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FINANCING OF LOCAL ROAD  
MAINTENANCE IN TEXAS:  
TRENDS, INTERGOVERNMENTAL  
RELATIONS, AND PROSPECTS

by

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Transportation Research Report Number 70

Future City, County, and State Intergovernmental Relationships  
with Respect to State Highway Maintenance  
and Rehabilitation Needs -- Phase II  
Transportation Research Report Number IAC (84-85) - 1189

conducted for

Texas State Department of Highways and Public Transportation

by the

CENTER FOR TRANSPORTATION RESEARCH  
BUREAU OF ENGINEERING RESEARCH  
THE UNIVERSITY OF TEXAS AT AUSTIN

September 1984

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

## ABSTRACT

This report presents the principal accomplishments of the first phase of a study addressing the financing of local government road maintenance and rehabilitation needs, primarily that of counties, and the related intergovernmental linkages in Texas. In particular, a thorough background review of available documentation on the legal, institutional and financial aspects of revenue generating techniques for road financing in Texas is presented. A data base documenting expenditures and revenues of Texas counties has been substantially developed, particularly in the area of road maintenance financing. The principal trends in this data are highlighted and discussed in this report, including the variation of revenue sources across the counties.

TABLE OF CONTENTS

ABSTRACT . . . . . iii

LIST OF TABLES . . . . . iv

LIST OF FIGURES. . . . . v

LIST OF EXHIBITS . . . . . vi

CHAPTER 1. INTRODUCTION

    Methodology and Accomplishments of the Study. . . . . 2

    Background Review . . . . . 10

CHAPTER 2. INTERGOVERNMENTAL LINKAGES

    Statistical Overview. . . . . 13

    Federal Aid Programs. . . . . 16

    State Aid . . . . . 18

    Arrangements in Other States. . . . . 18

    Centralized Systems . . . . . 19

    States with Strong Municipalities . . . . . 21

    Other State Systems . . . . . 21

CHAPTER 3. THE FARM-TO-MARKET ROAD PROGRAM

    History . . . . . 24

    Current Program Status. . . . . 26

    The Request Process . . . . . 30

CHAPTER 4. COUNTY ROAD ADMINISTRATION

    The Precinct System . . . . . 32

    Centralized Systems . . . . . 33

    The County Budgeting Process. . . . . 34

    The Larkey Model. . . . . 35

    County Use of State Aid . . . . . 36

CHAPTER 5. DETERMINING COUNTY NEEDS

Measurement Issues. . . . . 39

The Concept of Needs. . . . . 39

    Models . . . . . 40

    Operational Measures . . . . . 44

Expenditure Data. . . . . 46

    Total Road Expenditure Data. . . . . 46

    County Maintenance Expenditure Data. . . . . 48

    Construction vs. Maintenance . . . . . 52

    Distribution Across Counties . . . . . 54

    Correlations . . . . . 55

Construction Expenditure Data . . . . . 60

    Aggregate Spending Trends. . . . . 60

    Trends Across Tax Base Classifications . . . . . 62

    Distribution Across Individual Counties. . . . . 62

CHAPTER 6. COUNTY REVENUE SOURCES

Existing Revenue Sources. . . . . 64

    Property Tax . . . . . 64

Legal Background. . . . . 64

Exemptions. . . . . 67

Tax Revolt. . . . . 68

Additional Tax Revenue. . . . . 69

    Comments on Method . . . . . 70

    Borrowing. . . . . 72

    Traffic Fines. . . . . 75

State and Federal Aid . . . . . 76

    Vehicle Registration Fees. . . . . 76

Gas Tax. . . . .	81
Revenue Sharing. . . . .	84
Potential Revenue Sources . . . . .	86
Sources Under County Control . . . . .	86
Sales Tax . . . . .	86
Local User Fees . . . . .	87
Additional State Aid. . . . .	88
CHAPTER 7. CITY REVENUES AND EXPENDITURES	
CHAPTER 8. CONCLUSIONS AND FURTHER RESEARCH	
REFERENCES . . . . .	98
BIBLIOGRAPHY . . . . .	100

LIST OF TABLES

<u>Table</u>	<u>Page</u>
1	14
Proportion of Road Financing from Federal, State & Local Sources . . . . .	
2	15
Texas State-Local Division of Transportation Expenses, 1977-82 . . . . .	
3	27
Average Cost Per Mile for New Construction of the Texas State Farm-to-Market Road System, Selected Years. . . . .	
4	29
Average Cost Per Mile for Maintenance of the Texas State Farm-to-Market Road System, Selected Years. . . . .	
5	47
Aggregate County Road Expenditure and Revenue, 1972-81. . . . .	
6	49
A Comparison of Year-to-Year Changes in County, City and State Road Spending From 1972 to 1981 . . . . .	
7	51
County Maintenance Expenditure, 1972-81 . . . . .	
8	53
Division of County Road Expenditure Between Construction and Maintenance, by Tax Base Classification, Selected Years. . . . .	
9	57
Correlation Between per Capita Maintenance Expenditure and Selected Variables. . . . .	
10	59
Correlation Between Maintenance Expense per Mile and Selected Variables . . . . .	
11	61
Aggregate County Construction Expense for County Roads, 1972-1981 . . . . .	
12	73
Additional Revenue Available from County Property Taxation . . . . .	
13	77
Estimated Revenue Gain From Optional Registration Fee. . . . .	
14	82
Percentage of Revenue From Registration Fees, by Tax Base Classification. . . . .	
15	92
Comparison of City and County Revenue Sources on Aggregate Basis. . . . .	



LIST OF FIGURES

<u>Figure</u>		<u>Page</u>
1	Year-to-Year Percentage Changes in Road Spending (1967 Dollars) . . . . .	50

LIST OF EXHIBITS

<u>Exhibit</u>		<u>Page</u>
1	Variables Obtained from 1980 Census Data. . . . .	5
2	Variables Obtained from SDHPT Local Finance Section . . . . .	6
3	Variables Obtained from State Property Tax Board . . . . .	7
4	Variables from Miscellaneous Sources. . . . .	8
5	Variables Computed for Analysis . . . . .	9
6	Farm-to-Market Road Program Statistics . . . . .	28
7	Translation of Needs into Expenditures on Roads . . . . .	41
8	Conceptual Relationships in Expenditure Decisions . . . . .	43
9	Statistics on the Texas Property Tax. . . . .	65
10	Counties that had not completed Revaluation to 100% Market Value by 1983. . . . .	71
11	Registration Fee Schedules as of January, 1983. . . . .	79

## CHAPTER 1. INTRODUCTION

This report presents a review of the system of intergovernmental linkages and relationships in Texas which exist in regard to local (county and city) road and highway maintenance funding. The primary motivation for this study is an interest in documenting the current trends in county requests for state assistance, usually submitted through the state's farm-to-market road program. A more general background interest is the competition for funding sources among these three levels of government.

The objectives of the study can be outlined as follows:

1. To identify alternative revenue sources and related institutional arrangements for road maintenance financing;
2. To address the impact of county taxing options on state funding;
3. To develop a data base on county expenditures and revenues;
4. To obtain statistical information from the above data base;
5. To identify a preliminary explanatory typology of the counties and/or cities for the purpose of policy analysis and development;
6. To develop a conceptual framework for predicting the impact of various policies affecting local road maintenance financing.

The report begins with an overview of the accomplishments of the study, followed by a review of trends in the Texas highway financing picture. Chapter 2 examines the different roles played by the federal, state and local governments in Texas; in addition arrangements in various other states are examined for purposes of comparison.

Chapter 3 discusses the development of the Farm-to-Market road program and presents statistics summarizing its current scope and level of accomplishment. The process by which counties request state assumption of responsibility for county roads is also described.

Chapter 4 presents a conceptual discussion of the county road administration process, with a comparison of centralized and decentralized systems. A plausible model of the county budgeting process is put forward and utilized in an analysis of how counties might use state funding assistance.

Chapter 5 brings the central question of county road needs into focus. The difficult problems of measurement are considered and several operational measures are proposed. The chapter then presents an analysis of data covering total road spending, maintenance, and construction. Although more detailed analysis remains to be performed, a number of interesting conclusions are suggested based on the preliminary examination.

Chapter 6 looks at the many revenue sources available to the counties. Along with describing the institutional aspects of each revenue source and characteristics of its use, this chapter looks at the feasibility of generating additional revenue from the various sources.

Chapter 7 applies the same analysis to aggregate data on Texas municipalities as well as data categorized on the basis of population size. Some clear differences from county road financing are readily apparent.

Finally, the conclusions from the first phase are summarized and areas of further research outlined in Chapter 8.

#### METHODOLOGY AND ACCOMPLISHMENTS OF THE STUDY

This study has examined a broad range of issues in the area of intergovernmental relations regarding Texas road financing. It consisted of

a review of background literature, the initial development of a data base, preliminary analyses and identification of fruitful avenues for further research.

The study encompassed a thorough review of secondary information sources, and the acquisition of aggregate data from existing sources. The results of prior monographs, agency reports, and theoretical work in this area were utilized. In addition, valuable insight into the current local road finance process was gained through a number of interviews with State Department of Highways and Public Transportation officials, state agency researchers, representatives of local government lobbies, and a few county officials. With this study, it was felt that a systematic large-scale effort to obtain information directly from local officials was not justified, given its cost and the competing need to absorb readily available secondary information.

The decision to focus primarily on counties and defer city research for later stages was also made, for the following reasons:

1. The study was prompted in large part by an interest in county requests for state absorption of their roads via the farm-to-market road program. Cities cannot participate in this program.
2. The number of counties in Texas (254) offered the opportunity to construct a data base that was manageable in size but still comprehensive. A city data base requires use of a sampling method.
3. The methodology developed for counties can be readily applied to the cities.

Data were acquired and data files developed for use in conjunction with the computer system at The University of Texas at Austin. Exhibits 1 through

5 detail the principal variables that have been included in the data base up to the present time.

Exhibit 1 lists the data from the 1980 Census that were considered relevant in initial investigations. Further data on county characteristics, such as employment breakdowns, can readily be acquired from the data tape, which is owned by the UT Bureau of Business Research.

Exhibit 2 presents the variables that have been retrieved from the extensive information on individual county road receipts and expenditures compiled by the Texas SDHPT's Finance Division. Time constraints permitted only 1981 data to be entered. Further work could be done with the 1982 data that has recently become available and other expenditure variables could be added to the current data base as well.

Exhibit 3 consists of the variables on county property taxes obtained from the State Property Tax Board. The data is comprehensive except for 33 counties that have not completed their mandatory market value reappraisal process (listed in a later section).

Finally, Exhibit 4 lists data derived from a variety of sources, while Exhibit 5 lists variables that we have calculated for our preliminary investigation. Taken together, these exhibits depict a data base that can potentially yield a much improved understanding of county road needs and financing issues.

With the operational data base established, several preliminary analyses were conducted in addition to the interpretation of the aggregate data available in various other reports. The computer analyses included projections of the funds counties can raise from the property tax (under different scenarios), frequency distributions and summary statistics describing all the available variables, and, to a limited degree, correlation

## EXHIBIT 1. VARIABLES OBTAINED FROM 1980 CENSUS DATA

<u>Code Name</u>	<u>Description</u>
T00101	1980 total county population
POP 70	1970 total county population
GROWTH	Percentage change in population 1970-1980.
RURAL	1980 percentage of population living outside "urbanized" areas
NEW75	1980 percentage of population not living in county in 1975
T04200	1980 aggregate travel time to work of workers over 16 who drive
T04001- T04006	1980 Workers over 16: who drive alone to work who carpool to work who take public trans. who walk to work who use other means who work at home
T04100- T04108	1980 breakdown of worker commuting times  under 5 min.      20-29 min. 5 - 9 min.      30-44 min. 10-14 min.      45-59 min. 15-19 min.      60+ min.
T08001- T08015	1980 breakdown of individual income  under \$1000      \$8000-\$9000 \$1000- 2000      9000-10000 2000- 3000      10000-12000 3000- 4000      12000-15000 4000- 5000      15000-25000 5000- 6000      25000-50000 6000- 7000      over \$50000 7000- 8000
T08200	1980 median income of the county
T08300	1980 aggregate income of the county

EXHIBIT 2. VARIABLES OBTAINED FROM SDHPT  
LOCAL FINANCE SECTION

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<u>Code Name</u>	<u>Description</u>
CAPROW	Expense for right-of-way on county roads.
CAPENG	Engineering expense on county road construction.
CAPCON	Expense for construction work on county roads.
MAINT	Maintenance expense on county roads.
TRAFF	Traffic services maintenance expense on county roads.
ROADEXP	The total of the above group of road expenses.
ADVAL1	Property tax revenue for operating funds.
ADVAL2	Property tax revenue for interest & sinking funds.
SPECASS	Special assessment revenue.
TRAFINES	Traffic fine revenue.
OTHEROP	Miscellaneous receipts,
BONDS	Proceeds from bonds issued not maturing within 2 years.
NOTES	Proceeds from bonds issued maturing within 2 years.
DEBT	Total of the above debt items.
GASTAX	Revenue from gas tax lateral road aid.
REGFEE	Revenue from vehicle registration fees.
REVSHAR	Revenue from Federal revenue sharing grants.
OTHER	Revenue from other Federal aid sources.
BUDGET	Total county expenditures derived from audit report.

---



## EXHIBIT 3. VARIABLES OBTAINED FROM STATE PROPERTY TAX BOARD

<u>Code Name</u>	<u>Description</u>
BASE	Appraised market value of all county property, including real and personal property.
PROD	Reduction in value based on productivity valuation of qualifying agricultural property.
TAXBASE	Taxable value of county property after agricultural property adjustment.
FMEXEM	Reduction in property value resulting from homestead exemption for farm-to-market/flood control tax.
FMRATE	Farm-to-market/flood control tax rate.
FMLEVY	Farm-to-market/flood control tax levy.
EXEMG	Reduction in property value resulting from all exemptions applicable to general fund tax.
RATEG	General fund tax rate.
LEVYG	General fund tax levy.
RATESP	Special road and bridge tax rate.
LEVYSP	Special road and bridge tax levy (no exemptions apply).

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## EXHIBIT 4. VARIABLES FROM MISCELLANEOUS SOURCES

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<u>Code Name</u>	<u>Description</u>	<u>Source</u>
VEHIC	Registered vehicles in county. (1982)	Highway Dept. Vehicle Registration
VMILES	Vehicle miles recorded on county roads. (1982)	Highway Dept. Trans. Planning
MILES	County-maintained road mileage, (1982)	Highway Dept. Trans. Planning
BRIDGE	Percentage of county bridges with sufficiency rating less than 80 points.	Highway Dept.
----	Total # of county bridges.	Highway Dept.
----	Total # of county bridges in sufficiency rating categories:	Highway Dept.
	under 50	
	under 80	
DEBT	Total debt per capita of all overlapping jurisdictions within the county, (most recent year since 1980)	Municipal Advisory Council reports
REGION	Code from 1 to 6 for geographic region.	

---

## EXHIBIT 5. VARIABLES COMPUTED FOR ANALYSIS

---

<u>Code Name</u>	<u>Computation</u>
EXPMILE	Maintenance expense divided by mileage.
EXPPCAP	Total road expense divided by population.
EXPPVEH	Total road expense divided by # vehicles registered.
MAIPCAP	Maintenance expense divided by population.
MAIPVEH	Maintenance expense divided by # vehicles registered.
RSHARE	Total road expense divided by total expenses of the county.
MSHARE	Total maintenance expense divided by total expenses of the county.
PERMILE	Vehicle miles divided by mileage.
PERVEMI	Vehicle miles divided by # vehicles registered.

---

and regression analyses. The relative contribution of each revenue source to the finances of each county in 1981 was also calculated. The results of this analysis are presented throughout Chapter 6, which discusses county revenue sources.

There are clear avenues of future research that have emerged from this work. The data base can be expanded to provide more thorough coverage of current variables. Survey methods can be employed to obtain primary data from county officials. A number of intriguing hypotheses about the local budgeting process, local use of state aid, and the relationship between actual expenditures and needs can be tested empirically. A sample of cities should also be added to insure that their needs are properly addressed.

#### BACKGROUND REVIEW

The county road system is the oldest road network in the state. Until the 1940's the county was the primary governmental entity charged with the construction and maintenance of roads by the state. The incorporated towns and cities did build roads and streets for local travel, but the county responsibility was paramount.

In the 1940's, the federal government enacted legislation to build a national system of highways which would facilitate commerce and defense. The federal funds were to be primarily administered by the states, and this spurred the development of the State Highway Department to oversee expenditure of federal funds and coordinate designation of the state/federal system.

During the last three decades most of the new construction has been financed with federal funds and state matching funds, and much of it has been devoted to interurban highways. The relative sizes of the three systems still reflect the early dominance of the county road network, which surpasses

the state and city systems in total mileage (although not in lane mileage). As of 1983 Texas had approximately 137,000 centerline miles of county roads, 70,000 centerline miles of state roads and 56,000 centerline miles of city streets.

As the state and city roles in road construction and maintenance increased, there was a concomitant change in the road financing picture. In 1964, the counties spent \$115 million on roads, cities spent \$203 million, and the state spent \$452 million (Ref. 1). These figures equate to 15 percent, 26 percent, and 59 percent of total road spending. In 1981 the corresponding percentages were 12.5 percent, 35 percent, and 52.5 percent (Ref. 2). The changes reflect the increased urbanization of Texas in the past two decades. Similar figures reaching back to the 1940's would illustrate the dramatic growth of the state spending share.

As the state road systems have grown, they have also aged. Officials at all levels are turning more attention to maintenance and rehabilitation issues. Between 1964 and 1981, the share of city street maintenance in city road expenditures rose from 15 percent to 21.8 percent; the share of regular and special maintenance in state expenditures rose from 15 percent to 20.5 percent; and the share of county road maintenance expense in county expenditures rose modestly from 40 percent to 41 percent (Ref. 3).

At the present time, a number of developments have had major impacts on the intergovernmental financing system. The first of these is the continuing concentration of population in large urban cities and counties. The agglomerations of people require the largest road expenditures, particularly for new construction.

A second development is the cutback in federal assistance to local governments initiated by the current administration. Many of these funds,

particularly general revenue sharing funds, have been allocated to capital spending projects - including roads - by the local governments. They typically did this out of fear that the funds would be cut off, reasoning that it is easier to halt capital spending than it is to reduce service levels. Thus a principal source of road funding that has been used in the past decade will require some replacement if the same level of road expenditure is to be maintained.

A third and final development is the state fiscal crunch brought on by the combination of economic recession and a slack oil market. This has given rise to a somewhat different fiscal climate in Texas, which some observers have noted. Until about 1980, the state authorized road and highway funding in an atmosphere of abundant revenues. In a time when new taxation has been passed by the legislature, maintenance will probably have a more favorable reception than expansion of the road network. All road spending, however, is subject to belt tightening and the tradeoffs between spending at different levels need closer examination.

## CHAPTER 2. INTERGOVERNMENTAL LINKAGES

Intergovernmental linkages in the area of road and highway development involve a number of pathways along which aid and influence are transmitted. Funds from the federal government flow to states and local jurisdictions. Funds from the state flow to cities and counties. A smaller amount of funds flows "upward" from local governments to state governments.

### STATISTICAL OVERVIEW

The U. S. Advisory Commission on Intergovernmental Relations reports that the distribution of highway funding between the federal government, the State of Texas, and Texas local governments has followed the pattern depicted in Table 1. The table shows that, while the state is the principal source of highway funds, the localities and the federal government both have substantial roles in road financing.

The state share fell during the 1970's but subsequently almost reached the 1967 proportion in 1981. The federal share rose somewhat, then fell below the 1967 level. The local share rose modestly. The overall picture that emerges is one of a relatively stable division of functions between these three levels of government. It should be noted, however, that the federal share of road funding has risen sharply as a result of the Surface Transportation Assistance Act (STAA) of 1982.

Table 2 narrows the comparison to the state and local governments. These figures, computed by the Texas Advisory Commission on Intergovernmental Relations (ACIR), cover the total transportation expenditures by state and

TABLE 1. PROPORTION OF ROAD FINANCING FROM  
FEDERAL, STATE & LOCAL SOURCES

	<u>Federal</u>	<u>State</u>	<u>Local</u>
1967	26%	46%	29%
1977	29%	40%	31%
1981	23%	45%	32%

NOTE: Totals may not add up to 100% due to rounding-off.

Source: U.S. Advisory Commission on Intergovernmental Relations, State Aid to Local Government, April, 1969, and U.S. Department of Transportation, Federal Highway Administration, Highway Statistics, various editions.



TABLE 2. TEXAS STATE-LOCAL DIVISION  
OF TRANSPORTATION EXPENSES,  
1977-82

	<u>State</u>	<u>Local</u> *
1977-78	58.7	41.3
1978-79	61.8	38.2
1979-80	63.8	36.2
1980-81	59.9	40.1
1981-82	61.3	38.7

\* includes county governments, special districts  
and school districts.

Source: Texas ACIR, Trends in Texas Government  
Finance, p. 22.

local governments, with local government including counties, cities, special districts, and school districts. This table , also, shows a reasonably stable division of effort between the different levels of government, although the series covers only a 5-year period. The state share has risen, fallen back, and risen again, averaging about 60 percent of Texas transportation system expenses.

It should be noted that the state's share of highway expenses is somewhat different than its share of total transportation costs. The U.S. ACIR reports that Texas state government spends about 58.3 percent of the funds devoted to highways by all Texas governments. The 1981 average for all states is 61.5 percent, which makes Texas one of the more decentralized states in road funding. There are sixteen states, however, with even smaller roles (measured as above) in road finance than Texas state government (Ref. 5).

The state government's share of road funding is somewhat higher than its overall share of government spending in Texas, which stood at 51.5 percent in 1981 (Ref. 6).

#### FEDERAL AID PROGRAMS

The Federal Government offers aid in the form of matching funds through a variety of programs. Most of the funds coming to Texas go toward improvement of the interstate and federally designated highway system, but some of the funds can be used for off-system (non-federally designated) work.

As a result of the STAA of 1982, the total amount of federal highway aid to Texas in fiscal 1983 reached \$752 million. In fiscal 1984, it is scheduled to rise further, to \$843 million (Ref. 7). As noted before, these amounts represent significant contributions to the Texas road system (Ref.

8). The predominant form of Federal aid to cities and counties is the funding of interstate system improvements which benefit localities. Major cities, in particular, profit from the federal aid that improves traffic flow on the designated loops around the cities and the major arteries that feed into them.

A second form of aid for cities is the Urban System Funds program, which will bring \$50 million to Texas in fiscal 1984. This money is distributed to cities on the basis of population. The city submits projects for Department approval. If the project is funded, the Department will make detailed plans and hire contractors to perform the work, turning the road back to the city for maintenance. The state provides 25 percent matching funds for all projects. This program generally supports widening and additional surfacing of existing streets; maintenance activities cannot be funded.

The Bridge Replacement and Rehabilitation Program is an extension of a campaign to rehabilitate bridges on the federal aid system. In 1978, the U. S. Congress amended the program to require that a minimum of 15 percent and a maximum of 35 percent of the funds awarded to any state be spent for off-system bridge work.

The program has been implemented following an initial inventory of every county in the state. This inventory entailed evaluation of the structural condition of each bridge, which then received a sufficiency rating. Over 80 percent of the county bridges were classified as either functionally obsolete or structurally deficient. Functionally obsolete bridges are eligible for complete replacement, whereas structurally deficient bridges are eligible only for rehabilitation work.

The program operates in a manner similar to the farm-to-market road program. The counties which wish to participate submit lists of the bridges

they would like to have repaired to the Texas Highway Department District Office. These proposals are reviewed by the Bridge Division and projects are selected. At the present time, the Bridge Division is developing a more elaborate priority rating system.

It is interesting to note that this program has not been viewed with favor by all county officials. Many counties do not want to participate because they are required to put up 20 percent matching funds for their projects. There was also widespread concern that the bridge inventory would increase county liability for any accidents that might occur after the county had been informed of its bridge deficiencies.

In response to that concern, at least one county has posted signs at all of its bridges stating the maximum vehicle load that the bridge can tolerate. In this way officials hope to shift the liability back to county drivers.

#### STATE AID

The state government contributes to county road spending but does not directly assist the cities. Direct aid to counties takes the form of farm-to-market road construction and maintenance. Indirect aid is given by dedication of vehicle registration fees and gas tax funds (lateral aid portion). Each of these state aid mechanisms is discussed in detail in subsequent sections of this report.

#### ARRANGEMENTS IN OTHER STATES

There is considerable diversity in the intergovernmental arrangements in different states. It would be difficult to measure the relative performance of these systems. This section reviews the approaches taken by other states so as to place in context the particular choices that have been made in Texas.

County roads are controlled and maintained by the state government in five states: Delaware, West Virginia, North Carolina, Virginia, and Alabama. In Virginia, two counties retain their independence, and in Alabama, ten counties out of sixty-seven have handed maintenance responsibility to the state. In the rest of the country, the counties retain road responsibilities, supported to a large degree by state assistance and property taxes.

The experiences of other states are interesting, but they are unlikely to provide Texas with any significant lessons. One of the most interesting phenomena is the major shift in Virginia toward maintenance work on all systems, which may be a precursor of the Texas experience. Other interesting items include Virginia's monitoring of productivity, the Alabama counties' option to give the state control over their roads, and Iowa's requirement that the state update its assessment of county road needs every two years to revise aid allocations (Ref. 9).

One federal study devoted some attention to the possibility of increasing the amount of contracting between all levels of government. This would theoretically be beneficial where one level of government has the resources to do work more efficiently. Counties in both Michigan and Wisconsin can contract with the state to have maintenance work done on their roads. There may be potential gains from this arrangement in Texas as well (Ref. 10)

### Centralized Systems

#### Virginia

Virginia has centralized control over county road construction and maintenance activities, with the exception of Arlington and Henrico counties. Incorporated areas also retain control over their road operations.

Virginia highway department officials believe they will not be able to afford any further construction activity after 1985. Between 1970 and 1980, maintenance spending rose from \$48 million to \$186 million, a 20 percent increase after adjusting for inflation. All real growth occurred in the area of maintenance replacement, including activities such as pavement overlays and bridge rehabilitation. Construction spending experienced an opposite trend after dominating for two decades.

As in Texas, the requests for maintenance replacement far exceed the available funding on the rural portion of the road system. Virginia allocates funds to different areas based on two factors, mileage and cost differentials. The Virginia equivalent of the Texas district engineer is given significant authority to fund projects after consulting with the elected officials of each county. More centralized review is conducted for work on the major rural roads.

#### North Carolina

North Carolina has a fully centralized maintenance system. The state highway department procures equipment, appropriates funds geographically based on a formula that accounts for road mileage and population, and maintains all roads outside of incorporated areas.

#### Alabama

Alabama has assumed maintenance responsibility for ten counties, out of sixty-seven, which have elected to forfeit control over this function. Alabama funds the county roads by allocating 55 percent of its state gas tax to the counties. Distribution is based on population alone, with 10 percent of the 55 percent share reserved for cities. Property taxes are used extensively to fund road and bridge work.

## States With Strong Municipalities

### Pennsylvania

Pennsylvania has a tradition of strong municipal government and weak county government. As a result cities and towns maintain almost all local roads in Pennsylvania. There has also been increasing reliance upon regional councils of governments to fund some of the local road maintenance work, such as provision of traffic signs. Recently the state government proposed to cut road costs by turning many low-volume state roads back to municipal government control. This measure did not advance very far in the legislature.

### Illinois

About 80 percent of the rural roads in Illinois are maintained by towns, again due to historic tradition. The state sets standards for the operation of county road systems, which it monitors through nine highway districts. The state highway department also selects an engineer to handle construction and maintenance of county roads from among county nominees. Counties and cities may contract with each other for road work.

## Other State Systems

### Iowa

In Iowa, the elected county officials must hire a county engineer to deal with road matters. The state highway department sets road standards, provides technical assistance, and frequently makes recommendations to the counties with regard to the amount and type of spending on roads.

In 1978, the Iowa legislature required that a statewide assessment of county road needs be undertaken every two years to determine adjustments in

the formula used for state aid allocation. This requirement came out of a bill to raise the state gas tax and supply more funds to the counties. The Iowa legislature also repealed a statute that gave the state major responsibility for the county road network.

### California

Some California counties are required by statute to hire a road commissioner to supervise day-to-day road work. The state provides funding to counties and audits their expenditures.

After Proposition 13 passed in 1978, two measures were introduced to help the counties fund road expenses, since their ability to raise funds with the property tax was severely hampered. One bill would have allowed a special property tax dedicated to road use, similar to the special road and bridge tax permitted in Texas. The other bill proposed a local option gas tax. Both of these proposals were rejected by the California legislature in 1980.

California county officials have expressed interest in contracting with the state government for maintenance work.

### Missouri

In Missouri, the county governments have complete responsibility for road operations. In 23 counties, townships have extensive authority over rural roads that are usually under county control.

The state highway department audits county expenditures and used to review county expenditures until 1976. In 1980 the legislature appropriated \$36 million for local government repair of roads and bridges. This was a one-time appropriation that came in response to a series of harsh winters.



In 1977, almost 70 counties chose to abolish their special road districts after receiving state approval to do so. The other counties elected to retain them.

### CHAPTER 3. THE FARM-TO-MARKET ROAD PROGRAM

In Texas, the farm-to-market road program is the major form of direct state assistance for county roads. As mentioned in Chapter 1, primary motivation for this study is the need to understand more about county requests for state assumption of maintenance responsibility for their roads through the farm-to-market road program. In this chapter, a brief history of the program is presented and followed by a discussion of current program status and recent trends based on the data base. Finally, the request process is described along with some concluding comments on the role of this program in financing county road maintenance needs.

#### HISTORY

During the Depression, the Federal Government began spending money for work relief projects on rural roads, including work performed in Texas. In 1944, the U. S. Congress appropriated funds for rural road construction with the stipulation that they be matched 50-50 with state funds. In 1945, the Texas Highway Commission authorized the construction of about 7,500 miles of roads under this program.

In 1947, the Texas Legislature passed the Farm Highway Act, allocating funds from the gas tax "surplus" for rural road construction. This "surplus" was created as the state's obligation to pay off old road district bonds declined. The county was required to provide 75 percent of the construction cost, up to an annual maximum of \$100,000.

After a strong lobbying effort by the Texas Rural Roads Association, this program was replaced by a major infusion of funds for the rural road system in 1949. The Colson-Briscoe Act dedicated \$15 million of general revenues on an annual basis to the Farm-to-Market Road Fund. This act essentially launched the present day program.

Colson-Briscoe funds were dedicated to construction purposes alone and could not be used for maintenance work. They were also restricted to roads that met the following criteria:

1. they primarily served rural areas;
2. they connected with the state system;
3. they could not be added to the "primary" road system;
4. they created economic value;
5. they were, if possible, school bus and RFD mail routes.

In 1951, the Department raised the policy goal for the farm-to-market road system from 25,000 to 35,000 miles. The legislature also passed the Motor Fuels Tax Act, which formalized the distribution of 25 percent of the gas tax in this manner:

- . \$7.3 million lateral aid to counties, to be used for any road purposes
- . any funds required to service the debt on county road district bonds assumed by the state in 1932
- . the remainder to be devoted to farm-to-market roads

The state also continued to receive substantial federal funding for the farm-to-market road system each year. By 1955, 21,000 miles of farm-to-market roads had been constructed.

In 1962, the Department raised the policy goal from 35,000 to 50,000 miles of farm-to-market roadway. The legislature also passed a bill that

year requiring the department to spend at least \$23 million annually on farm-to-market road construction. This required the diversion of \$8 million in department resources to supplement the \$15 million allocation from general revenues.

#### CURRENT PROGRAM STATUS

The farm-to-market road network today traverses just over 40,000 miles, comprising over half the centerline mileage of the state system. Exhibit 6 discloses that only 660 miles of road were absorbed into the system between 1979 and 1982. Table 3 illustrates how price inflation has undermined the purchasing power of construction dollars.

The department has cut annual farm-to-market construction spending close to the statutory minimum required. Exhibit 6 shows a drop from \$33.2 million in 1977 to just over \$23 million in 1982.

Maintenance spending on the farm-to-market system has risen dramatically as construction spending has waned. The Department spent almost \$126 million on farm-to-market road maintenance in fiscal 1982, up from \$32.8 million in 1970. Maintenance now consumes 84 percent of the Department's farm-to-market road spending, a substantial increase from 52 percent in 1970. This maintenance constitutes 38 percent of the Department's total maintenance expense and 10 percent of all Highway Department disbursements. Table 4 indicates the impact of inflation on maintenance allocations.

The falling purchasing power of construction funds can be seen at the district level. On average, less than \$2 million was received by each district, and this provided for absorption of less than 10 miles of road. The largest allocation went to District 12 (which includes Harris County), which received \$5 million. The smallest funding went to Districts 6, 7, and

TABLE 3. AVERAGE COST PER MILE FOR NEW CONSTRUCTION  
OF THE TEXAS STATE FARM-TO-MARKET ROAD  
SYSTEM, SELECTED YEARS

<u>Year</u>	<u>Number of New FM Miles</u>	<u>Total Cost of New Construction (millions)</u>	<u>Avg. Cost Per Mile</u>
1948	1,302	\$13.6	\$10,431
1960	1,013	\$28.9	\$28,573
1970	514	\$30.1	\$58,441

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Source: Texas ACIR, Current County Road Problems, January 1981, p. 10.

## EXHIBIT 6. FARM-TO-MARKET ROAD PROGRAM STATISTICS

1981-82

Average allocation per district	\$1.87 million (std. dev. = \$1.04m)
Average mileage absorbed per district	9.85 miles
Total 2-year construction budget	\$46,755,390
Total 2-year mileage absorbed	246,3 miles
82 individual road projects	
Average project length	3.0 mi. (std. dev. 1.93 mi)
Average project cost	\$465,058 (std. dev. = \$442,672)

1979-80

Average allocation per district	\$1.93 million (std. dev. = \$1.25m)
Average mileage absorbed per district	16.53 miles
Total 2-year construction budget	\$48,130,300
Total 2-year mileage absorbed	413.2 mi.
124 projects	
Average project length	3.33 mi. (std. dev. = 3.12 mi.)
Average project cost	\$320,726 (std. dev. = \$313,404)

1977

Total 1 year construction budget	\$33.2 million
Total 1-year mileage absorbed	297.7 miles

Source: SDHPT, The Texas Farm-to-Market Road Program, various editions.

TABLE 4. AVERAGE COST PER MILE FOR MAINTENANCE OF THE TEXAS STATE FARM-TO-MARKET ROAD SYSTEM, SELECTED YEARS

<u>Year</u>	<u>Number of Miles Maintained</u>	<u>Total Cost (millions)</u>	<u>Avg. Cost per Mile</u>
1952	16,441	\$6.3	\$383
1960	31,204	17.6	564
1970	38,386	32.8	854
1980	40,600	96.2	2,369

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Source: Texas ACIR, Current County Road Problems, January, 1981, p. 11.

22, located in West Texas; with each was allocated less than \$800,000 to be shared by all counties in the district.

Only 74 of the 254 counties in Texas were assisted with significant projects; in 1981-82 there were small funding amounts for which recipient counties were not specified. In the 1979-80 biennium, 101 counties were assisted. About 22 of the projects for which funds were committed in 1981-82 appeared to be extensions of projects that had not been finished. Each district was, typically, able to aid three or four of its counties.

#### THE REQUEST PROCESS

At the beginning of the biennial funding cycle, highway department district offices are notified of their likely allocation of funds. The district engineers normally hold discussions with officials in each county to find out which roads they would like to have absorbed by the state. There are some years in which funding is so limited that some counties are not assisted.

The district engineers submit lists of projects to the Highway Commission for review and approval. If necessary, county officials will come to Austin to justify the project.

A problem that we have encountered in our study is that no systematic records are kept concerning the projects that are requested by counties and discussed with state officials. This was confirmed by officials in several Districts, including District 14, where an official indicated that his office does not generally keep records of projects beyond those submitted to the Highway Commission. This is unfortunate as it severely limits our ability to document this program based on secondary sources exclusively.

The road projects may involve either upgrading of existing roads or construction of entirely new sections. Personnel in the District 14 office



in Austin stated that they feel counties may be attracted by the possibility of having the road upgraded to state standards as much as they are interested in being relieved of maintenance responsibilities.

A second incentive for county officials is the opportunity to use state expertise in performing the work, particularly for smaller counties which may not have sufficient experience themselves. County participation in farm-to-market projects is typically limited to acquisition of right-of-way, fencing, and moving utility lines.

An official in District 14 commented that counties usually feel that they cannot reasonably afford to undertake the kind of projects which they select for submission to the state. In general, he thought that there was no practical limit to the amount of additional funding that the district could absorb for road projects. Under these circumstances, it appears that the counties' needs are such that they will apply for as many projects as the state may be willing to fund.

## CHAPTER 4. COUNTY ROAD ADMINISTRATION

The Texas constitution assigns the primary responsibility for road development to the counties. The counties' legal responsibilities include road construction, reconstruction, improvements (such as grading, surfacing, and drainage structures), supply of retaining walls, route markers, traffic signals, and landscaping. They must also purchase the right-of-way for state roads, contributing a 10 percent share to match the state funding, except for farm-to-market roads which are entirely financed by the state.

### The Precinct System

The state constitution outlines a system of road administration in which each county commissioner has full responsibility for the roads in his (or her) precinct. The commissioner handles budgeting, hiring of road crew members, purchasing equipment, selecting of roads to be constructed or improved, and all other aspects of road development in the precinct.

Most counties have retained the precinct system even after the legislature authorized centralized county road administration in 1947. The latest Highway Department report on this, in 1975, counted 194 of the 254 counties in the precinct system category.

Most of these counties maintain separate road and bridge funds for each precinct. Money is allocated to the precincts in different ways: by road mileage, by population, or by equal division of funds.

### Centralized Systems

In 1947, the state legislature passed the Optional Road Law which enabled counties to move to a centralized form of road administration. Advocates of centralization argued that the precinct system is inefficient because it encourages duplication of equipment, manpower, and record-keeping. They also saw centralization as a means of gaining the expertise of professional engineers, selecting the projects that were most beneficial to the county as a whole, and bypassing the political influence on individual commissioners' decision-making.

Over the years, county judges have tended to favor centralization while commissioners have opposed it. Commissioners have raised fears of a county engineer's "dictating" road policies to the commissioners and of several commissioners' "ganging up" on one or more of the other commissioners to set road policy in favor of their precincts. They have also argued that the engineer's salary is an unnecessary expense.

These kinds of arguments were prominent in the campaigns waged by county commissioners against the new system after the law was enacted. The established procedure called for county voters to decide by referendum if they wanted to centralize road administration. After opting for unit administration they had to wait at least two years before switching back to the precinct system. Of the 21 elections held between 1947 and 1953, only three returned positive results for the unit system (Ref. 11). At least three counties have repealed the unit system after implementing it for a short period of time.

At the present time, four variants of centralized road administration can be distinguished. The first is the pure unit system, which must embody the following elements:

1. The commissioners' court must hire a road engineer.
2. The commissioner's court can only determine policy; the engineer handles day-to-day administration.
3. Road funds must be pooled.
4. The system cannot be abolished for two years after implementation.
5. County voters must approve the system.

The second type of centralized operation is identical to the unit system, except that it is voluntarily implemented by the county commissioners without recourse to a popular vote. They may thereby repeal the policy of centralized administration at any time.

The third form of centralization involves only the pooling of road funds, while maintaining county commissioners in the same roles for each precinct. The fourth variation is the hiring of a county road engineer, while at the same time maintaining separate precinct road and bridge funds.

As of 1975, 19 counties maintained pure unit operation; in 3 more, commissions had voluntarily implemented it. Seventeen counties pooled road funds without hiring an engineer, and 21 counties hired an engineer but maintained separate precinct road funds. (Ref. 12)

In 1981, there was a scandal in several Northeast Texas counties over the bribing of commissioners by highway contractors. This stirred a renewed interest in the question of centralized administration, but the furor appears to have died down without any resulting substantive change.

#### The County Budgeting Process

Academic researchers have created a variety of models to explain the local government budgeting process. Two of these models are the consumer model and the producer model. The former rests on the basic belief that the citizens influence the budget process and make their service demands known to

officials who subsequently respond to these needs. The producer model places more of the focus on the power of the government officials to make decisions based on other values in addition to the needs of citizens. A third model, proposed by Larkey, is discussed hereafter.

#### The Larkey Model

Patrick Larkey has formulated a plausible model that will be drawn upon here to assess the impact of state aid on the decisions of county officials (Ref. 13). According to Larkey, the fundamental feature of the local budgeting process is stability and evolutionary change. Since county officials make decisions under public scrutiny, they benefit from adhering closely to previous county practices. Budgets are frequently set incrementally, with reference to the prior year's budget. Our conversations with a number of county officials seem to indicate that the above view does indeed correspond, in part, to the standard practice for some counties.

A major problem for county officials is the overwhelming amount of information and time that would be required for comprehensive evaluation of all possible alternatives. One decision process commonly used followed by county commissioners involves allocation of funds to functional areas in approximately the same pattern as used the previous year, with percentage adjustments up or down according to perceptions of what areas need special attention. The demands of local residents are more visibly addressed through the selection of roads to be improved, and less through the decision regarding how much money to spend on roads for the year. Choices are also influenced a great deal by internal government constituencies, such as county employees, who tend to be better informed and thus more likely to react to unfavorable changes than voters.

The budget process is likely to be dominated by the county judge and/or budget officer. The role of the commissioners is likely to be circumscribed, partly because of the high level of detail in the budget document, as well as because of the fact that budgets are frequently balanced when presented. The need to maintain closure often dictates that any increases in allocation require corresponding reductions, which may become complicated.

The department heads, such as the road engineer, will have greater influence at times when there is less fiscal pressure and more room to consider alternative department plans.

It should be emphasized that the above is only a "loose" model which applies to varying degrees. It is helpful in gaining insights into the process that determines the final use of any state road assistance.

#### County Use of State Aid

In the event of increased vehicle registration fees, county officials have several options for effectively using the funds, including:

1. increasing the level of spending on roads;
2. increasing the level of spending in other areas (by diverting locally generated monies that would have otherwise been spent on roads);
3. reducing property taxes or other charges;
4. accumulating a budget surplus.

Larkey has concluded that the most important determinant of the use of revenue sharing funds by local governments is the level of fiscal pressure being experienced. He defined this as the differential between the rate at which costs are rising and the rate at which revenues are rising. Local governments experiencing this pressure use the extra funds for operating purposes, whereas the other localities can fund non-recurring expenses, fund

the same services at higher levels, build up a surplus, or reduce planned tax increases.

Two other determinants are the relative freedom of the local officials to adjust the tax rate and the non-permanence factor. Counties where officials feel more free to adjust the tax rate from year to year can be expected to use the additional revenue that is meant for roads to reduce other revenue generating efforts. The non-permanence of an aid program can increase the likelihood of funds being spent for non-recurring expenditure needs (such as a new machine to apply sealcoat treatment). Since the state assistance programs have remained stable in the past, county officials are likely to trust that the funds will remain available.

To apply these findings in a systematic way to the counties would require further research in the areas of relative fiscal pressure and freedom to adjust the tax rate. It is clear, however, that wide latitude exists for diversion of state aid intended for roads to other county needs.

Many counties have a particularly difficult financial position at this time. They face expenditures to bring their jails up to new state standards and to provide health care to indigents. They have to allocate funds for new functions mandated by the legislature in recent sessions, such as legal counsel to the commissioner's court, presiding judge compensation, appraisal district office buildings, and health care subsidies.

In this fiscal climate, the above model suggests that the probability of diversion is increased. Additional state aid without strings attached may not necessarily be used for increased road spending. Edward Gramlich has shown that as little as 30 percent of federal grant funds were used for increased spending by localities which felt no obligation to spend the additional funds (Ref 14). However, the above discussion reveals that it is

difficult to devise state assistance alternatives that would guarantee net increased road spending.



## CHAPTER 5. DETERMINING COUNTY NEEDS

A key issue in studying county road financing and the impact of state policies is the determination of the needs of local governments for road expenditures. In this chapter, we first discuss the conceptual and empirical difficulties encountered in the definition and measurement of need. These difficulties are particularly serious when working with secondary data derived from existing sources. While these difficulties are not completely resolved here, expenditure data for both maintenance and construction are examined in the second section of this chapter in order to gain insights into the order of magnitude of the counties' satisfied needs. In this section, we draw extensively on the data base developed in this study in order to characterize the patterns of road maintenance expenditures of counties in some detail (construction expenditures are addressed at the aggregate level only).

### MEASUREMENT ISSUES

County road needs must be determined in order to allocate an appropriate amount of state assistance to the county road system. The level of these needs is also a crucial factor in establishing a distribution of aid to individual counties that will meet state objectives.

#### The Concept of Needs

It is well known that the concept of need usually refers to the difference between current conditions and some reference conditions or norms. As such, it is a relative concept that must be defined with reference to some

benchmark standard. A first issue then consists of the specification of practically meaningful and operational standards against which needs can be defined.

Even if such standards are specified, one confronts the problem of limited data about the conditions of the 137,000 miles of county roads in Texas. At any rate, determining county needs by considering each road section included in a given county is a prohibitively time and resource consuming task. If necessary, a sampling procedure could be utilized for detailed analysis.

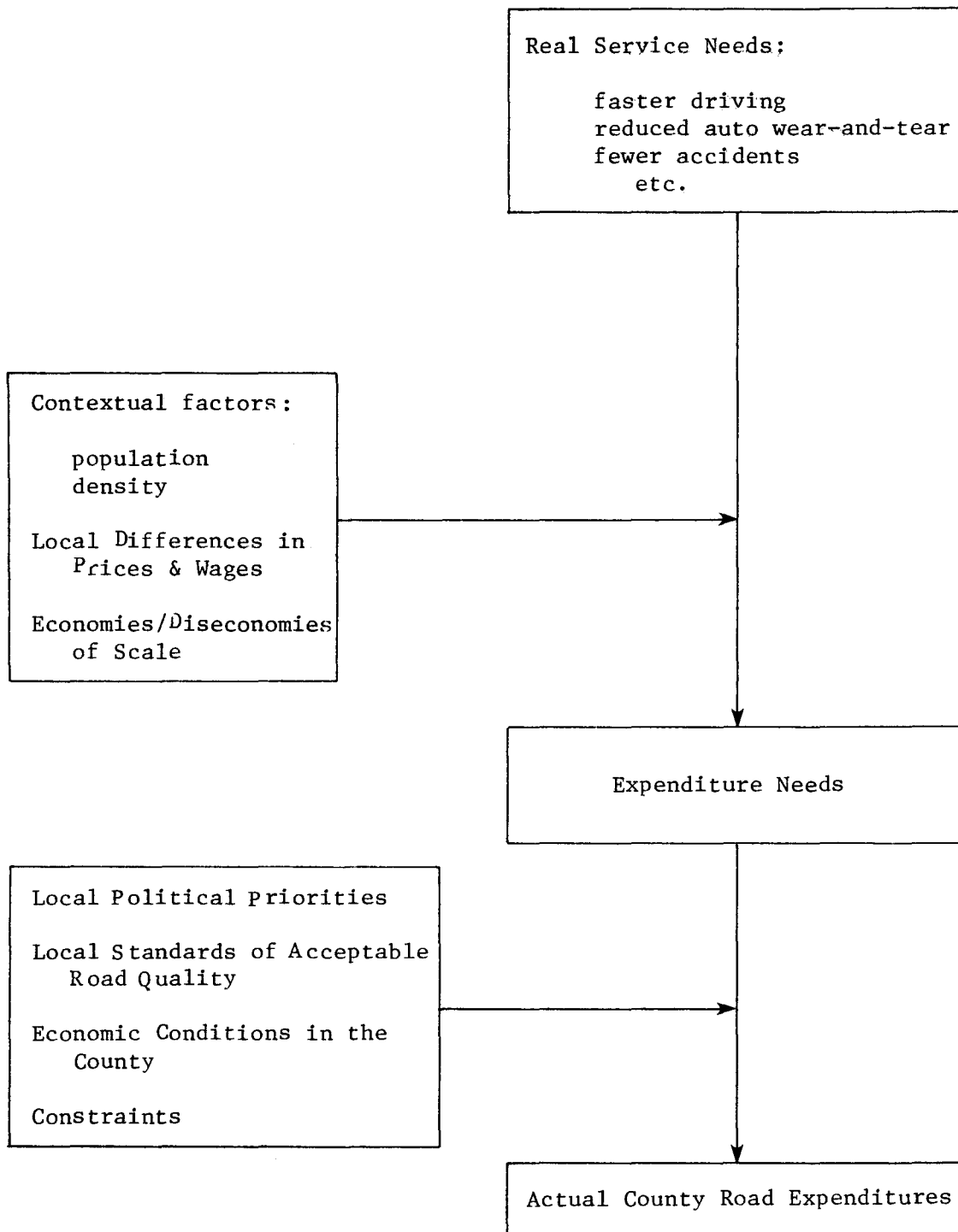
As a result of these data limitations, the methods used and the interpretation of the results should account for omitted information, as discussed hereafter.

### Models

A number of models have been devised to aid in conceptualizing the relationships between some of the variables related to public budgeting, some of which have been adapted here to the case of road expenditure (Ref. 15).

Exhibit 7 presents a model that relates "real" needs, expenditure needs, and actual expenditures (Ref. 16). In the case of roads, "real" needs might include the need to commute, the need to minimize damage to one's car, the need to have safe trips, and so forth. These "real" needs experienced by county residents are then translated into county road expenditure needs. These in turn depend on cost considerations, including the cost of contractors and road crew workers, the presence of potential economies of scale, the need to move utility lines, and similar items. If matching grants are available, then the cost of road work to the county can be reduced by the amount of state (or federal) aid.

EXHIBIT 7. TRANSLATION OF NEEDS INTO EXPENDITURES ON ROADS



However, the expenditure needs of the county do not automatically translate into actual expenditures. A number of considerations almost invariably tend to reduce the amount spent below what is "actually" needed. Constraints on financial and other resources, competing priorities, local standards regarding "acceptable" roads, and the "philosophy of government" or fiscal attitudes held by county officials are some of these considerations.

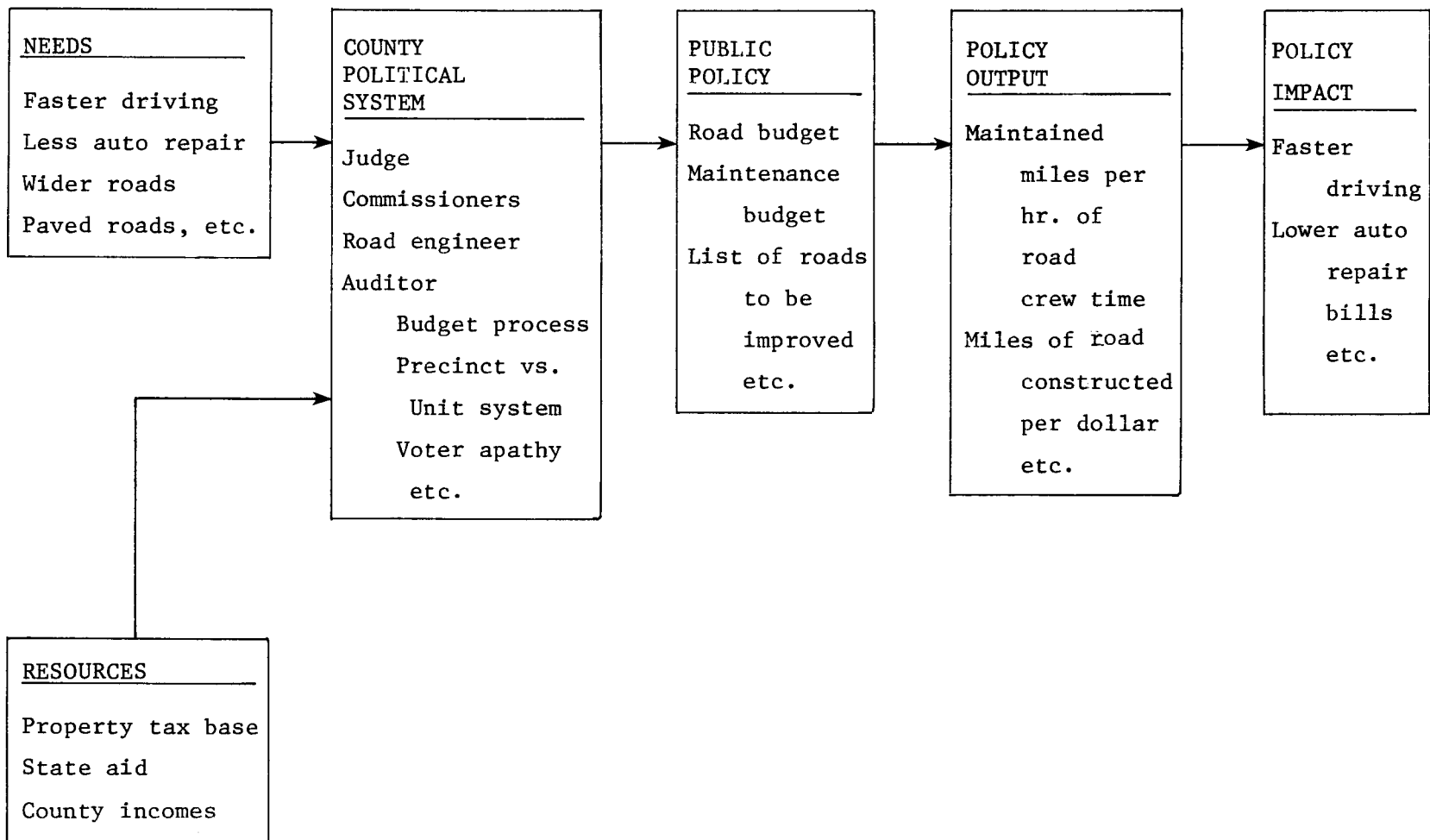
Exhibit 8 offers a slightly different perspective of the same process (Ref. 17). In this model, the needs and resources of the county are simultaneously transformed into public policy decisions by the county's political process. The latter will include aspects unique to the individual county, such as the degree of power held by different personalities, the competence of these people, traditions of government in that county, and other special features. The outcome of the process is a set of decisions encompassing the amount of money to be spent on roads, the division between construction and maintenance, and the choice of roads to be built or improved.

The policy decisions of the county ultimately result in actual performance levels, such as paved mileage per vehicle or maintained mileage per hour of road crew time. These performance levels in turn produce the final impact on county residents: reduced travel time, lower auto repair bills, more frequent shopping trips, and so on.

The second model emphasizes the linkage between the spending of the county and the results that are achieved, as well as the bureaucratic process which operates in such a complex fashion.

The models do convey a sense of the large number of variables which collectively determine the funds a county allocates for its roads. However,

EXHIBIT 8. CONCEPTUAL RELATIONSHIPS IN EXPENDITURE DECISIONS



and most importantly, they illustrate the distinction between actual expenditures and expenditure needs, which we further clarify hereafter.

A third, more streamlined conceptualization that would clearly convey the central point of this discussion is offered here. Expenditure needs are essentially a function of the quantity and quality of roads in a given county, the desired standards or objectives that the road network is expected to achieve, as well as the cost structure of the maintenance services. On the other hand, the ability and willingness to spend is a function of the available resources, financial and institutional arrangements, implementation capacity, as well as fiscal and political attitudes, in a given county. Actual expenditures can thus be viewed as the result of the above two quantities, which are by no means independent of each other. Therefore, "actual expenditures" is not a reliable indicator of needs, since it depends on all those other factors discussed above. This constitutes the primary difficulty that is encountered in attempting to measure need.

#### Operational Measures

The simplest operational measure that has been used in the context of county road needs is the level of spending. The underlying assumption is that counties with greater needs spend more money on roads. However, the above discussion clearly reveals that other variables come into play, that actual expenditures reflect ability and willingness to pay in addition to needs.

A second measure, which is more popular in studies of public expenditure needs, is the per capita spending on roads, which might reveal quite a different picture than total expenditures.

Some researchers have taken the average (over counties) of the county per capita road spending as a norm against which to define "need". This

definition of need is based on the debatable assumption that the many forces determining road spending will somehow be "balanced" in the average figure. As such, the "average" figure will be treated as an arbitrary base level which the counties spending less money presumably need to reach. Such a norm would however ignore the fact that different counties may need to spend different amounts of money to provide the same quality of road service to their residents.

Applying this standard would imply that the counties spending below average may need additional assistance. It may also be interpreted to imply that the other counties could do with less assistance. Clearly, the speculative basis of this measure would not permit such a step in practice.

A different approach is the relatively complicated method of estimating an average spending level given a set of county attributes by means of regression analysis. This methodology has been used in Europe, not without controversy, to distribute grant money to local governments.

This approach to estimating county road needs consists of formulating a model using available variables thought to influence road spending. The model is not put forward as an attempt to "explain" the extremely complex process, but rather as a device that may capture some of the major determinants. Having estimated a regression model, one would use the predicted value for a given county as the amount of money the county "needs" to spend on roads. This method does not account for many of the factors which determine road spending needs. Consequently there may be substantial error in the estimates it produces. However, in conjunction with the average per capita spending level, it may still be a useful tool for obtaining tentative road spending needs.

It is interesting to note that in all of these measures county needs are determined from what counties are currently doing. As such they do not recognize the measurement issues discussed earlier whereby past expenditures may not be a good measure of needs. Furthermore, if one believed that a major new departure from current practice was needed to improve the county road system, one would have to perhaps turn to other states, other countries, or an original construct based on different standards (i.e., address the above methodological issues).

#### EXPENDITURE DATA

##### Total Road Expenditure Data

Table 5 documents the evolution of total county road expenditures and receipts from 1972 to 1981. The nominal figures are drawn from the publication Texas Transportation Finance Facts. They are not comprehensive, but do include the significant numbers related to road finance.

The receipts, for example, exclude gains on investments and contributions from the county general fund. Gains on investments are not under county control to a large extent, reflecting instead the vagaries of the economy and the level of interest rates. The contributions from the general fund actually come from other revenue sources which cannot be isolated. The important figures, however, have been retained.

Table 5 shows that the nominal level of county road spending has increased every year except for 1976, taking particularly big leaps in 1980 and 1981. County receipts declined in three years out of the nine for which changes can be calculated. The decline in revenue in each case corresponds to a decline in bonds issued.



TABLE 5. AGGREGATE COUNTY ROAD EXPENDITURE  
AND REVENUE, 1972-81

County Road Expenditures

	<u>Nominal Expenditure</u>	<u>Real Expenditure</u>	<u>Percentage (Yearly) Change in Real Expenditure</u>
	(000's)	(000's)	
1972	\$163,552	\$130,515	
1973	195,948	147,216	+12.79%
1974	215,577	145,946	- 0.86
1975	234,852	145,679	- 0.18
1976	233,155	136,745	- 6.13
1977	261,285	143,968	+ 5.28
1978	274,530	140,477	- 2.08
1979	298,712	137,408	- 2.18
1980	359,966	145,858	+ 6.15
1981	411,293	150,986	+ 3.52

County Road Receipts

	<u>Nominal Expenditure</u>	<u>Real Expenditure</u>	<u>Percentage (Yearly) Change in Real Expenditure</u>
1972	\$151,376	\$120,798	
1973	233,624	175,522	+45.3
1974	201,749	136,584	-22.2
1975	228,306	141,618	+ 3.5
1976	253,199	148,501	+ 4.9
1977	238,434	131,377	-11.5
1978	314,686	161,025	+22.6
1979	321,664	147,965	- 8.1
1980	320,798	129,988	-12.1
1981	410,427	150,668	+15.9

Source: Texas Transportation Finance Facts, 1981, ed., Appendix and CTR staff computation.

Note: Real expenditures & receipts in 1967 dollars.

Table 6 demonstrates that county road spending has been less volatile than state road spending, although more erratic than the city spending. This comparison is depicted graphically in Figure 1.

We computed the series of real county spending totals using the Consumer Price Index to put all numbers in 1967 dollars. This series in Table 5 indicates that real county road expenditures escalated rapidly in 1973, then leveled off up until 1981. The increased spending by all of the counties is only keeping pace with general price level inflation. To the extent that road-related costs for personnel and materials have risen as fast as the general price level, the counties are purchasing only the same level of actual physical work they obtained in 1973.

The inflation-adjusted figures for both spending and revenues reveal a higher degree of volatility in the county road financial situation than the nominal figures display. There were four years of increased real spending, and five years in which it decreased. A similar pattern pertains to the receipts.

#### County Maintenance Expenditure Data

The maintenance figures reported and analyzed here cover "regular maintenance", defined by the Department's Local Finance Field Manual as "maintenance of condition" expenses, which include routine patching, dragging, reshaping, bridge repairs, mowing grass, and similar activities.

Movements in total county maintenance expenditure were fairly well correlated with movements in total county road expenditure from 1972 to 1981. This means that total maintenance spending has shown the same erratic pattern of change from year to year.

Table 7 shows that nominal maintenance expenditure grew from \$65.6 million in 1972 to \$168.7 million in 1981. After adjusting this series for

TABLE 6. A COMPARISON OF YEAR-TO-YEAR CHANGES IN COUNTY,  
CITY AND STATE ROAD SPENDING FROM 1972 to 1981

<u>Year-to-Year Percentage Changes</u>			
	<u>County</u>	<u>Cities</u>	<u>State</u>
1972-73	+12.79	+ 4.3	+ 0.1
1973-74	- 0.86	+11.1	+ 0.5
1974-75	- 0.18	+ 5.6	- 0.3
1975-76	- 6.13	+ 1.1	- 5.3
1976-77	+ 5.28	+ 0.7	- 1.0
1977-78	- 2.08	+ 7.7	+39.8
1978-79	- 2.18	+ 0.1	- 2.8
1979-80	+ 6.15	+ 6.1	+14.1
1980-81	+ 3.52	+ 5.7	-15.5

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Figures from Texas Transportation Finance Facts, 1982  
Adjusted for inflation (by CTR staff) using Consumer Price Index,  
1968 base year.

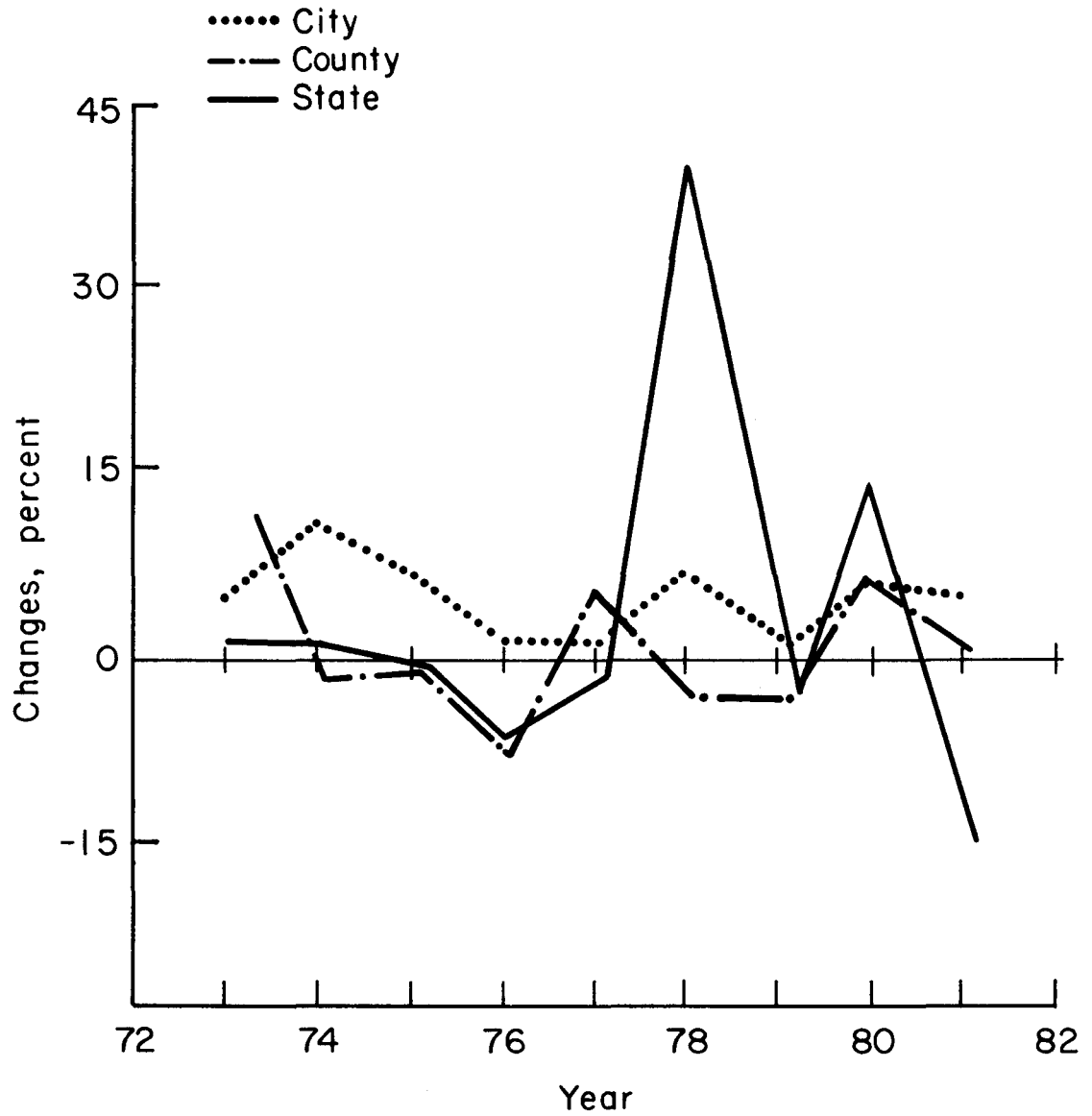


FIGURE 1. YEAR-TO-YEAR PERCENTAGE CHANGES  
IN ROAD SPENDING (1967 DOLLARS)

TABLE 7. COUNTY MAINTENANCE EXPENDITURE, 1972-81

<u>Year</u>	<u>Nominal Expenditure</u>	<u>Real Expenditure (1967 dollars)</u>	<u>Real % Change</u>
1972	65,564	52,320	
1973	80,295	60,326	+15.3%
1974	88,389	59,839	- 0.8
1975	98,606	61,165	+ 2.2
1976	102,415	60,066	- 1.8
1977	113,114	62,326	+ 3.8
1978	121,735	62,292	- 0.1
1979	135,447	62,306	+ 0.0
1980	160,540	65,051	+ 4.4
1981	168,679	61,922	- 4.8

inflation using the Consumer Price Index, we discovered that the real level of maintenance spending has stayed fairly constant since 1973. After a 15.3 percent jump from the 1972 level, real maintenance spending has risen only 2.65 percent in eight years.

#### Construction vs. Maintenance

Table 8 illustrates the division of funds between construction and maintenance activities in the seven different tax base categories.\* This data shows a relationship between the size of the county tax base and the percentage of total funds devoted to construction. In general, larger counties spend a higher proportion of road funds on construction. The large urban counties in the first group stand apart from the rest with over half of their funds going to the construction of new county roads. Although the pattern is readily discernible in the first four classes, it does not appear to hold for the other three classes of counties.

This table also reveals an impressive degree of stability over the 8-year period covered. The largest amount of variation shown is 14 percentage points in the largest tax base category, while the \$50-100 million category changes by only 1 percentage point. This observed stability lends support to the point made earlier that local budgets tend to evolve in gradual steps. The table also indicates that there is no obvious trend toward either of the two activities. Maintenance spending has dominated for most counties throughout the past decade.

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\* The SDHPT Local Road Finance Report groups counties by the size of their property tax base and supplies data for each group.

TABLE 8. DIVISION OF COUNTY ROAD EXPENDITURE BETWEEN  
CONSTRUCTION AND MAINTENANCE, BY TAX BASE  
CLASSIFICATION, SELECTED YEARS

Year	Over \$250 million		\$100m- 250m		\$50m- 100m		\$25m- 50m	
	Con	Maint	Con	Maint	Con	Maint	Con	Maint
1973	58%	42%	36%	64%	26%	74%	23%	77%
1976	51	49	28	72	26	74	22	78
1979	50	50	29	81	25	75	21	79
1981	64	36	27	73	26	74	18	82
	\$15m- 25m		\$10m- 15m		under \$10m			
1973	15%	85%	16%	84%	17%	83%		
1976	15	85	18	82	12	88		
1979	24	76	14	86	14	86		
1981	16	84	21	79	10	90		

Source: CTR staff calculations from Local Road Finance Report data

Note: Property value classifications changed in 1980 to

Over \$5 billion  
\$1-5 billion  
\$500 million-1 billion  
\$250m-500m  
\$150m-250m  
\$100m-150m  
Under \$100m

### Distribution Across Counties

Analysis of the 1981 county-by-county data reveals that the distribution of maintenance expense is skewed towards the low end of the scale since the mean is greatly influenced by the enormous levels of the large counties relative to the mainstream. This is seen in the fact that the median level of expenditure is \$427,041, whereas the mean is \$672,093. The standard deviation is \$1.5 million, indicating that there is considerable variation across counties. Spending levels range from a low of \$3,658, reported by Kenedy County, to a high of \$24 million in Harris County.

Quartile breaks occur as follows:

Bottom 25 percent	\$3658 to \$239,210
Next 25 percent	\$239,210-\$427,041
Next 25 percent	\$427,041-\$692,381
Top 25 percent	\$692,381-\$24,000,000

Per capita maintenance expense follows a different pattern. The median is \$25.38, the mean is \$42.89, and the standard deviation is \$41.09. The lowest spender is Marion County at \$1.23, but many of the large counties seem to be closer to the bottom of the range on a dollars per capita basis. At the high end of the spectrum are the sparsely populated counties, such as Martin, Loving, and Borden. While these observations could be interpreted as indicating unmet needs in the large counties, it seems more plausible that they are the result of economies of scale, or of a combination of these and other factors. It should be noted that the correlation between population and maintenance expense per person was only -.143, suggesting that there are factors other than population size that are at work here. The quartile breakdown of county per capita maintenance expenditures is as follows:



Bottom 25 percent	\$ 1.23 to \$ 15.59
Next 25 percent	\$15.59 - \$ 25.38
Next 25 percent	\$25.38 - \$ 44.91
Top 25 percent	\$44.91 - \$650.16

The share of road maintenance in total county expenditure was also examined for 119 counties. However, a word should be said here about the inaccuracies involved in the comparison of expenditures across counties, particularly when the data is gleaned from a cursory review of audit reports.

The counties are not required to file financial reports with any state agency. They are also not required to follow uniform accounting procedures; consequently, some variation in reported expenditure inevitably results from the different practices followed by the counties.

The county audit reports that have been saved by the local finance group of the Texas SDHPT are a rich source of detailed information that ought to receive further study. Time constraints did not permit us to review them at length during this first phase of the study; in addition, county officials would have to explain their procedures in order for one to reach a full understanding of the reports. For the present, we have assembled the most accurate figures that could be compiled in the limited time available.

With these limitations in mind, the median share of the county expenditure devoted to road maintenance was 16.7 percent. The mean was 18.2 percent and the standard deviation was 8.5 percent.

### Correlations

Correlation coefficients were calculated between all pairs of variables in the data base. A number of regressions were also run to see how well

variations in some of the maintenance expenditure variables could be explained by various independent variables.

As expected, total maintenance expenditure was found to be highly correlated with a number of "size" variables, including population (with a correlation coefficient of 0.83)\*, number of vehicles (0.83), recorded vehicle miles (0.97), and tax base (0.78). This tells us that, on the whole, larger counties have greater resources and greater service demands than smaller counties, hardly a surprising finding.

Perhaps more interesting is the generally weak correlation in 1981 data between per capita maintenance expenditure and all other variables in the data base. Selected correlations are listed in Table 9.

Table 9 does not reveal any particularly strong correlations. This is probably due to the fact that the large amount of variation in per capita maintenance expenditure across counties cannot be explained by one or two dominant variables among the "measurable" variables considered here.

As discussed earlier, actual expenditures are the result of a complex phenomenon where political and fiscal attitudes, as well as personalities, seem to play an important role. Such factors are not usually captured by the kind of variables considered here. There is some reasonable association between per capita maintenance spending and vehicle miles per vehicle (registered in the county), which measures the amount of driving done by the local population. This is consistent with the apparent association of rural counties with higher per capita maintenance spending, which may reflect the need to drive longer distances in rural areas and the consequent wear on the roads.

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\* Note that a value of 1.0 for the correlation coefficient indicates perfect positive correlation, whereas a value of 0 indicates no correlation whatsoever. A value of -1.0 indicates perfect negative correlation.

TABLE 9. CORRELATION BETWEEN PER CAPITA MAINTENANCE EXPENDITURE AND SELECTED VARIABLES

Vehicle miles per vehicle	+0.632
Percent rural population	+0.344
Median income	+0.252
Road mileage	-0.230
Vehicle miles per mile	-0.187
Percent of bridges deficient	-0.034
Population	-0.143
Growth rate, 1970-80	-0.265
Tax Base	-0.097
Vehicle Miles	-0.083
Maintenance Expense	-0.079
Maintenance expense per mile	+0.055

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Note: A value of 1.0 for the correlation coefficient indicates perfect positive correlation, whereas a value of 0 indicates no correlation whatsoever. A value of -1.0 indicates perfect negative correlation.

One would expect median income to be correlated with per capita maintenance expense as a measure of county ability to pay for road work, and there is a small positive association. While one might expect road mileage to be positively correlated with per capita maintenance spending due to the greater responsibility shouldered in such counties, the negative correlation observed here is influenced by the extreme values in some of the large counties. These seem to have high mileage and at the same time to have low per capita maintenance expenditures, as discussed earlier.

The somewhat counter-intuitive negative correlations observed in our data set between per capita maintenance expenditures and vehicle miles per mile and percent of deficient bridges, respectively, can be explained along the same lines. Greater stress on the roads and bridge deficiencies ought to raise maintenance costs per person, other things being equal. However, as discussed before, there are other factors at play here which seem to dominate some of the simple a priori relationships.

As noted earlier, the negative correlation with population probably can be explained on the basis of economies of scale and density, in combination with possible unmet needs. This general relationship may be masking other relationships in the data. To determine this we would like to take subgroupings by size in the next phase of the analysis. Furthermore, we feel that a stratification of counties may help in capturing some of the non-measurable effects mentioned earlier. Maintenance expenditure per mile also yielded a set of correlations with no obvious explanations, some of which can be seen in Table 10.

The positive correlation of maintenance expense per mile with vehicle miles per mile (.594) and the number of vehicles registered in the county

TABLE 10. CORRELATION BETWEEN MAINTENANCE  
EXPENSE PER MILE AND SELECTED  
VARIABLES

Vehicle miles per mile	+,.594
Tax Base	+,.464
Maintenance expense (total)	+,.425
Number of vehicles	+,.392
Population	+,.383
Percent rural population	-.319
Vehicle miles recorded	+,.267
Median income	+,.226
Road mileage	-.068
Maintenance per capita	+,.055
Percent bridges deficient	-.128
Population growth, 1970-80	+,.226

(.392) reflects the effect of driving done by local residents on road spending.

The positive correlation of expense with the tax base (.464) should reflect the county's ability to pay for road maintenance, although the other variable measuring ability to pay, median income, has a weaker correlation of only .226.

#### CONSTRUCTION EXPENDITURE DATA

County expenditures for construction can be divided into right-of-way, engineering, and construction expense categories. The latter includes the cost of earthwork, grading, excavations, drainage structures, base and surface work, and roadside landscaping, among other items.

#### Aggregate Spending Trends

Table 11 contains two time series for construction expenditures analogous to those developed for total county road expenditures and maintenance expenditures.

Nominal construction expense for county roads rose by 221 percent between 1972 and 1981, reaching \$115 million. Unlike total road expense and maintenance, construction spending grew significantly in real terms as well, up 47 percent from 1972 and 18.5 percent from 1973.

County construction spending followed the same erratic path of year-to-year changes that characterized the other two spending series. The swings in construction were especially sharp, rising dramatically one year and falling back quickly the next. The direction of change was the same as that for maintenance in seven of the nine years, while the magnitudes differed.

TABLE 11. AGGREGATE COUNTY CONSTRUCTION EXPENSE  
FOR COUNTY ROADS, 1972-1981

<u>Year</u>	<u>Nominal Expenditure</u>	<u>Real Expenditure</u>	<u>% Yearly Change in Real Expenditure</u>
1972	\$ 36,047	\$ 28,765	
1973	47,634	35,787	+24.4%
1974	44,551	30,161	-15.7
1975	59,607	36,974	+22.6
1976	51,476	30,191	-18.3
1977	64,352	35,458	+17.4
1978	67,294	34,434	- 2.9
1979	70,480	32,421	- 5.8
1980	97,516	39,513	+21.9
1981	115,569	42,425	+ 7.4

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Source: op. cit. Finance Facts, Appendix, and CTR staff calculations.

Note that real expenditure series is given in 1967 dollars (using Consumer Price Index).

### Trends Across Tax Base Classifications

Table 8 in the previous section showed the split between construction spending and maintenance spending on county roads across tax base classifications.

The data in the table lend further support to the finding that most of the construction of county roads is occurring in the large urban counties. In 1981, the 12 largest counties in the first tax base class accounted for 67 percent of the construction costs incurred by all counties.

The next four tax base classes each have a gradually declining share of construction expenditures in the four years covered. There appears to be an association between county road construction allocations and county size, which in turn would indicate both greater resources and greater service demands.

### Distribution Across Individual Counties

The 1981 county-by-county computer run indicated that over 75 percent of the counties had no right-of-way or engineering expenses applicable to county roads. At least 75 percent, however, did incur some construction costs.



## CHAPTER 6. COUNTY REVENUE SOURCES

Having discussed measurement of county road needs and the recent pattern of expenditures that sheds some light on those needs, we turn next to the revenue sources that counties currently utilize. After assessing the productivity of those sources we will examine the feasibility of attempting to tap new revenue sources, along with their relative merits.

Counties have four sources of revenue under their control. The two most productive sources, property taxation and borrowing, are unrelated to the user fee concept. The other two sources are traffic fines and the \$5 optional vehicle registration fee approved in the last legislative session.

In addition to county resources, the state and the federal government contribute important funding to the counties. The state gives counties a share of its most productive highway user fees, the gas tax and vehicle registration fees; the state also contributes direct aid in the form of Farm-to-Market road program absorption of county roads. The federal government provides revenue sharing funds that have frequently been used for roads by Texas counties.

Beyond these existing revenue sources, a wide array of revenue options is available to the legislature to increase county road funding. For example, the legislature could give the counties new revenue sources under their control, such as a county sales tax. It could increase the portion of existing donated revenue sources going to counties, enact new user taxes for the counties' benefit, or simply dedicate more general revenue for county roads as it once did for the Farm-to-Market road program.

## EXISTING REVENUE SOURCES

### Sources Under County Control

#### Property Tax

The property tax is the traditional "workhorse" of local governments. This tradition certainly holds true for Texas counties, which received 52.3 percent of their revenue from the property tax in 1982 on an aggregate basis (Ref. 18). This section examines the legal nature of the Texas property tax, recent changes in its administration, and the potential for counties to raise more funds for road purposes using this tax.

Exhibit 9 contains summary statistics that compare the reliance of local governments on the property tax. The Exhibit discloses that counties are the most dependent on this tax even though school districts receive half of all property taxes levied.

### LEGAL BACKGROUND

The Texas constitution grants counties the right to levy an ad valorem tax on both real property and personal property. Many counties tend to avoid taxing tangible personal property. The 1979 tax code revision removed all intangible personal property from taxation with the exception of bank stocks. The latter are currently subject to litigation and represent only a small component of the county tax base in every case.

The county property tax actually consists of a limited tax and an unlimited tax. The limited tax is composed of a general tax, an optional road and bridge tax, and an optional farm-to-market road/flood control tax. The unlimited tax is an amount that can be levied to service the debt on several categories of revenue bonds; it is unlimited in name only since

## EXHIBIT 9. STATISTICS ON THE TEXAS PROPERTY TAX

Aggregate percentage of revenue from property tax<sup>1</sup>

	<u>Counties</u>	<u>Cities</u>	<u>School Districts</u>	<u>Special Districts</u>
1977-78	51.0%	20.5%	37.3%	9.2%
1978-79	49.3	19.0	37.9	9.5
1979-80	50.2	19.0	35.6	8.4
1980-81	50.4	18.0	36.4	13.0
1981-82	52.3	17.2	36.4	6.5

For 1981-82

Percentage of all Texas state & local taxes from property tax 34%

Percentage of all Texas state & local revenue from property tax 17%

1981 Road-related<sup>2</sup>

74% of counties get more than 40% of road funds from property tax

Median property tax revenue for road purposes is \$347,769.

\$6.6 billion total property taxes levied in 1982 by all units

Overall 14.4% increase over 1981 levy

County aggregate levy rose 15.52% in 1982

Percentage of Property Tax Revenues Statewide in 1982<sup>3</sup>

Schools	50.0%	Counties	17.5%
Cities	21.0%	District	11.3%
Nominal 1982 per capita property tax levy			\$376.61
Per capita levy in 1970 dollars			\$151.50
1970 per capita levy			\$129.71

Percentage of Tax Burden Statewide

Businesses	54%	Single fam.	28%
Farms/rural	8%	Other	9%

<sup>1</sup> Source: op. cit., Texas ACIR Trends, CTR staff compilation.

<sup>2</sup> Source: CTR Staff

<sup>3</sup> Source: State Property Tax Board, Annual Report for 1982 Tax Year

counties cannot issue bonds in an amount greater than 25 percent of their assessed valuation.

The three limited taxes each have maximum rates set in the constitution. The general tax cannot exceed \$.80 per \$100 of assessed valuation, the special road and bridge tax cannot exceed \$.15, and the farm-to-market FM/flood control tax cannot exceed \$.30.

The general tax was originally levied to provide money for four separate constitutional funds: the general fund, permanent improvement fund, road and bridge fund, and jury fund. A 1967 Constitutional amendment made these distinctions obsolete, formally permitting county commissioners to allocate the funds raised from the property tax as they wish.

The special road and bridge tax and the FM/flood control tax are imposed in a county by means of the same procedure. The voters must approve the new property tax by a majority vote in a referendum. After approval, the commissioners can adjust the rate from year to year up to the maximum rate approved by the voters in the referendum. The voters are free to repeal the taxing authority at any time. Money raised from either tax must go to the purpose specified in the name of the tax.

The FM/flood control tax has two advantages over the special road and bridge tax, which may account for the fact that it is employed by more counties. One advantage is the higher maximum rate of \$.30. A stronger inducement is the \$3000 homestead exemption which the commissioners are permitted to apply in administering the tax. This exemption allows them to shift the burden to businesses in the county, thus easing the load on the homeowner sector (which carries more voting strength).

In 1982, our data show that 146 counties levied the FM/flood control tax, while only 90 levied the special road and bridge tax. These totals

include 57 counties that chose to levy both of the optional taxes. The FM/flood control tax has become more popular since 1974, when only 108 counties used it. The special road and bridge tax has declined in use since 1974, when it was levied by 155 counties.

#### EXEMPTIONS

The county tax base as compiled by property appraisals is reduced by a number of exemptions, which have been instituted through constitutional amendments.

In 1982 Texas voters approved an exemption for property that can be used for agricultural, timber, or ranching pursuits. This amendment was intended to assist farmers and to arrest the rising property values at the fringe of many cities which encourage urban sprawl. It has shifted the tax burden more heavily onto commercial, industrial, and residential properties.

A number of other exemptions reduce the tax base to which the general tax rate is applied. These exemptions include a homestead exemption, a senior citizen exemption, and an exemption for the disabled (including the survivors of disabled veterans).

The optional homestead exemption must be at least \$5000 per home if it is adopted by a county. The county may set the exemption at any percentage of home value, up to a ceiling of 40 percent. The maximum exemption is scheduled to decline to 30 percent in 1985, and, again, to 20 percent after 1988.

A second exemption available to counties is the senior citizen exemption, which they can apply to homeowners over 65 years of age. The commissioners can institute this voluntarily or be compelled to do so if the voters petition and approve it by majority vote. The minimum exemption is \$3000 per home if instituted.

The county can also afford de facto tax relief to elderly homeowners by means of its collection policy. Taxpayers qualifying for a homestead exemption can postpone tax payments without fear of collection. Under state law, tax penalties and interest will accrue but become due only when title to the home passes to others.

The last exemption is the disability exemption. As in the case of the senior citizen exemption, the county must have a \$3000 floor on the exemption. This exemption is also set on a percentage of market value basis. The disabled veterans/survivors of deceased veterans benefit ranges from \$1500 to \$3000, depending upon the particular disability involved.

The FM/flood control tax has only one applicable homestead exemption, which amounts to \$3000 for all homeowners.

#### TAX REVOLT

In the latter part of the 1970's, voters in many areas of the country attempted to limit local government use of the property tax. In many jurisdictions the voters demanded limits on the percentage increase that could be imposed in any one year.

Amidst the climate of the tax revolt, the Texas Legislature enacted a revision of the state property tax code after many years of public discontent over its administration. The key changes include the following items:

1. Property must be taxed at 100 percent of market value.
2. Voters may petition for rollback elections to reduce the tax rate increase in a given year to 8 percent.
3. Each county must have an appraisal district to give a single appraisal to each property.
4. A State Property Tax Board has been created to audit the appraisal process and supervise the administration of the property tax.

5. A board of appeals has been created in each appraisal district to hear appeals.
6. Intangible personal property has been removed from the tax rolls as have been many categories of tangible personal property.

The first two measures have the most significant bearing on county potential to raise road revenues. The first measure makes it much easier to determine the true potential of a county to raise money from the property tax, since all counties are theoretically trying to approximate a market value tax base. The second measure provides a key limitation on the ability of commissioners to raise their tax rates.

One observer feels that the property tax revolt can be attributed to three important sources of discontent. One of these is the rapid inflation of property values relative to the rise in incomes which occurred in the 1970's. A second is the general size of the public sector and the feeling that this was a form of direct citizen control on inefficiency in government regulation. A third factor is the inflation in housing prices relative to that of commercial and industrial properties that shifted the burden to homeowners (who vote).

#### ADDITIONAL TAX REVENUE

We have performed an analysis to determine how much additional revenue could be raised by the counties through the property tax. In this analysis we have estimated the incremental revenue based upon a percentage change in all three of the tax rates (general, road & bridge, and FM/flood) ranging from one to eight percent.

The following method was applied:

1. Multiply each of the county tax rates by the percentage increase.

2. Take only 30 percent of the revenue increase in the general fund category, since that is the average percentage that is spent for road purposes.
3. Apply each rate to the same tax base as was used in 1982; the total tax increase can be obtained by summing over the three tax categories.

#### Comments on Method

This method presents a conservative approximation of the revenue that could be raised from property taxes.

In the first place, it does not account for the growth of the county tax base over time. As property is added to and subtracted from the tax rolls, or as existing properties are periodically revalued, the tax base changes. These changes cannot be estimated reliably because the historical tax base time series has been distorted by the mandatory 100 percent revaluation process. Since the tax base normally will increase for most counties, the figures given here represent minimum estimates of additional tax revenue.

A second conservative bias in the method stems from the fact that many counties do not levy one or both of the optional taxes. Those counties could raise more revenue for road needs by assessing one of these taxes, as well as a percentage increase in the one(s) they already levy. This gives them an additional resource that is not accounted for by our method.

Another reason that the estimates are conservative is the fact that 32 counties did not complete the market value reappraisal process by 1983. Their tax bases are likely to be higher than the figures reported, which indicates greater revenue potential for these counties than we have estimated. These counties are listed in Exhibit 10.



EXHIBIT 10. COUNTIES THAT HAD NOT COMPLETED REVALUATION  
TO 100% MARKET VALUE BY 1983

Bell	King
Bexar	LaSalle
Bowie	Leon
Brazoria	Live Oak
Cameron	Madison
Colorado	Marion
Crockett	McCullock
Ector	Midland
Fort Bend	Moore
Glasscock	Potter
Gray	Rockwall
Harris	Stonewall
Hartley	Tarrant
Hidalgo	Tom Green
Jasper	Wharton
Jeff Davis	Zapata

It is clear from the results that the counties could raise a substantial amount of money from the property tax if they chose to do so. At a minimum, they could raise \$498 million from a one percent increase in the tax and almost \$4 billion from an eight percent increase. Harris County alone could raise \$148 million, or about 30 percent of the increase for the entire state in the one-percent scenario. The figures are shown in Table 12.

### Borrowing

The state constitution permits counties to borrow only for capital outlays, such as road construction. The vast majority of Texas counties, however, do not borrow for road purposes. Many of them do not borrow for any other purposes either.

In 1981 over 75 percent of the counties had no long-term bonds outstanding for road financing. Over 90 percent had no short-term notes maturing within two years (Ref. 19).

For 1980, the breakdown of county revenue sources by tax base reveals that only the 10 wealthiest counties received a substantial proportion of road funds from bond issues. No more than 5 percent of road revenues came from debt in any other property value class.

One reason for this pattern might be a philosophical belief in the sanctity of balanced budgets. Considering Texas' history of fiscal conservatism at the state level, it would not be surprising to find that county judges and commissioners view debt as a sign of mismanagement, of "spending more than the county can afford." At the spending levels experienced by officials in large counties it may be easier to justify debt on a larger scale, partly because of the healthy tax base to back the debt and partly because these counties are accustomed to financing large-scale capital projects with revenue bonds.

TABLE 12. ADDITIONAL REVENUE  
AVAILABLE FROM COUNTY  
PROPERTY TAXATION

<u>Percentage Increase in Tax Rates</u>	<u>Revenue Raised by all Counties</u>
1%	\$ 497,754,945
2%	995,509,890
3%	1,493,264,835
4%	1,991,019,780
5%	2,488,774,725
6%	2,986,529,670
7%	3,484,284,615
8%	3,982,039,560

Even if these beliefs were found to be widespread, there is no evidence that counties are spending beyond their means. All of the counties that have issued bonds up to this time have received ratings from Moody's Investors Service of at least Baa. In January 1980, three county issues were rated Aaa (highest), ten were rated Aa, fifty were rated A, and 26 were rated Baa (Ref. 20). There is no indication that counties are unable to borrow from the credit markets because of financial instability.

Some of the road borrowing is done through road districts, but these issues also maintained healthy ratings. The Texas county is the only type of local government which maintains a level of debt service payments below the national average.

Nineteen-eighty-one figures confirm the counties' unwillingness to borrow. Twenty-six counties received over 10 percent of their road revenue from borrowing. Eleven counties derived over 20 percent of their revenue from borrowing. In the past 10 years, the wealthiest counties have accounted for 80 to 94 percent of the total dollar amount of all new bond issues for road purposes (with the sole exception of 1977). (Ref. 21)

Given the availability of a number of other revenue sources, most counties do not need to reverse their tradition of avoiding debt. Like the property tax, borrowing is a source of funds that counties have available to them if they choose to take advantage of it. However, when policies are formulated at the state level to assist counties in meeting their road maintenance (and other needs), it should be kept in mind that most counties have a large amount of unused debt capacity.

The analysis is further complicated by the fact that other units of government borrow against the same tax base that counties could rely upon. Consequently the debt incurred by cities, school districts, and other

districts must be taken into account in evaluating the debt capacity of the county. This could be accomplished by comparing the per capita debt levels of different jurisdictions. These figures are included in the data base developed in this study.

### Traffic Fines

Traffic fines are a small but useful component of the county road finance picture. For the seven property value classes, traffic fines contributed 5 percent of revenues in two groups and only 1 percent in the two smallest groups.\*

Over 50 percent of the counties do not report any revenue at all from traffic fines that is directed to road maintenance or construction, while twenty-four counties receive over 10 percent of their road funds from traffic fines. The highest figures were reported from Kleberg (39 percent), Bowie (23 percent), Hill (22 percent), Hays (18 percent), and Sterling (18 percent) counties. It can be noted that Bowie ranks Number 33 in the state in population, Hays ranks Number 53, and Kleburg Number 63. Each has less than 76,000 residents. It would be interesting to see whether or not they enforce tougher policies on traffic fines, or simply devote more of this revenue to road spending than do other counties.

The mean revenue from traffic fines for all counties in 1981 was \$59,336. The distribution is skewed right with a high frequency of small users of traffic fines.

The 68th Legislature passed a bill authorizing all Texas counties to levy an optional \$5.00 surcharge on all vehicle registrations. House Bill 965 amended VACS 6675a-a to permit the county commissioners' courts to vote

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\* This section is based on information synthesized from the data base developed for this study.

### Optional County Registration Fee

for imposition of the fee, which cannot be collected until January 1, 1985, by any of the counties choosing to do so. After 1985, counties which do not impose the \$5 fee will not be able to do so until 1990, and those counties which enact it will not be able to eliminate the fee until 1990.

Counties will retain 97 percent of the optional registration fee collections, and the rest will be remitted to the state to defray administrative costs.

The Legislative Budget Board issued a fiscal note on April 18, 1983, which presented estimates of the potential revenue gain to the counties and to the State Highway Department. These estimates are made on the assumption that all counties will impose the additional fee, and therefore represent the high end of possible estimates. Table 13 shows the estimated revenue gain from the optional registration fee. After the initial jump, it can be seen that there would be small incremental gains from this fee based upon population growth and small increases in the number of vehicles.

#### STATE AND FEDERAL AID

##### Vehicle Registration Fees

The state constitution authorizes vehicle registration fees in Article VIII, section 7-a, and also in Vernon's Amended Civil Statutes, Articles 6675a-c. The first registration fees were implemented as early as 1908, and the application and rates have been steadily amended throughout the century.

All motor vehicles, trailers, and semi-trailers must be registered annually with the state. Each county collects the fees and remits the collected funds to the state, keeping the portion prescribed by the legislature.

TABLE 13. ESTIMATED REVENUE GAIN FROM  
OPTIONAL REGISTRATION FEE

<u>Fiscal Year</u>	<u>State Share</u>	<u>County Share</u>
1984	-0-	-0-
1985	1,337,000	43,660,000
1986	2,086,716	67,470,000
1987	2,140,971	69,225,000
1988	2,196,636	71,025,000

The primary fee schedules are shown in Exhibit 11. The county tax collector deposits fee collections in the county road and bridge fund until \$50,000 is collected plus \$350 for each mile of county road up to a maximum of 500 miles. After this limit is reached the county retains 50 percent of the collections up to a second limit of \$125,000. This formula dictates a maximum county share of the fees equal to \$350,000.

The new allocation formula for registration fees was contained in Senate Bill 150, which took effect on July 1, 1982. The limits in the bill apply to calendar year collections. As a result the total collection figures for the 1982 and 1983 fiscal years will not reflect the normal collection levels to be received under the revised formula. Initial projections by SDHPT staff call for 99 counties (39 percent) to receive the maximum share of registration fees in 1985, increasing from 96 in 1984.

Throughout the decade, from 1972 to 1981, the contribution to county road revenues from vehicle registration fees fell dramatically from 22 percent to only 9 percent in 1981 (Ref. 22). This shift occurred because the total county allotment of registration fees showed only moderate growth from year-to-year. Growth ranged from 1 percent to 3 percent as a result of counties below the 500-mile maximum adding mileage and other counties adding vehicles. At the same time, county road expenditures rose far more rapidly and other revenue sources were called upon to pick up the slack.

The aggregate county share of registration receipts has increased markedly under the new allocation scheme, to over \$65 million in fiscal 1983, up from about \$36 million in fiscal 1981. The distribution of fee receipts between the state and counties will probably return to its previous pattern. In 1965, the counties received 22.6 percent of the net registration fees; in 1974 they received 15.7 percent, and by 1981 they received only 11.3 percent



## EXHIBIT 11. REGISTRATION FEE SCHEDULES AS OF JANUARY, 1983

Motorcycles: \$5.00 for each vehicle

Passenger Cars and Street or Urban Buses:

<u>Weight in lbs.</u>	<u>Fee Per Vehicle</u>
1-3,500	\$15.50
3,500-4,500	25.50
4,501-6,000	33.50
6,000 and over	.60 (per 100 lb.)

Commercial Motor Vehicles or Truck Tractors:

<u>Gross Weight in lb.</u>	<u>Fee per 100 lb. or fraction thereof</u>	
	<u>w/pneumatic tires</u>	<u>w/solid tires</u>
1 to 6,000	\$ .44	\$ .55
6,001 to 8,000	.495	.66
8,001 to 10,000	.605	.77
10,001 to 17,000	.715	.88
17,001 to 24,000	.77	.99
24,001 to 31,000	.88	1.10
31,001 and up	.99	1.32

Road Tractors:

<u>Gross Weight in lb.</u>	<u>Fee per 100 lb. or fraction thereof</u>
1 to 4,000	\$ .275
4,001 to 6,000	.55
6,001 to 8,000	.66
8,001 to 10,000	.825
10,001 and up	1.10

(Continued)

## EXHIBIT 11. REGISTRATION FEE SCHEDULES.... continued

Trailers and Semi-trailers:

<u>Gross Weight in lb.</u>	<u>Fee per 100 lb. or fraction thereof</u>	
	<u>w/pneumatic tires</u>	<u>w/solid tires</u>
1 to 6,000	\$ .33	\$ .44
6,001 to 8,000	.44	.55
8,001 to 10,000	.55	.66
10,001 to 17,000	.66	.88
17,001 and up	.715	.99

Motor Buses:

<u>Gross Weight in lb.</u>	<u>Fee per 100 lb. or fraction thereof</u>
1 to 6,000	\$ .44
6,001 to 8,000	.495
8,001 to 10,000	.605
10,001 to 17,000	.715
17,001 to 24,000	.77
24,001 to 31,000	.88
31,001 and up	.99

Truck Tractor and Semi-trailer:

<u>Gross Weight in lb.</u>	<u>Fee per 100 lb. or fraction thereof</u>
18,000 - 36,000 (minimum)	\$ .60
36,001 - 42,000	.75
42,001 - 62,000	.90
62,001 - and up	1.00
Semi-trailer over 6,000 lbs.	15.00

Source: Legislative Budget Board, Legislative Tax Handbook, January, 1983,  
pp. A-74 to A-79.

(Ref. 23). The state received the other portion. In the coming years the distribution is expected to return to its 1965 levels.

Under this allocation system, the total county allotment of fees cannot exceed \$88.9 million annually. The rate of county road construction and vehicle registrations will determine how quickly that limit is reached.

For the average county in the top range of property valuation, registration fees bring in less than 1 percent of road revenue. Table 14 shows the proportion of the total revenue derived from registration fees in 1980 in each county property value class. There seems to be a clear relationship between revenues and a county's tax base. Registration fees make a much more significant contribution to the counties which have small tax bases.

The detailed 1981 county data further corroborate this picture. Using the data base developed for this study, it can be seen that seventy percent of all counties in Texas receive between 10 percent and 40 percent of their revenues from vehicle registrations. Fifty-four percent of the counties receive between 10 percent and 30 percent of their revenues from registrations.

The complete breakdown of revenue sources by tax base classification demonstrates that wealthier counties pick up the slack with property taxes for the most part, and also by borrowing in the case of the 10 wealthiest counties.

#### Gas Tax

The county share of the gas tax is limited to \$7.3 million of so-called Lateral Aid annually. This aid is a continuation of an arrangement that was worked out between the state and counties when the state began to absorb county roads into its road system. In 1932, the legislature created a Board

TABLE 14. PERCENTAGE OF REVENUE FROM  
REGISTRATION FEES, BY TAX  
BASE CLASSIFICATION

<u>Property Valuation:</u>	<u>Percentage of Revenue From Registration Fees</u>
Over \$5,000,000	1%
\$1m to \$5m	11%
\$ $\frac{1}{2}$ m to \$1m	17%
\$ $\frac{1}{4}$ m to \$ $\frac{1}{2}$ m	25%
150,000 to 250,000	32%
100,000 to 150,000	34%
under 100,000	52%

Source: CTR computations from Local Road Finance Report,  
op. cit.

of County and District Road Indebtedness that supervised the assumption of county road debt by the state. The state made annual appropriations to this Board that were used to pay off the debts previously incurred by the counties.

The board was allowed to cease its existence in 1975, but appropriations were still made to the state Treasurer's office. The governor vetoed this appropriation in 1979 but the legislature freed up the vetoed funds and continued the appropriation of \$7.3 million out of gas tax funds.

Beyond this particular tradition, the gas tax remains largely a State Highway Department source of funds, as well as a contributor to the Available School Fund. In 1981, 21.8 percent of the state's highway funds were derived from the gas tax. (Ref. 24)

In the last legislative session, the pothole bill was given wide support and stands a good chance of passage in the next session. It promises to raise the gas tax to 10 cents a gallon and distribute a portion of the generated funds to cities for street repair. Since Texas has the lowest gas tax in the country, this measure has been widely viewed as an acceptable way to deal with the problems of bad roads and education needs in one measure.

There does not seem to be a near-term possibility of including the counties to a greater extent in the proceeds of the gas tax. Counties already receive aid from the remainder of the gas tax in the form of farm-to-market road construction projects.

The lateral aid is distributed according to the following formula:

1. 1/5 to counties on the basis of the ratio of their area to the total state area;
2. 2/5 on the basis of the rural population;

3. 2/5 on the basis of the percentage of all state lateral (county) road mileage in that county.

The lateral aid funds may be used to purchase right-of-way, to perform construction and maintenance, or for debt service, i.e., for any road purposes.

A number of proposals have been made to alter and expand the productivity of the gas tax. These measures will be considered in the section on city revenues, since cities seem to be the most likely recipient of aid from this source, at least in the short-run. In 1981-82, a total of \$402 million was collected from the gas tax. The tax was instituted in 1941 at 4 cents per gallon and raised to 5 cents in 1967 (Ref. 25).

For 1981, county figures show that over 25 percent of all counties did not report any revenue at all from the gas tax (Ref. 26). Only four counties relied upon the lateral road aid for over 40 percent of road funds: Brewster (67 percent), Jeff Davis (51 percent), Kenedy (77 percent), and Presidio (51 percent). Twenty counties received between twenty and forty percent of their road funds from the gas tax, and the remaining 230 counties received less than 10 percent of their funds from the gas tax. In no property value class did gas tax funds amount to more than 1 percent of all road revenues received.

#### Revenue Sharing

Revenue sharing accounted for 5 to 11 percent of county revenues in the seven property value classes in 1980. In 1981, 78 percent of the counties received less than 10 percent of their revenue from this federal grant money, and 25 percent of the counties spent no revenue sharing funds for road purposes (Ref. 27).

The federal revenue sharing program was viewed by many public officials as a program that could evaporate whenever the political winds shifted. This began to occur under the current administration, although it does not seem likely to be phased out. The temporary nature of the extra funding encouraged officials to spend the money on capital projects, and roads were a frequent choice in Texas. The quantity of the funding nevertheless prohibited more extensive contributions to the county road budgets. It was generally felt that it made sense to buy equipment or other capital goods items rather than hire any new staff members who might be very difficult to terminate if the funding were cut off.

As noted earlier, some studies have shown that the revenue sharing funds could be used for different purposes, depending upon the financial condition of the counties. The counties in Texas seem to have had the luxury of discretionary spending with the extra funds, or they may have used it to avert otherwise steeper tax rate increases.

There is no expectation that the revenue sharing funds will be increased, federal deficits being what they are at the present time. If these funds are reduced, then the counties have probably structured the spending in such a way that they will be able to adjust to the lower revenue levels. Revenue sharing has been a big help to many counties, and for four counties it provided over 30 percent of the road budget (Ref. 28). It will probably continue to provide a small but helpful amount of additional funding for road needs.

## POTENTIAL REVENUE SOURCES

### Sources Under County Control

#### Sales Tax

Counties in Texas have never been allowed to institute a sales tax; they are only permitted to tax property. Cities were permitted to levy a 1 percent sales tax upon voter approval in 1967. The state adopted its sales tax of 4 percent in 1961. Metropolitan transit authorities are also permitted to levy a 1 percent sales tax to finance their operations, as is the case in San Antonio and Houston.

In 1982, the sales tax contributed 25 percent of the state's revenue, yielding a total of \$3.4 billion (Ref. 29). Despite this heavy reliance on the sales tax at the state level, Texas is ranked about 40th in the country in terms of sales tax effort, which indicates that it does not apply the tax as heavily as other states.

In 1982, 974 cities applied the 1 percent sales tax, up from 155 cities in 1967, the year of its adoption. These cities raised a total of \$714.2 million from the sales tax in 1982, which represented about 11 percent of the revenues raised by all Texas municipalities.

County sales tax proposals have been introduced in the last two legislative sessions, failing to pass each time. They are opposed by powerful committee chairmen who want to guard the sales tax as a source of state revenue. There is also some concern that a county sales tax might expand the role of county government beyond its proper scope.

In the 1983 legislative session, four sales tax bills for the counties were introduced: HB 289, which earmarked the tax revenue for health care in counties without hospital districts; SB 43, which called for an unrestricted county tax; SB 584, which earmarked a percentage to be decided



by county voters for property tax relief; and HB 578, which called for all sales tax receipts to replace property tax receipts.

HB 578 would not have provided any additional money for county road purposes. HB 289 would have only expanded available road funds to the extent that new sales tax receipts would have freed funds that would have otherwise been allocated to health care. SB 584 would also have been limited by the requirement that some of the new revenue replace the existing property tax revenue. Only SB 43 would have permitted counties the freedom to devote the incremental revenue to road purposes if they so chose.

In 1981 a 1 percent county sales tax would have produced about \$765.8 million for the counties, which would have made it the second largest revenue source next to the property tax (Ref. 30). A county sales tax is generally considered to be politically unpopular at this time.

#### Local User Fees

The legislature also has the option to pass enabling legislation permitting counties to institute user fees. A principal local user fee that has been proposed is the local option gas tax.

It would be difficult to estimate the revenue that could be raised from this type of fee, since there is a strong probability of people crossing into neighboring counties that have not imposed such a tax to purchase their gasoline.

This measure does not appear to have wide support at this time, for some of the same reasons affecting county sales taxes. In addition, a local option gas tax would be regressive in its impact on people in various income brackets.

#### ADDITIONAL STATE AID

Since the vehicle registration fee allocation formula has recently been changed, it may not be the most promising candidate for raising more funds at this time. On the other hand, there has been some discussion among leading officials involved in highway funding of registration fees rising as high as \$80 for the average passenger car.

One alternative supported by the Texas Good Roads Transportation Association is a vehicle registration fee based upon vehicle value rather than vehicle weight. Most states follow the vehicle weight system used here. Its major justification is the belief that heavier cars do more damage to the roads than small cars. While this is true, some critics feel that the incremental damage is fairly small, particularly in comparison to damage caused by heavy trucks.

A registration fee based on value is considered to be more responsive to inflation, since its revenues will rise with car prices and hopefully offset the rise in highway costs. Its proponents argue that it would be a progressive fee, forcing owners of expensive cars to pay a greater share of the road cost. Minnesota has instituted value-based surcharges to supplement flat rates, and Iowa combines value-based fees with fees based on vehicle weight.

The state comptroller's office has produced estimates of the revenue gains accruing from two value-based registration fee proposals (Ref. 31). The first proposal was advanced by the Texas Good Roads and Public Transportation Association:

- \$15.50 on first \$600 of value
- \$ 1.50 on each additional \$100
- 10 percent depreciation for 10 years

The resulting gains were as follows:

1984	\$341.7 million
1985	382.2
1986	427.9
1987	476.3
1988	527.7

A second proposal involved implementation of the fee system in use in Oklahoma at this time. This can be described as follows:

- \$19.00 on first \$600 of value
- \$ 1.50 on each additional \$100
- 10 percent depreciation for 9 years

The resulting revenues followed this pattern:

1984	\$359.3 million
1985	\$400.2
1986	\$446.6
1987	\$495.8
1988	\$547.9

The Oklahoma system generates between \$17 and \$20 million additional dollars annually, due to its higher base fee.

The report points out that the "average" registration fee in 1981 amounted to \$18 per passenger car, which is below the U. S. average of \$25 per car. With these new fee systems, the 1981 average fees would have been about \$57 per car.

## CHAPTER 7. CITY REVENUES & EXPENDITURES

As discussed in the introductory chapter, the focus of our data base development and this report is on county road financing patterns. The two primary reasons for this focus are:

1. city roads generally do not qualify for the Farm-to-Market State road program, and,
2. data is more readily available at the county level.

However, we have initiated the gathering of information related to financing city road maintenance, and performed some preliminary analyses and comparisons. This chapter presents some of this information, particularly with regard to the revenue and expenditure patterns of cities in Texas.

The situation of the Texas municipalities presents an interesting contrast with that of the counties. On an aggregate level, the 1,066 municipalities in Texas spent \$6.3 billion in fiscal 1981-82, while the 254 counties spent \$2.3 billion. To complete this picture, the school districts spent \$7.6 billion and the special districts spent \$2.2 billion. The municipalities represent a significant force in the Texas intergovernmental system, behind the school districts and the state; the latter spent about \$11.4 billion in 1981 and an estimated \$13.1 billion in 1982 (Ref. 32).

The aggregate expenditure of the municipalities on roads exceeds that of the counties, although transportation is a smaller relative concern to the municipalities. In fiscal 1982, the municipalities spent \$499 million on roads compared with \$357 million spent by the counties. The city road

expenditures constitute only 8 percent of the total city expenditures, which are dominated by utilities, police, fire, and "other" expenses. On the other hand, counties are spending over 15 percent of their funds on roads, second only to hospital and health costs (Ref. 33).

Looking at the different size classifications of the municipalities, broad generalizations can be made in comparison with the county revenue structure, which was described in the previous chapter.

Municipalities at all population levels receive a substantial share of their funds from the "general fund" of the municipality. This "general fund" is in turn financed by all of the other revenue sources. Consequently, there is some ambiguity in the exact source of the funds available to any given municipality. If one assumes that the general fund receives funds from the various sources in roughly the same proportion that these various sources respectively contribute to the municipality's total revenue, then the breakdown follows the pattern shown in Table 15.

Table 15 reveals that the cities depend relatively less on the property tax, compensating primarily with utility revenues and sales tax revenues, as well as larger federal grants. It can be reasonably assumed that this type of breakdown applies to the source of the general fund dollars contributed by the cities to their road costs.

Other general observations can be made from the breakdown of municipal revenues. Like the large counties in which they are situated, the large cities borrow a substantial portion of the funds used for road functions. Unlike the smaller and medium-sized counties, many of the medium-sized municipalities rely to a significant extent on borrowing, obtaining from 12 to 19 percent of their funds from new debt issues. Only the smallest towns, those with less than 5,000 people, are basically debt-free. (Ref. 34)

TABLE 15. COMPARISON OF CITY AND  
COUNTY REVENUE SOURCES  
ON AGGREGATE BASIS

<u>Revenue Sources</u>	<u>City</u>	<u>County</u>
State Gov't.	1.0%	5.6%
Fed. Gov't.	9.8	5.4
Property Tax	17.2	52.3
Other Taxes	15.4	3.5
Charges, misc.	23.6	32.3
Utility	29.8	0
Empl. Retirement	2.8	0

The municipalities also receive more funds from federal aid programs and traffic fines than the counties do. The cities appear to receive larger revenue-sharing amounts which may be spent on roads at the cities' discretion. They also receive economic development grants which they may use in the same way. Their traffic fines revenue is probably boosted by the congested condition of the city streets; as such, it is not clear that counties could employ a similar option.

As a result, property tax revenues constitute a smaller fraction of the cities' total revenues, although they still have substantially higher tax rates than the counties. These higher rates apparently are needed to cover higher police and fire costs, as well as higher "other" expenses, which include a variety of services ranging from libraries to parks and recreation services.

Unlike those of the counties, municipal road expenditures have risen steadily every year in real terms. Municipal maintenance expenditures have also risen in real terms every year since 1972 except for 1979, when a 2 percent decrease was registered.

As stated above, the cities spend a smaller proportion of their budgets on road needs. Cities have a variety of expenses for parking facilities and allied street functions, such as sidewalks and storm sewers, that counties do not incur to a comparable degree. The cities spent 30 percent of their regular road expenses (mostly construction, maintenance, debt service, and traffic police) on construction. They spent 18 percent of the same total on maintenance, 14 percent on debt service, 32 percent on traffic police, 12 percent on traffic services and 3 percent on administration. If the traffic police are excluded, for better comparability with the counties, construction accounts for 44 percent, maintenance for 26 percent, traffic

services for 4 percent, debt service for 21 percent, and administration for 5 percent.

The road expenditure breakdown for counties at the aggregate level is somewhat different from this one. In 1981, the counties spent 30 percent on construction, 43 percent on maintenance, 11 percent on administration, 14 percent on debt service, and less than 2 percent on traffic police.

The obvious disparities in the two breakdowns are the higher construction spending proportion by cities, accompanied by higher debt payments, which are probably associated with the construction activity of previous years. The counties on the other hand spend a larger share of funds on maintenance and administration. These breakdowns for 1981 seem to indicate that the cities and urban counties need construction funds whereas the rural areas need funding for maintenance.



## CHAPTER 8. CONCLUSIONS & FURTHER RESEARCH

This report has presented the principal accomplishments of the first phase of a study addressing the financing of county road maintenance and rehabilitation needs and the related intergovernmental linkages. In particular, a thorough background review of available documentation on the legal, institutional, and financial aspects of revenue generating techniques for road financing has been presented. A data base documenting expenditures and revenues of Texas counties has been initiated and substantially developed, particularly in the area of road maintenance financing. Some trends contained in this data have been highlighted and discussed, including the variation of revenue sources across the counties.

The first phase of the review indicates that the division of funding sources among the federal, state, and local governments in Texas has remained stable over the past 15 years. Data to that effect were presented in Chapter 2, along with an overview of arrangements that exist in other states. Texas tends to be at the decentralized end of the road financing spectrum when compared to other states.

The history and the current status of the Farm-to-Market road program were addressed in Chapter 3. This program seems to have gradually slowed down in momentum as a result of the rise in construction costs combined with an annual allocation requirement that has not changed since 1962. Most Highway Department districts have far more requests for assistance than they can accommodate.

Most of the counties remain under the decentralized precinct system of administration. The budget allocations for different needs are unlikely to change much from year to year. Under the current methods of providing state aid to support county road maintenance efforts, there seems to be sufficient room to divert road aid (from the state) to other county purposes.

There are serious conceptual as well as measurement problems associated with the determination of local spending needs; these were discussed at length in Chapter 5. However, there are a number of promising approaches that have been developed and can be applied to county road spending. Some of these approaches will be pursued to a greater extent in subsequent phases of this study.

In the last decade, total road spending by counties and total maintenance spending have not increased in real terms, although there probably have been shifts among the counties that could be ascertained with time series data. Construction spending at the aggregate level has increased in real terms, although the majority of this spending is done in the ten or fifteen largest counties. Further insights obtained from the analysis of the county road expenditures data were presented in Chapter 5.

The relative importance of various revenue sources in county road maintenance expenditures was discussed in Chapter 6. The variation of this distribution across counties was also examined, revealing different patterns for small versus large counties.

The property tax continues to supply a large percentage of county funds for all purposes, including roads. The recent registration fee increases have provided significant help, particularly for the smaller counties. In addition, a variety of more or less justifiable user fees, which could be tapped at a later time if county needs were felt to be unmet, were discussed.

Issues that could benefit from further research have been indicated throughout the presentation. In particular, the data base developed in this study can be a valuable source of information regarding county expenditures and revenues, and can form the basis of policy analyses in the area of road financing. It can, for example, help in the development of a typology of counties with regard to needs, financing practices and/or resources. Further probing into the determinants of county road maintenance expenditures could also yield valuable insights as well as operational tools. It should be noted though that a number of important data items were not available from secondary sources, especially county requests for direct state assumption of maintenance via the Farm-to-Market program. As such, some form of survey, even on a relatively limited scale, holds the promise of yielding substantial insights into this problem.

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