

AN INVESTIGATIVE REPORT ON INTERCHANGE ZONE
PROBLEMS OF THE NON-TOLL I-70 FREEWAY IN KANSAS

by

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CHAPTER I

INTRODUCTION

The Significance of the Interchanges

The 42,500 mile National System of Interstate and Defense Highways, is expected to be completed in the late 1980's. The system will be only as efficient, in one sense, as its interchanges and feeder roads. Interstate highways, which will link 90 per cent of all United States cities with a population over 50,000, will comprise only one per cent of the nation's 3.7 million miles of roads and streets. Yet they will carry more than twenty-five per cent of the nation's traffic. Interstate roads will be designed as freeways with full access control; only interchanges will provide access to these highways, and there will be no direct access from abutting private property.¹

There are 77 interchanges on the 458 miles of the Interstate 70 freeway in Kansas. The efficiency of these interchanges as safe, dependable and permanent traffic carriers will determine the usefulness of the freeway for the state.

Interchanges and the feeder roads serve as capillaries to the Interstate freeways. If they become congested with unrestricted roadside development, accessibility to the I-System will be severely restricted and new feeder roads and interchanges will ultimately have to be provided. The viability of the Interstate freeways depends on the safety, efficiency and permanence of the interchanges.²

Furthermore, there is an increasing awareness that land use patterns -- which will dictate the form and structure of future cities -- are determined,

perhaps irrevocably, by today's physical improvement programs. This is especially true of the Interstate highway program. Because highway interchanges are new focal points of accessibility, there is frequently intense pressure for land development in the vicinity of these locations.³ This constitutes both an opportunity and a potential problem. There is substantial agreement that the opportunity for economic development offered by interchanges should be used. Interchanges can open up new areas for sound economic growth, revive the economic vigor of places needing economic revival, and perhaps even form the nucleus for a new kind of community. However, this development needs guidance if it is to be economically sound over a period of time and the interchange is to be operated as planned.⁴

A very successful effort which highlighted the interchange problem was the 1961 Highway Research Board Symposium "Land Use and Development at Highway Interchanges."⁵ The papers presented at that session have not only caused a great deal of attention to be given to the highway interchange land-use problem, but have also suggested an analysis of several aspects of the problem. This study presents the description and evaluation of controls, the description of the land to be demanded and supplied at interchanges, and the need for user services.

Mr. Jerrold R. Allaire stated that the interchange is a significant factor with respect to the following:

Effecting smooth and continuous traffic flow on the expressway.

Avoiding undue congestion on the feeder roads.

Influencing land use characteristics in adjacent areas.

As an important variable in the economic development of the surrounding area, particularly if it is relatively undeveloped at the event of interchange construction.⁶

The Scope of this Study

The intent of this study is to investigate the problems on the non-toll freeway interchanges along I-70 in Kansas. The toll road (the Kansas Turnpike) which is not included in this study, authorized in special State Enabling Legislation, and administered by the specially-designed Kansas Turnpike Authority was created as a self-sufficient and self-contained highway facility, and generally conceived as able to take financial advantage of every possible need of the users. It has little relation to the general nature of highway service or highway impact beyond its physical boundaries. Additionally, certain types of private enterprises catering to travelers are permitted in designated points on the right-of-way of the toll road. At the same time, they are prohibited by Federal law and regulations from the right-of-way of the interstate highway.⁷ Consequently, there would be an incentive for these types of enterprises to establish themselves at the interchange points of the non-toll highway system.

Since the I-70 freeway passes through different areas of Kansas, land use patterns of the interchange areas are naturally varied. In the urban area the interchange is generally constructed in a built-up portion of the city. Methods for land use control are usually well established in these areas. For this reason, the study will not focus on the urban interchange. This is not to say that urban interchange do not present major problems, but rather that they are usually specialized. The chief problems at urban interchanges concern land acquisition, building removal or demolition, residential and commercial relocation, and devising means to keep the roads free from congestion generated by bordering uses.⁸

All twenty-one interchanges selected are located on or near the fringes

of twelve urban centers whose population falls between 1,000 and 40,000. In some cases, the three-mile extra-territorial zoning powers of these cities cover the interchange facilities. Generally, at the fringe area of the urban center, there is a reciprocal action between the interchange and adjacent land. There is a potential for highly volatile land use situations when they are exposed to the catalytic action of a major interchange facility. It is likely in such cases that a much wider variety of uses will compete for highway-user service areas. Also, experience shows that in urban fringe areas, the interchange influence can be expected over a considerably greater area than in rural locations.⁹ General classes of competing uses for interchange land parcels are residential, commercial, and industrial, particularly those that benefit directly from easy access to a major transportation link. In addition, there are the usual highway service uses, such as gasoline stations, restaurants, and motels. The interchange encourages land development, and may cause the emergence of a new community unit. The subsequent improvement affects traffic on the interchange and the expressway. If the interchange design is based on a calculation of existing traffic generation capacity of the surrounding land use or upon the potential of the land as it is zoned, it is entirely possible that the interchange may become inadequate to do the job for which it was intended. This is especially true if the area around it is rezoned to permit uses that generate additional traffic.¹⁰

The Methods Used

In order to investigate the problems of these interchange zones, the author took the following steps to complete this case study:

1. Observation: visual survey throughout these twenty-one interchange areas.

2. Review of other attempts to develop control techniques.
3. Development of questions to examine this case.
4. Questionnaire and data collection: Questionnaires were sent to twelve city planning commissions.¹¹ The Driveway Control Standard Plans and Regulations -- Direct Access Connections to the State and Federal Highways was acquired from the Kansas State Highway Commission. Also, some up-dated zoning maps and zoning district regulations related to the interchange zones were collected.

CHAPTER II

A REVIEW OF PROTECTION TECHNIQUES ON INTERCHANGE AREA¹

Three variables in unequal degree, contribute to the balance between interchange capacity and interchange traffic or use. They are (1) the design characteristics of the roads involved, (2) the access characteristics of the roads involved, and (3) the land use characteristics of the area served by the roads. Once the design of the road in the interchange area is fixed, the roadside protection for the area must be achieved through two methods of control: (1) control of access to the feeder road, and (2) control of the pattern of surrounding land use, because the traffic flow on the interchange is, to some extent, influenced by the number of access points, the types of access to the feeder road, and the traffic generation of the surrounding land use.²

Control Over Access

Driveway Regulations

Standards of driveway cut, vision, and the angle of intersection should be required as a condition to the issuance of a driveway permit; this condition helps to insure that the access points entering the secondary road can be made to comply with the basic standards of safety. The minimum requirement for interchange protection should be a set of driveway regulations which will insure that all points of entry onto the road will comply with the basic standards of safety.

Partial Control or Restriction of Access

A partially controlled access road is a trafficway designed to give

preference to through traffic but still allows some private access onto the road at selected points. This preference permits some access in those areas and for those uses which do not create an undue hazard to such as the roadway. An effective controlled access program involves three steps: (1) freezing all existing access points on the highway and allowing future access points only under specified conditions as to the number, use, location and construction; (2) restricting existing access points to their current use; and (3) eliminating access altogether in those areas (e.g., curves, vision triangles) and under those uses (e.g., heavy commercial) which constitute an undue hazard to through traffic.³

Subdivision Control

A land subdivision process must require a satisfactory relationship between the subdivision layout and the abutting highway. Subdivision regulations, to provide protection for the interchange area, must provide: (1) restriction of direct access from the subdivision by requiring service roads or reverse facing lots for all uses, residential, commercial or industrial; (2) establishment of set-back lines; and (3) the requirement of enforced dedication of land for road improvements in most circumstances.⁴

Control Over the Use of Abutting Land

Restricted Use of Access

This is a control device auxiliary to zoning or access restriction. It concerns the restriction of use made of the access rather than the use made of the land itself. The use made of an access point can be controlled through eminent domain, either on an existing highway or in the acquiring of additional land through condemnation.⁵ Such access use restrictions can

also be imposed under the zoning power, accomplished by the use of a surface easement or transfer of development rights.

Developmental Rights

The right to develop property for subdivision, business or industry, can be transferred by purchase or condemnation, to an appropriate public agency. In states where the power of condemnation exists, the development rights in interchange areas could be acquired through purchase of excess land, which could then be sold encumbered with restrictions on the uses to which it might be put.

Zoning Control

For zoning to be effective as a highway protection device it must be based on a functional differentiation of the land abutting a highway and must be concerned with the intimacy and relation between the trafficway and the abutting land use.⁶ For zoning to be an effective form of interchange protection, it must seek certain basic objectives: (1) restriction of commercial uses to designated commercial areas in which the road would be specifically designed to handle safely the added problems of access and loading through additional lanes, and through service roads, and to give better sight distance and angle of entrance; (2) a requirement that roadside buildings be adequately set back from the road to prevent overcrowding and to preserve sufficient clear land to allow for future road improvement; and (3) control of the appearance of roadside commercial development relating to safety, health, and general welfare.⁷

Some Other Control

Official Mapping is mainly concerned with reservation of right-of-ways for future streets or widening of existing streets. It does not protect the road once built, but can be an extremely useful tool for protection of interchange area.

Nuisance doctrines are concerned with the abatement of activities on the abutting land -- whether these activities relate to access or land use -- which substantially interfere the safety and free passage on the highway.

Urban renewal is an incidental control for securing some degree of interchange protection through urban renewal programs or federally aided development programs.⁸

CHAPTER III

THE CASE STUDY

Approaches to the Problems

A. Questionnaire Survey

As mentioned previously, the scope of this study is limited to the non-toll section of the I-70 freeway interchanges in the non-metropolitan areas of Kansas. The reason for selecting these areas for study is stated in the Chapter I. The following is a list of municipalities and their population (1970 census):

1. Goodland	5,748	7. Russell	5,516
2. Colby	4,810	8. Salina	36,609
3. Oakley	2,367	9. Solomon	1,192
4. Wakeeney	2,527	10. Abilene	7,943
5. Ellis	2,201	11. Chapman	1,848
6. Hays	15,270	12. Junction City	20,176

According to the publication, Kansas Public Officials, 1973-1974, of the League of Kansas Municipalities, each of these twelve municipalities has established a planning commission. The counties in which the municipalities are located, except the counties of Logan, Sherman, and Gove, also have established either county planning commission or joint city-county planning commissions.

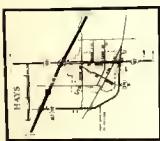
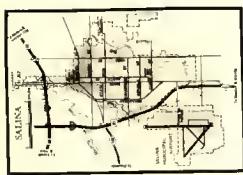
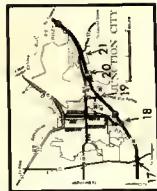
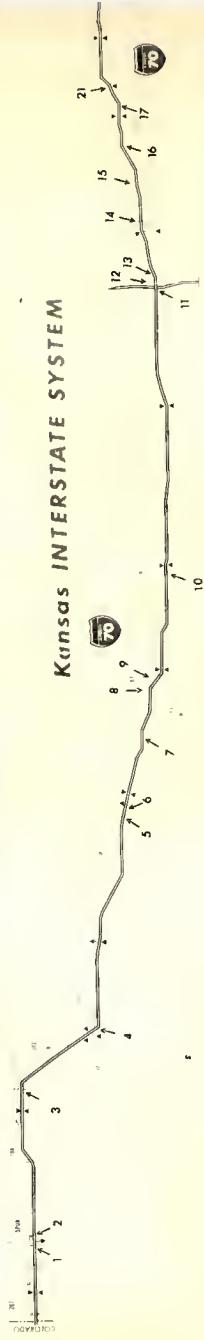
The questionnaire (See Appendix A) was sent to the city planning commission of the twelve municipalities to determine the control devices being used and the problems being encountered.¹ The responses of the questionnaire are shown on Appendix B.

B. Visual Survey

The visual survey of the interchanges was based on a three mile ring of

the city limits. A total of twenty-one interchanges were surveyed. The interchange locations are shown on the map of the following page. The twenty-one interchanges are as follows:

1. K-27 West Goodland, Sherman County
2. K-27SPUR East Goodland, Sherman County
3. K-25 South Colby, Thomas County
4. US-40 East Oakley, Cove County
5. US-283 Southwest Wakeeney, Trego County
6. US-283SPUR Southeast Wakeeney, Trego County
7. K-247 North Ellis, Ellis County
8. US-183ALT Northwest Hays, Ellis County
9. US-183 Northeast Hays, Ellis County
10. US-281 South Russell, Russell County
11. I-35W & US-81 Northwest Salina, Saline County
12. US-81ALT North Salina, Saline County.
13. Ohio St. Northeast Salina, Saline County
14. K-221 South Solomon, Dickinson County
15. K-15 North Abilene, Dickinson County
16. K-206 North Chapman, Dickinson County
17. US-77 Southwest Junction City, Geary County
18. US-77ALT South Junction City, Geary County
19. K-207 Southeast Junction City, Geary County
20. US-40ALT Grandview Plaza, Geary County
21. K-57 East Junction City, Geary County

Kansas Interstate System

Analysis of Data

A. Kansas Municipalities are Limited in the exercise of the 3-mile extraterritorial zoning power

Seven out of the ten municipalities responding, have not yet formed an interchange area protection program. This indicates that these cities either have no authority or depend upon the regulations of the State Highway Commission to control the interchange area. These seven cities are:

Oakley	Hays	Junction City
Wakeeney	Abilene	Chapman
Ellis		

According to the following provisions of 12-715b and 12-715d of K.S.A. 1969 Supp., Kansas municipalities are given certain zoning authority over a 3-mile extraterritorial area.

12-715b. Any city shall be authorized to adopt zoning regulations affecting land located outside the city but within three (3) miles thereof under the following conditions, except that nothing in this act shall be construed as authorizing any city to adopt regulations applying to or affecting any land in excess of three (3) acres under one ownership which is used only for agricultural purposes:

(a) The city has established a planning commission under the provisions of K.S.A. 1968 Supp. 12-702, which provides for the appointment of two (2) commission members who reside outside the city but within three (3) miles thereof, or the city has established a joint, metropolitan or regional planning commission in cooperation with the county in which such city is located pursuant to the provisions of K.S.A. 1968 Supp. 12-718.

(b) The land outside the city but within three (3) miles thereof has been included within a comprehensive plan recommended by either of said planning commissions and has been approved by the city governing body or the board of county commissioners.

(c) The county or township does not have in effect zoning regulations for such area outside the city but within three (3) miles thereof adopted in conformity with the statutes prescribing procedure for the adoption of county zoning regulations.

(d) The city has notified the board of county commissions in writing sixty (60) days before initiating zoning regulations

by ordinance for such area of its intention to adopt such regulations by ordinance.

12-715d. This act* is supplemental to the provisions of the laws of this state which authorize counties to adopt zoning regulations for all or any part of the land located within the county and outside of any incorporated city, which laws are specifically K.S.A. 19-2901 to 19-2913, both sections inclusive . . . and any amendments thereto. Existing city zoning regulations and the authority of any city to adopt zoning regulations for land located outside the city but within three (3) miles thereof shall cease and terminate on the date the county or township places in effect zoning regulations which are in reasonable conformance with a comprehensive plan and have been adopted in conformity with the appropriate statutes set forth in this section.

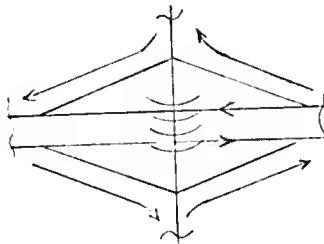
*See also K.S.A. 12-720²

The Kansas Department of Economic Development has compiled a list of cities which have the three-mile extra-territorial zoning power to date, and Oakley, Ellis, Solomon, and Chapman are not included. Therefore, the power to control the fringe areas of the above four cities is vested in the counties in which the interchanges are located. Unfortunately, Gove county, in which interchange 4 is located, has not established a county planning commission. The city of Oakley, which is within one half mile of interchange 4, is located in bordering Thomas county and therefore can not regulate this interchange. In this situation, the control over the access on interchange 4 for at least 250 feet from the end of the interchange ramp is the responsibility of the State Highway Commission. A situation of haphazard roadside development is anticipated here in the near future.

B. Observed Establishments at Interchange Areas

The visual survey was conducted during mid-October, 1974. All of the interchanges are diamond interchanges, i.e., over-passes with certain characteristics such as a ramp to provide a means of traffic interchange

(diagrammatically), except interchange 11(I-35W, northwest Salina), which is a full cloverleaf.



The current establishments of various land uses of the areas are shown in the appendices. All of the establishments observed are near 1,500 feet from the end of the interchange ramp. Table 1 shows the result of the visual survey of the twenty-one interchange areas.

Since this study selected the urban areas in Kansas with a population between 1,000 and 37,000, the results showed an average of 3 service stations, 1.3 restaurants, and 0.62 motels per interchange.

One study³ of eight interchanges along I-90 in Wisconsin, on major routes⁴ entering urban areas of over 10,000 population showed an average of 3.38 service stations, 2.38 restaurants, and 1.25 motels per interchange. Kansas's experience with interchanges adjacent to urban areas is somewhat the same, with considerable less establishments of motels and restaurants.

In comparison with Wisconsin's, the urban areas in Kansas are still in the process of growth. They will probably need more restaurants and motels, when the areas become more urbanized.

C. Agricultural or Unzoned Land Has the Potential to Create Haphazard Roadside Development

According to the responses, six cities have zoning control of the

Table 1. Interchange Area Development

I.C. No.	Location	SW Goodland	Gas		Res-			Mobil Sale	Indus- trial	Other
			Front- age Road	Oil Sta- tion	Motel	Resta- urant	Farm house			
1*	K27,	SW Goodland	1	7	2	1	1	0	1	0
2*	K27 Spur 1 mi	SE Goodland	1	1	0	0	0	0	0	0
3	K25	S Colby	0	5	2	3	0	0	0	1
4*	US40 2 mi	E Oakley	1	4	2	1	1	1	0	3
5	US 283	SW Wakeeney	1	5	2	4	0	6	0	0
6	US 283 SPUR	SE Wakeeney	0	2	1	1	0	0	0	1
7	K247	N Ellis	0	4	0	2	0	0	0	0
8*	US 183ALT 2 mi	NW Hays	1	1	1	0	0	0	0	1
9	US183	NE Hays	2	2	0	0	0	0	1	0
10	US281	S Russell	2	6	0	1	0	0	0	1
11*	I35W 2 mi	NW Salina	0	0	0	0	0	0	0	0
12	US 81 ALT	N Salina	2	9	1	6	0	0	2	0
13*	OHIO ST.	NW Salina	1	3	0	1	1	1	0	0
14*	K221 1 mi	S Solomon	0	1	0	1	1	6	0	0
15	K15	N Abilene	2	4	1	3	0	0	0	2
16*	K206 1 mi	N Chapman	1	3	0	1	0	0	0	0
17*	US77 1 mi	SW Jct. City	0	0	0	0	0	0	0	0
18	US77 ALT	S Jct. City	2	3	1	1	0	0	0	0
19*	K207	SE Jct. City	1	0	0	0	0	0	0	0
20	US40 ALT	Grandview Plaza	2	2	0	1	0	0	1	0
21*	K57	E Jct. City	2	0	0	0	0	1	0	1
Total			23	62	13	27	4	15	5	18
Mean			1.1	3	.62	1.3	.21	.71	.24	.86
								.05	.05	.54

* Interchanges located beyond the city limits.

interchange areas: Colby, Ellis, Hays, Russell, Salina, and Abilene. Thus, interchanges 3, 7, 8, 9, 10, 11, 12, 13 and 15 are controlled by the zoning ordinances of these cities. A review of the six cities' zoning ordinances and the use of district maps (See Appendix D), indicate that the areas immediately adjacent to the interchanges are all zoned highway commercial or general commercial, but the areas along the feeders are predominately zoned agricultural. The city of Junction City⁵ as a matter of fact, has adopted zoning ordinances which cover the interchanges 18 and 20. A review of the zoning district map of Junction City, indicates that the areas of these two interchanges are zoned agricultural.

The responsibility of control in the rest of the twenty-one interchanges is vested in the counties where the interchanges are located. Table 2 shows the zoning of the total twenty-one interchange areas surveyed.

About 87 per cent of these interchange areas are either unzoned or zoned highway commercial. In the commercial areas (about 32 per cent) at least some protection is provided: off-street parking, density control, yard requirements, etc. In the unzoned areas (about 55 per cent) not even this protection exists. In neither case is there a conscious pattern of land use.

Apparently, 60 per cent of the supporting areas on the feeder roads are unzoned; while 18 per cent are zoned agricultural; and 16 per cent are zoned commercial. A very small portion of the supporting areas are zoned residential and industrial.

From the foregoing analysis, most of the interchange areas are agricultural or unzoned land. In the unzoned areas, there should be provided roadside protection definitely. As to the areas where agricultural uses are permitted, there also should be provided some roadside protection to prevent

Table 2. Zoning of the Interchange Areas

I.C. No.	1. North of I-70 2. South of I-70	Area Immediately Adjacent	Area Along the Feeder
1*	North of I-70 South of I-70	unzoned unzoned	unzoned unzoned
2*	North of I-70 South of I-70	unzoned unzoned	unzoned unzoned
3	North of I-70 South of I-70	C-2 Neighborhood Commercial same	unzoned
4*	North of I-70 South of I-70	unzoned unzoned	unzoned unzoned
5	North of I-70 South of I-70	unzoned unzoned	commercial unzoned
6	North of I-70 South of I-70	commercial commercial	commercial unzoned
7	North of I-70 South of I-70	industrial park (IP) highway service (CS)	unzoned
8*	North of I-70 South of I-70	highway service highway service	unzoned unzoned
9	North of I-70 South of I-70	highway service highway service	unzoned commercial
10	North of I-70 South of I-70	general commercial highway service unzoned	general commercial unzoned
11*	North of I-70 South of I-70	highway service highway service	agricultural agricultural
12	North of I-70 South of I-70	highway service highway service	commercial, industrial commercial, residential
13*	North of I-70 South of I-70	highway service highway service	agricultural agricultural
14*	North of I-70 South of I-70	unzoned unzoned	unzoned unzoned

Table 2. (cont.)

I.C. No.	1. North of I-70 2. South of I-70	Area Immediately Adjacent	Area Along the Feeder
15	North of I-70 South of I-70	general business general business	agricultural general business
16*	North of I-70 South of I-70	unzoned unzoned	unzoned unzoned
17*	North of I-70 South of I-70	unzoned unzoned	unzoned unzoned
18	North of I-70 South of I-70	agricultural unzoned	agricultural unzoned
19*	North of I-70 South of I-70	unzoned unzoned	unzoned unzoned
20	North of I-70 South of I-70	agricultural agricultural	agricultural agricultural
21*	North of I-70 South of I-70	unzoned unzoned	unzoned unzoned

*Located outside of city limits.

traffic generating uses along the feeder roads.

According to K.S.A. 1969 Supp. 12-715b and K.S.A. 1973 Supp. 19-2929,⁶ tracts of more than three acres under one ownership and used for agricultural purposes are exempted from either the city's extra-territorial zoning control or the county zoning control except for agricultural use districts.

As presently defined in Kansas, the term agriculture is a very broad category⁷ and creates problems in regulating and controlling the development of the land exempted by these sections of the law. As agricultural development occurs, accessory buildings, feedlots, pig farms, etc. are unregulated and uncontrolled because of the lack of comprehensive zoning. Nonconforming and harmful land uses may develop in the fringe areas.⁸ For instance, at

interchange 1 and 5,⁹ the haphazard road side development of feedlots, buildings, and farmhouses located no further than 250 feet from the ends of the interchange ramps has already taken place. Also the aesthetic view from the highway will be ruined.

D. Jurisdictional Confusion Over the Control of Access

When asked if the city regulates driveway curb-cuts on the feeder roads within a certain distance of the I-70 interchange, only two cities, Colby and Hays, answered affirmatively, but no distance was specified. The City of Colby furnished a copy of the City's regulations regarding curb-cuts for driveways (See Appendix G). The following cities answered negatively regarding this question.

Salina

Wakeeney

Russell

Abilene

Ellis

Junction City

The City of Salina indicated that access is restricted along feeders by the State Highway Commission and this right has been transferred to the City. The Cities of Wakeeney, Russell, Abilene, and Junction City indicated that curb-cuts are controlled by the State Highway Commission. The City of Russell further indicated that these were controlled by the State Highway Commission through deed restrictions. It is evident from the above responses to the questionnaire, that there exists a jurisdictional confusion between the state, and cities and counties on the access control. Specific interchange problems encountered in the cities of Colby and Salina are the result of this confusion.

Salina

The State Highway Commission Right-of-Way line is difficult to determine as conflicting records are in existence. Confusion exists over the use of private access roads which were provided by the State Highway Commission. Area is in flood-plain.

Colby

Speed limits on feeder road, we feel are excessive and constitute a serious safety problem. The City of Colby at this time has only one interchange coming off I-70 which compounds problem above as well adding to traffic problem as the access road runs into residential areas. (sic)

. . . In addition we have no frontage roads which collect traffic from business along the interstate which then feed into the access road to the interstate exchange.

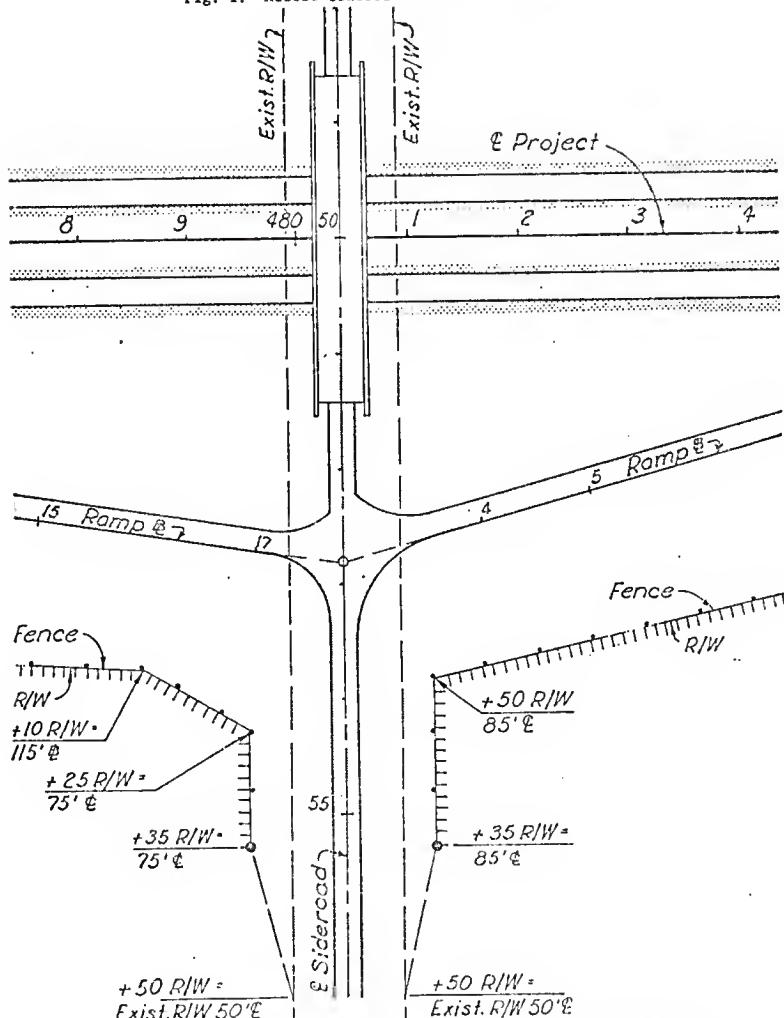
The State Highway Commission's regulations regarding the access control at interchanges are stated as follows:

At interchange locations, the access control should be carried along the side road for a minimum of 250 feet (preferably 300 feet or more as needed) past the intersection of the ramp base-line and the side road centerline. The above 250-foot minimum corresponds to a distance of approximately 150 feet measured from the intersection of the mainline and side road right-of-way lines. The length may be greater or smaller depending on the angle of intersection of the ramp and side road, whether frontage roads are involved, nature of the area (i.e., urban or rural), etc. see figure 2C-18-D.¹⁰

A review of the Commission's figure 2C-18-D (on the following page), indicates that the access control is carried along the feeder roads for a certain distance. Two measurements set by the State Highway Commission are: (1) a minimum of 250 feet from the intersection of the ramp base-line and the feeder road centerline; or (2) minimum 150 feet from the intersection of the mainline and the feeder road right-of-way lines.

Since the right-of-way line is difficult to determine,¹¹ the State Highway Commission should develop specific criteria regarding the nature and extent of the control necessary. Specifically, the controls should indicate "NO ACCESS" for a minimum distance of 500 feet (1000 feet desirable) beyond the farthest ramp taper point (See Fig. 2).

Fig. 1. Access Control of State of Kansas



Source: Standard Plans, 2C-18 Access control, State Highway Commission, Kansas.

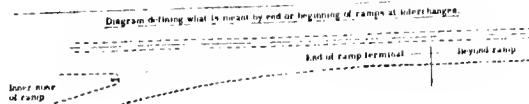


Fig. 2. Extension of limited access beyond right-of-way as a means of protection for interchange areas along the National System of Interstate and Defense Highways.

Source: Highway Research Board, Bulletin 288, p. 9.

Beyond these criteria, specific access points should be designated by the type of use permitted, e.g., highway service or highway oriented service. Observations of twenty diamond interchanges in Kansas indicated that the distance from the ramp taper to the service facility entrance appears to be too short (no more than 150 feet). A study in Wisconsin's eight rural diamond interchanges shows that those facilities with access controls at approximately 500-feet seemed to operate quite efficiently.¹²

If the specific criteria are set by the State Highway Commission, the problem of identifying the right-of-way lines by the city will be solved automatically.

Another problem is the confusion as to authorities to control the access. Since Salina, for instance, abuts the interchange, the State Highway Commission should cooperate with the city in access control.

E. Few Cities Have Set-Back Line Control

Since the set-back line from the I-70 right-of-way is not important as far as the protection devices of the interchange is concerned, none of the cities reported the distance of the set-back line from I-70. However, responses from the following cities indicated that set-back lines from the

feeder roads vary depending on zoning of land abutting these roads.

Colby 30 feet front yard for commercial district.
 No front yard required for highway commercial district.

Ellis 45 feet from feeder road right-of-way.

Russell 75 feet from feeder road centerline for the highway
 service district.
 50 feet from feeder road centerline for general
 commercial district.

Salina 15 feet from the feeder road right-of-way.

Hays 90 feet from the feeder road right-of-way.

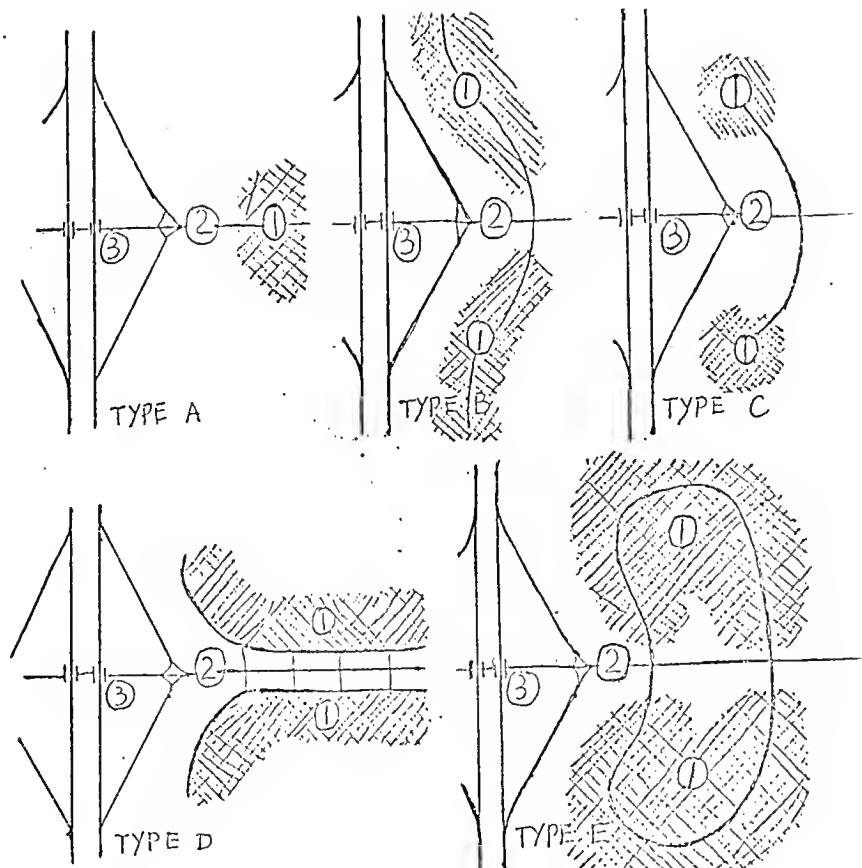
Generally, the set-back line is a line delineating the minimum allowable distance between the street right-of-way and the front of a structure, within which no building or other structure shall be placed.¹³ Ideally, set-back lines serve as a control on land use density.¹⁴ However, since they are established primarily for aesthetic and fire safety reasons, they ultimately permit much more intense use of the land than is generally desirable.¹⁵

The importance of the set-back line from interstate highway feeder roads is for reservation of future widening on the feeder roads and for cutting the costs of this widening.¹⁶

From the above cities' responses on the requirements of the set-back lines, there is a lack of uniform criteria concerning this protection device.

F. Standard for Interchange Development

Survey question number six¹⁷ is related to the standard of the general land use adjacent to the interchange.¹⁸ The objective of this standard is to promote proper general land use development adjacent to the interchange. A study by the Nashville and Davidson County, Tennessee Metropolitan Planning Commission disclosed proposals for such development.¹⁹ Figure 3 illustrates modifications of these types of development. It is apparent that Type A



Legend: 1. Development, 2. Access Restriction, 3. Any Interchange.

Fig. 3. General Land Development of Interchange Area

development would require simple access control. Types B and C minimize congestion along the feeder road but limit development. Type D, however, allows a larger development and would be conducive to commercial land use. Type E allows the largest area of land with minimum access to the feeder road. Generally, Type A should be avoided whenever possible, while Types B and C would be appropriate for highway-oriented commercial use. Type E would be best suited for residential and industrial development.

According to these guidelines, it is probable that the development around interchanges 3, 5, 6, 7, and 12 allows larger development and might lead to commercial land use. Interchange 12 would also be appropriate for highway oriented commercial use, and interchanges 3, 9, 10, 17, 18, 19, 20, and 21 would be best suited for residential and industrial development (See Table 3).

A review of the zoning of the twenty-one interchanges surveyed²⁰ indicated that the developments at interchanges 3, 6, 7, and 12 are followed by these types of land uses. But the developments at interchanges 5, 17, 18, 19, 20 and 21 which are zoned agricultural or unzoned land, might also be guided by suitable types of land use. When the counties and the cities are ready to adopt zoning regulations, the foregoing standard should be considered as a guideline to promote proper land use development at the interchange area.

G. Lack of Coordination Concerning Authorities on the Highway Control

Speed limits are too excessive on the feeder roads in the city of Colby. This constitutes a serious safety problem. When the author asked the city administrative assistant what the speed limits were and why they do not

Table 3. Standard for Interchange Development

Interchange	Commercial	Highway Commercial	Residential	Industrial
3	X			
5	X			
6	X			
7	X			
8			X	X
9			X	X
10			X	X
12	X	X		
17			X	X
18			X	X
19			X	X
20			X	X
21			X	X

change them, the answer is, "55mph, and the State Highway Commission is reluctant to change it."²¹ This involves two issues. First, according to the publication Driveway Control Standard Plans and Regulations-Direct Access Connections to State and Federal Highways, State of Kansas, the definition of an urban area is

the area within the corporate limits of a municipality; or if the street or Highway abutting the area has a speed limit of 40 miles per hour or less; or, if at least 50 percent of the frontage abutting the Highway has been developed with residences, business and/or industry.²²

Since K-25 coming north from the interchange runs through Colby, which is an incorporated city, the city commission of Colby has the authority to make speed laws for the highway within the city limits. But there seems to be a short space between the interchange and the city limits not under their control.²³ This tends to confuse the city fathers who are not aware of any powers at their disposal to solve the problem of frequent accidents. They have appealed to the State Highway Commission, but have received no

cooperation. Secondly, according to K.S.A. 68-1901,²⁴ the governing body of Colby is one of the highway authorities (See Appendix E). Obviously, there is a lack of coordination between the city and the State Highway Commission regarding this matter.

Conclusions

Each city has different policies to meet the different problems posed by route location, corporate boundaries, city limits and other factors over which there is little real control of the abutting land. Zoning does not apply to all the interchanges, but where it does apply the degree of protection is fairly uniform. In almost all the zoned areas, the land immediately adjacent to the interchange is zoned highway commercial, the land further removed from the interchange on the feeder is zoned agricultural with occasional residential, commercial or industrial uses depending on the degree of urbanization, and a moderate set-back exists on all the feeder roads.

The responsibility for controlling access along the feeder roads of I-70 lies primarily on the regulative powers of the State Highway Commission. Since the cities abut the interchange zones, the State Highway Commission should not ignore the impact of access control on the cities. There is a need for coordination and cooperation between the State Highway Commission and the cities concerning the access control.

In order to be effective in the control of access, the State Highway Commission should specifically indicate that NO ACCESS for a minimum distance of 500 feet (1000 feet would be desirable) beyond the farthest ramp taper point of the interchange. The specific design is diagrammatically illustrated on the recommendations.

Recommendations

Recommendation 1

In view of the confusion and lack of regulation in many of the interchange zones, it seems that Kansas should make a few modifications of its statutes. For example; in cases where the cities and the counties in which the interchanges are located fail to form an interchange zone district, the state planning department should be given the power to regulate certain land uses at the interchange areas. When local governments receive state notice and fail to establish such a district within a certain period of time, then the state takes action to control the interchange areas. The extent of interchange areas should be designated by the statutes.

Recommendation 2

In Kansas, almost all of the interchange areas are in the transitional stage, developing from semiurban to urban. Given the advantage of accessibility in the interchange area, the community abutting it will probably experience growth sooner or later. Colby is a good example.

According to K.S.A. 1969 Supp. 68-1903, either local or state authorities can exercise the power of eminent domain by acquisition of land development rights in outlying and rural areas, or by acquisition and leasing or selling to developers pursuant to a development plan of land adjacent to the interchange area. Although communities may not have formulated an effective method for the control of interchange zones yet, it is imperative that they take action now, while the land price at fringe areas is still reasonable.

Recommendation 3

According to the access control regulations of the State Highway

Commission of Kansas, the access control should be carried along the feeder roads for a minimum of 150 feet from the intersection of the mainline and the feeder road right-of-way lines. The distance of access control specified in the regulations seems too short in comparison with other states.²⁵ For access planning consideration, a distance of 500 feet minimum to 1000 feet desirable, from a farthest ramp taper point is recommended to the State Highway Commission. It is suggested that whatever authority has the jurisdiction beyond that distance should create a Planned Unit Service District. According to the experience in Pennsylvania, the minimum requirement for the size of the district is fifteen acres. Since the interchange areas in Kansas, on the whole, are less developed than those in Pennsylvania. It is recommended that the district should, at least, not be less than ten acres. The uses permitted in the district should be highway-oriented service enterprises, such as gas stations with minor repair service, motels, restaurants, and other related accessory uses. Other regulations pertaining to density requirements, signs, parkings, etc. can be spelled out in a traditional way, but remain flexible to permit desirable development under the device of zoning incentives. In order to prevent traffic congestion incurred by the district, a carefully designed four-lane driveway should be constructed to allow the ingress and egress from the district. The distance between the ingress and egress depends on the speed limits of the feeder road. Generally, if the speed limit is 55 mph to 40 mph on the feeder road, the distance of 1/4 mile to 1/8 mile is suggested respectively. Figure 4 shows the general design and planning for the interchange area.

INTERSTATE FREEWAY 70

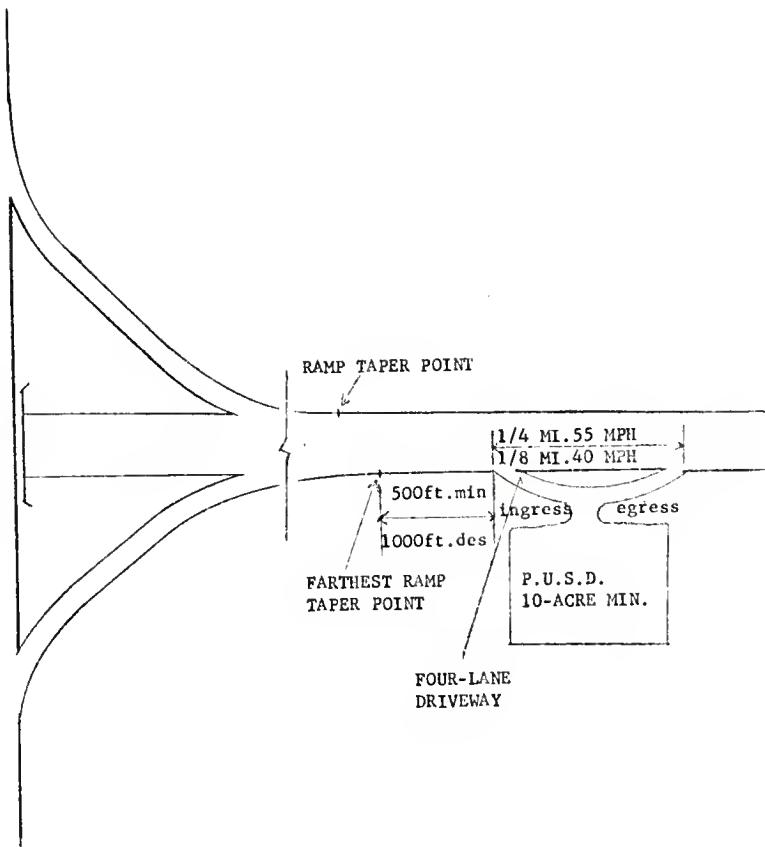


Fig. 4. General design and planning for Interchange Area.

FOOTNOTES

Chapter I

1. Frank M. Covey, Jr., "Freeway Interchanges: A Case Study and An Overview," Marquette Law Review, Vol. 45, 1961, p. 21.
2. Ibid., p. 22.
3. William H. Stanhagen, "Highway Interchanges and Land-Use Controls," Highway Research Board, Bulletin 288, Washington D. C., 1961, p. 32.
4. Floyd I. Thiel, "Highway Interchange Area Development," Highway Research Board, No. 96, Washington D. C., 1965, p. 24.
5. National Academy of Sciences-National Research Council, Highway Research Board, Bulletin 288, Washington D. C., 1961.
6. Jerrold R. Allaire, "Expressway Interchanges," American Society of Planning Officials, Information Report No. 137, Chicago, August 1960, p. 5.
7. Covey, Op. cit., p. 22.
8. Allaire, Op. cit., p. 3.
9. Ibid.
10. Ibid.
11. See p. 10 of this report.

Chapter II

1. The researcher would like to acknowledge that this chapter is based on the work "Freeway Interchange: A Case Study and An Overview" by Mr. Frank M. Covey.
2. Covey, Op. cit., pp. 23-27.
3. Ibid., p. 28.
4. Ibid., p. 29.
5. Ibid., p. 30.
6. Ibid., p. 32.

7. Ibid.
8. Ibid., pp. 32-34.

Chapter III

1. According to K. S. A. 19-2901, county zoning resolution is by township. Most counties in Kansas do not have a comprehensive zoning in effect. Therefore, the researcher mailed the questionnaire to the cities.
2. See K.S.A. 1969 Supp.
3. Herman A. J. Kuhn, "Planning Implications of Urban and Rural Freeway Interchanges," Journal of the Urban Planning and Development Division, Vol. 95, No. UPL, April 1969, p. 83.
4. A major route was considered a state or U.S. Highway.
5. The researcher received no answer regarding the zoning control from this city.
6. See content of the Laws in Appendix E.
7. See Fred Carp vs. the Board of County Commissioners of the County of Sedgwick.
8. Fred Gress, An Investigative Report on Extra-territorial Zoning in Kansas, A Non-Thesis Project, Kansas State University, Manhattan, Kansas, 1974, p. 29.
9. See visual survey maps in Appendix C.
10. Source: Standard Plans, Code 2C-18, Access Control 2C-18-(3), State Highway Commission, State of Kansas.
11. See Salina's response in Appendix E.
12. Op. cit., Herman A. J. Kuhn, p. 88.
13. A.S.P.O. Information Report No. 233, "A Glossary of Zoning Definitions," Chicago, April 1968, p. 19.
14. Clan Crawford, Jr., Handbook of Zoning and Land Use Ordinances-With Forms (Englewood Cliffs, N. J.: Prentice-Hill Inc., 1974), p. 54.
15. Ibid.
16. Jacob H. Beuscher and Robert R. Wright, Cases and Materials on Land Use (St. Paul, Minn.: West Publishing Co., 1969), p. 229.

17. See K.S.A. 1969 Supp. 68-1901 in Appendix E.
18. Jim J. Adams, Interchange Land Use Control, An unpublished report, Kansas State University, 1967, pp. 14-15.
19. Study of Interstate Highway Interchange Area Development for Nashville and Davison County Tennessee, Sept. 1965.
20. See Table 2 on pages 18 and 19 of this report.
21. The researcher made a phone call with the Administrative assistant of the city of Colby on Feb. 3, 1975.
22. Op. cit., State Highway Commission, State of Kansas, Standard Plans, p. 3.
23. See use district map of Colby in Appendix D.
24. See K.S.A. 1969 Supp. 68-1901 in Appendix E.
25. Highway Research Board, Bulletin 288, "Land Use and Development at Highway Interchanges," Washington, D. C., 1961, p. 9.

SELECTED BIBLIOGRAPHY

- Adams, Jim J. Interchange Land Use Control. Kansas State University, Manhattan, Kansas, 1967.
- Allaire, Jerrold R. "Expressway Interchanges," American Society of Planning Officials, Information Report No. 137. Chicago, 1960.
- Covey, Frank M. Jr. "Freeway Interchanges: A Case Study and An Overview," Marquette Law Review, Vol. 45, Wisconsin, 1961.
- Flaherty, Mark C. "Commercial Highway Service Districts and the Interstate," Highway Research Record, No. 96, Washington, D. C., 1965.
- Frankland, Bamford. "Land Acquisition and Land Use Control in the Federal-Aid Highway Program," Highway Research Record, No. 258, Washington, D. C., 1968.
- Frankland, Bamford. "Land-Use Control at Freeway Interchanges in California," Traffic Quarterly, Vol. XIX, No. 4. New York: Columbia University Press, 1965.
- Frey, J. C., H. K. Dansereau, R. D. Pashek and A. Tward. "Land-Use Planning and the Interchange Community," Highway Research Board, Bulletin No. 327, Washington, D. C., 1962.
- Garrison, William L. "Supply and Demand for Land at Highway Interchanges," Highway Research Board, Bulletin No. 288, Washington, D. C., 1961.
- Horwood, Edgar M., Charles H. Graves and Clark D. Rogers. "An Evaluation of Land-Use Control Procedures at Freeway Approaches," Highway Research Board, Bulletin No. 288, Washington, D. C., 1961.
- Kuhn, Herman A. J. "Planning Implications of Urban and Rural Freeway Interchanges," Journal of the Urban Planning and Development Division, Vol. 95, No. UPI., the American Society of Civil Engineers, Michigan, 1969.
- Levin, David R. "The Highway Interchange Land-Use Problem," Highway Research Board, Bulletin 288, Washington, D. C., 1961.
- Marks, Harold and Salem Spitz, Victor Gruen Associates. "A Review of Transportation Aspects of Land-Use Control," National Cooperative Highway Research Program, Report 31, Washington D. C., 1966.
- Pendleton, William C. "Land Use At Freeway Interchanges," Traffic Quarterly, Vol. XV. New York: Columbia University Press, 1961.
- Stanhagen, William H. "Highway Interchanges and Land-Use Controls," Highway Research Board, Bulletin 288, Washington D. C., 1961.

Thiel, Floyd I. "Highway Interchange Area Development," Highway Research Record, No. 96, Washington, D. C., 1965.

American Society of Planning Officials. Information Report No. 71. The Urbanizing Influence of the Expressway and the Need for Planning and Zoning. Chicago, 1955.

Appendix A

Dear Sir:

I am a graduate student in the Department of Regional and Community Planning at Kansas State University and I am in the process of conducting a survey of Interstate Highway 70 interchange problems in Kansas as part of my thesis research. In that your city abuts I-70 in Kansas, I would appreciate your completion and return of the enclosed questionnaire in the return envelope provided. In order to expedite my research effort I would appreciate your return by May 25, 1974.

I have requested some specific information in the survey instrument which would be beneficial to my effort, if you can provide me with this special material.

Thank you for your co-operation.

Sincerely,

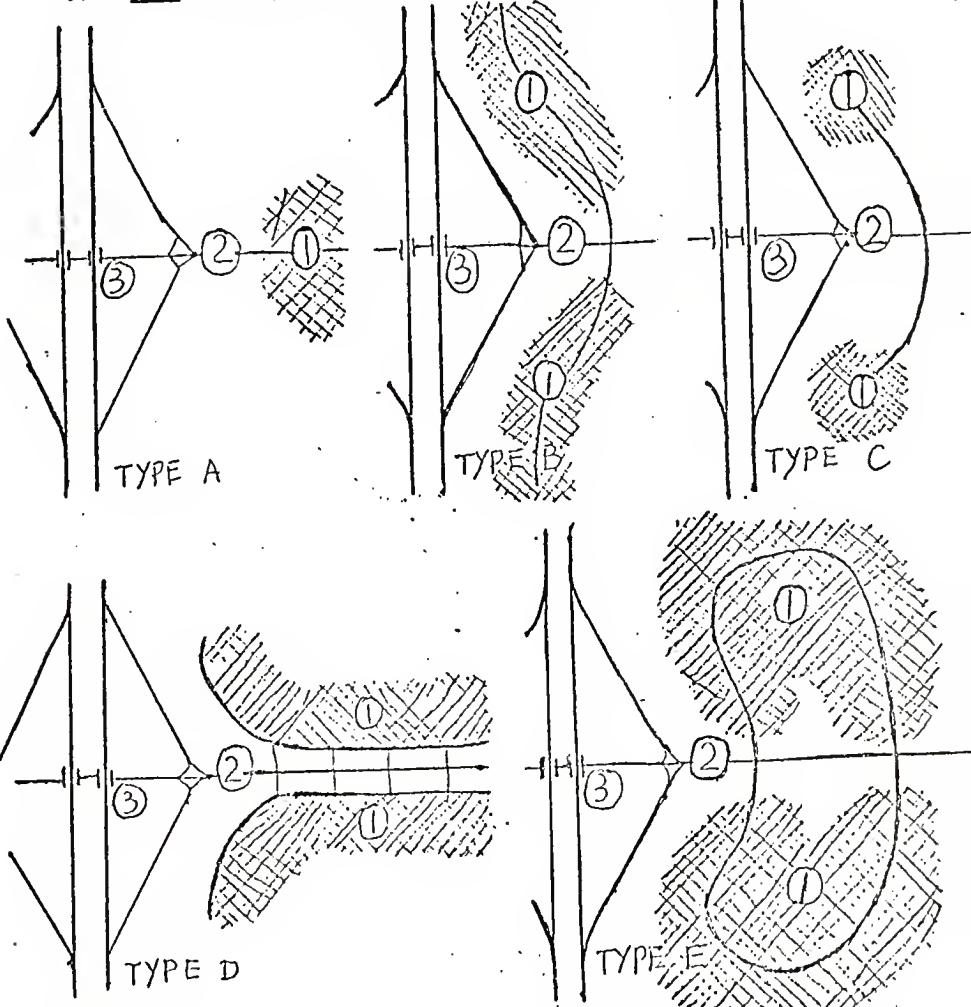
Shu D. Hu.

QUESTIONNAIRE

1. In Interstate Highway 70 near your city (or in your city) do your plans call for providing any road side protection or land use control measures in the areas surrounding the freeway interchanges or along the roads that will serve as feeders or crossroads to the Interstate System roads?
2. If so, is this done or will this be done through
 - (a) driveway permit system on the feeder roads?
 - (b) access controls on the feeder road?
 - (c) zoning the surrounding area?
If so., would you please attach a copy of the zoning provisions.
 - (d) subdivision control?
If so, how?
3. Does your city have any regulations relating to driveway curb-cuts on the feeder roads within a certain distance of the interstate highway 70 interchange?
yes _____, please specify the distance _____.
no _____.
4. How far is the set-back line from Interstate Highway 70 right-of-way and/or its feeder road?
Interstate Highway right-of-way _____ feet,
feeder road _____ feet.
5. Is there a specific interchange problem that your city encounters in its connection to the I-70 system?
yes _____: no _____.
Please specify the nature of the problems encountered.

6. In order to promote proper general land use development adjacent the I-70 Interchange, there are several possibilities for proper general development around an interchange, which of the following types are now existing surrounding the I-70 interchange area of your city? If none of these types perfectly match, please check the one that most closely corresponds to one of the other types; please indicate if you did this.

type A ___, type B ___, type C ___, Type D ___, type E ___,



LEGEND

1. Development

2. Access Restriction

3. Hwy Interchange

7. If you mark any one of the foregoing types of development, please
Indicate its land use.

- (a) residential use _____
- (b) commercial use _____
- (c) industrial development _____
- (d) residential and industrial use _____
- (e) residential and commercial use _____
- (f) commercial and industrial use _____
- (g) Highway-oriented commercial use _____
- (h) other (please specify) _____

INFORMATION REQUESTED

1. Please attach copies of any Commission policy statement or regulations governing interchange areas.
2. Please attach a copy of current land use map or current zoning map of your city or county. (If it is to be charged please bill me).

COMMENTS ON INTERCHANGE PROBLEM:

Appendix B



THOMAS H. PALMER
CITY MANAGER

PEARL SMITH
CITY CLERK

585 N. FRANKLIN

COLBY, KANSAS 67701
913-462-3973

January 9, 1975

Mr. Shu Dean Hu
A-1 Jardine Terrace
Manhattan, Kansas 66502

Dear Mr. Hu:

I hope that the information I have given on the questionnaire will be of benefit to you. As I have explained on the questionnaire we have no specific regulations regarding development along highway district other than zoning regulations pertaining to commercial, residential and industrial property. Recognizing we have a need for zoning requirements along highway districts we have begun to re-evaluate our zoning ordinances and master plan.

Enclosed is a map of the City showing current zoning. Also enclosed is a copy of the City's regulations regarding curb cuts for driveways.

If you have additional questions or if you don't understand my answers to your questions, please do not hesitate to contact me.

Best of luck on your research project.

Sincerely,

Jay Berens
Administrative Assistant

JB/ja

Enclosure

QUESTIONNAIRE

6-17)

1. In Interstate Highway 70 near your city (or in your city) do your plans call 44 for providing any road side protection or land use control measures in the areas surrounding the freeway interchanges or along the roads that will serve as feeders or crossroads to the Interstate System roads? yes

2. If so, is this done or will this be done through

(a) driveway permit system on the feeder roads?

(b) access controls on the feeder road?

(c) zoning the surrounding area?

If so,, would you please attach a copy of the zoning provisions for Highway Zone Districts.
We have no specific highway zone districts but rather zoning provisions
(d) subdivision control? pertaining to Commercial, Industrial, or Residential
Property. If so, how?

(e) condemnation or purchase of development right?

(f) condemnation of excess land in the interchange area?

(g) other devices? if so, what?

3. Does your city have any regulations relating to driveway curb-cuts on the feeder roads within a certain distance of the interstate highway 70 interchange?

yes X, please specify the distance

no _____
Check again provisions pertaining to
curb cuts in commercial, residential & Industrial property

4. How far is the set-back line from Interstate Highway 70 right-of-way and/or its feeder road?

Interstate Highway right-of-way _____ feet.

feeder road _____ feet. 20 ft. from property line for commercial
properties.

5. Is there a specific interchange problem that your city encounters in its connection to the I-70 system?

yes X. no _____.

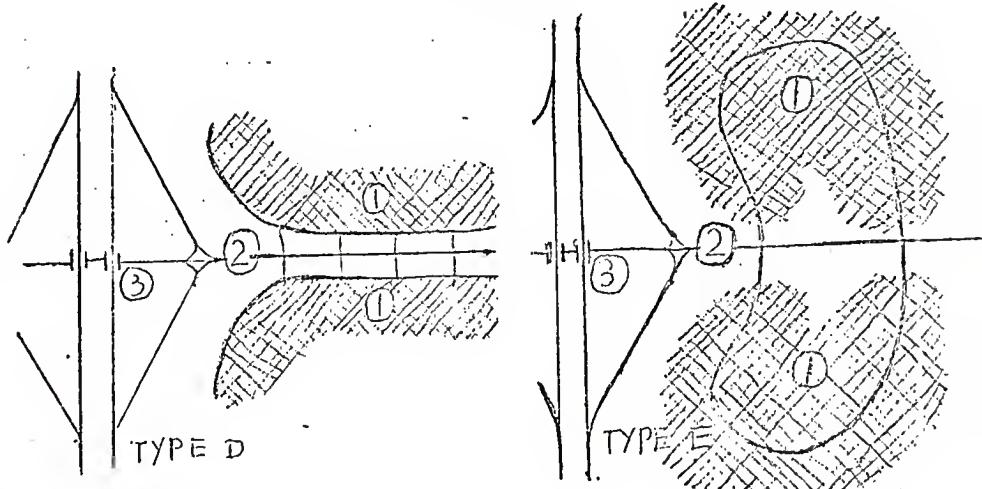
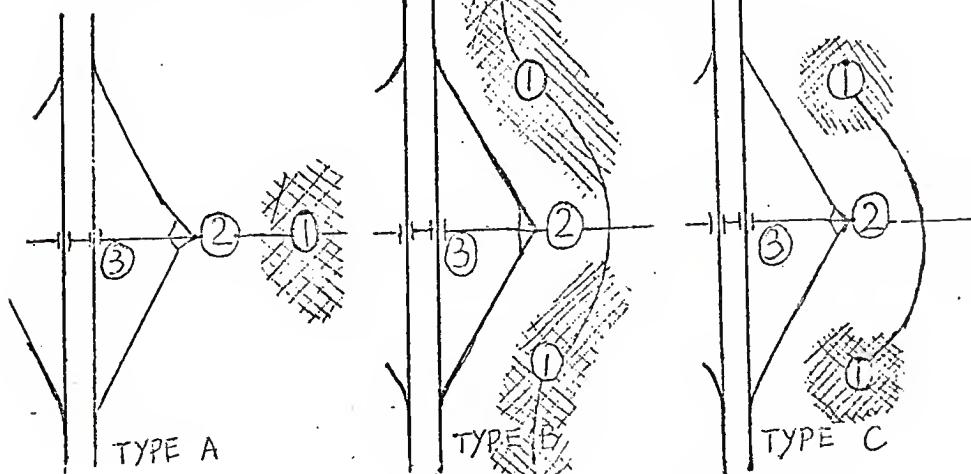
Please specify the nature of the problems encountered.

1. Speed limits on feeder roads are excessive and constitute a serious safety problem.

2. The city of Coley at this time has only one interchange coming off I-70 which corresponds problems alone as well as traffic conditions as they occur and cause extra strain to

6. In order to promote proper general land use development adjacent the I-70
Interchange, there are several possibilities for proper general development
around an interchange, which of the following types are now existing surrounding
the I-70 interchange area of your city. If none of these types perfectly match,
please check the one that most closely corresponds to one of the other types;
please indicate if you did this.

type A , type B , type C , Type D , type E ,



LEGEND

1. Development

2. Access Restriction

3. Any Interchange

7. If you mark any one of the foregoing types of development, please

Indicate its land use.

- (a) residential use _____
- (b) commercial use ~~_____~~
- (c) industrial development _____
- (d) residential and industrial use _____
- (e) residential and commercial use _____
- (f) commercial and industrial use _____
- (g) Highway-oriented commercial use _____
- (h) other (please specify) _____

INFORMATION REQUESTED

1. Please attach copies of any Commission policy statement or regulations governing interchange areas. We are now in the process of developing these types of regulations but other than zoning regulations we have no specific regulations.
2. Please attach a copy of current land use map or current zoning map of your city or county. (If it is to be charged please bill me).

COMMENTS ON INTERCHANGE PROBLEM:

We are just presently experiencing problems associate with development along and abutting I-70 but we have begun plans to ~~re-evaluate~~ re-evaluate our zoning laws and comprehensive plan. In addition we have no frontage roads which collect traffic from businesses along the interstate which then feed into the access road to the interstate exchange.

QUESTIONNAIRE

1. In Interstate Highway 70 near your city (or in your city) do your plans call for providing any road side protection or land use control measures in the areas surrounding the freeway interchanges or along the roads that will serve as feeders or crossroads to the Interstate System roads? yes.

2. If so, is this done or will this be done through
(a) driveway permit system on the feeder roads?

(b) access controls on the feeder road?

(c) zoning the surrounding area? *through the land use plan.*

If so., would you please attach a copy of the zoning provisions.

(d) subdivision control?

If so, how?

(e) condemnation or purchase of development right?

(f) condemnation of excess land in the interchange area?

(g) other devices? if so, what?

3. Does your city have any regulations relating to driveway curb-cuts on the feeder roads within a certain distance of the interstate highway 70 interchange?
yes _____, please specify the distance _____.

no . however, access is restricted along feeder by State Highway Commission which terminates their rights to the City.

4. How far is the set-back line from Interstate Highway 70 right-of-way and/or its feeder road?

Interstate Highway right-of-way * 40 feet. - depends on updr ~~or~~ building ~~or~~
feeder road 15 feet.

5. Is there a specific interchange problem that your city encounters in its connection to the I-70 system?

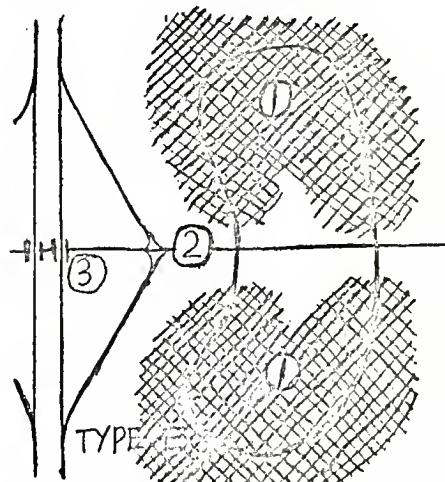
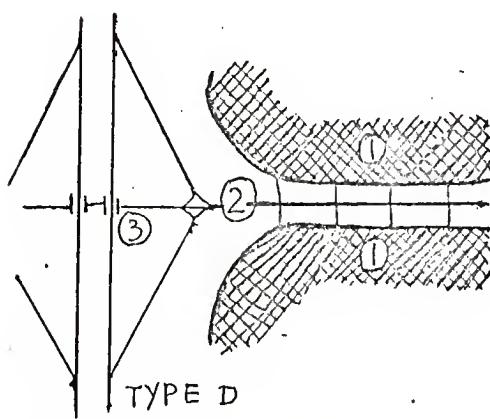
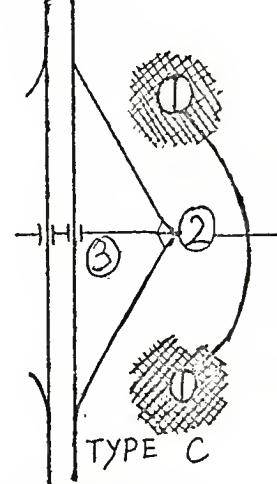
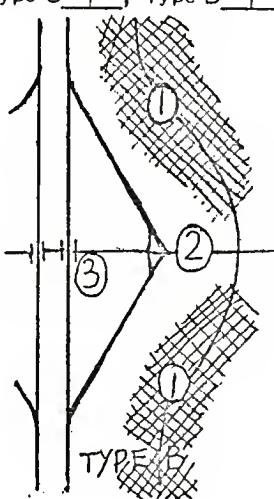
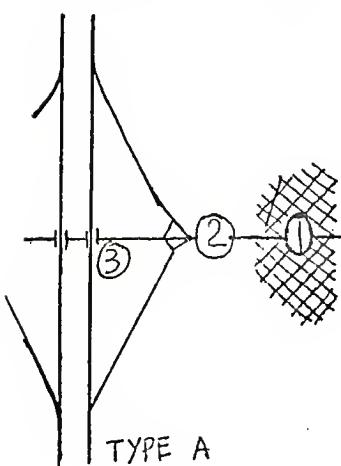
yes , no _____.

Please specify the nature of the problems encountered.

The SHC has just is difficult to determine as conflicting records are
of existence.
Conflicting exists over use of private access roads which were intended by the SHC.
Area is not the feed - roads.

6. In order to promote proper general land use development adjacent the I-70 Interchange, there are several possibilities for proper general development around an interchange, which of the following types are now existing surrounding the I-70 interchange area of your city. If none of these types perfectly match, please check the one that most closely corresponds to one of the other types; please indicate if you did this.

type A , type B , type C , Type D , type E



LEGEND.

1. Development

2. Access Restriction

3. Any Interchange

7. If you mark any one of the foregoing types of development, please indicate its land use.

- (a) residential use _____
- (b) commercial use _____
- (c) industrial development _____
- (d) residential and industrial use _____
- (e) residential and commercial use _____
- (f) commercial and industrial use _____
- (g) Highway-oriented commercial use _____
- (h) other (please specify) _____.

INFORMATION REQUESTED

1. Please attach copies of any Commission policy statement or regulations governing interchange areas.
2. Please attach a copy of current land use map or current zoning map of your city or county. (If it is to be charged please bill me).

COMMENTS ON INTERCHANGE PROBLEM:

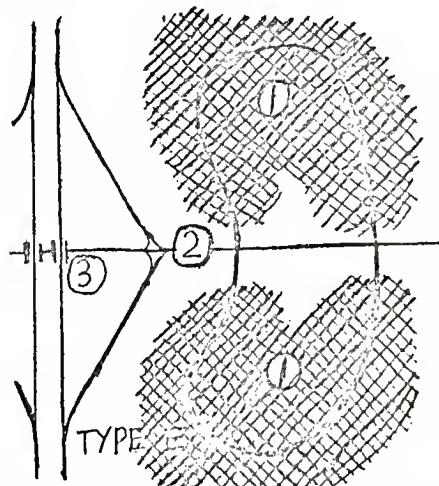
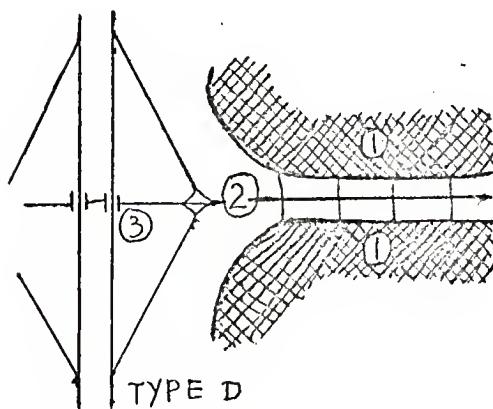
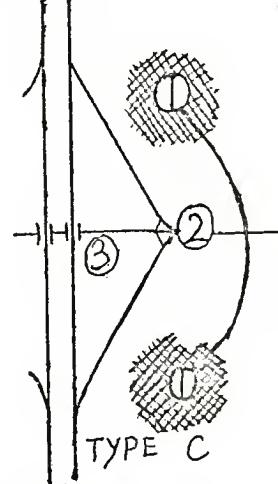
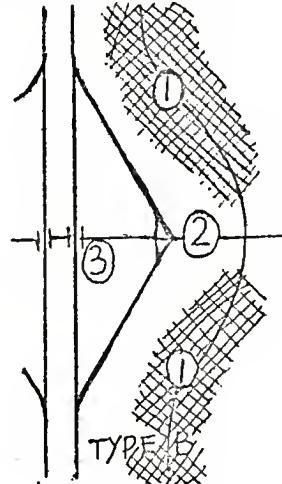
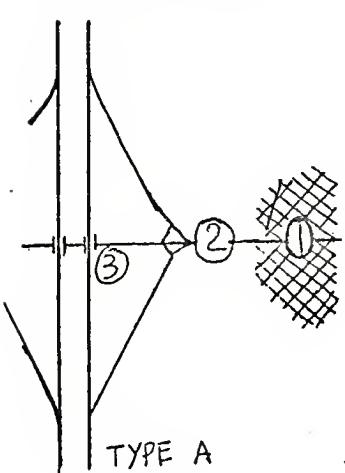
QUESTIONNAIRE

50

1. In Interstate Highway 70 near your city (or in your city) do your plans call for providing any road side protection or land use control measures in the areas surrounding the freeway interchanges or along the roads that will serve as feeders or crossroads to the Interstate System roads?
2. If so, is this done or will this be done through
 - (a) driveway permit system on the feeder roads?
 - (b) access controls on the feeder road?
 - (c) zoning the surrounding area?
If so., would you please attach a copy of the zoning provisions.
 - (d) subdivision control?
If so, how?
- (e) condemnation or purchase of development right?
- (f) condemnation of excess land in the interchange area?
- (g) other devices? If so, what?
3. Does your city have any regulations relating to driveway curb-cuts on the feeder roads within a certain distance of the interstate highway 70 interchange?
yes _____, please specify the distance _____.
no _____.
4. How far is the set-back line from Interstate Highway 70 right-of-way and/or its feeder road?
Interstate Highway right-of-way _____ feet.
feeder road _____ feet.
5. Is there a specific interchange problem that your city encounters in its connection to the I-70 system?
yes _____. no _____.
Please specify the nature of the problems encountered.

6. In order to promote proper general land use development adjacent the I-70 Interchange, there are several possibilities for proper general development around an interchange, which of the following types are now existing surrounding the I-70 interchange area of your city. If none of these types perfectly match, please check the one that most closely corresponds to one of the other types; please indicate if you did this.

type A , type B , type C , Type D , type E



LEGEND:

1. Development

2. Access Restriction

3. Any Interchange

7. If you mark any one of the foregoing types of development, please indicate its land use.
- (a) residential use _____
(b) commercial use _____
(c) industrial development _____
(d) residential and industrial use _____
(e) residential and commercial use _____
(f) commercial and industrial use _____
(g) Highway-oriented commercial use _____
(h) other (please specify) _____

INFORMATION REQUESTED

1. Please attach copies of any Commission policy statement or regulations governing interchange areas.
2. Please attach a copy of current land use map or current zoning map of your city or county. (If it is to be charged please bill me).

COMMENTS ON INTERCHANGE PROBLEM:

Our City Zoning includes only
the area within the City limits.

These limits are 1/2 mile or more
from I-70 and we have
control over every land near
the highway

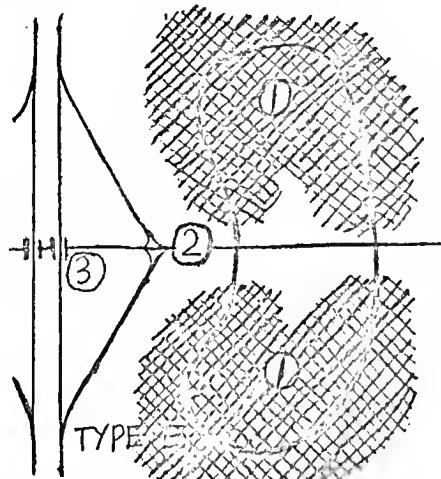
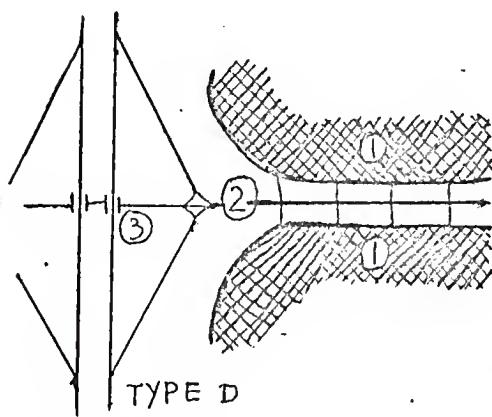
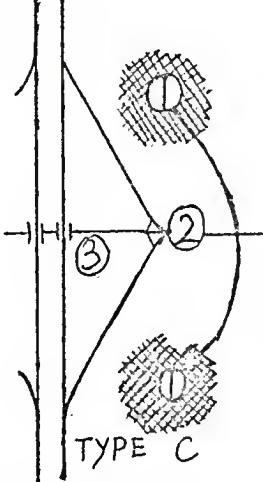
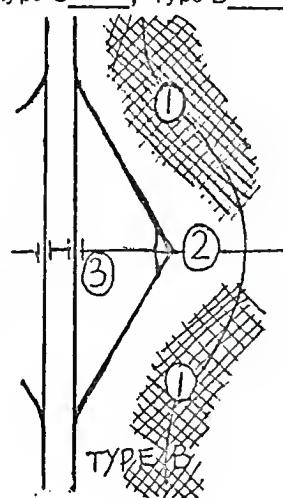
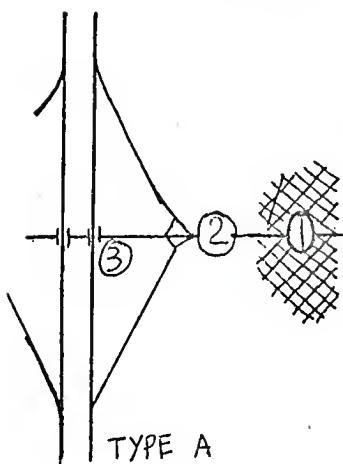
Neil Belich
Chairman

Cubley

1. In Interstate Highway 70 near your city (or in your city) do your plans call for providing any road side protection or land use control measures in the areas surrounding the freeway interchanges or along the roads that will serve as feeders or crossroads to the Interstate System roads?
2. If so, is this done or will this be done through
 - (a) driveway permit system on the feeder roads?
 - (b) access controls on the feeder road?
 - (c) zoning the surrounding area?
if so., would you please attach a copy of the zoning provisions.
 - (d) subdivision control?
If so, how?
- (e) condemnation or purchase of development right?
- (f) condemnation of excess land in the interchange area?
- (g) other devices? if so, what?
3. Does your city have any regulations relating to driveway curb-cuts on the feeder roads within a certain distance of the interstate highway 70 interchange?
yes _____, please specify the distance _____.
no _____.
4. How far is the set-back line from Interstate Highway 70 right-of-way and/or its feeder road?
Interstate Highway right-of-way _____ feet.
feeder road _____ feet.
5. Is there a specific interchange problem that your city encounters in its connection to the I-70 system?
yes _____. no _____.
Please specify the nature of the problems encountered.

6. In order to promote proper general land use development adjacent the I-70 interchange, there are several possibilities for proper general development around an interchange, which of the following types are now existing surrounding the I-70 interchange area of your city. If none of these types perfectly match, please check the one that most closely corresponds to one of the other types; please indicate if you did this.

type A , type B , type C , Type D , type E



LEGEND

1. Development

2. Access Restriction

3. Any Interchange

7. If you mark any one of the foregoing types of development, please indicate its land use.
- (a) residential use _____
- (b) commercial use _____
- (c) industrial development _____
- (d) residential and industrial use _____
- (e) residential and commercial use _____
- (f) commercial and industrial use _____
- (g) Highway-oriented commercial use _____
- (h) other (please specify) _____

INFORMATION REQUESTED

1. Please attach copies of any Commission policy statement or regulations governing interchange areas.
2. Please attach a copy of current land use map or current zoning map of your city or county. (If it is to be charged please bill me).

COMMENTS ON INTERCHANGE PROBLEM:

Dear Mr. Hu:

The proximity of the I-70 Interchanges to the city of Oakley, Kansas precludes Zoning by the City. One interchange is two miles from the city and the other four miles. The two interchanges are in two adjoining counties and I very much doubt that the counties have zoning ordinances that actually pin-point the interchanges.

Sincerely,



B. C. Scriven - City Clerk
Oakley, Kansas

QUESTIONNAIRE

1. In Interstate Highway 70 near your city (or in your city) do your plans call for providing any road side protection or land use control measures in the areas surrounding the freeway interchanges or along the roads that will serve as feeders or crossroads to the Interstate System roads? 57

2. If so, is this done or will this be done through

(a) driveway permit system on the feeder roads?

(b) access controls on the feeder road?

(c) zoning the surrounding area?

If so., would you please attach a copy of the zoning provisions for Highway Zone District

(d) subdivision control?

If so, how?

Sub. Dimension Regulations

(e) condemnation or purchase of development right?

(f) condemnation of excess land in the interchange area?

(g) other devices? if so, what?

3. Does your city have any regulations relating to driveway curb-cuts on the feeder roads within a certain distance of the interstate highway 70 interchange?

yes _____, please specify the distance _____.

no _____, This is handled by City Charter.

4. How far is the set-back line from Interstate Highway .70 right-of-way and/or its feeder road?.

Interstate Highway right-of-way _____ feet.

feeder road _____ feet.

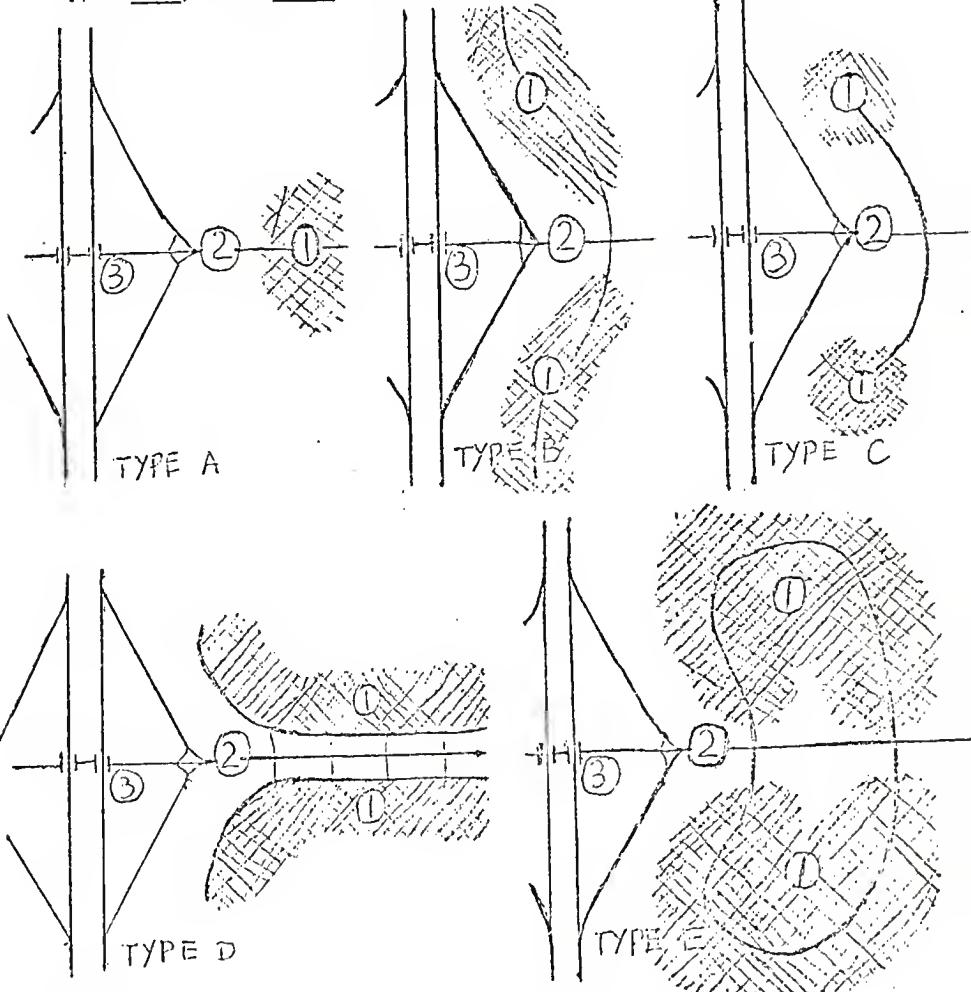
5. Is there a specific interchange problem that your city encounters in its connection to the I-70 system?

yes _____, no

Please specify the nature of the problems encountered.

6. In order to promote proper general land use development adjacent the I-70 ⁵⁸ interchange, there are several possibilities for proper general development around an interchange, which of the following types are now existing surrounding the I-70 interchange area of your city. If none of these types perfectly match, please check the one that most closely corresponds to one of the other types; please indicate if you did this.

type A , type B , type C , Type D , type E ,



LEGEND

1. Development

2. Access Restriction

3. Any Interchange

7. If you mark any one of the foregoing types of development, please indicate its land use.

- (a) residential use _____
- (b) commercial use _____
- (c) industrial development _____
- (d) residential and industrial use _____
- (e) residential and commercial use _____
- (f) commercial and industrial use _____
- (g) Highway-oriented commercial use _____
- (h) other (please specify) _____

INFORMATION REQUESTED

1. Please attach copies of any Commission policy statement or regulations governing interchange areas.
2. Please attach a copy of current land use map or current zoning map of your city or county. (If it is to be charged please bill me).

COMMENTS ON INTERCHANGE PROBLEM:

Attached is copy of our 3-mile
interchange zone maps.
Signs - ingress & egress site is handled
by State
Please feel free to contact us if you
have any questions.

R.D. Green
Zoning Admin.

THE RUSSELL DAILY NEWS

60

RUSSELL COUNTY'S LEADING NEWSPAPER

• RUSSELL T. TOWNSLEY

PUBLISHER

• ALLAN D. EVANS

GENERAL MANAGER

RUSSELL, KANSAS 67665

15 Jan., 1975

She Dean Yu
A-1 Jardine Terrace
Manhattan, Kan., 66502

Mr. Yu

Your questionnaire about planning and zoning in connection with Interstate 70 is returned herewith. It was completed by Jim Hoffman, city inspector.

As you understand, each city has different policies to meet the different problems posed by route location, city limits and other factors over which there is little real control.

We are also enclosing a copy of the zoning and subdivision regulations which includes a map of the highway interchange area and shows zoning.

I have been working with planning in Russell in a citizen commission-member capacity since the early 1950's and have not yet been able to come up with a plan or a program which can be used to guide and direct future growth. People go where there is traffic, where they can buy land cheap, where they can have the view or neighborhood they want or any of many other equally unpredictable reasons.

In the final analysis, zoning is an aid and an effort to preserve and maintain standards but, by its nature, it generally follows, rather than leads, the areas which it serves.

I hope that your questions are answered in this report. If you have additional questions or need more information, please let me know.

Sincerely yours,
Russell T. Townsley

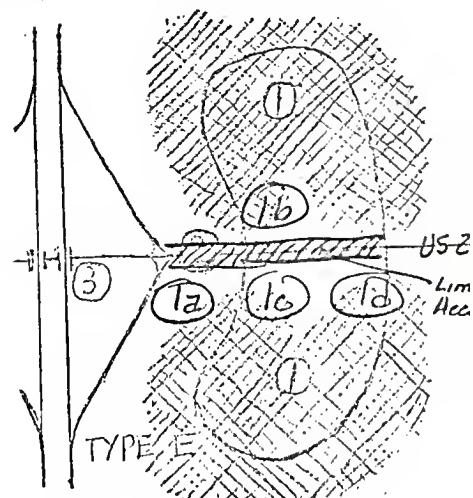
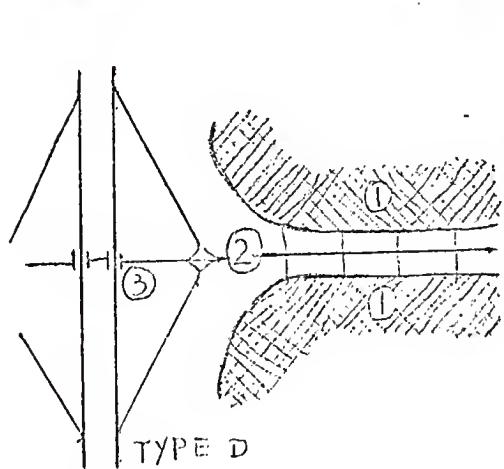
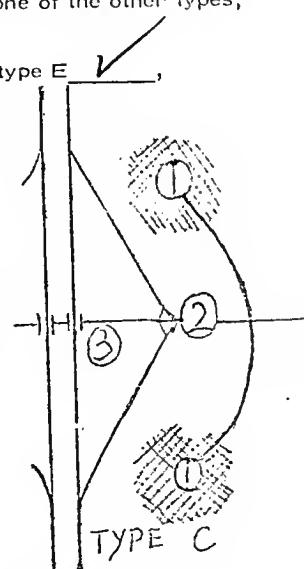
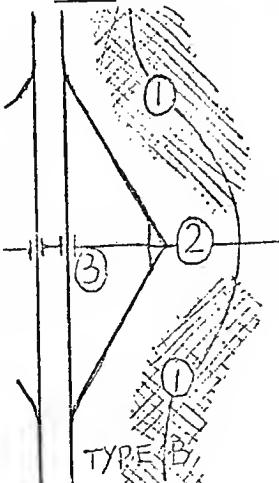
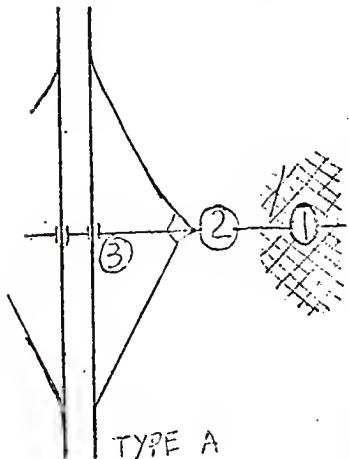
QUESTIONNAIRE

Karen II

1. In Interstate Highway 70 near your city (or in your city) do your plans call for providing any road side protection or land use control measures in the areas surrounding the freeway interchanges or along the roads that will serve as feeders or crossroads to the Interstate System roads? **Yes** 61
2. If so, is this done or will this be done through
(a) driveway permit system on the feeder roads? ✓
(b) access controls on the feeder road? - *State Highway controlled access by deed.*
(c) zoning the surrounding area? ✓
if so., would you please attach a copy of the zoning provisions for Highway Zone District
(d) subdivision control? ✓
if so, how? *By Subdivision regulations which have been adopted.*
- (e) condemnation or purchase of development right?
(f) condemnation of excess land in the interchange area?
(g) other devices? if so, what?
3. Does your city have any regulations relating to driveway curb-cuts on the feeder roads within a certain distance of the interstate highway 70 interchange?
yes _____, please specify the distance
no X. *These are controlled by State Highway Comm. thru deed restrictions.*
4. How far is the set-back line from Interstate Highway 70 right-of-way and/or its feeder road?
Interstate Highway right-of-way _____ feet. } *Varies*
feeder road _____ feet.
5. Is there a specific interchange problem that your city encounters in its connection to the I-70 system?
yes _____, no X.
Please specify the nature of the problems encountered.

6. In order to promote proper general land use development adjacent the I-70₆₂ interchange, there are several possibilities for proper general development around an interchange, which of the following types are now existing surrounding the I-70 interchange area of your city. If none of these types perfectly match, please check the one that most closely corresponds to one of the other types; please indicate if you did this.

type A , type B , type C , Type D , type E ,



LEGEND

1. Development

2. Access Restriction

3. Any Interchange



7. If you mark any one of the foregoing types of development, please indicate its land use.

(a) residential use _____

(b) commercial use 1b & 1d

(c) industrial development _____

(d) residential and industrial use _____

(e) residential and commercial use _____

(f) commercial and industrial use _____

(g) Highway-oriented commercial use 1a

(h) other (please specify) 1c - Agriculture

INFORMATION REQUESTED

1. Please attach copies of any Commission policy statement or regulations governing interchange areas.
2. Please attach a copy of current land use map or current zoning map of your city or county. (If it is to be charged please bill me).

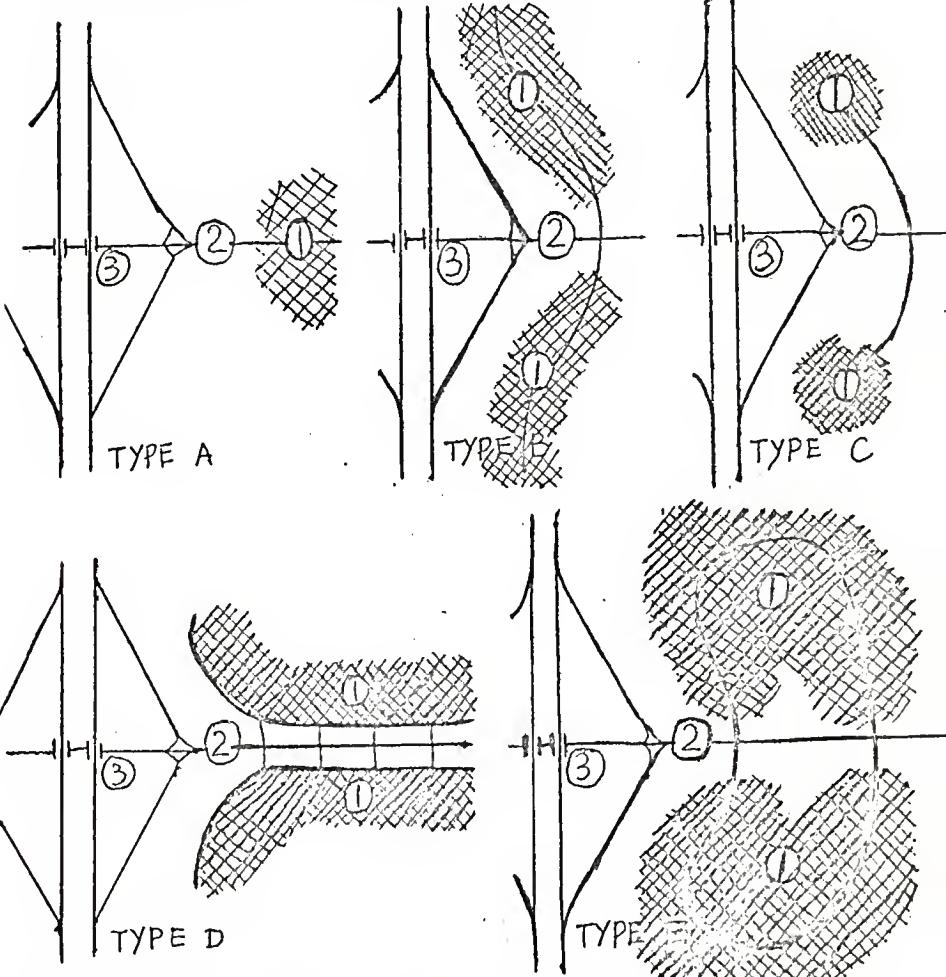
COMMENTS ON INTERCHANGE PROBLEM:

QUESTIONNAIRE

1. In Interstate Highway 70 near your city (or in your city) do your plans call for providing any road side protection or land use control measures in the areas surrounding the freeway interchanges or along the roads that will serve as feeders or crossroads to the Interstate System roads?
No
2. If so, is this done or will this be done through
- (a) driveway permit system on the feeder roads?
 - (b) access controls on the feeder road?
 - (c) zoning the surrounding area?
If so., would you please attach a copy of the zoning provisions.
 - (d) subdivision control?
If so, how?
- (e) condemnation or purchase of development right?
- (f) condemnation of excess land in the interchange area?
- (g) other devices? if so, what?
3. Does your city have any regulations relating to driveway curb-cuts on the feeder roads within a certain distance of the interstate highway 70 interchange?
yes _____, please specify the distance _____.
no X. *State controls curb cuts on State Highway*
4. How far is the set-back line from Interstate Highway 70 right-of-way and/or its feeder road?
Interstate Highway right-of-way _____ feet.
feeder road _____ feet.
5. Is there a specific interchange problem that your city encounters in its connection to the I-70 system?
yes _____, no X.
Please specify the nature of the problems encountered.

6. In order to promote proper general land use development adjacent the I-70 interchange, there are several possibilities for proper general development around an interchange, which of the following types are now existing surrounding the I-70 interchange area of your city. If none of these types perfectly match, please check the one that most closely corresponds to one of the other types; please indicate if you did this.

type A , type B , type C , Type D , type E ,



LEGEND:

1. Development

2. Access Restriction

3. Any Interchange

7. If you mark any one of the foregoing types of development, please indicate its land use.

(a) residential use _____

(b) commercial use _____

(c) industrial development _____

(d) residential and industrial use _____

(e) residential and commercial use X

(f) commercial and industrial use _____

(g) Highway-oriented commercial use _____

(h) other (please specify) _____

INFORMATION REQUESTED

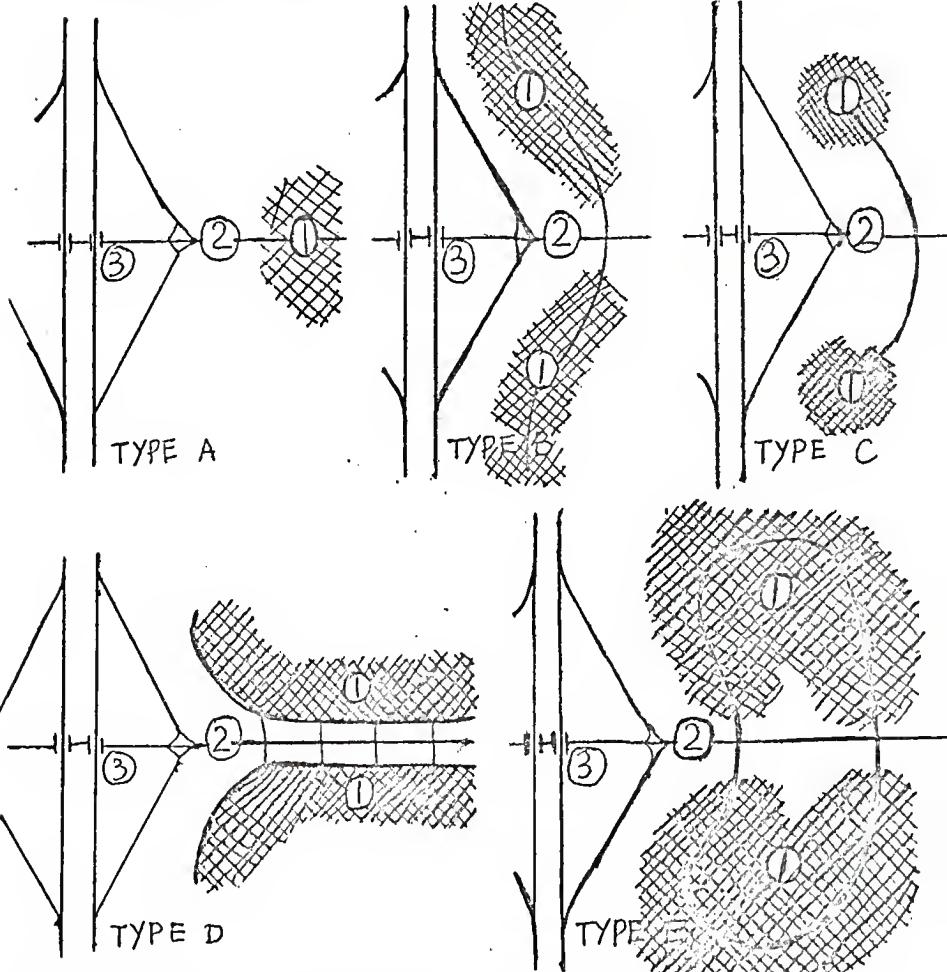
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COMMENTS ON INTERCHANGE PROBLEM:

1. In Interstate Highway 70 near your city (or in your city) do your plans call for providing any road side protection or land use control measures in the areas surrounding the freeway interchanges or along the roads that will serve as feeders or crossroads to the Interstate System roads?
2. If so, is this done or will this be done through
 - (a) driveway permit system on the feeder roads?
 - (b) access controls on the feeder road?
 - (c) zoning the surrounding area?
if so., would you please attach a copy of the zoning provisions.
 - (d) subdivision control?
If so, how?
- (e) condemnation or purchase of development right?
- (f) condemnation of excess land in the interchange area?
- (g) other devices? if so, what?
3. Does your city have any regulations relating to driveway curb-cuts on the feeder roads within a certain distance of the interstate highway 70 interchange?
yes _____, please specify the distance _____.
no _____.
4. How far is the set-back line from Interstate Highway 70 right-of-way and/or its feeder road?
Interstate Highway right-of-way _____ feet.
feeder road _____ feet.
5. Is there a specific interchange problem that your city encounters in its connection to the I-70 system?
yes _____. no _____.
Please specify the nature of the problems encountered.

6. In order to promote proper general land use development adjacent the I-70 interchange, there are several possibilities for proper general development around an interchange, which of the following types are now existing surrounding the I-70 interchange area of your city. If none of these types perfectly match, please check the one that most closely corresponds to one of the other types; please indicate if you did this.

type A , type B , type C , Type D , type E



LEGEND:

1. Development

2. Access Restriction

3. Any Interchange

7. If you mark any one of the foregoing types of development, please indicate its land use.
- (a) residential use _____
- (b) commercial use _____
- (c) industrial development _____
- (d) residential and industrial use _____
- (e) residential and commercial use _____
- (f) commercial and industrial use _____
- (g) Highway-oriented commercial use _____
- (h) other (please specify) _____

INFORMATION REQUESTED

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2. Please attach a copy of current land use map or current zoning map of your city or county. (If it is to be charged please bill me).

COMMENTS ON INTERCHANGE PROBLEM:

QUESTIONNAIRE

1. In Interstate Highway 70 near your city (or in your city) do your plans call for providing any road side protection or land use control measures in the areas surrounding the freeway interchanges or along the roads that will serve as feeders or crossroads to the Interstate System roads? 70

2. If so, is this done or will this be done through

(a) driveway permit system on the feeder roads?

(b) access controls on the feeder road?

(c) zoning the surrounding area?

If so, would you please attach a copy of the zoning provisions for Highway Zone District

They are included in our 701
(d) subdivision control? All highway areas district

If so, how?

(e) condemnation or purchase of development right?

(f) condemnation of excess land in the interchange area?

(g) other devices? if so, what?

3. Does your city have any regulations relating to driveway curb-cuts on the feeder roads within a certain distance of the interstate highway 70 interchange?
yes , please specify the distance regulations by state authorizations
no _____.

4. How far is the set-back line from Interstate Highway .70 right-of-way and/or its feeder road?

Interstate Highway right-of-way _____ feet.

feeder road 90 feet.

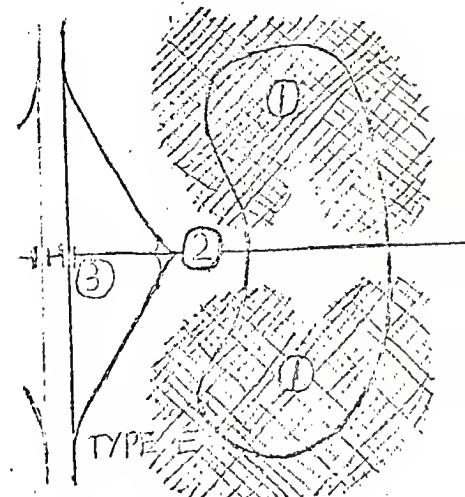
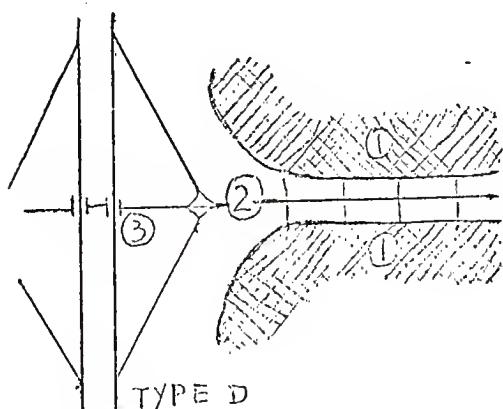
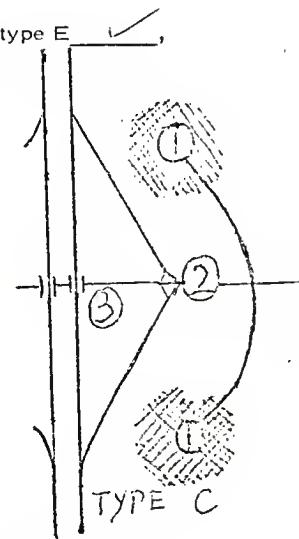
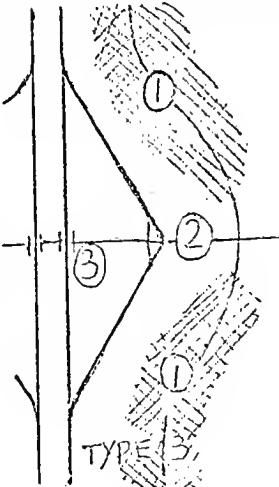
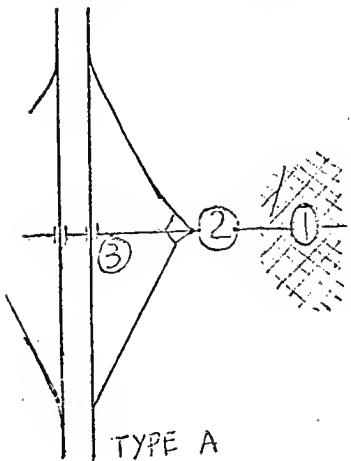
5. Is there a specific interchange problem that your city encounters in its connection to the I-70 system?

yes _____ no

Please specify the nature of the problems encountered.

6. In order to promote proper general land use development adjacent the I-70 interchange, there are several possibilities for proper general development around an interchange, which of the following types are now existing surrounding the I-70 interchange area of your city. If none of these types perfectly match, please check the one that most closely corresponds to one of the other types; please indicate if you did this.

type A____, type B____, type C____, Type D____, type E____,



LEGEND

1. Development 2. Access Restriction 3. Any Interchange

7. If you mark any one of the foregoing types of development, please indicate its land use.
- (a) residential use _____
 - (b) commercial use _____
 - (c) industrial development _____
 - (d) residential and industrial use _____
 - (e) residential and commercial use _____
 - (f) commercial and industrial use _____
 - (g) Highway-oriented commercial use _____
 - (h) other (please specify) _____.

INFORMATION REQUESTED

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2. Please attach a copy of current land use map or current zoning map of your city or county. (If it is to be charged please bill me).

not available

COMMENTS ON INTERCHANGE PROBLEM:

10/13

1. In Interstate Highway 70 near your city (or in your city) do your plans call for providing any road side protection or land use control measures in the areas surrounding the freeway interchanges or along the roads that will serve as feeders or crossroads to the Interstate System roads?

2. If so, is this done or will this be done through

(a) driveway permit system on the feeder roads?

(b) access controls on the feeder road?

(c) zoning the surrounding area?

If so., would you please attach a copy of the zoning provisions for Highway Zone Plan

(d) subdivision control?

If so, how? Zoning }

(e) condemnation or purchase of development right?

(f) condemnation of excess land in the interchange area?

(g) other devices? if so, what?

3. Does your city have any regulations relating to driveway curb-cuts on the feeder roads within a certain distance of the interstate highway 70 interchange?
yes _____, please specify the distance _____.
no

4. How far is the set-back line from Interstate Highway 70 right-of-way and/or its feeder road?

Interstate Highway right-of-way 100' e feet.
feeder road 45' feet.

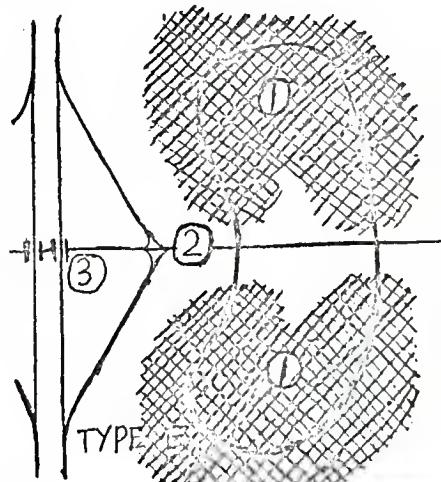
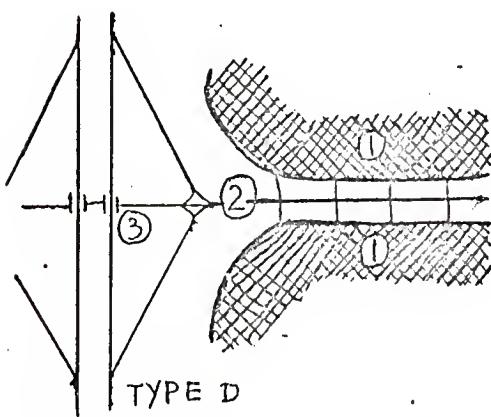
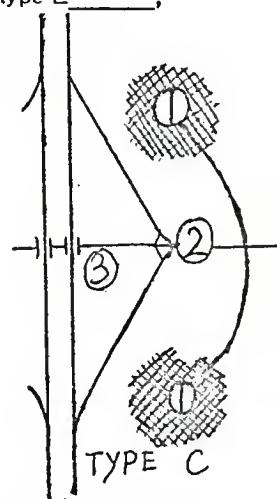
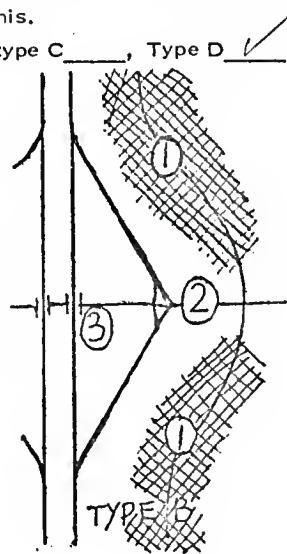
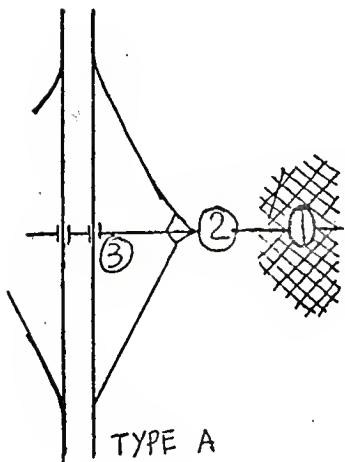
5. Is there a specific interchange problem that your city encounters in its connection to the I-70 system?

yes _____. no .

Please specify the nature of the problems encountered.

6. In order to promote proper general land use development adjacent the I-70 Interchange, there are several possibilities for proper general development around an interchange, which of the following types are now existing surrounding the I-70 interchange area of your city. If none of these types perfectly match, please check the one that most closely corresponds to one of the other types; please indicate if you did this.

type A , type B , type C , Type D , type E ,



LEGEND:

1. Development

2. Access Restriction

3. Any Interchange

7. If you mark any one of the foregoing types of development, please indicate its land use.

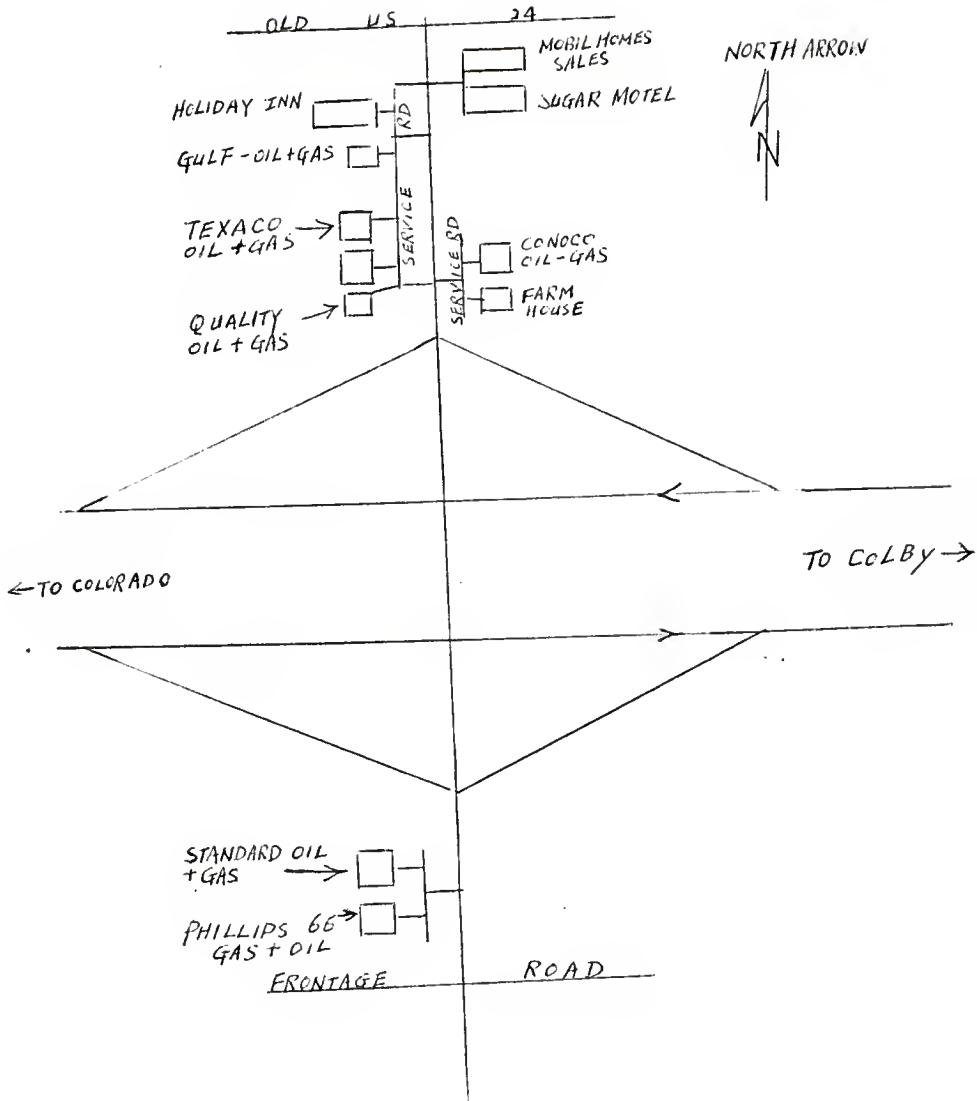
- (a) residential use _____
- (b) commercial use _____
- (c) industrial development _____
- (d) residential and industrial use _____
- (e) residential and commercial use _____
- (f) commercial and industrial use _____
- (g) Highway-oriented commercial use P _____
- (h) other (please specify) _____

INFORMATION REQUESTED

1. Please attach copies of any Commission policy statement or regulations governing interchange areas.
2. Please attach a copy of current land use map or current zoning map of your city or county. (If it is to be charged please bill me).

COMMENTS ON INTERCHANGE PROBLEM:

Appendix C

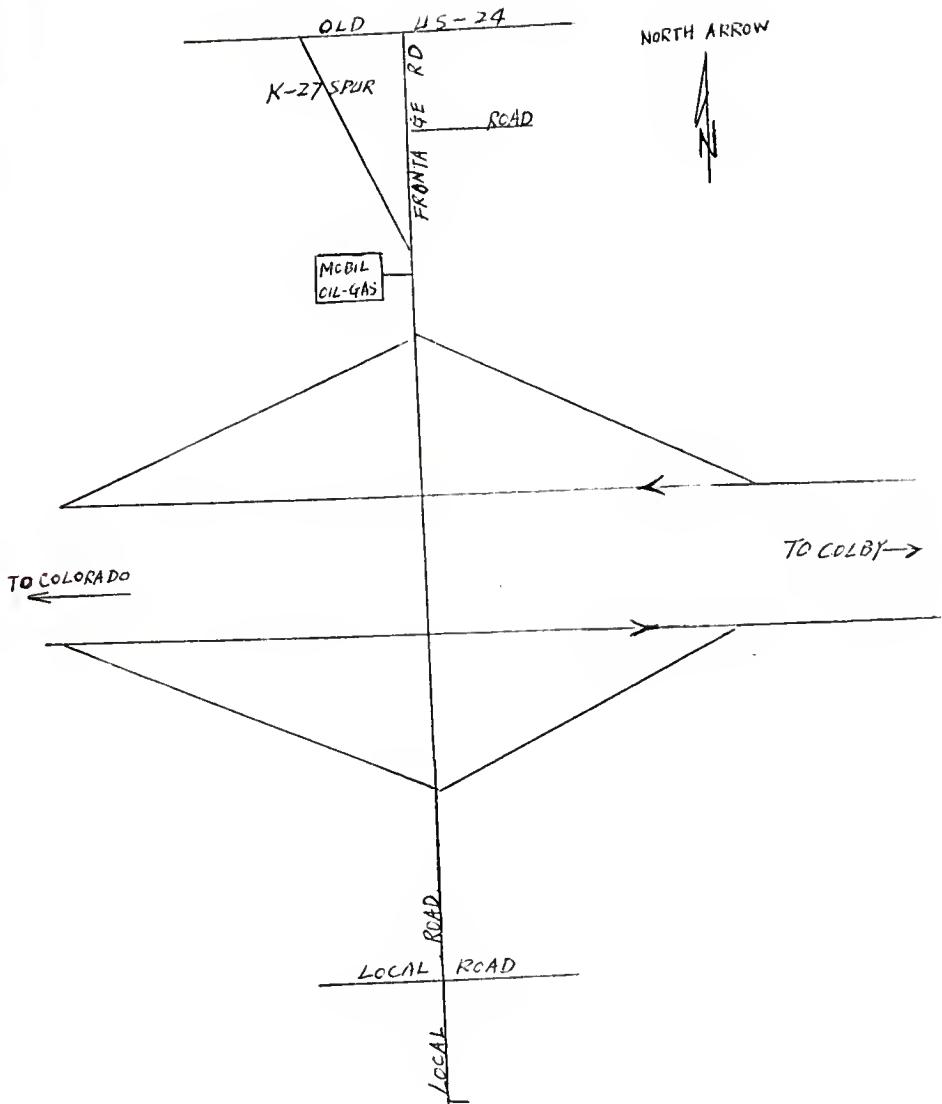


No. 1

ROUTE I - 70

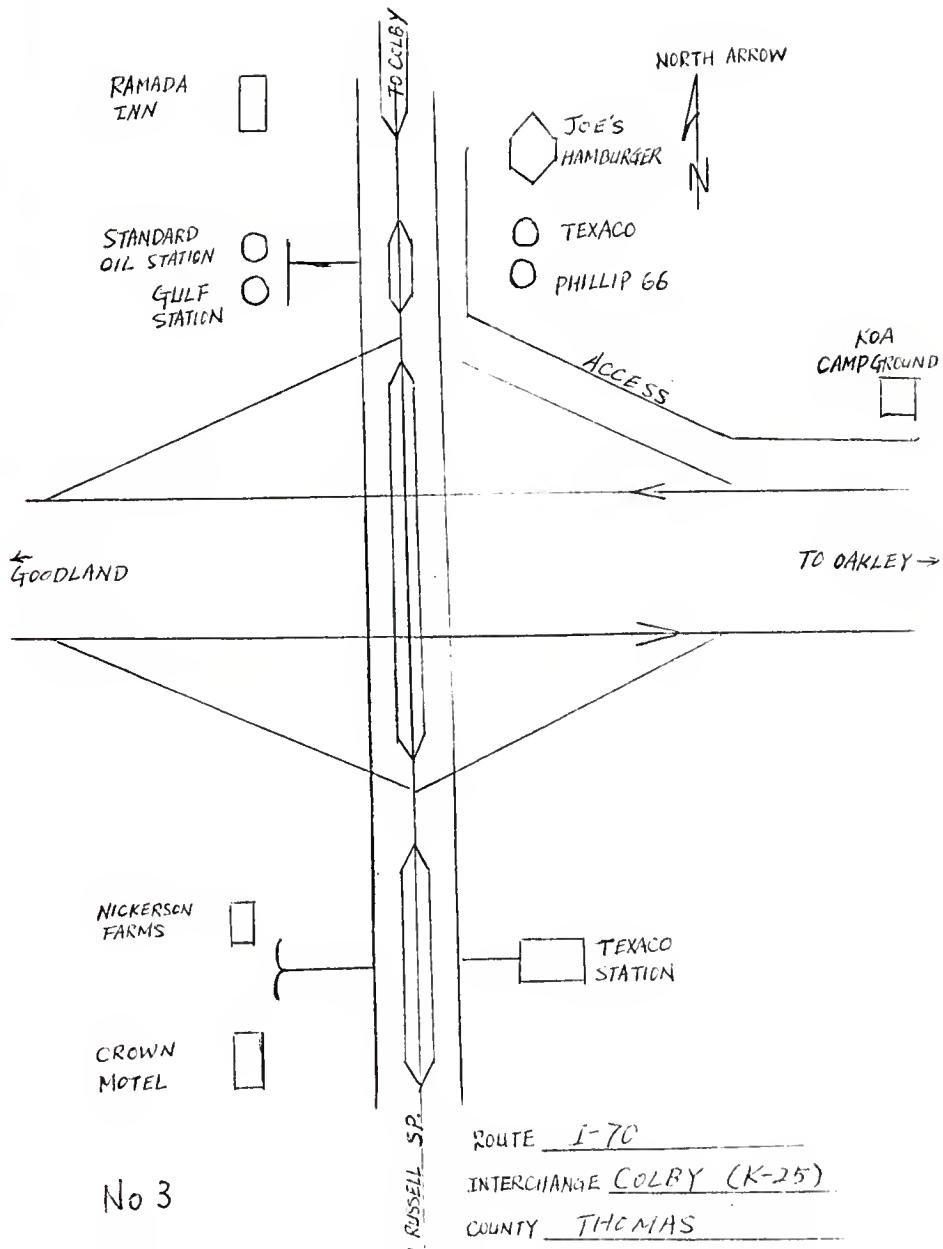
INTERCHANGE WEST GOODLAND (K-27)

COUNTY SHERMAN

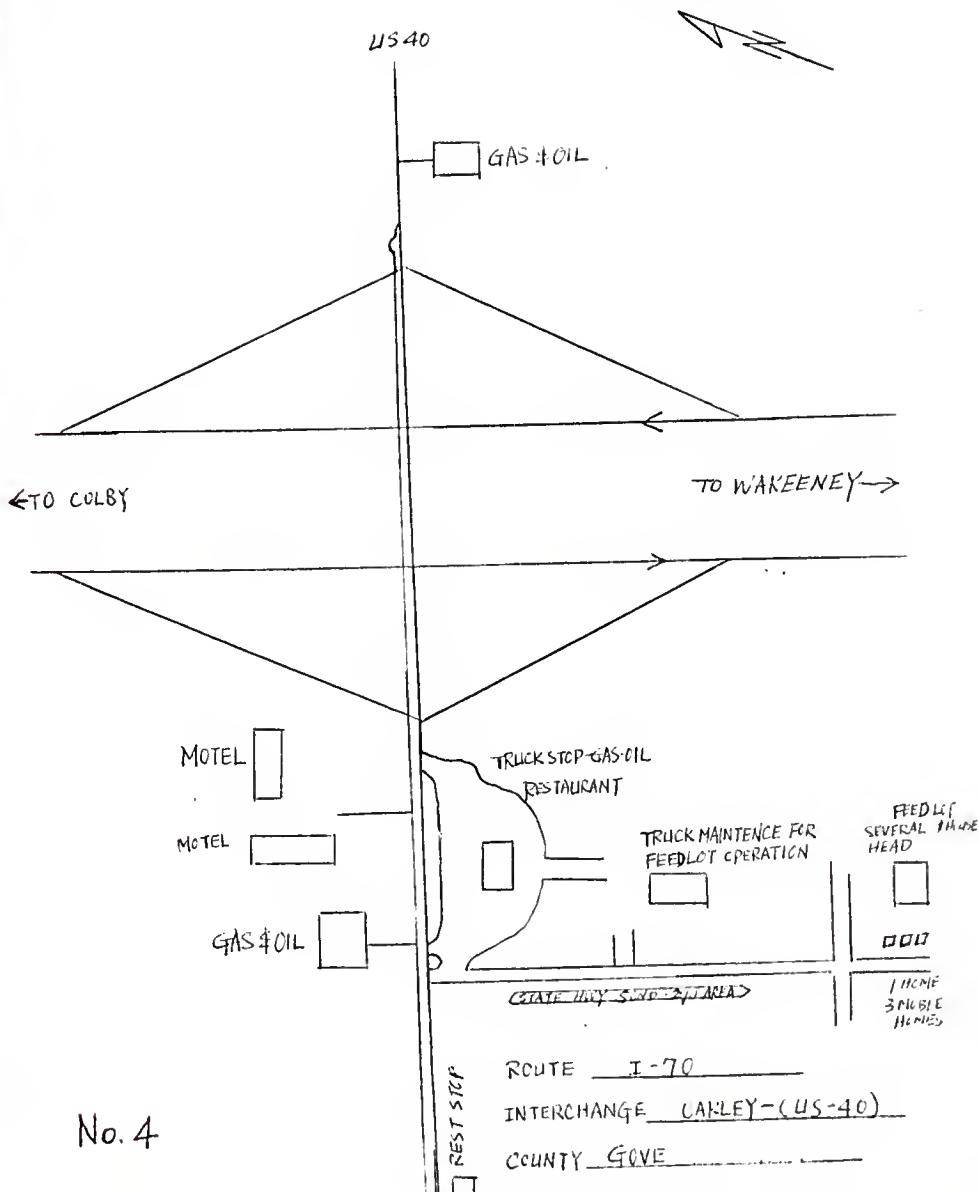


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ROUTE I-70
INTERCHANGE EAST COOPLAND (K-27 SPUR)
COUNTY SHERMAN

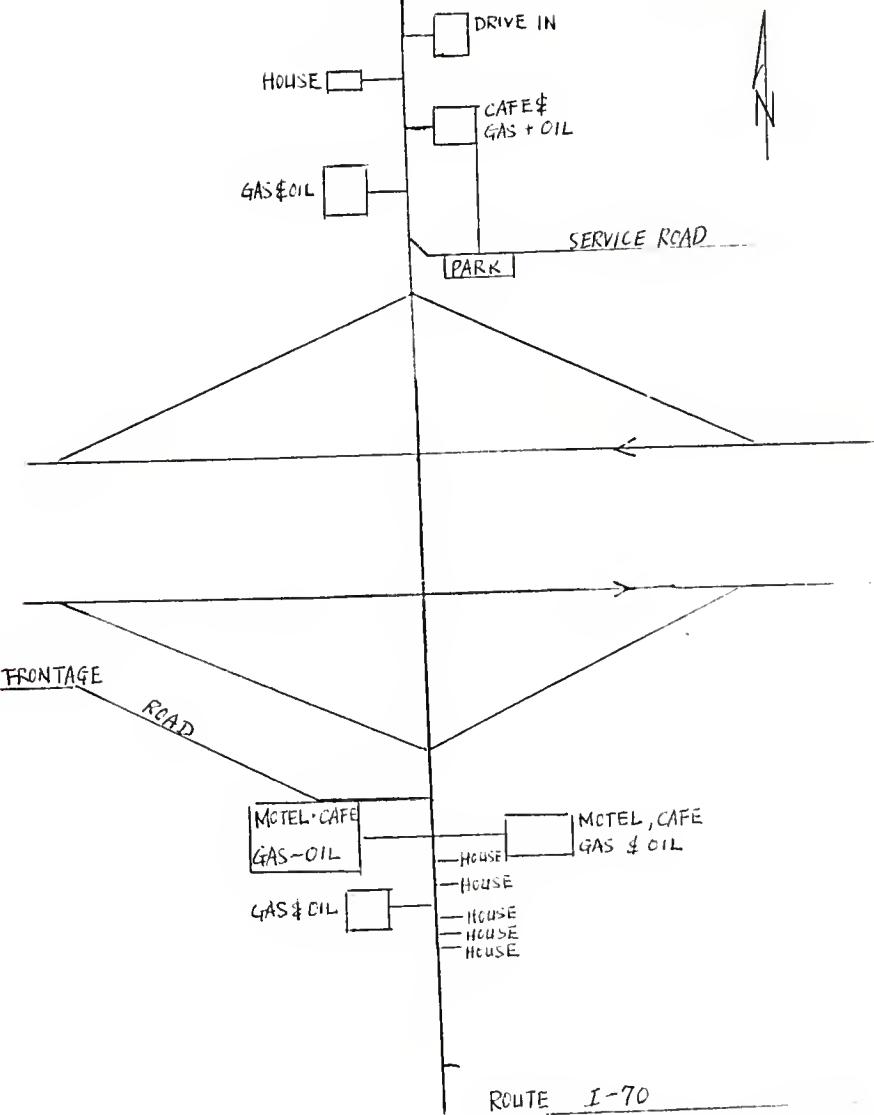


NORTH ARROW

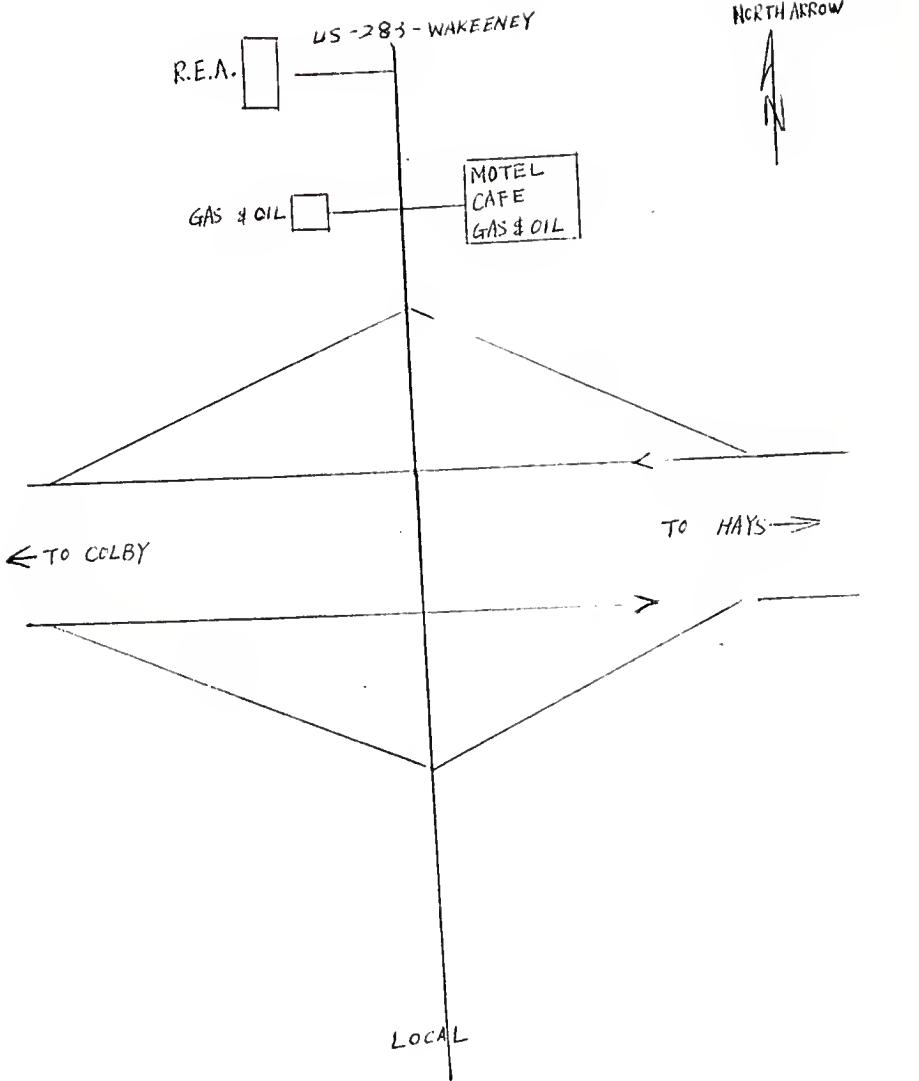


US-283 - WAKEENEY

NORTH ARROW



No. 5



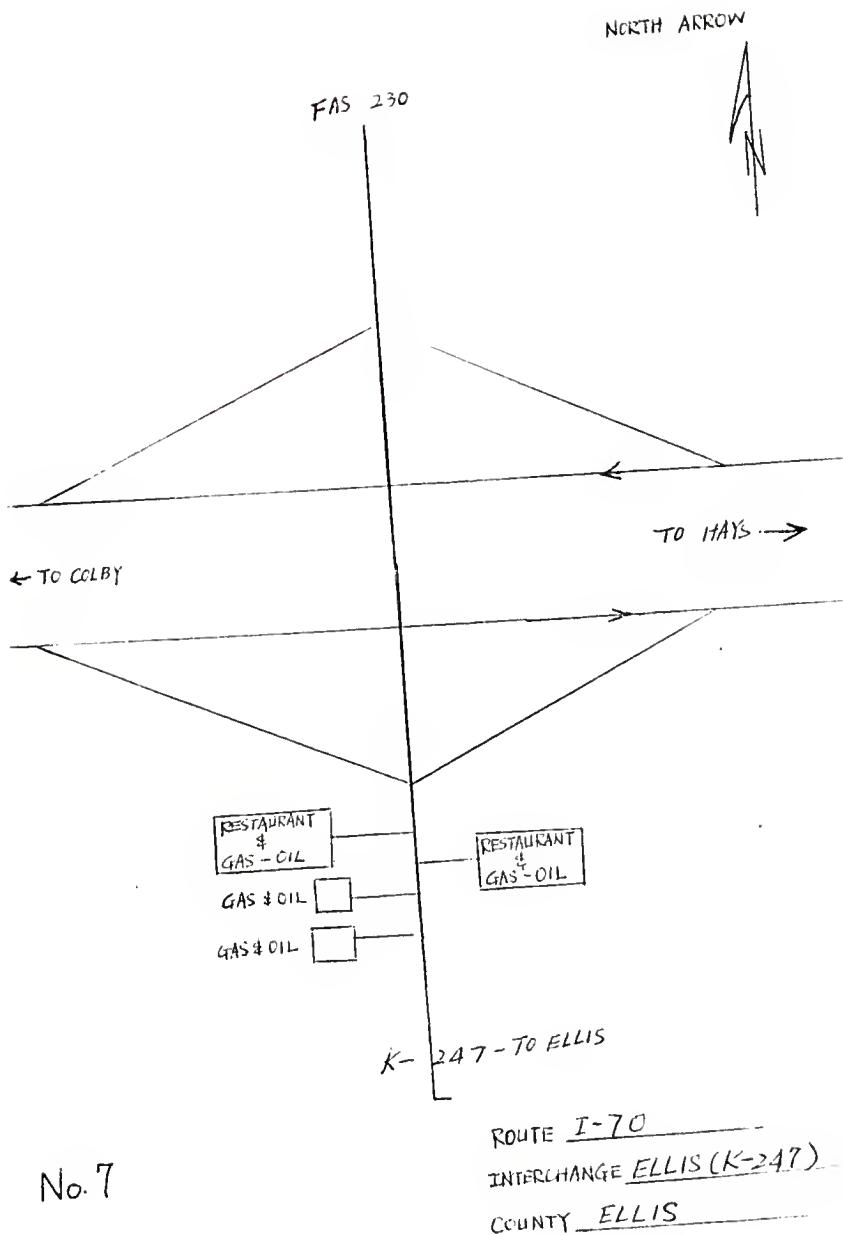
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INTERCHANGE EAST WAKEENEY (US 283)

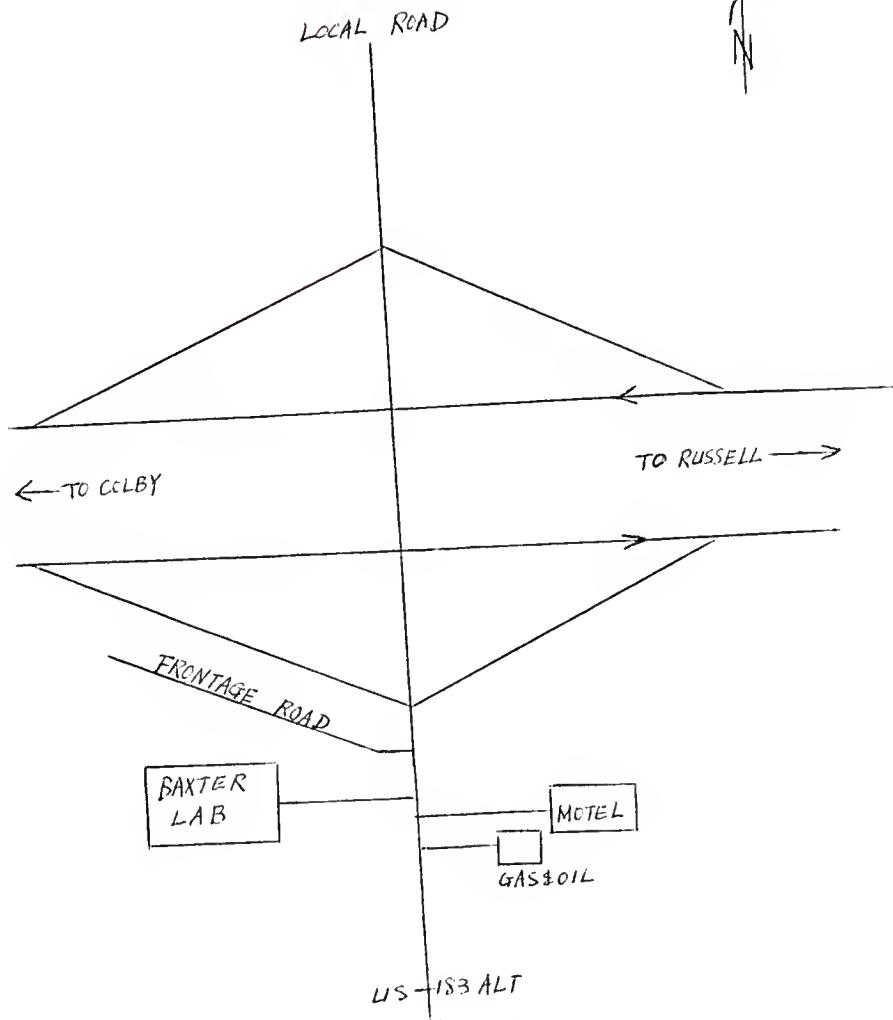
COUNTY TREGG

SPUR

No. 6



NORTH ARROW

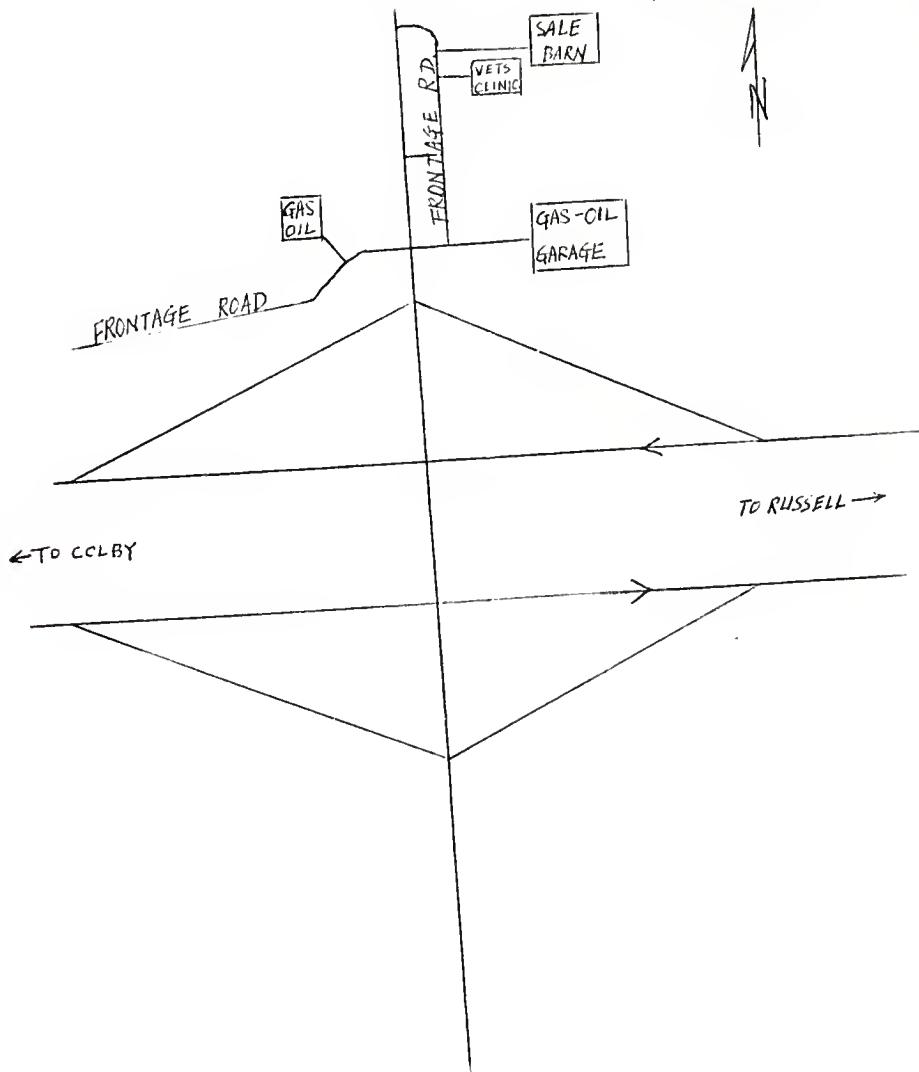


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INTERCHANGE WEST HAYS (US-183 ALT)
COUNTY ELLIS

US 183

NORTH ARROW

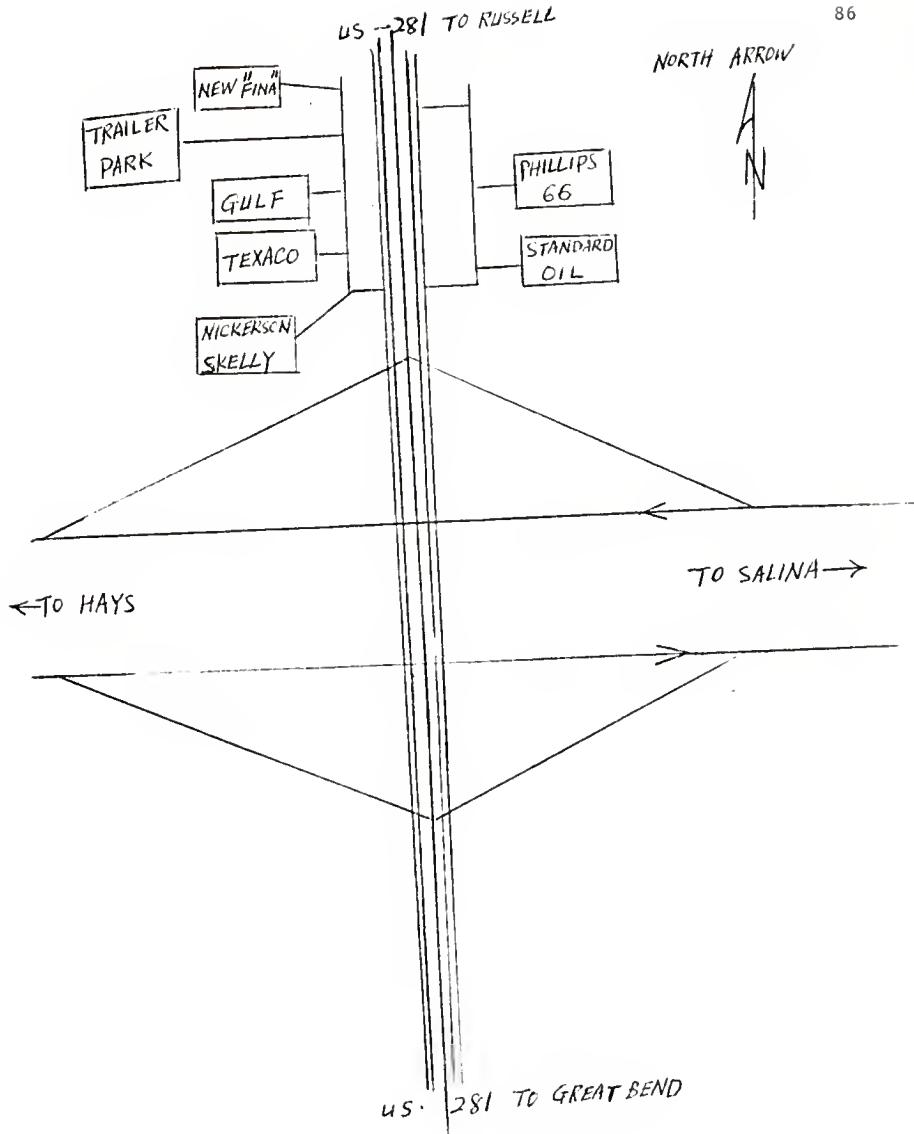


No. 9

ROUTE J-70

INTERCHANGE EAST HAYS (US-183)

COUNTY ELLIS

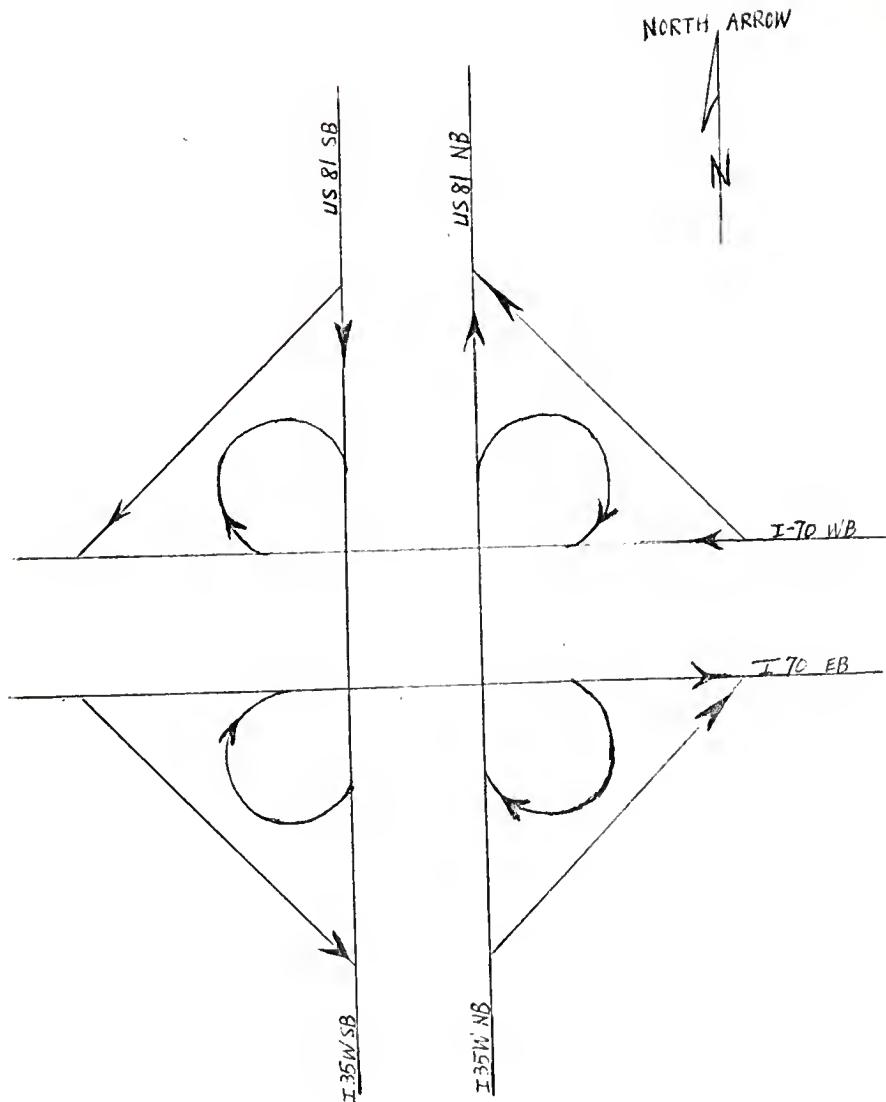


No. 10

ROUTE I-70

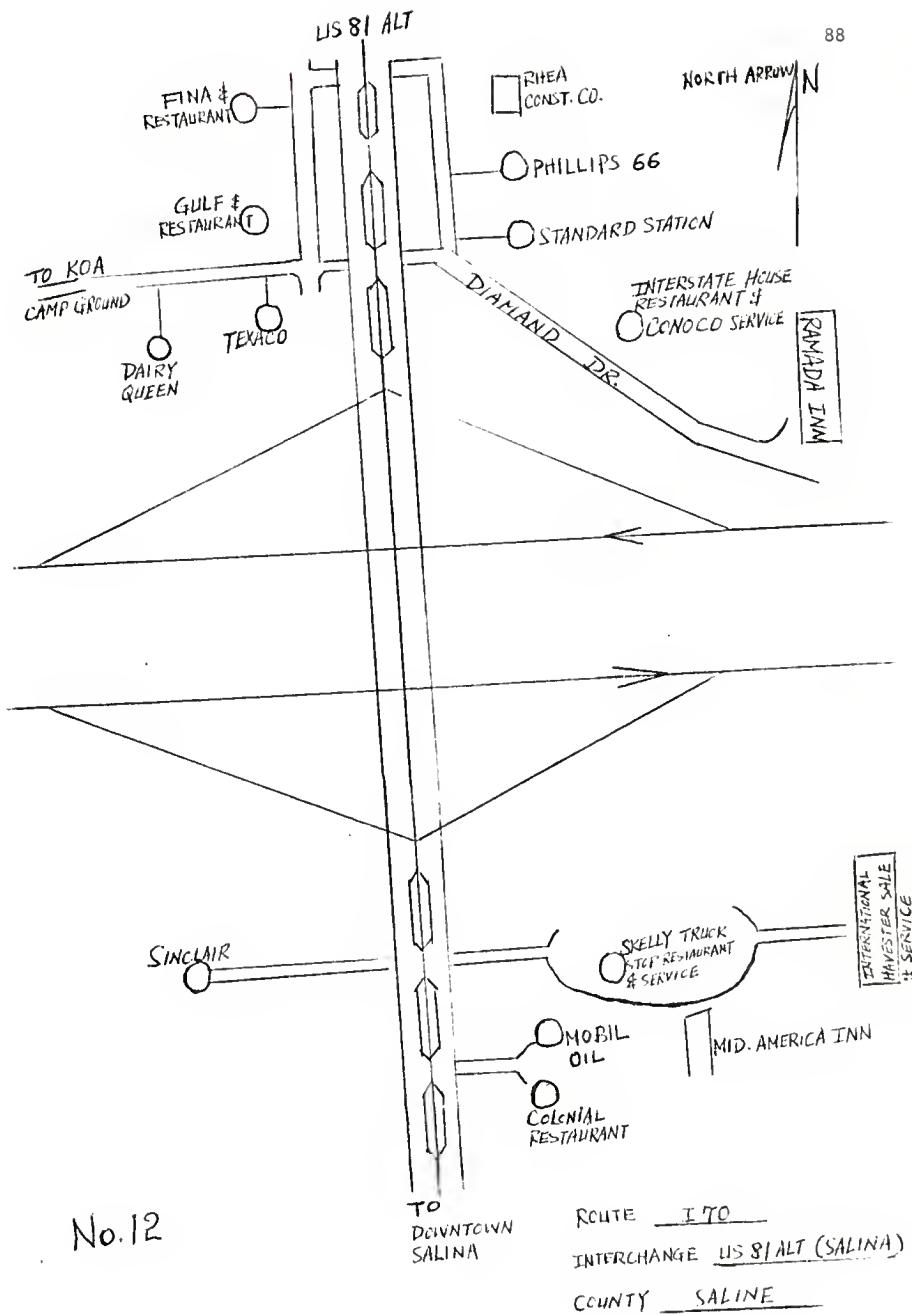
INTERCHANGE RUSSELL (U.S. 281)

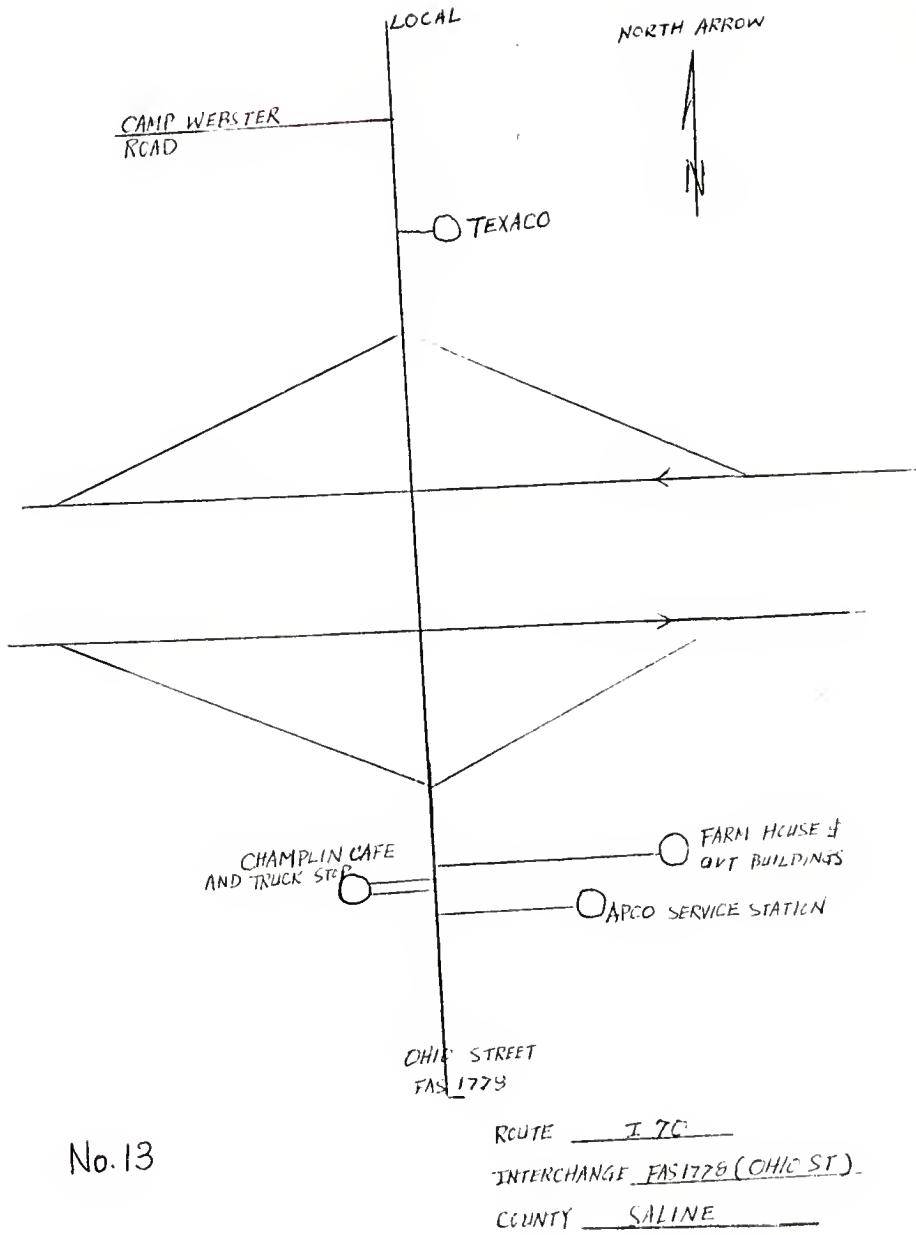
COUNTY RUSSELL

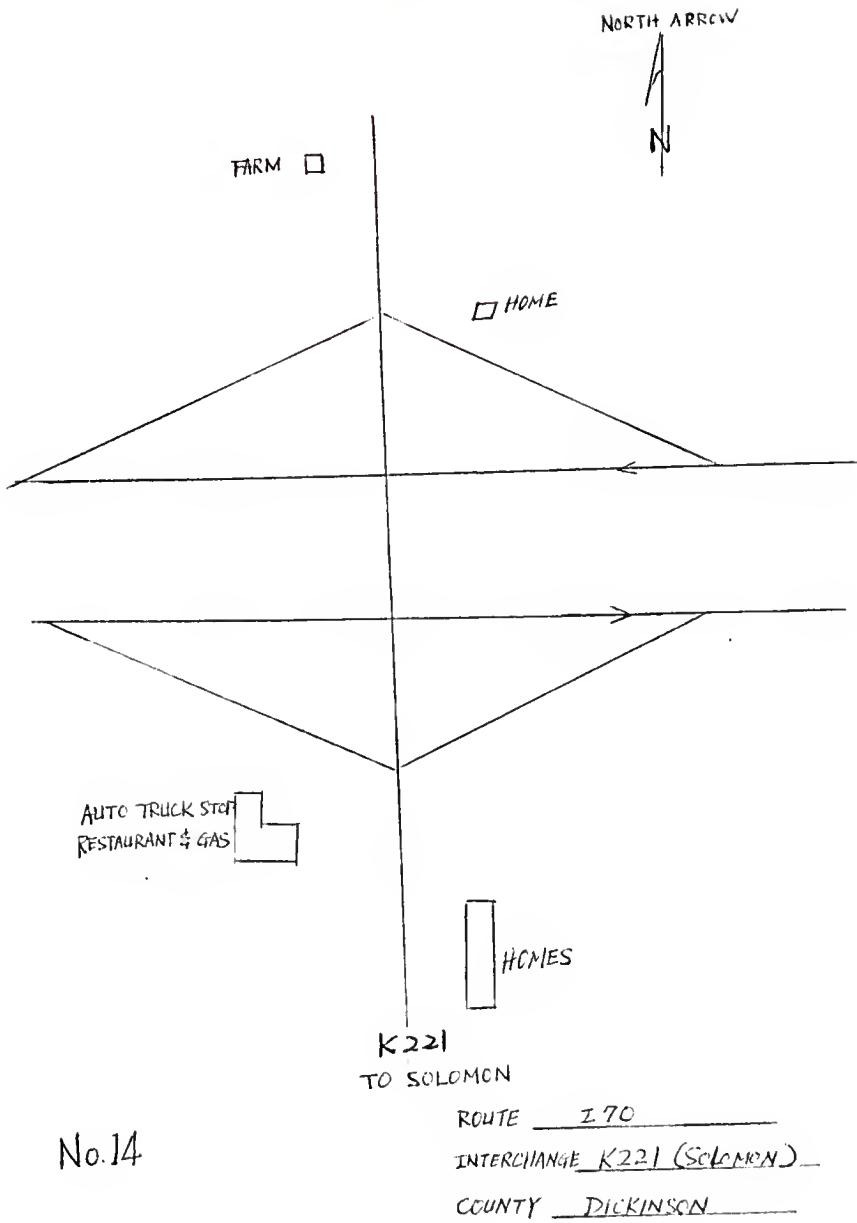


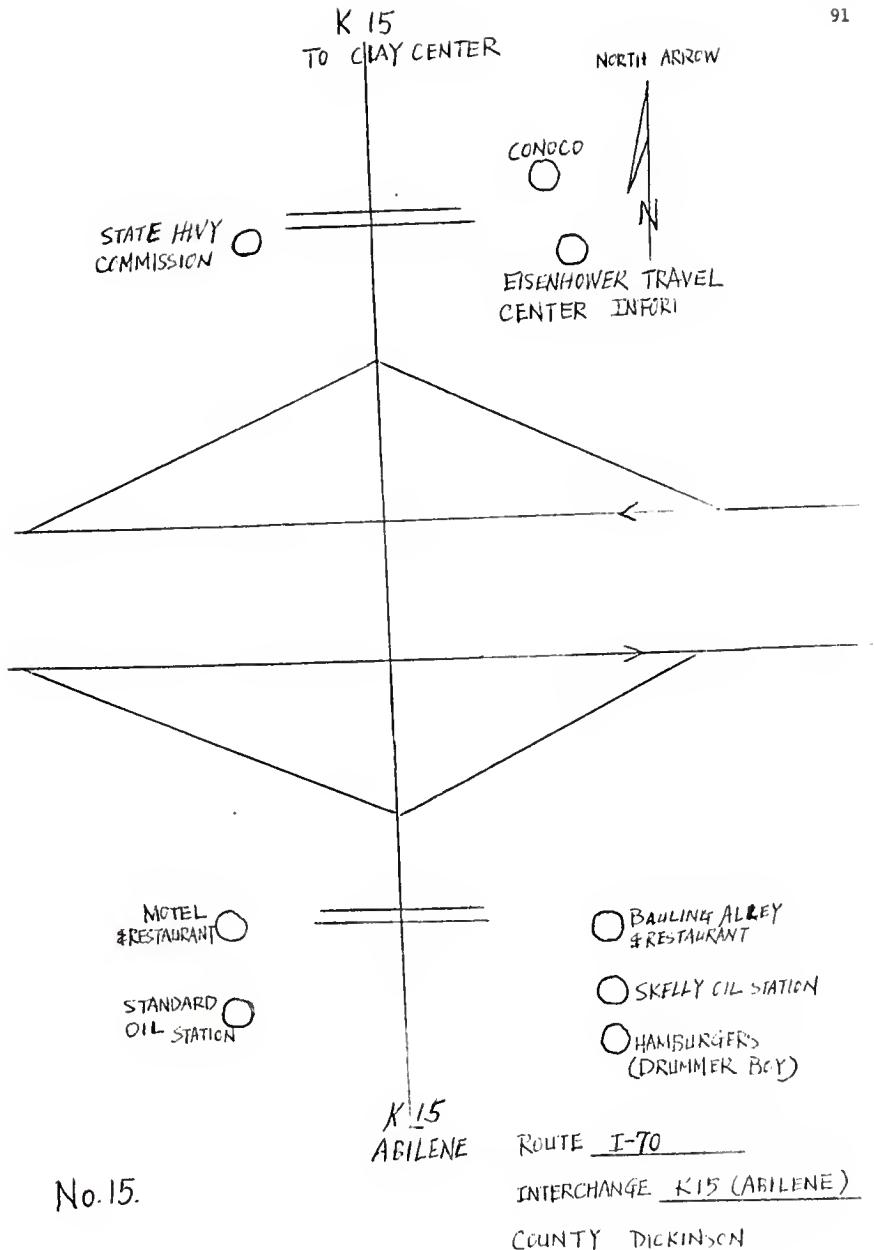
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ROUTE I-70
INTERCHANGE I-35W & US 81.
COUNTY SALINE.

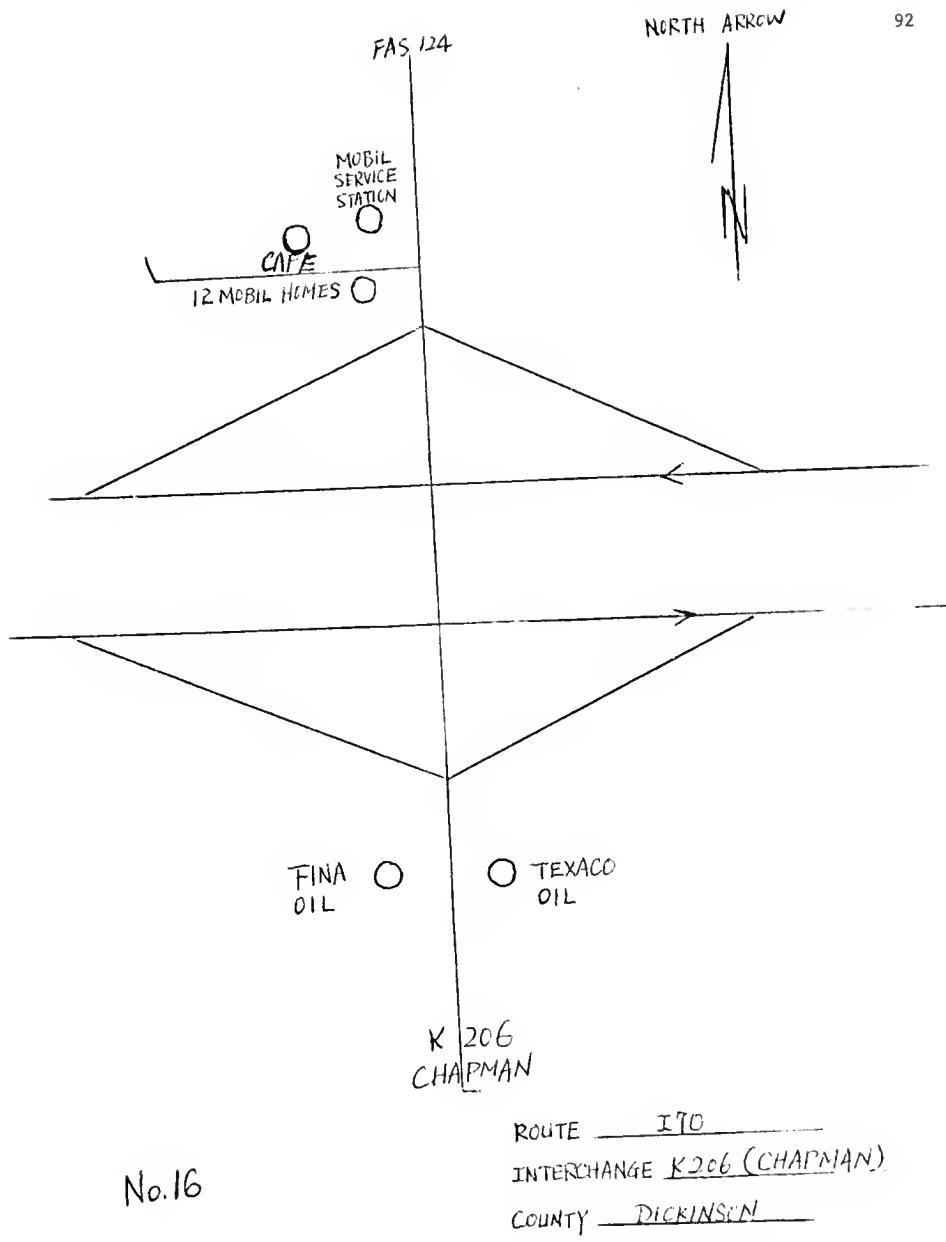




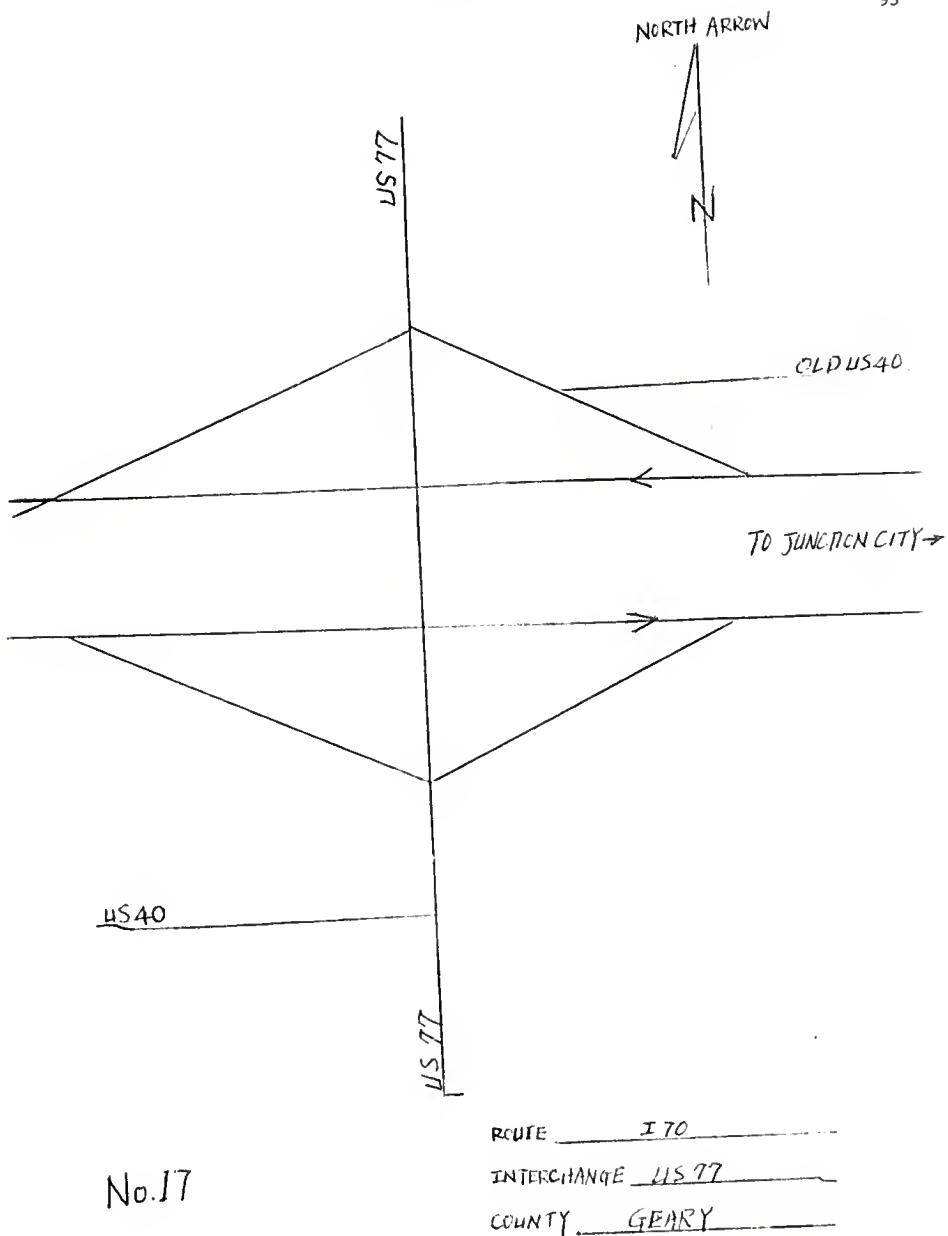




No. 15.



No. 16



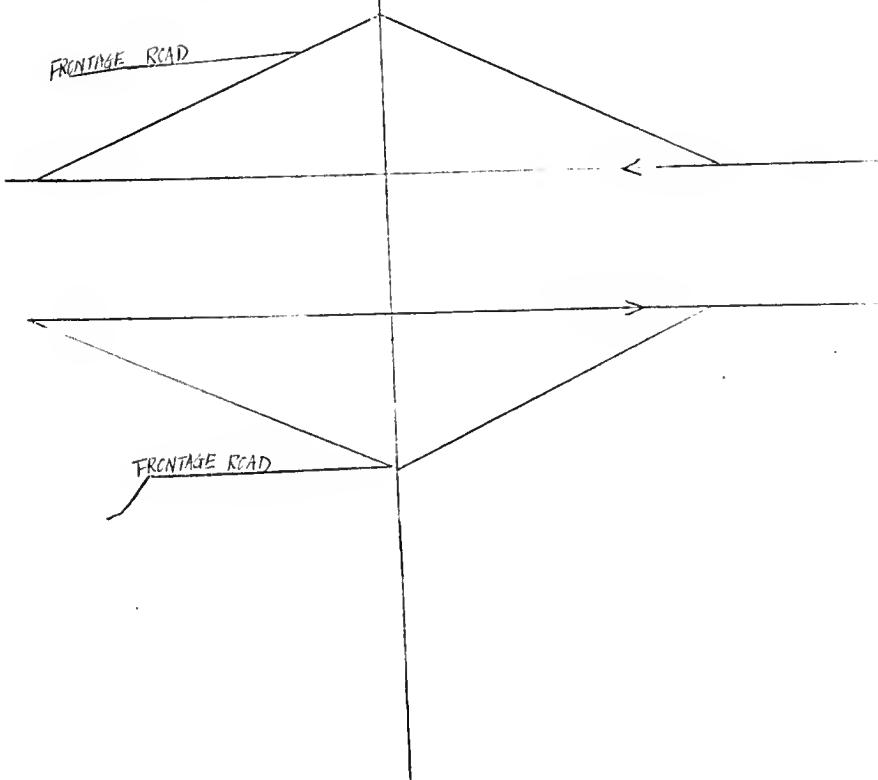
NORTH ARROW

US 77 ALT
TO JUNCTION CITY BUSINESS DISTRICTDERBY
OILSTANDARD
OIL

PHILLIPS 66

RAMADA INN

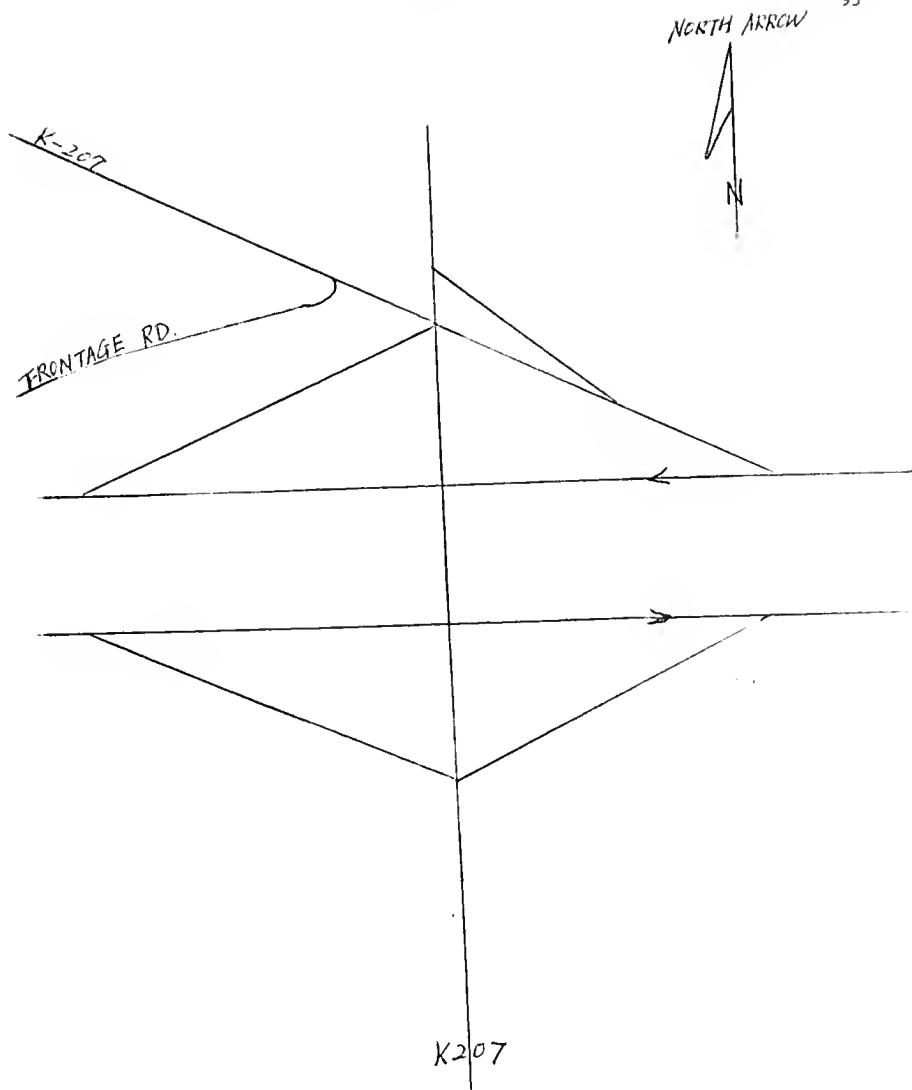
FRONTAGE ROAD



ROUTES I-70

INTERCHANGE US 77 ALT (Junction City)
COUNTY GEARY

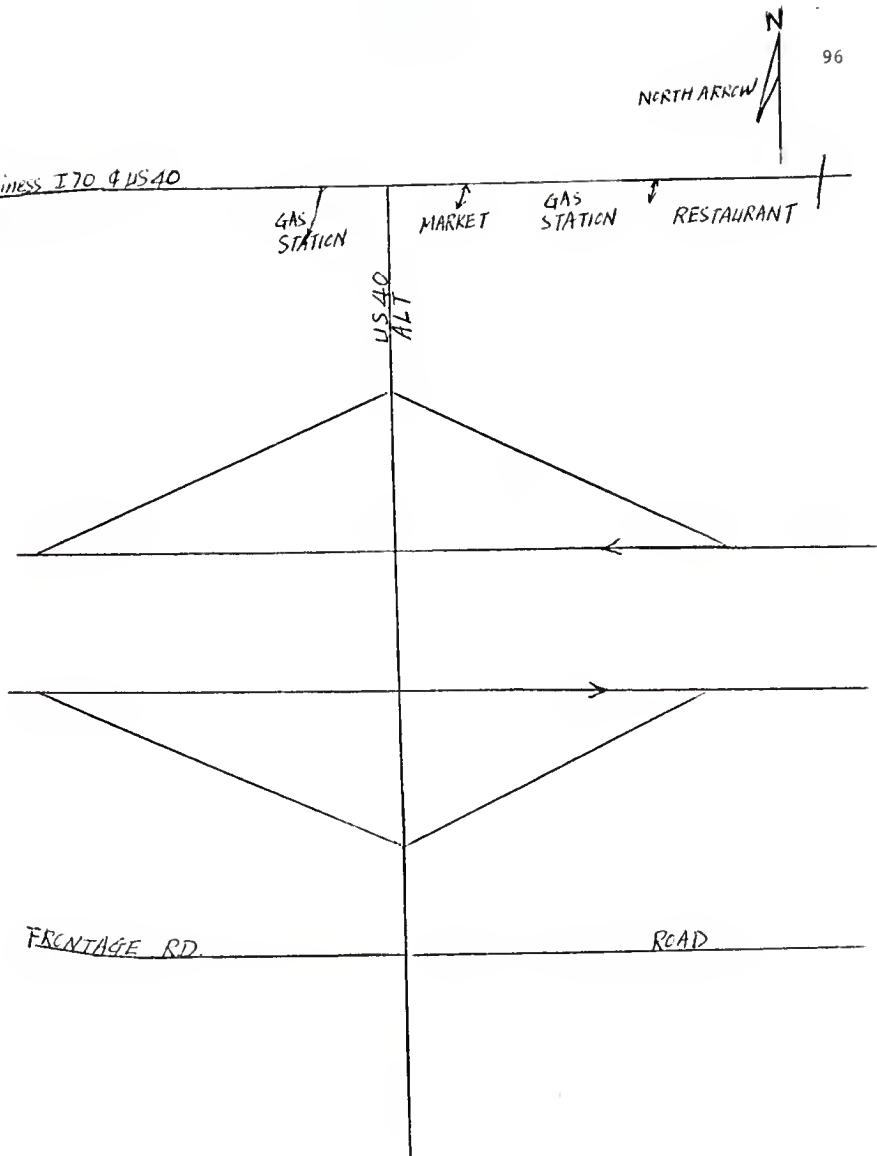
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No. 19

ROUTE I 70
INTERCHANGE K207 (JUNCTION CITY)
COUNTY GEARY

Business I70 & US40

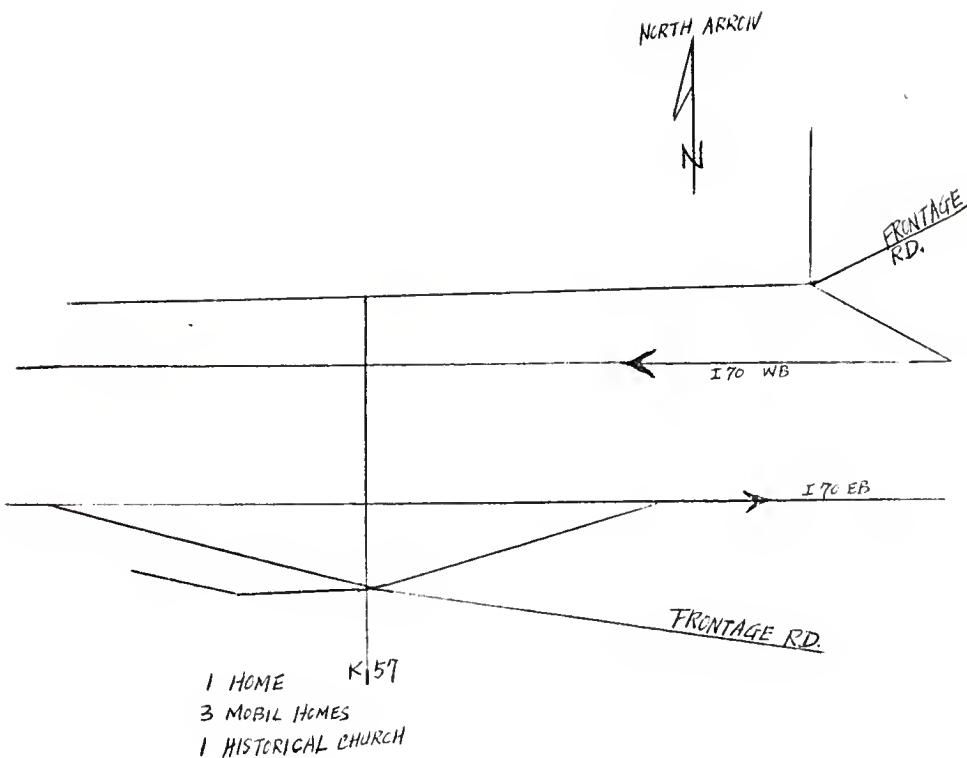


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ROUTE I 70

INTERCHANGE US40 ALT (KIRKLANDVIEW PLAZA)

COUNTY GIFARY

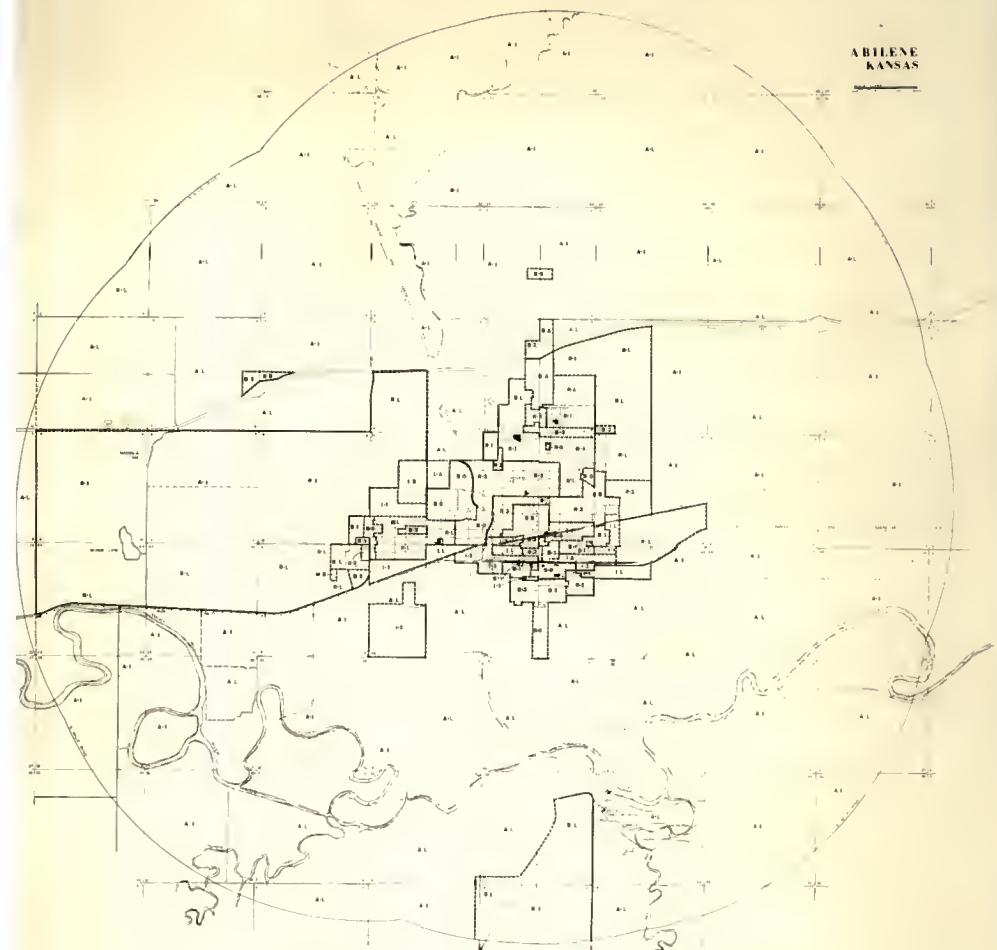


ROUTE I 70
INTERCHANGE K 57

COUNTY GEARY

No. 21

Appendix D

ABILENE
KANSAS

ZONING DISTRICT MAP
ABILENE, KANSAS

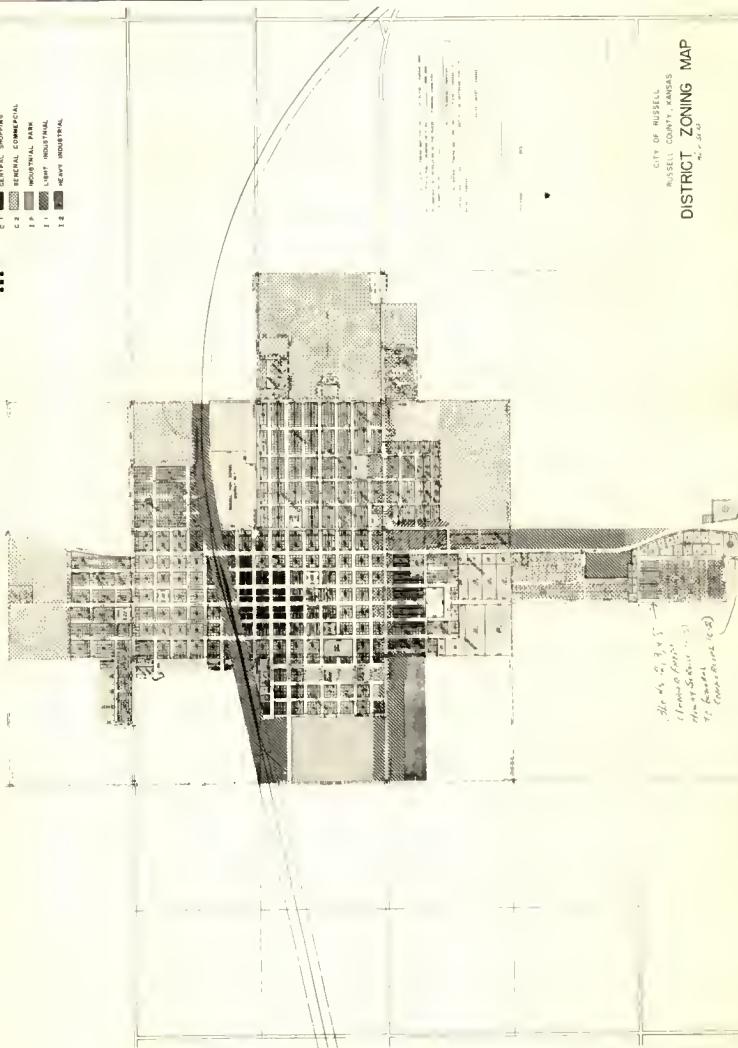
■	Commercial
■	Residential
■	Industrial
■	Agricultural
■	Other Residential
■	Commercial Industrial
■	Residential Industrial
■	Commercial Residential
■	Residential Commercial

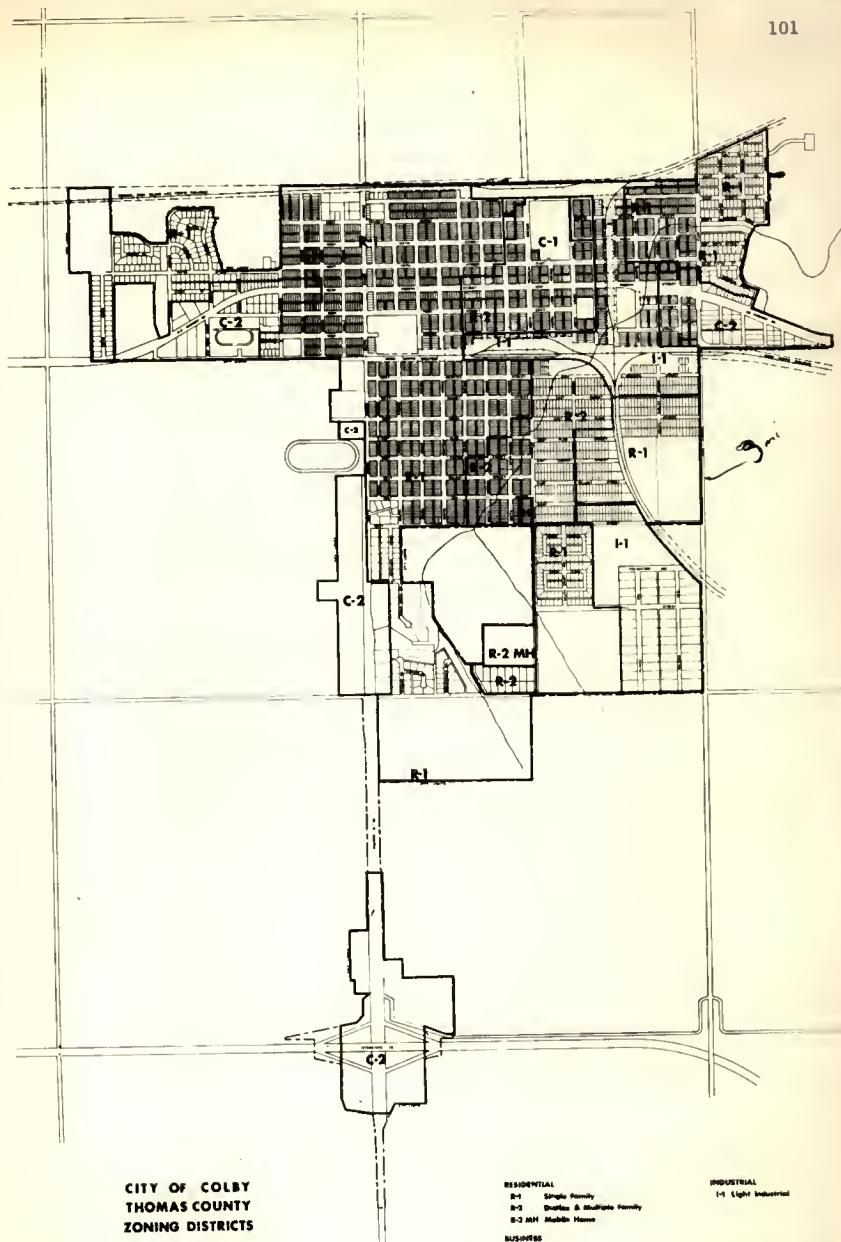


A L	AGRICULTURAL
R I	SINGLE FAMILY DWELLING
H Z	TWO FAMILY DWELLING
N S	MULTIFAMILY DWELLING
C 9	RETAIL SERVICE
C O	OFFICE & INSTITUTION
C I	GENERAL SHOPPING
C 2	RECREATIONAL
I P	INDUSTRIAL PARK
I I	LIGHT INDUSTRIAL
I M	HEAVY INDUSTRIAL

DISTRICT ZONING MAP

CITY OF RUSSELL
RUSSELL COUNTY, KANSAS





**CITY OF COLBY
THOMAS COUNTY
ZONING DISTRICTS**

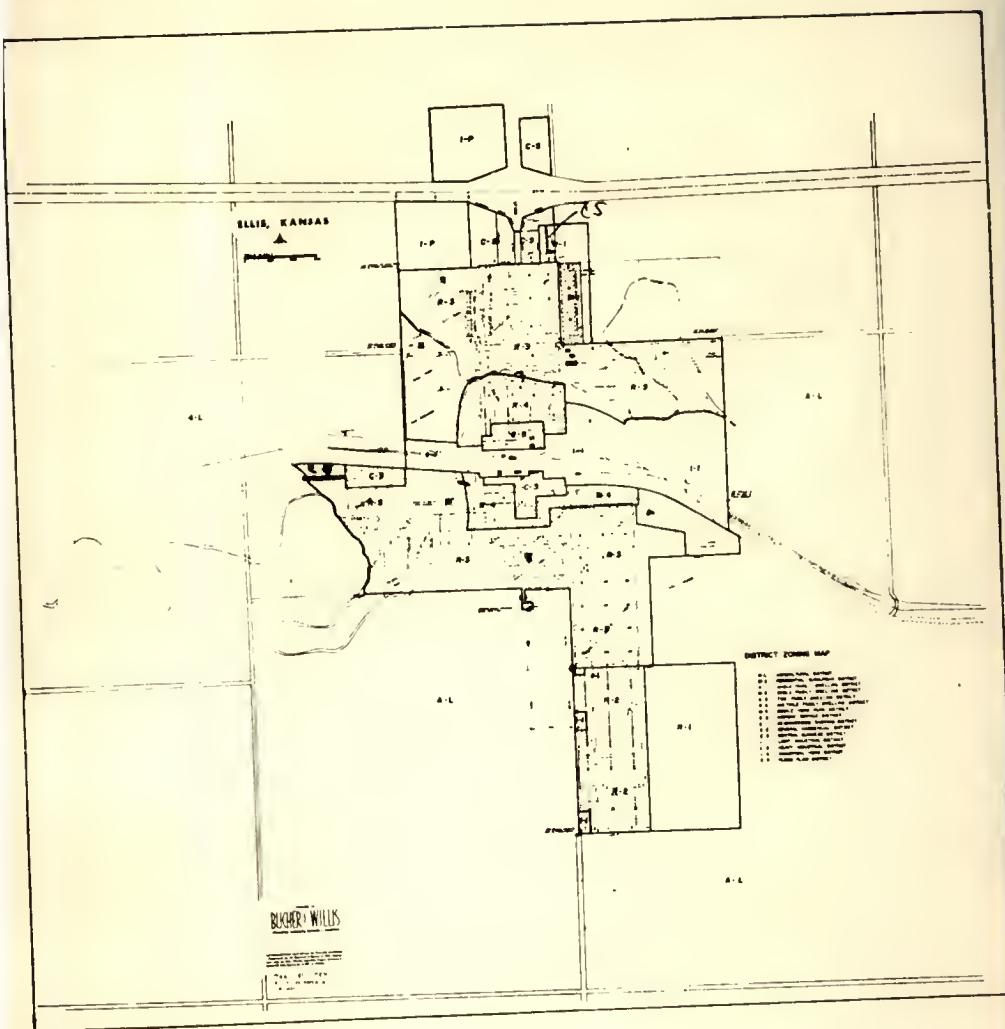
© 1980 by the City of Colby

RESIDENTIAL
 R-1 Single Family
 R-2 Duplex & Multiple Family
 R-2 MH Public Home

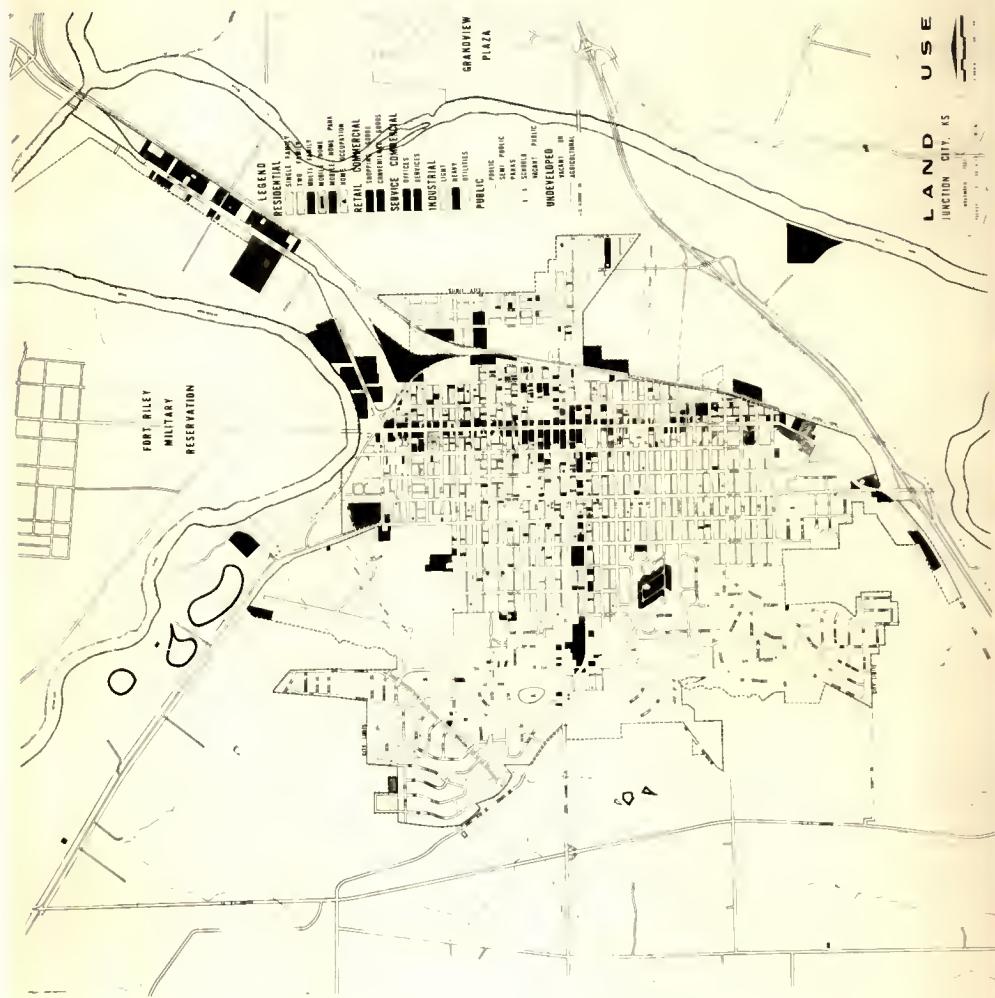
BUSINESS
 C-1 Commercial
 C-2 Neighborhood Commercial

INDUSTRIAL
 I-1 Light Industrial

scale 1" = 400' north



LAND USE
JUNCTION CITY, KS



Appendix E

68-1901. Definitions. When used in this act: (a) "A controlled access facility" means a highway, road or street especially designed to expedite and control through and local traffic, and over, from or to which highway, road or street, owners or occupants of abutting property shall have only a controlled right or easement of access, light, air or view. Such highways, roads or streets may be opened to use by all customary forms of street and highway traffic, or they may be parkways from which designated vehicles shall be excluded. (b) "Highway Authorities" means the state highway commission and the board of county commissioners of any county or governing body of any incorporated city acting individually or collectively. (c) "Frontage road" means a highway, road or street which is auxiliary to and located on the side of another highway, road or street for service to abutting property and adjacent areas and for control of access to such other highway, road or street.

68-1902. Authority to establish controlled access facilities. The state, county or city highway authorities, acting alone, or co-operating with each other or with any federal, state or local authority, or any other state, are hereby authorized to design, designate, establish, regulate, vacate, alter, improve, construct and maintain controlled access facilities wherever such highway authorities determine that traffic conditions, present or future, justify such facilities, and said highway authorities may regulate and restrict the use of such facilities by the various classes of vehicles or traffic in a manner consistent with the purposes and provisions of this act. The highway authorities may so regulate, restrict, or prohibit access to a controlled access facility so as to best serve the traffic for which such facility is intended.

63-1903. Acquisition of property and property rights. The highway authorities, jointly or severally, may acquire the desired private or public property, including rights of access, light, air or view for controlled access facilities, by gift, devise, purchase or condemnation, in the same manner as now or hereafter authorized by law for acquiring property or property rights in connection with highways, road and streets within their respective jurisdictions.

63-1905. Frontage roads. The highway authorities, in order to carry out the purposes and provisions of this act, are authorized to design, designate, establish, regulate, vacate, alter, improve, construct and maintain frontage roads, and to exercise the same jurisdiction thereon as is authorized over controlled access facilities under this act, and such frontage roads shall be separated from the controlled access facility as may be deemed proper and necessary by the respective highway authorities.

K.S.A. 1973 Supp.

19-2929. For any or all of said purposes the county commissioners may divide the unincorporated territory into districts of such number, shape, and area as may be deemed best suited to carry out the purposes of this act and, within such districts, they may regulate and restrict the erection, construction, alteration or use of buildings, structures or land. All such regulations shall be uniform for each class or kind of buildings throughout each district, but the regulations of one district may differ from those in other districts. No regulations shall apply to the use of land for agricultural purposes nor for the erections or maintenance of buildings thereon as long as such buildings are used for strictly agricultural purposes. Nor shall outdoor advertising signs be prohibited or restricted except in areas defined for residential or recreational purposes only.

Appendix F

STATE OF KANSAS
STATE HIGHWAY COMMISSION

DRIVENWAY CONTROL
STANDARD PLANS
AND REGULATIONS

DIRECT ACCESS CONNECTIONS

to

STATE AND FEDERAL HIGHWAYS

URBAN HIGHWAYS DEPARTMENT

REVISED

STATE HIGHWAY COMMISSION OF KANSAS

110

A. J. Gray, Director of Highways

H. J. Ulrich, Assistant Highway Director

COMMISSIONERS

Kenneth J. Phelps, Manhattan

Karl A. Brueck, Paola

Robert A. Kent, Salina

Gale Moss, El Dorado

Richard M. Driscoll, Russell

Louis Kampschroeder, Garden City

John D. McNeal, State Highway Engineer

CERTIFICATION

TOPEKA, KANSAS

Date _____

In accordance with the provisions of Section 68-404, General Statutes 1949 of Kansas, and State Highway Commission of Kansas Entrance Regulation dated August 13, 1947, we certify that we have examined and approved the contents of the Policy on DRIVEWAY CONTROL STANDARD PLANS AND REGULATIONS and hereby declare it was adopted by the State Highway Commission of Kansas.

A. J. GRAY, DIRECTOR OF HIGHWAYS

H. J. ULRICH, ASSISTANT HIGHWAY DIRECTOR

JOHN D. MCNEAL, STATE HIGHWAY ENGINEER

(SEAL)

Attest _____

Secretary

Due to the steadily increasing traffic volumes and traffic congestion on our highways, accompanied by outlying development of private and commercial areas adjacent to the State Highways and the large number of highway accidents caused by unregulated direct entrances and exits to the travelled ways, it has become necessary in the interest of Highway safety and traffic efficiency to regulate the design, construction and location of such driveways in order that safe and orderly access to and from the highways may be obtained; and on the State Highway primary system even to prohibit driveways at unsafe locations.

Pursuant to Section 63-404, G.S. 1949 of Kansas and State Highway Commission of Kansas Entrance Regulation, August 13, 1947, the State Highway Commission has revised the standard plans and regulations for driveways to highways of the State Highway System entitled DRIVEWAY CONTROL STANDARD PLANS AND REGULATIONS.

These standards of design and regulations are for the guidance of designing driveways or in recommending approval or rejection of Permits for driveways to Highways of the State Highway System. Applicants for a Highway Permit should inspect these standards and plans before planning a building and driveway layout.

It is recognized that some extensive roadside developments such as truck stops, outdoor theaters, shopping centers, etc., may require special geometric consideration such as added lanes, compound curves, channelizing islands, etc. A preliminary plan should be submitted to the Urban Highways Department for review and recommendations prior to application for a permit.

INSTRUCTIONS FOR OBTAINING A HIGHWAY PERMIT

An applicant (owner or lessee) desiring to construct or alter a driveway or driveways to any State Highway should contact the nearest Highway Division or District Office and obtain five (5) copies of the Highway Permit form and five (5) copies of the typical standard plan similar to the layout which he contemplates for construction.

All five (5) copies of the form and plan detail information are to be executed by the applicant and returned to the Division Engineer or District Superintendents with the five (5) copies of the drawing showing the design details of the proposed driveways. The proposed driveways are to be constructed in accordance with the policy and regulations outlined in this manual and as shown on one of the standard sketches.

Applications for Permits are to be made by the owner or lessee who shall represent all parties and interests for driveways to the abutting property. The Division Engineer or his representative shall inspect the site and review the proposed design for conformance to standards. When the application is satisfactory to the Division Engineer, he will approve the request and forward all commercial driveway, public road and street connection Highway Permit forms and plans to the Urban Highways Department for final review and approval. When Urban Highways Department approval has been granted, the copies and plans will be returned to the Division Engineer, who will in turn return one copy of the Permit and plan to the Petitioner, one copy to the District Superintendent, one copy to the Maintenance Engineer, one copy for the Federal Highway Administration or City, and retain one copy for his file.

<u>TITLE</u>	<u>PHONE NUMBER</u>	<u>ADDRESS</u>	<u>CITY</u>
<u>DIVISION ONE</u>			
Division Engineer	296-3831	121 West 21st	Topcka, Kansas
District Superintendents			
District One	486-2144	1686 East First	Horton, Kansas
District Two	528-3031	K-170 & Ellinwood	Osage City, Kansas
District Three	299-3750	9740 State Avenue	Kansas City, Kansas
District Four	296-2291	3200 South Topeka	Topcka, Kansas
District Five	456-2353	Wamego (On US-24)	Wamego, Kansas
District Six	764-0987	K-150 & I-35	Olathe, Kansas
<u>DIVISION TWO</u>			
Division Engineer	823-3754	1006 North Third	Salina, Kansas
District Superintendents			
District One	632-5131	West on US-24	Clay Center, Kansas
District Two	378-3931	East on US-36	Mankato, Kansas
District Three	382-2370	North of Marion	Marion, Kansas
District Four	472-4041	North on US-40	Ellsworth, Kansas
<u>DIVISION THREE</u>			
Division Engineer	927-3315	309 South Second	Norton, Kansas
District Superintendents			
District One	543-5012	South on US-183	Phillipsburg, Kansas
District Two	626-3142	East on US-36	Atwood, Kansas
District Three	625-9718	22nd & Vine	Hays, Kansas
District Four	672-3742	Jct. US-40 & 83	Oakley, Kansas
<u>DIVISION FOUR</u>			
Division Engineer	431-1000	411 West 14th	Chanute, Kansas
District Superintendents			
District One	223-1430	South on US-69	Ft. Scott, Kansas
District Two	448-5446	Jct. US-59 & K-31	Garnett, Kansas
District Three	331-3760	West on US-75	Independence, Kansas
District Four	231-3160	West on K-126	Pittsburg, Kansas
District Five	365-3252	North of US-169	Iola, Kansas
<u>DIVISION FIVE</u>			
Division Engineer	663-3361	500 North Hendricks	Hutchinson, Kansas
District Superintendents			
District One	672-3331	309 Iowa	Pratt, Kansas
District Two	321-2830	205 Oil Hill Road	El Dorado, Kansas
District Three	221-3370	West on US-160	Winfield, Kansas
District Four	793-5241	East on US-56	Great Bend, Kansas
District Five	842-3111	North on K-2	Anthony, Kansas
<u>DIVISION SIX</u>			
Division Engineer	276-3241	East on US-50	Garden City, Kansas
District Superintendents			
District One	334-7222	North on Main Street	Syracuse, Kansas
District Two	397-5355	High and Lincoln	Dighton, Kansas
District Three	227-6122	First and Water	Bodge City, Kansas
District Four	356-1531	South on US-160	Ulysses, Kansas

Applicants for drive-in theater access shall require special instructions and must request the supplement to the Driveway Control Standards for Drive-in Theaters from the nearest State Highway Commission Division Office.

On the following page is a list of the six (6) major highway division offices of the State Highway Commission of Kansas, and the addresses of the Division Engineers and the District Superintendents within each Division to which requests and information on Highway Entrance Permits should be directed.

POLICY FOR DRIVEWAYS TO STATE HIGHWAYS

- A. PURPOSE - The purpose of any driveway or approach constructed is to provide access to the property adjacent to the Highway.
- B. APPROVAL - All work done on the Highway Right of Way is subject to the written approval of the State Highway Commission. No driveway approach or other improvements constructed on the Highway Right of Way is to be relocated or its dimensions altered without the written approval of a representative of the State Highway Engineer.
- C. TERMS AND DEFINITIONS
 - 1) AREAS:
 - (a) An urban area is the area within the corporate limits of a municipality; or if the street or Highway abutting the area has a speed limit of 40 miles per hour or less; or, if at least 50 percent of the frontage abutting the Highway has been developed with residences, businesses and/or industry.

(b) All locations not included under the Urban definition should be considered as Rural.

2. DRIVEWAY TYPES:

(a) A field connection is one providing access to cultivated land, timber land, pasture, or undeveloped land.

(b) A Residential Driveway is one providing access to a single family residence, a duplex, or an apartment building containing five (5) or fewer dwelling units.

(c) A Commercial Driveway is one providing access for an office, retail or institutional building or for an apartment building having more than five (5) dwelling units. Industrial plant driveways whose principal function is to serve administrative or employee parking lot are considered Commercial Driveways.

(d) An Industrial Driveway is one directly serving substantial numbers of truck movements to and from loading docks of an industrial facility, warehouse or truck terminal. A centralized retail development, such as a shopping center, may have one (1) or more driveways specially designed, signed and located to provide access for trucks. These are classified as Industrial Driveways.

3. FRONTAGE: The length along the Right of Way line of a single property tract or roadside development area between the property lines. (Corner property at a highway intersection has frontage along each highway.)

4. BUFFER AREA: The area along the the frontage between the edge of highway and the Right of Way line.

5. DRIVEWAY WIDTH (W): Narrowest width of the driveway measured perpendicular to driveway centerline.
6. DRIVEWAY ANGLE (Y): The angle between the driveway centerline and the edge of the highway.
7. EDGE CLEARANCE (P): The distance measured along the Right of Way line between the property line and the nearest edge of driveway.
8. INTERSECTION CLEARANCE (M): At an intersecting street or highway, the dimension measured along the edge of the highway between the nearest edge of the intersecting street or highway and the tangent projection of the nearest edge of driveway.
9. SLOPE (V): Grade along the edge of driveway.
10. SETBACK (G & B): The shortest distance between Right of Way line and building, gasoline pump island, or other objects.
11. OUTSIDE RADIUS (R): The outside curve radius on edge of driveway.
12. INSIDE RADIUS (I): The inside curve radius on edge of driveway. Used when driveway angle is less than 90°.
13. DISTANCE BETWEEN DOUBLE DRIVEWAYS (D): The distance measured along the Right of Way line between inside edges of two (2) adjacent driveways within the same frontage.

14. COMBINATION OR JOINT DRIVEWAY: A driveway on the property line between two (2) abutting properties usually with equal width on each property.
15. PROPERTY LINE: A line dividing two (2) adjacent properties.
16. (C): Tangent length measured parallel to the edge of the highway between an intersecting street and the nearest driveway.
17. (S): Tangent length measured parallel to the edge of the highway between two (2) adjacent driveways.
18. STATE HIGHWAY: Any State or Federal Highway, road or street, which is a part of the official State Highway System of the State of Kansas.
19. STATE HIGHWAY COMMISSION: The governing authority for the State Highway System of the State of Kansas.
20. STATE HIGHWAY ENGINEER: The State Highway Engineer of the State of Kansas or his authorized representative.

D. DRIVEWAY REGULATIONS

1. One (1) field access shall be permitted for each 1,000 feet of cultivated, timber, pasture or undeveloped land. Additional driveways may be permitted when a single driveway will not provide adequate access due to topographical conditions.
2. Not more than one (1) driveway approach shall be constructed for access to one (1) parcel of residential land less than eighty (80) feet of frontage.

Not more than one (1) driveway approach shall be constructed along commercial property with frontage less than one hundred and twenty-five (125) feet in an Urban area and two hundred (200) feet in a Rural area. A minimum of sixty (60) feet of highway frontage is required for one (1) commercial driveway in an Urban area and eighty (80) feet in a Rural area. In the event that adequate frontage is not available for a driveway, it is recommended that a Combination or Joint driveway be constructed.

3. No more than two (2) driveways shall be constructed for access to one parcel of property unless approved by the State Highway Commission.
4. No driveway will be permitted which necessitates backing of vehicle into the highway.
5. The material used for the construction of commercial and/or industrial driveway shall be equivalent to that of the adjacent highway. The minimum treatment for a driveway shall be an all weather, dustless surface, consisting of a bituminous prime coat or calcium chloride.
6. The Highway Right of Way shall remain clear of any unauthorized obstructions.
7. RESTRICTIONS:
 - (a) Not on Highway Right of Way - Parked vehicles, sidewalk type signs, or any sight obstructions are prohibited for sight distance and safety reasons. Landscaping is permissible if shrubs are 30 inches in height and all trees are properly trimmed so that sight distance is not restricted. A pole type advertising sign is permitted if 10 foot minimum mounting height is maintained and sight distance is not obstructed.

- ? (b) All intersections shall maintain a clear vision area bound by the two highways or intersecting street and a diagonal line across the corner.
- (c) At all highway and street intersections, street parking shall be restricted between the intersection and the nearest driveway if it is determined by the State Highway Commission that such parking would be detrimental to the safe and efficient operation of the highway.
- (d) All lighting equipment for roadside establishments must be located off the Highway Right of Way and any illumination for the development should be concentrated on the service area with no beams directed towards the eyes of the driver on the highway.

8. SPECIAL DRIVEWAY GEOMETRICS will apply to commercial property classified as highway traffic generators as follows:

Apartments, multi-building projects	Hospitals
Banks, drive-in	Office Buildings over 50,000 Sq.Ft.
Car washes	Restaurants, drive-in
Colleges and Universities	Shopping centers, all sizes
Factories	Theaters, auditoriums
High Schools	

9. All driveways along the highway must be located at the point of optimum sight distance, when feasible.

10. SETBACKS - The cooperation of the local officials and abutting owners is to be sought and encouraged in effecting over-all traffic control through proper setbacks, either by agreement or zoning regulations. In cases where setbacks are considered by the State Highway Commission to be inadequate, the installation of traffic control devices such

as a curb along the Right of Way would be necessary in promoting the safe and efficient operation of the highway.

11. Driveways shall not be located in such a position as to affect the proper placement of roadway signs, signals, lighting or other traffic control devices.
12. Where driveways are constructed or altered on any section of the State Highway, the entire cost of the construction shall be at the expense of the property owner or his authorized agents. All construction on the Right of Way shall be performed by a competent contractor and all materials used by the contractor shall be approved by the State Highway Commission prior to construction.
13. Material from the Right of Way shall not be used for the construction of driveways unless specifically approved (in writing) by the State Highway Commission.
14. Two (2) directional access to highway with an existing median will be allowed at existing crossovers only and other points of access will be limited to one directional traffic.
15. Permits for access, where dedicated public Right of Way intersects highway Right of Way, are not subject to regulations covered in this manual. These permits must be submitted to the State Highway Commission and reviewed separately to meet and comply with current State Highway Commission policy.

16. Length of safety islands is the distance between the two near edges of adjacent driveways measured parallel to the centerline of street or highway.
17. Channelizing island - The island between one-way directional driveways for high generation facilities.
18. A Committee is to be set up and composed of equal members of industry ? ? people and members selected by the Highway Commission with alternates to review driveway requests where conditions do not permit conformance to Standards without causing undue hardship and expense to property owners.

E. DESIGN

1. WIDTH OF DRIVEWAY:

(a) Residential and Field Driveways (Urban and Rural Areas) - The width of driveways in urban and rural locations shall not be less than 10 feet nor more than 30 feet.

(b) Commercial Driveways (Urban Areas) - The width of driveways shall not be less than 15 feet nor more than 35 feet in urban areas and 40 feet in rural areas.

(c) Industrial Driveways (Urban and Rural Areas) - The width of driveways in urban and rural locations shall not be less than 20 feet nor more than 40 feet.

2. ANGLE OF DRIVEWAY

The angular placement of driveways in both rural and urban areas shall be 45 to 90 degrees, inclusive.

3. EDGE AND INTERSECTION CLEARANCES

- (a) Commercial Driveways (Urban) - The edge clearance shall not be less than 10 feet. The intersection clearance shall not be less than 30 feet.
- (b) Commercial Driveways (Rural) - The edge clearance shall not be less than 20 feet. The intersection clearance shall not be less than 40 feet.
- (c) Industrial Driveways (Urban) - The edge clearance shall not be less than 15 feet. The intersection clearance shall not be less than 40 feet.
- (d) Industrial Driveways (Rural) - The edge clearance shall not be less than 25 feet. The intersection clearance shall not be less than 50 feet.

4. SAFETY ISLANDS

- (a) The island between driveways shall not be less than 20 feet in urban areas and not less than 40 feet in rural areas, except the island in rural areas may be reduced to the width of the driveway to a minimum of 30 feet. The minimum width of channelizing islands shall be 6 feet back of island curb in urban areas and 10 feet in rural areas.

5. RADIUS RESTRICTIONS

- (a) Safety island radii shall not be less than five (5) feet in urban areas and 10 feet in rural areas.
- (b) Approach radii on a 90 degree type driveways shall not be less than 10 feet in urban areas and 15 feet in rural areas.

- (c) Approach radii on driveways other than 90 degrees shall not be less than 15 feet in urban areas and 30 feet in rural areas.

6. INSIDE RADII

URBAN AND RURAL AREAS - Radii to be determined by driveway angle and if one-way or two-way operation. Radii may be as small as two (2) feet.

7. Location of Longitudinal curb in relation to highway surface edge on non-curbed sections of highway.

<u>Width of Highway Lane</u>	<u>Distance from Surface Edge to Face of Curb</u>
9'	15'
10'	14'
11'	13'
12'	12' Min.

On non-curbed highway sections having a lane width greater than 12 feet, the face of the curb shall be 24 feet from the centerline on two-lane highways, 36 feet on four-lane undivided highways, and 36 feet from the inside surface edge on the one-way lanes of a four-lane divided highway.

The above table is intended to be a guide. The final location of longitudinal curb is to be determined by site conditions and highway design requirements.

8. PUMP ISLAND AND BUILDING SETBACKS

- (a) Gasoline pump island setbacks shall be not less than 12 feet in urban areas and 15 feet in rural areas.

(b) Building setbacks shall be a minimum of 30 feet in urban areas and 50 feet in rural areas. Whenever zoning regulations of cities or counties conflict with these requirements they shall govern.

9. The above noted requirements (Nos. 1 to 8, inclusive) apply to all driveways on two (2) or more lane undivided highways or streets, on ?? divided highways with narrow median where crossovers are permitted, and on service roads. These controls are represented on typical plans, numbered
10. Plans numbered ?? show the requirements for direct driveways to the travelled lanes of 4-lane and wider divided highways that are not access controlled and crossover of the median is prohibited.

F. DRIVEWAY SLOPE

1. OPEN DITCH SECTION

The low point of the driveway shall be at least 8" below pavement edge elevation using a grade for the driveway of $\frac{1}{2}"$ minimum to 1" maximum per foot from the shoulder line. When curb is used to channelize driveways on an open ditch section, the slope shall be maintained as stated and valley gutter with suitable curb inlets or surface drains shall be provided.

The grade of the top of the curb placed parallel to and a minimum of 12 feet out from the edge of the through highway lane shall be a minimum of 0" or a maximum of 6" below the grade of the surface or pavement at the edge of the outside lane.

2. URBAN - CURB AND GUTTER SECTION

In urban areas on curb and gutter highway sections, the grade of entrances shall conform to the grade of sidewalks, if any, and a neat junction between the apron of the driveway and the sidewalk shall be made. Where sidewalks are not in place, the slope of the driveway shall be such that the elevation of the driveway slope at the Right of Way line shall be higher than or equal to the grade of the top of the longitudinal curb in place along the street. When curb and gutter is removed, the curbing along the highway is to be returned into the driveway on a radius as shown on the typical plans for urban sites. When curbing is used to channelize driveways, it is to delineate both sides of the driveways and the returns and it is to be extended back to Right of Way line. On safety islands between driveways at pump island locations, the curbing is to be extended adjacent to and parallel to the Right of Way line.

G. DRAINAGE STRUCTURES

Drainage in highway ditches shall not be altered or impeded and the Petitioner must provide suitable drainage structures as determined by the State Highway Commission. The minimum size of the drainage structure shall be a 22" x 13" arch pipe or an 18" diameter pipe. In the event that the roadway ditch along the entire property frontage is to be filled, storm drainage with standard drop inlets shall be provided. The width of the drive (s) shall be delineated by curb or other suitable methods as provided in these regulations.

H. SERVICE ROAD DRIVEWAYS

The Regulations for Service Road driveways to limited access highways shall be the same as the regulations for driveways to streets and highways in urban locations. Access to service roads shall be governed by the regulations set forth in this manual.

BASIC DRIVEWAY DIMENSIONS AND REQUIREMENTS
FOR BOTH CURBED AND NON-CURBED HIGHWAYS

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TABLE 1

		URBAN			RURAL		
	DIMENSION REFERENCE	RESIDENTIAL	COMMERCIAL	INDUSTRIAL	RESIDENTIAL	COMMERCIAL	INDUSTRIAL
WIDTH (1)	W	10 30	15 35	20 40	10 30	15 40	20 40
Minimum							
Maximum							
RIGHT TURN RADIUS (2)	R	5 15	10 20	15 25	10 25	15 50	25 50
Minimum							
Maximum							
INSIDE RADIUS	I	2 10	2 15	5 20	2 10	2 15	5 20
Minimum							
Maximum							
MINIMUM SPACING	P	5	10	=R	10	20	=R
Edge Clearance	C	5	10	10	10	15	25
From Street Corner	M	30	30	40	30	40	50
Intersection Clearance (4)	S	5	5	5	NA	NA	NA
Between Driveways (5)	D	20	20	20	40	40	40
Between Driveways (6)	H	NA	50	50	NA	50	50
Between Tapers (7)							
ANGLE (8)	Y	45°	45°	45°	45°	45°	45°
RESTRICTED AREA (9)	A	10	10	15	20	20	25
BUILDING SETBACK (10)	B	30	30	30	50	50	50
PUMP ISLAND SETBACK	G	NA	12	NA	NA	15	NA
SLOPE	V	AS DETERMINED BY THE S.H.C.					
FLARED LANE WIDTH	L	8 10 12	12 12 12		8 10 12	12 12 12	
Shoulder Width 0-7 Ft.							
Shoulder Width 8-9 Ft.							
Shoulder Width 10-12 Ft.							
ENTERING TAPER LENGTH	T	NA NA	50 150	150 250	NA NA	50 200	150 250
Minimum							
Maximum							
EXITING TAPER LENGTH	U	NA NA	50 150	100 250	NA NA	50 200	150 250
Minimum							
Maximum							

N.A. = Not Applicable

* = Minimum Requirement

1. The minimum width of commercial driveways is intended to apply to one-way operation. In high pedestrian activity areas such as in a central business district or in the same block with auditorium, school or library, the maximum width shall be 30 feet.
2. On the side of a driveway exposed to entry or exit by right turning vehicles. In high pedestrian activity areas, the radii should be half the values shown.
3. The minimum distance between near edge of intersecting street or highway and the near edge of driveway shall not be less than 30 feet in an urban area and 40 feet in a rural area, except industrial driveways in an urban area must be 40 feet and 50 feet in a rural area.
4. Measured along the curb or edge of pavement from the roadway end of the curb radius. In high pedestrian activity areas, the minimum spacing between driveways (S) should be five feet.
5. The minimum distance between near edges of two adjacent drives shall be equal to the width (W) of the driveway throat, and in no instant shall it be less than 20 feet in an urban area and 40 feet in a rural area. The greater dimension shall prevail.

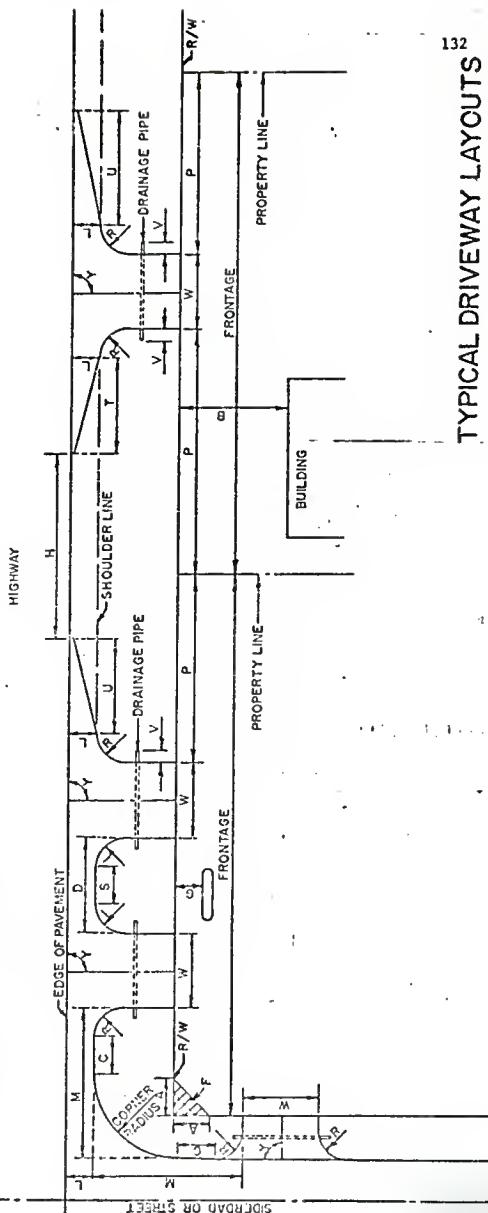
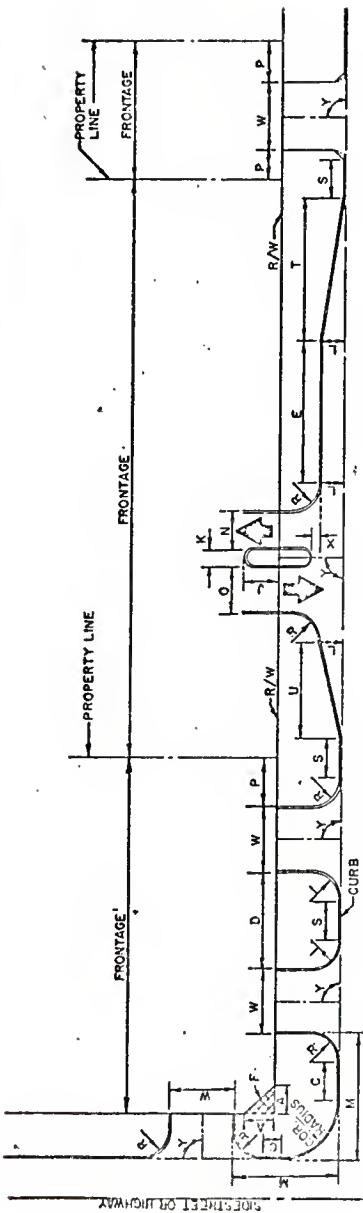
6. The distance between the ends of Entry and Exit tapers (T & U) must exceed fifty feet. If they are closer than fifty feet then the tapers (T & U) shall be eliminated and the shoulder shall be surfaced the required lane width (L) between driveway radii (R).
7. Minimum acute angle measured from edge of pavement, and generally based on one-way operation. For two-way driveways, the minimum angle should be 70°.
8. Restricted area not on Highway Right of Way. Diagonal line (F) to be curbed if area is paved.
9. The local "code" shall prevail when the dimension indicated in the "table" conflicts with the local requirements.

BASIC DRIVEWAY DIMENSIONS FOR COMMERCIAL
AND INDUSTRIAL RIGHT TURN LANE AND TAPERS
FOR BOTH CURBED AND NON-CURBED HIGHWAYS

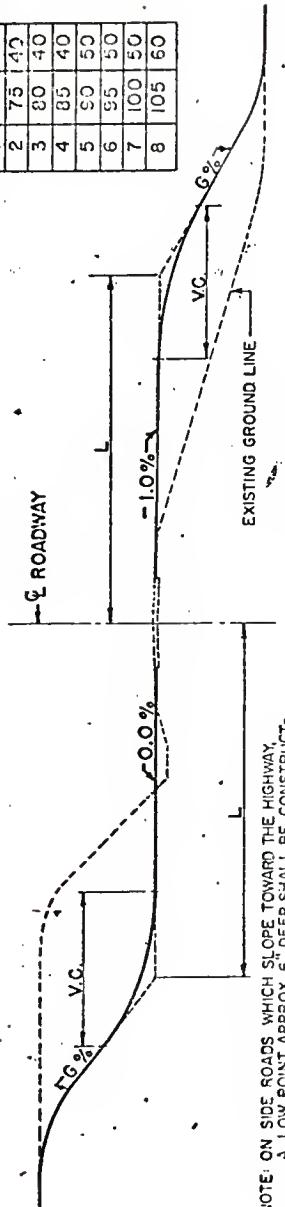
TABLE 2	DIMENSION REFERENCE	URBAN		RURAL	
		Desirable	Range	Desirable	Range
RIGHT TURN LANE LENGTH	E	AS DETERMINED BY THE S.H.C.			
RIGHT TURN LANE WIDTH	L	12 Ft.	10-15 Ft.	12 Ft.	10-15 Ft.
ENTERING TAPER LENGTH	T	100 Ft.	100-200 Ft.	150 Ft.	100-250 Ft.
EXITING TAPER LENGTH	U	50 Ft.	50-150 Ft.	50 Ft.	50-150 Ft.

BASIC DRIVEWAY DIMENSIONS FOR COMMERCIAL
AND INDUSTRIAL DIVIDED ONE-WAY ENTRANCE AND
EXIT SEPARATED WITH AN ISLAND FOR BOTH
CURED AND NON-CURSED HIGHWAYS

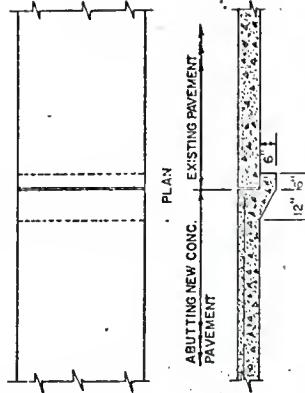
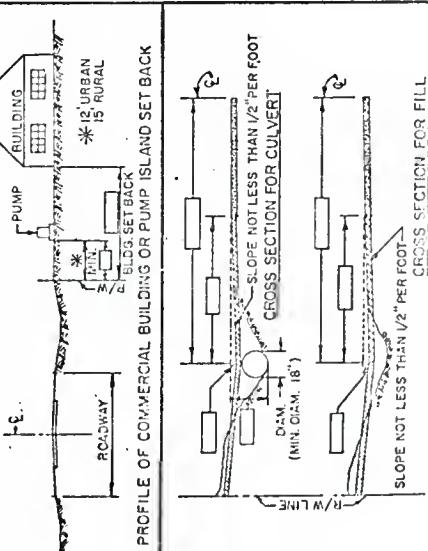
TABLE 3	DIMENSION REFERENCE	URBAN		RURAL	
		Desirable	Range	Desirable	Range
ANGLE	Y	90°	70-110°	90°	70-110°
ENTRANCE DRIVE WIDTH	N	18 Ft.	16-24 Ft.	18 Ft.	18-24 Ft.
EXIT DRIVE WIDTH	O	24 Ft.	16-24 Ft.	24 Ft.	16-24 Ft.
RADIUS	R	20 Ft.	15-50 Ft.	20 Ft.	15-50 Ft.
ISLAND WIDTH	K	10 Ft.	6-30 Ft.	10 Ft.	6-30 Ft.
NOSE OFFSET	X	2 Ft.	2-4 Ft.	2 Ft.	2-6 Ft.
ISLAND LENGTH BACK OF R/W	J	As Determined by S.H.C.	20-150 Ft.	As Determined by S.H.C.	20-150 Ft.



G %	L	V.C.
1	75	42
2	80	40
3	85	40
4	90	50
5	95	50
6	100	50
7	105	60
8	105	60



STANDARD SIDE ROAD APPROACH GRADE DETAILS



UNDERPINNING
(FOR CONCRETE PAVEMENT)

UNDERPINNING
(FOR CONCRETE PAVEMENT)

STANDARD PLAN SYMBOLS

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State Line _____

County Line _____

City or Village Limits *City Limits*

Section, Township
or Grant _____

Property Line

Common Ownership

Proposed R/W Line

Existing R/W

Right-of-Way Marker

Grade Line

Easement Permanent

Temporary

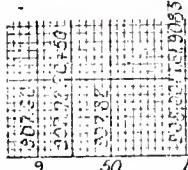
Land Survey Corner (Sec., 1/4 Sec., 1/16 Sec.,
Center Cor., & Original U.S. Land Survey Lot Cor.)

Construction Limits

Access Control

Begin or End Access Control

Grade Elevation
(Prairie Section Plan Sheet)



Proposed Project Undiv.
(Title Sheet) Divided

Existing Projects Undiv.
that Have Received Federal Aid (Title Sh.) Div.

Existing Projects Undiv.
that Have Not Received Federal Aid (Title Sh.) Div.

Proposed Project

Proposed Project

Baseline

Travelling Way

Public Road _____

County or Township Rd. (Title Sheet)

Curb

Gutter

Curb and Gutter

Ditches (Profile Section)

Special Cuts

Special Embankment (Dikes, Levees, etc.)

Retaining Wall

Sidewalks

Ditch Plug or Mound Entrance

Figure 2D-2.2 A

2C-18

ACCESS CONTROL: Access control is the means of controlling the right of ingress and egress of the abutting property owner to and from the highway right-of-way. Therefore, the access control will always be acquired at the right-of-way line, even though access may be allowed onto a portion of the highway right-of-way such as for the use of a frontage road.

The types of access control used by the SHC are full, partial, and none.

- (a) Full access control means that the authority to control access is exercised to give preference to through traffic by permitting access to the main roadway only at interchange locations.
- (b) Partial access control means that the authority to control access is exercised to give preference to through traffic by permitting sideroad intersections at grade and land service connections based on highway capacity and safety. The extent of access control on partial access control projects may vary with highway type and may range from allowing access only at selected (usually existing) entrances and sideroads to allowing access at all points except at special locations. For example, the only access control purchased on a project with a design AADT of 1000 vehicles per day might be at one crossroad with a design AADT of 500 vehicles per day where future entrance encroachment is expected. Access control should then be purchased to increase safety and capacity by reducing the roadside interference, providing adequate sight distance, etc.

It is desirable to purchase access control at intersections channelized, or where the need for channelization is anticipated. The access control should extend at least the length of the raised median at channelized intersections.

- (c) The designation of 'none' for access control means that the authority to control access is not exercised.

The symbol for access control (see 2B-2-3, "Standard Symbols") is a graphic interpretation, and shall always be shown on the right-of-way line except where the area between a frontage road, relocated sideroad, etc., and the highway is to be controlled. See Figure 2C-18-A.

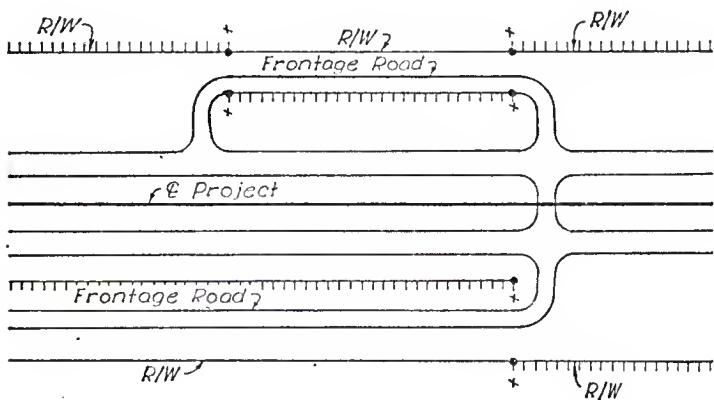
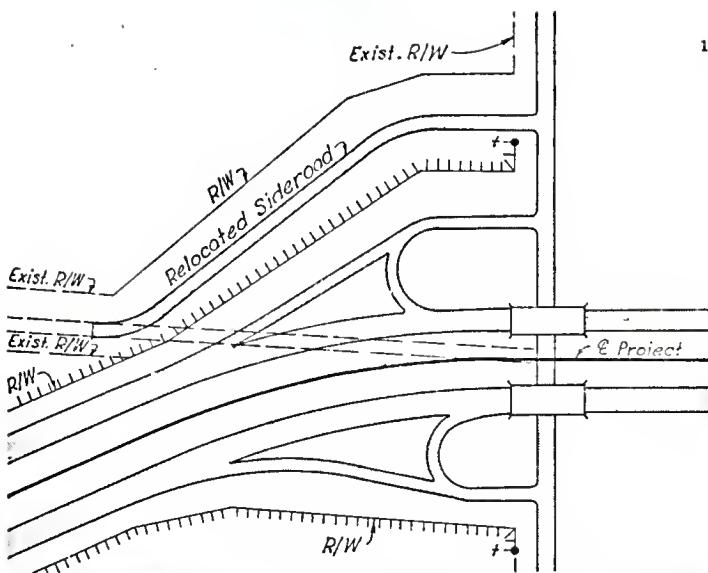


Figure 2C-18-A

Do not show access control to be taken across railroad right-of-way. See Figure 2C-18-B.

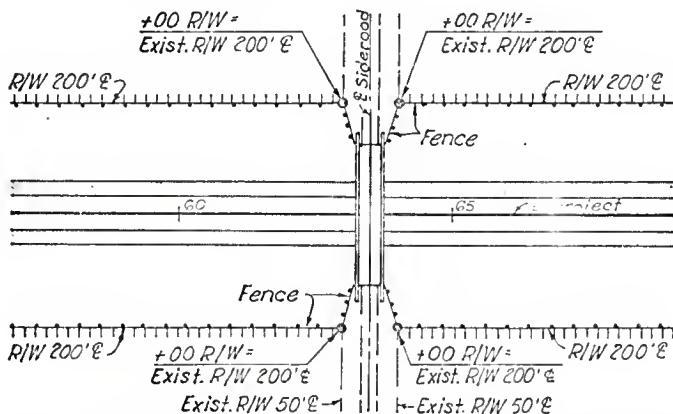
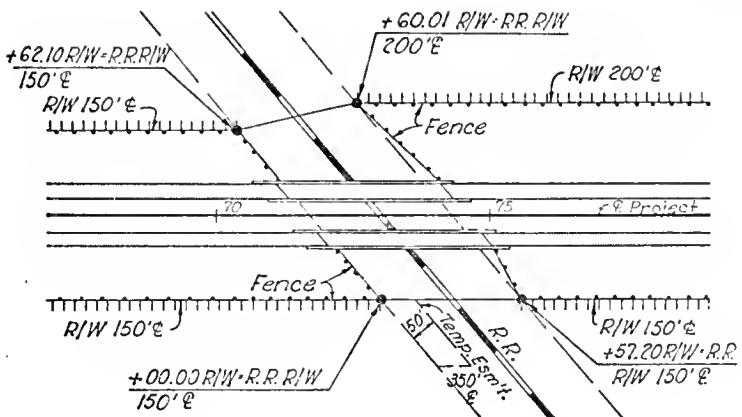
The access control symbol (whiskers) shall always be shown pointed away from the project. The only exception will be where the symbol itself would interfere with plan details, such as along a curb and gutter frontage road when the back of the curb and gutter is used as the access control line. See Figure 2C-18-A.

The access control line is not the same as the fence line (see 2C-16, "FENCING"), even though in most instances the two are within one foot of each other.

Fencing is one means of identifying access control at approximately the access control line, and of controlling movement at, or within, the access control line.

It is the general practice in Kansas to identify access control by the use of some type of fence, curb, plantings or other suitable means befitting the location. Where natural barriers exist which prohibit the violation of access control, no identification is necessary.

In rural farm areas, fence of the appropriate type will be used for this purpose almost without exception.



Note: Fencing details are to be shown on sheets separate from the Plan-Profile sheets (See 2B-13 "FENCING PLANS"), but are combined on this example to show the relationship between access control and fencing.

Figure 2C-18-B

In other areas, whether rural or urban, where it is deemed in the public interest that persons, animals and other moving objects must be kept separated from moving traffic lanes, a suitable type of barrier consisting of fence or other acceptable construction will be used.

At locations where access control is used mainly for control or marking of access points to moving traffic lanes, it may be accomplished by the use of curbs, guard rail, continuously-connected plantings, such as shrub panels, signs, the various types of fence, or other means deemed suitable for the purpose at the location in question.

It is not intended that access control identification shall create an unfavorable appearance to abutting property, but it is also not the intention to let it be wholly unmarked. Because of the additional expense to provide access control which is done for safety of traffic movement, some type of fence or barrier as required will be provided for in the plans.

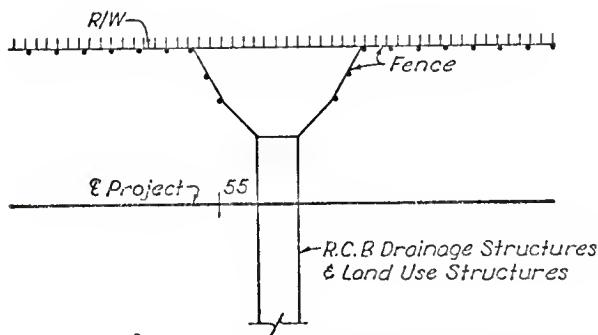
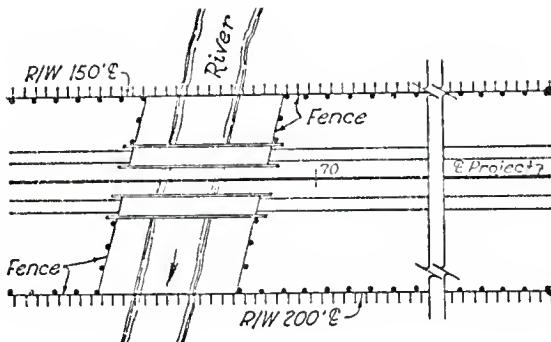
On partial access control projects, the minimum width of access opening shall be 60 feet for privately-owned property openings. In platted areas, the width of access opening shall be the platted street right-of-way width.

At public road intersections with full access control, the access control will normally stop and begin at the intersection section of the highway right-of-way and the sideroad right-of-way. See Figure 2C-18-E.

At interchange locations, the access control should be carried along the sideroad for a minimum of 250 feet (preferably 300 feet or more as needed) past the intersection of the ramp baseline and the sideroad centerline. The above 250-foot minimum corresponds to a distance of approximately 150 feet measured from the intersection of the mainline and sideroad right-of-way lines. The length may be greater or smaller depending on the angle of intersection of the ramp and sideroad, whether frontage roads are involved, nature of the area (i.e., urban or rural), etc. See Figure 2C-18-D.

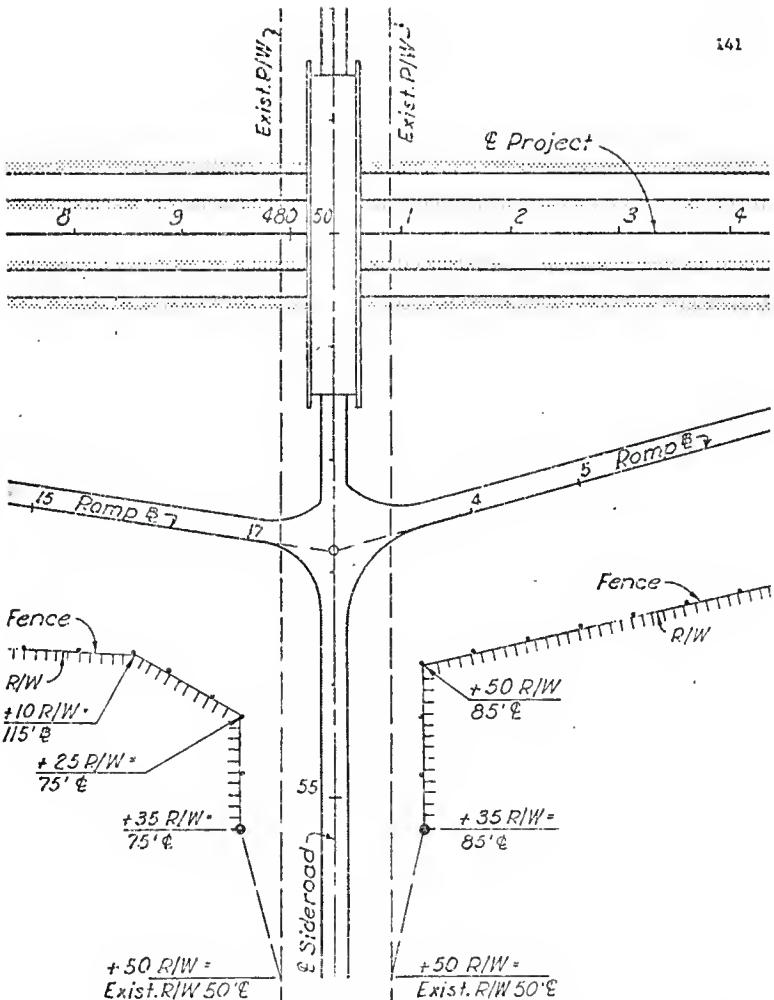
Always show a station plus and distance from centerline for access control breaks and termini. Duplication of location description is not necessary for the situation where the access control point is coincident with an adequately described right-of-way control point.

The following figures show examples of access control as related to fence and right-of-way line.



Note: Fencing details are to be shown on sheets separate from the Plan-Profile sheets (See 2B-13 "FENCING PLANS"), but are combined on this example to show the relationship between access control and fencing.

Figure 2C-18-C



Note: Fencing details are to be shown on sheets separate from the Plan-Profile sheets (See 2B-13 "FENCING PLANS"), but are combined on this example to show the relationship between access control and fencing.

Figure 2C-18-D

SUMMARY OF QUANTITIES: The summary of quantities sheet(s) should show all contract quantities for grading, bridges, and surfacing (or a combination of two or more), or refer to a sheet(s) within the plans where the information can be found. For example, the schedule of inlets and manholes, the summary of bituminous surfacing quantities, and seeding quantities are made on separate sheets.

Bridge quantities will be provided by the Bridge Section of the Design Department.

The summary of quantities may be tabulated on several sheets depending on the number of items involved. The designer should allow adequate space on the summary of quantities sheet to add additional items if necessary. Do not over-crowd the sheet(s). Figures 2C-19-A and 2C-19-B present typical summary of quantities sheets.

Appendix G

CITY OF COLBY
COLBY, KANSAS

PAVEMENT AND CURB CUTS

Authority: City of Colby, 1965: Chapter 17, Article 3.

PERMITS FOR REMOVAL. Hereafter it shall be unlawful for any person, firm or corporation to cut, break and remove pavement, curb, gutter or sidewalk in the city or to construct an entrance driveway without first applying for and receiving a permit for such purposes: Provided, that permits for any such purpose may be issued on proper application in connection with any building permit when it is proposed to open any street, remove or encumber any sidewalk as a necessary part of construction work.

CONSTRUCTION SUPERVISED. All work done under a permit issued by the City of Colby, shall be under the direction and supervision of the Director of Public Works. A permit issued under the provisions of Chapter 17, Article 3 may be revoked at any time that the work is not being performed satisfactorily.

CONSTRUCTION. In addition to the rules, regulations and specifications promulgated by the City with respect to driveway approaches, etc., the following requirements shall be complied with in work done under the provisions of this ordinance.

1. No curb cuts shall be made beyond any property line as projected except by consent to in writing by the adjoining property owner and approved by the Director of Public Works.
2. The owner and contractor shall protect the public from injury and/or damage during construction of driveway approaches, etc., and it is hereby stipulated as an essential condition of the issuance of a permit that the City of Colby, Kansas, shall not be liable for damage which may arise from the prosecution of said work.

3. The top of the paving of the driveway slab at the curbline shall not extend into the gutter beyond the face of the curb, and shall not be constructed in a manner that will in any way interfere with or obstruct the drainage of the street, or interfere with the use of the street for the purpose of travel.
4. Where it is possible, the outside of the driveway approach shall be a straight grade from the top of the curb to the grade of the outside sidewalk line.
5. All business driveway approaches shall be paved.

CURB CUTS FOR DRIVEWAYS. Residential: curb cutting width not to exceed 24 feet.

Commercial: curb cutting width not to exceed 40 feet.

WIDTH AND LOCATION OF DRIVEWAY APPROACHES. In addition to the width restriction relative to driveway approaches, the following limitations on the width and location of driveway approaches for each parcel of land shall also be complied with, to wit:

1. Where the frontage of a parcel of land does not exceed 50 feet in width, there may be constructed only one driveway approach.
2. Where the frontage of the parcel of land exceeds 50 feet in width, the curb cuts for driveway approaches shall not exceed sixty percent (60%) of the frontage of said parcel of land, provided, however, that at least one curb parking space shall separate each driveway approach.
3. No portion of a driveway approach, except the curb return, shall be constructed within 15 feet of a corner, and in no case closer than two (2) feet from the property line extended.

4. Whenever any curb is cut for the purpose of constructing a driveway approach, it shall be entirely cut and removed, and the curb and gutter, if any, shall be replaced by sectional paving with expansion joints to prevent the breaking of the adjacent curb and gutter; and the curb at each side of the approach shall be replaced by a sectional curb rounded off on a radius of at least 2 feet.
5. Driveway approaches shall be constructed so as not to interfere with or change the grade of any existing street or sidewalk.

CURB CUT BACK FOR PARKING OF VEHICLES. No person, firm or corporation shall remove or cut back the curbing along any street for the purpose of widening the area for parking vehicles in said street unless a permit has been obtained to do such work.

COOPERATION WITH CITY DIRECTOR. Any plans submitted to the Director of Public Works for the approval which include or involve unusual driveway approaches or problems, shall be referred by the Director of Public Works to the City Manager for his approval before a permit shall be issued.

MAINTENANCE AND REMOVAL. Every driveway approach or entrance to abutting property shall be maintained and kept in a safe condition by the owner of the abutting property, and any such driveway approach which shall not be so maintained and kept or which shall interfere with or obstruct the drainage carried by such street or the use of said street for the purpose of travel shall be repaired to conform with the specifications of this ordinance or be removed. Upon removal of any such driveway, that portion of the street occupied by the same shall be restored as nearly as practicable to its former condition and all curbing shall be replaced.

Whenever any driveway approach constructed under the provisions of these regulations no longer provides access for vehicles to something definite on private property, such as a parking area, a driveway, or a door at least 8 feet

wide, intended and used for the entrance of vehicles, such driveway approach shall be removed forthwith, and that portion of the street occupied by said driveway shall be restored as specified in the above section.

UNUSUAL CONDITIONS. The City Manager is hereby authorized to grant variances from the strict application of the provisions of this ordinance, provided he first determines that the following conditions are present:

1. The exception or variance desired arises from peculiar physical conditions not ordinarily existing in similar districts in City or is due to the nature of the business or operation on the abutting property.
2. That the exception or variance desired is not against the public interest, particularly safety, convenience and general welfare.
3. That the granting of the permit for the exception or variance will not adversely affect the rights of adjacent property owners or tenants.
4. That the strict application of the terms of this ordinance will work unnecessary hardship on the property owner or tenant.

City of Colby.