch No. 2





## FIGURES FOR BICYCLING BROCHURE

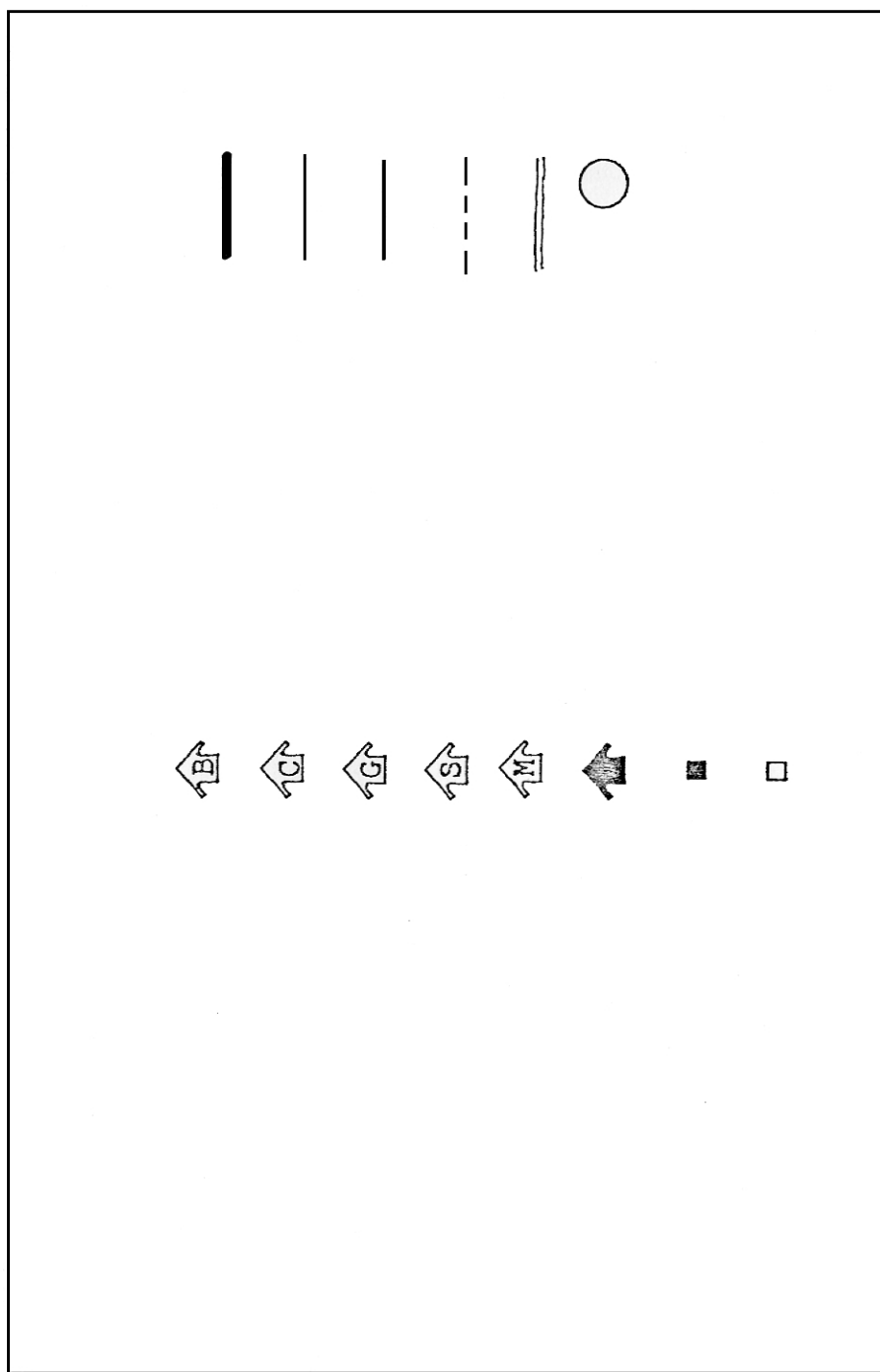


Figure No. 1

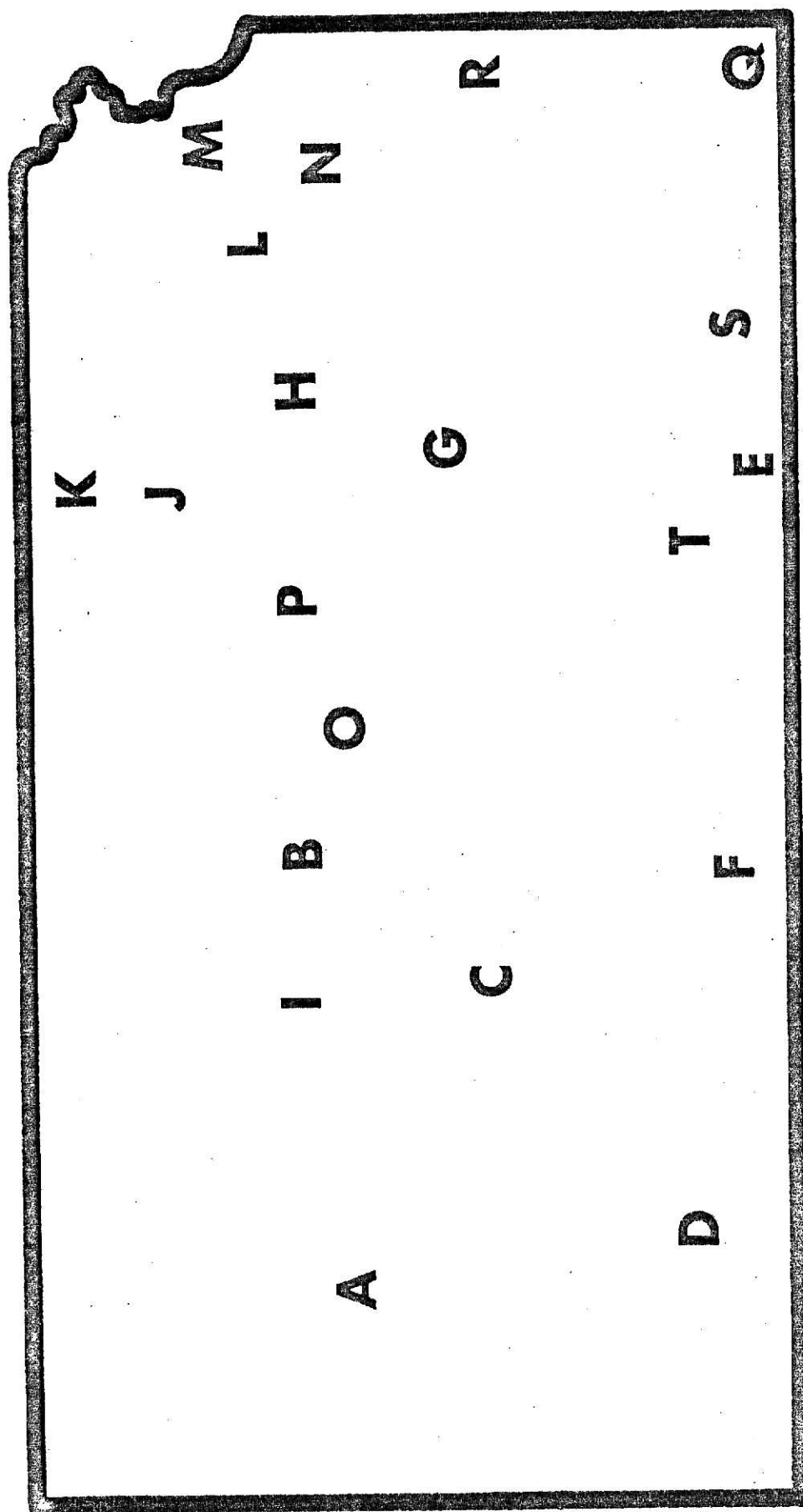


Figure No. 2



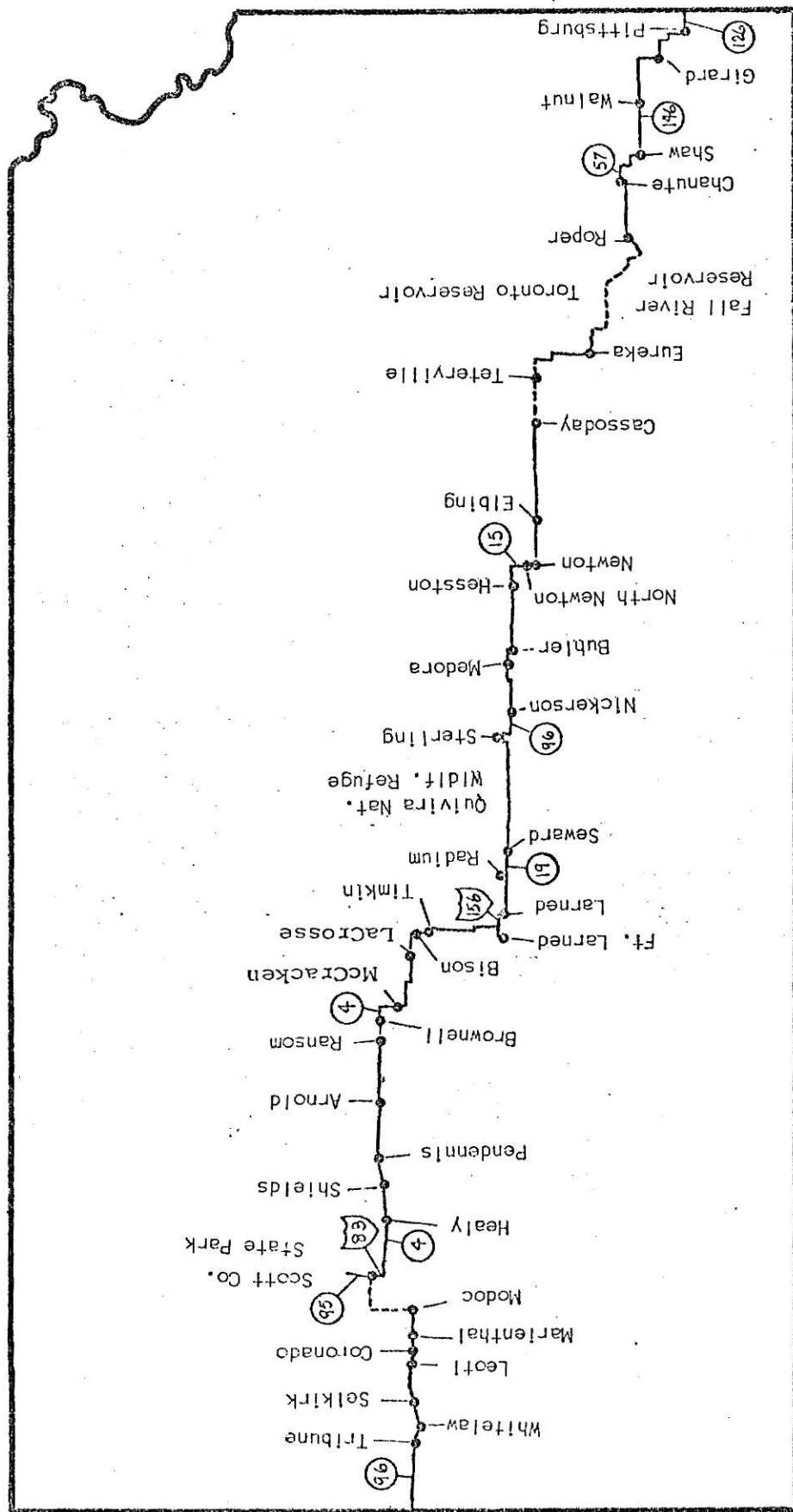


Figure No. 3