Report No. K-TRAN: KSU/KU-94-2 Final Report

COORDINATION OF LOCAL ROAD CLASSIFICATION WITH THE STATE HIGHWAY SYSTEM CLASSIFICATION; IMPACT AND CLARIFICATION OF RELATED LANGUAGE IN THE LVR MANUAL

Eugene R. Russell Russell Ewy Kansas State University Manhattan, KS Thomas E. Mulinazzi Bob L. Smith University of Kansas Lawrence, Kansas E. Dean Landman Kansas Department of Transportation



February 1996

K-TRAN

A COOPERATIVE TRANSPORTATION RESEARCH PROGRAM BETWEEN: KANSAS DEPARTMENT OF TRANSPORTATION THE KANSAS STATE UNIVERSITY THE UNIVERSITY OF KANSAS

1.	Report No.	2. Government	Accession No.	3.	Recipient Catalog No.		
4	Title and Subtitle COORDINATION OF LOCAL THE STATE HIGHWAY SYS' AND CLARIFICATION OF RI LVR MANUAL	5 H CT 6	Report DateFebruary 1996Performing OrganizationCode				
7.	Author(s) Eugene R. Russell, Russell Ewy Smith and E. Dean Landman	8	Performing Organization Report No.				
9	Performing Organization Nan Kansas State University	ne and Address University of Kansa	S	10	Work Unit No. (TRAIS)		
	School of Engineering Manhattan, Kansas	School of Engineer Lawrence, Kansas	ing	11	Contract or Grant No. C-449		
12	Sponsoring Agency Name and Kansas Department of Transpor Docking State Office Bldg. Topeka, Kansas 66612	13	Type of Report and Period Covered Final Report September 1993-February 1996				
		14	Sponsoring Agency Code 106-RE-0030-01				
15	Supplementary Notes For more information write to a	ddress in block 9.					
Th C, sys typ des rec for Tra inc nee the imp	16 Abstract This study reviewed the low volume road (LVR) classifications in Kansas in conjunction with the State A, B, C, D, E road classification system and addressed alignment of these differences. As an extension to the State system, an F, G, H classification system for local roads with subclassification relating to access and surface types was recommended. The study also identified various state statutes that relate to local road classification, design and maintenance criteria, project development, right-of-way acquisition, utilities, etc. and recommended revisions to clarify terminology relating to existing road classification and/or determine a need for new or revised road and street categories. Appropriate guidelines consistent with the Manual on Uniform Traffic Control Devices (MUTCD), state statues and the Kansas LVR Handbook were recommended including lower roadway design standards for rural, low volume road classifications. The study stressed the need for alternative solutions such as minimum maintenance or closure for many of the low volume roads in the Midwest. Concurrent with the LVR classification study, the language of the LVR handbook and the implications of it's A, B, C classification in relationship to signing, was examined to determine if it created problems, particularly in regards to tort liability cases.						
17	Key Words Classification System, Low Vol Maintenance, Signing	ume Road,	18 Distribution Statement No restrictions. This document is available to the public through the National Technical Information Service, Springfield Virginia 22161				
19 Ec	SecuritySecClassification (of this report)Cla thisUnclassifiedUncrm DOT E 1700 7 (8,72)	urity ssification (of page) classified	20 No. of pa 61	ges	21 Price		

COORDINATION OF LOCAL ROAD CLASSIFICATION WITH THE STATE HIGHWAY SYSTEM CLASSIFICATION; IMPACT AND CLARIFICATION OF RELATED LANGUAGE IN THE LVR HANDBOOK

Final Report Project KSU/KU-94-2

for

Kansas Department of Transportation Bureau of Local Projects Attn: Bill Gilliland Assistant Bureau Chief

by

Eugene R. Russell, Professor and Director, KSU Russell Ewy, Former Graduate Student, KSU Thomas E. Mulinazzi, Professor and Associate Dean, KU Bob L. Smith, Professor Emeritus, KSU E. Dean Landman, Systems Plan Engineer, KDOT (Retired)

February 1996

PREFACE

This research project was funded by the Kansas Department of Transportation K-TRAN research program. The Kansas Transportation Research and New-Developments (K-TRAN) Research Program is an ongoing, cooperative and comprehensive research program addressing transportation needs of the State of Kansas utilizing academic and research resources from the Kansas Department of Transportation, Kansas State University and the University of Kansas. The projects included in the research program are jointly developed by transportation professionals in KDOT and the universities.

NOTICE

The authors and the State of Kansas do not endorse products or manufacturers. Trade and manufacturers names appear herein solely because they are considered essential to the object of this report.

This information is available in alternative accessible formats. To obtain an alternative format, contact the Kansas Department of Transportation, Office of Public Information, 7th Floor, Docking State Office Building, Topeka, Kansas, 66612-1568 or phone (785)296-3585 (Voice) (TDD).

DISCLAIMER

The contents of this report reflect the views of the authors who are responsible for the facts and accuracy of the data presented herein. The contents do not necessarily reflect the views or the policies of the State of Kansas. This report does not constitute a standard, specification or regulation.

Coordination of Local Road Classification With the State Highway System Classification; **Impact and Clarification of Related** Language in the LVR Handbook

TABLE OF CONTENTS

Page

CHAPTER I: INTRODUCTION 1
Summary of the Study
Benefits 1
CHAPTER II: A STUDY OF LOCAL ROAD CLASSIFICATION AND
COORDINATION WITH THE STATEWIDE TRANSPORTATION SYSTEM
Abstract
Introduction
Survey of Kansas County Engineers/Road supervisors
KDOT's State Transportation Plan (KSTP) Classification
KDOT Classification Procedures
State Selection Criteria
Mileage and Travel Summaries
Kansas County Road Classification
Some Considerations for a Rural Classification System
Proposed Selection Criteria for Local Roads
•
CHAPTER III: SURVEY OF COUNTY PERSONNEL
Procedure
Summary of Survey Results
Compilation of Answers and Comments
Survey Summary
CHAPTER IV: REVIEW OF STATUTES
Additions That Ware Considered to the K.S.A.
Additions 1 hat were Considered to the K.S.A.
Modifications to the LVR
CHAPTER V: ROAD CLASSIFICATION MATRIX
Conclusions
Appendix A County Road Classification Survey
Appendix B Selected Kansas Statutes Annotated

LIST OF TABLES

Page

Table 1	Kansas STP Classification Summary Total State Rural Mileage and Travel - All Vehicles
Table 2	Kansas STP Classification Summary Total State Rural Mileage and Travel - Heavy Trucks
Table 3	Kansas County Road Surface Type 10
Table 4	Rural Low Volume Road Classification
Table 5	Typical Physical Characteristics of Driver Perceived Road Types
Table 6	Summary of Answers to Select Survey Questions
Table 7	Summary of Survey Responses by County (05/17/94) 25
Table 8	Road Classification Table

Coordination of Local Road Classification With the State Highway System Classification; Impact and Clarification of Related Language in the LVR Handbook

CHAPTER I: INTRODUCTION

There is a need to look at Low Volume Road (LVR) classification in conjunction with the state's. A, B, C, D, and E road classification system (A are the interstate highways, down to E which are the minor local roads and stubs) and address inclusive categories for counties and cities. The main problem is to relate the local classification system to a system of statewide major and minor collectors and local roads. Then the whole classification system could be used as a basis to: (1) consider changes in the state statutes to revise for federal terminology changes or clarify terminology and, (2) tie the various components of the classification system into a hierarchy of concomitant maintenance requirements, roadside clearance, barrier requirements, geometric guidelines and signing needs.

Once the terminology has been clarified and the statutes updated and revised, it will follow that the current county engineer's report could be replaced by an "accomplishments report" within classification system types and surface types, etc. Then the accomplishments report can be taken one step further to quantify local needs by system class and surface type.

SUMMARY OF THE STUDY

This study will look at the low volume road (LVR) classification in Kansas in conjunction with the state of Kansas A, B, C, D, and E road classification system and address alignment of these differences.

The study will identify the various state statutes that related to local road classification, design and maintenance criteria, project development, right-of-way acquisition, utilities, etc. and recommend revisions to clarify terminology relating to existing road classification and/or determine a need for new or revised road and street categories.

Appropriate guidelines consistent with the MUTCD, state statutes and the Kansas LVR Handbook will be recommended.

Concurrent with the LVR classification study, the language of the LVR Handbook and the implications of it's A, B, C Classification in relationship to signing, will be examined to determine if it created problems, particularly in regards to tort liability cases.

BENEFITS

Helping to create acceptable but reduced guidelines for the operation of lower volume roads and streets, could save the state and local governments money in the long term.

Revising, clarifying and updating state statutes would make them current. The development of the framework for better quantitative, "needs data" from the counties, through revision of the county engineer's report, could make it an "accomplishments report." This would facilitate developing the local portion of the 1995 Statewide Transportation Plan and future management systems.

Reexamining the LVR Handbook language for clarity in the context of a coordinated classification system should provide for more precise definitions, clarify the intent of certain provisions in the Handbook relative to road classification. Any changes can be recommended for inclusion in the next printing of the Handbook and shared with local agencies by the Bureau of Local Projects.

CHAPTER II: A STUDY OF LOCAL ROAD CLASSIFICATION AND COORDINATION WITH THE STATEWIDE TRANSPORTATION SYSTEM

Abstract

This chapter suggests a procedure for classifying local roads. The procedure is an extension of the method used by the Kansas Department of Transportation (KDOT) for the State Highway System of Kansas. The procedure complements the functional classification that has been done to satisfy the requirements of federal highway legislation. The federal functional classification has percentage guidelines to assure nation-wide uniformity and is not necessarily sensitive to local situations. This chapter suggests that the user analyze available data to better understand the local circumstances. With this background, the roads can be classified into recommended categories that are compatible with the expectation of the driver and the level of usage.

Introduction

Classification of roadways into different categories is one of the basic steps of a sound planning process. The most obvious reason to stratify and distinguish between roads is that no unit of government has enough resources to provide equally good service on all facilities. This is true, regardless of the level of government involved. Even if it were possible to provide equally high levels of service on all facilities, it would not be desirable, neither from the road-users nor the adjacent occupants point of views.

State DOT's, in cooperation with local units of government, have classified all roads and streets within their respective jurisdictions, in response to past federal-aid highway legislation. This was first done, in the modern era, in 1968, and the process has been updated several times.

The Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA), established a category of funds called Surface Transportation Program (STP) funds that may be spent on any road and street that is functionally classified as a major collector or higher. Federal funding eligibility is now tied to a road's functional classification. Thus, the classification scheme has taken on greater importance. The KDOT and local governments were required to reexamine the functional classification of their roads and streets to make sure it is correct and reasonable.

The FHWA criteria included a minimum and maximum percentage of miles and vehiclemiles of travel in each class. The higher classes account for a small portion of the total mileage but the greater part of the vehicle miles of travel. These guidelines were based on national averages and do not necessarily meet the needs of individual states.

Survey of Kansas County Engineers/Road Supervisors

All Kansas county engineering personnel were recently surveyed regarding various issues, including problems with the current road classification system. The survey results are provided in

Chapter III. The following conclusions relating to road classification were drawn from the survey:

Twenty-six percent of respondents had problems with the current road classification system, such as, interpretation and application of design standards and setting maintenance and construction priorities.

In regard to using a road classification system to establish priorities, 14 percent said it is not needed, 49 percent said it is needed. Most of the others (37 percent) gave scattered replies that could be interpreted as "yes – with reservations."

In regard to whether respondents used the AASHTO "Green Book" for county funded new construction projects, 44 percent answered "yes," and 45 percent answered "no" (11 percent didn't respond). This could be interpreted that a high percentage of counties are providing maintenance and little new constructions. Thus, it may be difficult to determine if a majority use the "Green Book" or Federal Standards. KDOT has a policy that all county projects with federal funds and local match will be constructed to AASHTO "Green Book" criteria.

KDOT's State Transportation Plan (KSTP) Classification

The Federal Highway Administration uses the functional classification as a basis to report to Congress. However, this system did not provide a designation that was acceptable for use by KDOT to prioritize state projects or to apply standards to improvements to the various highways within its system. Over 80 percent of the State Highway System was classified as a minor arterial or higher. Because the AASHTO Green Book contains only one set of standards for two-lane rural arterials, an additional classification was needed.

Following several years of effort, KDOT developed and adopted its own classification. The KSTP classification stratified the nearly 10,000 mile Rural State Highway System in five classes: Classes A - E. KDOT uses this system for a variety of agency functions, including establishing needs criteria, prioritizing projects and setting design standards. This is a rural highway classification system and does not consider the urban classification of city connecting links.

Before one can set criteria for classifying the roads of a state or region, one must know something about the historical development that lead to the creation and evaluation of the present system. The following section provides some of the factors that influence the character of the road system of Kansas.

<u>Geographical Analysis</u>. Because of its topography and historical development, Kansas has a relatively large number of miles of roads for its area and population density. Application of the guidelines percentages to Kansas caused more roads to be classified higher than actual usage would justify. Every road is built to provide mobility to persons and goods from one location to the other and/or accessibility to the abutting properties. The geographical and social-economic characteristics of the region being served need to be analyzed to know the importance of the road. <u>Terrain</u>. The relatively flat terrain throughout most of the state contributed to extensive homesteading. The drainage system for the flat terrain produced many small streams but few large ones. The small streams do not disrupt the uniform grid pattern and result in a large number of bridges. More important, the larger streams produce natural corridors for traffic. The example in Figure 1 shows a grid that is not affected by natural features. There is almost an infinite number of possible choices of paths between points A and B. The choices on the right have been limited by the streams but some better choices have been introduced because the diagonals are a shorter alternative between C and D. If the choices are to be limited in the left example, they must be done administratively. The classification effort is more difficult when dealing with a uniform pattern but it is also more important that it be done.



Figure 1. The Effect of Natural Features on Grid Pattern.

<u>Historical Background</u>. The extensive network of transportation facilities existing in Kansas today is a product of the historical development of the state. Rapid growth in population occurred as a result of the passage of the Homestead Act of 1868. Immigrants homesteaded most of the tillable land during the next 20 years. The act allowed a prospective farmer to homestead 160 acres (quarter section). Farmers built section-line roads throughout the state to pay poll tax. As a result, Kansas has more miles of rural roads than any other state except Texas. (Federal Highway Administration, 1994).

None of the roads were hard surfaced and vehicles were horse-drawn, making travel beyond the nearest town very limited. Railroads provided accessibility to distant markets. Consequently, an extensive system of rail emerged, along with numerous towns that served both as a supplier for the surrounding community and as a market for the crops produced. For the transport of agricultural commodities, the rail system served as arterials and the better roads served as collectors at best. <u>Population Trends in Kansas</u>. Farming operations became increasingly larger in the following decades, replacing the numerous small family farms; and much of the state's extensive farm population, as well as that of the small communities, began moving to the cities or even leaving the state. Many of the counties have lost a considerable amount of their population since they peaked. Some counties have lost as much as three-fourths of their population since it reached its maximum 100 years ago. The numbers of farms have declined along with the population, but the area farmed has been fairly constant, except where rural area has been lost to urbanization. The decrease in number of farms and farm population has not been accompanied by a similar decrease in local road mileage. Because of larger farm equipment, the lesser usage has not decreased the physical needs on the roadway.

One of the very important factors to consider in planning a system to efficiently carry statewide travel is that of route continuity. Corridors should be improved throughout their length so as not to funnel traffic onto poorer sections. If projects are selected on the basis of improving the highest priority segment, without regard to route continuity, the system turns into a patchwork of disjointed sections of modern and deficient roadways. This becomes even more of a problem when funds to make improvements are insufficient to improve the entire corridor within a reasonable length of time.

Although characteristics of the traffic currently using a road are important in determining its classification, a mix of traffic or the vehicle size, which is different than the design traffic, can cause safety and maintenance problems. In some cases, it may be desirable to attempt to alter the pattern of use by diverting traffic types onto other facilities in the corridor to obtain a more compatible relationship between the roadway and the user. For example, it is desirable to divert heavy truck traffic away from roads with little base and light-type surfaces and/or incompatible geometrics, onto roads designed for the heaviest use.

There is always a potential public relations problem associated with any classification. Communities will campaign long and hard for a higher classification on the highway(s) that serve them. However, most people have come to realize what the public can afford; and that attempting to bring every road up to the highest standards with a limited amount of funds will lead to the deterioration of the whole system such that everyone loses. It is important to have policy makers, including elected officials, recognize the need for undertaking the classification and also understanding the procedures for doing the classification.

KDOT Classification Procedures

A wide variety of tools and resources were used to stratify the Rural State System into classes. They include:

traffic counts, classification counts (breakdown of trucks by type), truck weight surveys, roadside origin destination surveys, census data, plans of adjacent states, statewide traffic assignment models, and highway database.

The KDOT highway classification was done from the top down to ensure continuity and integration within each class and with those above.

State Selection Criteria

The following criteria were used to classify the State Rural Highway System into five classes: A through E.

CLASS A

This class coincides with the Interstate System (National System of Interstate and Defense Highways). As its name implies, its primary civilian function is to serve interstate travel. It is also a national system of defense highways and, as such, is designed to carry heavy defense equipment in time of national emergency.

The Interstate was chosen to stand alone as a separate class because of the particular funding available. It has: full access control; longest average trip length of any system; and is an integrated and interconnected system by itself. The Interstate System is an example of a facility that provides service to large numbers of vehicles traveling long distances.

CLASS B

This class, along with Class A, serves the most important corridors of statewide and interstate auto as well as heavy truck travel. Nearly all cities with a population over 10,000 are within ten miles of these routes. Incorporation of a facility as a Class B Route implies a commitment to the high standards throughout its length, regardless of the possibility of lower volumes on part of the route. Each route or corridor designated as Class B represents a sizable commitment of resources.

CLASS C

This class is also an important part of the statewide arterial system and is integrated with Classes A and B to provide efficient service to all areas of the State. While some interstate travel occurs on the Class C Routes, their principal function is to provide person and commodity movement between regions of the State. Because of a high number of commuter trips, some of the Class C Routes which radiate out from the metropolitan areas are among the highest volume routes in the State. Even though local traffic makes up a larger portion of the traffic stream, these are also important arterial routes for economic development of the State.

Route continuity is not as important as for Class B routes and design elements of the routes can change at major activity points and major junctions. Structural capacity is

provided in the design of the facilities for inter- and intra-regional heavy truck traffic but heavy through movement should be discouraged. The higher volume segments of Class C Routes have the same design standards as Class B Routes.

CLASS D

This class contains routes that serve both inter-county movement as well as routes that provide access to the arterial routes for county seats and other small urban areas that are not on a Class A, B or C Route. The importance of these routes for commercial service is related primarily to the small communities they serve. The percent of trucks on these routes should generally be low, but specific sections serving commercial traffic generators, may carry a large number of trucks. Almost no interstate mobility is provided, except as access connectors to an interstate route; however, there may be trips to local industries involved in interstate activities. Many Class D state highways serve the same function as roads maintained by counties.

CLASS E

This class is made up of stubs and routes whose service is limited almost exclusively to local travel. Truck traffic typically makes up a small percent of the total number of vehicles, but may be significantly higher if there is local industry generating large numbers of trips. The average trip length is generally short but may vary widely, depending on the nature of the local area served. For example, an access road to a state or regional park may draw visitors from a considerable distance, making the total trip lengths quite long. Traffic can vary widely for one segment to the next depending on local generators of trips. The Class E system of roads generally serves traffic which originates from county or township roads.

Mileage and Travel Summaries

Tables 1 and 2 provides summaries of roadway miles, vehicle miles, and percent for both total traffic and heavy truck for each of the five classes.

State		Miles ¹		V	Average		
Hwy Class	Number	Percent	Accum Percent	Number	Percent	Accum Percent	AADT
А	650	6.5%	6.5%	4,910	25.2%	25.2%	7,554
В	2,160	21.6%	28.1%	5,610	28.8%	54.0%	2,597
C	2,160	21.6%	49.7%	4,470	22.9%	76.9%	2,069
D	3,240	32.4%	82.1%	3,560	18.3%	95.2%	1,099
Е	1,790	17.9%	100.0%	940	4.8%	100.0%	525
Total	10,000	100.0%		19.490	100.0%		1,949

 Table 1. KSTP Classification Summary. Total State Rural Mileage and Travel - All Vehicles.

¹ Mileage is round to nearest 10 miles.

² Vehicle Miles, All Vehicles are in 1000's.

The Interstate System, Class A, makes up only 6.5 percent of the State's rural mileage, but carries one-fourth of total rural travel and one-third for all heavy rural truck travel. Classes A-C represent one-half of the mileage and carry over 75 percent of total travel and over 80 percent of heavy truck travel. This is particularly significant, because the remaining half of the system does not generate enough revenue per mile from road users to provide adequate maintenance, let alone provide for modernization.

 Table 2. KSTP Classification Summary. Total State Kansas Rural Mileage and Travel

 Heavy Trucks.

State		Miles ¹		V	Average			
Hwy Class	Number	Percent	Accum Percent	Number	Percent	Accum Percent	AADI	
А	650	6.5%	6.5%	1,080	32.7%	32.7%	1,662	
В	2,160	21.6%	28.1%	1,020	30.9%	63.6%	472	
С	2,160	21.6%	49.7%	590	17.9%	96.4%	273	
D	3,240	32.4%	82.1%	490	14.8%	95.2%	151	
E	1,790	17.9%	100.0%	120	3.6%	100.0%	67	
Total	10,000	100.0%		19.490	100.0%		330	

¹ Mileage is round to nearest 10 miles.

² Vehicle Miles, All Vehicles are in 1000's.

Kansas County Road Classification

A need for a classification system has resulted such that local roads be further subdivided into classifications to aid local government in allocation of scarce funds.

Kansas statutes in Chapter 68 provide for the classification of county and township roads in county unit and county township counties. These statutes, updated in 1986, represent the secondary system classification of roads that was first made eligible for federal funding in the late 1940s and early 1950s. Since approximately 1980, the federal functional classification categories used most often are (ASCE, 1992):¹

Arterial Collector Local Minimum Maintenance

In the most recent update to the reclassification, Kansas counties made few changes in their former rural Major Collectors (which was the criteria for being designated as Federal Aid Secondary [FAS] routes). The criteria change for Federal fund eligibility had very little impact on which routes the counties could use federal aid. In this classification scheme, counties also designated minor collectors to complete their non-state collector-distributor road network. This leaves approximately 87,000 of miles of local rural "land access" roads of various types with a multitude of physical attributes. A principle source of readily available data maintained by KDOT about the roads is the road surface type. The road surface types identified on county maps is shown in Table 3.

Many Kansas county roads carry less than 400 vehicles per day and fall in the category of low volume roads. A proportional split between movement and land access for these low volume roads is illustrated in Table 4 (ASCE, 1992).

Road Surface Type	Description
H-2	Paved Road
G-1	Bituminous Road-Low Type
E-2	Gravel or Stone road Graded and Drained
С	Graded and Drained Road
В	Unimproved Road
А	Primitive Road

Table 3. Kansas County Road Surface Type.¹

¹ Source: County General Highway Map

Some Considerations for a Rural Classification System

The method used to develop the State's A-E Classification can also be used as a guide for generating similar criteria for classification for non-state highways or county and township roads. A classification for non-state highways must rely more on personal or local knowledge because less data is available than that for the state system. At a minimum, recent coverage traffic counts should be available, including counts on key roads in surrounding counties. Classification counts, identifying heavy truck usage is also very desirable.

Road Classification	Vehicle Use	ADT	Road Design Type ¹	Maintenance	Traffic Control
Low Volume Collector	All Vehicles	50-400 <50	A B	Normal	MUTCD
Residential Access	Cars, emergency and service vehicles	50-400 <50	B C	Normal Normal	MUTCD MUTCD
Farm Access	Cars, light trucks, occasional heavy trucks, farm equip.	250-400 <250	A B	Normal	MUTCD
Resource/ Industrial Access	Trucking, employees cars	50-400 <50	A B	Normal Normal	MUTCD MUTCD
Agricultural Land Access	Occasional farm equip. seasonal		С	Min. Maint.	Min. Maint. Signing
Recreational Land Access	Cars, R.V.s Seasonal	50-400 <50	В	Min. Maint.	Min. Maint. Signing
			С	Min. Maint.	Min. Maint. Signing

 Table 4. Rural Low Volume Road Classification (ASCE, 1992)

Recent federal legislation has made a category of funds available for new construction of the rural secondary (K.S.A. 68-402) or major collector routes. Therefore, there has been temptation for local units of government to classify as many miles as possible as rural major collectors, thus making them eligible for federal aid funding. Although the flexibility is desirable, juggling the functional classification from one route to another route just to make it eligible for federal aid is not sound practice.

There are five basic points which should be considered when classifying local roads into one class or another. These points are:

1. There are not enough funds available to make all the improvements desired to all local roads. It is important to not over-classify marginal roads to a higher class that will require greater funds. Since user revenue per mile generated by local roads is even less than that generated by state highways, local agencies must exercise even greater care in assuring that their roads are "over built."

- 2. The higher the class, the more important mobility becomes. Since users are less likely to be familiar with higher class roads, they expect to be provided similar levels of service throughout the length of their trip. Therefore, a higher classification carries a commitment to provide a corridor with a consistent, higher level of service.
- 3. By improving an entire corridor, a governing body can exercise greater control of the traffic patterns of their roads. Funneling heavy vehicles onto roads that are designed to carry their loads keeps the usage on all others as low as possible. This reduces maintenance needs on those roads that are least capable of handling heavy loads.
- 4. Federal-aid project improvements built to AASHTO criteria typically cost more than nonfederal-aid projects; the minimum design criteria for a functional class may be based on anticipated traffic volumes that are much greater than exist on rural Kansas roads. The rural major collector classification should not be accomplished at the expense of cutting corners on safety features.
- 5. Classifying roads to the lowest practical category allows the standards used for a particular project to be more sensitive to traffic. The higher classes should have "continuity," that is, their geometric standards and level of services should be consistent throughout the length of the route. Since continuity is so important on higher classes, the design standard is sensitive to the highest traffic along a corridor. For lower classes, the standards can change as traffic volumes change.

Another effort to classify roads is included in the Kansas "Handbook of Traffic Control Practices," (1984, 1991) (LVR Handbook). It contains the classification system that categorized roads as A, B or C based on driver expectancy. The LVR Handbook system *is not to be confused* with the STP Classes A, B, or C, developed for State Highway System. The LVR Handbook system is based entirely on how a driver perceives the road as he/she is driving it and adjusts driving behavior based on his/her expectations. The LVR Handbook system was *never intended* to be a functional classification system, and should *not* be used as one. The LVR Handbook does present typical physical characteristics *that one would expect* on roads that drivers perceive as A, B or C. These are summarized in Table 5. However, it is very important to keep in mind that one should *never* start with these physical characteristics and assume drivers will perceive them that way. It is also important to realize that a road generally perceived as a "C" road may not stay that way. For example, straightening, widening or even grading a "C" road may result in drivers perceiving it as a "B" road–or even an "A" road–and they will drive it accordingly.

Table 5.Typical Physical Characteristics of Driver Perceived Road Types (adapted from
Handbook of Traffic Control Practices, 1991).

	Driver Perceived Road Type						
Characteristic	Type A ¹ Type B		Type C Primitive				
Typical Width of Traveled Way and number of visible wheel paths	22' or greater, 3 or 4 visible wheel paths (if gravel)	16'-24', 2 or 3 visible wheel paths	2 or no visible wheel paths				
Prudent Operating 40 mph or greater Speed		25-45 mph	40 mph or less				
Surface Material	rface Material paved or aggregate		natural surface may have some aggregate				
Riding Quality	No adverse effect	may cause reduction in operating speed	typically poor; may be impassable due to poor weather				
Drainage	All weather road - good surface drainage; water carried to ditches	All weather road - some surface ponding; water carried in ditches	Fair weather road - ditches are narrow or nonexistent; surface ponding likely to affect drive ability				

¹As perceived by a driver; not a physical classification.

Proposed Selection Criteria for Local Roads

The following criteria can be used to stratify Rural, Non-State Roads into three additional classes: Rural Secondary, Minor Collectors and Local Access and fitting in with the State system classification F, G, and H, respectively.

CLASS F

These routes would be the most important connectors on the non-state system; i.e., the County Major Collectors. Traffic on these routes may be similar to the Class D and E Routes on the State System. The truck usage will be higher than on other county routes. The routes connect with similar routes in adjacent counties, thus serving substantial intercounty travel. These routes may connect small cities to the state highway system. There should be no stubs except at a city, regional recreational area, or other large trip generator.

There should be continuity along an entire corridor. If continuity does not now exist, the governing body should be committed to improving the corridor to an acceptable level of service.

CLASS G

These routes are the County Minor Collectors. This class is the most difficult to categorize since it includes those roads that do not explicitly fit into a higher or lower category. It is more than a local road. It serves as a collector for strictly local roads. The routes would serve shorter trips and the traffic may vary along its length. It may connect to a very small city or unincorporated area. Expected truck volumes would be lower than those generally found on Class F Routes. There should generally be no stubs except at a city, a recreational facility, or other trip generator.

Continuity should be given *some* consideration along the route. However, the traffic volume in each segment is more important than corridor continuity in selecting the design criteria. Traffic volume and turning movements might be high enough at the edge of a large city to justify four lanes, but in the next mile, two lanes may be adequate.

CLASS H

The primary function of local roads is to provide access to the abutting properties. Through traffic should be discouraged. In order to minimize system-wide costs, only as much should be invested into the system as is necessary to allow the immediate users safe access to other higher type roads. The design criteria for a local road are controlled completely by the traffic on that road with no need to consider route continuity. For example, a local road serving a large cattle feeding operation may require a very high type asphalt roadbed with full width shoulders, from a state highway to its driveway. Beyond the driveway, a narrow dirt road may serve quite well, as long as transitions are clear and well-marked, with proper signing.

At some point, it may be necessary to further designate Local Access roads serving only a few vehicles per day as Minimum Maintenance Roads, and to turn over the responsibility for maintenance of roads that serve only one farm to that farmer or landowner. Another option is for the Class H routes to be subdivided into the access classification recommended in the ASCE Low Volume Roads Manual shown in Table 4.

All classes could be further sub-classified (or grouped) from paved to primitive, as used on county maps.

The access categories could be:

Residential Access (RA), Farm Access (FA), Resource/Industrial Access (R/IA), Agricultural Land Access (AA), and Recreation Land Access (RCA)

The road surface types would be:

Paved (P), Gravel (G), Unimproved (U), and Primitive (PR). These could be included in the complete classification designation. For example, a paved local road used for farm access could be designated H/FA/P (Class H/Farm Access/Paved). Classes "F" and "G" could be subdivided by road surface types "P" (paved) or "U" (unpaved), if desirable.

The purpose of defining these classifications and subclassifications would be to provide a tool for a local government to use to better manage their road system. No limits on the numbers of miles and vehicle-miles are recommended. Limits are only necessary for classification systems that require an equity from one unit of government to another.

When integrated, the whole statewide classification system could be used as a basis to: (1) consider changes in the state statutes to clean-up or clarify terminology relating to road classification in all jurisdictions, (2) tie the various components of the classification system into a hierarchy of concomitant, maintenance requirements, roadside clearance/barrier requirements, geometric guidelines and signing needs, and (3) facilitate incorporating all roads in the state, especially LVRs, into a statewide plan.

In addition, once the terminology has been clarified and the statutes revised, it will follow that county engineers' reports could be based on an "accomplishment report" within classification system types and surface types, etc. Then the accomplishments report can be taken one step further to quantify local needs by system class and surface type. This would facilitate integration of local road and street needs and plans into the statewide transportation plan and applicable state management systems that have been mandated by recent federal legislation.

Once all roads are properly classified, guidelines could be developed for various classifications and/or subclassifications that are consistent with the use of the road. These guidelines would utilize the range of "Green Book" guidelines on the higher classes of roads to lower appropriate guidelines on the lower classes or minimum maintenance roads. Should they be reconstructed, normal maintenance would not require upgrading to "Green Book" criteria. Another option could be the roads serving only a few vehicles/day and having alternate routes could be considered candidates for closure or landowner maintenance. The roads that serve only one landowner could be given to the landowner. This approach has been studied in Iowa (Mercier, 1982).

Lower design criteria should not compromise safety. A recent report argues that lowering standards can result in *improved* safety (Ivey and Griffin, 1992). They maintain that the *main* reason for lack of attention to problems on low-volume roads is the "do all" syndrome (DAS). DAS requires that if one element of a roadway is brought up to "standards," all elements must be brought up to "standards," and the new result is the DAS keeps anything from being done. For example, many county engineers feel they cannot improve a bridge rail, even if it is performing poorly, unless the whole bridge, including approaches, is brought up to standards. Thus, a 1930 bridge rail may be repeatedly repaired or rebuilt to 1930 standards (IVEY and Griffin, 1992).

CHAPTER III: SURVEY OF COUNTY PERSONNEL (1995)

Procedure

With input from the contract monitor, a survey was developed. Drafts of the survey were sent to the advisory committee and comments that were returned were considered. Appendix A contains the final draft that was sent to all counties.

Three separate mailings were made. Included with each mailing were

- 1. a summary of the project and its benefits (see page 2), and
- 2. a letter co-signed by the president of the Kansas County Highway Association (KCHA).

After the second mailing, an attempt was made to contact by phone those who had not responded. Information from several counties was obtained through these telephone contacts. In several non-responding counties, no person could be contacted who would answer the questions. A third mailing was made to these counties.

This report summarizes the responses from 86 counties, 82 percent of the 105 counties.

Summary of Survey Results

Some of the questions on the survey could be quantified. These are presented below by question and in Tables 1 and 2 at the end of this section.

Compilation of Answers and Comments

1. Are there any specific road problems you have faced arising from the current road classification? Please check those that apply and explain.

N (%)

6	(6.1%)	a.	Interpretation of the L.V.R. Handbook
6	(6.1%)	b.	Application of Design Standards
12	(12.1%)	c.	Setting Maintenance and/or Construction Priorities
10	(10.1%)	d.	State Statute Interpretation
13	(13.1%)	e.	Understanding Requirements of County Engineer's Report
3	(3.1%)	f.	Other(s)

<u>6</u> (6.1%) No Response

Comments

- **S** Expressed that local problems do not stem from classification. (1)(1.2%)
- **S** Guidelines directed by insurance company, not state. (1)(1.2%)
- **S** Township roads in county-unit system. (2) (2.3%)
- **S** Problems with Type A roads. (1)(1.2%)
- **S** Lack of funds to bring roads up to state classification. (3) 3.5%)
- **S** County Engineer's report needs clarification. (2) (2.3%)
- **S** Design standards lack of right-of-way width. (1) (1.2%)
- **S** Conflict between state statutes and L.V.R. (4) (4.7%)
- **S** Have own classification system. (1)(1.2%)
- **S** County Engineer's report cost accounting. (1)(1.2%)
- **S** Explaining classification/funding to Commissioner/citizens. (1) (1.2%)
- **S** KSA 68540 and KSA 68541 report to County Commissioners. (1) (1.2%)
- **S** Dealing with speed of vehicles on county roads during projects. (1) (1.2%)
- **S** Haven't read LVR yet. (2)(2.3%)
- **S** Engineer's report what purpose? (1)(1.2%)
- **S** Roads not classified yet. (1)(1.2%)
- 2. Has any litigation arisen in your county relative to signing, pavement markings, design, or maintenance?

Yes <u>22</u> (25.6%); No <u>64</u> (74.4%)

If so, describe any relationship which involved interpretation of any road classification.

- **S** Do not sign township roads. (1)(1.2%)
- **S** Townships are going to minimum maintenance to reduce liability. (1)(1.2%)
- **S** Signs installed according to L.V.R. Handbook recommendations. (1) (1.2%)
- **S** Maintenance. (1) (1.2%)
- **S** Uneven pavement. (1)(1.2%)
- 3. Please state your county's policy for signing intersections. (Include reference document used.)
 - **S** First consider major/minor collectors with most traffic. (4) (4.7%)
 - **S** All county roads are controlled. (5) (5.8%)
 - **S** No policy on township roads. (2) (2.4%)
 - **S** Controlled at public's request/complaints. (7) (8.1%)
 - **S** Two-way stop for all township and minor county roads and appropriate major county roads. (4) (4.7%)
 - **S** No yield signs on county system. (1)(1.2%)
 - **S** No written policy. (3) (3.5%)
 - **S** Sight distance. (10) (11.6%)
 - **S** Record of accidents. (8) (9.3%)
 - **S** Safety deficiencies on C, D and E roads. (1) (1.2%)
 - **S** L.V.R. (27) (31.4%)
 - **S** MUTCD (30) (34.9%)
 - **S** Streets Manual. (1) (1.2%)

- **S** ITE Handbook. (1) (1.2%)
- **S** Signing Project in the 1970's. (1)(1.2%)
- **S** Federal Guidelines Book. (1) (1.2%)
- **S** State Specifications. (2) (2.4%)
- **S** County commissioner's request/Commission resolution. (3) (3.5%)
- **S** Engineer's study/design standard. (4) (4.7%)
- **S** Traffic safety study. (6)(7.0%)
- **S** All former F.A.S. routes have been designated through roads and side traffic stops. (5) (5.8%)
- **S** Coin toss. (1) (1.2%)
- **S** Consultant. (3) (3.5%)
- **S** Road Classification. (3) (3.5%)
- **S** Vehicle count. (9) (10.5%)
- **S** Money. (1) (1.2%)
- **S** State signing program. (1)(1.2%)
- **S** KDOT signing program. (1)(1.2%)

Is your policy based all or partially on the classification of the road?

Yes <u>35</u> (40.7%); No <u>24</u> (27.9%) Yes & No <u>16</u> (18.6%); No Response <u>11</u> (12.8%).

- 4. Please give your opinion and/or ideas about adopting a formal priority system based on road classification for signing, surfacing, maintenance, etc. of county roads.
 - **S** Is not needed. (12) (14.0%)
 - **S** Is needed. (42) (48.8%)
 - **S** Situation will always change. (3) (3.5%)
 - **S** (Yes) Based on traffic count. (4) (4.7%)
 - **S** If money is provided. (9) (10.5%)
 - **S** Not sure it would work. (2)(2.4%)
 - **S** Not sure it would be legal. (2)(2.4%)
 - **S** Classification is more effective. (2)(2.4%)
 - **S** Would help legally. (1)(1.2%)
 - **S** A and B by county/C, D, and E by landowner. (2)(2.4%)
 - **S** (Yes) Would be more economical. (2)(2.4%)
 - **S** Local officials know their own problems (local control). (7) (8.1%)
 - **S** (Yes) Based on surface type. (2)(2.4%)
 - **S** F.A.S./county routes are okay, township roads benefit with classification system. (3) (3.5%).
 - **S** Would reduce amount of low volume signing. (1)(1.2%)
 - **S** (yes) Set up by the counties. (1)(1.2%)
 - **S** Uniformity (by MUTCD). (3) (3.5%)
 - **S** If used with daily traffic counts. (1)(1.2%)
 - **S** (Yes) L.V.R., MUTCD and driving. (1) (1.2%)
 - **S** Keep it simple. (1) (1.2%)

- **S** OK, but haven't adopted the road classification yet. (1) (1.2%)
- **S** (Yes) Green Book. (1) (1.2%)
- **S** (Yes) Not mandated through. (1)(1.2%)
- **S** Plaintiffs would have a heyday. (1)(1.2%)
- **S** Must have clarity. (1)(1.2%)
- **S** (See Coffey County They developed their own system.) (1) (1.2%)
- **S** (No) Priority goes to roads in most need of repair. (1) (1.2%)
- **S** (No) Priority goes to roads with most traffic. (1)(1.2%)
- 5. Please include any additional comments concerning the use of the L.V.R. Handbook dealing with your county's road needs.
 - **S** Five feet from bottom of signs to road bed difficult. (1) (1.2%)
 - **S** Don't have right-of-way width to follow guidelines. (1)(1.2%)
 - **S** Needs road sign ID section with pictures and signbook ID numbers. (1) (1.2%)
 - **S** Is a good tool. (27) (31.4%)
 - **S** Easier than MUTCD. (4) (4.7%)
 - **S** Needs clarity on A.D.T. (1)(1.2%)
 - **S** Clarify low volume roads. (1) (1.2%)
 - **S** Use MUTCD, not L.V.R. (4) (4.7%)
 - **S** Need to be more specific in placement of speed limits. (1)(1.2%)
 - **S** Need info. On reducing speed to enter a city. (1)(1.2%)
 - **S** Haven't read it, new to job. (1)(1.2%)
 - **S** Needs to recognize Carsonite "Flex Markers." (1) (1.2%)
 - **S** Use with MUTCD. (2) (2.3%)
 - **S** More specific on stop sign placement on C roads. (1)(1.2%)
 - **S** Speed expectation/road classification–not physical appearance. (1) (1.2%)
 - **S** Address driver responsibility. (1)(1.2%)
 - **S** Not aware of updated copies. (1)(1.2%)
 - **S** More info. On low water crossings. (1) (1.2%)
 - **S** Discuss more on minimum maintenance roads. (2) (2.4%)
 - **S** It helps townships, but county uses higher standards. (1)(1.2%)
 - **S** Too low of standards. (1)(1.2%)
- 6. Does your county consider the A.A.S.H.T.O. "Green Book" in designing 100% county funded projects?

Yes <u>38</u> (44.2%); No <u>39</u> (45.3%) Yes & No <u>1</u> (1.2%) No Response <u>7</u> (8.1%) If not, what criteria does the county use?

- **S** Consultants. (17) (19.8%)
- **S** County support. (1) (1.2%)
- **S** Experience. (2) (2.4%)
- **S** 100% county funded projects only maintained. (1)(1.2%)
- **S** Try to rebuild like original. (1)(1.2%)
- **S** Best/least expensive. (2)(2.4%)
- **S** None written. (2) (2.4%)
- **S** KDOT geometric design minimum design criteria. (4) (4.7%)
- **S** Unsure. (1) (1.2%)
- **S** Not on a formal procedural basis. (1)(1.2%)
- **S** County commissioners. (3) (3.5%)
- **S** Good basic road design. (1)(1.2%)
- **S** Tables in secondary road plan. (1)(1.2%)
- **S** Minimum standards by county. (1)(1.2%)
- **S** Balance between service and funding. (1) (1.2%)
- **S** No, 100% county projects. (3) (3.5%)
- 7. Please state whether your county has posted speed limits below the standard 55 mph on your roads, and if so, do the limits vary by road classifications?

Yes <u>38</u> (44.2%); No <u>39</u> (45.3%) Yes & No <u>14</u> (16.3%) Yes, but not by classification <u>32</u> (37.2%); No Response <u>7</u> (8.1%) No Response <u>7</u> (8.1%)

Reasons other than classification:

- **S** Complaints, specific conditions or situations, or as part of engineering study.
- **S** MUTCD road and criteria.
- 8. Should legal speed limits vary by road classification?

Yes <u>33</u> (38.4%); No <u>36</u> (38.7%) Yes & No <u>5</u> (5.8%) No Response <u>11</u> (12.8%)

Should legal speed limits vary by road classification? If so, how would you implement this?

If yes:

- **S** Driver's education. (2)(2.3%)
- **S** Classification by condition, surface, number of lanes, etc. of road. (17) (19.8%)
- **S** Not sure. (3) (3.5%)
- **S** Commissioner's resolution. (3)(3.5%)
- **S** Without law enforcement the question is moot. (7) (8.1%)
- **S** But depends on who funds the signing. (2)(2.3%)

- **S** Depends on signing requirement. (1)(1.2%)
- **S** Factual engineering information. (2) (2.3%)

<u>If no:</u>

- **S** Without law enforcement, no one will pay attention. (3) (3.5%)
- **S** Conditioned for road usage. (1) (1.2%)
- **S** Liability problems. (1)(1.2%)
- **S** Funding problems. (2)(2.3%)
- **S** Road attributes/conditions. (3) (3.5%)
- **S** Leave responsibility with motorist. (3) (3.5%)
- 9. Feel free to add any other relative comments, questions or concerns you may have relative to current road classification.

None.

SURVEY SUMMARY

The first, overall impression is that there are more differences between counties than commonalities. There is certainly no uniformity of action or thought on any of the issues raised by the survey questions.

It would appear that if more uniformity of how counties view, define and treat their road problems is desired, there are two approaches:

- 1. Develop tighter regulations, or
- 2. Provide more guidance and training.

Since counties tend to strongly resist "mandates," the second approach would probably be preferred.

The Traffic Assistance Services for Kansas (TASK) project provides good training. The "problem" is that the people or counties that <u>really</u> need it or would benefit most, do not come! Most attendees are from the counties which are doing the best jobs. They tend to be the more knowledgeable people who recognize the value of training. Better ways of taking the training to them may need to be found.

Comments by Question:

- Specific road problems. The highest percentages of road problems noted are Understanding the Requirements of the County Engineer's Report (12.8%), Setting Maintenance and/or Construction Priorities (10.5%) and State Statute Interpretation (9.3%). None of these percentages are really high. It is up to the Bureau of Local Projects whether these small percentages are a concern. Comments are widely scattered.
- 2. <u>Litigation</u>. Here, the majority, 64, report no litigation (74.4%). It is difficult to draw conclusions from the responses to this question. It would seem that in today's litigious society, with three-quarters of the counties reporting no litigation, this appears to be positive.
- 3. <u>Intersection policy</u>. On the issue, it is encouraging that 30 (34.9%) use the MUTCD and 27 (31.4%) use the LVR. There is probably some overlap (use of both), but it appears a majority use proper standards/guidelines. Another 10 (11.6%) use sight distance, and this is also positive. Other answers are quite diverse.

One can conclude from these answers that the use of proper guidelines and standards needs to be promoted to a greater extent.

4. <u>Priority Based Road Classification System</u>. Here 12 (14.0%) say it is not needed; but 42 (48.8%) say it is needed. Most of the other scattered replies can be interpreted as a

"yes, with reservation." The conclusion is that it appears a good or acceptable idea to roughly 80 percent of the respondents.

- 5. <u>Comments regarding the L.V.R.</u> The comments given in response to this question are more positive than negative. Twenty-seven (31.4%) said it was a good tool. There is a "scattering" of negative comments, but most appear due to personal differences of opinion on minor points.
- 6. <u>Use of the AASHTO "Green Book</u>." On this question, 38 (44.2%) say yes and 39 (45.3%) say no.

It appears that the majority do not use the AASHTO Green Book. This may be because most county road improvements are actually maintenance related thus, the "unsure" response may be answered. It is interesting to note that during the survey, one county indicated they did not know what the AASHTO Green Book was. There may be a few counties that use no guidelines. This fact supports the conclusion in number 3 above that the use of proper guidelines should be promoted. However, something less than Federal guidelines should probably be promoted on lower-class roads.

7. <u>Posted speed limits below 55 mph and are they by classification</u>. On this one, 38 (44.2%) answered "yes," 39 (45.3%) answered "no," 32 (37.2%) answered "yes, but not by classification."

The conclusion is that most counties do post some speed limits less than 55 mph but few, if any, do it by classification. However, several do it by the physical condition of the road and, in a sense, this is by "classification." (See question below).

8. <u>Should legal limits vary by classification</u>. The results here were about even among those with an opinion. Thirty-three (38.4%) answered "yes" and 36 (7%) answered "no." In regard to implementation, 17 (9.8%) answered that they would implement it by road condition, surface, and/or number of lanes; i.e., the physical condition of the road.

It appears that if it were a county option, as suggested in the law review portion of this report, about one-third of the counties would use it.

Summary	Answer	Number of Responses	%
Question #1 "Specific Road Problems?"	$\begin{array}{c} A^{1} \\ B^{2} \\ C^{3} \\ D^{4} \\ E^{5} \\ F^{6} \\ N/R^{7} \end{array}$	4 4 9 8 11 3 64	4.7 4.7 10.5 9.3 12.8 3.5 74.4
Question #2 "Litigation?"	YES NO	22 64	25.6 74.4
Question #3 "Intersection Policy?"	YES NO Y.N NR	35 24 16 11	40.7 27.9 18.6 12.8
Question #6 "Use of AASHTO Green Book?"	YES NO Y.N NR	38 39 1 7	44.2 45.3 1.2 8.1
Question #7 "Posted Speed Limits Below 55 mph?"	YES NO Y.N NR	38 39 14 7	44.2 45.3 16.3 8.1
Question #8 "Should Legal Speed Limits Vary By Classification?"	YES NO Y.N NR	33 36 5 11	38.4 38.7 5.8 12.8

Table 6. Summary of Answers to Select Survey Questions.Number Responding 86; 82%

¹Interpretation of the LVR Handbook.

²Application of Design Standards.

³Setting Maintenance and/or Construction Priorities.

⁴State Statute Interpretation.

⁵Understanding Requirements of County Engineer's Report.

⁶Other.

⁷No response to question No. 1.

	County	Co. #	Q #1	Q #2	Q #3	Q #6	Q #7	Q #8	
	Allen	001							*
\mathbf{X}^1	Anderson	002							Anderson
Х	Atchison	003	-	YES	YES	NO	YES	YES	Atchison
Х	Barber	004	D,E	NO	-	-	NO	YES	Barber
	Barton	005	-	YES	Y/N	-	YES	NO	Barton
Х	Bourbon	006							*
Х	Brown	007	-	NO	Y/N	NO	NO	Y/N	Brown
Х	Butler	008	-	YES	YES	YES	Y/N	YES	Butler
Х	Chase	009	-	NO	YES	NO	NO	NO	Chase
Х	Chautauqua	010	-	YES	YES	YES	NO	-	Chautauqua
	Cherokee	011	-		YES	YES	YES	YES	Cherokee
Х	Cheyenne	012		NO					*
Х	Clark	013	-	NO	YES	NO	NO	YES	Clark
Х	Clay	014	-	NO	YES	NO	Y/N	YES	Clay
	Cloud	015	-	YES	Y/N	NO	NO	NO	Cloud
Х	Coffey	016	-	NO	NO	NO	NO	NO	Coffey
Х	Comanche	017	-	NO	NO	NO	NO	YES	Comanche
X	Cowley	018	-	NO	YES	YES	NO	NO	Cowley
	Crawford	019	-		NO	YES	YES	YES	Crawford
Х	Decatur	020		YES					*
X	Dickinson	021	-	NO	YES	NO	YES	YES	Dickinson
Х	Doniphan	022	-	NO	NO	YES	NO	NO	Doniphan
Х	Douglas	023	B,C,E	NO	NO	YES	Y/N	NO	Douglas
Х	Edwards	024	-	NO	YES	YES	NO	NO	Edwards
Х	Elk	025	-	YES	YES	NO	YES	-	Elk
Х	Ellis	0226	A.B.C.D.E	NO	NO	YES	YES	YES	Ellis
Х	Ellsworth	027	C.E	NO	YES	Y/N	NO	YES	Ellsworth
Х	Finney	028	-	NO	NO	YES	YES	NO	Finney
Х	Ford	029	-	NO	Y/N	YES	NO	_	Ford
	Franklin	030	-		Y/N				Franklin
Х	Geary	031		NO					*
Х	Gove	032	-	NO	NO	NO	Y/N	NO	Gove
Х	Graham	033	-	NO	Y/N	NO	Y/N	NO	Graham
Х	Grant	034	-	NO	YES	YES	YES	NO	Grant
Х	Grav	035	-	NO	NO	NO	NO	NO	Grav
Х	Greeley	036	-	YES	NO	NO	-	NO	Greeley
Х	Greenwood	037	С	NO	NO	NO	NO	_	Greenwood
	Hamilton	038	-		YES	NO	NO	YES	Hamilton
Х	Harper	039		NO					*
X	Harvey	040	-	NO	YES	-	NO	NO	Harvey
X	Haskell	041	-	NO	NO	NO	NO	NO	Haskell
X	Hodgeman	042	-	YES	YES	-	YES	YES	Hodgeman
X	Jackson	043	D	-	Y/N	NO	NO	YES	Jackson
X	Jefferson	044	-	NO	-	YES	YES	Y/N	Jefferson
	Jewell	045			YES	YES	Y/N	-	Jewell

 Table 7. Summary of Survey Responses By County (05/17/94)

Х	Johnson	046	B,C,D	YES	YES	YES	YES	YES	Johnson
	Kearney	047	-	NO	Y/N	NO	NO	NO	Kearney
Х	Kingman	048	-	YES	-	YES	YES	NO	Kingman
	Kiowa	048	-	NO	Y/N	NO	NO	NO	Kiowa
Х	Labette	050	-	YES	NO	YES	YES	NO	Labette
	Lane	051	С	NO	-	YES	YES	YES	Lane
Х	Leavenworth	052	C,D	YES	N0	YES	YES	YES	Leavenworth
	Lincoln	053	Е	NO	Y/N	NO	YES	NO	Lincoln
Х	Linn	054	-	YES	NO	YES	NO	YES	Linn
	Logan	055							*
	Lyon	056	D	YES	YES	YES	YES	YES	Lyon
Х	McPherson	057	-	YES	-	YES	-	-	McPherson
	Marion	058	В	NO	YES	YES	YES	YES	Marion
Х	Marshall	059							*
	Meade	060	F	NO	YES	YES	YES	NO	Meade
Х	Miami	061	D,E	YES	NO	NO	NO	Y/N	Miami
	Mitchell	062	-	NO	NO	NO	NO	Y/N	Mitchell
	Montgomery	063	-	NO	Y/N	-	YES	YES	Montgomery
Х	Morris	064							*
	Morton	065	-	NO	-	YES	NO	YES	Morton
Х	Nemaha	066	-	NO	-	NO	Y/N	NO	Nemaha
	Neosho	067	A,C,E	YES	Y/N	YES	NO	YES	Neosho
	Ness	068	-	NO	YES	NO	NO	NO	Ness
Х	Norton	069	-	NO	-	YES	NO	NO	Norton
	Osage	070	-	NO	Y/N	NO	Y/N	NO	Osage
	Osborne	071							*
Х	Ottawa	072	A,D,E	NO	YES	YES	NO	NO	Ottawa
	Pawnee	073	А	NO	YES	YES	NO	YES	Pawnee
Х	Phillips	074	-	NO	YES	NO	NO	YES	Phillips
	Pottawatomie	075	F	NO	Y/N	NO	Y/N	NO	Pottawatomie
Х	Pratt	076	-	NO	YES	YES	Y/N	YES	Pratt
	Rawlins	077							*
Х	Reno	078	-	NO	NO	YES	Y/N	YES	Reno
	Republic	079	-	YES	YES	YES	-	-	Republic
	Rice	080							*
Х	Riley	081	-	NO	YES	YES	YES	-	Riley
	Rooks	082							*
Х	Rush	083	-	NO	-	NO	NO	NO	Rush
	Russell	084	-	NO	YES	NO	Y/N	YES	Russell
Х	Saline	085	-	NO	YES	NO	YES	YES	Saline
	Scott	086	-	NO	YES	NO	Y/N	NO	Scott
Х	Sedgwick	087	Е	YES	NO	YES	YES	NO	Sedgwick
	Seward	088							*
Х	Shawnee	089	-	NO	NO	YES	YES	NO	Shawnee
	Sheridan	090	-	NO	NO	NO	NO	YES	Sheridan
Х	Sherman	091	-	YES	NO	YES	NO	NO	Sherman
	Smith	092	-	NO	YES	NO	NO	NO	Smith

¹ "X" indicates counties that responded to the survey.

CHAPTER IV: REVIEW OF STATUTES

Procedure

A University of Kansas team member searched for all relevant statutes. The following steps were taken:

- 1. Identified relevant statutes in the Kansas State Annotated ("K.S.A.") (particularly those within chapter 68)
- 2. Conducted preliminary review of the Handbook of Traffic Control Practices for Low Volume Rural Roads ("LVR Manual")
- 3. Submitted a list of key words to KDOT, to run through Westlaw to locate all relevant statutes in the K.S.A. (To double check manual research)

4. <u>Key Words</u>:

low volume roads road classifications road maintenance geometric design standards signing/traffic control devices/regulatory signs roadside clearance barrier requirement road surface types right of way Manual on Uniform Traffic Control Devices/MUTCD Low Volume Roads Handbook/LVR Handbook safety road closure project development utilities minimum maintenance gravel roads gravel road township roads speed limit Manual on Uniform Traffic Control Devices Low Volume Roads Handbook (0)safety (1154)road closure (0)project development (4) (1196) utilities minimum maintenance (2) (0)gravel roads gravel road (1)township roads (154)speed limit (50)

SUGGESTED CHANGES

Modifications to the K.S.A.

The following changes are recommended:

- **S** Rename county highways marked "Class A" in 68 K.S.A. § 101.
- **S** Change secondary roads and highways to rural secondary routes.
- **S** Either remove or modify 68 K.S.A. § 119 to include county requirements
- **S** Change the speed limit on rural unpaved county roads to 40 mph. (Possible adoption as a county option.)

(The topic was researched. To adopt speed limit changes as a county options is against the intent of the legislation. Furthermore, the counties home rule power will not allow them to charter out of K.S.A. 8-1336. A speed limit change must be made statewide as an amendment to 8-1336.)

Two resolutions were uncovered, covering Leavenworth County's speed limits on county roads. The 1993 resolution (1993-59) repealed an earlier resolution (1986-40). Both are presented below.

<u>1986 Resolution</u> RESOLUTION #1986-40 (Relating to Speed Limits on County Roads)

WHEREAS, it is the desire of the Board of County Commissioners of Leavenworth County, Kansas to establish a uniform policy in respect to speed limits on the Leavenworth County roads, and

WHEREAS, said Board of County Commissioners has authority with respect to maximum speed limits pursuant to K.S.A. 8-2002 with reference to K.S.A. 8-1336 and K.S.A. 8-1338 and with respect to minimum speed limit pursuant to K.S.A. 8-1561, and

WHEREAS, said Board of County commissioners have home rule powers under the provisions of K.S.A. 19-101, et. seq.

NOW THEREFORE BE IT RESOLVED that the Board of County Commissioners of Leavenworth County, Kansas that speed limits on Leavenworth County roads shall be set and established as follows:

1) On all Federal Aid Secondary roads with a hard surface the speed limit should be 50 miles per hour or as otherwise specifically posted if the speed limit is to be different than 50 miles per hour.

2) On all Federal Aid Secondary roads with rock or gravel surface the speed limit should be 45 miles per hour or as otherwise specifically posted if the speed limit is to be different than 45 miles per hour.

3) On all township roads the speed limit should be 40 miles per hour or as otherwise specifically posted if the speed limit is to be different than 40 miles per hour.

NOW THEREFORE BE IT FURTHER RESOLVED that any alteration or modification of the speed limit on any County road covered by this resolution shall take place only after approved Board action in respect to any such modification or alteration of the speed limit.

<u>1993 Resolution</u> Resolution No. 1993-59

A resolution of the Board of County Commissioners of Leavenworth County, Kansas pursuant to K.S.A. 8-2002, K.S.A. 8-1336, K.S.A. 8-1338 and K.S.A. 19-101 establishing maximum speed limits on non hard surface roads under the jurisdiction and control of Leavenworth County, Kansas; repealing all prior resolutions regarding maximum speed limits on non hard surface county roads.

WHEREAS, The Board of County Commissioners of Leavenworth County, Kansas desires to provide a safe and uniform maximum speed limit on non hard surface roads under the control and jurisdiction of the board of County Commissioners, and

WHEREAS, the Board of County Commissioners is granted the statutory authority to set such maximum speed limits,

NOW BE IT THEREFORE RESOLVED:

1. That the maximum speed limit on all non hard surface roads (rock or gravel) shall be 35 miles per hour unless otherwise posted.

2. That the Department of Public Works shall have cause to be placed upon those roadways under the control and jurisdiction of the Board of County Commissioners speed limit signs showing the maximum allowable speed both statute miles per hour and kilometers per hour.

3. That this resolution shall be published one time in the official county newspaper and this resolution shall have full force and effect upon its publication in the posting of Official Traffic Control signs giving notice of the maximum posted speed limit.

WHEREFORE, IT IS RESOLVED THIS 6TH DAY OF DECEMBER, 1993.

Additions That Were Considered to the K.S.A.

The following additions to the K.S.A. were considered. In parenthesis is the recommended action.

S In order to protect from constructive notice [i.e., "you should have known"] requirements, a system should be developed to instruct local government employees and those that frequent the road on a daily basis to watch for and report all problems to the county.

(It was concluded that this could be addressed by updating the LVR Handbook.)

- **S** Recommend all county engineers to prioritize improvements and resolutions to problems according to an established criteria. (See pg. 87 LVR Handbook) (It was concluded that this could be addressed by upgrading the LVR Handbook.)
- **S** Advise local governments that the LVR Handbook can be a supplemental guide to the MUTCD for county and township roads carrying less than 400 vehicles per day. (Training on use of the LVR Handbook should be continued.)

Additions to the LVR

The following additions to the LVR are recommended:

S Introduce the state road classification system to the county road classification system.

The State of Kansas classified state highways would be A, B, C, D, or E roads. The county rural roads could be further classified as F, G, or H roads, however, they would be called rural secondary, minor collector and local access.

- The F or Rural Secondary would be the county major collectors routes which include all county roads and highways previously designated for inclusion in the secondary road system with K.S.A. 68-1701 to 68-1704, and amendments thereto.
- The G or Minor Collectors would be the county minor collector roads or highways which shall include all county roads and highways not designated as major collectors or inclusion in the rural secondary road system which are main traveled roads utilized and designated primarily for the movement of traffic between different areas of the county.
- The H or Local Access would be the local service roads which would include all public roads not designated for inclusion in the rural secondary road system and not designated as county minor collector roads or highways. Type H could be further subdivided by surface type or use.

The Handbook of Traffic Control Practices for Low Volume Rural Roads covers the traffic control practices on Type F, G, and H low volume local roads (ADT < 400 veh/day).

S Add to/improve Appendix II, titled Maintenance Check and Sign Inventory, a recommended system for notifying local government employees and other individuals that frequent the F, G, and H roads to watch for and report all problems to the county.

The following paragraph could follow the last paragraph on page 81 of the LVR Manual.

Also, the local government should contact other individuals who use the local road system and establish a reporting system back to the local highway agency. For example, the school bus operator should be instructed to call a certain phone number if one of its drivers notices that a traffic sign is missing. Other frequent users of the local road system to include in this reporting network are the sheriff's department, the U.S. mail service, the trash collecting company, the rural transit agency and anyone else who uses the rural road system with any regularity. Include 68 K.S.A. § 5,102, declaration of minimum maintenance roads, in Appendix IV titled, Tort Liability, as follows:

6805,102. Declaration of minimum maintenance roads; procedure; posting of road; limitation of tort liability.

(a) When the board of county commissioners of any county is of the opinion that any local access road within the county or on the county line is used only occasionally or is used only by a few individuals, the board may commence proceedings to declare the road a "minimum maintenance road." Roads which have been constructed with federal aid shall not be minimum maintenance roads.

(b) When a determination is to be made that one or more roads or parts of roads may be declared minimum maintenance roads, the board shall adopt a resolution describing such roads and shall transmit copies thereof to the planning commission of the county for its recommendation.

(c) When a resolution is adopted under subsection (b) the board of county commissioners shall cause it to be published once in the official county paper together with a statement that a hearing will be held on such determination with the time and place of such hearing specified. Any person wishing to appear at such hearings and give evidence or testimony thereon may do so. At the conclusion of such hearing the board shall determine what roads or parts of roads described in such resolution are to be declared by it minimum maintenance roads.

(d) Not later than 10 days after any road is declared to be a minimum maintenance road, signs shall be posted thereon by the board of county commissioners stating "Minimum maintenance, travel at your own risk." Such signs shall display black letters on a yellow background with the letters being at least two inches high.

(e) When any road described in (b) is on, or partly on, a county line, a copy of such resolution shall be transmitted to the board of county commissioners of the adjoining county in which a part of such road is located. Also, a copy shall be transmitted to the planning commission of such adjoining county and any regional or metropolitan planning organization in which both of such counties are located. The board of county commissioners of such adjoining county, its planning commission and any regional or metropolitan planning organization in which both counties are located may make recommendation to the board of county commissioners adopting such resolution. Adoption of a resolution under (b) shall not limit the right of the board of county commissioners of any adjoining county from proceeding under this act. The action of either of such boards of county commissioners shall apply to that portion of such road which is in the county of the board adopting a resolution under (b).

(f) Whenever a road has been declared a minimum maintenance road in accordance with this section and signs have been posted thereon as provided in (d), the state, the county and the townships within such county and employees of such governmental entities shall be exempt from liability for any claim by any person under the Kansas tort claims act with respect to such minimum maintenance roads. No such governmental entity or employee thereof shall be liable for damages arising from such roads or their maintenance or condition.

Tort Liability

In 1979, the State Legislature passed the "1979 Kansas Tort Claims Act" (S.B. 76; Chapter 186, 1979 Session Laws). This bill was codified in K.S.A. 75-6104 and outlines in what areas the Kansas governmental entities have legal duty to the public.

S It is recommended that other relevant exemptions be added to Appendix IV, Titled, Tort Liability. These other areas of interest to governmental entities that are found in K.S.A. 75-6104 are summarized as follows:

Exemption (e): Discretionary function immunity: Governmental entities are not liable for claims based on the exercise of performance or failure to perform a discretionary function or duty, whether or not the discretion is abused and regardless of the level of discretion involved.

Exemption (k): Inspection immunity: Governmental entities are not liable for the failure to make an inspection, or for making an inadequate or negligent inspection, of any property other than the property of the governmental entity, to determine whether the property complies with or violates any law or regulation or contains a hazard to public health or safety.

Exemption (l): Natural condition immunity: Governmental entities are not liable for snow or ice conditions or other temporary or natural conditions of any public way or other public place, unless the condition is affirmatively caused by the negligent act of the governmental entity.

Exemption (m): Design immunity: Governmental entities are not liable for the plan or design for the construction of or an improvement to public property, either in its original construction or any improvements thereto, if the plan or design is approved in advance of the construction or improvement by the governing body of the governmental entity or some other body or employee exercising discretionary authority to give such approval and if the plan or design was prepared in conformity with the generally recognized and prevailing standards in existence at the time such plan or design was prepared. **S** Add Federal Rule 23 U.S.C.S. § 409 to Appendix VIII titled Selected Kansas State Statutes and modify the appendix title. Federal Rule 23 U.S.C.S. § 409 states:

23 USC § 409. <u>Discovery and admission as evidence of certain</u> <u>reports and surveys</u>. Notwithstanding any other provision of law, reports, surveys, schedules, lists, or data compiled for the purpose of identifying evaluation, or planning the safety enhancement of potential accident sites, hazardous roadway conditions, or railwayhighway crossings, pursuant to section 130, 144, and 152 of this title or for the purpose of developing any highway safety construction improvement project which may be implemented utilizing Federal-aid highway funds shall not be subject to discovery or admitted into evidence in a Federal or State court proceeding or considered for other purposes in any action for damages arising from any occurrence at a location mentioned or addressed in such reports, surveys, schedules, lists, or data. [Added Apr. 2, 1987, P.L. 100-17, Title I, § 132(a), 101 Stat. 170; Dec. 18, 1991, P.L. 102-240, Title I, Part A, § 1035(a), 105 Stat. 1978.]

Modifications to the LVR

The following modification should be made to Appendix VIII:

Selected Kansas State and Federal Statutes

This Appendix includes several Kansas Statutes Annotated (KSA) and one Federal Statute which are intended to provide additional guidance and information to the local government units. The Kansas Statutes included are 2011: Removal of traffic hazards on private property, K.S.A. 66-2, 121: Railroad-highway crossing signs; specifications, K.S.A. 8-1335: Basic Rules Governing Speed; K.S.A. 8-1336: Maximum Speed Limits; K.S.A. 8-1338: Alteration of Maximum Speed Limits; K.S.A. 8-1552: existing in LVR; K.S.A. 8-2011: existing in LVR; K.S.A. 66-2,121: K.S.A. 68-119¹: existing in LVR; K.S.A. 68-592: Classification of Highways: definitions; K.S.A. 68-5, 102: Minimum Maintenance; and K.S.A. 68-119: Watermarks at fords by township.² The Federal Statute included is 23 USCS § 409: Discovery and admission as evidence of certain reports and surveys.

¹ Note: K.S.A. 68-119 has been repealed, this statute should be removed from Appendix VIII.

² K.S.A. 68-119a: Watermarks at fords by county is added to the Kansas Statutes Annotated, is repealed.

CHAPTER V: ROAD CLASSIFICATION MATRIX

Developing a functional classification system is a process of grouping roads and streets having similar characteristics into distinct categories. In developing a low volume road classification matrix, these categories are defined by various elements such as vehicle use, average daily trips, maintenance and traffic control criteria, as well as design speed and road width.

Increasing a road classification matrix for this project, a broad range of guidelines from across the United States have been used. Low volume road design criteria from the American Society of Civil Engineers; A.A.S.H.T.O. Geometric Design of Highways and Streets; Washington State Guidelines for Low Volume Roads and Streets; State of New York, Local Roads Research and Coordination Council, Guidelines for Rural Town and County roads have been compiled in order to form the basis of a new set of guidelines for the recommended minor collector or G and the local access or H low volume roads in Kansas.

The matrix could be used by county and townships to identify low volume roads into six classifications: (1) low volume collector, (2) residential access, (3) farm access, (4) resource/industrial access, (5) agricultural land access, and (6) recreational land access. Each classification varies with regard to the types of vehicles primarily used, the design characteristics of the road, the ADT of the route, the level of maintenance and signing required, and functional classification system. Criteria from each of the sources are located below the corresponding road classifications.

	Road Classification ¹								
	Low Volume Collector G	Residential Access H/RA	Farm Access H/FA	Resource/ Indust. Access H/RIA	Agricultural Land Access H/AA	Recreational Land Access H/RCA			
Vehicle Use	All Vehicles	Cars, Emergency and Service Vehicles	Cars, Light Trucks, Occasional Heavy Trucks, Farm Equip.	Trucking and Employee's Cars	Occasional Farm Equipment (seasonal)	Cars, R.V.'s (seasonal)			
KDOT State Classification (Most Likely)	G	H (H/RA/P) ²	H (H/FA/G) ³	H (H/RIA/P)	H (H/AA/U) ⁴	H (H/RCA/G)			
ASCE/Local Low Volume Roads									
ADT	50-400 <50	50-400 <50	250-400 <250	50-400 <50	<50	50-400 <50			
Maintenance	Normal Normal	Normal Normal	Normal Normal	Normal Normal	Min . Maint.	Normal Min. Maint.			
Traffic Control	MUTCD MUTCD	MUTCD MUTCD	MUTCD MUTCD	MUTCD MUTCD	Min. Maint.	MUTCD MUTCD			
AASHTO Green Book									
Design Speed (MPH)	30-40 20-40	30-40 20-4	30-40 20-40	30-40 20-40	20-40	30-40 20-40			
Road Width (feet)	20 20	20 20	20 20	20 20	20	20 20			
NCHRP Report #362									
Design Speed (MPH)	30-50 20-40	30-50 20-40	30-50 20-40	20-50 20-40	20-40	30-50 20-40			
Road Width (feet)	24 22	24 24	24 22	24 22	-	24 22			
AASHTO Purple Book									
Design speed (MPH	25-55 20-40	25-55 20-40	25-55 20-40	25-55 20-40	20-40	25-55 20-40			
Road Width (feet)	20-28 20	20-28 20	20-28 20	20-28 20	20	20-28 20			
Washington State									
ADT	<400 <150	<400 <150	<400 <150	<400 <150	<150	<400 <150			
Design Speed (MPH)	20-60	20-60	20-60	20-60	20-60	20-60			
Road Width (feet)	24 24-18	24 24-18	24 24-18	24 24-18	24-18	24 24-18			

Table 8. Road Classification Table Source (see page 46)

New York State						
Road Design Type	A B	B C	A B	A B	С	B C
Design speed (MPH)	45+ 25-45	25-45 <40	45+ 25-45	45+ 25-45	<40	25-45 <40
Road Width ⁵ (feet)	22 20	20 14	22 20	22 20	14 ⁶	20 14
Canadian Geometric Design						
ADT	100-200 <100	100-200	-	100-200 <100	-	100-200 <50
Design Speed (MPH)	20-60	20-60	-	20-60 20-60	-	20-60 20-30
Road Width (feet)	20-28 16-25	20-60	-	20-28 16-25	-	20-28 13+
Bureau of Land Management						
Design speed (MPH)	30-50	30-50 15-30	30-50 15-30	30-50 15-30	15-30	30-50 15-30
Road Width (feet)	24 20-24	24 14	24 14	24 14	14	24 14

Columns #2=#6 are considered traditional "local roads," i.e., classification "H"/type of access. P = Paved surface, i.e., H/type of access/type of surface, P (paved). G - Gravel surface, i.e., H/type of access/type of surface, G (gravel). U = Unpaved surface, i.e., H/type of access/type of surface, U (unimproved). Maintain 20' horizontal clearance if farm equipment is present. Maintain width according to fire access standards.

1. 2. 3. 4.

5. 6.

Sources for Road Classification Table:

- •American Society of Civil Engineers, Local Low Volume Roads and Streets. November 1992. Table I-2. P. I-7.
- •AASHTO Geometric Design of Highways and Streets. 1990. Table V-1 and Table V-8 pp. 421, 426.
- •National Cooperative Highway Research Program Report #362, Roadway Widths for Low-Traffic-Volume Roads. 1994.
- •Washington State Guidelines for Low Volume Roads and Streets.
- •State of New York, Local Roads Research and Coordination Council, Guidelines for Rural Town and Country Roads. December 1992.
- •Geometric Design Guide for Canadian Roads, Chapter H Low Volume Roads. 1986 Metric Edition, Revised April 1994.
- •Roads Standards, Bureau of Land Management Field Guide. 1985.

Conclusions

The authors' overall conclusion is that the survey answers of county personnel show that roadway design standards for new construction and reconstruction need to be promoted to a greater extent. It is further concluded that if they were developed or modified to be consistent with a rural, local low volume road classification down to access classes with minimum standards and minimum maintenance, they would be more widely accepted and used.

Money is not available to rebuild and maintain the hundreds of thousands of low-volume roads in the USA to currently existing standards. There is a great need for lower standards and alternative solutions (like minimum maintenance or closure) on hundreds of thousands of low-volume roads in the Midwest. Relief of this sort starts with proper classification.

The A through H system with the H (local roads) subdivided by access categories and road surface type is recommended. It ties into the common functional classification, e.g., arterial, collector, local, but gives a further breakdown that is both more detailed and useable in a statewide plan that includes a wide variety of road types from Interstate to primitive local roads.

APPENDIX A

COUNTY ROAD CLASSIFICATION SURVEY

Please answer all questions as thoroughly as possible. Attach additional sheets of explanation if necessary. Your input is most needed and appreciated. If you have any questions concerning desired information please call Dr. Russell at (785) 532-1588 or Bill Gilliland at (785) 296-3861.

- 1. Are there any specific road problems you have faced arising from the current road classification? Please check those that apply and explain.
 - a. Interpretation of the L.V.R. Handbook
 - b. Application of Design Standards
 - ______c. Setting Maintenance and/or Construction Priorities
 - _____d. State Statute Interpretation
 - e. Understanding Requirements of County Engineer's Report
 - _____ f. Other(s) _____

Explain: _____

- 2. Has any litigation arisen in your county relative to signing, pavement markings, design, or maintenance? _____ If so, describe any relationship which involved interpretation of any (state law, L.V.R. Handbook, FHWA) road classification?
- 3. Please state your county's policy (criteria) for signing intersections?

Is it based all or partially on the classification of the road? _____ Please include which reference documents you use to sign your roads and intersections.

4. Please give your opinion and/or ideas about adopting a formal priority system based on road classification for signing, surfacing, maintenance, etc. of county roads.

- 5. Please include any additional comments concerning the use of the L.V.R. Handbook in dealing with your county's road needs. Please be specific.
- 6. Does your county consider the A.A.S.H.T.O. "Green Book" in designing 100% county funded projects? _____ If not, what criteria does the county use?
- 7. Please state whether your county has posted speed limits below the standard 55 mph on your roads and if so, do the limits vary by road classification?
- 8. Should legal speed limits vary by road classification? _____ If so, how would you implement this?
- 9. Feel free to add any other relative comments, questions or concerns you may have relative to current road classification.

Thank you very much for providing this most important information. The compiled results will assist in presenting to the legislature, the proposed clarification of the Statutes regarding road classification as well as align the LVR and KDOT road classification system.

Mail completed surveys to: Gene Russell, Civil Engineering Dept./KSU, Seaton Hall Manhattan, KS 66506 or fax to (785) 532-7717.

Name and Address of Person Completing Survey

Phone No. _____ Fax No. _____

Best day and time to call if we wish to discuss some points with you

APPENDIX B

KANSAS STATUTES ANNOTATED (1996)

CHAPTER 8. AUTOMOBILES AND OTHER VEHICLES ARTICLE 13. MISCELLANEOUS PROVISIONS SPEED LIMITS

8-1664. Act supplemental to uniform act regulating traffic on highways; definitions applicable.

This act shall be a part of and supplemental to the uniform act regulating traffic on highways, as said uniform act is now contained in article 5 of chapter 8 of the Kansas Statues Annotated, including acts amendatory thereof or supplemental thereto, or as said uniform act subsequently may be revised and reenacted by the legislature of this state. Except as otherwise provided in this act, the words and phrases used in this act shall have the meanings ascribed to such words and phrases in the uniform act regulating traffic on highways.

8-1335. Basic rule governing speed of vehicles. No person shall drive a vehicle at a speed greater than is reasonable and prudent under the conditions and having regard to the actual hazards then existing. Consistent with foregoing, every person shall drive at a safe and appropriate speed when approaching and crossing an intersection or railroad, when approaching and going around a curve, when approaching a hill crest, when traveling upon any narrow or winding roadway, and when special hazards exist with respect to pedestrians or other traffic or by reason of weather or highway conditions.

8-1336. Maximum speed limits. (a) Except when a special hazard exists that requires lower speed for compliance with K.S.A. 8-1335, and amendments thereto the limits specified in this section or established as hereinafter authorized shall be maximum lawful speeds, and no person shall drive a vehicle at a speed in excess of such maximum limits:

- (1) In any business district, 20 miles per hour;
- (2) in any residential district, 30 miles per hour;

(3) on those portions of rural interstate highways located outside of urbanized areas as defined by 23 USC 101, 65 miles per hour; and

(4) in other locations, 55 miles per hour.

In the event that the Congress of the United States establishes a maximum speed limit greater or less than the limit prescribed by this paragraph, the secretary of transportation may adopt a resolution, subject to the approval of the Governor, establishing such speed limit as the maximum speed limit of this state. After the Governor has approved any such resolution, the speed limit stated therein shall be the maximum speed limit of this state in all locations other than business and residence districts. The maximum speed limit established by or pursuant to this paragraph shall be of force and effect regardless of whether signs are posted giving a notice thereof and notwithstanding any signs giving notice of maximum speed limits in excess thereof, and any sign giving notice of a maximum speed limit in excess of the limit established by or pursuant to this paragraph shall not be of any force and effect. (b) The maximum speed limits established by or pursuant to this section may be altered as authorized in K.S.A. 8-1337 and 8-1338, and amendments thereto.

(c) No person shall drive a school bus to or from school, or inter school or intra school functions or activities, at a speed greater than 45 miles per hour on any roadway having a dirt, sand or gravel surface, and in no event shall a school bus be driven to and from school, or functions or activities, in excess of 55 miles per hour, notwithstanding a maximum speed limit in excess thereof. The provisions of this subsection shall apply to buses used for the transportation of students enrolled in community colleges or area vocational schools when such buses are transporting students to or from school, or functions, or activities.

8-1337. Alteration of maximum speed limits; powers of secretary of transportation, limitations. Whenever the secretary of transportation shall determine upon the basis of an engineering and traffic investigation that any maximum speed herein before set forth is greater or less than is reasonable or safe under the conditions found to exist at any intersection or other place or upon any part of the state highway system, the secretary may determine and declare a reasonable and safe maximum limit thereat, which shall be effective when appropriate signs giving notice thereof are erected: Provided, That the secretary shall not establish a maximum speed limit in excess of the speed limit established by or pursuant to subsection (a)(3) of K.S.A. 8-1336. Any such maximum speed limit may be declared to be effective at times or at such times as are indicated upon said signs; and differing limits may be established for different times of day, different types of vehicles, varying weather conditions, and other factors bearing on safe speeds, which shall be effective when posted upon appropriate fixed or variable signs.

8-1338. Alterations of maximum speed limits; powers of local authorities, limitations and restrictions. (a) Whenever local authorities in their respective jurisdictions determine on the basis of an engineering and traffic investigation that any maximum speed permitted under this act is greater or less than is reasonable and safe under the conditions found to exist upon a highway or part of a highway, the local authority may determine and declare a reasonable and safe maximum limit thereon which:

(1) Decreases the limit at intersections; or

(2) Increases the limit within an urban district but not to exceed the maximum speed limit established by or pursuant to subsection (a)(3) of K.S.A. 8-1336; or

(3) Decreases the limit outside an urban district, but not to less than 20 miles per hour, except as authorized in K.S.A. 8-1338a; or

(4) Decreases the limit within an urban district in a school zone to not less than 20 miles per hour, except that any such decreased limit shall apply only during the hours in which students are normally in route to or from school. Such zones and hours to be determined by ordinance or resolution of such local authority.

(b) Local authorities in their respective jurisdictions shall determine by an engineering and traffic investigation the proper maximum speed for all arterial streets and shall declare a reasonable and safe maximum limit thereon which may be greater or less than the maximum speed permitted under this act for the urban district or other location in which the arterial street is situated, except that in no event shall a local authority establish any such maximum limit in excess of the maximum limit established by or pursuant to subsection (a)(3) of K.S.A. 8-1336.

(c) Except as otherwise provided in paragraph (4) of subsection (a), any altered limit established pursuant to this section shall be effective at all times or during hours of darkness or at

other times as may be determined when appropriated signs giving notice thereof are erected upon such street or highway.

(d) Any alteration of maximum limits on city connecting links shall not be effective until such alteration has been approved by the secretary of transportation.

(e) As used in this act, the term "local authorities" means the Kansas turnpike authority and every city, county and other local board or body having authority to adopt ordinances or regulations relating to vehicular traffic under the constitution and laws of this state.

SPEED RESTRICTIONS

8-1557. Basic rule of governing speed of vehicles. No person shall drive a vehicle at a speed greater than is reasonable and prudent under the conditions and having regard to the actual hazards then existing. Consistent with the foregoing, every person shall drive at a safe and appropriate speed when approaching and crossing an intersection or railroad grade crossing when approaching and going around a curve, when approaching a hill crest, when traveling upon any narrow or winding roadway, and when special hazards exist with respect to pedestrians or other traffic or by reason of weather or highway conditions.

8-1558. Maximum speed limits. (a) Subject to subsection (b) and except when a special hazard exists that requires lower speed for compliance with K.S.A. 8-1557 and amendments thereto, the limits hereinafter specified or established as authorized by law shall be maximum lawful speeds, and no person shall drive a vehicle at a speed in excess of such maximum limits:

- (1) In any urban district, 30 miles per hour;
- (2) In other locations during the daytime, 70 miles per hour; and
- (3) In such other locations during the nighttime, 60 miles per hour.

(b) On any highway outside the corporate limits of any city, passenger vehicles and buses, other than school buses, and motor vehicles registered for a gross weight of 12,000 pounds or less, shall be subject to a maximum speed limit during the daytime of 70 miles per hour and a maximum speed limit during the nighttime of 60 miles per hour, except on interstate highways where the maximum lawful speed during the daytime shall be 75 miles per hour and during the nighttime the maximum lawful speed shall be 70 miles per hour. On any highway outside the corporate limits of a city, any combination of vehicles and trucks registered for a gross weight of more than 12,000 pounds shall not exceed at any time a maximum speed limit of 60 miles per hour, and a school bus being driven to or from school or inter school or intra school functions or activities, shall not exceed a speed greater than 45 miles per hour on any roadway having a dirt, sand, or gravel surface, and in no event shall a school bus be driven to and from school, or functions, or activities, at a speed in excess of 55 miles per hour, notwithstanding any maximum speed limit in excess thereof. The provisions of this subsection relating to school buses shall apply to buses used for the transportation of students enrolled in community colleges or area vocational schools, when such buses are transporting students to or from school, or functions, or activities.

(c) As used in this section, daytime means from 30 minutes before sunrise to 30 minutes after sunset; nighttime means at any other hour.

(d) The maximum speed limits in this section may be altered as authorized in K.S.A 8-1559 and 8-1560 and amendments thereto.

(e) The provisions of subsections (a) and (b) shall not apply to the driving of vehicles on a highway which is under the jurisdiction of the Kansas turnpike authority, as defined in K.S.A. 68-2001. The turnpike authority may, by resolution, fix maximum and minimum speed limits for vehicles upon a highway or any part thereof under the authority's jurisdiction, which speed limits shall be effective when appropriate signs giving notice thereof are erected upon such highway or any part thereof.

(f) Notwithstanding amendments to this section, the suspension provide for in K.S.A. 8-1340 and amendments thereto shall remain in effect in accordance with the terms thereof.

8-1559. Alteration of maximum speed limits; powers of secretary of transportation. Whenever the secretary of transportation shall determine upon the basis of an engineering and traffic investigation that any maximum speed herein before set forth is greater or less than is reasonable or safe under the conditions found to exist at any intersection, or other place or upon any part of the state highway system, or upon any city street which is a state highway connecting link, the secretary may determine and declare a reasonable and safe maximum limit thereat, which shall be effective when appropriate signs giving notice thereof are erected. Any such maximum speed limit may be declared to be effective at all times or at such times as are indicated upon said signs; and differing limits may be established for different times of day, different types of vehicles, varying weather conditions, and other factors bearing on safe speeds, which shall be effective when posted upon appropriate fixed or variable signs.

8-1560. Alteration of maximum speed limits; powers of local authorities, limitations and restrictions. (a) Whenever local authorities in their respective jurisdiction determine on the basis of an engineering and traffic investigation that the maximum speed permitted under this article is greater or less than is reasonable and safe under the conditions found to exist upon a highway, the local authority may determine and declare a reasonable and safe maximum limit thereon which:

(1) Decreases the limit at intersections; or

(2) Increases the limit within an urban district but not to exceed the maximum speed limit established by or pursuant to subsection (a)(3) of K.S.A. 8-1336; or

(3) Decreases the limit outside an urban district, but not to less than twenty (20) miles per hour; or

(4) Decreases the limit within an urban district in a school zone to not less than twenty (20) miles per hour, except that any such decreased limit shall apply only during the hours in which students are normally en route to or from school, such zones and hours to be determined by ordinance or resolution of such local authority.

(b) Local authorities in their respective jurisdictions shall determine by an engineering and traffic investigation the proper maximum speed for all arterial streets and shall declare a reasonable and safe maximum limit thereon which may be greater or less than the maximum speed permitted under this act for an urban district.

(c) Except as otherwise provided in paragraph (4) of subsection (a), any altered limit established as herein above authorized shall be effective at all times or during hours of darkness or at other times as may be determined when appropriate signs giving notice thereof are erected upon such street or highway.

(d) Any alteration of maximum limits on city connecting links shall not be effective until such alteration has been approved by the secretary of transportation.

(e) The provisions of subsection (e) of K.S.A. 8-1558 shall apply to the limitations on speed limits provided by subsection (a) of this section.

AUTHORITIES

8-2002. Powers of local authorities. (a) The provisions of this act shall not be deemed to prevent local authorities with respect to streets and highways under their jurisdiction and within the reasonable exercise of the police power from:

(1) Regulating or prohibiting stopping, standing or parking;

(2) Regulating traffic by means of police officers or official traffic-control devices;

(3) Regulating or prohibiting processions of assemblages on the highways;

(4) Designing particular highways or roadways for use by traffic moving in one direction as authorized in K.S.A, 8-1521;

(5) Establishing speed limits for vehicles in public parks notwithstanding the provisions of subsection (a)(3) of K.S.A. 8-1560;

(6) Designating any highway as a through highway or designating any intersection or junction or roadways as a stop or yield intersection or junction;

(7) Restricting the use of highways as authorized in K.S.A. 8-1912;

(8) Regulating the operation of bicycles and requiring the registration and inspection of same, including the requirement of a registration fee;

(9) Regulating or prohibiting the turning of vehicles or specified types of vehicles;

(10) Altering or establishing speed limits as authorized in K.S.A. 8-1560;

(11) Establish school zones as provided in subsection (a)(4) of K.S.A. 8-1560;

(12) Designating no passing zones as authorized in K.S.A. 8-1520;

(13) Prohibiting or regulating the use of controlled-access roadways by any class or kind of traffic as authorized in K.S.A. 8-1525;

(14) Prohibiting or regulating the use of heavily traveled streets by any class or kind of traffic found to be incompatible with the normal and safe movement of traffic;

(15) Establishing minimum speed limits as authorized in subsection (b) of K.S.A. 8-1561;

(16) Designating hazardous railroad grade crossings as authorized in K.S.A. 8-1552;

(17) Designating and regulating traffic on play streets;

(18) Prohibiting pedestrians from crossing a roadway in a business district or any designated highway except in a crosswalk as authorized in K.S.A. 8-2006;

(19) Restricting pedestrian crossings at unmarked crosswalks as authorized in K.S.A. 8-2007;

(20) Regulating persons propelling push carts;

(21) Regulating persons upon skates, coasters, sleds and other toy vehicles;

(22) Adopting and enforcing such temporary or experimental regulations as may be necessary to cover emergencies or special conditions;

(23) Adopting such other traffic regulations are specifically authorized by this act.

(b) No local authority shall erect or maintain any official traffic-control device at any location so as to require the traffic on any state highway to stop before entering or crossing any intersecting highway unless approval in writing has first been obtained from the secretary of transportation.

(c) No ordinance, resolution or regulation enacted under paragraph (4), (5), (6), (7), (9), (10), (12), (13), (14), (16), (17) or (19) of subsection (a) of this section shall be effective until official

traffic-control devices giving notice of such local traffic regulations are erected upon or at the entrances to the highway or part thereof affected as may be most appropriate.

(d) Until the expiration of K.S.A. 8-1336, as provided in K.S.A. 8-1340, no ordinance, resolution or regulation enacted under paragraph (5), (10) or (22) shall establish a speed limit in excess of the speed limit established by or pursuant to subsection (a)(3) of K.S.A. 8-1336. Until the expiration of K.S.A. 8-1338, as provided in K.S.A. 8-1340, any reference to K.S.A. 8-1560 in subsection (a) of this section is hereby declared to be a reference to K.S.A. 8-1338.

CHAPTER 68. ROADS AND BRIDGES PART I. ROADS ARTICLE 1. GENERAL PROVISIONS WORDS AND PHRASES

68-101. Definitions. Unless the context clearly indicates otherwise, the following terms shall have the meanings herein ascribed to them wherever they appear in chapter 68 of the Kansas Statutes Annotated, and acts amendatory thereof or supplemental thereto:

(1) The terms "highway commissioners," "township board of highway commissioners," "township commissioners," "township board," or "township governing body" shall mean the governing body of the township composed of the township trustee, the township clerk and the township treasurer.

(2) The term "class H roads" shall mean local access roads which are all roads in county unit road counties, not designated as part of the county rural secondary (Class F) or county minor collectors (class G) nor as part of the state or federal road systems. It is intended, the term "class H roads" shall be construed to mean and include the roads formerly under the jurisdiction of the township, unless otherwise designated and classified by the county engineer and the board of county commissioners.

(3) The term "county roads" shall mean all roads designated as such by the board of county commissioners, including roads on the county secondary road system and class H roads in county road unity counties.

(4) The term "state roads" and "state highways" shall mean all roads designated as a part of the state highway system by the secretary of transportation.

(5) The term "township roads" shall mean all roads within a township not within a county road unit county other than federal, state, and county roads.

68-117. Access to public highway, when; petition; width of road and plat; payment of expenses. Whenever the premises of any person shall be so completely surrounded by adjoining lands, the property of others or by such lands and water, as to be without access to any public highway, then such person may petition the board of county commissioners of the county in which such premises lie for a road, and one road only, through some portion of the adjoining lands. The petition shall set forth the use and purposes of such proposed road. Upon presentation of such petition, the commissioners shall proceed in accordance with the provisions of K.S.A. 68-101 to 68-110, both sections inclusive, and K.S.A. 68-226 and 68-116, to lay out such road, make returns of plats, and allow damages, if any should be held or allowed: provided, said road shall not be less than forty (40) feet nor more than one hundred (100) feet in width and shall be laid out upon the quarter or quarter-quarter section lines when practicable.

The said road when so ordered by the board of county commissioners shall be platted and recorded in the office of the register of deeds and shall become a public way, subject to restrictions contained in the petition: and provided further, that the owner or owners, their grantees, successors or assigns, of the land specifically benefitted by the establishment of such public road, shall forthwith pay all expenses of establishing said road, including all damages, if any should be held or allowed and thereafter forever maintain and keep the same in repair and without any expenses or liability to the township or other municipality in which such road is so laid out and established.

CHAPTER 68. ROADS AND BRIDGES PART I. ROADS ARTICLE 1. GENERAL PROVISIONS GUIDEPOSTS, REPAIRS, DETOURS AND GATES

68-119. Watermarks at fords by township. Each township shall erect and maintain, at the expense of the township, posts or boards at the fords of every river or creek that in high water becomes impassable, which posts shall be set at or near low watermark, on which shall be inscribed in legible letters, or plain figures, the depth of water at low water, together with a scale of feet showing the number of feet above low watermark to the height to which said stream is known to have ever risen. (It is the understanding that this has been repealed.)

68-124. Private Roads as public highways, maintenance. Where under the laws of the state of Kansas, now in existence, or that may hereafter be enacted, any road of highway that is not a county road has been declared to be a public road or highway, it shall be the duty of the board of highway commissioners of the township in which such road is located to repair, place and keep in condition for travel such roads or highway. If such board of highway commissioners shall neglect, refuse or fail to comply with the provisions of this act, the board of county commissioners of the county may repair and put in good condition for travel such road or highway, and shall charge the expenses therefore to the township in which such road is located.

68-404. Powers and duties of secretary of transportation. The secretary of transportation shall have the following powers, duties, authority and jurisdiction:

(a) General supervision over the administration of all road and bridge laws and over the construction and maintenance of all roads, brides and culverts throughout the state, except that such supervision by the secretary shall not extend to township roads, except that any township road for which federal aid is granted shall be under the supervision of the secretary;

(b) to compile information concerning the road, bridge and culvert materials of the state and furnish such information to boards of county commissioners, township highway commissioners, county engineers and other highway officials; the secretary shall answer all inquiries of such officials concerning highway construction and maintenance and shall advise them of the reasonable prices for materials and construction work;

(c) devise and adopt standard plans and specifications for road, bridge and culvert construction and maintenance suited to the needs of the different counties of the state and furnish them to county engineers;

(d) make a biennial report for the use of the legislature and may issue bulletins and pamphlets, which shall be printed as public documents;

(e) carry on such other highway educational work, and may cooperate with the state and national organizations for the support and advancement of highway construction;

(f) may make investigations of the highway conditions in any county, assist boards of county commissioners and the attorney general in the prosecution of defense of patent suits relative to road and bridge construction when so requested, and the secretary shall report any violations of the law to the attorney general who shall take such steps as are necessary regarding such violations;

(g) to enter upon any property to make surveys, examinations, investigations, and tests, and to acquire other necessary and relevant data in contemplation of (1) establishing the location or road, street or highway; (2) acquiring land, property, and road building materials; or (3) performing other operations incident to highway construction, reconstruction or maintenance. Prior to entering upon any such property the secretary shall first request permission of the landowner to do so. Where consent to do the things authorized in this subsection (g) is not given to the secretary by the owner or occupant of the land involved, the secretary may proceed as authorized after giving 10 days written notice to landowner or occupant of the secretary's intention to conduct such surveys, examinations, investigations and tests. Entry upon any property, pursuant to this subsection, shall not be considered to be a legal trespass and no damages shall be recoverable on that account alone. In case of any actual or demonstrable damages to the premises, the secretary shall pay the owner of the premises the amount of the damages. Upon failure of the landowner and such secretary to agree upon the amount of damages the landowner may file an action against the secretary in the district court of the county in which the land is situated to recover such damages;

(h) to make tests, do research, to inspect and test all materials, supplies, equipment, and machinery used for state highway purposes or highway projects involving federal funds, and to develop methods and procedures for this purpose. Tests of such materials, supplies or equipment may be made available, upon payment of actual cost therefore, to any federal agency or political subdivision of the state;

(i) to maintain and develop testing laboratories to carry out the requirements of this act;

(j) to perform such other acts and duties and exercise such authority as will give the provisions of this act and other laws relating to the secretary or department of transportation full force and effect;

(k) to adopt rules and regulations to carry out the provisions of this act and any other laws relating to the secretary or department of transportation; and

(l) to adopt rules and regulations relating to debarment and suspension of contractors for cause.

68-402e. Fees charged counties by secretary of transportation on certain federal road and bridge projects. Whenever any federal act or the regulation by any federal agency shall require that the secretary of transportation shall perform engineering services in connection with a federal aid project pertaining to the construction or reconstruction of any county road or bridge, the secretary shall not charge the county a fee for such engineering services which exceeds an amount equal to ten percent (10%) of the county's share of the construction cost of such project.

68-405. County and township officers to furnish information to secretary of transportation, when; federal-aid contract requirements. It is hereby made the duty of the boards of county commissioners, county clerks, county engineers and the members of the township boards of highway commissioners, to furnish detailed information concerning the roads, bridges and culverts under their control, to the secretary of transportation upon the secretary's written request and upon the blank

forms supplied by the secretary, and boards of county commissioners are hereby authorized to enter into all contracts and agreements with the secretary as required by the federal aid act.

68-406. Designation of highways in the state system; total mileage, exclusions; revision and classification; connecting links and detours; direct routes to certain facilities and institutions; roads in state parks; posting speed limits and establishing facilities on certain streets and roads; temporary road closings. (a) The secretary of transportation shall designate, adopt and establish and may lay out, open, relocate, vacate, remove, redesignate and reestablish highways in every county in the state, the total mileage of which shall not exceed 10,000 miles. The total mileage of such highways in each county shall be not less than the sum of the north to south and east to west diameters of the county. The highways so designated shall connect the county seats and principal cities and market centers, and all such highways, including bridges and culverts thereon, shall comprise the state highway system. The secretary of transportation shall make such revisions, classifications or reclassifications in the state highway system as are found on the basis of engineering and traffic study to be necessary, and such revisions, classifications or reclassifications may include, after public hearing, removal from the system of roads which have little or no statewide significance, and the addition of roads which have statewide importance and will provide relief for traffic congestion on existing routes on the system. All roads which have been placed upon the state highway shall be a part of the state highway system, but changes may be made in the state highway system when the public safety, convenience, economy, classification or reclassification require such change. The total mileage of the state highway system shall not be extended except by act of the legislature. Highways designated under this section shall be state highways, and all other highways outside of the city limits of cities shall be either county roads or township roads as provided for by law. The state highway system thus designated shall be constructed, improved, reconstructed and maintained by the secretary of transportation from funds provided by law.

(b) In addition to highways of the state highway system, the secretary of transportation shall designate in those cities on such system certain streets as city connecting links. "City connecting link" means a routing inside the city limits of a city which: (1) Connects a state highway through a city; (2) connects a state highway to a city connecting link of another state highway; (3) is a state highway which terminates within such city; (4) connects a state highway with a road or highway under the jurisdiction of the Kansas Turnpike Authority; or (5) begins and ends within a city's limits and is designated as part of the national system of interstate and defense highways.

(c) The secretary of transportation may mark and maintain existing roads as detours, but detour roads shall not be a part of the state highway system, except that such roads shall be marked and maintained by the secretary of transportation only until that portion of the state highway system for which such road is substituted is complete and open for travel.

(d) The secretary of transportation may use money appropriated from the state highway fund for the purchase of right-of-way, construction, improvement, reconstruction and maintenance of a highway over the most direct and practicable routes from state highways to a state lake, a federal lake or reservoir established by federal authority, any property managed or controlled by the Department of Wildlife and Parks, national monuments and national historical sites, military reservations, motor carrier inspection stations, approaches and connections within an urban area, as defined by federal highway laws, places of major scenic attractions which posses unusual historical interest, as defined by subsections (1) and (2) of K.S.A. 76-2018, and amendments thereto, on which the state now holds or may hereafter hold a long-term lease, a state institution, from the city limits of the nearest city to a state institution, a state-owned natural and scientific preserve, as defined by subsection (b) of K.S.A. 74-6603, and amendments thereto, or such road or roads located within the boundaries of a state park and not presently maintained by a federal agency as shall be designated by the secretary of transportation. Such highways or roads shall not be a part of the state highway system, and the secretary of transportation is not required to plan, design or construct such highways or roads in conformity with the standards applicable to the state highway system.

(e) The secretary of transportation may make reroutings of any portion of the state highway system if such rerouting is required in writing by the United States Department of Transportation or the Federal Highway Administration before it will permit federal funds to be used thereon. The secretary of transportation shall have control and regulation for purposes of posting speed limits and establishing access and egress facilities on any and all portions of streets and roads which are, or have been, a part of the state highway system, and which have been or may be, placed inside of the limits of an incorporated city by the creation of a new municipality or by the extension of the limits or boundaries of any existing municipality.

(f) Except pursuant to article 21 of chapter 68 of Kansas Statutes Annotated, only the secretary of transportation may authorize temporary closing of any part of the state highway system by any person for any purpose in the interest of the state. Every authorization granted under this subsection shall be granted subject to conditions specified by the secretary to provide for (1) proper detours, signing and markings, (2) timing which will not unreasonably inconvenience the public, and (3) such additional conditions as are appropriate to avoid unreasonable risk of injury to any person. Such requests shall be made in writing and submitted to the secretary at least five days prior to the closing date. In emergencies, temporary closing may be authorized by the secretary by oral communications. The secretary may waive all or any part of the notice otherwise required by this subsection. Except as provided in subsection (g), any person filing or neglecting to comply with the provisions of this subsection, upon conviction, shall be guilty of a non person unclassified misdemeanor.

(g) In cases of sudden emergency, temporary closing of any part of the state highway system may be authorized by order of a person designated by the board of county commissioners for an area outside of any city or a person designated by the governing body of a city for an area within such city. In such cases of sudden emergency the person authorizing such closing shall inform the secretary of transportation thereof as soon as practicable and obtain the authorization of the secretary for any additional time thereafter for such closing.

68-406a. Inclusion of certain unimproved links of county road into state highway system. Any county road which is not a part of the state highway system, but which road is a continuation of a state highway, which state highway is a cross-state highway except for the part of said road which is not a state highway, and which part is not more than fifteen miles in length, and where the inclusion of the said fifteen miles of road as a part of the state highway system would secure the improving of a continuance of the road in an adjoining state through reciprocity legislation and thus make a continuous highway across not less than two states; and providing said adjoining state completes its link of road, then the fifteen miles or less of road not now in the state highway system of Kansas shall be made a part thereof and shall be placed under the supervision and control of such secretary: provided, that this act shall be supplemental to K.S.A. 68-406.

68-506. Classification and designation of roads in non-county unit road system counties; improvement and maintenance of certain streets and highways.

(a) In counties which have not adopted the county unit road system, it shall be the duty of the boards of county commissioners with the approval of the county engineers in their respective counties, to classify and designate the roads and highways within such county within the following classes:

(1) Type "F" Roads, rural secondary roads which shall include all county roads and highways designated for inclusion in the secondary road system in accordance with K.S.A. 68-1701 to 68-1704, and amendments thereto;

(2) Type "G" Roads, minor collector roads which shall include all county or township roads and highways, not designated for inclusion in the secondary road system, which are main traveled roads utilized and designed for inclusion in the secondary movement of traffic between different areas of the county; and

(3) Type "H" Roads, local access roads shall include all roads and highways not designated for inclusion in the county rural secondary road system or as county minor collector roads or highways.

(b) Whenever any rural secondary road or highway or county minor collector road or highway is located partly within and partly outside a city or connects any such road or highway with a city, by and with the consent of the governing body the board of county commissioners is hereby given power and authority and required to designate such public road or highway as a part of the county road or highway system, and it shall be improved and maintained as other parts of the county road system, except that the governing body of such city may aid in the construction, maintenance and improvement of such road or highway as it would were the road or highway wholly within the corporate limits of the city and may improve any such city boundary line road or street in the manner provided by K.S.A. 12-693, and amendments thereto. When a road or highway is being, or has been, improved by the county where state or federal aid has been extended in the improvement of such road or highway, and such road or highway terminates at the city limits, and where a road or highway has been or shall be constructed with federal aid, which such road or highway terminates at a state line, and the state line is the corporate limits of a city within this state, the secretary of transportation is hereby authorized and empowered to extend federal aid, and the board of county commissioners, on the application of the governing body of the city, shall declare such city through which a street or streets from a connection between such roads or highways, a benefit district, and shall extend state aid on that part of the roads or highway lying within the city limits in the same way and in the same manner as they extend aid in the improvement of the road or highway outside of the city limits. The secretary of transportation is hereby authorized and empowered to cooperate and deal with the governing body of the city, board of county commissioners, or other interested parties that provide funds to take care of the local part of the costs of the improvement of the road or highway lying within the city limits, and such improvement shall be under the supervision and direction of the secretary as provided for in the improvement of other roads and highways of like nature in the county.

(c) The county engineer and the boards of county commissioners may shift road or highway mileage from one county road or highway classification to another as continuing study indicates that such changes are needed by reason to changing traffic needs or for other reasons substantiated by engineering analysis, except that no road or highway mileage may be shifted to or from the secondary road system except as provided in article 17 of chapter 68 of the Kansas Statutes Annotated and amendments thereto.

68-516. Classification of highways in county unit road counties.

(a) In counties which have not adopted the county unit road system, it shall be the duty of the boards of county commissioners, with the approval of the county engineers in their respective counties, to classify and designate the roads and highways within such county within the following classes:

(1) Type "F" Roads, rural secondary roads which shall include all county roads and highways designated for inclusion in the secondary road system in accordance with K.S.A. 68-1701 to 68-1704, and amendments thereto;

(2) Type "G" Roads, minor collector roads which shall include all county roads and highways, not designated for inclusion in the rural secondary road system, which are main traveled roads utilized and designed for inclusion in the secondary movement of traffic between different areas of the county; and

(3) Type "H" Roads, local access roads which shall include all roads and highways not designated for inclusion in the county rural secondary road system or as county minor collector roads or highways.

(b) Such classification shall be made by the board of county commissioners, with the approval of the county engineer. The county engineer and the boards of county commissioners may shift road or highway mileage from one county road or highway classification to another as continuing study indicates that such changes are needed by reason to changing traffic needs or for other reasons substantiated by engineering analysis, except that no road or highway mileage may be shifted to or from the secondary road system except as provided in article 17 of chapter 68 of the Kansas Statutes Annotated, and acts amendatory thereof or supplemental thereto.

68-592. Classifications of highways; definitions.

(a) In counties which have not adopted the county unit road system, it shall be the duty of the boards of county commissioners with the approval of the county engineers in their respective counties, to classify and designate the roads and highways within such county within the following classes:

(1) Type "F" Roads, rural secondary roads which shall include all county roads and highways designated for inclusion in the secondary road system in accordance with K.S.A. 68-1701 to 68-1704, and amendments thereto;

(2) Type "G" Roads, minor collector roads which shall include all county and township roads and highways, not designated for inclusion in the secondary road system, which are main traveled roads utilized and designed for inclusion in the secondary movement of traffic between different areas of the county; and

(3) Type "H" Roads, local access roads which shall include all roads and highways not designated for inclusion in the county rural secondary road system or as county minor collector roads or highways.

(c) Such classifications shall be made by the board of county commissioners, with the approval of the county engineer. The county engineer and the boards of county commissioners may shift road or highway mileage from one county road or highway classification to another as continuing study indicates that such changes are needed by reason to changing traffic needs or for other reasons substantiated by engineering analysis, except that no road or highway mileage may be shifted to or from the federal air routes except as provided in article 17 of chapter 68 of the Kansas Statutes Annotated and amendments thereto.

CHAPTER 68. ROADS AND BRIDGES PART III. MISCELLANEOUS ARTICLE 17. FEDERAL AID ROUTES

68-1701. Designation; jurisdiction of county commissioners. There shall be designated in the state of Kansas a system of roads which, for the purposes of this act, shall be known as the federal aid routes, secondary road system, including farm-to-market roads selected in accordance with the provisions of this act, rural mail routes and school bus routes not on the state highway system, the construction, reconstruction and maintenance of which shall be under the jurisdiction of the board of county commissioners of each county.

68-1702. Same; mileage; apportionment among counties. The mileage of said system in the state shall not exceed twenty-five thousand (25,000) miles of which ninety-two percent (92%) of said mileage shall be apportioned among the counties in the following manner: one-fourth in the ratio which the area of each county bears to the total area of the state, one-fourth in the ratio which the number of farms in each county bears to the total number of farms in the state as shown by the biennial report of the Kansas state board of agriculture for the years 1935-1936; one-fourth in the ratio which the value of rural land taxable in each county bears to the total value of rural land taxable in the state as shown by said biennial report; and one-fourth in the ratio which the annual daily average vehicle miles of rural highway travel (exclusive of the travel on the state highway system) in each county bears to the total annual daily average vehicle miles of the travel (exclusive of the travel on the state highway commission for the year 1936. The remaining eight percent (8%) of said mileage shall be used to provide road connections in any county found necessary to complete said system.

68-1703. Same; inclusion of county and township roads; factual data; joint responsibility. In the selection of the milage of road to be designated in each county for inclusion in the secondary road system consideration shall be given to the inclusion of principal county and township roads so located as to provide adequate intertown and intercounty connections to best serve the rural population of the state. The determination of the mileage to be included in the federal aid routes shall be based on factual data obtained by the county commissioners and the secretary of transportation, cooperating with the federal government.

All mileage of existing county and township roads which heretofore have been approved by the federal government as being eligible for participation in federal-aid funds, shall for the purposes of this act become a part of said secondary road system. All other roads selected for inclusion in the federal aid routes as covered by this act shall be those county and township roads which upon investigation are found to be eligible for the expenditure of federal-aid funds thereon. The designation of the road mileage to be included in the federal aid routes shall hereafter be the joint responsibility of the boards of county commissioners and the secretary of transportation, the board of county commissioners making the recommendation and said secretary concurring in the recommendation.

68-1704. Same; county road milage limitation inapplicable. Any road mileage selected for inclusion in the secondary road system which is found to be a part of the township system of roads

in any county, shall thereupon become a county road and shall thereafter come under the jurisdiction of the board of county commissioners of said county without regard to any county road mileage limitations now prescribed by law.

CHAPTER 68. ROADS AND BRIDGES PART I. ROADS ARTICLE 5. COUNTY AND TOWNSHIP ROADS MISCELLANEOUS PROVISIONS

68-5,202. Declaration of minimum maintenance roads; procedure; posting of road; limitation of tort liability.

(a) When the board of county commissioners of any county is of the opinion that any road within the county or on the county line is used only occasionally or is used only by a few individuals, the board may commence proceedings to declare the road a "minimum maintenance road." Roads which have been constructed with federal aid shall not be minimum maintenance roads.

(b) When a determination is to be made that one or more roads or parts of roads may be declared minimum maintenance roads, the board shall adopt a resolution describing such roads and shall transmit copies thereof the planning commission of the county for its recommendation.

(c) When a resolution is adopted under subsection (b) the board of county commissioners shall cause it to be published once in the official county paper together with a statement that a hearing will be held on such determination with the time and place of such hearing specified. Any person wishing to appear at such hearing and give evidence or testimony thereon may do so. At the conclusion of such hearing the board shall determine what roads or parts of roads described in such resolution are to be declared by it minimum maintenance roads.

(d) Not later than 10 days after any road is declared to be a minimum maintenance road, signs shall be posted thereon by the board of county commissioners stating "Minimum maintenance, travel at your own risk." Such signs shall display black letters on a yellow background with the letters being at least two inches high.

(e) When any road described in (b) is on, or partly on, a county line, a copy of such resolution shall be transmitted to board of county commissioners of the adjoining county in which a part of such road is located. Also, a copy shall be transmitted to the planning commission of such adjoining county and any regional or metropolitan planning commission in which both of such counties are located. The board of county commissioners of such adjoining county, its planning commission and any regional or metropolitan planning commission in which both counties are located may make recommendation to the board of county commissioners adopting such resolution. Adoption of a resolution under (b) shall not limit the right of the board of county commissioners of any adjoining county from proceeding under this act. The action of either of such boards of county commissioners shall apply to that portion of such road which is in the county of the board adopting a resolution under (b).

(f) Whenever a road has been declared a minimum maintenance road in accordance with the section and signs have been posted thereon as provided in (d), the state, the county and the townships within such county and employees of such governmental entities shall be exempt from liability for any claim by any person under the Kansas tort claims act with respect to such minimum maintenance roads. No such governmental entity or employee thereof shall be liable for damages arising from such roads or their maintenance or condition.

CHAPTER 75. STATE DEPARTMENTS; PUBLIC OFFICERS AND EMPLOYEES ARTICLE 61. KANSAS TORT CLAIMS ACT

75-6104. Liability of governmental entities for damages caused by employee acts or omissions, when; exceptions from liability. A governmental entity or any employee acting within the scope of the employee's employment shall not be liable for damages resulting from:

(a) Legislative functions, including, but not limited to, the adoption of failure to adopt any statute, regulation, ordinance or resolution;

(b) judicial function;

(c) enforcement of or failure to enforce a law, whether valid or invalid, including, but not limited to, any statue, regulation, ordinance or resolution;

(d) adoption or enforcement of, or failure to adopt or enforce, any written personnel policy which protects persons' health or safety unless a duty of care, independent of such policy, is owed to the specific individual injured, except that the finder of fact may consider the failure to comply with any written personnel policy in determining the question of negligence;

(e) any claim based upon the exercise or performance or the failure to exercise or perform a discretionary function or duty on the part of a governmental entity or employee, whether or not the discretion is abused and regardless of the level of discretion involved;

(f) the assessment or collection of taxes or special assessments;

(g) any claim by an employee of a governmental entity arising from the tortuous conduct of another employee of the same governmental entity, if such claim is (1) compensable pursuant to the Kansas workmen's compensation act or (2) not compensable pursuant to the Kansas workmen's compensation act because the injured employees was a firemen's relief association member who was exempt from such act pursuant to K.S.A. 44-505d, and amendments thereto, at the time the claim arose;

(h) the malfunction, destruction or unauthorized removal of any traffic or road sign, signal or warning device unless it is not corrected by the governmental entity responsible within a reasonable time after actual or constructive notice of such malfunction, destruction or removal. Nothing herein shall give rise to liability arising from the act or omission of any governmental entity in placing or removing any of the above signs, signals or warning devices when such placement or removal is the result of a discretionary act of the governmental entity;

(i) any claim which is limited or barred by any other law or which is for injuries or property damage against an officer, employee or agent where the individual is immune from suit or damages;

(j) any claim based upon emergency preparedness activities, except that governmental entities shall be liable for claims to the extent provided in article 9 of chapter 48 of the Kansas Statutes Annotated;

(k) the failure to make an inspection, or making an inadequate or negligent inspection, of any property other than the property of the governmental entity, to determine whether the property complies with or violates any law or regulation or contains a hazard to public health or safety;

(l) snow or ice conditions or other temporary or natural conditions on any public way or other public place due to weather conditions, unless the condition is affirmatively caused by the negligent act of the governmental entity;

(m) the plan or design for the construction of or an improvement to public property, either in its original construction or any improvement thereto, if the plan or design is approved in advance of the construction or improvement by the governing body of the governmental entity or some other body or employee exercising discretionary authority to give such approval and if the plan or design was prepared in conformity with the generally recognized and prevailing standard in existence at the time such plan or design was prepared;

(n) failure to provide, or the method of providing, police or fire protection;

(o) any claim for injuries resulting from the use of any public property intended or permitted to be used as a park, playground or open area for recreational purposes, unless the governmental entity or an employee thereof is guilty of gross and wanton negligence proximately causing such injury;

(p) the natural condition of any unimproved public property of the governmental entity;

(q) any claim for injuries resulting from the maintenance of an abandoned cemetery, title to which has vested in a governmental entity pursuant to K.S.A. 17-1366 through 17-1368, and amendments thereto, unless the governmental entity or an employee thereof is guilty of gross and wanton negligence proximately causing the injury;

(r) the existence, in any condition, of a minimum maintenance road, after being properly so declared and signed as provided in K.S.A. 68-5,102 and amendments thereto;

(s) any claims for damages arising from the performance of community service work other than damages arising from the operation of a motor vehicle as defined by K.S.A. 40-3103 and amendments thereto; or

(t) any claim for damages arising from the operation of vending machines authorized pursuant to K.S.A. 1993 Supp. 75-3343a or K.S.A. 68-432, and amendments thereto.

The enumeration of exceptions to liability in this section shall not be construed to be exclusive nor as legislative intent to waive immunity from liability in the performance or failure to perform any other act or function of a discretionary nature.

References

American Society of Civil Engineers, "Local Low Volume Roads and Streets," Federal Highway Administration, Publication No. FHWA-SA-93-006, November 1992.

Federal Highway Administration, "1994 Highway Statistics," Washington, D.C., 1994.

- "Handbook of Traffic Control Practices for Low Volume Rural Roads," Kansas Department of Transportation, 1st Edition, 1984.
- "Handbook of Traffic Control Practices for Low Volume Rural Roads," Kansas Department of Transportation, 2nd Edition, 1991.
- Ivey, Don L. and Lindsay I. Griffin, III, "Safety Improvement for Low Volume Roads and Streets," Presented at the 74th Annual Kansas Transportation Conference, Kansas State University, Manhattan, Kansas, Texas Transportation Institute, College Station, Texas.
- Mercier, Cletus, R., "Low-Volume Roads: Closure and Alternative Uses," Transportation Research Board, Transportation Research Record 898, Washington, D.C., 1982.
- "Policies for the Rehabilitation of Highways and Bridges for Other than Interstate and Freeways on the State Highway System of Kansas," Kansas Department of Transportation, February 14, 1990.