

Research Report KTC 96-16

The Motor Fuel Tax Evasion Issue in Kentucky

By

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in cooperation with Kentucky Transportation Cabinet

and

Federal Highway Administration
U.S. Department of Transportation

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16. Abstract Tax evasion is an elusive and burgeoning problem. Methods of tax evasion are continually changing and adapting to new methods of tax enforcement. However, there are strategies that can reduce the potential loss due to fuel tax evasion. This study of fuel tax evasion in Kentucky and the southeastern states provides additional information regarding the causes and nature of the road fund tax evasion problem, and identifies state and federal/state efforts to mitigate the tax evasion challenge. The concepts, issues, and recommendations in this report can aid in reducing evasion of the Kentucky motor fuels tax., thereby, enhancing the efficiency and equity in the administration of the motor fuels tax and increase the resources collected in the Kentucky Road Fund.					
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July 9, 1997

Mr. Jesse Story
Division Administrator
Federal Highway Administration
330 West Broadway
Frankfort, Kentucky 40603-0536

Dear Mr. Story:

SUBJECT: IMPLEMENTATION STATEMENT
Research Report KTC 96-16
"The Motor Fuel Tax Evasion Issue in Kentucky"

The objective of this study was to assemble information regarding the causes and nature of the evasion of road fund revenues, with a principal focus on the motor fuel tax. Innovations and strategies to address evasion that have been implemented through federal and southern states' programs are reviewed. Rough estimates are provided for Kentucky's motor fuel tax revenues lost through evasion.

In addition, several recommendations are provided to potentially reduce fuel tax evasion in the Commonwealth. It is hoped that these recommendations are considered in the development of tax administration policy designed to mitigate the evasion of road fund revenues.

Sincerely,

A handwritten signature in black ink, appearing to read "J. M. Yowell".

J. M. Yowell, P.E.
State Highway Engineer

JMY/DES/dkh

Foreword

State policy officials, in general, and state transportation officials, in particular, have expressed increasing concern regarding their ability to provide high quality services and public investment due to increasing public demands, increasing costs and public resistance to increased taxes or fees. Such trends have been exacerbated by limited federal support for programs which have traditionally been financed by joint federal and state government partnerships. Such partnerships have been the major sources of funds for the development, construction, and maintenance of the nations system of public roads and highways.

Given this environment, transportation authorities have begun to place greater emphasis on nontax revenue sources to support the maintenance and enhancement of the nation's transportation systems. For example, increased attention has been focused on the reduction in tax and fee evasion as a means of enhancing state road fund revenues and, simultaneously, enhancing taxpayer confidence in the nation's voluntary tax compliance system. This study of fuel tax evasion in Kentucky and the southeastern states provides additional information regarding the causes and nature of the road fund tax evasion problem, and identifies state and federal/state efforts to address the tax evasion challenge.

Part of this study was carried out in cooperation with a broader study by the Council of State Governments (CSG) and the Council of Governors' Policy Advisors (CGPA) regarding national evasion issues from a state perspective. A survey was conducted as an adjunct to the broader CSG/CGPA study. This survey by the Council of State Governments in cooperation with the Kentucky Transportation Center, hereafter referred to as the CSG/KTC study, addressed issues in motor fuels tax evasion.

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Executive Summary

State policy officials, in general, and state transportation officials, in particular, have expressed increasing concern regarding their ability to provide high quality services and public investment due to increasing public demands, increasing costs and public resistance to increased taxes or fees. Such trends have been exacerbated by limited federal support for programs which have traditionally been financed by joint federal and state government partnerships. Such partnerships have been the major sources of funds for the development, construction, and maintenance of the nation's system of public roads and highways.

Given this environment, transportation authorities have begun to place greater emphasis on nontax revenue sources to support the maintenance and enhancement of the nation's transportation systems. For example, increased attention has been focused on the reduction in tax and fee evasion as a means of enhancing state road fund revenues and, simultaneously, enhancing taxpayer confidence in the nation's voluntary tax compliance system. This study of fuel tax evasion in Kentucky and the southeastern states provides additional information regarding the causes and nature of the road fund tax evasion problem, and identifies state and federal/state efforts to address the tax evasion challenge. The study was carried out in cooperation with a broader study by the Council of State Governments (CSG) and the Council of Governors' Policy Advisors (CGPA) regarding national evasion issues from a state perspective.

The Kentucky Road fund was established to provide earmarked resources for the state's roadways. The road fund's primary revenue sources include motor fuels taxes, motor vehicle usage tax, vehicle registration fees. Nearly 34 percent of the Kentucky road fund revenues come from the motor fuels tax and about 36 percent of the revenues come from vehicle licensing and registration. Allocations from the Kentucky road fund are principally used to finance capital outlays, maintenance, bond retirement, and administration.

This study focuses on evasion of the motor fuels tax which has emerged as a major issue in the management of the road fund. The motor fuels tax in Kentucky is an excise tax on the sale of diesel fuels, gasoline, and gasoline related products like gasohol. Kentucky's fuels taxes provided \$367 million in 1994. These funds are generated principally from a 16.4 cents per gallon tax on gasoline and 13.4 cents per gallon tax on diesel fuel. Kentucky's fuel tax rates are

below the average levy of other states in the southern region which averaged 18.46 and 18.58 respectively for gasoline and diesel taxes. .

Fuel tax evasion is difficult to estimate accurately because dollar losses from illegal activities like tax evasion are only reported only when discovered and some tax evasion schemes remain undetected by enforcement officials. Therefore, estimates of Kentucky's fuel tax evasion provided in this study are derived from other evasion estimates, studies, and surveys of the fuel tax administrators in the southern states .

Perceptions Of Motor Fuels Tax Evasion

A recent study was conducted as an adjunct to the broader CSG/CGPA study. This study by the Council of State Governments in cooperation with the Kentucky Transportation Center, hereafter referred to as the CSG/KTC study, addressed issues in motor fuels tax evasion. The CSG/KTC study surveyed state administrators in the southern states to determine (on a scale from 1 to 5) perceptions of the severity of the motor fuel tax evasion in their respective states. Defining 1 to be *not a problem* and 5 as a *serious problem*, the administrators indicated that the evasion of fuels tax is perceived to be an "average" problem for most states. The study found that the average perceived evasion of diesel fuel taxes is slightly greater than the average perceived evasion of gasoline taxes. One reason for this difference is that diesel fuel can be used for more alternative, nontaxed purposes such as home heating and other industrial processes.

In the same survey, state fuel tax administrators were asked to estimate the increase of motor fuel revenues if evasion of the fuel tax were completely eliminated. The responses to this question varied from a minimum of 1/2 percent to a maximum of 20 percent. The corresponding numbers for estimated diesel fuel revenues-increases range from a minimum of 2 percent to a maximum of 35 percent. The average increase in the Southern region for gasoline tax revenues is 4.64 percent and 10.05 percent for diesel tax revenues.

Methods Of Fuel Tax Evasion

The methods of evading the road fund taxes can be categorized into four basic groups: failure to file information, filing of false information, filing false exemptions, and failure to pay assessed taxes. Some of the common methods for evading the fuels tax are "daisy chains", blending, "cocktailing", and bootlegging. The CSG/KTC study asked the administrators of the

motor fuels tax in the southern region to rank the prevalence of these common evasion methods of gasoline fuels. Bootlegging across state lines was cited as the number one method of evasion of state gasoline revenues while blending was the second highest ranked evasion method. Lower ranked methods of evasion of gasoline taxes were failure to file and abuse of tax exempt laws. Cocktailing and daisy chains were the lowest ranked methods of gasoline evasion in the southern region.

The administrators of the motor fuels tax from the southern states were also asked to rank the prevalence of common methods of diesel tax evasion. Abuse of tax exempt use laws is the most prominent diesel fuel tax evasion method among the southern states. The second ranked method of evasion of diesel fuels is bootlegging across state lines.

Estimates Of Evasion Levels

As indicated, estimates of Kentucky motor fuels tax evasion are derived from broader national studies. The Council of State Governments in association with CGPA initiated a general investigation of state road fund tax evasion. The study utilized survey responses from state motor fuel administrators and empirical models to estimate that the aggregate state revenues lost in 1993 due to evasion of motor fuels taxes were 1.2 billion dollars. CSG/ CGPA also developed a statistical model that estimates \$952 million in aggregate state dollars is lost due to evasion of motor fuels. Evasion losses for the Kentucky road fund are estimated to range from \$14 to \$20 million.

Efforts To Deal With Evasion

Some of the challenges faced by state enforcement officials are different from the challenges the federal officials face in detecting tax evasion. However, because those successful at evading the motor fuels tax often elude both state and federal tax levies, state and federal officials are coordinating tax evasion elimination efforts. As a result, state and federal agencies have implemented formal cooperative enforcement programs designed to detect evasion of motor fuels taxes. Efforts by governments to reduce the evasion problem are addressed from three perspectives: federal initiatives, state and federal coordination, and southern region initiatives and innovations.

The Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) is arguably the most important federal legislation addressing motor fuels tax evasion. Section 1040 of ISTEA deals specifically with issues of motor fuels taxes. ISTEA provided funding for federal studies and state initiatives to reduce evasion. Section 1040 of ISTEA also delineates the funding restrictions for evasion reduction programs. These ISTEA funds can be used to partially finance undercover operations, criminal investigations, and information gathering activities.

Omnibus Budget Reconciliation Act of 1993 (OBRA) is a second major federal initiative. It moved the liability of tax collection from wholesalers to producers. This is the same legislation that mandated a federal dyed-fuel program. Moving the point of tax collection reduces evasion of motor fuel taxes because enforcement officers can focus on less "taxpayers". When there are less companies submitting tax records, it is easier for the Internal Revenue Service to determine if the proper taxes are being reported and remitted, making it difficult to evade the fuels tax by filing false information or forming "daisy chain" corporations.

In addition to federal governmental initiatives there have been several federal/state government cooperative initiatives designed to combat fuel tax evasion. Among these are the efforts of two organizations which have mobilized to help the states and the national government coordinate to evasion reduction efforts. These two organizations are the Federation of Tax Administrators (FTA) and the Regional Task Forces on Motor Fuel Tax. The Federation of Tax Administrators evolved from the National Association of Tax Administrators. In 1987, the Motor Fuel Section of the National Association of Tax Administrators adopted an eleven-point plan to improve the uniformity among states information. Uniformity of state information assists tax administrators in tracking the flow of state exports and imports of motor fuels, and therefore it helps protect against bootlegging. Another organization coordinating joint federal / state initiatives is the regional task forces coordinated through the The Joint Federal /State Motor Fuel Tax Compliance Project. This consortium includes representatives from the U.S. Department of Justice, Federation of Tax Administrators, petroleum industry organizations, state revenue agencies, and the Office of Inspector General of the U.S Department of Transportation. ISTEA legislation made funds available to promote cooperative enforcement efforts among groups of neighboring states. This funding resulted in the formation of three regional task forces lead by the states of New Jersey, Texas, and Indiana. The following year, 1992, six additional

task forces were organized among the remaining regions. Each task force is headed by one state that takes the lead in the coordination efforts. Kentucky is one of the original members of the Indiana Task Force initiated in 1991. In 1994, Kentucky also joined the regional task force lead by North Carolina.

Auditing is a major fuel-tax enforcement activity among the states in the southern region. The federal statistics on fuel tax audit activities are classified into four major categories: mathematical verification, office reconciliation, office audit, and field audit. In 1991, Kentucky had three auditors who performed some combination of office reconciliation and office audits.

The most common strategy of southern states to reduce both diesel and gasoline tax evasion is the use of ISTEA evasion funds. These funds can be used for training of staff, travel, and partial enforcement costs. More than 50 percent of the southern states have implemented uniform definitions of imports and export of diesel fuels, increased the number of audits, instituted a dyed-diesel program, and licensed all resellers. Half of the southern states have implemented uniform reporting schedules of diesel fuel as defined by the FTA. Also, fifty percent of the states in the southern region now require third-party reporting of movement of diesel fuel.

There are four strategies in addition to ISTEA funds that are commonly used to reduce gasoline tax evasion and have been adopted by more than sixty percent of the states in the southern region. These strategies coincide with the same strategies implemented to alleviate diesel tax evasion with the exception of eliminating the opportunities for the non-taxed purchases of gasoline. Licensing of all resellers is not as popular in addressing gasoline tax evasion in comparison to diesel tax evasion. Licensing all resellers is more critical for number 2 distillate fuel (diesel) because so much of it is used for non-taxed purposes such as heating.

Recommendations

While the exact severity of motor fuel tax evasion is not known, further evasion reductions will result in enhanced non-tax road fund revenue. The following seven recommendations are provided as potential ways or means to further mitigate current evasion of the road fund revenues in Kentucky.

1. Participate actively in regional task forces.
2. Implement fully the FTA eleven-point plan.
3. Assess marginal costs of additional field auditors.
4. Modify state fuel tax administration to mirror the federal system.
5. Educate public on fuel tax evasion issues.
6. Derive more specific estimates of road fund tax evasion and resulting evasion incentives in Kentucky.
7. Investigate the severity of evasion of vehicle licensing /registration, weight distance tax, and other road fund revenues.

Tax evasion is an elusive and burgeoning problem. Methods of tax evasion are continually changing and adapting to new methods of tax enforcement. However, there are strategies that can reduce the potential loss due to fuel tax evasion. The fight against fuel tax evasion is fought on three fronts: federal, regional, and individual state level. The federal government is working to improve compliance to the federal motor fuels tax through ISTEA, the FTA and other organizations and legislation. Regions of states are coordinating to reduce evasion that occurs because of inadequate information regarding the transfer of fuels across state lines. Lastly, the Commonwealth must identify the unique characteristics that make Kentucky vulnerable to evasion and act to remedy potential evasion loss.

Chapter One

Tax Evasion in the Road Fund: BACKGROUND AND STUDY METHODOLOGY

State governments are faced with difficult fiscal challenges. On the one hand, citizens and interest groups desire high levels of public services and increased expenditures on selected programs. On the other hand, taxpayers are increasingly demanding limited government, lower taxes and increased government efficiency and effectiveness. States are increasingly facing the need to do "more with less." Unfortunately, the options available to meet the "more with less" challenge are limited. State governments, like their federal counterparts are pursuing a variety of initiatives designed to improve efficiency of government operations including (1) downsizing and "rightsizing" efforts, (2) privatization of agencies and operations and (3) "reinventing" government which includes attempts to provide government services in new and different ways. While these efforts are paying dividends and progress is being made in making government more efficient, resource needs continue to grow, particularly for public investment and infrastructure. While the investment of public funds can benefit from restructuring and management efforts, the cost of infrastructure investments continue to escalate and cost savings and efficiency efforts will, likely, prove insufficient to permit state governments to meet public expectations and needs regarding public investment and infrastructure.

Like other states, Kentucky, has faced fiscal challenges in generating revenues to provide government services. Citizens are soliciting government to provide more services and yet resist additional taxes necessary to finance the programs. Such a political climate could lead to a neglect of long-term infrastructures like highways. The Kentucky Road fund was established to provide earmarked resources to the state's roadways. The road fund's primary revenue sources include motor fuels taxes, vehicle usage tax, vehicle registration fees. As with all taxes, these revenue sources are vulnerable to evasion and fraud.

It is difficult to assess with accuracy the magnitude of evasion occurring in Kentucky. No tax system or administration is flawless, and persistent tax evaders might detect loopholes and evade tax revenues. The first step in addressing the evasion of motor fuel taxes is to acknowledge that the potential for tax evasion exists. This report supplies information relevant

in addressing evasion of the road fund taxes and derives some estimates of evasion of Kentucky motor fuels taxes.

History Of Motor-Fuels Tax Enforcement

In the mid 1980s, the Federal Bureau of Investigation (FBI) discovered an organized crime ring in New York that was evading millions of dollars in state and federal motor fuels tax. Federal revenue officials prior to that time suspected that some motor fuels taxes were being evaded, but the severity of the evasion was underestimated (FHWA Fuel Tax Evasion, June 1, 1992 p. 2). The discovery of this evasion scheme resulted in a new focus on enforcement of the motor fuels tax. Federal legislation was passed that dedicated more financial resources toward enforcement and criminal investigation of motor fuels tax. The Intermodal Surface Transportation Efficiency Act (ISTEA) is significant legislation that includes specific provisions regarding the administration and enforcement of the federal motor fuels tax. A dyed diesel fuel program, designed to enhance the detection of evasion, was researched and implemented by the Federal Highway Administration as a result of ISTEA. Currently, ISTEA makes available fiscal resources to the states to combat the evasion of motor fuels taxes.

While broad based, national efforts to understand the nature and scope of the evasion problem are lacking for the road fund as well as for state general and other funds, states have benefited from special efforts of the Federal Highway Administration and U.S. Department of Transportation to mitigate the road fund tax evasion problem. Such efforts have focused on multistate efforts to develop strategies and to combine efforts through special ISTEA provisions which provide supplementary antievasion resources and encourages interstate cooperation and multistate antievasion initiatives. In addition to ISTEA, individual states have undertaken initiatives to reduce evasion in their states¹. Such efforts have focused on specific state problems and the results of such efforts may or may not be transferable to other similar states. A recent

¹ See for example:

New Jersey Commission of Investigation Motor Fuel Tax Evasion Trenton, New Jersey: February 1992.

Florida Office of Program Policy Analysis and Government Accountability. Review of Florida Diesel Fuel Taxation. Tallahassee, Florida: December 1994.

Wisconsin Legislative Fiscal Bureau. Motor Fuel and Special Fuel Tax Informational 41. January 1993.

study provides national estimates of the magnitude of road fund tax evasion and summarizes national and state efforts to mitigate the evasion problem [CSG/ CGPA, State Road Fund Tax Evasion: A State Perspective, Draft March 1996]. This study draws on the results of that study in identifying potential antievasion activities and initiatives later in this report.

Study Purpose

The purpose of this study is to assess the nature of the road fund, motor fuels and diesel fuels tax and fee evasion problem in the Commonwealth of Kentucky and to provide state policy makers and administrators with antievasion options which could be used to reduce the level of road fund tax evasion in Kentucky. This study benefits from the Council of State Governments study previously cited and provides comparisons of the road fund tax and fee evasion problem in Kentucky as compared to the southern region of the United States. In addition, the nature of the evasion problem is explored and special focus is directed toward antievasion strategies and techniques used by other states as they attempt to manage the evasion challenge. Such initiatives could provide the basis for new Kentucky Transportation Cabinet efforts to reduce road fund evasion and provide additional resources needed to finance the design, development and maintenance of the Commonwealth's system of public transportation.

Study Design And Chapters' Organization

The research efforts associated with this project focused on five principal efforts. These are as follows:

1. Literature review and analysis of previous tax evasion studies
2. Estimate of level of road fund evasion in Kentucky and the southern states
3. Review of ISTEA (Intermodal Surface Transportation Efficiency Act) efforts regarding road fund tax and fee evasion
4. Review of state and multistate initiatives to counteract tax and fee evasion efforts
5. Analysis of state evasion efforts and implications for reducing Kentucky road fund evasion

Previous research regarding the tax evasion issue has focused on gaining an understanding of the motivations for evasion, methods of evasion, and estimates of the magnitude of evasion for individual states. Chapter Two provides a review of the literature relevant to the study and analysis of motor fuels and diesel fuel evasion. This chapter also

includes an estimate of the level of evasion for these two important sources of Kentucky road fund revenues. Estimated and perceived evasion for Kentucky are also compared to other states of the southern region of the United States. As noted, this CSG\KTC study utilizes survey data obtained through an adjunct study with the Council of State Governments and Council of Governors' Policy Advisors. The CSG\KTC survey asked state administrators who were principally responsible for the motor fuels and diesel fuels taxes to indicate their perception of the severity of the evasion problem and to estimate the revenue which would be realized if evasion were mitigated (see Appendix B for description of CSG\KTC study). Kentucky motor fuels and diesel fuels evasion are also statistically estimated. These estimates are reported in Chapter Two.

As the principal objective of this study is to identify antievasion strategies and options which might be adopted by the Kentucky Transportation or Revenue Cabinets, Chapter Three provides an overview of strategies and antievasion measures considered and implemented by the various states. In addition, the chapter reviews the ISTEA antievasion efforts. These efforts are supported by funding provided by section 6 of ISTEA (the "highway bill") and emphasize interstate cooperation and information sharing as methods for combating evasion.

Chapter Four provides observations and recommendations regarding future action which the Kentucky Transportation and Revenue Cabinets might consider as they attempt to reduce the revenue losses from Road Fund tax and fee evasion.

In addition to the CSG/KTC study, the information discussed in these chapters draws heavily on information collected from the Federal Highway Administration through written materials, phone calls, and personal interviews. We express appreciation to those at the Federal Highway Administration, the Transportation Cabinet, and the Council of State Governments who provided much of the information assembled for this report.

Chapter Two

Motor Fuel Tax Evasion:

WHAT IS EVASION AND IS IT A PROBLEM?

The Kentucky highway fund is vulnerable to revenue loss through two taxpayer behaviors: avoidance and evasion. Tax avoidance occurs when taxpayers alter their behavior to elude a tax levied on a specific item or behavior. For example, tax rates drive up the purchase price on gasoline. Faced with a higher price on gasoline, some consumers might decide to drive less miles, reducing the gallons of gasoline purchased. For each gallon not purchased, the state fuel excise tax is not collected. There is nothing criminal about reducing the amount of fuel purchased, but state tax revenues are diminished as a result. On the other hand, revenues are also lost due the deliberate, criminal action on the part of some citizens to escape paying some or all taxes. This document defines tax evasion as the intentional failure to pay a tax required by law. It is not the objective of this report to discuss revenues lost due to the legal avoidance of taxes through "loopholes" in state legal statutes or behavior modification. Such issues of avoidance are less of a concern because avoidance is legal. In theory, revenue lost to avoidance is quantifiable by careful analysis of changes in revenue collections after changes in tax policy. Avoidance is less covert because it is legal. Policy makers can choose to change the tax laws to eliminate loopholes that reduce revenue receipts. However, this chapter demonstrates that tax evasion is more elusive to detection, enforcement, and legislation.

There are seven major sections in this chapter that address the problems of motor fuel tax evasion. The first two sections describe the revenues in the Federal Highway Trust and Kentucky road fund. To understand the nature of potential evasion of road fund revenues, it is important to understand the types of revenue sources in the road fund. The third section outlines general economic models of tax evasion and identifies problems of empirically estimating tax evasion. The fourth and fifth sections present evidence from a survey of the southern region on perceptions of tax administrators on the severity of motor fuel tax evasion and discuss the nature of road fund tax evasion. The sixth section describes the common techniques criminals use to evade motor fuel taxes. Lastly, the final section reviews studies that have

estimated the amount of state revenues lost through evasion of the motor fuels tax and provides some estimates of fuel tax evasion in Kentucky.

Federal Highway Trust

The Federal Highway Trust began in 1956 as a way to promote the growth of the federal interstate highway system.² Since that time, the trust has been amended several times to expand the purpose and broaden the revenue sources. Most recently, the highway trust was modified with the passage of the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991. Currently, the federal revenues earmarked to the highway trust originate from a variety of sources. The most common source is the fuel excise tax on diesel and gasoline. Table 1 lists some of the other excise taxes levied to support the Federal Highway Trust. Within each revenue source there are a number of exemptions granted by Congress to promote political and social objectives.

Revenue Sources	Section in Tax Code	Revenues FY 94 (million dollars)
Taxes on diesel, gasoline, and special motor fuels	4041, 4081	14,317
Retail tax on heavy trucks and trailers	4051	1,405
Tax on trucks and truck parts	4061	*
Tax on tires and tread rubber	4071	327
Tax on use of certain vehicles	4081	618
Total Revenues		\$18,106
Source: TITLE 26, Subtitle I, CHAPTER 98, Subchapter A, Sec. 9503		
Source: FDA Highway Statistics 1994 pg IV-23		
* Revenues less than one million dollars		

Revenues collected in the Federal Highway Trust are used for construction, maintenance, enhancement and administration of federal highways. In 1994, ninety-eight percent of the Federal Highway Trust expenditures were distributed to the states for highways purposes. Grants

² Highway Revenue Act of 1956 (section 209 of act June 29, 1956, ch. 462, title II, 70 Stat. 397, set out as a note under section 120 of Title 23, Highways)

are allocated to the states by formulas that vary depending on intended use of the funding.

Figure 1 shows the federal grant disbursements by percentage in major categories.

As previously discussed, the Federal Highway Trust is supported in part by the federal excise tax on motor fuels. Revenues from the federal motor fuels tax are also used for other purposes. The Omnibus Budget Reconciliation Act (OBRA) of 1993 levied a gasoline and diesel fuel tax of 6.8 cents per gallon earmarked for reduction of the federal deficit. On October 1, 1995, the earmarked portion of this tax dropped to 4.3 cents per gallon.³ At the time of this report, House Resolution 436 had passed the floor and if successful in the Senate would repeal this 4.3 cents per gallon fuels tax on gasoline and diesel [Congressional Record pg. H5326 May 21, 1996]. A small portion of the fuel tax revenues is transferred for nonroad uses in the Land and Water Conservation Fund and the Aquatic Resources Trust Fund.

State Road Fund Revenues

A road fund (trust) is a budgetary account that receives specially designated or earmarked receipts and has been defined by law. Thirty-seven states operate a road fund to facilitate the maintenance and construction of state roads.⁴ There are nine states, including Kentucky, in the southern region⁵ that operate a road fund. Five additional states (Mississippi, Maryland, Louisiana, Florida, and Delaware) use a transportation fund without a highway road fund. A transportation fund differs from a road fund in that the transportation fund finances transportation modes in addition to roadways. Georgia and Oklahoma do not operate trust funds, but revenues from the fuels tax are earmarked for highway uses.⁶ Generally, the main source of earmarked revenues is the excise tax on diesel and gasoline fuels and the vehicle licensing and registration. Some of the major sources of state road funds revenues are listed in Table 2.

³ Teets, Mary k., Editor. Highway Statistics 1994 US Dept of Transportation. FHA, OHIM. Table FE-21 page IV-22. and OBRA 1993.

⁴ CSG CGPA Survey: Major Revenue Sources #1, 1995

⁵ This study includes 16 states in the southern region based on the regional boundaries defined by the Bureau of the Census. Appendix A identifies these states by subregion and maps the states that participated in the CSG / KTC survey.

⁶ 1994 State Highway Funding Methods 1994. pg. 9.

Table 2: Revenue Sources for State Highways

Revenue Sources	Percent Of States Using Revenue Source.
Taxes on diesel, gasoline, and special motor fuels ^a	100
Vehicle Registration and Licensing ^a	100
Excise tax on vehicle sale ^b	89
Usage Tax on vehicle ^b	58
Property Tax on vehicle ^b	69

Sources: ^aFHWA Highway Taxes and Fees Table MF-12it (1995)
^b CSG CGPA Survey: Vehicle Licensing , 1995. [45 states reporting]

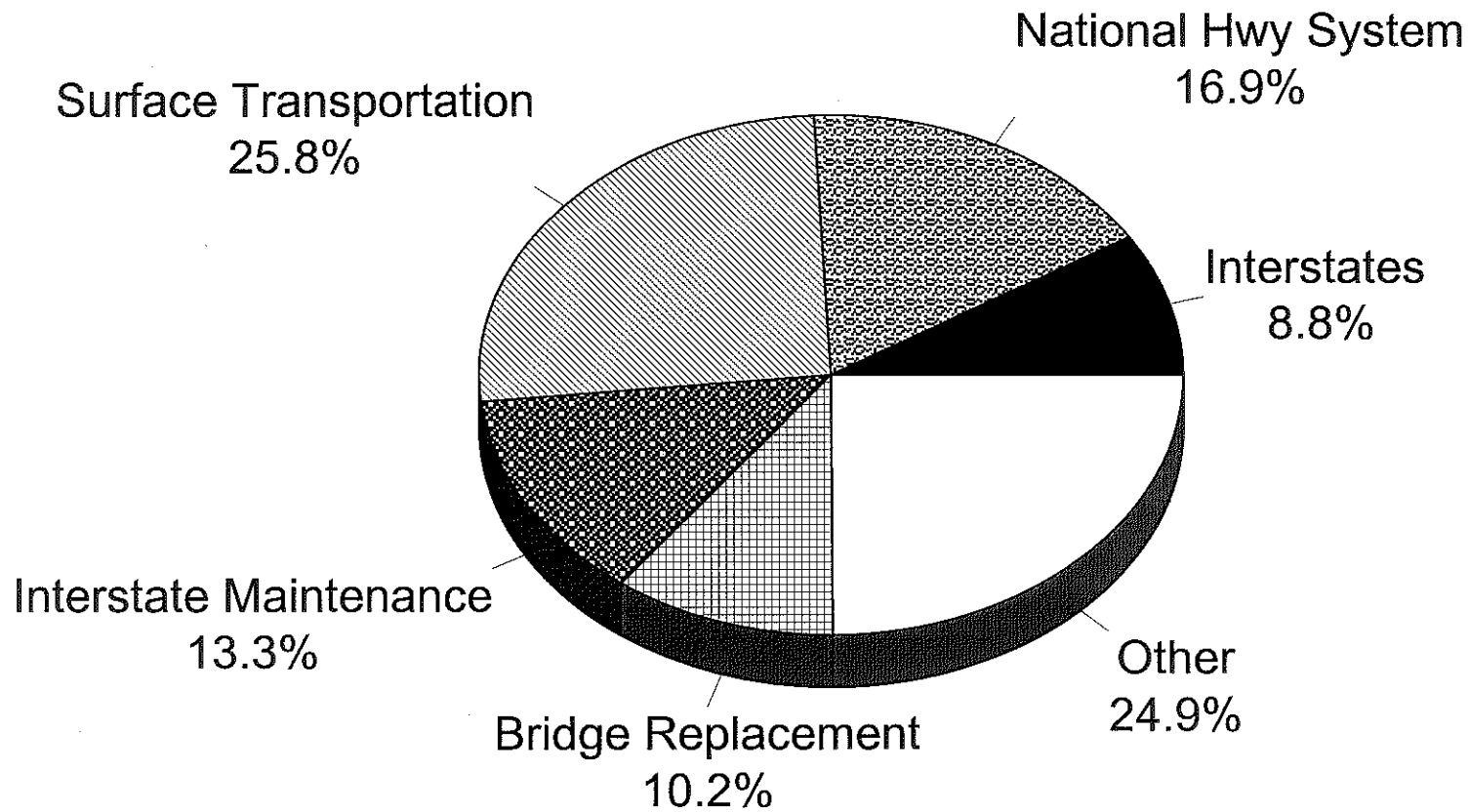
Table 3: Motor Fuel Tax Rates (Cents per Gallon)

Southern Region	Gasoline	Diesel
Alabama	18	19
Arkansas	18.7	18.7
Delaware	23	22
Florida	12.3	23.9
Georgia	7.5	7.5
Kentucky	16.4	13.4
Louisiana	20	20
Maryland	23.5	24.25
Mississippi	18.4	18.4
North Carolina	21.7	21.7
Oklahoma	17	14
South Carolina	16	16
Tennessee	20	17
Texas	20	20
Virginia	17.5	16
West Virginia	25.35	25.35
Average	18.46	18.58
Median	18.55	18.85

Source: FHWA Highway Taxes & Fees and How they are Collected and Distributed. Table MF-121T (1995)

Figure 1: State Disbursements of Federal-Aid by Function

FY 1994



Source: FHA Highway Statistics 1994. Table FA-4B pg IV-27

All of the fifty states levy a tax on diesel, gasoline, or other fuels sources. The tax on motor fuels levied by states in the southern region are shown in the following table. The average tax on gasoline is 18.46 cents per gallon for the southern region. The average tax on diesel fuel is 18.58 cents for the southern region. Both the gasoline and diesel tax rates levied in Kentucky are below the average of the southern states. It should be noted that portion of the gasoline and diesel fuel tax retained for the road fund is respectively 15 and 12 cents. The remaining 1.4 cents is deposited into the Petroleum Storage Tank Environmental Assurance Fund.

The Commonwealth of Kentucky operates a road fund for the purpose of maintaining and building state roads. The composition of the Kentucky road fund in fiscal year 1994 is shown in Figure 2. The two major revenue sources are the motor fuels tax, comprising nearly 34 percent of the road fund, and vehicle licensing and registration, generating almost 36 percent of the road fund revenues in fiscal year 1994. Federal grants comprise about 18 percent of the Kentucky road fund. Other sources of road fund revenues are the vehicle usage tax, weight-distance tax, and other miscellaneous fees.

Kentucky invests a significant amount of resources for highways. The total investment by Kentucky in 1994 was \$1,092 million. Figure 3 shows the breakdown of the total spending by percentages in the major expenditure categories. The majority of the disbursements for highways administered by Kentucky are for capital outlays. Maintenance comprises about 16 percent of the disbursements for state administered highways. Other categories of spending are administration, law enforcement, interest, and bond retirement.

Economic Models Of Tax Evasion

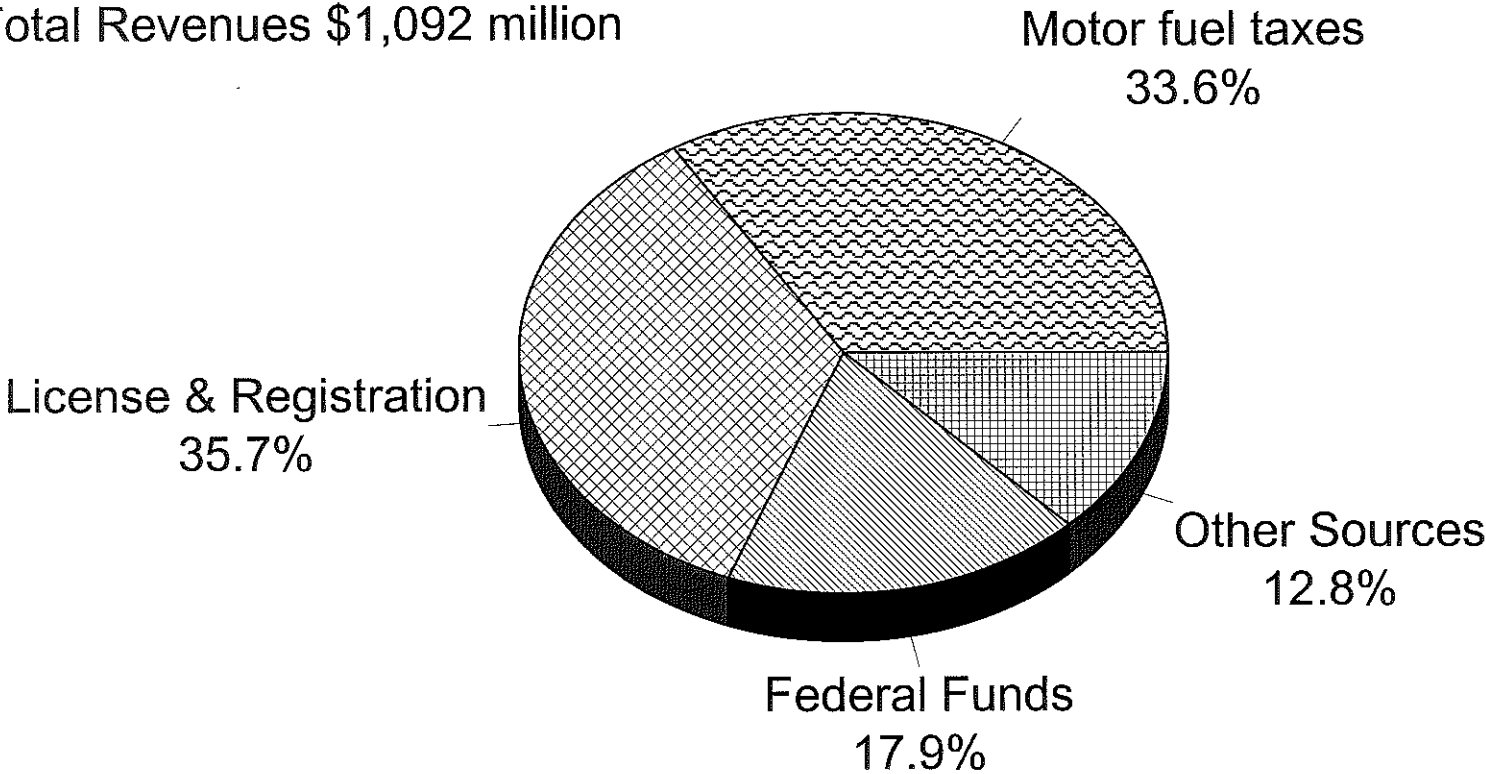
Economists have long endeavored to estimate and understand tax evasion. Most of the discussion of tax evasion has focused on income taxes. Nevertheless, some of the generalizations from the study of income taxes still apply to evasion of road fund revenues. The foundation of an analysis of tax evasion lies in the relationship of marginal benefits (i.e. tax saving) and the marginal costs (penalties adjusted for the probability of getting caught). Nonetheless, a strict marginal cost and benefits model does escape some important considerations such as the following four points⁷:

⁷ Rosen, Harvey S. Public Finance, Third Edition. Irwin: Boston MA. p 353-357

Figure 2: Revenues of Kentucky Road Fund

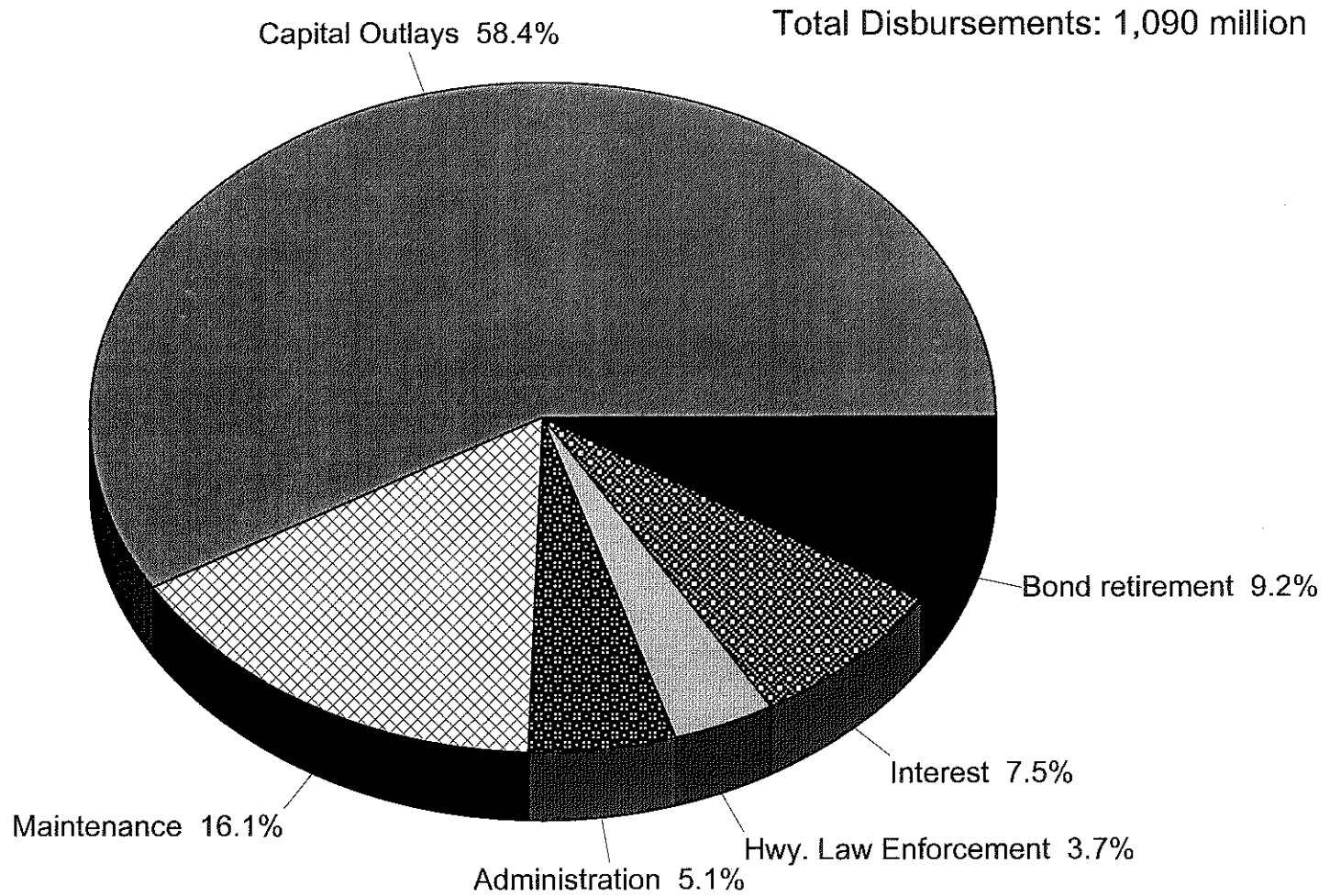
FY 1992

Total Revenues \$1,092 million



Source: 1994 State Highway Funding Methods, September 1994 pg. 11.

Figure 3: Kentucky Disbursements for State-Administered Highways. FY 1994



Source: Highway Statistics Table SF-3 pg IV-63Capti

- **Psychic costs of cheating.** Costs imposed from the moral conscious of the individual dictated by personal belief of right and wrong.
- **Risk aversion behavior.** Tendency to favor a known outcome over an uncertain outcome with the same expected value or payoff.
- **Influence of tax rates on choice.** The incentive to evade taxes increases as income tax rates increase. In the income market, some citizens seek employment opportunities compensated through cash payments because cash compensation is difficult for the IRS to track, and is potentially easier to escape taxation. Similarly, as tax rates on motor fuels increase, alternative fuels are more attractive because they are taxed at lower rates or are more difficult for authorities to enforce tax collection.
- **Probabilities of audit.** The probability of a citizen being audited varies depending on the magnitude of tax dollars evaded. A person may evade small amounts of taxes because the probability of getting caught is small. However, the same person might choose not to evade substantial tax amounts if it increases the probability of being audited.

These characteristics make evasion difficult to estimate by purely objective analyses. Therefore other, more subjective, measures of evasion must be used. However, multiple estimates of evasion by different measures fall into a range that give us some indication of the actual amount of evasion occurring.

Perceptions Of Motor Fuels Tax Evasion

How serious is tax evasion of state motor fuels taxes? The CSG/KTC survey asked state administrators in the southern states to indicate (on a scale from 1 to 5) their perception of the severity of the motor fuel tax evasion problem in their state. Defining 1 to be *not a problem* and 5 as a *serious problem*, the responses of the motor fuel tax administrators are shown in the Figure 4. This chart demonstrates that evasion of fuels tax is perceived as an "average" problem for most states. This response is consistent with the national average also represented in the chart. The evasion of diesel fuel taxes is perceived as more severe relative to evasion of the gasoline tax. One reason for the perceived increased severity of diesel evasion is that diesel fuel is vulnerable to greater abuse of tax exempt laws granted to fuel used in heating purposes.

In the same survey, state fuel tax administrators were asked to estimate the increase of motor fuel revenues if evasion of the fuel tax were completely eliminated. The responses to this question vary from a minimum of 1/2 percent to a maximum of 20 percent for an estimated increase in gasoline tax revenues for the southern states. The corresponding numbers for estimated diesel fuel revenues-increases range from a minimum of 2 percent to a maximum of 35 percent. The average increase for gasoline tax revenues is 4.64 percent and 10.05 percent for diesel tax revenues. These average estimated increases in tax revenue are very close to the national average as illustrated in Figure 5.

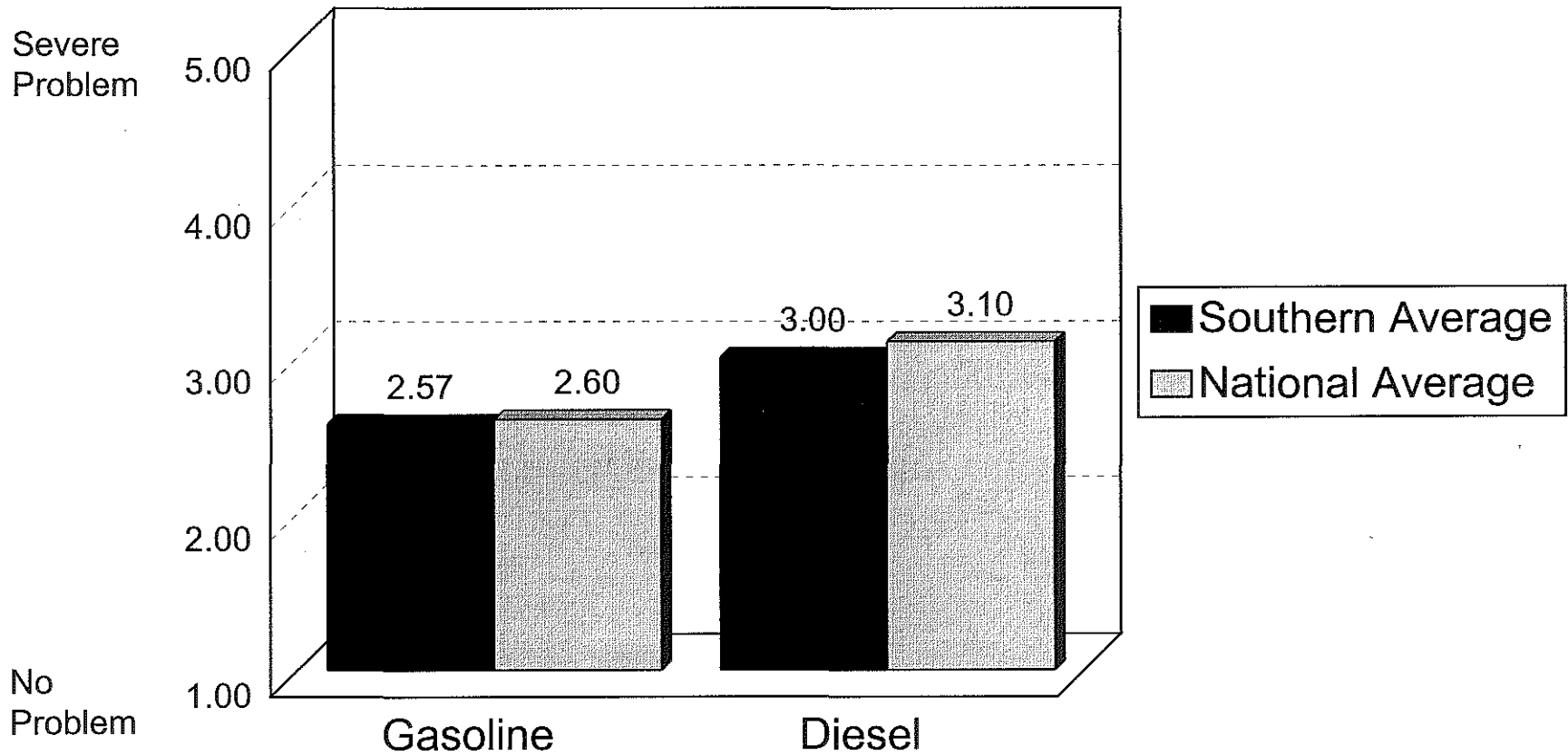
A small estimated percentage increase in revenues can be substantial for a state with a large tax revenue collections. In fiscal year 1994, Kentucky motor fuel tax revenues were \$367,415,000. Applying the minimum and maximum estimated revenue increase obtained through the survey the increase in revenues would range from \$1,837,000 to \$128,595,000. Another estimation of road fund evasion is calculated by multiplying the gasoline and diesel fuel tax collections by the respective average evasion loss percentages reported in the preceding paragraph. These evasion estimates are reported later in this chapter in Table 7.

Evasion Of Road Fund Taxes

Several high profile cases during the 1980s focused attention on the enforcement of the motor fuels tax. This section identifies some of the common methods that evaders use to escape road fund taxes. Previously, this report discussed the variety of revenues earmarked to the road fund. The methods of evasion are just as diverse as the revenue sources. The motivation to evade taxes is different for each kind of tax. Generally, vehicle licensing and registration fees are evaded by individuals wishing to "save" a few dollars, while schemes to evade the motor fuel taxes are often operated by organized crime because it involves multiple participants in the scheme. Fuel tax evasion is motivated by a large profit potential. For example, a gasoline vendor can increase the profit margin by almost 35 cents per gallon if the vendor successfully evades the Kentucky and federal fuels tax⁸. However, in most cases a vendor must persuade several others to participate in the scheme if the evasion is to go undetected by enforcement officials.

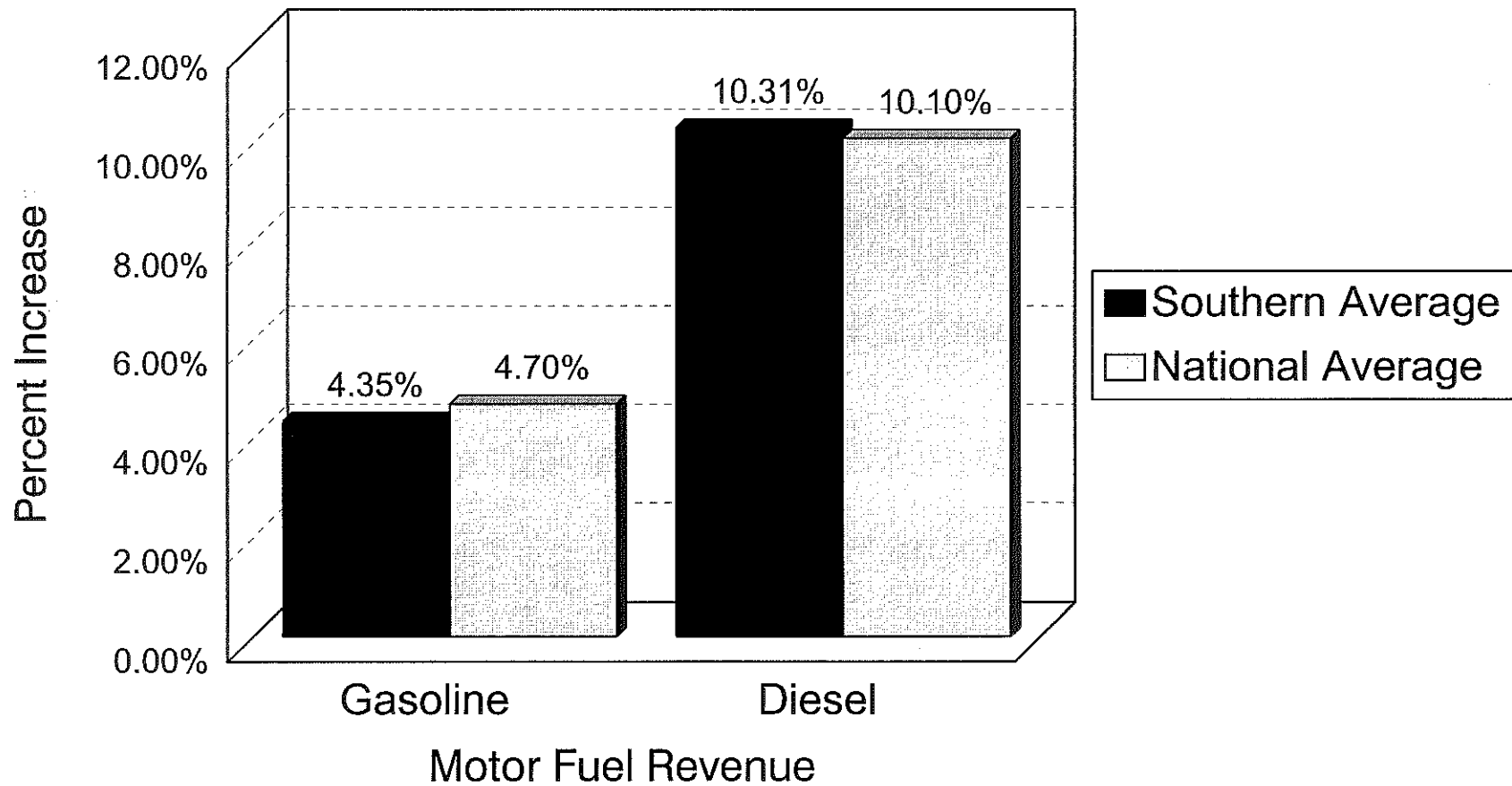
⁸ Based on KY tax rate of 16.4 cents and federal tax rate 18.4 cents effective 1993.

Figure 4: Average Perceived Severity of Fuel Tax Evasion In the Southern Region



Source: CSG\ KTC Survey on Motor Fuels

Figure 5: Average Anticipated Revenue Increase if Motor Fuels Tax Evasion Were Eliminated



Source: CSG\ KTC Survey on Motor Fuels

The methods of evading the road fund taxes can be categorized into four basic groups. These groups are listed in the table below.

Table 4: Evasion Categories Of Road Fund Taxes		
	Motor Fuels Tax	Vehicle Licensing & Registration
Failure to file information	Failure to report the sale or exchange of motor fuels to government authorities so tax is never assessed.	Failure to complete or apply for required licenses and permits before operating a vehicle.
Filing of false information	Falsification or misrepresentation of information influencing the amount of tax assessments paid.	Falsification of vehicle value by underreporting value or vehicle attributes. This alters the amount of fees charged.
Filing false exemptions	Representing taxed activities as non taxed activities resulting in a reduction of taxes payable.	Not applicable. States rarely exempt licensing and registrations fees
Failure to pay assessed taxes	Refusal to pay the tax levied on the reported sale of motor fuels.	Refusal to pay the registration fees for a vehicle.

Within each of these categories, specific methods of evasion have emerged. Some types of evasion methods are nearing extinction due to changing administrative policy or legal statute. Still, other evasion types are harder to successfully combat and eliminate. Without a doubt, evasion methods continue to evolve in efforts to outpace enforcement improvements. The next section delves further into several of the specific methods of evasion that have been identified by enforcement officials.

Methods Of Road Fund Evasion.

This section identifies some of the most common evasion methods discovered in the last decade as discussed in the report produced by the Federal Highway Administration. (Fuel Tax Evasion, June 1, 1992 US Department of Transportation, Federal Highway Administration)

One of the most potential threats to the collection of motor fuel taxes is the filing of false information. During the mid 1980s, it was discovered that dummy corporations were being established to create lengthy paper trails that postponed the detection of evaded taxes long enough for those involved to steal substantial tax revenue and escape. These evasion schemes became known as daisy chains. The premise of the daisy chain is to create a dummy corporation that creates a complex trail of paperwork that appears to document remitted motor fuels tax payments. The lengthy trail of documentation makes it difficult to discover the origin of the missing collections. By the time the fraudulent tax invoices are discovered by auditors, the evaders have fled and the company no longer exists. This type of evasion is particularly damaging because the criminals, if successful, often evade both the federal and state fuel tax.

Some other evasion methods involving false information are less innovative but can still siphon away substantial state tax revenues. These methods involve reporting inaccurate prices, sales, and use of fuel. To escape detection, the vendor might tamper with meter readings or create fictitious paperwork.

Illegal blending of motor fuels is another popular evasion scheme. Blending occurs where there are tax exemptions granted to special blends of fuel such as gasohol or fuels with special additives. The additives are usually expensive and the vendor might dilute the blend and still file for tax exemptions. In the case of gasohol, the fuel must be 10 percent alcohol to qualify for the generous tax exemptions granted to gasohol. Since the alcohol used to mix gasohol is expensive, the financial incentive is for the evader to blend less than 10 percent alcohol yet sell it as gasohol and apply for tax credit.

A potentially dangerous method of evasion occurs when hazardous or combustible waste products are mixed with fuels. This technique is called "cocktailing". Cocktailing occurs after taxes are assessed on the motor fuel. Taxes are levied and paid on a volume of fuel, after which the fuel is diluted by combustible waste products to increase the volume that can be sold to the consumer. The taxes collected in excess of the taxes paid on the original volume are pocketed.

Cocktailing reduces tax collections but also poses a serious threat to consumers and the environment.

Bootlegging is a common method of evading excise taxes on commodities such as cigarettes, alcohol, and motor fuels. Bootlegging of the motor fuels occurs when there are tax differentials among states or jurisdictions. Motor fuel is purchased in a low tax state and smuggled into a high tax state where it is sold at the high tax price. The profit margin of the evasion scheme is the spread between the states' tax rates. Taxes are generally paid to the state with a low excise tax, but the taxes charged to the consumer are equivalent to the high tax rate applicable to the state where the fuel is sold. Bootlegging occurs most often along bordering states or jurisdictions with high tax differentials. Bootlegging is a potential threat to state fuel tax collections, but bootleggers are less successful in evading the federal excise tax that is collected before the fuel ships from the refinery.

The last method of motor fuel tax evasion discussed in this report occurs at the consumer level. Individuals may under report gallons consumed, or they might use fuel designated for non taxed purposes for a taxed purpose. On a case by case basis, the evasion of this type might appear minimal in comparison to other evasion schemes. However, in the aggregate, the total loss of state and federal dollars warrants attention.

Common Evasion Schemes In The Southern Region.

The CSG/ KTC study asked the administrators of the motor fuels tax in the southern region to rank the prevalence of these common evasion methods of gasoline fuels. Of the sixteen states included in the southern region, respondents from fourteen of these states returned surveys (see Appendices A & B). Unfortunately, the questions regarding common evasion methods were answered by only eleven respondents.

Bootlegging across state lines was cited as the number one method of evasion of state gasoline revenues [seven of the eleven respondents to this question]. The seven respondents ranking bootlegging as the primary source of revenue lost are Delaware, Louisiana, Maryland, North Carolina, Tennessee, Virginia, and West Virginia.

Blending was the second highest ranked evasion method by respondents in the southern region. Blending was the number one method of evasion of the gasoline tax in Alabama,

Kentucky, and Texas. Alabama and Kentucky are low fuel tax states so bootlegging logically would be a less severe problem relative to the other states in the south. Texas is large enough geographically that bootlegging should have a less significant impact on total fuel revenues. The lower ranked methods of evasion of gasoline taxes are failure to file and abuse of tax exempt laws. Cocktailing and daisy chains are the lowest ranked methods of gasoline evasion in the southern region.

The administrators of the motor fuels tax from the southern states were also asked to rank the prevalence of common methods of diesel tax evasion. Abuse of tax exempt use laws is the most prominent evasion method among the southern states. Seven of the eleven respondents to this question ranked abuse of tax exempt use laws as the number one method of evading diesel fuels taxes. The four states not ranking the abuse of tax exempt laws as the primary method of evading diesel taxes are Kentucky, Louisiana, North Carolina, and Texas. The second ranked method of evasion of diesel fuels is bootlegging across state lines. Seven of the eleven respondents ranked bootlegging as the second common source of evasion loss. In addition, bootlegging was the number one ranking for Louisiana and North Carolina. Failure to file was ranked third by six of the eleven responding southern states in explaining lost revenue. There is no emerging rank of severity for the remaining evasion methods: blending, daisy chains, and cocktailing. However, blending was ranked as the number one method of evading diesel fuels tax revenues by two states: Kentucky and Texas.

Studies On The Severity Of Fuel Tax Evasion

Motor fuels tax evasion was not perceived as a substantial problem until the 1980s. As a result, most literature addressing fuel tax evasion has emerged in the last ten years. The existing literature can be divided into three major categories:

- Theoretical discussions and academic research of tax evasion
- Federal studies and empirical estimations of motor fuels tax evasion
- State initiated assessments of the severity of fuel tax evasion

Some of the literature in these categories will be reviewed in the following paragraphs.

Researchers debate in the literature over the most appropriate methods for estimating fuel tax evasion. This lack of consensus can be attributed to four characteristics of the fuel tax evasion problem.

- Complex behavior associated with tax evasion is difficult to statistically model.
- Reported data on evasion losses is often the product of confidential negotiations among evaders and tax administrators and may understate the severity of the evasion problem.
- Dollar losses from illegal activities like tax evasion are only reported when discovered.
- Some tax evasion methods remain undetected by enforcement officials.

Empirical models use known relationships among variables to estimate the value of unknown evasion losses. Nonetheless, the characteristics of fuel tax evasion listed above make it difficult to identify flawless models. Data accuracy and availability are potential problems in modeling tax evasion. Furthermore, the complex behavior of tax evasion conceals the important determinants of fuel tax evasion loss. Reasonable empirical estimations of tax evasion are difficult to develop unless simplifying assumptions are presumed. Debate in the literature centers on the validity of such underlying assumptions.

Elffers, Robben, and Hessing identify the three frequently used methods for estimating tax evasion activity. These methods are 1) self reports, 2) tax administrator classifications, and 3) controlled experiments. The first method utilizes surveys to obtain information regarding an individual's evasion activities. Self disclosure of illegal activities like evasion is misrepresented, and thus these surveys underestimate the amount of evasion activity. Tax administrator classifications rely on administrators' perceptions of tax evasion based on official reports, number of audits, number of convictions, etc. to estimate the amount of evasion activity. Finally, controlled experiments require participants to complete a simulation of decision scenarios designed to detect one's propensity to evade taxes and the conditions under which one evades taxes. Controlled experiments have been applied most frequently in detecting personal income or business income tax evasion.

Empirical estimates of revenues lost through tax evasion might utilize the information from three sources: generated data, indirect data, or official file data. Generated data are obtained by employing surveys or controlled experiments. Estimates based on indirect data make assumptions on the discrepancies in estimates of gross domestic product, labor-market participation, or other economic data available to the public. Basically, some or all the

discrepancies in these reported numbers are attributed to tax evasion. Official file data are obtained from the agency responsible for enforcement of the tax and provide details about individual tax files. This information can be summarized and aggregated to estimate the total revenues lost to tax evasion. Estimates based on official file data are rare because the confidentiality associated with individual file records. (Webley, et al.)

Federal Estimates Of Evasion

In the wake of the high profile fuel tax frauds of the 1980s, Congress passed legislation (ISTEA) that required the Federal Highway Administration to assess the severity of the motor fuel tax evasion. The results of this study are reported in the "Fuel Tax Evasion and the Joint Federal/State Motor Fuel Tax Compliance Project" FHWA-PL-92-028, U.S. Department of Transportation, June 1, 1992. The following table shows the evasion estimates resulting from this study. The evasion of gasoline tax is believed to be between three and seven percent of gallons consumed. The range for diesel fuel tax evasion is more severe affecting between 15 and 25 percent of gallons consumed.

Table 5: Federal Highway Administration Ranges of Estimated Motor Fuel Tax Evasion				
Gasoline fuel - 110.2 billion gallons in 1990				
Percent Evaded	Gallons Evaded (Thousands)	Federal Tax Loss (Dollars) 14.1 cents / gal.	State Tax Loss (Dollars) 15.4 cents / gal.	Total Combined Loss (Dollars)
3*	3,305,525	446,078,955	509,050,773	975,129,728
5	5,509,208	776,798,258	848,417,955	1,625,216,213
7	7,712,891	1,087,517,561	1,187,785,137	2,275,302,698
Diesel Fuel - 21.4 billion gallons in 1990				
Percent Evaded	Gallons Evaded (Thousands)	Federal Tax Loss (Dollars) 20.1 cents / gal.	State Tax Loss (Dollars) 16.0 cents / gal.	Total Combined Loss (Dollars)
15	3,209,836	645,176,956	513,573,696	1,158,750,652
20*	4,279,781	860,235,941	684,764,928	1,545,000,869
25	5,349,726	1,075,294,926	855,956,160	1,931,251,086
Total *		1,326,000,000	1,193,815,701	2,520,130,596
*Based on best estimate				
Source: "Fuel Tax Evasion and the Joint Federal/State Motor Fuel Tax Compliance Project" FHWA-PE-92-028, U.S. Department of Transportation, June 1 1992. pg. 20				

The Joint Federal/ State Motor Fuel Tax Compliance Project (Joint Project)⁹ publishes a fuel tax evasion report semiannually on the implementation of the ISTEA legislation. These reports contain evaluations and recommendations for reducing evasion of the motor fuels tax. Some of these reports are discussed in greater detail in chapter three or other sections of this document. The Joint Project also publishes a quarterly newsletter that reports fuel tax enforcement activities, regional task force activities, and changes in state fuel tax administration.

State Initiated Assessments Of The Severity Of Fuel Tax Evasion

The discovery of costly tax fraud schemes in the 1980s also focused the attention of state officials on the potential revenues lost through fuel tax evasion. Many states commissioned studies to estimate the value of revenues lost to evasion. Two of the most well known studies addressing fuel tax evasion are from New Jersey and Virginia.

⁹ The Joint Federal/ State Motor Fuel Tax Compliance Project is discussed in further detail in chapter three of this report.

New Jersey Motor Fuel Tax Evasion Report

In 1992, New Jersey officials commissioned a report on fuel tax evasion within their state. The study summarizes the testimony of experts in motor fuel tax enforcement. This study reported fuel tax evasion results in a \$40 million annual loss to the state (p 1). In addition, the report presents the opinion of experts in answering several questions regarding tax evasion of motor fuels:

- What are the methods of tax evasion?
- What is the incentive for those who evade fuel taxes?
- What is the effect of tax evaders on legitimate merchants?
- How can the laws be changed to reduce fuel tax evasion?

The expert opinions discuss some of the more popular strategies for evading motor fuel tax evasion. These strategies are similar to strategies identified in a preceding section of this chapter. However, the report was completed after several successful investigations that exposed dummy corporations concealing tax fraud so the major focus of the discussion is on "daisy chains."

These experts purport that money is the incentive to evade taxes. At the time of the report, as much as 37.6 cents per gallon of diesel could potentially be evaded. The evaded taxes contribute to profits and quickly accumulate to thousands of dollars. The adverse effects of evasion are felt by the legitimate fuel retailers when fuel evaders undercut the price of legitimate retailers. This puts pressure on the legitimate retailers to purchase fuels from dishonest suppliers at a lower wholesale cost (pp. 9-11).

The New Jersey report discusses several possible solutions to the fuel tax evasion problem. The New Jersey Fuel Tax Evasion report suggested the following points to reduce evasion of the fuels tax:

- Register users and sellers of fuel.
- Enhance the tracking of No. 2 fuel (diesel).
- Collect fuel taxes at first sale at the terminal
- Increase penalties for civil and criminal tax fraud.

Virginia Tax Evasion Report

The Virginia study undertakes a systematic analysis of the motor fuels tax administration in Virginia to reduce potential evasion. The study focuses on the following key points:

- the point of taxation on fuel sales,
- the need to simplify the present exemption/refund system for tax exempt sales, and
- the appropriate scheduling for remitting fuel tax payments to the state.

The popularity of the Virginia study is in part due to a infamous sting operation, prompting the study, that shut down seven truck stops and confiscated several trucks.

Council Of State Governments Study

The Council of State Governments in association with CGPA initiated a general investigation of motor fuels tax evasion from the states' perspective. The study utilized survey responses from state motor fuel administrators and empirical models to estimate the aggregate state revenues lost in 1993 due to evasion of motor fuels taxes.

The survey component of the study was comprised of three surveys. One survey broadly addressed evasion of the major revenue sources for states. The other two surveys addressed evasion of motor fuels taxes and vehicle registration in considerable detail. The survey on motor fuels tax evasion was sponsored in cooperation with the Kentucky Transportation Center and many findings are presented in other sections of this report. Therefore, only the dollar estimations of state revenue lost through evasion will be discussed here. The survey estimate is based on the perceptions of the motor fuels tax administrators. By applying these perceptions to the state collections of motor fuels, the aggregate loss of state revenue is estimated to be \$1.2 billion.

Method of Calculation	Dollars
CSG Survey Estimate	1.2 billion
CSG Statistical Model	952 million
Source: Motor Fuel Tax Evasion: A State Perspective, CSG/CGPA, draft pg 58, 1996.	

The empirical component of the CSG report derives econometric models that predict the volume of fuel consumed within each state. This estimation is compared to the sum of the taxed

and non-taxed gallons of fuel for each state. The difference between the estimated and reported consumption of fuel is considered evasion. Several models were considered to estimate the true "consumption" of fuel, and each model predicted similar levels of evasion. The models for estimating the aggregate state fuel tax evasion loss is described in considerable detail in Appendix B in the CSG report. Basically the study consisted of three models to assess the actual gallons of fuel consumed in each state. Method 1 used gallons of fuel per resident as the predictor variable. Method 2 used gallons of fuel per driver, and finally, method 3 used gallons of fuel per vehicle to determine "expected" gallons of consumption. The volume of gallons evaded was converted to dollars of state revenue lost. The average of all the model estimates of evasion is reported in the table above in terms of state revenue lost.

The CSG estimate of 952 million dollars is a reasonable estimate of the aggregate state evasion loss and is consistent with federal estimates. However, the regression models were estimated using cross-sectional data from all fifty states and may provide biased estimates for the state of Kentucky. Therefore, it is important that Kentucky derive its own econometric models that incorporate the unique characteristics of the Commonwealth.

Estimates Of Motor Fuels Tax Evasion In Kentucky

Estimates of road fund evasion from a variety of sources suggest that aggregated state revenue losses from gasoline and diesel fuel tax evasion are in excess of \$1 billion per year. The CSG/KTC survey on motor fuels tax evasion asked respondents how much fuel tax collection would increase if evasion were completely eliminated. The survey estimates reported in Table 7 are calculated by multiplying the base collections by the percent increase obtained through the survey. Estimates of evasion loss derived by this method range from \$14 to \$20 million.

Table 7: Estimates of Motor Fuels Tax Evasion in Kentucky				
FY 1993 (Thousands of Dollars)				
Survey Estimates	Tax Collections Fy 1993	*Estimate Based On Average Perception In Southern Region	**Estimate Based On Perception Of Kentucky Respondent	Average Of Two Estimates
Diesel Fuel	73,815	7,610	5,905	6,758
Gasoline Fuel	279,242	12,147	8,377	10,262
Total	353,057	19,757	14,282	17,020
* 10.31 % and 4.35 % increase respectively for diesel and gasoline tax revenues [Figure 5]				
** 8 % and 3 % increase respectively for diesel and gasoline tax revenues				
Sources: Kentucky Revenue Cabinet and CSG/KTC Survey on Motor Fuel Tax Evasion 1995.				

Chapter Two Summary

This chapter began by asking the question "Is motor fuels tax evasion a problem?" This chapter answers this question in the affirmative by providing evidence from survey responses from other states in the southern region. Some of the major evasion methods are discussed. Affirmative evidence is also suggested in studies from other states and organizations. Finally, this chapter provides estimates of the magnitude of evasion occurring in Kentucky. If measures can be developed to constrain or reduce evasion, the state would have additional revenues to use in more effectively maintaining and enhancing the present transportation system of Kentucky. The next chapter addresses efforts of states in the southern region to deal with the evasion problem.

Chapter Three

Efforts to Deal with Evasion

Chapter two reported that evasion of the motor fuels taxes could result in losses up to 20 million dollars in Kentucky Road fund Revenues. This chapter discusses some of the initiatives and innovations to enhance enforcement of the motor fuels tax. If measures can be developed to constrain or reduce fuel tax evasion, Kentucky would have substantial new revenues to aid in effectively maintaining the present transportation system of the Commonwealth or for investing in new systems throughout the state.

Tax evasion is a concern for both state and federal governments because the motor fuels taxes are levied by both governments. Some of the challenges faced by state enforcement officials are different from the challenges the federal officials face in detecting tax evasion. However, because those successful at evading the motor fuels tax often elude both state and federal tax levies, state and federal officials are coordinating to eliminate tax evasion. As a result, state and federal agencies have now implemented formal cooperative enforcement programs designed to detect evasion of motor fuels taxes. This chapter discusses the efforts by governments to reduce the evasion problem. These efforts are addressed from three perspectives:

- Federal Initiatives
- State and Federal Coordination
- Southern Region Initiatives and Innovations

Federal Initiatives

The states have benefited from the federal investigations of motor fuel tax evasion. For example, in September of 1995, an Armenian-Russian organized crime ring was exposed in Los Angeles, CA. The arrests were the result of two years of undercover investigations by the IRS and FBI. The scams involved millions of tax dollars revenues. Some of the recovered dollars were state revenues. In this same year, federal investigations exposed an elaborate scheme which defrauded over 140 million dollars in federal and New Jersey tax revenues. (Fuel Tax Evasion Highlights)

The previous chapter discussed some of the revenues earmarked to the Federal Highway Trust. While the focus of this report is on the state perspective, the federal initiatives to reduce

the evasion of the federal motor fuels tax are useful in addressing some issues of evasion of state revenues. This section on federal initiatives is comprised of two components: 1) the background on Federal involvement in motor fuels enforcement and 2) the major evasion reduction programs implemented by the federal government.

Background Of Federal Involvement In Motor Fuels Enforcement.

It is mentioned earlier in this report that the Federal government began to take notice of the motor fuels tax evasion problem in the mid 1980s when the media exposed motor fuel tax fraud. The Intermodal Surface Transportation Efficiency Act (ISTEA) is arguably the most important federal legislation in reaction to the problem of motor fuels tax evasion.

ISTEA established regional control of transportation systems throughout the nation in an effort to increase the compatibility of transportation modes. ISTEA provided a sweeping overhaul of funding and oversight of the nations roads. This legislation also influenced broad transportation issues regarding railroads, airways, waterways, and recreation trails. The passage of the National Highway System Designation Act of 1995 changes some of the funding requirements, mandates, and regional management provisions of ISTEA but has little direct effect on the section on motor fuel taxes¹⁰.

Section 1040 of ISTEA deals specifically with issues of motor fuels taxes. ISTEA provided funding for federal studies and to the states for the purpose of reducing evasion of motor fuel taxes. Section 1040 of ISTEA also delineates the funding restrictions for evasion reduction programs. These ISTEA funds can be used to partially finance undercover operations, criminal investigations, and information gathering activities. [Joint Project FY 1994 midyear. pg. 113]

Dyed Fuel Program

One concern in the administration of the fuel tax is the use of untaxed fuel for taxable purposes. A large portion of the motor fuels are used off the road in agricultural and construction purposes. In the United States, the tax codes exempt fuel used for off road purposes from the motor fuel taxes. Furthermore, #2 distillate used in diesel engines can also be used for heating purposes. While the fuel used for heating is non taxed, the fuel used on public roads is taxed. A

¹⁰ National Highway System Designation Act of 1995, Public Law 104-59

basic dyed fuel program requires fuel sold for untaxed purposes to be dyed with a visible chemical additive. This dyed fuel can successfully reduce evasion because enforcement officers can determine immediately if the colored fuel is used for appropriate untaxed purposes.

Many nations have dyed petroleum products used for tax exempt purposes. France, Belgium, Luxembourg, and other European nations began implementation of a dyed fuel policy in the fifties and sixties. While Canada does not have a nationwide dyed fuel policy, all of the provinces have adopted a policy of dying untaxed gasoline or fuels. Saskatchewan began dying untaxed fuel oil in 1939 (FHWA, Feasibility, Aug. 17 1993 p 23-25).

A dyed fuel is still vulnerable to fraud resulting in lost tax revenues. Some dyes used to color tax exempt fuel can be bleached or distilled to remove the dye. Once the coloring is gone, the fuel might then be used without detection for taxed purposes because the colorless fuel would pass a visual inspection. Therefore, careful selection of the dyes used to color the untaxed fuel is critical to success. In a related technique, a chemical "marker" is added to the fuel that is resistant to removal attempts. Both dyes and markers are used in the United Kingdom to reduce fraud (FHWA, Feasibility, Aug. 17 1993 p 23-25).

Section 1040(e) of ISTEA legislation authorized a study to determine the feasibility and desirability of using dye and markers as a deterrent of motor fuels tax evasion. The Federal Highway Administration contracted with Volpe National Transportation Systems Center to manage the study (FHWA, Feasibility , Aug. 17 1993 p vii). The study estimated that the costs of a dyed program to be about 158 million dollars. The major costs are due to changes in wholesale storage and distribution, and expenses for enforcement. Dyed fuel must be stored and shipped separate from non colored fuel imposing costs that will be passed on to the consumer. Expenses for enforcement include equipment, laboratory, and personnel costs. The analysis concludes that tax revenue recovery of 10 to 15 percent of the FHWA estimated revenue loss¹¹ would justify the costs of implementation. (Ibid. p 68-69)

In response to the recommendations of desirability and feasibility study and the success of the Canadian provinces' dyed fuel programs, congress legislated as part of the Omnibus Budget Reconciliation Act of 1993 (OBRA) the implementation of a dyed fuel policy.

¹¹ See Table 5 in Chapter Two.

National legislation changed the administration of the motor fuel tax to aid enforcement. Beginning on April 1, 1988, the tax on motor fuels was collected by the wholesale distributor rather than the retailer. Petroleum refiners and importers could sell tax free only to wholesalers who are registered with the IRS.

In OBRA 1993, Congress moved the liability of tax collection from wholesalers to producers. This is the same legislation that mandated a federal dyed-fuel program. All sales from the refineries to unlicensed wholesalers or dealers will require payment of applicable taxes. Fuel intended for non-taxed purposes will be mixed with a dye and marker. Moving the point of tax collection reduces evasion of motor fuel taxes because enforcement officers can focus on less "taxpayers". When there are less companies submitting tax records, it is easier for the IRS to determine if the proper taxes are being reported and remitted, making it difficult to evade the fuels tax by filing false information or forming daisy chain corporations.

The OBRA legislation requires an aggressive enforcement that is a wide departure from traditional enforcement of the fuel tax in the United States. Some petroleum producers oppose the dyed fuel programs because storage costs are more expensive when the non-taxed, dyed fuel is stored separately from the other fuel. Furthermore, construction companies and other commercial users of diesel fuel must pay the tax on the fuel and then apply for a refund. As a result, heavy users of diesel fuel have experienced cash flow problems. In reaction to these concerns, Representative Jim McCrery of Louisiana proposed H.R. 1947 which would reform the changes legislated by OBRA 1993. At the time of this report, H.R. 1947 was still in the House Committee on Ways and Means.¹²

Federal Motor Fuel Tax Enforcement Activities.

The Internal Revenue Service (IRS) actively enforces the federal motor fuels tax. Table 8 exhibits the fuel tax investigation activities of the IRS from 1989 to 1993. The number of investigations of fuel tax fraud initiated by the IRS increased over 750 percent in the five year period from 1989 to 1993. Furthermore, the number of convictions of motor fuel tax fraud increased over 600 percent in the same five year period. As one would expect, the resources allocated to the investigation of motor fuel tax fraud has kept pace with the increased activities.

¹² "Miscellaneous Fuel Tax Corrections Act of 1995" H.R. 1947: Status of H.R. 1947 obtained through the Thomas server at the Library of Congress. <http://thomas.loc.gov/cgi-bin/>

It is interesting to note that the additional tax dollars assessed increased as a result from the increased enforcement activities. While the dollars of additional tax assessed nearly doubled from 1989 to 1993, the number of convictions far out paced the growth in additional tax revenue attributed to those convictions. This suggests that the tax evasion schemes in recent years are being detected before criminals are successful in evading large sums of tax revenue dollars.

Table 8: IRS Motor Fuel Tax Enforcement Activities (Criminal Investigations)

Enforcement Activity	FY 1989	FY 1990	FY 1991	FY 1992	FY 1993
Investigations Initiated	19	47	40	108	144
Convictions	6	16	16	23	37
Total Cases pending at end of FY	46	41	58	104	96
Staff years applied to motor fuel cases	27	31	45	61	81
Estimated staffing cost (millions \$)	2.23	2.56	4.32	7.19	9.81
Additional Tax Assessed (millions \$)	53.2	68.3	93.1	79.9	108.6

Source: Federal Highway Administration, Dept. of Transportation. "The Joint Federal State Motor Fuel Tax Compliance Project" Report No. FHWA-PL-95-040. p 33.

The IRS receives some funding through ISTEA for fuel tax enforcement. However, that funding is not enough to cover the additional staff required for the IRS to enforce the motor fuels tax. Therefore, ISTEA provides that the IRS contract with State programs to economize on enforcement. The next section addresses some of these federal-state partnerships formed to combat fuel tax evasion.

State And Federal Coordination To Combat Evasion

It was reported in Chapter Two that bootlegging across state lines is a serious threat to motor fuels tax revenue. One important element in reducing evasion due to bootlegging is to increase coordination among the states. Bootlegging is particularly difficult for any one state to legally and logistically control. In addition, the transfer of gasoline across states lines invokes the interstate commerce clause of the constitution requiring the federal government to be involved. As a result, two important organizations have mobilized to help the states and the national government coordinate to combat evasion. These two organizations are the Federation of Tax Administrators (FTA) and the Regional Task Forces on Motor Fuel Tax.

Federation Of Tax Administrators

The Federation of Tax Administrators evolved from the National Association of Tax Administrators. In 1987, the Motor Fuel Section of the National Association of Tax Administrators adopted an eleven-point plan to improve the uniformity among states information. Uniformity of state information assists tax administrators in tracking the flow of state exports and imports of motor fuels, and therefore it helps protect against bootlegging. Currently, the FTA section on motor fuels continues to encourage states to adopt the eleven-point plan. The eleven-point plan is listed in the following table.

Table 9: Eleven-Point Plan for Uniform Fuel Tax Administration

1. Adopt and implement the Uniform Reporting Schedules.
2. Adopt and implement the uniform definitions for imports and exports.
3. Establish a uniform numbering system of fuel tax accounts.
4. Determine the necessity for licensing of all resellers or entities who maintain tax-free inventories for ultimate resale.
5. Provide guidelines to States that want total accountability of fuels
6. Allow for magnetic tape reporting or development of uniform personal computer reporting format.
7. Establish regional workshops for auditing and investigative techniques to identify tax evasion schemes.
8. Establish regional and/or national information network among State tax administrators to identify persons, companies, or organizations involved in fuel tax evasion schemes.
9. Review confidentiality laws of the States to allow for a more efficient exchange of information.
10. Require third-party reporting of the movement of fuel.
11. Request that FTA encourage more cooperation with Federal agencies including the Internal Revenue Service, U.S. Customs Service, and Army Corps of Engineers.

Source: Fuel Tax Evasion, June 1, 1992. Report No. FHWA PL-92-028 page 51

A FTA survey in 1991 asked state tax administrators about implementation of the eleven-point program. Sixty percent of the states indicated that they had implemented or were expecting to implement the uniform report and schedules. Fifty-eight percent of the states had implemented uniform standards for export of motor fuels. Sixty-four percent of the states required motor fuels distributors moving fuel in and out of the state to report to a third party.

While the eleven-points have changed slightly over the last years, the basic premise remains focused on the improvement of coordination and sharing of information to enhance enforcement of the fuels taxes. The eleven-point plan is recognized and supported by the regional task forces that are discussed in the next section.

Regional Task Forces

The Internal Revenue Service and the Federal Highway Administration began cooperative efforts in 1986 to address evasion of motor fuels taxes. This coordination expanded to include the U.S. Department of Justice, Federation of Tax Administrators, petroleum industry organizations, state revenue agencies, and the Office of Inspector General of the U.S Department of Transportation. On July 10, 1990, FHWA funding was made available to facilitate this coordination and the Joint Federal/ State Motor Fuel Tax Compliance Project was born . The Joint Federal /State Motor Fuel Tax Compliance Project is known as the Joint Project. (Report No. FHWA-PL-94-017 pg. 1-2)

On December 18, 1991, the ISTEA legislation made funds available to promote cooperative enforcement efforts among groups of neighboring states. This funding resulted in the formation of three regional task forces lead by the states of New Jersey, Texas, and Indiana. The following year, 1992, six additional task forces were organized among the remaining regions. Each task force is headed by one state that takes the lead in the coordination efforts (Report No. FHWA-PL-95-040 p 43). The lead state receives additional funding to cover administrative costs. Some states may chose to participate in more than one regional task force if the neighboring states belong to different task forces.

States electing to join a regional task force agree to conditions of membership and are partially eligible to receive FHWA funds for enforcement of motor fuels taxes. Another eligibility requirement to receive ISTEA funds for fuel tax enforcement is that the state maintains currents funding for evasion detection. Federal funds are to supplement, not replace, previous enforcement allocations. Additional requirements are preparing a project budget and complying with intergovernmental review requirements. [FHWA Notice N. 4510.291 "Allocation of FY 1993 Funds for Highway Use Tax Evasion Projects."]

Kentucky is one of the original members of the Indiana Task Force initiated in 1991. The Indiana task force is also called Publicus. In 1994, Kentucky also selected to join the regional task force lead by North Carolina.

Southern Region Initiatives And Innovations To Reduce Evasion

Many anti-evasion strategies adopted by the federal government were discussed generally in the previous sections. This section identifies some of the specific initiatives and innovations that the southern states are doing to combat evasion of the motor fuels revenues. Auditing is a major fuel- tax enforcement activity among the states in the southern region. The types of auditing and the auditing staff employed by the states in the southern region are discussed in the following paragraphs. Then, other innovations will be presented before the chapter summary.

Fuel Tax Audits In The Southern Region.

The federal statistics on fuel tax audit activities are classified into four major categories: mathematical verification, office reconciliation, office audit, and field audit. Mathematical verification consists of verifying the various mathematical calculations in a completed tax return. Office reconciliation is concerned with congruency of information on the tax return and information from other sources. An office audit is an audit performed by a professional and occurs within the revenue agency office, using information provided by phone, mail, or other sources. Lastly, a field audit is an audit performed at the taxpayer's place of business. Office and field audits are labor intensive and comprise the majority of staff hours related to enforcement of the motor fuels tax. In addition, developments in technology have made it possible for most mathematical verification and office reconciliation to be performed by computers. (Joint Project FHWA-PL-94-017 page 22)

Ttable 10 shows the number of motor fuel tax auditors employed in each state in the southern region.

Table 10: Number of Motor Fuels Tax Auditors on Staff, 1991			
Southern Region	Office Auditors	Field Auditors	Total
Alabama	6	20	26
Arkansas	0	12	12
Delaware	3	0	3
Florida	6	40	46
Georgia	4	8	12
Kentucky	3	0	3
Louisiana	6	2	8
Maryland	9	36	45
Mississippi	3	0	3
North Carolina	0	14	14
Oklahoma	0	0	0
South Carolina	2	7	9
Tennessee	3	4	7
Texas	0	540	540
Virginia	13	13	26
West Virginia	2	50	52
Total in Southern Region	60	746	806
Source: Kentucky Revenue Cabinet and FTA 11-Point Plan Survey -- 1991 in <u>Fuel Tax Evasion</u> , Appendix 3, Report No. FHWA-PL-92-028, June 1, 1992.			

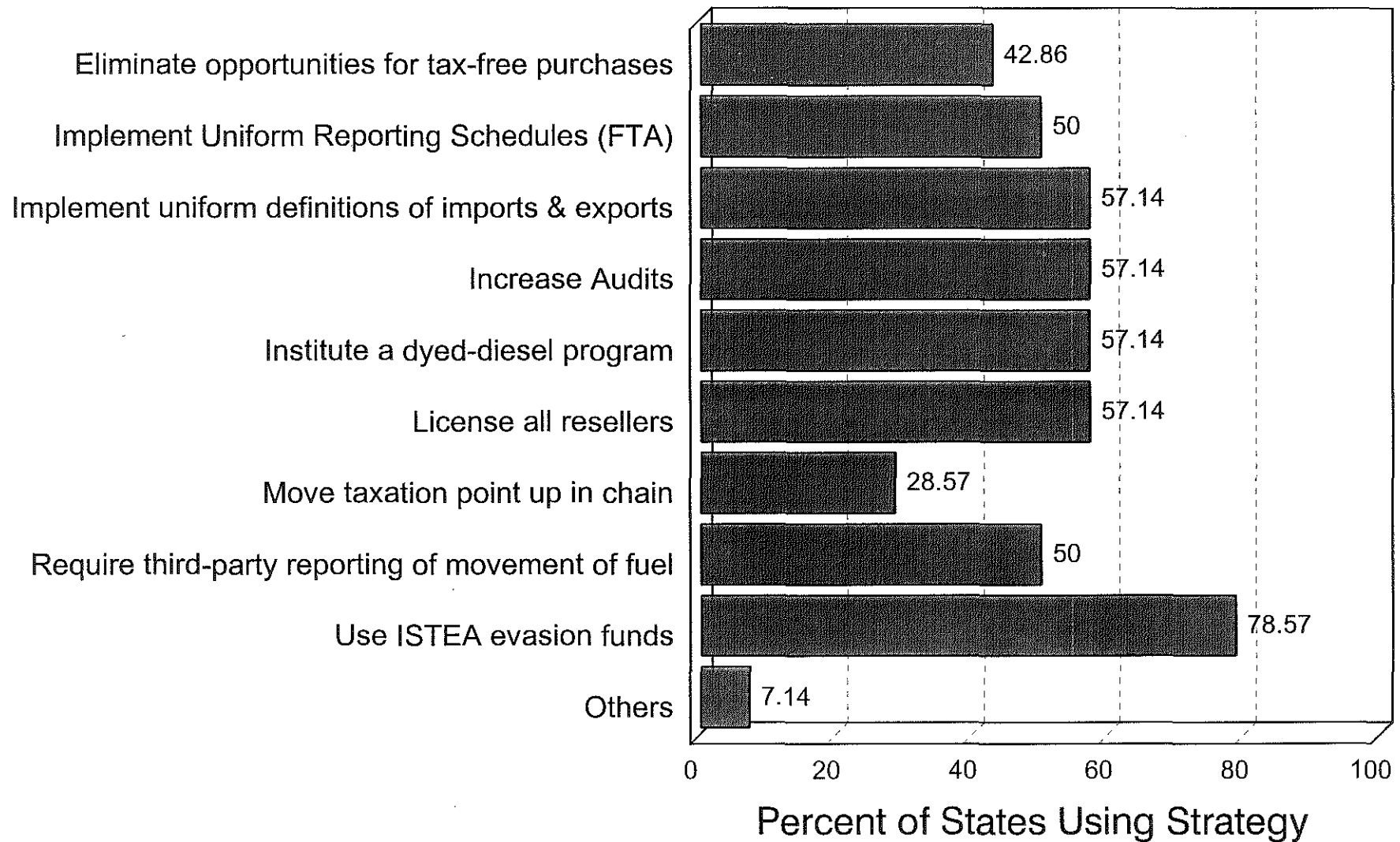
In 1991, Texas had the most auditors (540) followed by Kentucky (128). Most states employ more field auditors than office auditors. Only Delaware, Mississippi, and Oklahoma had more office auditors in 1991. Arkansas, North Carolina, Oklahoma, and Texas had no office auditors. Oklahoma is the only state in 1991 with no auditors.

Innovations To Combat Fuel Tax Evasion

States have done more than increase the number of auditors in an effort to reduce fuel tax evasion. The CSG survey asked the respondents from each state to identify some of the strategies that the states have implemented to reduce fuel tax evasion¹³. Figures 6 and 7 show the percentage of the states in the southern region that have implemented the major strategies to reduce evasion of diesel and gasoline taxes. The most common strategy to reduce both diesel and gasoline tax evasion is the use of ISTEVA evasion funds. These funds can be used for training

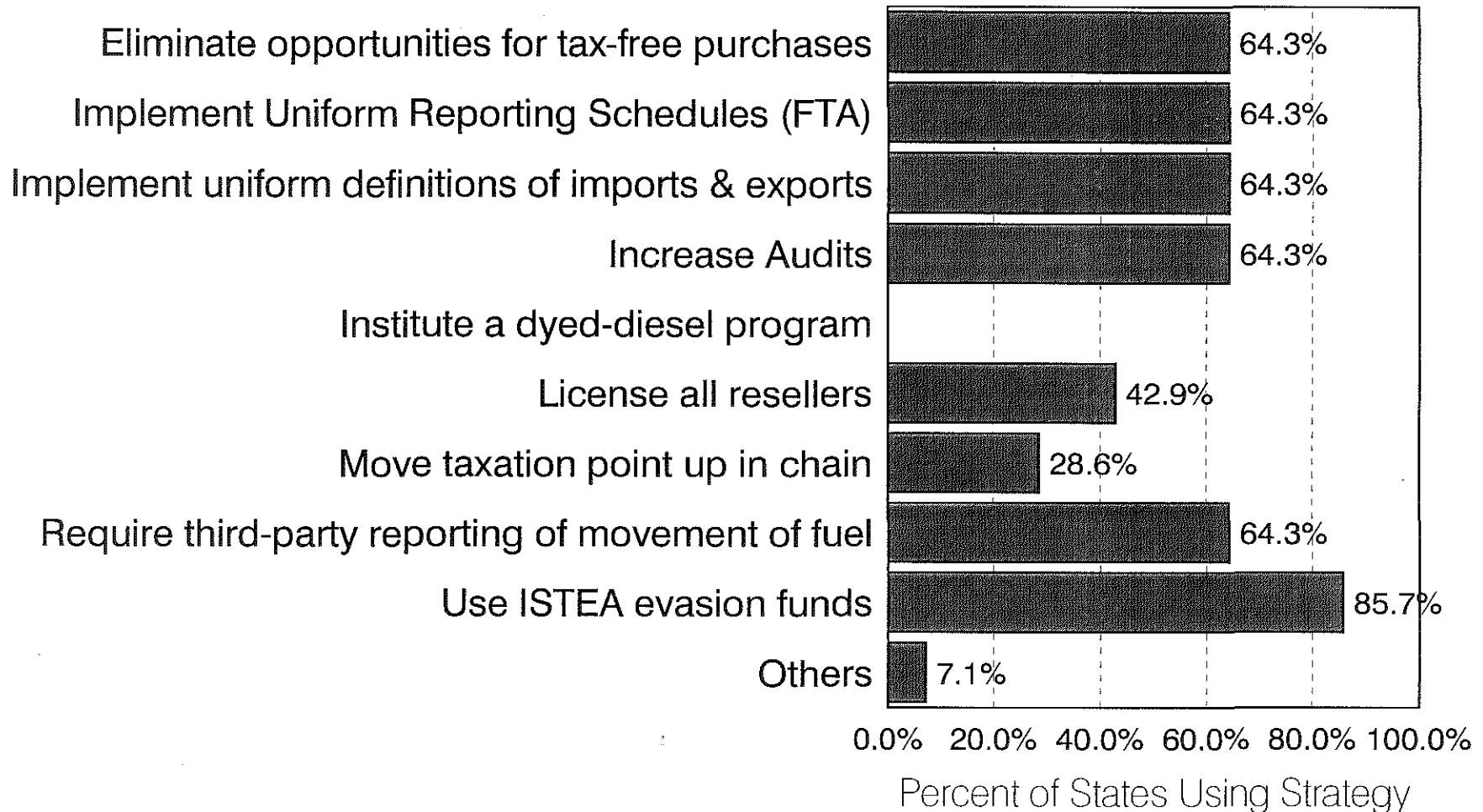
¹³ See Appendix B for description of CSG study.

Figure 6: Strategies Used by Southern States to Reduce Diesel Fuel Tax Evasion



Source: CSG\KTC Survey on Motor Fuels

Figure 7: Strategies Used by Southern States to Reduce Gasoline Tax Evasion



Source: CSG\ KTC Survey on Motor Fuels

of staff, travel, and partial enforcement costs. More than 50 percent of the southern states have implemented uniform definitions of imports and export of diesel fuels, increased the number of audits, instituted a dyed-diesel program, and licensed all resellers. Half of the southern states have implement uniform reporting schedules of diesel fuel as defined by the FTA. Also fifty percent of the states in the southern region now require third-party reporting of movement of diesel fuel.

There are four strategies in addition to ISTEAs funds that are used to reduce gasoline tax evasion and have been adopted by more than sixty percent of the states in the southern region. These strategies coincide with the same strategies implemented to alleviate diesel tax evasion with the exception of eliminating the opportunities for the non-taxed purchases of gasoline. Licensing of all resellers is not as popular in addressing gasoline tax evasion in comparison to diesel tax evasion. Licensing all resellers is more critical for number 2 distillate fuel (diesel) because so much of it is used for non-taxed purposes such as heating.

Table 11 identifies the strategies that have been implemented by the respective states in the southern region. In addition to these strategies, Louisiana, Mississippi, and Florida have revised statutes to increase penalties or make evasion more difficult. North Carolina uses unannounced "Blue Flame" inspections of fuels to detect the abuse of non-taxed fuels. The blue flame test identifies the presence of a chemical marker as discussed earlier in this chapter.

Challenges To Enforcing Motor Fuels Taxes

Traditionally, motor fuels have been the major energy source for transportation needs. However, technology and a concern for the environment have cultivated new alternative fuels. The administration of motor fuels tax is not equipped to levy taxes efficiently on many of these alternative fuels such as electricity and natural gas. The Energy Information Administration (EIA) forecasts that by the year 2010 alternative fuels will displace some 465 thousand barrels of oil per day. In addition, the EIA predicts that the use of gasoline in transportation will continue to decline because of improving overall fuel efficiency of conventional light-duty vehicles.¹⁴ These trends spell losses in road fund revenues, unless appropriate taxes can be levied on these alternative fuels and be reasonably collected.

¹⁴ Energy Information Administration, Annual Energy Outlook 1995. Internet access: http://www.eia.doe.gov/oiaf/aeo95/transp_2.html.

Table 11: Strategies Used By Southern States To Reduce Fuel Tax Evasion

Applied to Gasoline	AL	AR	DE	GA	KY	LA	MD	NC	OK	SC	TN	TX	VA	WV
Eliminate opportunities for tax-free purchases		x		x	x		x	x		x	x		x	x
Implement Uniform Reporting Schedules (FTA)		x	x	x			x	x	x	x	x		x	
Implement uniform definitions of imports & exports		x		x	x		x	x	x	x	x		x	
Increase Audits			x	x	x	x	x		x	x		x		x
Institute a dyed-diesel program	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
License all resellers					x		x			x		x	x	x
Move taxation point up in chain		x					x	x		x				
Require third-party reporting of movement of fuel	x		x	x	x		x	x		x	x		x	
Use ISTEAs evasion funds		x	x	x	x		x	x		x	x	x	x	x
Others				x						x				
Applied to Diesel	AL	AR	DE	GA	KY	LA	MD	NC	OK	SC	TN	TX	VA	WV
Eliminate opportunities for tax-free purchases		x		x			x	x		x				x
Implement Uniform Reporting Schedules (FTA)		x	x	x			x	x		x			x	
Implement uniform definitions of imports & exports		x		x	x		x	x		x	x		x	
Increase Audits			x	x	x	x	x			x		x		x
Institute a dyed-diesel program		x	x	x		x		x		x	x		x	
License all resellers					x		x	x		x	x	x	x	x
Move taxation point up in chain		x					x	x		x				
Require third-party reporting of movement of fuel				x	x		x	x		x	x		x	
Use ISTEAs evasion funds			x	x	x	x	x	x		x	x	x	x	x
Others										x				
x - State employs strategy. Florida & Mississippi Not Responding Source: CSG/KTC Survey 1995														

Computer technology can enhance fuel tax enforcement, but computer technology also creates opportunities for evasion. Some of the other challenges identified by states in the southern region were obtained through the CSG/CGPA survey sent to the principal state revenue administrator. Some of these challenges and remedies are discussed. The respondent from Louisiana expressed concerns about getting accurate information from owner-operated businesses that lack the sophisticated internal controls of larger business. To address this problem, Louisiana tax enforcement is using information provided by outside services such as sales by suppliers to verify reported sales. Kentucky has a difficult challenge in that the Commonwealth borders seven states and has numerous points of entry which hamper the tracking of fuels and payment of taxes. The current strategy to address this problem is increasing the number of auditors. Florida is vulnerable to fuel tax evasion because fuel taxes vary by county. In response, they implemented a sweeping revision of state and local fuel tax laws and increased coordination with the IRS. Alabama is training staff to conduct seminars and printing brochures that educate taxpayers about their responsibilities and the potential penalties of not meeting these obligations. Alabama also requires persons transporting fuel and persons receiving fuel to maintain a copy of the shipping documents issued at the terminal. Since, these documents identify the destination state, it is hoped to reduce bootlegging. Tennessee is evaluating auditors' salaries because some of the best auditors are leaving to go to work for other states.

Chapter Summary

This chapter has discussed some of the efforts by governments to deal with evasion. The chapter first discussed the federal involvement in reducing fuel tax evasion and focused primarily on three primary topics: ISTEAs legislation, the dyed fuel program, and IRS fuel-tax enforcement. The federal government is also coordinating with states to reduce fuel tax evasion. This coordination is formalized through two organizations, the Federation of Tax Administrators and the regional task forces established through ISTEAs funding. Next, this chapter discussed the innovations and initiatives used by states in the southern region to reduce fuel tax evasion. Lastly, a dialog on the future challenges of fuel tax enforcement and recommendations for change concluded the chapter.

Chapter Four Recommendations

The reduction of fuel tax evasion has and continues to be a common goal of revenue and tax administrators. This study considered evasion strategies and methods and provides estimates of the magnitude of the evasion problem in Kentucky and the Southern States. In addition, this study reviewed the anti-evasion strategies and methods employed by the southern states and elsewhere as a means of identifying additional evasion reduction methods which might be adopted by Kentucky to further reduce fuel tax evasion and enhance road fund revenues.

The following seven recommendations were developed from the experiences of other states in the southern region and from an analysis of federal, federal/state, and other literature underway to reduce motor fuels tax evasion.

1. Participate actively in regional task forces.
2. Implement fully the FTA eleven-point plan.
3. Assess marginal costs of additional field auditors.
4. Modify state fuel tax administration to mirror the federal system.
5. Educate public on fuel tax evasion issues.
6. Derive more specific estimates of road fund tax evasion and resulting evasion incentives in Kentucky.
7. Investigate the severity of evasion of vehicle licensing /registration, weight distance tax, and other road fund revenues.

The first two recommendations, active participation in regional task forces and full implementation of the FTA eleven-point plan, enhance coordination and information sharing among the states. This is critical for the Commonwealth because it is bordered by seven other states with convenient access in and out of the state and, therefore, may make Kentucky vulnerable to across state evasion strategies such as bootlegging. Increased coordination and information sharing with neighboring states to track imports and exports of fuel will assist detection of bootlegging schemes. This coordination can be facilitated through active participation in the regional task forces. Moreover, the information shared among the states is more useful in monitoring fuel transfers and detecting evasion if the states in the regional task forces fully implement the uniform reporting schedules defined in the FTA eleven-point plan.

The third recommendation is to modify the state administration of the fuels tax to mirror the federal system. Tax codes defining the administration and exemptions for motor fuels taxes

vary among states. The type of fuel tax exemptions permissible by law and the administration of the fuels tax can reduce or enhance the vulnerability of the fuel tax to evasion. Currently there is a wide diversity among the states in the administration of the fuels tax and the exemptions granted to the fuel tax. Some changes in administration of the fuel tax discussed in this report are moving the point of taxation, implementing a dyed fuel program, and licensing of motor fuel wholesalers.

Federal government has changed the administration of federal motor fuels tax by moving the point of taxation, implementing a dyed fuel program, and licensing of motor fuel wholesalers. Previously, many states had not implemented these changes because of compliance costs to the motor fuels industry. Nevertheless, under the new federal law, the state can implement these programs without significantly increasing the compliance costs beyond those required by federal law. A state system that is similar to the federal system stretches enforcement dollars because state officials can coordinate with the IRS in detecting fraud and build on IRS investigations and audits. Also, if the state tax system is similar to the federal system, the motor fuels industry benefits because it requires less resources to prepare tax reports if the federal and state returns are fundamentally the same.¹⁵

The fourth recommendation addresses the use of field auditors. Kentucky has a relatively small number of field auditors performing motor fuel tax audits in comparison to other states. Field auditors are valuable in the detection and deterrence of fuel tax evasion, but they also require significant expenditures of public funds. Auditing functions normally realize diminishing returns in terms of audit revenues to state treasuries. To determine the optimal allocation of state funds for this auditing function, the marginal cost associated with adding

¹⁵ The Kentucky Revenue Cabinet asserts that the Kentucky system may not be so easily modified to mirror the federal system. In 1988 the General Assembly imposed the special fuels tax at the point of receipt from a terminal. The wholesaler who actually receives the fuel when withdrawn from a terminal is required to pay the tax under Kentucky law. Under the federal system, the terminal pays the tax for this same transaction unless the fuel is designated (dyed) by the terminal as a tax free sale. Under the Kentucky system, some nonhighway diesel sales can be designated as tax free. The licensed dealer (wholesaler) makes the designation and must report the detail of each tax free sale on their monthly tax return. Also, some nonhighway diesel sales are taxable in KY but subject to refund. The consumer must register with the Revenue Cabinet and submit all of their nonhighway diesel purchase invoices with each refund request. Thus, the current enforcement by Kentucky officials relies on paper audit trails to detect evasion. The federal system does not have downstream reporting, but instead relies on dyed fuel testing to enforce the law. Resource shortages have prohibited widespread dyed fuel inspections. In addition, it is felt that the dye can be defeated in many inexpensive ways, including filtration and ultraviolet light. One last concern is that handling of fuel samples presents a hazardous materials dilemma.

additional auditors should be calculated and monitored in order to determine the most efficient quantity of field auditors.

The fifth recommendation is to educate the public on important fuel tax evasion issues. Fuel tax enforcement benefits when the general public is aware of evasion issues. The general public is aware of income tax evasion and the reputation of the IRS in enforcing the income tax. On the other hand, the general public is less aware of the severity of fuel tax evasion and the resulting shift of tax burden associated with such illegal activities. Education programs can help the public understand the consequences of fuel tax fraud and increase citizen support for the conduct of anti-evasion efforts. Some examples of education programs are marketing campaigns through posters, press, or other media, a toll-free hot line to report tax evasion, and training seminars on tax compliance.

The final two recommendations arise from issues not addressed directly by this report. The subjective estimates of fuel tax evasion in Kentucky reported in this study need to be substantiated by the derivation of a detailed empirical model based on state demographics and economic indicators, which was beyond the scope of this study. In addition, it would be beneficial to estimate evasion of other Kentucky road fund revenues. Specifically, evasion of vehicle licensing/registration, weight distance tax, and other road fund revenues should be assessed to insure efficiency in enforcement efforts of road fund revenue collection.

Motor fuel tax evasion appears to be less severe in Kentucky than it is in other states in the southern region. However, such evasion activities reduce road fund revenues, shift tax burdens, and reduce public confidence in public institutions and processes. The recommendations offered here could help reduce motor fuel tax evasion even further. A reduction in fuel tax evasion promotes equity and efficiency in the administration of the motor fuels tax and increases the resources collected in the road fund.

Conclusions

This study attempts to further clarify and assess the motor fuel tax evasion issue in Kentucky. This study provides background information on the federal highway trust and the Kentucky road fund. It discusses the fuel tax issue in context of the federal involvement and the states in the southern region. The severity of fuel tax evasion is estimated for Kentucky in context of other national estimates of evasion. Nevertheless, additional work is needed in developing estimates of evasion specific to the Kentucky road fund. Chapter Three describes the federal and state initiatives that have emerged to deal with the fuel tax evasion issue. Chapter Three also provides a discussion of future challenges in fuel tax enforcement.

These issues are discussed in context of Kentucky and address some of the implications for the Kentucky road fund. Tax evasion is an elusive and burgeoning problem. Methods of tax evasion are continually changing and adapting to new methods of tax enforcement. However, there are strategies that can reduce the potential loss due to fuel tax evasion. The fight against fuel tax evasion is fought on three fronts: federal, regional, and individual state level. The federal government is working to improve compliance to the federal motor fuels tax through ISTEA, the FTA and other organizations and legislation. Regions of states are coordinating to reduce evasion that occurs because of inadequate information regarding the transfer of fuels across state lines. Lastly, the Commonwealth must identify the unique characteristics that make Kentucky vulnerable to evasion and act to remedy potential evasion loss. Several recommendations that address the issue of fuel tax evasion in Kentucky are discussed in Chapter Four. This report is one in a series produced through the Kentucky Transportation Center that addresses these issues. The concepts, issues, and recommendations in this report can aid in reducing evasion of the motor fuels tax, thereby, enhancing the efficiency and equity in the administration of the motor fuels tax and increasing the resources collected in the road fund. The road fund insures that there are adequate earmarked resources to meet the highway transportation needs in Kentucky.

Appendix A

Southern Region

The southern region defined for this study includes the same regional boundaries used by the Statistical Abstract of the United States¹⁶. The Bureau of the Census divides the southern states into three subdivisions listed on the chart below. This report compares Kentucky to the other states in the southern region and in some cases compares the southern region to the nation.

South

South Atlantic Region

- Delaware
- Maryland
- Virginia
- West Virginia
- North Carolina
- South Carolina
- Georgia
- Florida

South East

- Kentucky
- Tennessee
- Alabama
- Mississippi

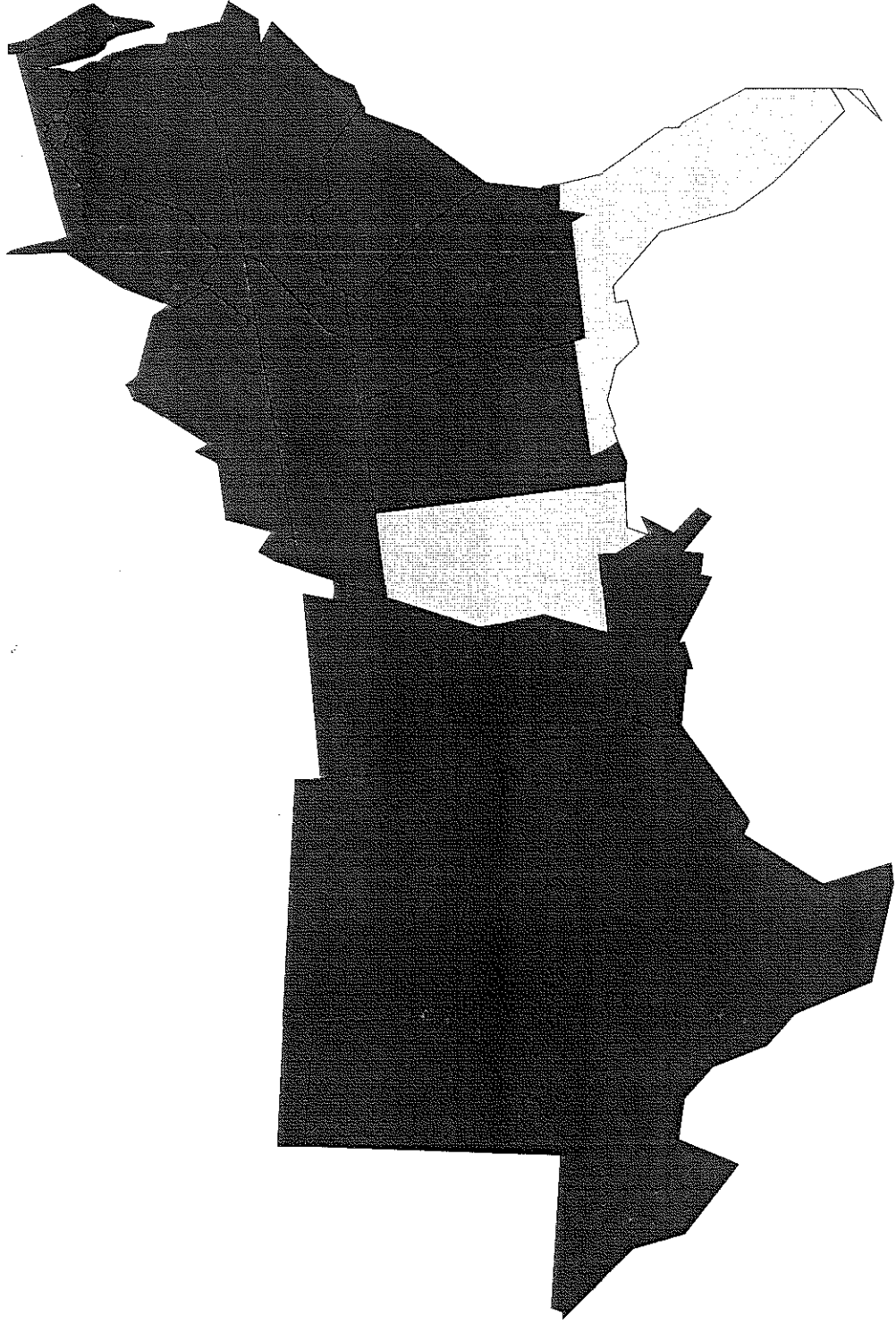
South West

- Arkansas
- Louisiana
- Oklahoma
- Texas

The District of Columbia was not included in the survey.

¹⁶ Statistical Abstract of the United States, prepared by the chief of the Bureau of Statistics, Treasury Department.: US Department of Commerce, Bureau of the Census. Washington, D.C.: U.S.

Figure 8: State Respondents in the Southern Region



Florida & Mississippi not responding

Appendix B

CSG / KTC Survey

This study by the Council of State Governments and the Kentucky Transportation Center (CSG/KTC) addressed issues in motor fuels tax evasion. The study was carried out in cooperation with a broader study by CSG and the Council of Governor's Policy Advisors (CGPA) regarding national evasion issues from a state perspective.

During the summer of 1995, a questionnaire was mailed to the chief administrator responsible for the motor fuels tax collection in each of the fifty states. The survey contact for each of the states was identified through the CSG directory of state agencies. Each state agency was contacted by telephone to insure that the survey would be mailed to the appropriate person and address. By midsummer, telephone follow-ups were made to the states who had not yet responded. Of the fifty states, only seven states did not complete and return the survey. The states not responding to the national survey are Connecticut, Florida, Illinois, Indiana, Maine, Mississippi, and New Mexico. The Information on the Southern Region is extracted from the national survey. The following five pages are a reproduction of the questionnaire mailed to each state. The states in the southern region are identified in Appendix A and are mapped in Figure 8.

**State Perceptions of Tax Evasion
Motor Fuels**

**A 50-State Survey by The Council of State Governments and
the University of Kentucky's Transportation Research Center**

Person Responding: _____
Title: _____
Department: _____
Address: _____
City: _____
State: _____ Zip: _____
Phone #: _____ Fax#: _____

PART I: Road Fund Structure and Characteristics

1. Which agency / department is responsible for the **collection** of motor fuel taxes?

<u>Revenue Source</u>	<u>Agency / Department</u>
Gasoline	_____
Diesel fuel	_____

2. Which agency / department is responsible for **monitoring and follow-up** of tax noncompliance for the following revenue sources?

<u>Revenue Source</u>	<u>Agency / Department</u>
Gasoline	_____
Diesel fuel	_____

3. Approximately what percent of motor fuels net tax receipts are collected from the sale of diesel fuel and gasoline?

Percentage of motor fuels taxes collected from **gasoline**: _____ %
Percentage of motor fuels taxes collected from **diesel fuel**: _____ %

4. At what point does your state collect the tax on motor fuels?

Gasoline:

- _____ at the terminal (or "rack")
- _____ on transfer from bulk storage to wholesaler
- _____ on transfer from wholesaler to retailer

Diesel:

- _____ at the terminal (or "rack")
- _____ on transfer from bulk storage to wholesaler
- _____ on transfer from wholesaler to retailer

PART II. Perceived Severity of Fuel Tax Evasion

Please circle the number corresponding to your perception of motor fuel tax evasion in your state.

	Not a problem	Minor Problem	Average Problem	Significant Problem	Severe Problem
Gasoline	1	2	3	4	5
Diesel fuel	1	2	3	4	5

PART III. Estimated Revenue Increases Due to Elimination of Tax Evasion of Motor Fuels

If tax evasion were totally eliminated, by what percent would the annual gasoline and diesel fuel tax revenue increase in your estimation?

Percent Increase

- Gasoline** 0-1-2-3-4-5-6-7-8-9-10 If more please specify: _____%
- Diesel fuel** 0-1-2-3-4-5-6-7-8-9-10 If more please specify: _____%

Part IV. Evasion Methods

The following lists include common methods for evading the motor fuels taxes. Please rank order the following evasion methods according to the amount of gasoline and diesel fuel tax revenue being lost by each method in your state, one being the greatest source of revenue loss. Also, please estimate the percentage of gasoline and diesel fuel tax revenue lost due to each of these methods.

Gasoline

Ranking	Evasion Method	Percentage of Total Gasoline Tax Evasion Loss
	Abuse of exempt-use laws	%
	Adulteration of motor fuels-"cocktailing"	%
	Blending (gasohol, natural gas, etc.)	%
	Bootlegging across state lines	%
	"Daisy chains"	%
	Failure to file	%
	Other:	%
	Other:	%
	Other:	%
		100 %

Diesel

Ranking	Evasion Method	Percentage of Total Diesel Tax Evasion Loss
	Abuse of exempt-use laws	%
	Adulteration of motor fuels-"cocktailing"	%
	Blending (gasohol, natural gas, etc.)	%
	Bootlegging across state lines	%
	"Daisy chains"	%
	Failure to file	%
	Other:	%
	Other:	%
	Other:	%
		100 %

Part V. Anti-Evasion Strategies

1. The following list includes strategies used by states to reduce tax evasion. Please identify the strategies your state has implemented or adopted.

Strategies	Gasoline		Diesel	
	YES	NO	YES	NO
Eliminate opportunities for tax-free purchases	YES	NO	YES	NO
Implement Uniform Reporting Schedules (FTA)*	YES	NO	YES	NO
Implement uniform definitions of imports & exports*	YES	NO	YES	NO
Increase audits	YES	NO	YES	NO
Institute a dyed-diesel program	Not Applicable		YES	NO
License all resellers	YES	NO	YES	NO
Move taxation point up in chain	YES	NO	YES	NO
Require third-party reporting of movement of fuel	YES	NO	YES	NO
Use Intermodal Surface Transportation Efficiency Act (ISTEA) evasion funds	YES	NO	YES	NO

Other(s) (please specify and briefly explain):

* Questions dealing with uniformity of reporting schedules and import/export definition are based on the 11-Point Plan for Uniform Fuel Tax Administration, adopted in 1987 by FTA.

Part VI. Audit Revenue by State

What was the total amount of revenue assessed as a result of motor fuel tax audits for fiscal year 1993?

\$ _____

Part VII. Motor Fuel Anti-Evasion Strategies Considered But Not Implemented

What strategies have you considered implementing to combat motor fuel tax evasion but not implemented? Please list the strategies considered and the reasons why they were not implemented.

Strategy: _____
Applied to: Gasoline Diesel Both
Description of Strategy:

Why Strategy Wasn't Implemented:

Strategy: _____
Applied to: Gasoline Diesel Both
Description of Strategy:

Why Strategy Wasn't Implemented:

(Attach a separate sheet if necessary)

Thank you for your cooperation.

If you would like a copy of the results of the study when they are available please indicate. YES NO

Appendix C

Glossary Of Acronyms

CAA	Clean Air Act
CFR	The Code of Federal Regulations
CGPA	Council of Governors' Policy Advisors
CSG	Council of State Governments
DOT	Department of Transportation
EIA	Energy Information Administration
EPA	Environmental Protection Agency
FBI	Federal Bureau of Investigations
FHWA	Federal Highway Administration
FR	Federal Register
FTA	Federation of Tax Administrators
FTC	Federal Trade Commission
FY	Fiscal Year
GAO	General Accounting Office
HTF	Highway Trust Fund
IRS	Internal Revenue Service
ISTEA	Intermodal Surface Transportation Efficiency Act of 1991
KY	Kentucky
OBRA	Omnibus Budget Reconciliation Act
OHIM	Office of Highway Information Management
SIP	State Implementation Plan

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