

Future of West Virginia's Highway System: A Comprehensive Analysis of the West Virginia State Road Fund and Policy Options¹

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EXECUTIVE SUMMARY

In 1984, the West Virginia Tax Study Commission issued a report, (*Issue #6: The Adequacy of the Road Fund*), which examined the fiscal status and future financing of the West Virginia State Road Fund. This present report is an update of the 1984 study as well as a comprehensive examination of past, present, and future West Virginia State Road Fund financing. Where relevant, the report compares West Virginia with other states. The comparison states are Kentucky, Maryland, Ohio, Pennsylvania, and Virginia, which surround West Virginia and Delaware and North Carolina, which represent similarities to West Virginia such as dependence upon state money and geographical terrains.

West Virginia leads the United States in percentage of highway miles that are state-maintained, that is, the state is responsible for 92 percent (nearly 37,000 miles) of the total highway miles in West Virginia. Although West Virginia has relatively high fuel taxes (25.35 cents per gallon), the demographics of the state result in relatively low travel miles and relatively low vehicle registrations. This constraint on highway funding is aggravated by the relatively high construction and maintenance costs per highway mile due to the geographical terrain and rural nature of West Virginia.

In comparing the West Virginia highway system in 1984 with that of the present highway system, several characteristics have remained unchanged. These include ranking first in the percentage of highways under state jurisdiction, last in vehicle miles driven per capita and per licensed driver, and first in total highway miles per capita. One characteristic that has changed is the reliance on annual appropriations from the state General Revenue Fund. In 1982, West Virginia was ranked first of the fifty states in the percentage of annual appropriations from the General Revenue Fund. At present, the West Virginia State Road Fund receives no appropriations from the General Revenue Fund; the last annual appropriation from the General Revenue Fund occurred in 1983.

When analyzing the revenue sources for the West Virginia State Road Fund in nominal terms for the period of FY 1970 through FY 2003, the financial picture looks fairly positive. During the 34 years examined the major revenue sources of the State Road Fund increased by 524 percent (an average of 16 percent per year). One observes that although the Gasoline Tax, the Wholesale Tax, and Registration Fees have increased on an annual basis during this period, the increases have been relatively small in comparison to the dramatic revenue increases experienced by the Privilege Tax during the same period. While still increasing overall in nominal terms, revenue growth has slowed since the State's last increase in the Gasoline Tax was fully implemented in FY 1994. The constraint on highway funding is exemplified by total West Virginia State Road Fund revenues increasing only 18 percent since FY 1994, an increase of less than 2 percent per year.

After adjusting the West Virginia State Road Fund revenues to account for inflation, the financial picture is far less positive. The real or inflation-adjusted value of the State Road Fund increased 36 percent (an average of 1.1 percent per year) from FY 1970 to FY

2003. Since peaking in FY 1994, however, the real value of the State Road Fund has decreased over the last decade. During that time, the real values of the Gasoline Tax revenues, Wholesale Tax revenues and Registration Fees declined, while the real values of the Privilege Tax revenues increased. The net result of these changes, in real dollars, has been a decrease of \$76.7 million (13 percent) in State Road Fund revenue since FY 1994. Although the real values of the West Virginia State Road Fund increased modestly by an average of 1.1 percent per year over the period FY 1970-2003, the demands on and use of the fund have greatly increased.

A comparison of West Virginia highway financing with that of surrounding states as well as Delaware and North Carolina shows that West Virginia had the highest per capita highway user tax revenue among these states in FY 2000. West Virginia does not receive any contributions from local governments and had the highest mileage under state control in 2000. Regarding fees, the annualized driver's license fee for West Virginia is below the average for the seven comparison states. The title fee is also below the average for the seven comparison states. In contrast, its annual vehicle registration fee is above the average for the seven comparison states. As for demographics, West Virginia has the highest share of licensed drivers in total state population with the highest share of drivers aged 65 and over in total licensed drivers.

The construction of highways can be a stimulant to positive economic development in West Virginia if the highway construction meets certain conditions. These conditions include the improvement of reliability for supplying goods to and distributing goods from industrial and commercial firms, reduction in the transportation costs for transportation-intensive industries, lowering accident costs, and improving the quality of life and attractiveness of an area. However, there can be cases where highway investment fails as a development tool. If the region has relatively low levels of human capital and little land-use planning, new highways may only shift the level of economic activity and not increase the overall economy.

As the result of ongoing changes in the quantity and complexity of the infrastructure constructed and maintained by the Division of Highways, expenditures have changed significantly over time. Increased travel, pavement improvements, continued expansion of the State's highway network and reconstruction needs on aging highways, each create unique funding challenges that must be addressed by the DOH. Since FY 1988, annual debt service costs have fallen dramatically both in absolute terms and as a proportion of total DOH expenditures. Administrative support costs, while increasing in nominal terms, have been reduced 9% in real or inflation-adjusted dollars since FY 1988. In contrast to the decreases in debt service and administrative expenditures, annual highway construction and maintenance costs have increased both in absolute terms and as a proportion of total DOH expenditures. Annual construction expenditures have grown \$124 million (34 percent) and maintenance expenditures have increased by \$100 million (46 percent) in real terms since FY 1988.

Annual expenditure by the Division of Motor Vehicles (DMV) has seen a huge increase since FY 1990. The DMV expenditure in FY 1990 for internal operations was slightly

over \$6 million. By FY 2002, the DMV expenditure for internal operations was over \$25.9 million. During this period, annual personal services costs for the DMV increased over 407 percent, while fringe benefits costs increased 486 percent. At the same time, DMV employee productivity (measured by vehicle registration per employee) declined by 50 percent.

Despite the fact that both revenues and expenditures of the State Road Fund are increasing in real terms, the ability of the DOH to undertake new construction initiatives and to maintain existing facilities has been limited by several factors.

First, beginning in the 1990's, the DOH was required to begin transferring funds out of the State Road Fund to other agencies, (i.e. PEIA, Tax Department, and Public Safety) to pay for various "highway related" activities. Since they began, over \$97 million has been transferred to other agencies, of which \$74 million has gone to the Department of Public Safety.

Second, the DOH routinely receives requests from various governmental entities to construct Specialized Infrastructure Projects, most of which are to provide access to newly developed facilities. Although these projects are beneficial, they reduce the State Road Fund dollars available for general highway and bridge construction and maintenance activities. Furthermore, due to their nature, they are generally not eligible for federal aid and must be constructed with 100 percent state dollars. Since 1982, projects of this nature have equaled nearly \$254 million.

Third, recent initiatives, such as the WV Courtesy Patrol, Home Access Road Program, creation of highway authorities, and creation of the Industrial Access Road Fund, while having merit, have each placed additional burdens on the resources of the State Road Fund.

Revenue projections were made for the major revenue sources of the West Virginia State Road Fund under the current tax rates. This assumes that the 5-cent increase in the Gasoline Tax is re-authorized when it expires in FY 2007. Various policy options were analyzed for increasing the flow of revenues into the West Virginia State Road Fund. These options included increases in rates or fees associated with the Gasoline Tax, Registration Fees, and Privilege Tax as well as elimination of the courtesy patrol program, curtailment or elimination of the expansion in the DMV budget, and other alternatives such as increasing the state long-term debt, use of local option taxes, tax increment financing, and highway tolls.

There are several important conclusions that emerge from this report. One obvious conclusion is that an increase in one or more West Virginia State Road Fund revenue sources is necessary for West Virginia to maintain its present highway system properly. The increases are necessary both in the context of the substantial revenue diversions that are caused by the demand for specialized infrastructure projects and transfers to other programs and in the context of real revenue erosion due to inflation.

A second conclusion is that if increases in the Gasoline Tax, Wholesale Tax, Privilege Tax and Registration Fees are implemented, these increases can be made more politically palatable (satisfy the practicality criteria) if the increases are phased-in (as recently done in Ohio) rather than increased in one large increment.

A third conclusion is that to insure that the Gasoline Tax revenues increase sufficiently over time to keep pace with inflation, the two components of this tax (the Gasoline and Special Fuel Excise Tax and the Motor Carrier Road Tax) should be linked to a price index, such as the Federal-aid Highway Construction Price Index, to insure the generation of adequate income to maintain highway and bridge construction and maintenance.

The final conclusion is that serious attention must be given to the rapidly increasing cost of DMV operations. That is, consideration needs to be given to the options of either reducing the growth in the DMV expenditures or substantially increasing the various license and registration fees.

1.0 Introduction and Overview

The West Virginia highway system often is taken for granted by its citizens. After all, they pay taxes at the pump, renew their licenses and plates, and head for the open road for work, shopping and pleasure. Only when the roads are not plowed or a pothole is encountered, do some citizens become aware that maintenance is necessary and in their view needs to be done right now. When they travel out of state, many West Virginians encounter more extensive road systems and hear from their sons and daughters about the value of roads and highways in fostering economic opportunities. Even within West Virginia, many individuals recognize the role of highways in fostering economic development. Without the major upgrades and new construction initiated over the past 30 years, many families would have relocated to gain access to job opportunities.

In the absence of adequate funding, road maintenance suffers, new highways are delayed, and potential federal matching funds can be jeopardized due to a lack of state and local funds. Areas that are experiencing growth in housing and commercial developments find there are inadequate highway networks, resulting in increased travel times due to increased traffic congestion. Opportunities to attract business and industry with improved transportation systems become more limited when funding shortfalls occur.

Periodically, the West Virginia political leadership re-examine the fiscal basis of the highway system. The West Virginia Tax Study Commission in 1984 released a report, *Issue #6: The Adequacy of the Road Fund*, by Drs. Patrick C. Mann, Tom S. Witt, and Brian J. Cushing, which examined the fiscal basis and future funding of the highway system. The Commission, however, did not make any subsequent recommendations for changes in highway financing. The Governor's Commission on Fair Taxation in 1998 did not address highway financing as part of its deliberations.

The current study is designed as a comprehensive examination of West Virginia highway financing in the past, present and future. The overall study has three major components:

1. Status of the West Virginia State Road Fund: Past and Present

This phase of the study examines the historical and present expenditures on West Virginia's highway system in comparison with other selected states. Included in the examination are funding sources, productivity measures, highway system changes, and other relevant baseline information. In addition, the study reviews the 1984 Tax Study Commission State Road Fund report and evaluates its recommendations.

2. Future of the West Virginia State Road Fund

This phase examines current and projected Federal highway policy and its implications for financing. Given alternative funding priorities and levels, a variety of strategies and projections are identified and accompanied by an evaluation of the financing options.

3. Strategies and Recommendations

This final phase develops different scenarios for highway financing and analyzes possible alternative financing strategies.

This report covers the status of the West Virginia State Road Fund both past and present. The West Virginia State Road Fund derives its revenues from several dedicated taxes, federal apportionments, and miscellaneous income including interest earned on investments.

The major revenue sources of the West Virginia State Road Fund are as follows¹:

Gasoline and Special Fuel Excise Tax – Tax imposed upon every distributor, producer, retail dealer, importer or user, based on the quantities of all gasoline or special fuel sold or used in the State. The tax was enacted in 1923 at a rate of \$.020 per gallon and was \$0.205 per gallon in FY2004.

Wholesale Motor Fuel Tax- Consumers Sales and Use Tax on the sale of gasoline and special fuel, imposed at the wholesale level on distributors and importers. The average wholesale price of gasoline and special fuel is determined annually based on sales data supplied by distributors and from other information. The average wholesale price is the single statewide average wholesale price per gallon, rounded to the third decimal, exclusive of state and federal excise taxes, but not less than \$0.97 per gallon, times the rate of five percent. The tax was enacted in 1983 and was equivalent to \$0.0485 per gallon in FY2004.

It should be noted that in 2003, the WV Legislature passed S.B. 496, which became effective January 1, 2004. S.B. 496 modified various portions of the WV Code pertaining to the Gasoline and Special Fuel Excise Tax and Wholesale Motor Fuel Tax. The legislation replaced the two taxes with a single fuel tax reporting structure, known as the Motor Fuel Excise Tax. The reported tax is composed of both a flat rate and variable wholesale component, which is currently (FY 2004) equal to \$.205/gallon and \$.0485/gallon respectively. The tax is imposed as the fuel enters the state or is removed from a terminal within the state rather than when it is pumped at the retail level. Since much of this study deals with the West Virginia State Road Fund from a historical perspective, for the purposes of this study the two taxing structures identified will continue to be treated separately.

Motor Carrier Road Tax-Tax imposed upon every intrastate motor carrier with a vehicle with seats for more than nine passengers, and road tractor, tractor truck or trucks having more than two axles. Tax is based upon each gallon of gasoline and special fuel, including diesel and other motor fuels, used in the carrier's operations in the State with a rate equivalent to the Gasoline and Special Fuel Excise Tax. The carrier is credited with the amount of gasoline tax paid and is entitled to a refund of any excess of such credit over the amount of road tax due. The tax was enacted in 1959.

¹ The following definitions of various revenue sources were provided by the West Virginia Department of Transportation.

Motor Vehicles Privilege Tax-Tax imposed upon the privilege of effecting the certification of title of a motor vehicle in the amount equal to five percent of the value of the vehicle at the time of such certification. A certificate of title indicates ownership of a vehicle. The value of the vehicle is determined as either 1) the actual purchase price or consideration of the purchasers, if the vehicle is new, or 2) the present market value at the time of transfer or purchase, if the vehicle is used. The tax was enacted in 1935 (at two percent of vehicle value) and increased to five percent in 1971. The five percent tax rate has remained unchanged through FY 2004.

Vehicle Registration Fees-Registration fees are based on a vehicle's classification and are renewed annually or in some cases on a multi-year basis. Payment of the registration fee allows the owner to drive on the roads legally.

Driver License and Permit Fees-Driver's license and instruction (learner's) permit fees are imposed as a means to verify that a person has successfully passed all appropriate parts of the driving examination and is qualified to operate a motor vehicle upon a public highway. These licenses were first issued in 1917.

In the balance of this report, the official titles of the various taxes and fees will be summarized as follows unless otherwise noted:

Gasoline Tax-consists of the Gasoline and Special Fuel Excise Tax as well as the Motor Carrier Road Tax

Wholesale Tax-consists of the Wholesale Motor Fuel Tax

Privilege Tax-consists of the Motor Vehicles Privilege Tax

Registration Fees-consists of Motor Vehicle Registration Fees and Driver License and Permit Fees

Where relevant, the study compares West Virginia with other selected states. The comparison states included in this study are Ohio, Kentucky, Virginia, Maryland, Pennsylvania, North Carolina, and Delaware. While five states are bordering states, the other two, North Carolina and Delaware are states, like West Virginia, in which the state has almost sole responsibility for highway construction, maintenance, and financing.

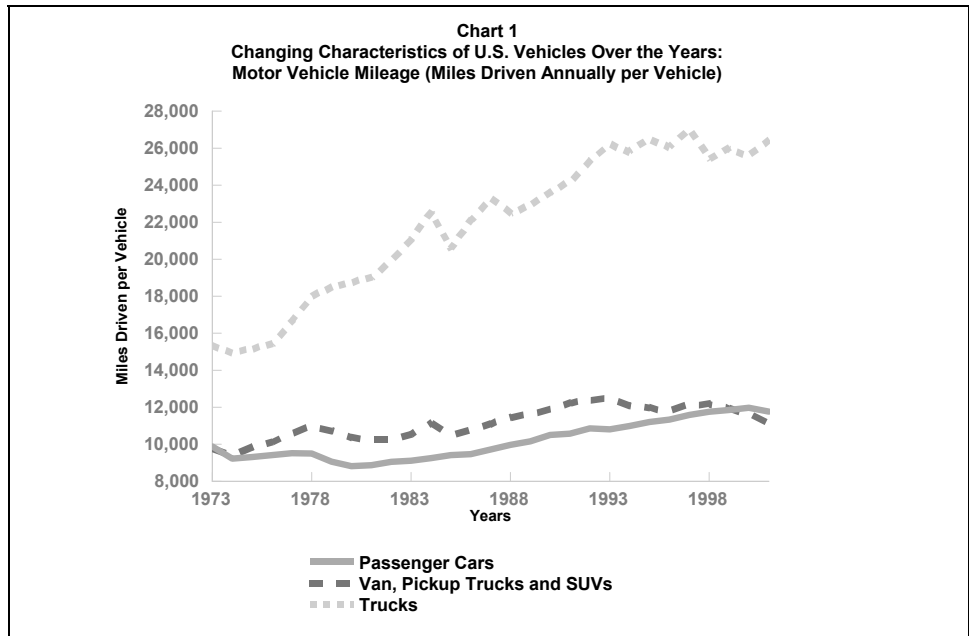
This comprehensive analysis of the West Virginia State Road Fund begins by examining four key areas that have had significant effects on long-term development and funding. These key areas are federal level funding, changes in vehicles, fuel usage, and standards.

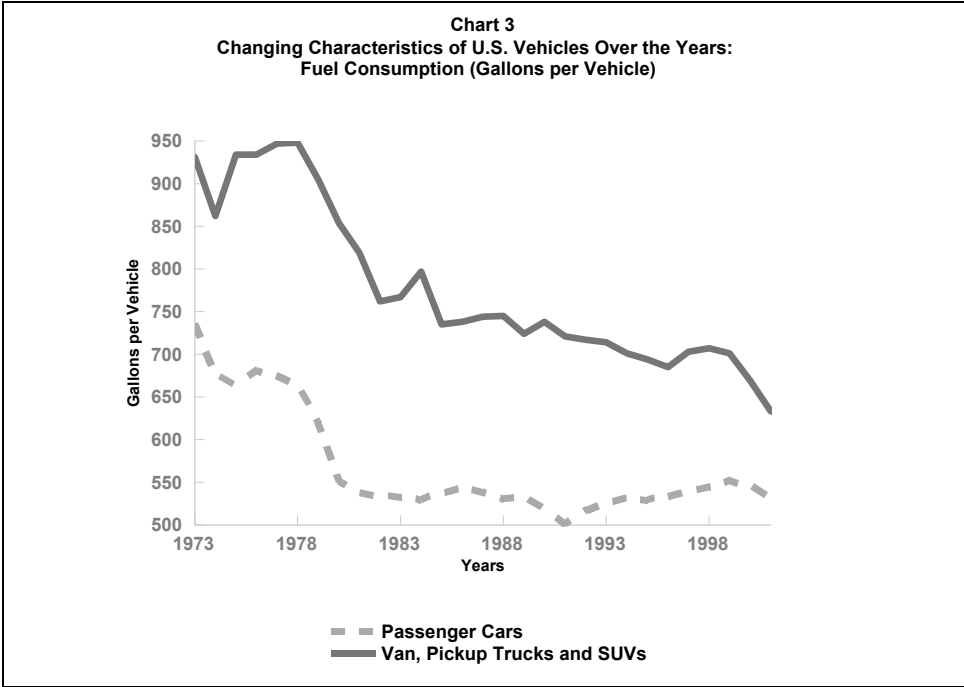
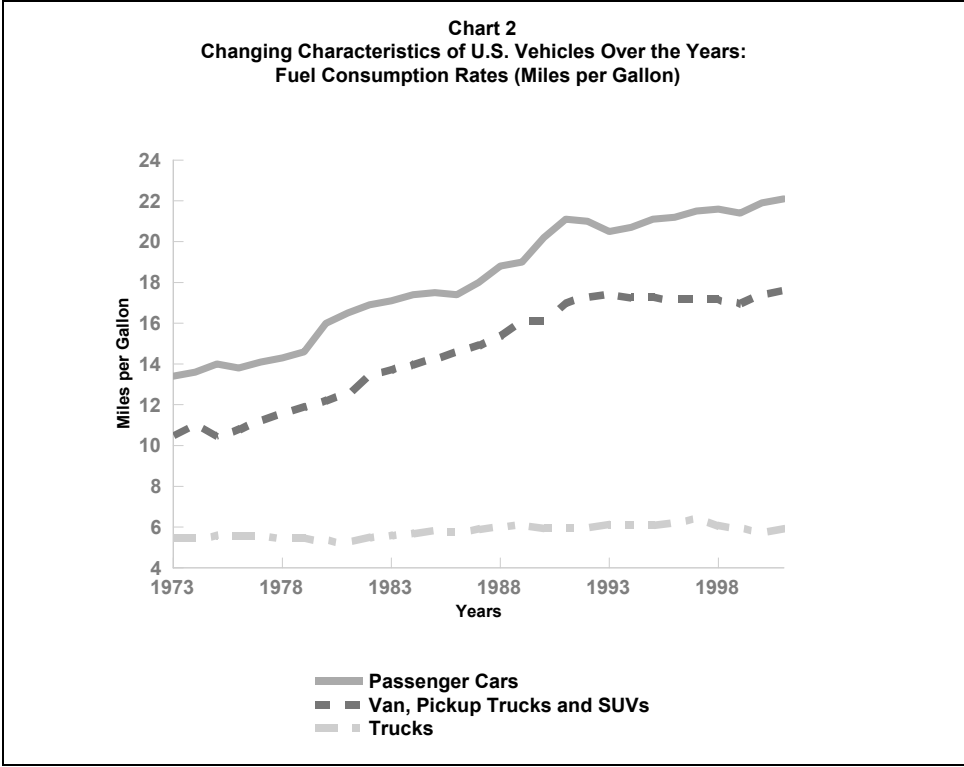
At the federal level, Congress is examining the federal funding formula. Changes in the funding formula will involve re-authorizing the Transportation Equity Act for the 21st Century (TEA-21) which passed into law in 1998. This law, along with an earlier one, the Intermodal Surface Transportation Efficiency Act (ISTEA) in 1991, instituted

significant changes in funding and program flexibility for states and metropolitan regions. Understanding the past and current financing of West Virginia's highways is an essential first step to understanding federal funding and the future policy options available at the federal level. These issues will be addressed in the next section of the report.

Outside of the pending changes in the federal funding formula, there are additional long-term developments that have the potential to affect long-term funding of highways in the United States significantly. Of major importance are the changing characteristics of U.S. vehicles over the past 35 years. Table 1 provides a statistical overview of the characteristics of passenger cars, trucks, and other vehicles (vans, pickup trucks and sport utility vehicles) for the period 1973-2001. All vehicle classes demonstrate an increasing number of miles per vehicle driven each year during the period (see Chart 1). Since 1993, however, the number of miles driven per vehicle for passenger vehicles, trucks, vans, pickup trucks and SUVs has stopped growing. Even truck mileage has reached a plateau and may even decline in future years due to new regulations affecting truck drivers' hours of work.

In addition, there has been a dramatic improvement in the fuel consumption rate (miles per gallon) for all vehicles except trucks (see Chart 2). The result has been a dramatic decline in gallons per vehicle consumed over the years for passenger vehicles, pickup trucks, and SUVs usage (see Chart 3). Only truck usage has continued to grow.





A major source of change in vehicle efficiency is attributed to the introduction of Corporate Average Fuel Economy (CAFE) standards in 1975. These standards were introduced as part of the Energy Policy and Conservation Act of 1975 and are periodically reviewed and modified by Congress. The current CAFE standards require passenger automobiles to have a fuel efficiency of 27.5 miles per gallon and light-duty

trucks and SUVs to have a fuel efficiency of 20.7 miles per gallon across manufacturer's product lines. As less efficient vehicles are retired and newer, more fuel-efficient vehicles are purchased, fuel consumption rates will continue to decline. Additionally, the continued implementation of new CAFE standards will further reduce fuel consumption rates.

Coupled with increased fuel economy is the shift to alternative fuel sources. The Bush administration has announced a major initiative to develop a hydrogen-based economy that could translate into increased use of hydrogen as a fuel source in vehicles. Vehicles that are powered totally by electric or natural gas are being promoted as alternatives to conventional gasoline and diesel vehicles. Additionally, some vehicle manufacturers are introducing hybrid vehicles that use a combination of gasoline and electricity. Sales of these hybrid vehicles are growing as they become increasingly popular.

Finally, federal initiatives are underway to reduce emissions from diesel-powered vehicles, which are primarily trucks. As these standards are implemented, innovations in engine designs may lead to increased fuel efficiency in the larger vehicle fleet.

These longer-term technical developments combined with the fuel efficiencies generated through CAFÉ standards will have a major negative impact on tax revenue sources at both the national and state level and have economic consequences for this investigation of the financing of West Virginia's highway system.

2.0 The National Context and Its Applicability to West Virginia

2.1 Federal Reauthorization of Federal-Aid Highway Funds

The Transportation Equity Act for the 21st Century (TEA-21), which passed in June 1998, is the most recent federal-aid highway reauthorization. Congress is presently in the process of drafting legislation for reauthorizing federal-aid highway funds. The legislation guarantees each state a return of at least 90.5 percent of its contributions to the Highway Trust Fund. The revised distribution formula has the intent of both maintaining the highway systems in poorer and more rural states while ensuring that the needs of richer and more urbanized states are satisfied. Once the final version of the bill has been enacted, the implications for West Virginia can be explored more fully.

2.2 Highway Financing Trends in the United States

Several trends are occurring in the financing of highways in the U.S. One trend is the increasing reliance on local option transportation taxes to finance transportation investment in cities and counties (Goldman and Wachs, 2003). The local option taxes can take the form of fuel taxes, vehicle taxes, and sales taxes, as well as income, payroll, or employer taxes. This trend is driven largely by the increasing demands on state highway revenues for repair and maintenance of the highway system. Other factors affecting this trend are the limited ability of local governments to increase property taxes, as well as competition among local governments to stimulate economic development.

The trend toward more local financing is coupled with the trend of decreasing reliance on user fees and increasing reliance on nonuser fees such as sales taxes to finance transportation investment (Wachs, 2003). That is, there is decreasing reliance on fuel taxes to finance both state and local transportation investment.

Fuel taxes remain the largest source of state highway funding; however, when adjusted for inflation, both federal and state fuel tax revenues are declining in real values. In this context, 28 states have increased fuel taxes since 1992, but only a handful of these states have increased fuel taxes sufficiently to keep pace with inflation (Puentes and Prince, 2003).

2.3 The National Context and its Implications for West Virginia

One implication of the national trends is for West Virginia to consider the financing option of relying on local transportation taxes to finance transportation investment in its cities and counties. Another implication of the national trends is for West Virginia to consider increasing the Gasoline Tax, possibly employing a phase-in (the Ohio approach) of the increase. Finally, an important implication is for West Virginia to insure that the Gasoline Tax revenues increase sufficiently over time to keep pace with inflation. This could be achieved by linking the Gasoline Tax either to the Consumer Price Index (the Maine approach) or to the Federal-Aid Highway Construction Price Index, which measures the costs associated with highway and street construction.

Failure to increase the real value of the West Virginia State Road Fund over time will lead to diminishing real resources per vehicle mile driven with the potential for substantially reduced construction and maintenance of West Virginia's highways and bridges. Increased fuel efficiency, whether mandated by federal law or driven by rising fuel prices, has the potential for further deterioration in fuel usage on a vehicle mile basis. Looking longer term, other technological and policy developments pose a risk of further erosion of real resources, namely the development and integration of alternative fueled vehicles into the nation's vehicle fleet.

Substantial resources have been dedicated towards research on alternative fuels as an effort at improving the air quality nationwide and addressing the issue of global warming. Among the hybrid vehicles under development are gasoline hybrid electric vehicles, compressed natural gas vehicles, diesel hybrid electric vehicles, and fuel cell powered vehicles. In addition, most vehicle manufacturers are exploring improvements in conventional internal combustion engines.

Long-term efforts may result in hydrogen-based vehicles with virtually no emissions. These alternative fuel vehicles may become an increasing portion of the new vehicles entering the market place in years to come. Unfortunately, the current tax structure of the West Virginia State Road Fund does not reflect any income in the form of fuel taxes from the operation of these vehicles on West Virginia's highways and bridges. Consequently, as these vehicles' importance grows, West Virginia's State Road Fund will suffer additional real revenue deterioration.

2.4 Recent Developments in Other States

The State of Washington enacted a five cent per gallon fuel tax increase in May 2003. This increased the Washington fuel tax rate to 28 cents per gallon. Ohio increased its per gallon fuel tax by six cents in March, 2003. The Ohio legislation involves a two-cent increase in the fuel tax per year over three years with the Ohio fuel tax being 28 cents per gallon by 2005. After the phase-in of the fuel tax increase, Ohio will have the highest fuel tax rate among the comparison states. In addition, in 2002, Indiana increased its fuel tax rate by three cents per gallon, Kansas increased its fuel tax rate by two cents per gallon, Rhode Island increased its fuel tax rate by two cents per gallon, and Maine increased its fuel tax rate by 2.6 percent and linked the future fuel tax rate to increases in the Consumer Price Index.

2.5 The Role of Highways in Economic Development

The construction of highways can be a stimulant to positive economic development if it meets certain conditions (Forckenbrock, 2002). These conditions include the improvement of reliability for supplying goods to and distributing goods from industrial and commercial firms, reduction in the transportation costs for transportation-intensive industries, lowering accident costs, and improving the quality of life and attractiveness of an area. There can be cases, however, in which highway investment fails as a

development tool. These cases include attempting to stimulate economic development in poor rural areas and stimulating economic development in one area of the state at the expense of other areas with higher development potential.

2.6 A Recent West Virginia Study

A recent study of the West Virginia highway system (Hicks, 2003) focused on financing options. Some of the conclusions of Hick's study parallel the conclusions of this report and are as follows. First, the revenues from the Gasoline Tax are declining in real terms, which substantially reduce the ability of West Virginia to fund highway construction and maintenance adequately. Second, the increasing fuel efficiency of vehicles and the increased vehicle weights have weakened the linkage between the tax burden on highway users and the cost that highway users impose on the highway system. Finally, West Virginia should seriously consider increasing the Gasoline Tax in order to maintain the state highway system adequately.

3.0 An Overview of the West Virginia Highway System

The information in this section was derived primarily from the Road Information Program publication, *West Virginia Road and Bridge System: Pavement Conditions, Travel Trends and Funding Needs* (February 2001); the West Virginia Department of Transportation publication, *Statewide Transportation Policy Plan 2002-2022* (January 2002); the West Virginia Department of Transportation presentation, *Highways Construction Program, 2002 and 2003* (September 2002); and the West Virginia Department of Transportation publication, *West Virginia Transportation Facts Book* (January 2003).

In evaluating the highway data, several key characteristics of the West Virginia highway system emerge:

- The rural nature of the state
- The dispersed population within the state
- The high degree of state ownership and control of the highway system

West Virginia has a present population of 1.8 million people that own 1.3 million vehicles. There are approximately 38,900 miles of roads; 21,000 of these highway miles are paved. The miles of paved roads have substantially increased since 1980, which, in turn, has increased maintenance costs. Potentially complicating matters was the inclusion of orphan roads into the State highway system for basic maintenance. Between 1998 and 2001, there were 1,547 miles of orphan roads and 53 bridges added to the State highway system.

Many of the roads that are maintained by the West Virginia Department of Transportation are not eligible for federal-aid. Approximately 26,000 miles (71 percent) of State-owned facilities are classified as either urban or rural local roads or rural minor collectors and must be maintained and improved with all State funds. The 38,900 miles of public highways are categorized as approximately 35,000 of rural miles and 3,000 of urban miles. Only 1.6 percent (555 miles) of the highways is included in the Interstate Highway system. The federal government has sole responsibility for only 860 miles of public highways within the state, which entail U.S. Forest Service, U.S. Army Corps of Engineers and National Park Service facilities.

The total highway system experiences approximately 19 billion miles of annual vehicle travel.² Vehicle miles of travel in West Virginia increased 79 percent between 1980 and 2000, increasing from 11 billion to 19 billion miles. Vehicle miles of travel are expected to increase another 37 percent to 26 billion miles by 2025.

In the United States, West Virginia has the highest percentage of miles that are state-maintained. While the U.S. average is only 20 percent, West Virginia is responsible for 92 percent (36,703 miles) of the public highway mileage in the state. The next four states are Delaware with 88 percent, Virginia with 82 percent, North Carolina with 79 percent,

² West Virginia Department of Transportation. *West Virginia Transportation Facts Book*, January 2003.

and South Carolina with 64 percent. As a result, despite its relatively small size, West Virginia maintains the sixth largest network of state roads in the nation. The U.S. average is 15,400 miles of state-maintained roads. The top five states are Texas with 79,164 miles, North Carolina with 78,013 miles, Virginia with 57,735 miles, South Carolina with 41,518 miles, and Pennsylvania with 40,101 miles.

West Virginia is only one of four states (the other states are Delaware, North Carolina, and Virginia) having jurisdiction over both state and county roads. The State is responsible for 92.4 percent of the 38,900 miles of public highways in West Virginia while municipalities are responsible for only 5.5 percent. Federal agencies are responsible for the residual 2.1 percent. In this context, West Virginia is unique in that it spends 100 percent of its fuel tax revenues on state highways.

The present total Gasoline Tax rate in West Virginia is 25.35 cents per gallon; in contrast, Pennsylvania has a tax per gallon of 25.9 cents, Maryland has a tax per gallon of 23.5 cents, Ohio has a tax per gallon of 22.0 cents, Virginia has a tax per gallon of 17.5 cents, and Kentucky has a tax per gallon of 16.4 cents. The highest gasoline tax rate in the U.S. is in Rhode Island, which has a tax rate of 29 cents per gallon. The lowest gasoline tax rate in the U.S. is in Georgia, which has a 7.5-cent tax rate. The State of Ohio recently enacted a phase-in increase in its gasoline tax rate, which will involve a two cent per gallon increase per year over three years.

West Virginia is 49th in capital investment per state-maintained highway mile, spending only \$7,574 per lane mile compared with the national average of \$23,967. South Carolina has the lowest capital investment per mile with \$5,706; other states with low capital investment per mile include North Carolina, Virginia, Arkansas, and Maine. The low ranking of West Virginia can be attributed to a relatively low highway budget coupled with the extensive state jurisdiction of roads, most of which (>70 percent) are not eligible for federal-aid funds.

The dedicated sources of revenue for West Virginia highway construction and maintenance include fuel taxes, vehicle licensing and registration fees, and other similar user fees. The user revenue per vehicle mile of travel in West Virginia is 2.7 cents with the tax revenue generated per each cent of fuel tax being the lowest in the Southeast; however, West Virginia has one of the higher gasoline tax rates in the U.S. Compared to surrounding states, West Virginia generates the lowest fuel tax revenues per state administered mile of highway.

West Virginia has three primary tax sources of highway revenues in addition to the various registration fees. The first is the Gasoline Tax, which is a tax that is imposed on distributors, dealers, users, etc., based on the volume of gasoline used in the state. The current tax is 20.5 cents per gallon. It should be noted that the 5.0-cent increase in this tax enacted in 1993 will expire in 2007 unless extended by the West Virginia Legislature. The second is the Wholesale Tax (a consumers sales tax), which is a tax that is imposed at the wholesale level. The current Wholesale Tax is equivalent to 4.85 cents per gallon resulting in a total state gasoline tax of 25.35 cents per gallon. In essence, the Wholesale

Tax is a 5.0 percent tax given a minimum wholesale price of 97.0 cents per gallon. The history of the two fuel tax rates from FY 1980 to FY 2003 is presented in Appendix A as well as in Table 2. Finally, the Privilege Tax is a tax imposed upon certification of the title of the motor vehicle. This tax is equal to 5.0 percent of the value of the vehicle at the time of the title certification.

Regarding highway revenue sources, West Virginia is 37th in reliance on gasoline taxes (approximately 25 percent of state highway revenues come from gasoline taxes). In contrast, West Virginia ranks 14th in reliance on vehicle fees (approximately 18 percent of state highway revenues come from vehicle fees). Finally, West Virginia ranks 13th in reliance on federal-aid (approximately 36 percent of state highway revenues come from federal apportionments). The remaining source of highway revenue is the Privilege Tax.

The Division of Highways has several funding categories such as debt service, general operations, and routine maintenance, which are totally state-funded. Categories such as state road improvements, expansion, renovation, safety, congestion, traffic operations, and the federal-aid highway system are co-funded by the state and the federal government. The development of the Appalachian Development Highway System Corridors is funded by the Highway Trust Fund as well as by state funds. Details on the operation of the Division of Highways (DOH) and the Division of Motor Vehicles (DMV) can be found in Appendix C and Appendix D respectively.

In brief, the demographics of West Virginia result in high roadway mileage per capita, low travel miles, low vehicle registrations, and thus limited funds available for highway construction and maintenance. The situation is aggravated by the relatively high construction and maintenance costs per mile due to the terrain and rural nature of the state. The dispersed population, the rural nature, and the centralized control of highways do provide some opportunity for improvements in the highway system operation and management efficiency via facilitation of highway planning and project coordination.

4.0 The 1984 Tax Study Commission Report And Recent Developments

In this section, the 1984 Tax Study Commission report on the West Virginia State Road Fund is summarized.³ The increasing importance of fiscal stress within West Virginia is reviewed as it has implications for current and future highway financing policy. For a review of fiscal developments since 1980, which have significant bearing on the West Virginia State Road Fund, see Appendix A.

4.1 The 1984 Tax Study Commission

Overall, the 1984 report indicated that the West Virginia State Road Fund was experiencing insufficient revenues to maintain the state highway system adequately. As of 1981, the West Virginia State Road Fund had several sources of revenue, which included the Gasoline Tax, Registration Fees, Privilege Tax, federal reimbursements, bond issuances and General Revenue Fund transfers.

An examination of the various revenue sources for FY 1970 through FY 1982 indicated that, if adjusted for inflation, there were very low growth rates in many of these revenue sources during that period. The inability of the State to generate adequate revenues from dedicated taxes led to the use of revenues from the General Revenue Fund to support the highway system as well as the enactment of the Wholesale Tax in 1983.

In comparison to the adjacent states of Kentucky, Maryland, Ohio, Pennsylvania, and Virginia, West Virginia ranked in 1982 as follows:

- First in the percentage of highways under state jurisdiction
- Last in the percentage of highways under local jurisdiction
- First in the percentage of annual appropriations from General Revenue Funds
- Last in reliance on revenues from user taxes
- First in the magnitude of automobile fees
- First in deriving revenues from the issuance of bonds
- First in federal aid for highways (West Virginia received \$2.43 for every \$1.00 paid into the Federal Highway Trust Fund)
- Last in vehicle miles driven per capita and per licensed driver
- First in total highway miles per capita.

Obviously, there have been important changes since 1982. For example, the percentage of annual General Revenue Fund appropriations has declined to zero. The last appropriation from the General Revenue Fund occurred in 1983.

Several criteria were employed in evaluating each of the highway revenue sources. These criteria were:

³ Drs. Patrick C. Mann, Tom S. Witt, and Brian J. Cushing, *Issue #6: The Adequacy of the Road Fund*, West Virginia Tax Study Commission, 1984.

- Efficiency, which focuses on taxes varying positively with mileage driven and vehicle weight and taxes varying negatively with the number of vehicle axles
- Equity, which incorporates concepts of ability-to-pay (taxes should be distributed in accordance with income or wealth), benefits received (taxes should be distributed in accordance with the benefits received from the highway system), and cost causation (taxes should be distributed in accordance with highway expenditures caused)
- Administration (cost efficiency), which focuses on administrative, enforcement and compliance costs
- Stability, which focuses on revenue stability over time

First tier taxes include registration fees and vehicle privilege taxes. Conceptually, first tier taxes should cover the fixed operating costs of the highway system. Second tier taxes include taxes per gallon and ad valorem taxes on fuel. Conceptually, second tier taxes should cover the construction costs of the highway system. Third tier taxes include weight-distance and axle-weight-distance taxes. Conceptually, third tier taxes should track the operation and maintenance costs that users impose on the highway system.

One conclusion of the 1984 report was that second-tier and third-tier taxes were superior to first-tier taxes in financing highways. Another conclusion was that there was potential for reducing the administrative, enforcement, and compliance costs of the state highway tax system.

The 1984 report employed three funding levels in developing different financing packages. Each funding level involved a specified revenue scenario. Scenario 1 was the status quo scenario that assumed the dedicated tax revenues (from the Gasoline Tax, Registration Fees, and the Privilege Tax) were \$287.5 million as of October 1982. Scenario 2 assumed additional annual funding from dedicated taxes of \$110 million. Scenario 3 assumed additional annual funding from dedicated taxes of \$272 million. Non-user fees were associated with transfers from the General Revenue Fund or local governmental revenues. Each revenue scenario was examined in the context of four different financing packages.

- Financing package A was the status quo package that assumed user fees generated 70 percent of revenues and non-user fees (General Revenue Fund appropriations) generated 30 percent
- Financing package B assumed a shift to 85 percent of revenues flowing from user fees with only 15 percent coming from non-user fees
- Financing package C assumed 85 percent of revenues flowing from user fees (15 percent coming from non-user fees) while incorporating third tier taxes
- Financing package D assumed 60 percent of revenues flowing from user fees with 40 percent coming from other revenue sources

In brief, the 1984 report noted that in 1981, 92 percent of the non-federal highway mileage in the state was under state jurisdiction and 93 percent of non-federal revenues were generated by the state. The high degree of state involvement in the highway system coupled with the relatively high highway miles per capita in the state mandated relatively high rates of state taxation to provide only moderate levels of highway funding.

It is useful to compare some of the revenue projections in the 1984 Tax Study Commission report on the West Virginia State Road Fund as compared to the actual revenue experience since 1981. The revenue projections used for purposes of comparison are those from the status quo financing package in the context of the status quo funding scenario.

The following table summarizes the comparison of the status quo financing package with actual revenue yields.

Revenue Source	Status Quo FY1982 Financing Package A (million \$)	Actual FY1982 (million \$)	Actual FY1983 (million \$)	Actual FY1984 (million \$)
Gasoline Tax and Wholesale Tax	\$94.0	\$99.3	\$111.4	\$156.6
Privilege Tax	\$55.0	\$54.5	\$55.0	\$67.8
Registration Fees	\$52.0	\$51.1	\$53.2	\$53.0
General Revenue Transfer	\$80.0	\$23.9	\$52.0	0
Misc. Income	\$6.5	NA	\$5.3	\$5.0
TOTAL REVENUE	\$287.5	\$228.8	\$276.9	\$282.4

The status quo scenario assumed that the dedicated tax revenues (from the Gasoline Tax, Registration Fees, and the Privilege Tax) would be \$287.5 million as of October 1982. This status quo revenue scenario was examined in the context of Financing Package A (the status quo package assuming user fees generating 70 percent of revenues with non-user fees generating the remaining 30 percent). Financing Package A (the status quo package) projected that the \$287.5 million in FY 1982 would be comprised of \$94.0 million in Gasoline Taxes, \$55.0 million in Privilege Taxes, \$52.0 million in Registration Fees, \$80.0 million in General Revenue Fund transfers, and \$6.5 million in miscellaneous income.

Gasoline Tax revenues in 1982 were \$99.3 million, exceeding the revenue estimates based on the status quo scenario and the status quo financing package. During the latter part of 1983, the Wholesale Tax was implemented, which automatically generated additional revenue. The revenues from the Gasoline Tax and the Wholesale Tax in 1983 were \$111.4 million, which exceeded the revenues projected for 1982. The revenues from the Gasoline Tax and the Wholesale Tax in 1984 were \$156.6 million, which far exceeded the revenues projected for 1982. Privilege Tax revenues in 1982 were \$54.5 million and in 1983 were \$55.0 million before increasing substantially to \$67.8 million in

1984. The 1982 and 1983 yields for Privilege Tax revenues were very close to that projected for 1982. Revenues from Registration Fees were \$51.1 million in 1982, \$53.2 million in 1983, and \$53.0 million in 1984. These fee results were very close to that projected. Finally, miscellaneous revenues were \$5.3 million in 1983 and \$5.0 million in 1984, which were slightly less than that projected.

4.2 Local Government Stress in West Virginia

West Virginia taxes are imposed at the state, county and municipal levels. West Virginia has gone through a major transformation from local based taxation to state taxation since the “Tax Limitation Amendment” of 1932. The 1932 amendment put caps on the maximum property tax rates applied to different classes of property and led to a significant deterioration in the role of property taxes in the state tax system. Currently, taxes collected at the state level constitute the largest part of total taxes collected. Thus, West Virginia exhibits a fairly centralized system of revenue generation.

In recent decades, the state contribution to total tax revenues has changed in both West Virginia and other states. There is a visible rising trend in the share of total state and local tax revenues in West Virginia and the surrounding states. At the same time, the weight of property tax within the state and local tax structure has also changed. The share of property tax revenue has decreased considerably over the past three decades. These recent developments have increased the states’ role in tax revenue generation and have led to a diminished role for county and municipal governments.

4.3 Fiscal Stress in West Virginia State Financing

There are unique characteristics that affect fiscal performance in West Virginia. West Virginia is a rural state with low population per square mile. It has maintained a highly natural resource-based or more specifically a coal-based economy that has lacked adequate sectoral diversification. It ranks forty-ninth in personal income per capita and experiences one of the lowest population growth rates in the nation. All these characteristics have affected West Virginia’s fiscal performance. Furthermore, the recent economic downturn in both the state and national economies coupled with falling coal prices and a deteriorating steel industry puts a sizeable burden on the West Virginia economy and creates fiscal stress.

Among the revenue sources in the West Virginia State Road Fund, the Privilege Tax has generated revenues that exceeded estimates. While the West Virginia State Road Fund performance has been relatively stable in recent years, it is nevertheless negatively affected by the recent economic recession and slower than expected recovery that has followed. It is projected in the West Virginia Executive Budget for FY 2004 that there will only be minimal growth in the West Virginia State Road Fund revenues in upcoming fiscal years. This will be examined in more detail later in this report.

5.0 The West Virginia State Road Fund: A Historical View of Revenues

It is instructive to not only analyze the changes that have occurred in West Virginia highway funding since the 1984 Tax Study Commission Report (i.e. for FY 1982 through FY 2002), but also longer term from FY 1970 to present . As a benchmark, the 1984 Tax Study Commission report analyzed data for FY 1970 through FY 1981. The revenue sources examined include both major and minor funding sources as well as tax revenues and federal reimbursements. The analysis below is based on the data in the 1984 Tax Study Commission Report and is supplemented by data provided by the Division of Highways. It also demonstrates the fundamental changes that have occurred in the State Road Fund since 1970. Unless specifically stated otherwise, all financial data are reported on a cash accounting basis.

5.1 Gasoline Tax

As the result of four increases (1970, 1978, 1989 and 1994) totaling \$.135 in the Gasoline Tax during the period of FY 1970 through FY 2003, the annual revenues from the Gasoline Tax increased significantly in nominal terms from \$49.5 million to \$221.3 million, an increase of 347 percent. Two of the increases, amounting to \$.05 each, have occurred since the Tax Commission Report was completed. In FY 1982, revenues totaled \$99.3 million; by FY 2003, the annual revenues from the Gasoline Tax were \$221.3 million, an increase of 123 percent. Since FY 1994, however, these annual fuel tax revenues have grown very slowly and in fact decreased nearly \$9 million from FY 2002 to FY 2003 (see Table 3).

5.2 Wholesale Tax

As mentioned previously, the Wholesale Tax was enacted by the WV Legislature in 1983. During the period of FY 1983 through FY 2003, the annual revenues from the Wholesale Tax increased modestly in nominal terms. In FY 1984 (the first full year of implementation), revenues totaled \$54.8 million; by FY 2003, revenues from the Wholesale Tax were only \$67.8 million, resulting in a 24 percent increase (see Table 3). In fact, the revenue from this source declined by \$5 million from FY 2002 to FY 2003.

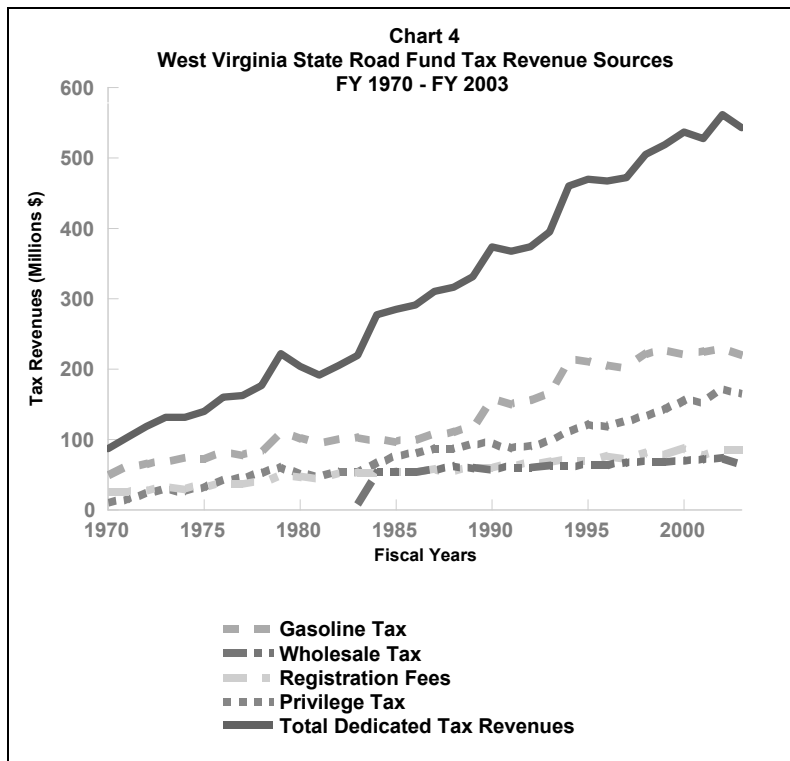
5.3 Registration Fees

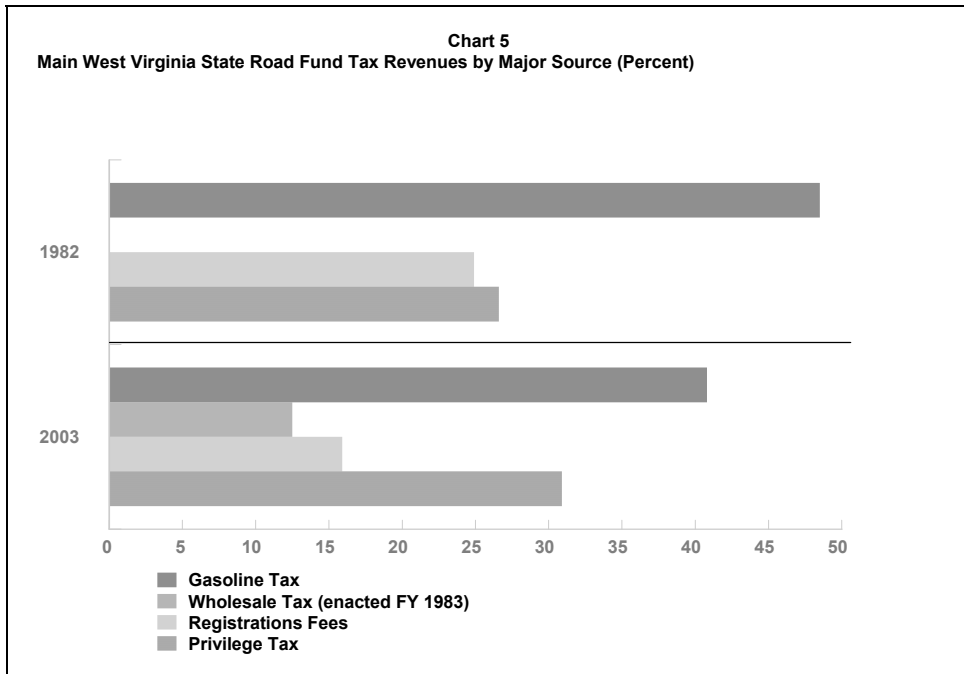
During the period of FY 1970 through FY 2003, the annual revenues from registrations and licenses increased modestly in nominal terms from \$26.1 million to \$86.2 million, an increase of 230 percent. Since completion of the 1984 report, nominal revenues from Registration Fees have risen from \$51.1 million in FY 1982 to \$86.2 million in FY 2003, which translates into a 69 percent increase over the period (see Table 3). Revenues from Registration Fees peaked in FY 2000 at \$87.5 million and after dipping to \$77.4 million in FY 2001 rebounded in FY 2003.

5.4 Privilege Tax

In 1971, the WV Legislature increased the Privilege Tax rate, for the first time since its original enactment in 1935, from 2 percent to 5 percent. During the period of FY 1970 through FY 2003, revenues from the privilege tax increased substantially in nominal terms from \$11.4 million to \$167.7 million, an increase of 1,374 percent. Despite the fact that there has been no increase in the Privilege Tax rate since 1971, revenue growth has been significant both prior to the 1984 Tax Commission Report and afterwards. In FY 1982, revenues totaled \$54.5 million; by FY 2003, revenues from the Privilege Tax were \$167.7 million, a 208 percent increase (see Table 3). As was the case with the Gasoline Tax and the Wholesale Tax, the Privilege Tax revenues declined by nearly \$5 million from the FY 2002 peak to FY 2003.

A comparative analysis of the growth in these four major revenue sources is provided in Chart 4. Chart 5 indicates the change in composition of the West Virginia State Road Fund Tax Revenue between FY 1982 and FY 2003. While there has been significant growth in the State Road Fund in nominal terms between FY 1970 and FY 2003, since its peak in FY 2002, there has been a loss of \$18.6 million in the tax revenue components of the West Virginia State Road Fund.





5.5 Debt Financing

Debt financing generates revenue through selling bonds or notes or borrowing directly from financial institutions. Debt financing constitutes only about 6 percent of revenues that states use for highway construction and maintenance; the bulk of the revenues come from the traditional sources of user fees taxes and federal reimbursements. Debt financing generally shifts the burden of highway costs from present taxpayers and users to future taxpayers and users. Highway debt can be backed by general taxes paid by future taxpayers, taxes on future highway users, toll revenues, or property taxes and special assessments.

Some of the problems or concerns associated with highway debt financing include the reduction of financial responsibility on the part of the governmental body, a potential decrease in government bond credit ratings, and the increasing financial risk and burden on future taxpayers and users.

West Virginia has used debt financing, at various times dating back to 1921, to help pay for the construction of highway infrastructure. Most recently, West Virginia citizens in 1996 approved the issuance of \$550 million in General Obligation bonds for highway projects throughout the State. The Safe Roads Amendment bonds, which were the first bonds approved by West Virginia voters since 1973, were sold between FY 1999 and FY 2002. In FY 2001, when \$110 million of the Safe Roads Bonds were sold, revenues from user taxes and fees were \$527 million, and federal reimbursements were \$385 million, resulting in debt financing of 12.1 percent of the revenues used for highways.

A review of Table 31 indicates, that even with no additional bond issues, the DOH will be required to make debt service payments through FY 2025. Since debt service will

clearly play a significant role in highway finance through FY 2025, a gauge must be selected for determining what a reasonable level of debt is. Rather than focusing on the amount of debt issued in any given year or on the amount of debt issued over a given period, emphasis should be placed on the amount of yearly debt service payments that will be required in relation to total State Road Fund revenues. By keeping debt service payments at reasonable levels (i.e. 6 percent or less of projected revenues), over time the DOH will be better positioned to act decisively during periods of low interest rates or unforeseen needs. A review of Tables 3 and 7 indicates that, despite several recent bond issuances, yearly debt service payments as a percentage of State Road Fund revenue has declined dramatically from 22.5 percent in FY 1988 to 9.2 percent in FY 2003 but still remains above target levels of 6 percent.

Some states are using Grant Anticipation Revenue Vehicles (GARVEES) as a financing mechanism to bridge funding gaps and accelerate construction of major projects. GARVEES enable a state to pay debt service and other debt expenses with future federal highway apportionments. For example, during the period of FY 1998 through FY 2001, Ohio issued \$190 million in GARVEE debt. Highway projects that are good candidates for GARVEE financing have characteristics such as an immediate need and/or economic benefit and a significant capital cost. Furthermore, the state must be capable of forgoing federal funds for future projects.

5.6 Litter Control Fees

Revenues from litter control fees also experienced growth between FY 1990 and FY 2003 (Table 8). In FY 1990, revenues totaled \$0.75 million; by FY 2003, revenues from litter control fees were \$1.6 million resulting in a 113 percent increase.

5.7 Miscellaneous Revenue Sources

Miscellaneous revenues include revenue from interest on investments, map sales, permits, etc. During the period of FY 1989 through FY 2002, miscellaneous revenues exhibited inconsistency regarding revenue increase/decrease with ranges from \$1.6 million in FY 1990 to \$16.0 million in FY 1997. In FY 1983 (the first year of available data), miscellaneous revenues totaled \$5.3 million; by FY 2003, miscellaneous revenues were \$6.5 million, an increase of 23 percent.

5.8 Industrial Access Road Fund Revenue Transfers

The Industrial Access Road Fund (IARF) was created in FY 1990 under West Virginia Code 17-3A-1. Under this statute, a portion of State Road Fund revenues is transferred to the IARF yearly. This transfer effectively reduces the amount of dollars available for activities funded from the State Road Fund (see Table 8). The transferred funds can be used only for the construction of industrial access roads that meet statutory eligibility requirements. Since FY 1990, over \$31 million has been transferred to the IARF. At the end of the fiscal year, all non-programmed Industrial Access Road Fund dollars revert to the State Road Fund. Typically, all funds are programmed; therefore, no funds have ever been transferred back to the State Road Fund.

5.9 The State Road Fund's Total Revenues FY 1982-FY 2003

During the period of FY 1982 through FY 2003, the total annual revenues from taxes, fees, and miscellaneous revenue sources increased substantially. In FY 1982, total revenues were \$204.9 million; by FY 2003, revenues had increased to \$551.2 million, resulting in a 169 percent increase in gross revenues (see Table 8). As noted in Section 5.8, however, a portion of this increase has been transferred to the Industrial Access Road Fund and has not been available for expenditure from the State Road Fund.

5.10 General Revenue Fund Transfers

A final revenue category for the West Virginia State Road Fund is transfers from the General Revenue Fund. In FY 1981, transfers from the General Revenue Fund totaled \$23.9 million; in FY 1983, transfers from the General Revenue Fund totaled \$52.0 million. Since FY 1984, there have not been any transfers from the General Revenue Fund to the West Virginia State Road Fund.

5.11 Federal Interstate Reimbursements

The federal government plays a major role in the construction and maintenance of West Virginia's highway system. Due to the complexity of federal budgeting and financing of the highway system, Appendix B contains a summary discussion of the role of federal aid. In this section, the focus is on federal reimbursements for Interstate construction and maintenance. As mentioned previously, where possible, values reported in this report are on a cash basis. While total federal reimbursements could be obtained on a cash basis prior to FY 1993, the individual splits between Interstate, Appalachian and Other Federal Aid programs were not readily available. As such, any discussion regarding the individual federal aid programs will be limited to the period FY 1993 to FY 2003.

Since FY 1993, federal reimbursements for Interstate highway construction and maintenance have increased modestly in nominal terms despite the completion of the federal Interstate highways within West Virginia. In FY 1993, federal Interstate reimbursements totaled \$38.5 million; in FY 2003, the federal reimbursements for Interstate construction were only \$46.4 million resulting in a 20 percent increase (see Table 4). There has been an even more significant expansion in funding for the Appalachian Development Highway System and other federal-aid programs, both of which are discussed below.

Current federal law dictates that states develop policies reducing the allowable blood alcohol content limit for DUIs (Driving Under the Influence) from a standard of .10 to 0.08 percent in order to receive federal apportionments. The deadline for passage of the 0.08 standard for FY 2004 was September 30, 2003. West Virginia did not enact the more stringent standard of 0.08 for DUIs and thus entered into the penalty phase. The penalty percentage increases 2 percent each year with the following loss of apportionments estimated by the WVDOH⁴ to be the following:

⁴ Provided by the West Virginia Division of Highways, August 8, 2003 memorandum in response to July 16, 2003 data request from the project team.

- FY 2004 \$2,621,131 (2 percent)
- FY 2005 \$5,242,261 (4 percent)
- FY 2006 \$7,863,392 (6 percent)
- FY 2007 \$10,484,522 (8 percent)

It should be noted that the West Virginia Legislature adopted the new standard in February 2004. By adopting the 0.08 standard before October 1, 2007, West Virginia will have any withheld funds apportioned.

5.12 Federal Appalachian Development Highway System Reimbursements

The Appalachian Development Highway System (ADHS) was authorized in Congress in 1965 through the Appalachian Development Act. It was designed to generate economic development in previously isolated areas and to supplement the Interstate System to connect Appalachia to the Interstate Highway System. The funds are restricted to the designated areas of the Appalachian Development Highway System. Since FY 1993, federal reimbursements for ADHS construction have increased substantially. In FY 1993, federal ADHS reimbursements totaled \$58.8 million; in FY 2003, the federal reimbursements were \$171.6 million, resulting in a 192 percent increase (see Table 4).

5.13 Other Federal Reimbursements

Other federal reimbursements are funding provided for construction that is not related to one of the specified aid programs previously discussed. Since FY 1993, federal reimbursements for other highway construction have also increased. In FY 1993, other federal reimbursements totaled \$131.3 million; in FY 2003, the other federal reimbursements were \$178.6 million, resulting in a 36 percent increase (see Table 4).

5.14 Total Federal Reimbursements

During the period of FY 1981 through FY 2003, the total federal reimbursements in nominal terms for Interstate, Appalachian, and other highway construction increased substantially. In FY 1981, total federal highway reimbursements totaled \$119.5 million; by FY 2003, the federal reimbursements were \$396.6 million, resulting in a 232 percent increase (see Table 4).

5.15 The State Road Fund’s Total Revenues Adjusted for Inflation

The West Virginia State Road Fund’s revenue sources for selected FYs 1982 - 2003 are reported in nominal terms in Table 8. In FY 1982, the leading revenue category was the Gasoline Tax, which generated \$99.3 million or 48.5 percent of the total revenues. The Privilege Tax generated \$54.5 million (26.6 percent) followed by Registration Fees of \$51.1 million (24.9 percent) of the total amount generated. As time passed, the Wholesale Tax and Highway Litter Control Fees were added to the revenue stream. On the other hand, portions of the revenue were transferred to support the Industrial Access Road Fund, thereby reducing funds available for general purposes.

By FY 2003, Gasoline Tax revenues had grown to \$221.3 million or 40.3 percent of the funds available. While Wholesale Tax revenues had increased to \$67.8 million (12.4 percent of the total) by FY 2002, the growth was considerably slower than the Gasoline Tax yield. The Privilege Tax yield by FY 2003 was \$167.7 and amounted to 30.6 percent of the total. On the other hand, Registration Fees only increased to \$86.2 million representing 15.7 percent of the total, a substantial decline in relative terms from FY 1982.

During the entire period, inflation eroded the real value of the West Virginia State Road Fund tax revenues, thereby curtailing highway maintenance and construction. To adjust for inflation, use was made of the Federal-Aid Highway Construction Price Index, which is presented in Table 9⁵. Chart 6 illustrates the average annual percent change in the Federal-Aid Highway Construction Price Index for the period FY 1970 to FY 2003.

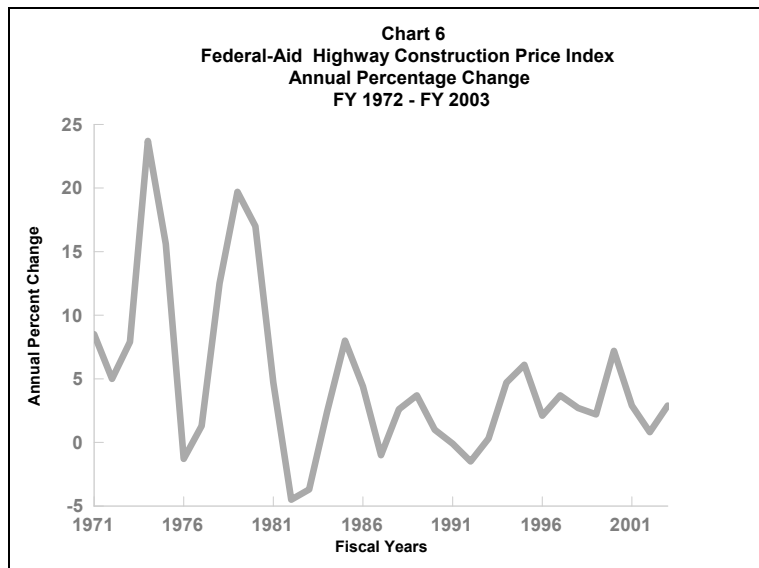
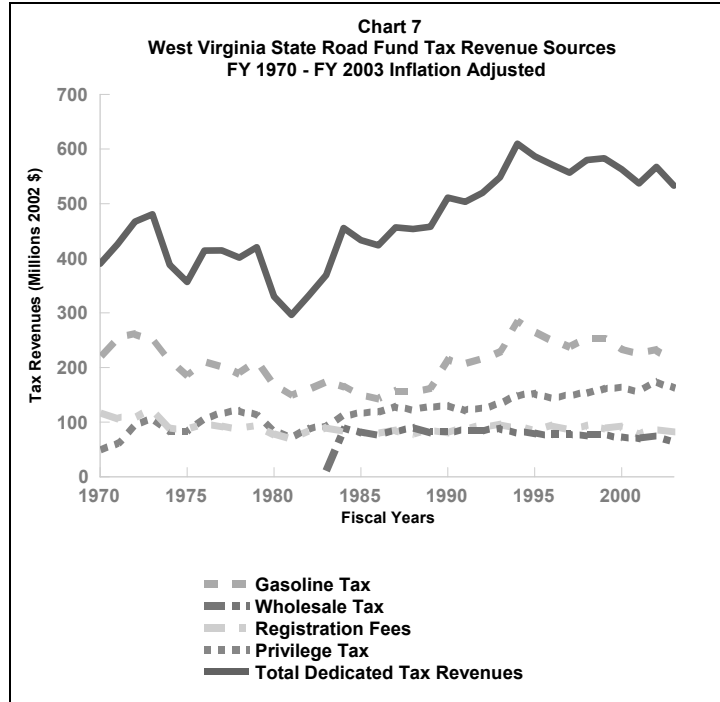


Table 10 reports the major West Virginia State Road Fund tax revenue sources (shown in nominal terms in Table 3) adjusted for inflation (using the modified Federal-Aid Highway Construction Price Index) for selected years. Chart 7 illustrates the changes in the major West Virginia State Road Fund tax revenue sources over the period (FY 1970 through FY 2003). Despite the fact that the Gasoline Tax was increased several times between FY 1970 and FY 2003, the real value of the Gasoline Tax revenues has dropped overall from \$222 million in FY 1970 to \$217 in FY 2003, a loss of 2 percent. Real revenues from the Gasoline Tax peaked in FY 1994 at \$284.6 million, coinciding with the last increase. Since its peak, however, the real value of this revenue stream has fallen by nearly 24 percent to \$217 million in FY 2003.

⁵ The Federal-Aid Highway Construction Price Index reflects the costs associated with bids for highway and bridge construction and maintenance nationally. This index is published quarterly by the Federal Highway Administration and was used in the 1984 Tax Study Commission report on the West Virginia State Road Fund.

The real value of Wholesale Tax revenues was relatively stable in the early part of the period, reaching a maximum of \$90 million in FY 1988. Since its peak, however, the real value of this revenue stream has fallen by over 26 percent to \$66 million in FY 2003. In essence, the real values of the Gasoline Tax and the Wholesale Tax revenues have declined considerably in the past decade.



The real value of Registration Fees has declined considerably over the three decades as reported in Table 10. From a peak of \$122.5 million in FY 1973, Registration Fees fell to \$84.6 million in FY 2003, demonstrating a decline of 31 percent.

Despite being nearly \$10 million below its peak in FY 2002, the Privilege Tax, in contrast to the other revenue streams, has risen by over 223 percent in real terms from \$51 million in FY 1970 to \$164.6 million in FY 2003. Since this tax is based upon the retail sale of vehicles, the increase is tied more to the price increases in these vehicles over the period and less to increases in the number of vehicles purchased. To understand this more fully, details regarding vehicle registrations by type of vehicle and revenues by plate class are presented in Tables 11-12. Table 11 provides the vehicle registrations by class of vehicle from FY 1994 through FY 2002. Since FY 1994, passenger vehicle registrations and renewals have increased over 173,000 or nearly 15 percent. Over the same period, the actual Privilege Tax revenues have increased by 54 percent. As a result, the major portion of the increase in the yield from the Privilege Tax is due to growth in vehicle sticker or transaction prices. As the economy moves into a low inflation environment, the ability to sustain strong growth in this revenue stream may be more difficult.

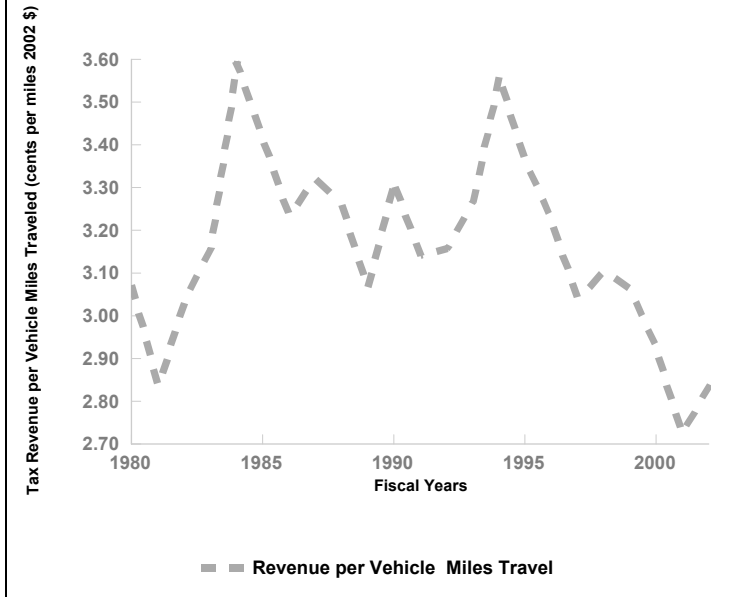
Other registration categories have shown some increase as well; however, part of those increases is attributable to class reorganizations. The overall growth in the number of vehicle registrations over the period FY 1994 to FY 2002 was 23 percent. The growth in actual registration is significantly lower than many other states since the population in West Virginia has been relatively stable in recent years.

Tables 3 and 10 illustrate the growth in nominal and real Registration Fees for the period FY 1970 to FY 2003. Overall, the total revenue has grown in nominal terms, reflecting in part the relative stability in fee structures and vehicle registration numbers. The total funds from Registration Fees increased from \$64.7 million in FY 1991 to \$86.2 million in FY 2003; however, given the inflation experienced over this time, the actual value of the Registration Fees has declined considerably. Further noted in Table 12 is the relative stability of fees by plate class. If adjusted for inflation, the real value of Registration Fees by plate class has declined, which suggests that the Registration Fees revenue stream has not kept pace with the actual costs associated with the highway system. Table 13 exhibits the Registration Fees adjusted for inflation.

Table 14 and Chart 8 portray the inflation-adjusted tax revenues flowing into the West Virginia State Road Fund on a vehicle miles traveled basis. Adjusted for inflation, tax revenue per vehicle miles traveled has declined from FY 1980 to FY 2002. More importantly, real revenues per vehicle miles traveled have decreased 20 percent since 1994.

As a result of the increase in the Privilege Tax rate in 1971, the creation of the Wholesale Tax in 1983, and several increases in the Gasoline Tax between 1970 and 2002, the nominal revenues into the State Road Fund from the major sources have grown from \$87 million in FY 1970 to \$543.1 million in FY 2003, which represents a total increase of 524 percent or roughly 16 percent per year. When adjusted for inflation and converted into real dollars, the results are more telling. A review of Table 10 indicates that the real value of the State Road Fund increased from \$390 million in FY 1970 to \$533 million in FY 2003, which represents an increase of 36 percent over the entire period or roughly 1.1 percent per year. In addition, while real revenue has increased at merely 1.1 percent per year, the amount of travel taking place on West Virginia highways is increasing at a rate of roughly 4 percent per year, which in turn increases maintenance and operating costs. The net effect of these two factors is a decrease in the amount of real State Road Fund revenues that are generated per vehicle mile traveled and are available for construction and maintenance activities.

Chart 8
West Virginia Total State Road Fund
Tax Revenue per Vehicle Miles Traveled
FY 1980 - FY 2002
Inflation Adjusted



6.0 Comparative Analysis of West Virginia Highway Financing

6.1 A Comparison with Relevant States

Table 15 provides a comparison of highway finances for West Virginia with its surrounding states, as well as Delaware and North Carolina. The latter two states and Virginia exhibit administrative centralization in their highway systems similar to West Virginia's state-controlled highway system. In FY 2000, West Virginia had the second highest total highway receipts per capita (\$747) after Delaware's \$976 per capita receipts. This is higher than both the average for the U.S. and the District of Columbia and the average for the sample states. Composition of these total receipts shows that West Virginia relies mostly on highway user taxes; however, the share of highway user tax revenues is lower in West Virginia, particularly in comparison to the average of the sample states.

Complimentary to Table 15, Table 16 provides a comparison of the total highway receipts by showing changes between FY 1980 and FY 2000. Total receipts per capita increased in all states in the sample while the percentage changes between the two years differ. West Virginia has the second lowest percentage increase in total receipts per capita (35.4 percent) after Maryland (12.8 percent). West Virginia's percentage increase lies significantly below the sample average. West Virginia exhibited changes in the highway revenue sources similar to a majority of the sample states. It should be noted that the share of appropriations from the General Revenue Fund in West Virginia decreased from 29 percent in FY 1980 to zero percent in FY 2000

The changes in the shares of highway user tax revenues and bond receipts have been relatively modest in West Virginia; however, some other states experienced substantial changes, particularly in the share of highway user tax revenues. For example, this share increased from 65 percent to 85 percent in Kentucky while it decreased from 77 percent to 61 percent in Virginia.

Table 17 gives further detail on the highway user tax revenues by comparing the shares of different levels of government. The first column shows that West Virginia has the highest per capita highway user tax revenue among the sample states. West Virginia's \$459 per capita revenue is significantly greater than the average revenue for all fifty states and the District of Columbia and the average revenue for the sample of states. A relatively high share (37 percent) of these highway user tax revenues comes from federal agencies. West Virginia together with Delaware, Maryland and Ohio receive no contributions from local governments.

Another important aspect of the state highway financing is what states get in federal aid apportionments for their contribution to the Highway Trust Fund. Table 18 shows payments into the fund and apportionments from the fund in FY 2001 and the accumulated amounts since 1956. West Virginia had by far the highest per capita federal apportionment from the Highway Trust Fund in FY 2001. Looking at the ratio of

apportionment to payments, which indicates the net inflow of federal aid, West Virginia has the highest ratio in both FY 2001 and the accumulated amount since 1956. This ratio in FY 2001 shows that West Virginia received \$2.68 from the federal Highway Trust Fund for each \$1 that it contributed to the fund.

States derive revenue from various taxes and fees associated with the use of motor fuel, motor vehicles and motor carriers. Table 19 presents per capita receipts from such revenue sources. West Virginia has the highest per capita adjusted net receipts from motor carrier taxes among the comparison states; however, it has lower per capita receipts from motor vehicle and motor carrier registration fees than its three northern neighbors, Pennsylvania, Ohio, and Maryland. Nevertheless, West Virginia derives one of the highest per capita receipts from other motor vehicle and motor carrier fees. This makes it the state with the highest per capita total receipts from motor fuel, motor vehicle and motor carrier taxes and fees among the states shown in Table 19.

Table 20 presents a comparison of tax rate treatments for four different types of motor fuel. This table shows that West Virginia has the second highest tax rate for FY 2001 (\$.2565 per gallon) after Pennsylvania in all motor fuel types except liquefied petroleum gas, for which West Virginia has the highest rate. Ohio will have the highest gasoline tax rate after its new fuel taxes are fully implemented. While North Carolina, Ohio and West Virginia offer no differential treatment, other states impose varying tax rates. The highest motor fuel tax rate is imposed on diesel by Pennsylvania. We also see that West Virginia and its northern neighbors Maryland, Ohio and Pennsylvania have significantly greater motor fuel tax rates than West Virginia's southern neighbors Kentucky and Virginia.

Fuel tax rates have changed significantly over the years. Tables 21 and 22, respectively, show the tax rate changes over the period of FY 1986 to FY 2001 for gasoline and diesel. Rates changed dramatically between FY 1986 and FY 1990 and again between FY 1990 and FY 1995. There were no major changes in tax rates demonstrated in the tables during the last six years; however, West Virginia's overall gasoline tax rate increased by 67 percent between FY 1986 and FY 2001. While this percentage increase is greater than average increases for the U.S. states and the District of Columbia and for the sample states, it is still smaller than percentage increases in four other states in the sample. Pennsylvania led in rate increases with a 117 percent increase between FY 1986 and FY 2001. It should be noted that in 2001 West Virginia extended its 1993 \$.05 per gallon increase in the Gasoline Tax through FY 2007; otherwise, the rate would have reverted to \$15.5 per gallon in FY2002. After rising above its floor of \$.0485 per gallon in FY 2001 for the first time since its inception in FY 1983, the Wholesale Tax rate, which is adjusted annually, dropped back to \$.0485 per gallon in FY2002. Consequently, the state tax rate dropped to \$.2535 per gallon in FY2002. Without the Gasoline Tax rate extension, the combined state tax rate would have been \$.2035, a rate that would have reduced tax revenue by at least \$55 million yearly.

West Virginia imposed identical rates on both gasoline and diesel throughout the period FY 1986 to FY 2001. With few exceptions, the changes in tax rates on diesel shown in

Table 22 are largely symmetric to the ones shown for gasoline shown in Table 21. On average, there have been greater rate increases in percentages for diesel than for gasoline. Again, Pennsylvania stands out with an even more pronounced rate increase of 158 percent between FY 1986 and FY 2001.

States often engage in borrowing for the financing of their highway expenditures. Table 23 compares states by their per capita highway debt obligations in FY 2000. West Virginia ranks second, after Delaware, in percentage change in per capita highway obligations during this fiscal year; however, it ranks fourth in end of year outstanding obligations per capita. In per capita terms, West Virginia does not appear to be a highly indebted state regarding the financing of highways.

6.2 Comparison of Influential Factors in Highway Financing

The analysis of demand and supply factors starts with a comparison of total highway mileages across our sample states. Table 24 shows changes in total highway miles per 1,000 persons and the distribution of those miles among state, local and federal governments between 1980 and 2000. West Virginia and Kentucky had relatively high total highway miles per 1000 persons between 1980 and 2000 compared to other states in the sample. While West Virginia had the second highest total miles per 1,000 persons (17.9) in 1980 after Kentucky (18.7), it surpassed Kentucky in 2000 to rank first, with a substantial increase to 20.5 miles per 1,000 persons. This was more than three times higher than Maryland's 5.8 miles per 1,000 persons. Table 24 also shows that both West Virginia and Delaware had a considerably higher share of highway miles under state control than most of the other states. In fact, West Virginia was the only state that experienced an increase in the share of state-controlled highway miles. The share of 91.8 percent for West Virginia was the highest among states in 2000. As expected, West Virginia had the lowest share of miles under local government control in both 1980 and 2000. The share of 6.3 percent for West Virginia was substantially lower than 83.3 percent for Ohio.

Continuing with other complementary demand and supply factors, vehicle miles driven per capita and vehicle miles driven per licensed driver are compared across the sample states. Table 25 shows that West Virginia, behind Kentucky and North Carolina, had the third highest vehicle miles driven per capita in 2000. At the same time, it had only the sixth highest vehicle miles driven per licensed driver. It is also clear that West Virginia is a relatively low-income state. West Virginia's per capita income in 2000 was well below other states' per capita income. Finally, a comparatively low population density per square mile can explain West Virginia's relatively high number of highway miles per 1,000 persons shown in Table 25. The table shows that West Virginia's population density per square mile was less than one seventh of Maryland's in 2000 and was the lowest among the sample states.

Another state characteristic that can affect highway revenues is the number and type of registered motor vehicles. Table 26 provides a comparison of different types of motor vehicle registrations. West Virginia is below the average of all U.S. states and the District of Columbia and the average of sample states in total registered motor vehicles

and motorcycles per 100 persons. It is also below these averages in total private and commercial motor vehicles and motorcycles and, more specifically, in automobiles and buses. On the other hand, it has the largest number of trucks per 100 persons among the sample of states.

Finally, demographics can play an important role in highway financing of states. Changes in demographic characteristics can lead to major swings in highway revenues. Table 27 presents a comparison of the composition of licensed drivers in the sample of states by sex and age. West Virginia has the highest share (73 percent) of licensed drivers in total population, which is a positive indicator in terms of highway revenues. A considerable portion of those licensed drivers, however, is composed of elderly (65 and over) drivers. This can be attributed to West Virginia ranking 3rd among all states in percent of population 65 years of age or older. West Virginia has the highest share (19 percent) of total licensed drivers who are aged 65 and over and the lowest share (76 percent) of drivers aged 20 to 64 among our sample of states. West Virginia also has the second highest share (51 percent) of female drivers in total licensed drivers.

6.3 Comparative Fees

Table 28 exhibits selected automobile fees for West Virginia and the seven sample states. The two fees selected for comparison are the annualized fee for a regular driver's license and the annual vehicle registration or license fee. The annualized driver's license fee ranges from \$2.00 in Kentucky to \$6.50 in Pennsylvania. The West Virginia annualized fee of \$2.50 is below the average for the seven comparison states. The registration or license fee ranges from \$10.00 in North Carolina to \$40.50 in Maryland. The West Virginia registration fee of \$30.00 is above the average for the seven comparison states.

The vehicle title fee, which was not included in Table 28, ranges from \$5.00 in Kentucky, Ohio, and West Virginia to \$35.00 in North Carolina. West Virginia's title fee of \$5.00 is substantially below the average for the seven comparison states.

7.0 Expenditures from the West Virginia State Road Fund

In this section, historical expenditures from the West Virginia State Road Fund are examined. The expenditure categories analyzed include debt service, construction, maintenance, administrative support, specialized infrastructure projects, transfers, and Division of Motor Vehicle (DMV) expenditures. Unless specifically stated otherwise, all financial data are reported on a cash accounting basis.

7.1 Division of Highways (DOH) Expenditures

The Division of Highway expenditures were examined in nominal terms for FY 1988 through FY 2003 (see Table 7). Annual debt service costs have fallen both in absolute terms and as a proportion of total DOH expenditures. In FY 1988, debt service costs constituted over 13.7 percent of expenditures as compared to FY 2003 when they comprised 5.4 percent of DOH expenditures. Annual highway construction costs have increased both in absolute terms and as a proportion of total DOH expenditures. In FY 1988, construction costs constituted 50 percent of expenditures as compared to FY 2003 when they comprised 54 percent of DOH expenditures. Similarly, annual highway maintenance costs have increased both in absolute terms and as a proportion of total DOH expenditures. In FY 1988, maintenance costs constituted 29 percent of expenditures as compared to FY 2003 when they comprised 35 percent of DOH expenditures. Finally, annual administrative support costs have nearly doubled in absolute terms but show only a small proportional increase. In FY 1988, administrative support costs constituted 7 percent of expenditures as compared to FY 2003 when they comprised 5 percent of DOH expenditures.

A review of the DOH's real or inflation-adjusted expenditures (see Table 29) indicates that total expenditures have increased 22 percent since FY 1988. In real terms, debt service costs exhibited a substantial (52 percent) decrease during that period. The decrease in debt service was more than offset by significant increases in both construction and maintenance activities. In real terms, annual construction expenditures increased by \$124 million (33 percent) and maintenance expenditures increased by over \$100 million (46 percent). In contrast to the variability displayed by the other expenditure categories, administrative support expenditures have been relatively stable but trending lower. Expenditures for administrative support have decreased nearly 9 percent in real terms since FY 1988.

7.2 Division of Motor Vehicles (DMV) Expenditures

Expenditures by the DMV were examined for FY 1990 through FY 2002 (see Table 30). The annual DMV expenditures experienced a huge increase during this thirteen-year period. DMV expenditures for internal operations in FY 1990 were slightly over \$6 million; by FY 1996, they were \$12.8 million; and by FY 2002, they were \$25.9 million. In this context, during this period, annual personal services costs increased over 407 percent, annual fringe benefits costs increased 486 percent, and other costs of internal operations increased over 226 percent. These increases were due largely to the opening

of regional DMV offices in selected counties along with little reduction in staffing levels in the central DMV office.

7.3 Specialized Infrastructure Projects

At the request of various governmental entities, specialized infrastructure projects intended to aid economic or educational development are undertaken. Most of the projects provide highway access to newly developed facilities. Since FY 1982, these projects have totaled over \$253.6 million⁶. (Since this information was extracted from the Division of Highways' project tracking system, it is available only on an accrual accounting basis and therefore cannot be directly correlated to yearly overall expenditures from the State Road Fund.) Table 5 contains a detailed breakdown of expenditures by category. The Industrial Access category in the table includes only those projects that were funded directly from the State Road Fund and should not be confused with expenditures from the Industrial Access Road Fund. Although these projects are beneficial, they reduce the State Road Fund dollars that are available for general highway and bridge construction and maintenance activities. Given the fact that most of these facilities serve local traffic, they are generally not eligible for federal-aid matching funds and must be constructed with 100 percent state dollars.

7.4 Transfers and Other Miscellaneous Expenses

Transfers from the State Road Fund were examined for FY 1982 through FY 2003 (see Table 6). The total financial transfers during this period equaled over \$109 million, with the bulk of them processed through the DMV.

The Division of Motor Vehicles' total yearly expenditures reflect more than the costs of its internal operations. Beginning in FY 1991, the West Virginia Legislature required the DMV to transfer funds to the Division of Public Safety (DPS) and in FY 1995 to the Department of Tax and Revenue (Tax). In FY 2003, the transfers to DPS and Tax were \$5.5 million and \$.56 million respectively. From inception, these transfers have totaled \$79.4 million and \$4.6 million respectively (see Table 6).

The Division of Highways' administrative support costs include yearly payments for the operation of the West Virginia Courtesy Patrol, which is described in Appendix E. Since the Patrol started in FY 1999, \$19.8 million has been expended from the State Road Fund for its functions.

In FY 2000, the DOH and DMV, along with other state agencies, began a yearly transfer of funds to the PEIA Reserve Fund. The transfer equals one percent of the agencies' annualized gross payroll after amounts charged to federal projects are subtracted. In FY 2000, the amount was \$1.3 million; in FY 2001 and FY 2002, the amount was \$1.4 million; and in FY2003, the amount was \$1.5 million (see Table 6).

⁶ Since this information was extracted from the Division of Highways' project tracking system, it is available only on an accrual accounting basis and therefore cannot be directly correlated to yearly overall expenditures from the State Road Fund.

The West Virginia Legislature has established 10 regional highway authorities that are responsible for promoting modern highways at various locations within West Virginia. Since FY 1995, a total of \$2.5 million from the State Road Fund has been allocated through the legislative Budget Digest to the various authorities. In FY 2002, State Road Fund dollars were allocated to the following regional highway authorities; the actual payments to the authorities are included in the Division of Highways' construction funding:

Coal Fields Expressway Authority	\$125,000
King Coal Highway Authority	\$ 50,000
Little Kanawha River Parkway	\$ 25,000
Midland Trail Scenic Highway Association	\$ 50,000
Shawnee Parkway Authority	\$ 57,000
Corridor H Authority	\$125,000
Route 2-I68 Authority	\$ 10,000

8.0 The Future of the West Virginia State Road Fund

8.1 Introduction and Overview

The economic future of the West Virginia economy is very dependent upon national and international developments. An examination of the long-term forecasts for the U.S. and West Virginia economies is essential to the estimation of revenue yields associated with the current West Virginia State Road Fund. The first part of this section reviews long-term national economic forecasts and related forecasts for the West Virginia economy. Following this review, attention is directed towards the development of forecasts for the West Virginia State Road Fund's major revenue sources for FYs 2004-2008 (i.e., July 1, 2003 through June 30, 2008). These forecasts then set the stage for an examination of policy options directed towards increasing funds necessary for the operation of West Virginia's highway system.

8.2 National and West Virginia Economic Forecasts

The national economic outlook is based upon a recently released 25-year U.S. economic forecast provided by Global Insight, a leading national economic forecasting firm.⁷ These forecasts cover a history from 1977-2001 and project for the period 2002-2028. The forecasts cover output, inflation, unemployment and other macro variables along with disaggregated variables such as employment and production by industry. Global Insight prepares four different forecast scenarios including:

- Trend - principal base line forecasts under assumption that the economy suffers no major mishaps over the forecast period
- Cycle - major alternative scenario, which imposes typical business cycle behavior on the trend forecast
- Optimistic - provides a most optimistic scenario regarding economic growth with increases in population, labor force, capital stock, and technological change at higher rates than trend
- Pessimistic - opposite of optimistic with growth rates below trend

For the purposes of this study, use is made of the Global Insight trend baseline forecast released in winter 2003.

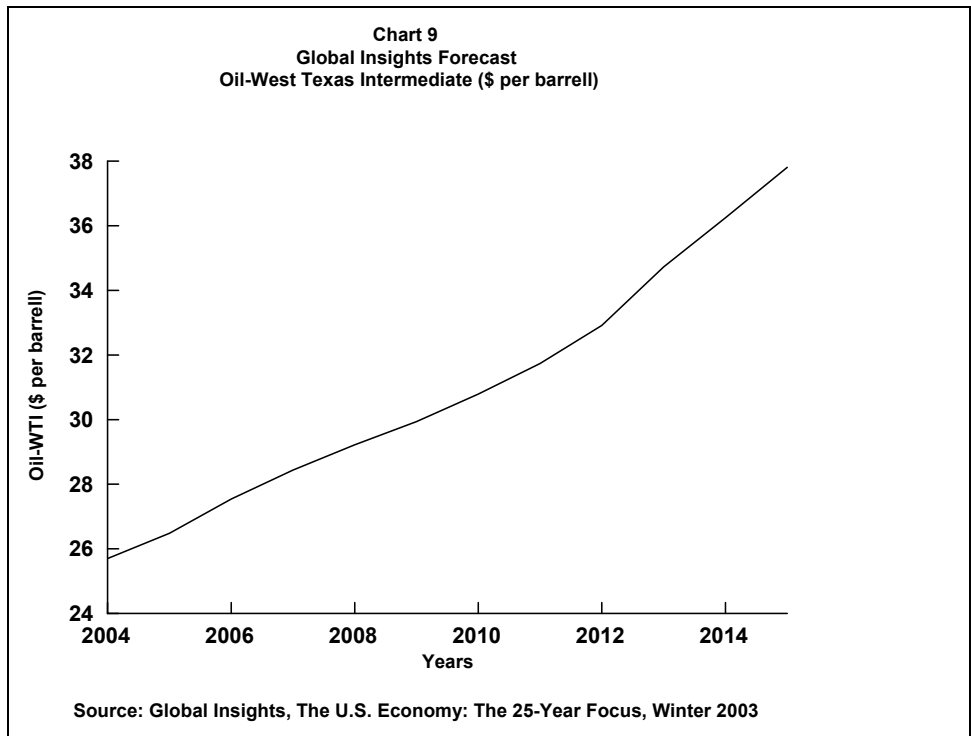
In making the projections, Global Insight makes some key assumptions. First, population demographics are the primary driver in long-run economic growth and forecasts. The demographic projections of population size by age categories determine the labor force, employment, unemployment, housing demand, and specific consumption in areas such as health services. Global Insight uses the population projections associated with the Census Bureau's "middle" projection available from the Census website.

⁷ *The U.S. Economy: the 25-Year Focus*, Global Insight, Winter 2003. The West Virginia Department of Tax and Revenue and the WVU Bureau of Business and Economic Research share the Global Insights' subscription to U.S. and West Virginia economic forecasts.

Second, Global Insight assumes that federal spending on defense, transfer payments, and federal aid to state and local governments will consume an increasing share of gross domestic product. No specific forecasts are made of federal apportionments for the highway system.

Third, Global Insight assumes that monetary policy will be important in determining the rate of inflation by keeping short-term interest rates below their normal levels. The result of this policy will be a slow but steady increase in the rate of inflation over the trend forecast period; however, the rates of inflation will remain low by historic standards.

Fourth, Global Insight assumes the average acquisition of foreign crude oil will remain below \$30 per barrel through 2010 (Chart 9). Thereafter, continued increases in demand and maintenance of OPEC pricing power will result in crude oil prices increasing to \$61 per barrel by 2028. This is a critical assumption since it implies relative stability in crude oil prices during the forecast period of this report. If one assumes that retail gasoline prices mirror crude acquisition costs, then gasoline pump prices will remain relatively constant at least through 2010 and may decline when adjusted to real terms.



Finally, other assumptions are made regarding international growth, trading patterns among countries, and demand mix; however, for the purposes of this study, the focus will be on population, inflation, vehicle sales, and crude oil prices.

A Side Note-

Shortly after completing the first draft of this report, oil prices began their upward movement to over \$40 per barrel. At this price, the retail price of gasoline was in excess of \$2.00 per gallon for regular grades within much of West Virginia. The authors note that these prices are far in excess of the base line forecasts from Global Insights. Adjusted for inflation, however, these prices are still below the real prices experienced during previous energy ‘crises’. At this point, the duration and extent of high fuel prices are uncertain, but some analysts believe that a continuation of high fuel prices may result in reductions in utilization of the existing motor vehicle fleet in the short-run and a shift to more fuel-efficient vehicles in the longer run. Both adjustments will have profound negative consequences for the revenue yields from West Virginia Gasoline, Wholesale Fuel, and Privilege Taxes and Registration Fees.

There are two sources of long-term forecasts for the West Virginia economy examined for possible use in developing the various revenue forecasts. The first source is the West Virginia economic projections from the West Virginia Economic Outlook Program in the Bureau of Business and Economic Research, West Virginia University.⁸ These forecasts are only available through 2011 and were released in 2002, a year prior to the Global Insight U.S. forecasts referenced earlier. The long-term forecast ties the state to the economic performance at the U.S. level using prior long-term forecasts from DRI, a predecessor to Global Insights. According to Dr. George Hammond, director of the West Virginia Economic Outlook Program, the state forecasts indicate:

- Increase in the number of jobs, real per capita personal income, and real gross state product over the period
- Gradual declines in the population over the period as a result of negative natural increase and minimal net migration into the state
- Stabilization of the unemployment rate between 4.8 and 6.0 percent
- Slower growth than experienced at the national level.

The BBER forecasts, however, do not provide forecasts of light vehicle sales.

The second source of West Virginia forecasts examined for this report is Global Insight’s short- and long-term forecasts released in October 2003. These forecasts cover the period 2003-2028 and have more detail including new car registrations. Since these forecasts are more detailed and timely, we have elected to use these forecasts in developing the baseline and policy option revenue projections.

Chart 10 presents a summary of the key long-term Global Insight forecasts for the West Virginia economy for the period 2003-2015. An examination of these forecasts shows slow growth in various dimensions of the economy including real personal income, real gross state product, and employment. In addition, inflation is expected to average

⁸ George Hammond, *West Virginia Economic Outlook Long-Term Forecast 2002-2011*, Bureau of Business and Economic Research, West Virginia University, July 2002. These forecasts were predicted on DRI (predecessor to Global Insight) long-term forecasts in 2002.

between 1.9 and 3.4 percent annually. Population and household numbers are relatively unchanged over the period leading to a contraction in new car registrations in the early part of the period and slow growth in the later forecast years.

Chart 10				
Summary of Key West Virginia Economic Forecasts				
2003-2015				
Economic Variable	Compound Annual Growth Rate			
	2003	2003-2008	2008-2013	2013-2015
Personal Income (billions\$)	44.1	3.9%	4%	4.4%
Real Personal Income (96\$)	38.9	2.1	1.4	1.1
Real Gross State Product (96\$)	39.8	2.1	2.6	2.9
Population (1000)	1802.6	0	0	0
Households (1000)	739.7	0.2	0.2	0.2
Non-Agriculture Employment	730.8	1.2	1.2	1.1
Consumer Price Index (Annual % Change)	2.3	1.9	2.8	3.4
New Car Registrations (1000)	89.2	-1	0.2	0.9

Source: Global Insights, 25 Year Forecast of the West Virginia Economy, Winter 2003.

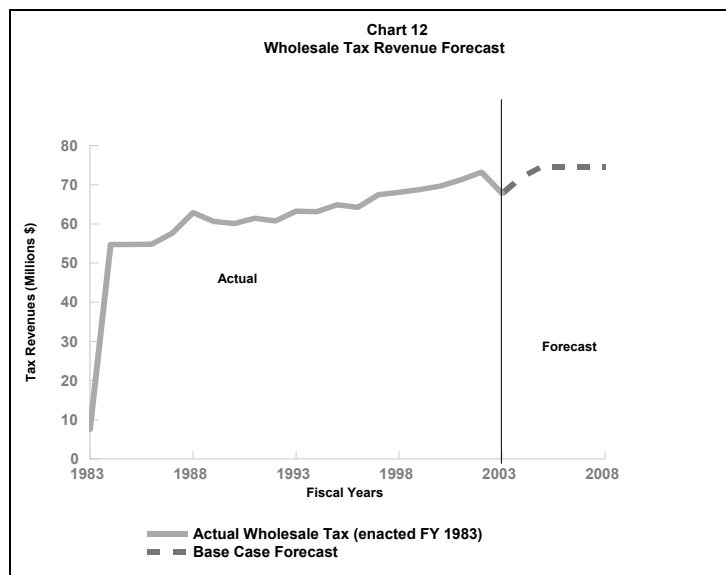
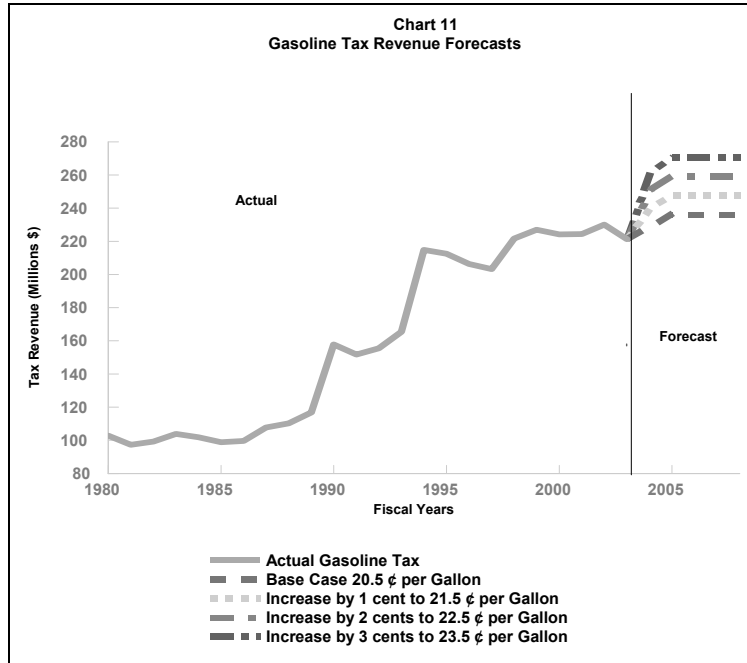
8.3 Revenue Projections Under the Current Financing System

In the prior section, the long-term United States and West Virginia economic forecasts were summarized. In the case of West Virginia, these forecasts indicated sluggish economic growth relative to the United States over the period 2003-2015. This outlook is not very positive as it relates to real growth in the funds available to the West Virginia State Road Fund.

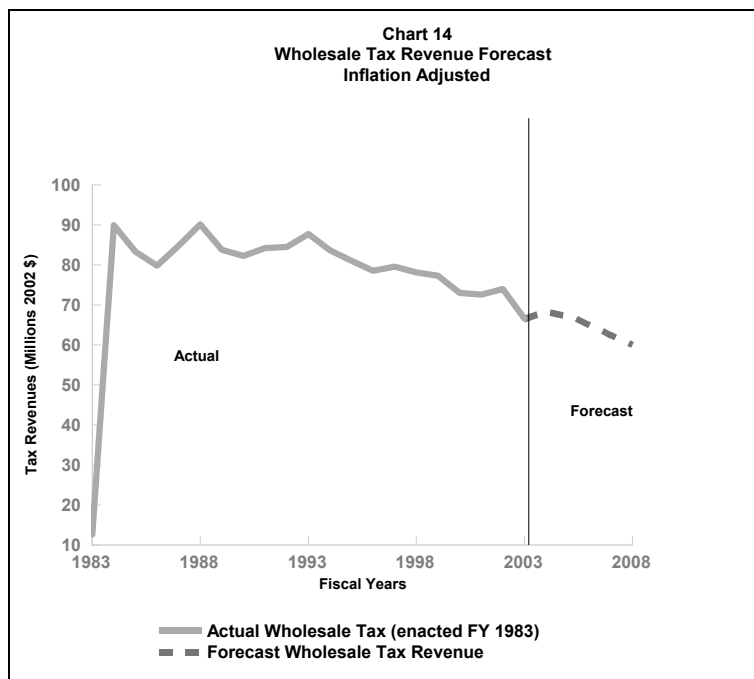
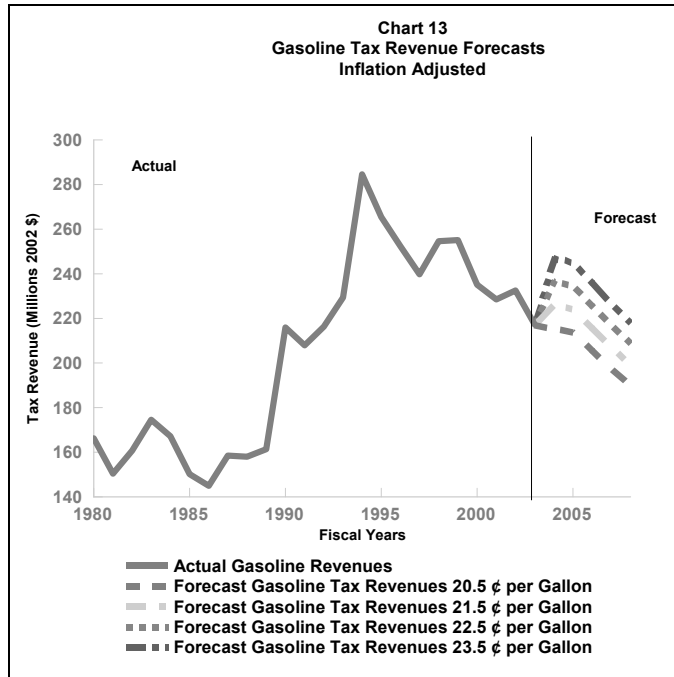
Two methodologies can be used to generate forecasts of the key revenue sources making up the West Virginia State Road Fund. The first approach involves the development of appropriate econometric models. These models posit a relationship between a dependent variable and a series of explanatory variables. The explanatory variables are often chosen based on theoretical economic relationships, which are posited to exist between the variables of interest. In some cases, the choice of a variable may be based on confirming experiences in other research studies of similar topics. If an appropriate model is developed, it can be used to generate forecasts of the dependent variable conditional upon forecasted values of the explanatory variable over the forecast period. While a variety of econometric models were developed and used to forecast the major revenue sources, the results were quite disappointing. There appears to be several major structural changes in the relationships between the revenue sources and the key economic variables affecting the levels of these sources over the period 1980-2003. Examples of these changes include the changing characteristics of the vehicle fleet, gasoline consumption, CAFÉ standards and tax rate changes. While more disaggregated data might enable an econometrician to separate more of the behavioral relationships, its absence in West Virginia precluded successful use of econometric models for the forecasts.

The second methodology uses the most recent five years to establish the basis for future revenue projections. In this approach, the average yield over the past five years is estimated and used as the basis for additional revenue estimates through FY 2008. For

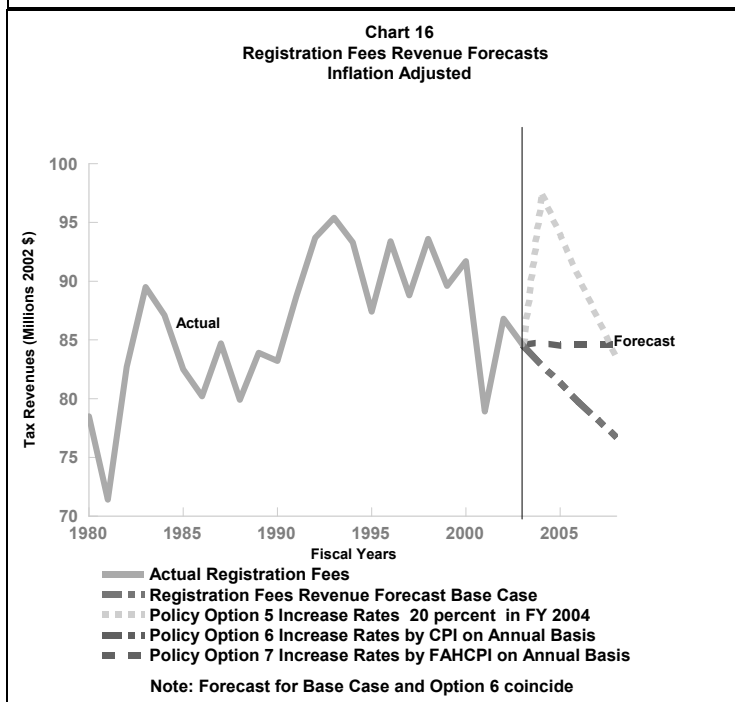
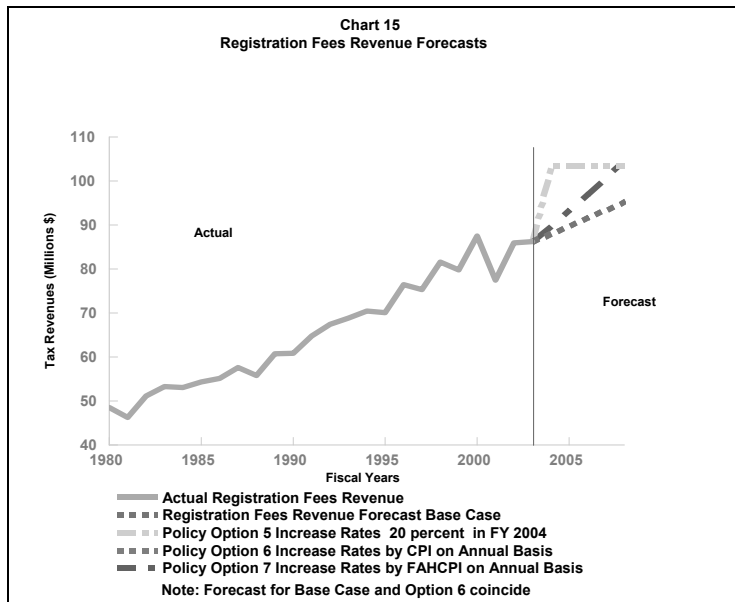
the Gasoline Tax and the Wholesale Tax, implicit in the revenues collected for the past five fiscal years is the number of gallons of fuel sold. Averaging this over the period and applying the current tax rates permits the estimation of the base revenues anticipated from these two sources. The passage and implementation of the Tax at the Rack fuel revenue collection also is incorporated into the revenue estimates. The base case forecasts of revenue associated with the Gasoline Tax are presented in Table 32 and in Chart 11. The base case forecasts of revenue associated with the Wholesale Tax are presented in Table 34 and in Chart 12.



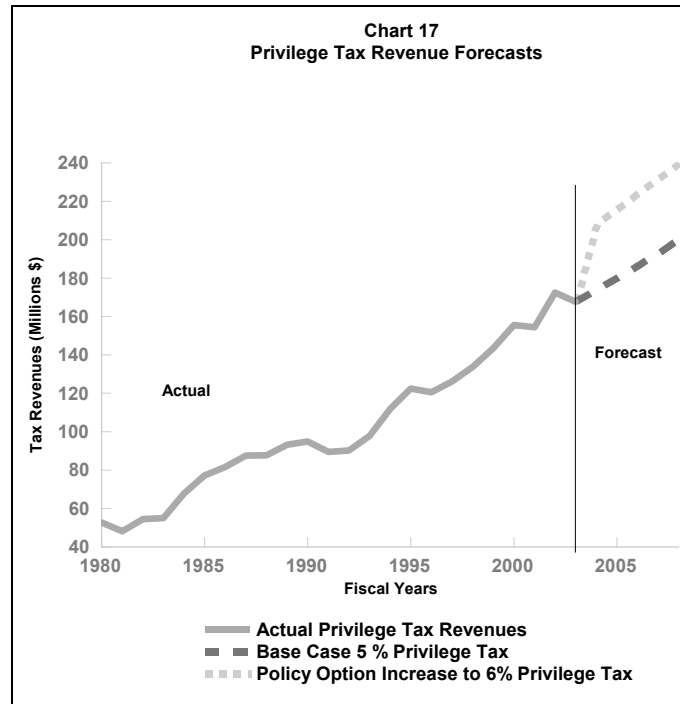
Since the effects of inflation will diminish the value of future revenue streams, it was assumed that the annual rate of inflation associated with the Federal-Aid Highway Construction Price Index would be 4 percent annually. Using this rate, the projected actual revenues were converted into 2002 dollars so that comparisons with historic data can be made. The base case inflation-adjusted forecasts of revenue associated with the Gasoline Tax are presented in Table 33 and in Chart 13. The base case inflation-adjusted forecasts of revenue associated with the Wholesale Tax are presented in Table 34 and in Chart 14.



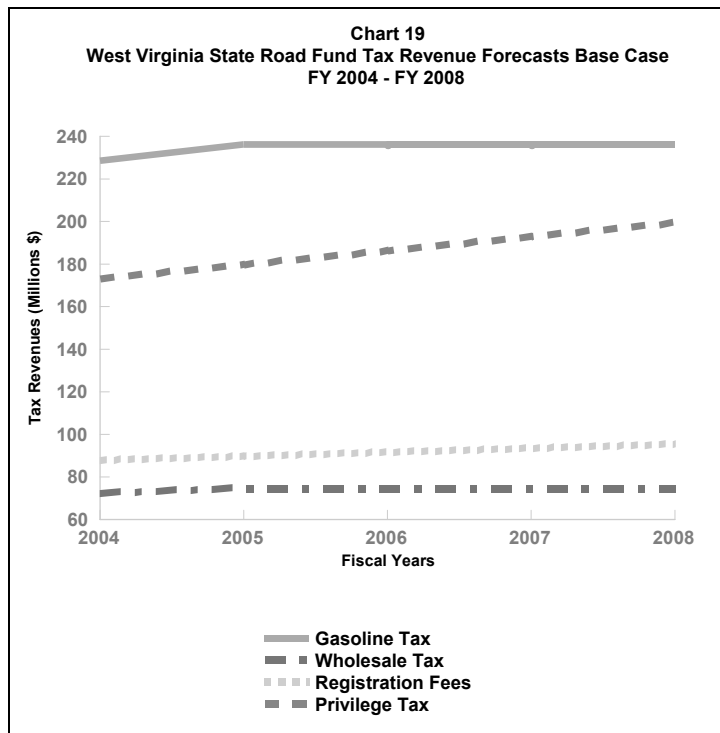
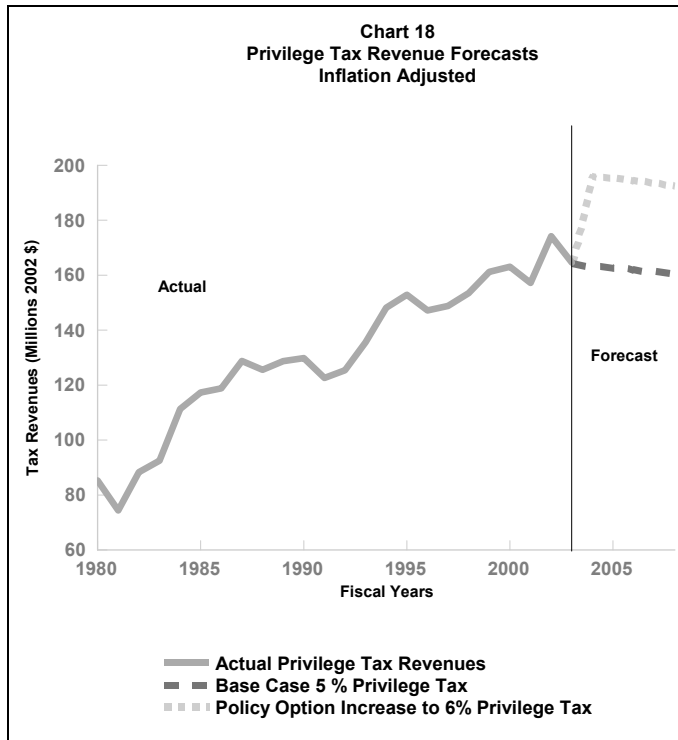
The Registration Fee revenues have exhibited some stability in the recent past. Given an economy characterized by slow economic growth, stable population, and low inflation, it was assumed that the future growth in this revenue source would be no more than two percent per year. Table 35 and Chart 15 present the Registration Fee Revenue forecasts for FY 2004 through FY 2008. As in the case of the fuel taxes, these revenue estimates were converted to real 2002 dollars through use of a four percent annual increase in the Federal-Aid Highway Construction Price Index. These inflation-adjusted revenue forecasts are presented in Table 36 and in Chart 16.



The Privilege Tax revenues have exhibited growth over a long period. To estimate future growth, the average growth over the past five years was estimated and was assumed to continue for the forecast period. Table 37 and Chart 17 present the base case Privilege Tax revenue forecasts for FY 2004 through FY 2008. As in the three other taxes, these forecasts were converted to real 2002 dollars through use of a four percent annual increase in the Federal-Aid Highway Construction Price Index. These inflation-adjusted revenue forecasts are presented in Table 38 and in Chart 18.



The West Virginia State Road Fund base case forecasts of all four tax revenue streams in nominal and inflation-adjusted (2002\$) are presented in Tables 39 and 40 (Charts 19 and 20). Chart 21 provides an overview of the historic and forecasted values of the West Virginia State Road Fund. Chart 22 provides an overview of the historic and forecasted values of the inflation-adjusted (2002\$) West Virginia State Road Fund. An examination of these forecasts shows continued erosion in the real value of the West Virginia State Road Fund, implying that significant reductions in construction and maintenance lie ahead.



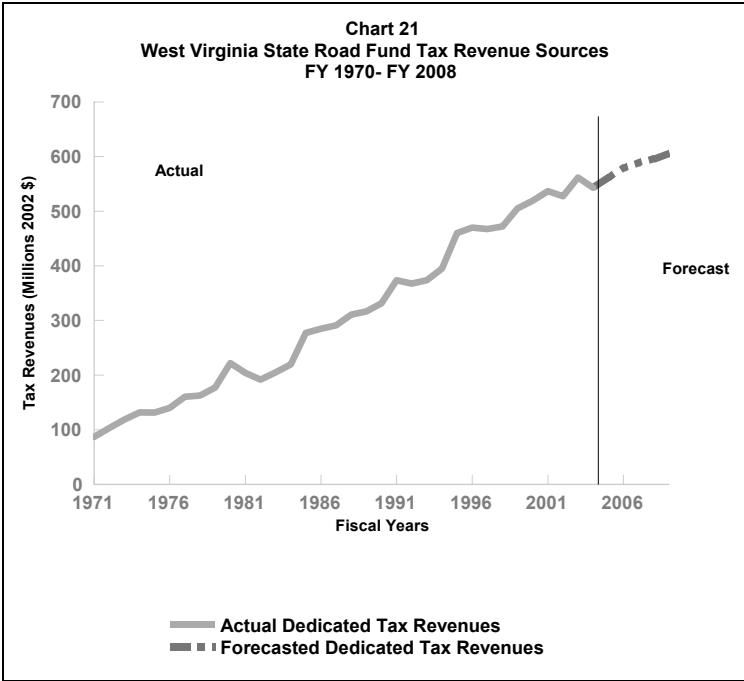
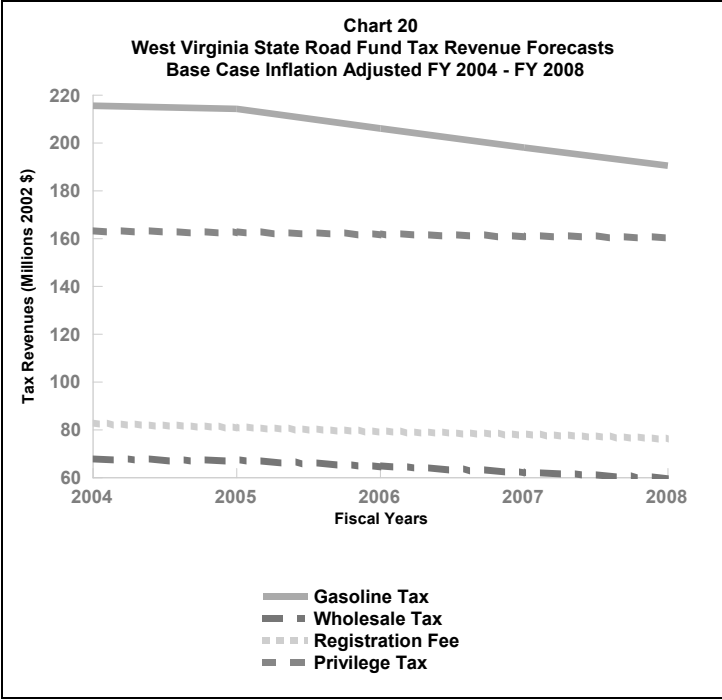
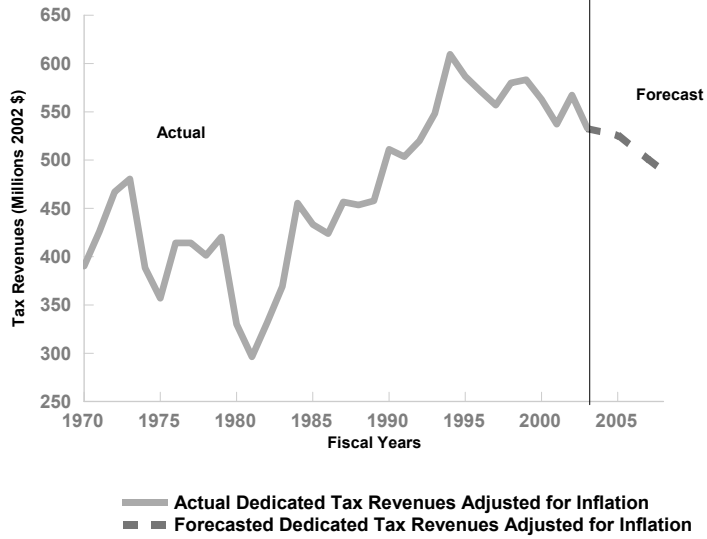


Chart 22
West Virginia State Road Fund
Tax Revenue Sources Inflation Adjusted
FY 1971 - FY 2008



9.0 Alternatives for the West Virginia State Road Fund's Future

The future of the West Virginia State Road Fund can be optimistic or pessimistic depending on the policy options chosen. This section explores some of the various criteria used in evaluating highway tax revenue sources as well as the various options open for consideration.

9.1 Criteria for the Evaluation of Highway Tax Revenues

Several criteria can be employed in evaluating highway revenue sources. These criteria include:

1. Economic efficiency, which focuses on taxes varying positively with mileage driven as well as vehicle weight and taxes varying inversely with the number of axles on vehicles. This criterion focuses on an efficient allocation of resources or, in this particular case, the efficient use and financing of the highway system.
2. Equity (fairness) or distributional effects, which can incorporate concepts of ability-to-pay (taxes should be levied in accordance with income and/or wealth), benefits received (taxes should be levied in accordance with the benefits that users receive from the highway system), and cost causation (taxes should be levied in accordance with the highway expenditures caused by users).
3. Stability, which focuses on revenue stability over time and financing potential.
4. Administration feasibility (or cost efficiency), which focuses on administrative, enforcement and compliance costs. This criterion focuses on cost minimization in the provision of the highway system.
5. Practicality, which includes practical attributes such as tax simplicity, public acceptability and understanding, the minimization of rate (tax) shock, and state budget implications.

Obviously, the five criteria can overlap. For example, economic efficiency and cost efficiency (the administration criterion) are closely related. In addition, equity and efficiency cannot be completely separated.

The concepts of economic and cost efficiency are fairly well understood, are measurable, and have some consensus as to their definitions. In contrast, the concept of equity or fairness is less understood, difficult to quantify, and has little consensus as to its definition. For example, some define fairness in the context of public perception; that is, taxes or financing mechanisms are fair when perceived as not providing an unjust advantage to any particular group of highway users, a highly subjective criterion. More specifically, for the DOH, higher taxes and fees can ensure the financial viability of the West Virginia State Road Fund and the adequate maintenance of the state highway system but can preclude public acceptance. Lower taxes and fees are acceptable to users but can jeopardize the financial viability of the West Virginia State Road Fund.

9.2 Adequacy of Present Highway Revenues

In previous sections, state highway expenditure and revenue funding for FY 1970 through FY 2003 were analyzed. A review of Table 3 indicates that during this period in nominal terms, annual Gasoline Tax revenues increased 347 percent, annual Registration Fee revenues increased 230 percent, and annual Privilege Tax revenues increased 1,374 percent. In addition, the Wholesale Tax was enacted in 1983, which has increased 24 percent since its first full year of implementation. As a result, total annual West Virginia State Road Fund tax revenues during the period of FY 1970 through FY 2003 increased 524 percent however, these revenues have grown very slowly since FY 1994. That is, annual total highway tax and other revenues have only increased 18 percent over the last nine fiscal years. In addition, since FY 1984, there have been no transfers from the General Revenue Fund to the West Virginia State Road Fund.

During this same period (FY 1970-FY 2003), total annual federal reimbursements increased 232 percent in nominal terms. Since FY 1993, federal aid reimbursements for both Interstate Highway construction and maintenance and Other Federal Aid have increased 20 percent and 36 percent, respectively. In contrast, annual federal reimbursements for Appalachian Development Highway System construction have increased substantially; that is, there has been a 192 percent increase in annual reimbursements over the same period.

In brief, the annual revenues from the Gasoline Tax, the Wholesale Tax, the Privilege Tax, and Registration Fees have all increased in nominal terms since FY 1970. Similarly, total annual federal reimbursements have increased in nominal terms, but at much lower levels than the revenues of the State Road Fund. Contrary to the increases in State Road Fund revenue and federal aid reimbursements, transfers from the General Revenue Fund to supplement highway construction have been eliminated. Even after adjusting the total State Road Fund revenues to account for inflation, a moderate level of growth is noted, primarily due to the dramatic growth in Privilege Tax revenue. Despite the real growth experienced by the State Road Fund over the total period, as of FY 2003 total State Road Fund revenues were \$76.7 million (roughly 13 percent) below their peak of \$609.7 million, which was reached in FY 1994.

Similar to highway revenues, highway expenditures also experienced growth in nominal and real terms. While debt service costs have dropped dramatically in real terms from FY 1988 to FY 2003, they were offset by increases in real maintenance and construction expenditures. The size and complexity of the infrastructure that must be maintained has increased annually over time. The continual growth in state maintained highway mileage, as a result of programs like the Home Access Road Program, continual efforts to improve surface type, increased travel, and the ongoing construction of limited access highways throughout the state, have all increased the maintenance and construction resource needs placed upon the State Road Fund. Furthermore, funding these needs has been exacerbated by mandated transfers of funds (i.e. PEIA, the Tax Department, Public Safety and the Industrial Access Road Fund), large growth in the Division of Motor Vehicles' budget as

the result of regional offices, creation of the Courtesy Patrol, and the construction of Specialized Infrastructure Projects at the behest of various governmental entities.

9.3 Policy Options Internal to the West Virginia State Road Fund

There are a variety of policy options available which can generate additional revenues in the West Virginia State Road Fund. This section will explore the various options and provide revenue estimates associated with those options.

9.3.1 Gasoline Tax

Since the Gasoline Tax is an excise tax levied on the number of gallons distributed at the rack, the main policy alternatives entail raising the tax by a number of cents along with the timing of the tax hikes. Table 32 provides estimates of the revenues generated by the following alternatives.

Option 1: Increase Gasoline Tax by One Cent per Gallon

Option 2: Increase Gasoline Tax by Two Cents per Gallon

Option 3: Increase Gasoline Tax by Three Cents per Gallon

Table 33 provides an examination of the implications of these three options on the inflation-adjusted revenue forecasts.

9.3.2 Wholesale Tax

Like the Gasoline Tax, the Wholesale Tax is a sales tax levied on the price per gallon distributed at the rack. This tax is based on a base wholesale rate of 97 cents per gallon, which can increase through the annual survey of wholesale prices. Options available include increasing the floor or increasing the rate from five percent to six percent. In the case of the former, increases in wholesale prices above 97 cents already are incorporated into the tax. In the latter case, an increase from five to six percent probably is addressed better through the more direct approach of increasing the Gasoline Tax rate. Consequently, no policy option was offered in this case. Table 34 projects the revenue from this tax assuming the wholesale price remains at the 97 cents per gallon level.

9.3.3 Registration Fees

One option for generating additional highway revenues in West Virginia is increases in the various vehicle fees, particularly driver license fees, title fees, and the annual automobile registration fee. Applying the evaluation criteria of economic efficiency, equity, stability, administrative feasibility, and practicality, the criteria that presents the biggest problem are those of practicality or political feasibility. These criteria could be satisfied by annual adjustments, based on an inflation index, rather than having a one-time increase in the selected fees. As discussed in this report, the West Virginia annualized license fee of \$2.50 is substantially below the average (\$4.22) for the seven comparison states. The West Virginia annual registration fee for passenger vehicles of

\$30.00 is only slightly above the average (\$26.46) for the seven comparison states, while the West Virginia title fee of \$5.00 is substantially below the average (\$16.50) for the seven comparison states.

It is noted that some Registration Fees are for multiple years; consequently, in reality not all revenues will be realized in the year in which fees are raised. For the sake of simplicity, the forecasts assume immediate realization of all fees upon adoption of new fee schedules. Under current West Virginia Code, any change in registration fees must be approved by the Legislature. For the purposes of these forecasts, however, it is assumed implementation starts FY 2004.

Option 4: Adjustments in Selected Registration Fees

Given the registration revenues of nearly \$60 million in FY 2002, a 10 percent increase in the annual passenger vehicle registration fee (from \$30 to \$33) could generate as much as \$6 million in additional highway revenues. The doubling of the title fee (from \$5 to \$10), based on annual issuances, could generate as much as \$3 million in additional annual highway revenues. The doubling of the fee for driving records (from \$5 to \$10), based on annual issuances, could generate as much as \$3.5 million in additional annual highway revenues. Since many surrounding states charge \$50 to \$100 fee for a driver license reinstatement, an increase in this fee (from \$15 to \$50) could generate over \$1 million in additional annual highway revenues. In addition, a doubling of the vehicle registration transfer fee (from \$5 to \$10), the instruction permit fee (from \$5 to \$10), and the driver license fee (from an annualized cost of \$2.50 to \$5) could generate additional annual highway revenues. In sum, increases in vehicle fees present an excellent mechanism for generating additional highway revenues; however, the increases would require legislative approval.

Option 5: Increase Overall Registration Fees by Twenty Percent in FY 2004

This option would provide for a 20 percent increase in all registration fees in FY 2004. The revenue estimates for FY 2004 through FY 2008 are provided in Table 35. These revenue forecasts are converted to inflation-adjusted 2002 dollars in Table 36.

Option 6: Increase Registration Fees by the Annual Increase in the Consumer Price Index

This option would permit an orderly adjustment in all fees at the beginning of each fiscal year. The Consumer Price Index⁹ rate of growth has historically fallen short of the Federal-Aid Highway Construction Price Index. As a result, this inflation adjustment would not keep up with the actual highway cost increases. The revenue estimates for FY 2004 through FY 2008 are provided in Table 35. These revenue forecasts are converted to inflation-adjusted 2002 dollars in Table 36.

⁹ The Consumer Price Index is a widely used measure covering price changes in a market basket with goods and services consumed by an urban resident. It is released monthly by the Bureau of Labor Statistics.

Option 7: Increase Registration Fees by the Annual Increase in the Federal-Aid Highway Construction Price Index

As with Option 6, this option permits an orderly adjustment in all fees at the beginning of the fiscal year. The adjustment is higher than in Option 6, permitting the generation of revenues in line with the actual increased costs associated with highway construction and maintenance.

9.3.4 Privilege Tax

The primary growth in the West Virginia State Road Fund revenues historically is attributable to the growth in Privilege Tax collections. While some of the growth over time is due to increased numbers of vehicles, the major portion of the growth is attributed to the increased value of the vehicles. The current rate of 5.0 percent is one percentage point below the Consumer Sales and Use Tax rate of six percent.

Option 8: Increase Privilege Tax to 6 Percent (Equivalent to Consumer Sales and Use Tax)

Placing the Privilege Tax rate at the same level as the Consumer Sales and Use Tax allows for the immediate generation of 20 percent more revenue from this revenue stream. This estimate assumes that the increase will cause very little decline in the number of vehicles titled. Table 37 presents the revenue forecasts of this option for FY 2004 through FY 2008. These revenue forecasts are converted to inflation-adjusted 2002 dollars in Table 38.

9.4 General Revenue Fund Appropriations

Another revenue source is appropriations from the General Revenue Fund. The last appropriation occurred in 1983. Although credible rationales could be provided for these appropriations, they are not viable given West Virginia's current political and financial climate.

9.5 Expenditure Reductions, Revenue Enhancements, Reductions in Expenditure Growth

Other policy options are available to generate more unrestricted funds in the West Virginia State Road Fund. This section outlines some of these options along with the revenue generated.

Option 9: Elimination of the Courtesy Patrol Program

Appendix E has a detailed discussion of the Courtesy Patrol Program. This program was instituted in 1999. This program's costs have increased dramatically over the past five years as noted below:

- FY 1999 \$2,365,303
- FY 2000 \$3,986,657
- FY 2001 \$4,743,516
- FY 2002 \$4,377,668
- FY 2003 \$4,352,739

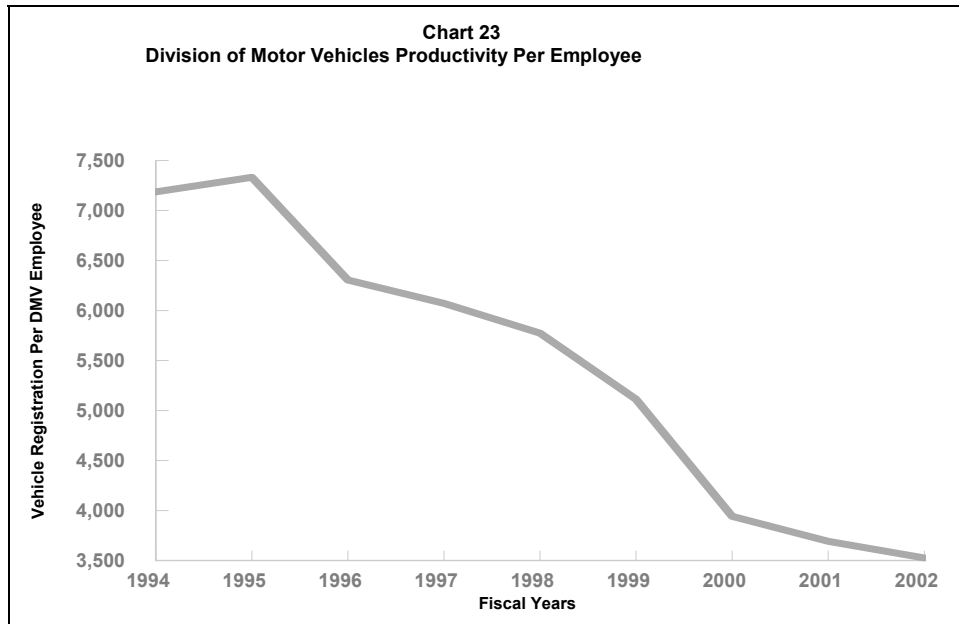
Elimination of the program would return around \$4.3 million annually to the West Virginia State Road Fund.

Option 10: Curtail or Eliminate Expansion in the Division of Motor Vehicles Budget

As detailed in Table 30, the expansion in the Division of Motor Vehicles budget commenced in FY 1998. The number of positions increased from 236 in FY 1997 to 464.5 positions in FY 2002. At the same time, total expenditures for internal operations increased from \$12.2 million in FY 1997 to \$25.9 million in FY 2002, an increase of 112 percent over the six years. During the same period, the number of registrations and other responsibilities was relatively the same, leading to a significant decline in the productivity per employee. To show the decline in DMV productivity, we employed a relatively simple measure of productivity, i.e., total vehicle registrations per DMV employee. This data was derived from Table 11 and Table 30 and is illustrated in Chart 23.

- FY 1994 – 7,187 vehicle registrations per employee
- FY 1995 – 7,332 vehicle registrations per employee
- FY 1996 – 6,305 vehicle registrations per employee
- FY 1997 – 6,072 vehicle registrations per employee
- FY 1998 – 5,774 vehicle registrations per employee
- FY 1999 – 5,112 vehicle registrations per employee
- FY 2000 – 3,941 vehicle registrations per employee
- FY 2001 – 3,692 vehicle registrations per employee
- FY 2002 – 3,526 vehicle registrations per employee

Obviously, the cost of the convenience associated with regional DMV offices is a substantial decline in DMV labor productivity. In the absence of a well-defined strategic plan for providing customer service, the likelihood will be even more offices in individual counties around the state. The projected cost savings is uncertain since the number of offices over the forecast period is uncertain; however, at recent rates of budgetary expansion, it is estimated that a budget freeze would save at least \$2.2 million in the first year alone. In subsequent years, the savings would increase.



9.6 Increases in State Long-term Debt

An option for generating additional highway revenues in West Virginia is increases in state long-term debt. Applying the evaluation criteria of economic efficiency, equity, stability, administrative feasibility, and practicality, the criteria that present the biggest problem are those of practicality and administrative feasibility. This option is constrained by the borrowing or debt capacity of the state agency, in this case, the Division of Highways. Constraints on this capacity can be both legislative and financial.

As stated previously in Chapter 5, debt financing shifts the burden of highway costs from present users (beneficiaries) of highways to future users (beneficiaries) of highways. Some of the concerns associated with highway debt financing include a potential decrease in government bond credit ratings (thus producing difficulties encountered in capital or bond markets) and the increasing financial and risk burden on future taxpayers and future highway users.

At the end of FY 2003, the Division of Highways had total long-term debt (outstanding principal and interest) of \$811.22 million (see Table 31). The bonds outstanding were from five bond issuances. The first was the Better Highway Bonds issuance (\$500 million) in 1973. Outstanding debt principal at the end of FY 2003 from this issuance was \$10.8 million, which will be paid off by the end of FY 2006. The second was the Safe Roads Bonds issuance (\$220 million) in 1998. Outstanding debt principal at the end of FY 2003 from this issuance was \$199.8 million. This bond issuance will be paid off by the end of FY 2023. The third was the Safe Roads Bonds issuance (\$110 million) in 1999, which had outstanding debt principal at the end of FY 2003 of \$103.3 million. This bond issuance will be paid off by the end of FY 2017. The fourth was the Safe Roads Bonds issuance (\$110 million) in 2000. Outstanding debt principal at the end of FY 2003 from this issuance was \$110.0 million, which will be paid off by the end of FY

2025. The fifth was the Safe Roads Bonds issuance (\$110 million) in 2001. Outstanding debt principal at the end of FY 2003 from this issuance was \$93.7 million. This bond issuance will be paid off by the end of FY 2013.

Debt service costs for FY 2003 for the repayment of the principal and accompanying interest was \$49.8 million (see Table 31). The annual debt service costs will remain approximately the same through FY 2012. After that, the annual debt service costs will decline to \$38.62 million in FY 2013 and then gradually to \$23.52 million in FY 2017. The debt service costs will remain at that level through FY 2025, at which time all debt service on current bond issuances will be paid.

Revenue projections for the State Road Fund for FY 2004 through FY 2008 are provided in Table 39. During the projection period, debt service payments, as a percentage of State Road Fund revenues, will decrease from 8.9 percent in FY 2004 to 8.3 percent in FY 2008. While far superior to the debt service requirements experienced during the mid 1980's, which were greater than 20 percent of revenues, the projected values remain above the target level of 6 percent. As such, it is clear that during the projection period the present magnitude of outstanding long-term debt is a significant constraint on the option of generating additional highway revenue.

9.7 Local Option Taxes

A major trend in state highway financing is the shift from highway user fees to other local government revenue sources. Wachs (2003) argues that states reacted to rising highway spending needs and declining gasoline tax revenues by encouraging local transportation taxes and increasing highway-related borrowing. He recommends that states should increase the gasoline tax instead of delegating highway-financing responsibility to local governments. Goldman and Wachs (2003) address the rising responsibility of local governments in state highway financing by giving a detailed review of local option transportation taxes (LOTT). The authors call the growing reliance on LOTTs a “quiet revolution” in highway financing. They define a LOTT as “a tax that varies within a state, with revenues controlled at the local or regional level, and earmarked for transportation-related purposes” (Goldman and Wachs, 2003, pp.21).¹⁰ The five major types of local taxes that Goldman, Corbett and Wachs (2001) and Goldman and Wachs (2003) examine are fuel taxes, vehicle taxes, property taxes, sales taxes and income, payroll, and employer taxes. While, presently, these are not options available within West Virginia, there is a trend towards new local financing initiatives. A new Senate Bill (SB 701) that recently passed in the West Virginia legislature authorizes five new municipal taxes. Among these, a 1 percent municipal sales and service tax in lieu of the existing municipal Business and Occupation tax is particularly noteworthy.

These studies also present the trends in the adoption of LOTTs by states in different time periods. They assert that LOTTs have become widely popular among local governments across the nation starting in the 1970s and mostly throughout the 1980s and 1990s. The

¹⁰ The authors cite a separate report by Goldman, Corbett and Wachs (2001) as the original document that introduced this definition. See Goldman, Corbett and Wachs (2001, pp. 1)

studies by Goldman, Corbett and Wachs (2001) and Goldman and Wachs (2003) highlight the significance of the shift in fiscal responsibility for state highway financing from federal and state governments to local governments. Hence, it would be useful to examine some of the local revenue sources that are used currently by other states.

A local gasoline tax is a revenue option that is used currently by a number of states. State gasoline taxes are more widespread, and they are earmarked for state highway financing. Thus, a local gasoline tax can be earmarked for street and other transportation expenditures of municipal governments.

A local gasoline tax, however, raises many issues regarding equity and revenue adequacy. While it is considered a fair tax from a benefits-received perspective (Goldman, Corbett and Wachs, 2001), it is also argued that it may intensify fiscal disparities between regions (NCSL, 1997). It would favor cities that are close to major roads and highways.¹¹ Thus, the local gasoline tax may lead to regional inequities. In terms of revenue adequacy, the local gasoline tax has the same weakness as other excise taxes like beer tax and cigarette tax. It is levied on a per-gallon basis and is subject to revenue erosion due to inflation.

Impact fees are defined as “one-time payments from property developers to municipal, county or school district governments for off-site improvements necessitated by new development.” (NCSL, 1999, pp.9) Impact fees differ from user charges in that they finance capital expenditures rather than current consumption. Impact fees are a relatively new revenue instrument that has become particularly popular in Arizona, California and Washington. The main advantage of impact fees is that they allow new developments to pay for their own infrastructure including transportation improvements. They create inequities, however, between existing and new residents. All residents benefit from site improvements that are funded by impact fees; however, the incidence of these fees is only on new homebuyers, landowners or homebuilders. Thus, existing property owners get an indirect subsidy. In addition, it is argued that low and middle-income households are negatively affected by higher housing prices due to the existence of impact fees. Nevertheless, 29 states passed impact fee authorizing legislation in 1998.

Local income taxes have been adopted by many cities.¹² A local income tax can take the form of a local personal income tax or a local business income tax. Local income taxes have many advantages. Their relatively broad base can enhance revenue generation. At the same time, they can increase the progressivity¹³ of the local tax systems particularly when they replace an existing business tax such as the B&O tax. Besides, they can be imposed on top of the state personal income or corporate income taxes as “piggy back” taxes, which mean that they can be collected as a share of the total state tax liability. The

¹¹ NCSL (1997) argues that these cities would have an additional benefit of exporting the local gasoline tax to non-residents. On the other hand, cities that are not strategically located would not benefit from the same strong tax base and their residents would bear the burden of this tax.

¹² Other local authorities that impose local income taxes are counties and school districts. See NCSL (1997) for more on the local implementation of income taxes.

¹³ A tax is classified as progressive if the tax as a proportion of income increases as income increases.

piggyback method has the advantage of decreasing the administrative costs of these taxes and makes the implementation easier for cities. Since West Virginia already has high personal income and corporate income tax rates compared to its neighbors (Tosun, 2002), the piggyback method may create substantial personal income and corporate income rate differentials with West Virginia's neighboring states.

It is argued that local income taxes vary substantially with the level of economic activity (Goldman, Corbett and Wachs, 2001). Thus they may not be as stable as some existing local taxes like the property tax. Local income taxes also raise inter-jurisdictional issues. They may fuel intense local competition between jurisdictions. Taxation of commuters is also problematic since persons may be taxed both in the jurisdiction in which they live and also in the jurisdiction in which they work.¹⁴

Local sales and use taxes are considered the most popular among the local option taxes (NCSL, 1997). They can work similar to a state sales tax, and like local income taxes, they can take the form of a piggyback tax in which a portion of the state sales tax is reserved for cities and other local governments. A local sales tax can enhance revenue generation and ranks high in revenue adequacy due to its stable and broad tax base, but it raises serious equity issues. Sales taxes are considered to be regressive because low-income households spend a larger portion of their incomes on general consumption items compared to higher-income households. A local sales tax imposed as a piggyback tax on the state sales tax would increase the regressivity¹⁵ of both the municipal revenue system and the total state and local tax system. This is particularly important for West Virginia because there is no sales tax exemption for food products and clothing.

An additional complication occurs due to the ownership of the highway system by the State of West Virginia. Provision of local funds from supplementary sales taxes for construction and maintenance of state roads may complicate the ownership of the roads.

West Virginia imposes state taxes on beer and wine and a local tax on wine and liquor sales. "The Beer barrel tax" is levied at a rate of \$0.177 on a gallon (\$5.50 per barrel). "The Wine liter tax" is imposed on wine sold by suppliers to distributors¹⁶ at a rate of 26.406 cents per liter. There is also a wine and liquor tax imposed at the municipal level at a rate of 5 percent of the retail purchase price of wine and liquor sold within municipalities and counties including sales to private clubs. This is in addition to the 6 percent sales tax imposed on these sales. Collections from the 5 percent municipal tax on wine and liquor sales are distributed to municipalities and counties.

While wine sales are taxed at both state and local levels, beer is taxed only at the state level. A local beer tax can generate additional revenue for municipalities and can create funds for transportation spending. These funds could be used to supplement the West Virginia State Road Fund in meeting local highway needs. For example, a local beer tax

¹⁴ This arises when the income tax takes the form of a local payroll tax which taxes income based on the place of employment rather than residence.

¹⁵ A tax is classified as regressive if the tax as a proportion of income decreases as income increases.

¹⁶ This excludes wine sold to Alcohol Beverage Control Administration.

can be particularly effective in raising revenues in cities with moderate to large college populations. A local beer tax, however, may lead to significant local competition especially for cities that are in border counties. Among the neighboring states, West Virginia already has the third highest state beer tax rate of \$0.177 per gallon after Virginia's \$0.256 per gallon and Ohio's \$0.18 per gallon rates. This rate is also significantly higher than the ones for Kentucky (\$0.08), Maryland (\$0.09) and Pennsylvania (\$0.08). Thus a local beer tax would make the total state and local tax rate on beer in West Virginia relatively high compared to neighboring states. Furthermore, a local beer tax would increase the overall regressivity of the municipal revenue system. Young and Bielinska-Kwapisz (2002) show that excise taxes on alcohol can be over-shifted to consumers by raising the retail price by more than the full amount of the tax. This would put a greater burden on the consumers of alcohol than previously suggested. Another caveat of a local beer tax or excise beer taxes in general is revenue erosion due to inflation. Beer taxes are levied on a per-gallon or per-barrel basis rather than on the percentage of the price. Thus, tax collections do not increase with inflation. Tosun and Yakovlev (2003) showed that per capita beer barrel tax collections declined between 1997 and 2002 when they are adjusted for beer price increases in that period. They compared this to wine and liquor tax collections, which kept up with wine and liquor price increases between 1997 and 2002. The key difference is that, unlike the beer tax, the wine and liquor tax is an ad valorem tax imposed as a percentage of the retail purchase price. Therefore, a local beer tax imposed on a per-gallon or per-barrel basis would be subject to similar revenue erosion in the presence of beer price increases.

West Virginia imposes a state tax on the purchases of cigarettes at a rate of \$0.55 per pack of cigarettes. There are no local taxes on cigarettes or other tobacco products in West Virginia. There have been substantial cigarette tax hikes in many U.S. states in response to recent state budget shortfalls. Among the cities that tax cigarettes, New York City raised its rate by \$1.42 per pack, bringing the new rate to \$1.50.¹⁷ While a local cigarette or tobacco tax is considered a popular option, especially in recent years, there are concerns related to fairness and revenue adequacy. For one thing, the burden of a cigarette tax is likely to be borne by lower income households. This would make the municipal revenue system more regressive. The experiences of states also show that cigarette tax collections are negatively affected by reduced smoking. In addition, the real value of tax collections decline due to inflation. Similar to the beer tax mentioned above, a cigarette tax levied on a per-pack basis does not keep up with increasing prices over time. These concerns bring into question the revenue adequacy of a local cigarette tax. Municipalities or counties cannot rely on a local cigarette tax as an adequate revenue source in the longer term. Additionally, a local cigarette tax on top of the state tax can lead to rate differences between bordering states. This would affect the border counties mainly through reduced cross-border sales to non-residents. This would in turn have a negative effect on the cigarette tax revenue collection. Due to these issues, it is doubtful that this local revenue source could be used to supplement West Virginia State Road Fund resources.

¹⁷ See the Federation of Tax Administrators web site at http://www.taxadmin.org/fta/rate/cig_inc02.html to see the complete list of most recent cigarette tax rate changes.

West Virginia municipalities levy and collect special charges on various transportation related services. Some of these are:

- Parking facilities
- Street cleaning
- Street lighting
- Street maintenance and improvements
- Parking meters and off street parking

Tosun (2003) showed that these together with other municipal charges and fees comprise the second largest revenue source for municipalities. Comparing West Virginia municipalities to those in other Appalachian states, Tosun (2003) also showed that West Virginia municipalities have the highest share of charges and miscellaneous general revenue in total revenue in the Appalachian region. Thus, expanding or increasing these charges and fees may make localities less competitive and at the same time increase the regressivity of local revenue systems.

West Virginia counties and Class I cities (cities with population greater than 50,000) have the authority to levy and collect a hotel occupancy tax. Since this tax is related directly to tourism spending in the state, it can potentially be expanded or increased to fund local governments' tourism related transportation expenditures. Although this would make sense from a benefits-received perspective, it would also discourage tourism spending and intensify the competition with other states in attracting tourism.

West Virginia has a unique lottery program that has expanded significantly since its introduction in 1986. The West Virginia Lottery introduced three major types of games: instant games, on-line games, and video lottery games. The latest addition to the lottery structure in West Virginia, video lottery is the largest source of lottery revenue, accounting for about 73 percent of total lottery sales in 2001 (Tosun and Rogers, 2002).

The net proceeds from West Virginia lottery sales go to financing education, tourism, and senior citizen programs. Since lottery funds already are earmarked for these substantial government programs, any diversion to the West Virginia State Road Fund would not be an easy task. The tremendous increase in video lottery revenues in recent years, however, keeps this revenue source as an option, particularly for municipalities suffering from economic and fiscal stress. Hence, diversion from lottery funds to municipal budgets during a fiscal crisis remains as a short-run policy option. Nevertheless, uncertainties surrounding the future revenue-generating capabilities of the West Virginia Lottery preclude the longer-term use of the lottery funds for any local transportation spending. These uncertainties mainly refer to the increasing possibility of multi-state lottery game and video lottery adoptions in surrounding states. Such lottery game adoptions are expected to have negative impacts on West Virginia lottery revenues particularly in counties that are bordering the adopting states (Tosun and Skidmore, 2002).

One development tool that could be used by local agencies or municipalities for financing highways is tax increment financing (TIF). Conceptually, a local highway or development authority would issue bonds to finance a highway or road project with the tax increment ensuing from the increase in property values then captured by the highway authority to retire the bonds. The local government must cover any shortfall in the tax increment from the rise in property values. TIF is a funding mechanism in which property tax revenues are dedicated to funding economic development. It is appropriate only for local or regional governments and requires the establishment of a local development (or highway) authority.

In its basic form, a TIF program commences when a local taxing authority (e.g., a municipality) designates a specific geographical area as the TIF district. In this TIF district, the existing property tax base is frozen. The TIF becomes operational when the authority issues bonds and undertakes a project in the area. Presumably, the project (e.g., a new highway) increases property values and the difference between the new tax base and the old tax base in each future year is labeled the incremental valuation and is used to pay interest on the bonds as well as retire the bonds.

TIF does have its advantages. TIF provides local governments flexibility in financing infrastructure projects. In addition, TIF does not directly involve new tax increases and provides municipalities or other local taxing agencies with an improved tax base after the TIF debt is paid.

There are also disadvantages to TIF. For example, TIF creates an important risk since debt repayment depends entirely upon future increments of property tax revenues. If the tax base does not increase as anticipated, debt repayment is at risk. In addition, TIF can be costly to administer and the credit ratings of the municipalities can be affected adversely if the TIF debt is defaulted. Finally, in the case of financing a highway, the local taxing authority will encounter significant difficulties in designating a specific geographical area as the TIF district.

In sum, the key to a successful TIF is having one or more of three prerequisites. The three prerequisites are an existing high property tax per assessed property value, a low property tax base, and high potential growth in assessed property valuation.

Tosun and Yakovlev (2002) mention population losses in West Virginia as one of the major risks to the successful implementation of TIF programs in West Virginia. This is due to the evidence from other states that growing cities may be more likely to use TIF compared to cities experiencing population losses. The authors also mention potential problems with the revenue-generating capability of the TIF mechanism in West Virginia. Due to property tax rate limits imposed by the Tax Limitation Amendment and the uncertainties surrounding the actual property value growth in cities that used TIF in the past, revenue generation required for bond retirement would be in jeopardy.¹⁸ Thus, municipalities should approach this financing method with skepticism.

¹⁸The exclusion of excess property levies from the TIF may further weaken the revenue flow (Tosun and Yakovlev, 2002).

Another option for generating additional highway revenues in West Virginia is increasing local government debt or borrowing. Applying the evaluation criteria of economic efficiency, equity, stability, administrative feasibility, and practicality, the criterion that may present the biggest problem is that of practicality. This option is restricted by the borrowing or debt capacity of local taxing agencies. Constraints on this capacity can be both legislative and financial. Similar to state debt financing, local debt financing shifts the burden of highway costs from present users (beneficiaries) of highways to future users (beneficiaries) of highways. Local highway debt can be backed by general taxes paid by future taxpayers, taxes on future highway users, toll revenues, or property taxes and special assessments. Some of the concerns associated with local highway debt financing include a potential decrease in government bond credit ratings (thus producing difficulties encountered in capital or bond markets) and the increasing financial and risk burden on future taxpayers and future highway users.

In sum, similar to TIF, the use of local government debt to generate additional highway revenues is an option that is both restricted and involves substantial risk to local taxing authorities.

A Public-Private Partnership (PPP) is a contractual agreement between a public agency (federal, state or local) and a private corporation. Through this agreement, the skills and assets of the public and private sectors are shared in delivering a service or facility for the use of the general public.

In addition to supplementing public funding sources, according to Hicks (2003), other benefits of PPPs include flexibility, higher efficiency, and lower cost. There are various types of PPPs, including Build-Own-Operate, Buy-Build-Operate, Contract Services, Design-Build, Design-Build-Operate, and Lease/Purchase.

One example of a PPP is the Route 895 Connector project -- the first capital project under the Virginia Public-Private Transportation Act of 1995. This legislation allows for innovative financing, including tax-free bond financing of projects on which private developers and the state collaborate. The 2003 Oregon Legislature passed the Oregon Innovative Partnerships Program within the Oregon Department of Transportation. ODOT has broad authority to enter into contractual relationships in the form of partnerships with private sector firms and units of government. In California, the SR 125 South project was a key element in enhancing the surface transportation system in the San Diego area. In Virginia, the Dulles Greenway is a 14-mile privately owned toll road connecting Leesburg to Dulles Toll Road and Dulles Airport area.

In general, however, the use of private sector sponsorship of major public projects has been limited. A recently completed General Accounting Office study examined six major partnerships – five toll roads and one transit project.¹⁹ The GAO found that state

¹⁸ United States General Accounting Office, *Highways and Transit: Private Sector Sponsorship of and Investment In major Projects has Been Limited*, GAO-04-419, March 24, 2004.

and local governments might be wary of such projects due to the greater political costs associated with the limited ability to improve competing publicly owned roads.

9.8 Tolls

West Virginia has considerable experience with the use of tolls on one major highway: the 88-mile-long West Virginia Turnpike from Charleston to Princeton. The West Virginia Turnpike is operated by the West Virginia Parkways, Economic Development and Tourism Authority. Tolls are collected at three main-line barriers with the following rates:

- Cars, motorcycles and pickup trucks - \$1.25 per barrier,
- Small motor homes - \$2 per barrier,
- Three-axle or greater trucks with single trailer - \$4 per barrier, and
- Trucks with twin trailers - \$6 per barrier²⁰

The total revenues from road and crossing tolls in West Virginia have ranged from \$37.2 million in 1992 to \$52.0 million in 2001.²¹

Relying on additional revenues from road and crossing tolls to finance highways is not a viable option for West Virginia. West Virginians have relatively low per capita incomes and are less able to pay for toll roads. The success of the West Virginia Turnpike is attributable to the high volume of through traffic versus local traffic. In general, the state has relatively low population densities, which further reduces the projected vehicular traffic on current or planned highways. For these reasons, imposition of tolls on existing 'free' highways is not deemed to be a viable policy alternative. In addition, it is prohibited by the West Virginia State Code.

9.9 Tax Treatment of Rental Cars and Leased Vehicles

According to Chapter 17A, Article 3, section 4, paragraph (b)(11) of the West Virginia State Code, the Privilege Tax is not applied to daily passenger cars²² that are available for rentals. Instead, a daily tax of not less than one dollar or more than one dollar and fifty cents is imposed for each day of the rental. The proceeds from this tax are deposited into the West Virginia State Road Fund.

According to paragraph (b)(6) of the same section mentioned above, the Privilege Tax also is not applied to the titling of vehicles leased by West Virginia residents. Instead, a 5 percent tax is imposed on the monthly lease payments for the entire term of the initial lease period. The lessor of the vehicle remits this tax to the Division of Motor Vehicles on a monthly basis. It should be considered that any increase in the Privilege Tax rate should also be applied to the tax imposed on the monthly lease payments in order to enhance revenue generation.

²⁰ Source: http://www.wvdot.com/11_wvdot/11e1_highways.htm

²¹ Federal Highway Administration, Highway Statistics, Table SF-1.

²² Class A motor vehicles with a gross weight of eight thousand pounds or less registered in West Virginia or any other state.

10.0 Conclusions

This comprehensive examination of the West Virginia State Road Fund and West Virginia highway financing has generated several important policy conclusions.

One obvious conclusion is that an increase in one or more West Virginia State Road Fund revenue sources is necessary for West Virginia to maintain its present highway system properly. The increases are necessary both in the context of the substantial revenue diversions that are caused by the demand for industrial and other access roads and in the context of real revenue erosion due to inflation.

A second conclusion is that if increases in the Gasoline Tax, Wholesale Tax, Privilege Tax and Registration Fees are implemented, these increases can be made more politically palatable (satisfy the practicality criteria) if the increases are phased-in (as recently done in Ohio) rather than increased in one large increment.

A third conclusion is that to insure that the Gasoline Tax revenues increase sufficiently over time to keep pace with inflation, the tax should be linked to a price index, such as the Federal-aid Highway Construction Price Index, to insure the generation of adequate revenues to sustain highway and bridge construction and maintenance.

The final conclusion is that serious attention must be given to the rapidly increasing costs of DMV operation. That is, consideration needs to be given to the options of either reducing the growth in the DMV expenditures or substantially increasing the various license and registration fees so additional revenue growth is available to support highway and bridge construction and maintenance.

**Tables
Referenced
in Report**

Table 1
The Changing Characteristics of U.S. Vehicles Over the Years
Motor Vehicle Mileage, Fuel Consumption and Fuel Rates

CY	Passenger Cars			Van, Pickup Trucks and SUV's			Trucks			All Motor Vehicles		
	Mileage miles/vehicle	Fuel Use gallon/vehicle	Fuel Rate miles/gallon	Mileage miles/vehicle	Fuel Use gallon/vehicle	Fuel Rate miles/gallon	Mileage miles/vehicle	Fuel Use gallon/vehicle	Fuel Rate miles/gallon	Mileage miles/vehicle	Fuel Use gallon/vehicle	Fuel Rate miles/gallon
1973	9,884	737	13.4	9,779	931	10.5	15,370	2,775	5.5	10,099	850	11.9
1974	9,221	677	13.6	9,452	862	11.0	14,995	2,708	5.5	9,493	788	12.0
1975	9,309	665	14.0	9,829	934	10.5	15,167	2,772	5.6	9,627	790	12.2
1976	9,418	681	13.8	10,127	934	10.8	15,438	2,764	5.6	9,774	800	12.1
1977	9,517	676	14.1	10,607	947	11.2	16,700	3,002	5.6	9,778	814	12.3
1978	9,500	665	14.3	10,968	948	11.6	18,045	3,263	5.5	10,077	816	12.4
1979	9,062	620	14.6	10,802	905	11.9	18,502	3,380	5.5	9,722	776	12.5
1980	8,813	551	16.0	10,437	854	12.2	18,736	3,447	5.4	9,458	712	13.3
1981	8,873	538	16.5	10,244	819	12.5	19,016	3,565	5.3	9,477	697	13.6
1982	9,050	535	16.9	10,276	762	13.5	19,931	3,647	5.5	9,644	686	14.1
1983	9,118	534	17.1	10,497	767	13.7	21,083	3,769	5.6	9,760	686	14.2
1984	9,248	530	17.4	11,151	797	14.0	22,550	3,967	5.7	10,017	691	14.5
1985	9,419	538	17.5	10,506	735	14.3	20,597	3,570	5.8	10,020	685	14.6
1986	9,464	543	17.4	10,764	738	14.6	22,143	3,821	5.8	10,143	692	14.7
1987	9,720	539	18.0	11,114	744	14.9	23,349	3,937	5.9	10,453	694	15.1
1988	9,972	531	18.8	11,465	745	15.4	22,485	3,736	6.0	10,721	688	15.6
1989	10,157	533	19.0	11,676	724	16.1	22,926	3,776	6.1	10,932	688	15.9
1990	10,504	520	20.2	11,902	738	16.1	23,603	3,953	6.0	11,107	677	16.4
1991	10,571	501	21.1	12,245	721	17.0	24,229	4,047	6.0	11,294	669	16.9
1992	10,857	517	21.0	12,381	717	17.3	25,373	4,210	6.0	11,558	683	16.9
1993	10,804	527	20.5	12,430	714	17.4	26,262	4,309	6.1	11,595	693	16.7
1994	10,992	531	20.7	12,156	701	17.3	25,838	4,202	6.1	11,683	698	16.7
1995	11,203	530	21.1	12,018	694	17.3	26,514	4,315	6.1	11,793	700	16.8
1996	11,330	534	21.2	11,811	685	17.2	26,092	4,221	6.2	11,813	700	16.9
1997	11,581	539	21.5	12,115	703	17.2	27,032	4,218	6.4	11,107	711	17.0
1998	11,754	544	21.6	12,173	707	17.2	25,397	4,135	6.1	12,211	721	16.9
1999	11,848	553	21.4	11,957	701	17.0	26,014	4,352	6.0	12,200	732	16.7
2000	11,976	547	21.9	11,672	669	17.4	25,617	4,391	5.8	12,164	720	16.9
2001	11,766	532	22.1	11,140	633	17.6	26,431	4,491	5.9	11,800	692	17.1

Source: Federal Highway Administration, Highway Statistics.

Table 2
West Virginia Fuel Rates

FY	Gasoline Tax Rate ¢ per Gallon	Wholesale Tax Rate ¢ per Gallon ¹
1980	10.5	N/E
1981	10.5	N/E
1982	10.5	N/E
1983	10.5	4.85
1984	10.5	4.85
1985	10.5	4.85
1986	10.5	4.85
1987	10.5	4.85
1988	15.5	4.85
1989	15.5	4.85
1990	15.5	4.85
1991	15.5	4.85
1992	15.5	4.85
1993	20.5	4.85
1994	20.5	4.85
1995	20.5	4.85
1996	20.5	4.85
1997	20.5	4.85
1998	20.5	4.85
1999	20.5	4.85
2000	20.5	4.85
2001	20.5	5.15
2002	20.5	4.85
2003	20.5	4.85

Source: West Virginia Department of Tax and Revenue.

Notes: The Wholesale Tax rate was instituted in 1983.

N/E Non-Existent

¹ 5 percent of wholesale price with \$0.97 floor.

**Table 3
West Virginia State Road Fund Tax Revenue Sources**

FY	Gasoline Tax (thousands \$)	Wholesale Tax (thousands \$)	Registration Fees (thousands \$)	Privilege Tax (thousands \$)	Total Dedicated Tax Revenues (thousands \$)
1970	49,501	N/E	26,107	11,376	86,984
1971	61,873	N/E	26,192	14,968	103,033
1972	66,265	N/E	28,157	24,239	118,661
1973	69,059	N/E	33,579	29,048	131,686
1974	72,850	N/E	30,718	28,049	131,617
1975	73,097	N/E	34,430	32,387	139,914
1976	81,858	N/E	36,884	41,572	160,314
1977	79,522	N/E	36,880	46,021	162,423
1978	84,333	N/E	39,556	53,085	176,974
1979	111,194	N/E	49,712	61,070	221,976
1980	102,802	N/E	48,484	52,699	203,985
1981	97,320	N/E	46,223	48,111	191,654
1982	99,284	N/E	51,097	54,539	204,920
1983	103,891	7,520	53,239	55,029	219,679
1984	101,834	54,759	53,026	67,770	277,389
1985	98,832	54,790	54,296	77,195	285,113
1986	99,586	54,835	55,113	81,604	291,138
1987	107,787	57,667	57,593	87,556	310,603
1988	110,279	62,902	55,779	87,678	316,638
1989	116,833	60,650	60,733	93,208	331,424
1990	157,830	60,131	60,807	94,911	373,679
1991	151,792	61,483	64,738	89,528	367,541
1992	155,540	60,754	67,396	90,166	373,856
1993	165,426	63,252	68,819	97,775	395,272
1994	214,858	63,152	70,413	111,925	460,348
1995	212,554	64,889	70,047	122,489	469,979
1996	206,363	64,234	76,418	120,450	467,465
1997	203,313	67,466	75,297	126,140	472,216
1998	221,726	68,073	81,543	133,712	505,054
1999	227,078	68,779	79,788	143,506	519,151
2000	224,256	69,671	87,483	155,598	537,008
2001	224,426	71,265	77,440	154,370	527,501
2002	230,141	73,230	85,929	172,472	561,772
2003	221,338	67,835	86,238	167,723	543,134

Source: West Virginia Department of Transportation, Division of Highways.
1970 – 1981 digest of revenue sources in West Virginia (fiscal year 2002)
1982 – 1987 analysis of receipts and expenditures (where all your tax dollars goes) produced yearly by the State Auditor's Office
1988 – 1993 Office of State Auditor revenue as of 6/30/xx
1994 -2003 State of West Virginia Financial Information Management System Revenues as of 6/30/xx (issued by State Auditor)
Notes: There was not a Wholesale Tax prior to 1983
N/E Non Existent

Table 4
West Virginia State Road Fund Federal Aid Reimbursement

FY	Interstate Construction (thousands \$)	Appalachian Program (thousands \$)	Other Federal Aid Programs (thousands \$)	Total Federal Aid Receipts (thousands \$)
1970	N/A	N/A	N/A	N/A
1972	N/A	N/A	N/A	N/A
1973	N/A	N/A	N/A	N/A
1974	N/A	N/A	N/A	N/A
1975	N/A	N/A	N/A	N/A
1976	N/A	N/A	N/A	N/A
1977	N/A	N/A	N/A	N/A
1978	N/A	N/A	N/A	N/A
1979	N/A	N/A	N/A	N/A
1980	N/A	N/A	N/A	N/A
1981	N/A	N/A	N/A	N/A
1982	N/A	N/A	N/A	N/A
1983	N/A	N/A	N/A	N/A
1984	N/A	N/A	N/A	N/A
1985	N/A	N/A	N/A	180,745
1986	N/A	N/A	N/A	210,348
1987	N/A	N/A	N/A	189,328
1988	N/A	N/A	N/A	206,584
1989	N/A	N/A	N/A	103,221
1990	N/A	N/A	N/A	98,071
1991	N/A	N/A	N/A	135,421
1992	N/A	N/A	N/A	201,183
1993	38,522	58,765	131,309	228,596
1994	40,624	134,042	112,472	287,138
1995	43,121	110,751	139,684	293,556
1996	33,138	90,091	126,663	249,892
1997	38,623	120,647	149,708	308,978
1998	48,761	81,828	158,166	288,755
1999	55,427	54,620	152,601	262,648
2000	75,055	78,597	147,646	301,298
2001	50,122	130,394	204,276	384,792
2002	55,437	164,985	168,405	388,827
2003	46,399	171,622	178,610	396,631

Source: West Virginia Department of Transportation, Division of Highways.
Note: N/A Not available.

Table 5
Specialized Infrastructure Projects Funded From the West Virginia State Road Fund
1982 – 2002
Accrual Accounting

Calendar Year	Airport Access	Corps of Engineers	Correction Facilities	Education Facilities	Housing Development Access	Hospital Access	Industrial Access	Legislative Intent	Military	Recreation Area	Shopping Center	NRCS
1982	\$0	\$0	\$0	\$0	\$38,000	\$357,000	\$1,929,000	\$0	\$0	\$0	\$957,000	\$820,000
1983	0	0	0	0	0	186,000	2,491,000	0	0	0	0	0
1984	0	0	0	341,000	0	0	0	0	0	0	2,493,000	85,000
1985	0	0	0	0	0	0	2,282,000	0	0	0	0	1,108,000
1986	0	0	0	0	0	0	1,090,000	0	0	0	0	180,000
1987	383,000	0	0	0	0	0	314,000	0	0	181,000	87,000	0
1988	0	0	0	75,000	0	0	591,000	0	0	0	0	2,690,000
1989	0	0	0	1,229,000	0	0	1,909,000	0	0	0	0	456,000
1990	0	0	0	0	0	0	4,716,000	0	0	115,000	0	1,372,000
1991	0	0	0	72,000	0	0	1,253,000	0	0	789,000	0	0
1992	30,000	35,000	1,189,000	2,369,000	0	0	1,074,000	0	0	0	0	8,627,000
1993	4,100,000	404,000	3,964,000	2,920,000	0	0	4,666,000	0	0	41,000	0	147,000
1994	10,000	1,792,000	20,739,000	1,401,000	156,000	51,000	6,487,000	0	0	604,000	1,486,000	4,104,000
1995	0	157,000	0	1,896,000	0	0	6,157,000	0	0	522,000	127,000	4,119,000
1996	0	8,701,000	0	2,472,000	0	0	30,717,000	0	0	941,000	489,000	0
1997	0	0	1,543,000	6,809,000	0	0	4,196,000	0	0	1,167,000	334,000	421,000
1998	283,000	3,025,000	678,000	1,871,000	824,000	491,000	3,640,000	0	0	2,008,000	308,000	0
1999	2,190,000	286,000	4,113,000	1,346,000	0	0	18,537,000	0	0	2,725,000	258,000	667,000
2000	40,000	0	100,000	1,199,000	0	391,000	6,387,000	91,000	0	5,735,000	611,000	0
2001	0	0	365,000	1,802,000	0	0	5,540,000	0	1,716,000	618,000	0	5,689,000
2002	0	0	0	1,873,000	0	0	5,211,000	0	0	4,951,000	107,000	2,576,000
Total	\$7,036,000	\$14,400,000	\$32,691,000	\$27,675,000	\$1,018,000	\$1,476,000	\$109,187,000	\$91,000	\$1,716,000	\$20,397,000	\$7,257,000	33,061,000

Source: West Virginia Department of Transportation, Division of Highways.

Note: NRCS is the Natural Resource Conservation Service, a federal agency.

Table 6
Transfers From the West Virginia State Road Fund to Other Entities

Fiscal Year	To PEIA Reserve Fund ¹	To Tax Department	To Department of Public Safety ²	To Courtesy Patrol
1982	\$ 0	\$ 0	\$ 0	\$ 0
1983	0	0	0	0
1984	0	0	0	0
1985	0	0	0	0
1986	0	0	0	0
1987	0	0	0	0
1988	0	0	0	0
1989	0	0	0	0
1990	0	0	0	0
1991	0	0	6,000,000	0
1992	0	0	6,343,811	0
1993	0	0	5,605,769	0
1994	0	0	5,931,099	0
1995	0	341,993	6,400,000	0
1996	0	529,272	6,400,000	0
1997	0	535,364	6,399,062	0
1998	0	469,553	6,437,376	0
1999	0	572,579	6,746,966	2,365,303
2000	1,272,295	558,834	6,726,362	3,986,657
2001	1,394,270	527,793	5,469,912	4,743,516
2002	1,430,154	505,756	5,466,128	4,377,668
2003	1,522,779	560,644	5,466,128	4,352,739
Total	5,619,498	4,601,788	79,392,613	19,825,883

Source: West Virginia Department of Transportation, Division of Highways.

¹The PEIA Reserve Fund was established by HB 3032 and excludes those positions in which payroll are incurred on federal projects.

²In FY 2001 the driver's examination function was moved to the DMV so the transfer to the Department of Public Safety was reduced.

Table 7
West Virginia Division of Highways Total Expenditures by Function

Fiscal Year	Debt Service (thousands \$) (% of total)	Maintenance (thousands \$) (% of total)	Construction (thousands \$) (% of total)	Administrative Support (thousands \$) (% of total)	Total (thousands \$) (% of total)	Percent Change
1988	\$71,187 13.7%	\$151,430 29.2%	\$258,330 49.8%	\$37,299 7.2%	\$518,246 100%	
1989	67,267 16.3	174,348 42.1	137,275 33.2	35,028 8.5	413,918 100	-20.1
1990	66,212 13.9	229,203 48.1	147,793 31.0	33,264 7.0	476,472 100	15.1
1991	62,924 11.9	236,006 44.7	191,337 36.3	37,424 7.1	527,691 100	10.7
1992	59,806 11.3	205,194 38.9	230,904 43.7	32,244 6.1	528,148 100	0.1
1993	56,005 9.6	209,721 35.9	293,771 50.3	24,610 4.2	584,107 100	10.6
1994	52,886 7.4	231,117 32.5	389,585 54.8	37,157 5.2	710,745 100	21.7
1995	49,834 7.1	248,568 35.2	365,586 51.7	42,741 6.0	706,729 100	-0.6
1996	44,179 6.1	279,046 38.4	357,029 49.1	47,325 6.5	727,579 100	3.0
1997	38,861 4.9	295,868 37.0	425,280 53.1	40,187 5.0	800,196 100	10.0
1998	28,313 3.6	288,715 36.9	424,605 54.2	41,820 5.3	783,453 100	-2.1
1999	46,200 6.0	302,483 39.0	384,318 49.6	42,250 5.4	775,251 100	-1.0
2000	46,368 5.6	310,916 37.7	419,839 51.0	46,694 5.7	823,817 100	6.3
2001	44,793 4.9	322,116 35.3	497,977 54.6	47,299 5.2	912,185 100	10.7
2002	49,446 5.4	297,362 32.4	521,590 56.8	49,786 5.4	918,184 100	0.7
2003	49,798 5.4	323,196 34.9	503,900 54.4	49,774 5.4	926,668 100	0.9

Source: West Virginia Department of Transportation, Division of Highways.
Note: Percentages may not add to 100 due to rounding

Table 8
West Virginia State Road Fund Tax and Revenue Sources

Fiscal Year	Gasoline Tax (thousands \$) (% of total)	Wholesale Tax (thousands \$) (% of total)	Registration Fees (thousands \$) (% of total)	Privilege Tax (thousands \$) (% of total)	Highway Litter Control (000's \$) (% of total)	Ind. Access Transfer (000's \$) (% of total)	Miscellaneous Revenues (thousands \$) (% of total)	Total (thousands \$) (% of total)
1982	\$99,284 48.5%	N/E N/E	\$51,097 24.9%	\$54,539 26.6%	N/E N/E	N/E N/E	N/A N/A	\$204,920
1985	98,832 33.9	54,790 18.8	54,296 18.6	77,195 26.5	N/E N/E	N/E N/E	6,087 2.1	291,200
1990	157,830 42.2	60,131 16.1	60,807 16.2	94,911 25.4	745 0.2	-1,716 -0.5	1,645 0.4	374,353
1991	151,792 41.1	61,483 16.7	64,738 17.5	89,528 24.3	1,384 0.4	-1,667 -0.5	1,899 0.5	369,157
1992	155,540 41.2	60,754 16.1	67,396 17.9	90,166 23.9	1,391 0.4	-1,105 -0.3	3,005 0.8	377,147
1993	165,426 40.8	63,252 15.6	68,819 17.0	97,775 24.1	1,403 0.3	-2,112 -0.5	10,870 2.7	405,433
1994	214,858 45.1	63,152 13.3	70,413 14.8	111,925 23.5	1,427 0.3	-344 -0.1	14,881 3.1	476,312
1995	212,554 44.4	64,889 13.6	70,047 14.6	122,489 25.6	1,454 0.3	-2,142 -0.4	9,433 2.0	478,724
1996	206,363 43.1	64,234 13.4	76,418 16.0	120,450 25.2	1,633 0.3	-3,408 -0.7	13,135 2.7	478,825
1997	203,313 41.8	67,466 13.9	75,297 15.5	126,140 25.9	1,490 0.3	-3,487 -0.7	16,030 3.3	486,249
1998	221,726 43.1	68,073 13.2	81,543 15.8	133,712 26.0	1,616 0.3	-3,466 -0.7	11,661 2.3	514,865
1999	227,078 42.7	68,779 12.9	79,788 15.0	143,506 27.0	1,574 0.3	-217 0.0	10,772 2.0	531,280
2000	224,256 41.0	69,671 12.7	87,483 16.0	155,598 28.4	1,580 0.3	-1,562 -0.3	10,395 1.9	547,421
2001	224,426 41.8	71,265 13.3	77,440 14.4	154,370 28.8	1,483 0.3	-4,346 -0.8	11,770 2.2	536,408
2002	230,141 40.5	73,230 12.9	85,929 15.1	172,472 30.4	1,744 0.3	-3,511 -0.6	7,802 1.4	567,807
2003	221,338 40.3	67,835 12.4	86,238 15.7	167,723 30.6	1,595 0.3	-2,294 -0.4	6,461 1.2	548,896

Sources: 1982 - 1987: Analysis of Receipts and Expenditures (Where All Your Tax Dollars Goes); produced yearly by the State Auditors Office.
1988 - 1993: Office of the State Auditor, Revenue as of 6/30. 1994 - 2003: State of West Virginia Financial Information Management System
Revenue as of 06/30 (Issued by State Auditor).

Notes: N/E Non Existent
N/A Not Available

Table 9
Price and Cost Trends in U.S. Highway Construction

Federal-Aid Highway Construction Price Index

CY	2002 CY=100	Annual % Change	FY	2002 FY=100	Annual % Change
1969	21.0				
1970	23.6	12.9	1970	22.3	
1971	24.7	4.7	1971	24.2	8.5
1972	26.1	5.7	1972	25.4	5.2
1973	28.7	10.0	1973	27.4	7.9
1974	39.1	36.2	1974	33.9	23.7
1975	39.3	0.5	1975	39.2	15.6
1976	38.1	-3.1	1976	38.7	-1.3
1977	40.4	6.0	1977	39.2	1.4
1978	47.8	18.3	1978	44.1	12.4
1979	57.8	20.9	1979	52.8	19.7
1980	65.7	13.7	1980	61.8	17.0
1981	63.7	-3.0	1981	64.7	4.8
1982	59.8	-6.1	1982	61.8	-4.6
1983	59.2	-1.0	1983	59.5	-3.6
1984	62.6	5.7	1984	60.9	2.4
1985	69.0	10.2	1985	65.8	8.0
1986	68.4	-0.9	1986	68.7	4.4
1987	67.6	-1.2	1987	68.0	-1.0
1988	72.1	6.7	1988	69.8	2.7
1989	72.8	1.0	1989	72.4	3.7
1990	73.4	0.8	1990	73.1	0.9
1991	72.7	-1.0	1991	73.0	-0.1
1992	71.1	-2.2	1992	71.9	-1.6
1993	73.2	3.0	1993	72.1	0.3
1994	77.8	6.3	1994	75.5	4.6
1995	82.4	5.9	1995	80.1	6.1
1996	81.3	-1.3	1996	81.8	2.2
1997	88.3	8.6	1997	84.8	3.6
1998	85.8	-2.8	1998	87.1	2.7
1999	92.3	7.6	1999	89.0	2.3
2000	98.4	6.6	2000	95.4	7.1
2001	97.9	-0.5	2001	98.2	2.9
2002	100	2.1	2002	99.0	0.8
2003	103.7	3.7	2003	101.9	2.9

Source: Federal Highway Administration; Office of Highway Program Administration and Bureau of Labor Statistics.
The estimated value of the Federal-Aid Highway Construction Price Index for CY 2003 is based on extrapolation of the annual rate of growth in the first six months of the year.

Note: The FY index is obtained by adding the two adjacent CY indices and dividing by 2.
For example, (CY1980+CY1981)/2=FY 1981.

Table 10
Major West Virginia State Road Fund Tax Revenue Sources
Inflation Adjusted (2002 \$)

FY	Gasoline Tax (thousands \$)	Wholesale Tax (thousands \$)	Registration Fees (thousands \$)	Privilege Tax (thousands \$)	Total Dedicated Tax Revenues (thousands \$)
1970	221,978	N/E	\$117,072	\$51,013	\$390,063
1971	255,674	N/E	108,231	61,851	425,756
1972	260,886	N/E	110,854	95,429	467,169
1973	252,040	N/E	122,551	106,015	480,606
1974	214,897	N/E	90,614	82,740	388,251
1975	186,472	N/E	87,832	82,620	356,923
1976	211,519	N/E	95,307	107,421	414,248
1977	202,862	N/E	94,082	117,401	414,344
1978	191,231	N/E	89,696	120,374	401,302
1979	210,595	N/E	94,152	115,663	420,409
1980	166,346	N/E	78,453	85,273	330,073
1981	150,417	N/E	71,442	74,360	296,219
1982	160,746	N/E	82,681	88,251	331,586
1983	174,607	12,639	89,477	92,486	369,208
1984	167,215	89,916	87,071	111,281	455,483
1985	150,201	83,267	82,517	117,318	433,302
1986	144,958	79,818	80,223	118,783	423,782
1987	158,510	84,804	84,696	128,759	456,769
1988	157,993	90,117	79,913	125,613	453,636
1989	161,372	83,771	83,885	128,740	457,768
1990	215,910	82,259	83,183	129,837	511,189
1991	207,934	84,223	88,682	122,641	503,481
1992	216,328	84,498	93,736	125,405	519,967
1993	229,440	87,728	95,449	135,610	548,227
1994	284,580	83,645	93,262	148,245	609,732
1995	265,361	81,010	87,449	152,920	586,740
1996	252,278	78,526	93,421	147,249	571,473
1997	239,756	79,559	88,794	148,750	556,858
1998	254,565	78,155	93,620	153,515	579,855
1999	255,144	77,280	89,649	161,243	583,316
2000	235,069	73,030	91,701	163,101	562,901
2001	228,540	72,571	78,859	157,200	537,170
2002	232,466	73,970	86,797	174,214	567,446
2003	217,211	66,570	84,630	164,596	533,007

Source: West Virginia Department of Transportation, Division of Highways.
Note: N/E Non Existent

Table 11
Division of Motor Vehicles
Vehicle Registration

Class	1994	1995	1996	1997	1998	1999	2000	2001	2002
A - Passenger Vehicles	1,181,210	1,273,166	1,300,426	1,231,151	1,274,469	1,278,485	1,339,387	1,343,471	1,354,551
B - Trucks	29,333	32,678	31,333	32,641	47,781	41,688	49,656	49,284	49,111
C - Trailers & Semi Trailers	16,725	19,285	17,464	16,885	42,054	46,900	49,021	62,982	73,156
C - Trailers & Semi Trailers (10 year plates)		10,476	13,780	18,434					
E - Exempt Commercial Trucks	1,016	1,051	835	2,154					
G - Motorcycles & Mopeds	16,311	17,831	15,424	17,016	21,871	18,833	25,705	27,265	30,290
H - Buses	297	340	335	307	342	317	390	336	315
J - Taxicabs	192	210	193	176	208	188	222	207	213
K - Commercial Trucks	6,536	6,825	7,590	6,748					
L - Commercial & Semi Trailers	2,164	2,135	2,000	1,956	6,414	3,998			
L - Commercial & Semi Trailers (10 year plates)		3,000	3,712	4,029					
M - Special Mobile Equipment			3,744	2,402	2,593	1,912	2,093	1,961	1,811
P - Government									28,614
R - Camping Trailers	19,327	21,349	19,750	25,563	28,268	22,364	27,627	30,882	22,241
S - Special Mobile Equipment	3,557	4,020							
T - Boat Trailers	48,048	53,607	52,664	66,413	73,608	64,411	76,333	84,366	65,705
V - Antique Vehicles	2,232	3,084	3,710	4,384	6,274	5,973	6,870	7,586	8,480
X - Farm Trucks	2,584	2,757	2,499	2,631	3,099	2,614	3,211	3,188	3,232
Total	1,329,532	1,451,814	1,475,459	1,432,890	1,506,981	1,487,683	1,580,515	1,611,528	1,637,719

Source: West Virginia Department of Transportation, Division of Motor Vehicles.

Notes:

1994: Exempted leased vehicles from the payment of privilege tax at the time of titling and calculated the tax based on 5 percent of the monthly lease price

1995: Started the issuance of 3 year Class T and Class R plates.

1996: Fee for Class A vehicles was changed to a flat fee of \$28.50, \$1.00 litter, and \$.50 for Insurance totaling \$30.00 (Insurance is special revenue).

Class S abolished and Class M Created.

1998: Started Insurance of permanent class C plate.

1999: Rental vehicles pay daily usage fee of 1.00.

2002: Class P created.

Table 12
Division of Motor Vehicles
Registration Fees by Plate Class

FY	Trucks						Trailers			Motorcycles	Miscellaneous Motorized Equipment	Total
	Automobiles	Buses	Light	Heavy Single Unit	Farm	Motor-homes	Commercial	Commercial Semi	Small			
1991	\$25,561,596	\$1,720	\$9,985,404	\$17,792,075	\$75,990	\$182,670	\$416,460		\$326,008	\$135,384		\$54,477,307
1992	26,456,665	1,680	10,406,946	18,062,350	59,100	183,360	426,690		345,152	140,368		56,082,311
1993	26,843,441	1,655	10,509,114	18,441,875	80,010		552,480	\$483,150	374,680	148,744		57,435,149
1994	23,545,756	1,465	12,287,473	22,152,770	78,421		732,260	562,900	405,513	137,637		59,904,195
1995	16,913,568	1,700	14,778,456	24,239,250	191,700		861,288	187,362	331,720	142,648		57,647,692
1996	25,529,265	1,675	11,619,861	22,093,675	74,970		532,661	56,360	1,974,936	123,392		62,006,795
1997	27,700,890	1,535	9,233,340	23,106,074	78,930		618,083	104,738	259,087	136,128	\$43,826	61,282,631
1998	27,268,259	1,760	9,089,448	15,542,079	92,970		735,945	112,245	1,222,512	174,968		54,240,186
1999	27,497,855	1,585	9,109,206	14,252,366	74,499		2,345,000	203,898	2,082,600	150,664	35,700	55,753,373
2000	28,629,397	1,950	9,543,132	14,920,375	91,514		2,451,050		2,495,040	205,640	35,581	58,373,679
2001	28,932,915	1,680	9,572,210	11,273,124	90,858		698,050		90,304	218,120	36,856	50,914,117
2002	29,134,780	1,575	9,711,603	14,995,844	92,112		508,700		2,377,596	242,320	34,408	57,098,938

Source: West Virginia Department of Transportation, Division of Motor Vehicles. The dollar figures detailed above were drawn from the Federal Highway Administration (FHWA) Planning Reports for the years indicated.

Table 13
Motor Vehicles Registration Fees
Actual and Inflation Adjusted (2002 \$)

FY	Motor Vehicle Registration Fees Actual (thousands)	Annual Percent Change	Motor Vehicle Registration Fees Adjusted for Inflation 2002\$ (thousands)	Annual Percentage Change
1991	\$54,477		\$74,626	
1992	56,082	2.9	78,000	4.5
1993	57,435	2.4	79,660	2.1
1994	59,904	4.3	79,343	-0.4
1995	57,648	-3.8	71,970	-9.3
1996	62,007	7.6	75,803	5.3
1997	61,283	-1.2	72,267	-4.7
1998	54,240	-11.5	62,273	-13.8
1999	55,753	2.8	62,644	0.6
2000	58,374	4.7	61,188	-2.3
2001	50,914	-12.8	51,847	-15.3
2002	57,099	12.1	57,676	11.2

Source: West Virginia Department of Transportation, Division of Highways.

Notes: Adjusted for inflation using the Federal-aid Highway Construction Price Index (Table 9). All values are in terms of 2002 \$.
Table includes motor vehicle registrations only, it excludes registration fees for driver licenses, etc.

Table 14
West Virginia State Road Fund Tax Revenue
per Vehicle Miles Traveled
Inflation Adjusted (2002\$)

FY	Vehicle Miles Traveled (millions)	Revenue per Vehicle Miles Traveled (\$ per VMT)
1980	10,746	\$ 0.0307
1981	10,440	0.0284
1982	10,932	0.0303
1983	11,696	0.0315
1984	12,671	0.0359
1985	12,664	0.0342
1986	13,101	0.0324
1987	13,742	0.0332
1988	13,884	0.0327
1989	14,940	0.0306
1990	15,418	0.0332
1991	16,026	0.0314
1992	16,478	0.0316
1993	16,778	0.0327
1994	17,112	0.0356
1995	17,421	0.0337
1996	17,693	0.0323
1997	18,324	0.0304
1998	18,666	0.0311
1999	19,033	0.0306
2000	19,242	0.0293
2001	19,714	0.0273
2002	20,005	0.0284

Source: Table 10 and Table VM-2, Federal Highway Administration, Highway Statistics.

Table 15
Comparative Data on Highway Finance - Total Receipts
West Virginia and Comparison States
2000

State	Total Receipts Per Capita	Share of Highway User Tax Revenues¹	Share of Road and Crossing Tolls²	Share of³ Bond Receipts	Share of Other Receipts
Delaware	\$976	43.0%	18.9%	28.2%	10.0%
Kentucky	493	84.9	0.7	0.0	14.4
Maryland	372	70.2	7.1	9.9	12.8
North Carolina	395	64.6	0.1	3.2	32.2
Ohio	334	71.2	4.7	7.0	17.2
Pennsylvania	417	64.8	9.1	0.3	25.8
Virginia	494	60.7	3.2	9.3	26.8
West Virginia	747	61.5	3.9	8.2	26.4
Avg. of States and DC	534	61.7	2.9	7.5	27.9
Avg. of Comparison States	529	65.1	6.0	8.3	20.7

Source: Federal Highway Administration, Highway Statistics, (Table HF-1)2001. See tables FA-21, SF-21 and LGF-21 for details on highway funding of Federal, State and Local Governments.

¹ Highway-user tax revenues consist primarily of motor-fuel taxes, shown in Table HF-1, and motor-vehicle and motor-carrier taxes.

This category excludes amounts allocated for collection expenses and non-highway purposes, See Table HDF in the Federal Highway Administration, Highway Statistics, for gross highway-user revenue collections.

² Includes interest earned on Highway Trust Fund reserves.

³ Excludes short-term notes and refinancing bond issues.

Table 16
Comparative Data on Highway Finance - Total Receipts
West Virginia and Comparison States
Adjusted for Inflation (2002\$)

State	Total Receipts Per Capita			Share of Highway User Tax Revenues ¹		Share of Road and Crossing Tolls		Share of Bond Receipts		Share of Other Receipts ²	
	1980	2000	Percent Change 1980 - 2000	1980	2000	1980	2000	1980	2000	1980	2000
Delaware	\$486	\$1,023	110.6%	49.2%	43.0%	13.9%	18.9%	23.7%	28.2%	13.2%	10.0%
Kentucky	379	517	36.3	65.0	84.9	2.3	0.7	0.1	0.0	32.6	14.4
Maryland	346	390	12.8	60.7	70.2	6.6	7.1	9.8	9.9	22.9	12.8
North Carolina	244	414	69.4	77.3	64.6	0.0	0.1	7.2	3.2	15.5	32.2
Ohio	235	350	48.9	64.1	71.2	2.9	4.7	7.2	7.0	25.8	17.2
Pennsylvania	301	437	45.1	60.1	64.8	6.5	9.1	1.8	0.3	31.6	25.8
Virginia	322	518	61.0	77.3	60.7	5.2	3.2	1.0	9.3	16.5	26.8
West Virginia	578	783	35.4	59.6	61.5	2.0	3.9	7.5	8.2	30.9	26.4
Avg. of Comparison States	361	555	53.5	64.2	65.1	4.9	6.0	7.3	8.3	23.6	20.7

Source: Federal Highway Administration, Highway Statistics, 1981 and 2001 (Table HF-1). See tables FA-21, SF-21 and LGF-21 for details on highway funding of Federal, State and Local Governments.

¹Excludes amounts allocated for collection expenses and non-highway purposes. See Table HDF in the Federal Highway Administration, Highway Statistics, for gross highway-user revenue collections.

²Includes interest earned on Highway Trust Fund Reserves.

Note: Percentages may not add to 100 due to rounding.

Table 17
Comparative Data on Highway Finance - Highway User Tax Revenues
West Virginia and Comparison States
2000

State	Total Highway User Tax Revenues ¹ (\$ per capita)	% of Revenue from Federal Agencies ²	% of Revenue from State Agencies	% of Revenue from Local Governments
Delaware	\$420	39.3%	60.7%	0.0%
Kentucky	419	33.0	62.5	4.5
Maryland	261	29.0	71.0	0.0
North Carolina	255	38.9	60.4	0.8
Ohio	238	29.3	70.7	0.0
Pennsylvania	270	25.6	73.4	1.0
Virginia	300	25.9	68.5	5.6
West Virginia	459	37.1	62.9	0.0
Avg. of US States and DC	318	39.4	57.8	2.9
Avg. of Comparison States	328	32.3	66.2	1.5

Note: Percentages may not add to 100 due to rounding

Source: Federal Highway Administration, Highway Statistics, (Table HF-1) 2001. See Tables FA-21, SF-21 and LGF21 for details on highway funding of Federal, State and Local Governments.

¹Excludes amounts allocated for collection expenses and non-highway purposes. See Table HDF for information on gross highway-user revenue collections.

²Total revenues from Federal agencies reflect Highway Trust Fund revenues attributable to highway-user taxes that were expended for highways in each state. The total excludes amounts expended for highways in territories. See Table FE-9 for State-by-State attribution of Highway Trust Fund receipts. (Federal Highway Administration, Highway Statistics, 2001).

Table 18
Comparison of Estimated Payments Into the Highway Trust Fund
and Federal Aid Apportionments from the Fund
(\$ per capita)

State	Payments into the Fund		Apportionment From the Fund		Ratio of Apportionments/ Payments	
	FY 2001	Accumulated since 7/1/56	FY 2001	Accumulated since 7/1/56	FY 2001	Accumulated since 7/1/56
Delaware	\$88	\$3,216	\$178	\$4,935	2.03	1.53
Kentucky	127	2,789	146	2,852	1.15	1.02
Maryland	90	2,834	128	3,765	1.42	1.33
North Carolina	101	3,120	116	2,732	1.15	0.88
Ohio	89	2,097	94	1,921	1.06	0.92
Pennsylvania	88	1,827	128	2,118	1.45	1.16
Virginia	104	3,214	147	3,493	1.42	1.09
West Virginia	104	1,939	279	3,729	2.68	1.92
Avg. of US States and DC	94	2,710	121	2,967	1.28	1.09
Avg. of Comparison States	99	2,629	152	3,193	1.54	1.21

Source: Federal Highway Administration, Highway Statistics.

Table 19
State Motor Fuel, Motor Vehicle and Motor Carrier Taxes
and Other Related Receipts
(\$ per capita)
2000

State	Adjusted Net Receipts from Motor Fuel Taxes ¹	Other Motor Fuel Related Receipts ²	Motor Vehicle and Motor Carrier Registration Fees ³	Other Motor Vehicle Motor Carrier Fees ⁴	Total Receipts from Motor Fuel, Motor Vehicle and Motor Carrier Taxes and Fees
Delaware	\$124.09	0.14	\$23.68	\$85.13	\$233.03
Kentucky	114.40	0.00	25.59	133.31	273.29
Maryland	126.12	0.07	29.73	138.80	294.72
North Carolina	144.24	2.65	27.25	26.00	200.14
Ohio	129.88	0.00	39.05	22.14	191.07
Pennsylvania	140.26	0.30	51.28	22.49	214.33
Virginia	112.42	6.53	8.12	95.19	222.26
West Virginia	165.16	0.06	28.25	105.79	299.26
Avg. of US States an DC	122.29	1.27	41.91	41.99	207.46
Avg. of Comparison States	132.07	1.22	29.12	78.61	241.01

Source: Federal Highway Administration, Highway Statistics, 2001.

This table includes the revenues from state taxes on all motor-vehicle fuels and related receipts in connection with motor-fuel taxation and administration. In many states however, the tax on special fuels (fuels other than gasoline and gasohol) is applicable only to the amount used on the highways. For the States that apply the tax to all fuel sold, the revenue and refunds covering the non-highway portion of these special fuels have been excluded. All data are subject to further review and revision.

¹ Adjusted net receipts are found by subtracting deductions by distributors for expenses and dedicated revenue from non-highway gasoline from gross tax collections and then adding any refunds paid. This source includes, in some States, receipts in the form of tax credits for refund claims accepted by distributors acting as agents of the state and refund credits to users who are licensed as distributors.

² Other motor fuel related receipts include distributor and dealer licenses, inspection fees, fines and penalties and miscellaneous receipts.

³ These registration fees are collected from automobiles (including taxi cabs), buses, trucks and truck tractors, trailers and motorcycles. Where the registration year is not more than one month removed from the CY, registration-year receipts are given. Where the registration year is more than one month removed, calendar-year receipts are given.

⁴ Other motor vehicle and motor carrier fees include drivers licenses, certificate of title fees, special title taxes, fine and penalties, estimated services charges, local collections, carrier gross receipts taxes, mileage, ton-mile and passenger-mile tax, special license fees and franchise taxes, certificate or permit fees, and miscellaneous fees.

Table 20 State Tax Rates on Motor Fuel¹

(cents per gallon)

As of January 1, 2001

State	Gasoline		Diesel		Liquefied Petroleum Gas		Gasohol ²	
	Rate	Effective Date	Rate	Effective Date	Rate	Effective Date	Rate	Effective Date
Delaware*	23.00	1/1/1995	22.00	1/1/1995	22.00	1/1/1995	23.00	1/1/1995
Kentucky*	16.40	7/15/1994	13.40	7/15/1994	15.00	7/1/1986	16.40	7/15/1994
Maryland	23.50	5/1/1992	24.25	7/1/1993	23.50	7/1/1993	23.50	5/1/1992
North Carolina*	24.10	7/1/2001	24.10	7/1/2001	24.10	7/1/2001	24.10	7/1/2001
Ohio*	22.00	7/1/1993	22.00	7/1/1993	22.00	7/1/1993	22.00	7/1/1993
Pennsylvania*	26.00	1/1/2001	30.90	1/1/2001	19.00	1/1/2001	26.00	1/1/2001
Virginia*	17.50	7/1/1992	16.00	7/1/1992	16.00	1/1/1994	17.50	7/1/1992
West Virginia	25.65	1/1/2001	25.65	1/1/2001	25.65	1/1/2001	25.65	1/1/2001
Federal Tax	18.40	10/1/1997	24.40	10/1/1997	13.60	10/1/1997	13.10	1/1/2001
Avg. of US States and DC	20.15		20.64		14.85		20.02	
Avg. of Comparison States	22.27		22.29		20.91		22.27	

Source: Federal Highway Administration, Highway Statistics, 2001, (Table MF-121T).

¹ This table shows motor-fuel tax rates in effect as of January 1 and any subsequent changes that have occurred through the date shown in the title. Only taxes that are levied as a dollar amount per volume of motor fuel are included. Taxes that apply to all petroleum products without distinguishing motor fuel are omitted. Local option taxes are included only when they have been adopted uniformly statewide.

* Delaware - Rates are variable, adjusted annually.

* Kentucky - Tax rates are variable, adjusted quarterly. A 2 percent surtax is imposed on gasoline and 4.7 percent on special fuels for any vehicle with three or more axles. The gasoline, gasohol, and diesel rates include 1.4 percent per gallon Petroleum Environmental Assurance Fee.

* North Carolina - Rates are variable, adjusted semiannually.

* Ohio - Commercial vehicles formerly subject to the highway use tax pay an additional 3 cents per gallon. Dealers are refunded 10 cents per gallon of each qualified fuel (ethanol or methanol) blended with unleaded gasoline.

* Pennsylvania - The rates include the Oil Franchise Tax for Maintenance and Construction, a variable rate tax adjusted annually. LPG rate is based on the gasoline gallon equivalent.

* Virginia - Vehicles weighing 26,000 pounds or more or having 3 or more axles pay an additional 3.5 cents per gallon.

* West Virginia - Rates are variable, adjusted annually. West Virginia's rate includes a .0515/gallon sales tax on fuel at wholesale level, **rate dropped to 0.0485** per gallon Jan. 2002

² The gasohol rates shown are for gasoline blended with 10 percent ethanol.

Table 21
State Tax Rates on Gasoline
West Virginia and Comparison States¹

(cents per gallon)

State	1986	1990	1995	1996	1997	1998	1999	2000	2001	% Change 1986-2001
Delaware	13.00¢	16.00¢	23.00¢	23.00¢	23.00¢	23.00¢	23.00¢	23.00¢	23.00¢	76.9%
Kentucky	15.00	15.40	16.40	16.40	16.40	16.40	16.40	16.40	16.40	9.3
Maryland	13.50	18.50	23.50	23.50	23.50	23.50	23.50	23.50	23.50	74.1
North Carolina	15.50	21.50	21.60	21.70	22.60	21.60	21.20	21.20	24.10	55.5
Ohio	12.00	20.00	22.00	22.00	22.00	22.00	22.00	22.00	22.00	83.3
Pennsylvania	12.00	18.20	22.35	22.35	25.90	25.90	25.90	25.90	26.00	116.7
Virginia	15.00	17.70	17.50	17.50	17.50	17.50	17.50	17.50	17.50	16.7
West Virginia	15.35	20.35	25.35	25.35	25.35	25.35	25.35	25.35	25.65³	67.1
Avg. of US States and DC ²	13.09	16.63	19.28	19.55	19.94	19.90	20.17	19.76	20.15	54.0
Avg. of Comparison States	13.92	18.46	21.46	21.48	22.03	21.91	21.86	19.23	22.27	60.0

Source: Federal Highway Administration, Highway Statistics, 2001, (Table MF-205).

¹ This table shows the tax rates for motor fuel as of December 31 for each year.

² Weighted average based on net gallons taxed

³ This rate returned to 25.35¢ after 2001

Table 22
State Tax Rates on Diesel
State of West Virginia and Comparison States¹
(cents per gallon)

State	1986	1990	1995	1996	1997	1998	1999	2000	2001	Percent Change 1986-2001
Delaware	13.00¢	16.00¢	22.00¢	22.00¢	22.00¢	22.00¢	22.00¢	22.00¢	22.00¢	69.2%
Kentucky	12.00	12.40	13.40	13.40	13.40	13.40	13.40	13.40	13.40	11.7
Maryland	13.50	18.50	24.25	24.25	24.25	24.25	24.25	24.25	24.25	79.6
North Carolina	15.50	21.50	21.60	21.70	22.60	21.60	21.20	21.20	24.10	55.5
Ohio	12.00	20.00	22.00	22.00	22.00	22.00	22.00	22.00	22.00	83.3
Pennsylvania	12.00	18.20	22.35	22.35	30.80	30.80	30.80	30.80	30.90	157.5
Virginia	15.00	16.20	16.00	16.00	16.00	16.00	16.00	16.00	16.00	6.7
West Virginia	15.35	20.35	25.35	25.35	25.35	25.35	25.35	25.35	25.65³	67.1
Avg. of US States and DC ²	13.32	16.80	19.36	19.55	19.88	20.09	20.37	20.37	20.64	55.0
Avg. of Comparison States	13.54	17.89	20.87	20.88	22.05	21.93	21.88	21.88	22.29	64.6

Source: Federal Highway Administration, Highway Statistics, 2001, (Table MF-205).

¹ This table shows the tax rates for motor fuel as of December 31 for each year.

² Weighted average based on net gallons taxed.

³ This rate returned to 25.35¢ after 2001.

Table 23
Change in Indebtedness
State and Local Government Obligations for Highways¹
(\$ per capita)
FY 2000

State	Obligations Outstanding Beginning of Year	Total Obligations Issued²	Total Obligations Retired²	Obligations Outstanding End of Year	Percent Change in Obligations during FY 2000
Delaware	\$1,021.00	\$274.70	\$53.03	\$1,242.67	21.7%
Kentucky	319.64	0.00	21.34	298.30	-6.7
Maryland	267.66	35.78	27.65	275.78	3.0
North Carolina	90.10	12.20	6.85	95.46	5.9
Ohio	170.59	22.92	12.84	180.68	5.9
Pennsylvania	254.52	1.18	12.06	243.65	-4.3
Virginia	448.07	48.76	15.29	481.54	7.5
West Virginia	246.45	60.86	23.95	283.36	15.0
Avg. of US States and DC	285.53	49.95	23.27	312.21	9.3
Avg. of Comparison States	352.25	57.05	21.62	387.68	10.1

Source: Federal Highway Administrations, Highway Statistics, 2001.

¹ This table summarizes the highway indebtedness status of all levels of government within each state, including toll authorities. See Tables SB-2 and LGB-2 of Federal Highway Administration, Highway Statistics, 2001 for more details.

² Excludes obligations with terms of less than two years.

Table 24
Highway Mileage by Jurisdiction
West Virginia and Surrounding States

State	FY 1980				FY 2000			
	Total Highway Mileage (Miles per 1000 population)	Under State Control (percent)	Under Local Control (percent)	Under Federal Control (percent)	Total Highway Mileage (Miles per 1000 population)	Under State Control (percent)	Under Local Control (percent)	Under Federal Control (percent)
Delaware	8.80	88.60	11.30	<0.1	7.40	88.10	11.80	<0.1
Kentucky	18.70	36.60	62.70	0.70	19.50	34.80	63.90	1.30
Maryland	6.40	20.20	78.20	1.60	5.80	16.80	81.80	1.40
North Carolina	15.70	82.70	13.60	3.70	12.50	77.50	19.40	3.20
Ohio	10.30	18.30	81.70	<0.1	10.30	16.50	83.30	0.20
Pennsylvania	9.90	41.40	57.90	0.60	9.80	33.30	65.90	0.80
Virginia	12.00	82.20	13.40	4.40	10.00	80.50	16.90	2.60
West Virginia	17.90	88.90	7.90	3.20	20.50	91.80	6.30	1.80
Avg. of Comparison States	12.50	57.40	40.80	1.80	12.00	54.90	43.70	1.40

Source: Federal Highway Administration, Highway Statistics, 1981 and 2001, Tables HM-10.

Note: Percentages may not add to 100 due to rounding.

Table 25
Comparative Data on Highway Demand and Supply
West Virginia and Surrounding States
2000

State	Vehicle Miles Driven Per Capita	Vehicle Miles Driven per Licensed Driver	Income per Capita	Population Density per Square Mile
Delaware	10,821	15,272	\$23,305	401.10
Kentucky	11,378	16,781	18,093	101.70
Maryland	9,673	15,063	25,614	541.90
North Carolina	11,187	15,563	20,307	165.20
Ohio	9,372	13,778	21,003	277.30
Pennsylvania	8,383	12,521	20,880	274.00
Virginia	10,260	14,987	23,975	178.80
West Virginia	10,941	14,969	16,477	75.10
Avg. of Comparison States	9,496	13,815	21,207	251.90

Source: All ratios were calculated from primary data in the Federal Highway Administration, Highway Statistics, 2001, Tables DL-1B, VM-2, and DL-1A, and Census Bureau Website.

Table 26
State Motor Vehicle Registrations¹
per 100 Persons
FY 2000

State	Total Registered Motor Vehicles and Motorcycles	Total Private and Commercial Motor Vehicles and Motorcycles	Automobiles	Buses	Trucks	Motorcycles
Delaware	83.57	82.09	51.53	0.26	30.20	1.59
Kentucky	90.25	89.15	52.17	0.33	36.61	1.14
Maryland	74.15	73.37	48.2	0.22	24.71	1.02
North Carolina	76.36	75.16	45.25	0.38	29.67	1.06
Ohio	95.03	93.72	58.53	0.34	33.81	2.36
Pennsylvania ²	80.22	79.22	50.65	0.3	27.33	1.94
Virginia	86.66	85.43	55.25	0.25	30.25	0.9
West Virginia	82.17	79.49	43.67	0.17	36.78	1.55
Avg. of US States and DC	86.43	84.92	47.37	0.28	36.71	2.07
Avg. of Comparison States	83.55	82.20	50.66	0.28	31.17	1.44

Source: Federal Highway Administration, Highway Statistics, 2001. (Table MV-1).

¹ Includes federal, state, county and municipal vehicles. Vehicles owned by the military services are not included. The number of private and commercial buses used in the total private and commercial motor vehicles is estimates by the Federal Highway Administration of the numbers in operation, rather than the registration counts of the States.

² For Pennsylvania 24,085 farm trucks are registered at a nominal fee and restricted to use in the vicinity of the owner's farm are not included in this table.

Table 27
Total Licensed Drivers by Sex and Age
2000

State	Total Licensed Drivers	Share of Licensed Drivers in Total Population	Share of Male Drivers in Total Licensed Drivers	Share of Female Drivers in Total Licensed Drivers	Share of 19 yrs. & Under Drivers in Total Licensed Drivers	Share of 20 yrs. To 64 Drivers in Total Licensed Drivers	Share of 65 yrs. And Over Drivers in Total Licensed Drivers ²
Delaware	564,099	70.8%	49.0%	51.0%	4.9%	79.8%	15.3%
Kentucky ¹	2,756,634	67.8	49.8	50.3	3.6	81.7	14.7
Maryland	3,451,966	64.1	48.4	51.6	4.3	82.5	13.2
North	5,884,651	71.7	50.0	50.0	3.7	83.0	13.3
Ohio	7,736,115	67.9	48.9	51.1	5.1	79.3	15.7
Pennsylvania	8,226,202	66.9	50.2	49.8	4.3	78.6	17.1
Virginia	4,920,753	68.4	49.4	50.6	4.9	82.5	12.6
West Virginia	1,316,955	73.1	48.8	51.2	4.9	76.1	19.0
Avg. of US States and DC	3,750,504	69.1	50.1	49.9	4.9	80.7	14.4
Avg. of Comparison States	4,357,172	68.8	49.3	50.7	4.5	80.4	15.1

Source: Federal Highway Administration, Highway Statistics, 2001. (Table DL-22).

¹Age and/or sex distribution estimated by FHWA.

²Data for older age groups have been estimated based on the last breakdown provided by that State against the Census population figures for that State and age group. The 2001 data are unavailable; 2000 data were used.

Table 28
Comparative Data on Automobile Fees
West Virginia and Surrounding States
2003

State	Drivers License Fee Per Year ¹	Annual License or Registration Fee ²
Delaware	\$3.13	\$20.00
Kentucky	2.00	15.00
Maryland	6.00	40.50
North Carolina	3.75	10.00
Ohio	4.15	34.25
Pennsylvania	6.50	36.00
Virginia	4.00	29.50
West Virginia	2.63	30.00
Average of Comparison States	4.22	26.46

Source: www.staterecordsinformation.com/dmv.html

¹ Fee for regular operator's license.

² Fee for passenger vehicle registration.

Table 29
West Virginia Division of Highways Total Expenditures by Function
Inflation Adjusted (2002 \$)

Fiscal Year	Debt Service (thousands \$)	Maintenance (thousands \$)	Construction (thousands \$)	Administrative Support (thousands \$)	Total (thousands \$)	Percent Change
1988	101,987	216,948	\$370,100	\$53,437	\$742,473	
1989	92,910	240,812	189,606	48,381	571,710	-23.0
1990	90,577	313,547	202,179	45,505	651,808	14.0
1991	86,197	323,296	262,105	51,266	722,864	10.9
1992	83,179	285,388	321,146	44,846	734,559	1.6
1993	77,677	290,875	407,449	34,133	810,135	10.3
1994	70,048	306,115	516,007	49,215	941,384	16.2
1995	62,215	310,322	456,412	53,360	882,308	-6.3
1996	54,009	341,132	436,466	57,855	889,461	0.8
1997	45,827	348,901	501,509	47,390	943,627	6.1
1998	32,506	331,475	487,491	48,014	899,487	-4.7
1999	51,910	339,869	431,818	47,472	871,069	-3.2
2000	48,604	325,908	440,083	48,945	863,540	-0.9
2001	45,614	328,020	507,105	48,166	928,905	7.6
2002	49,945	300,366	526,859	50,289	927,459	-0.2
2003	48,869	317,170	494,504	48,846	909,390	-1.9

Source: West Virginia Department of Transportation, Division of Highways.

Note: Adjusted for inflation using the Federal-aid Highway Construction Price Index (Table 9). All values are in terms of 2002 dollars.

Table 30
Expenditures From the West Virginia State Road Fund
Division of Motor Vehicles

Category	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Personal Services													
Number of Positions	158.5	146	149	166	185	198	234	236	261	291	401	436.5	464.5
Personal Services	2,220,549	2,328,899	2,466,069	2,697,245	2,853,559	3,460,969	3,957,292	4,738,107	4,713,914	5,625,952	7,146,748	10,266,183	11,302,634
Increment	35,028	37,278	36,684	39,907	44,928	47,213	54,615	81,356	83,232	92,200	100,580	134,317	139,521
Total Personal Services	2,255,577	2,366,177	2,502,753	2,737,152	2,898,487	3,508,182	4,011,907	4,819,463	4,797,146	5,718,152	7,247,328	10,400,500	11,442,155
Fringe Benefits													
Fees	16,142	27,830	32,820	31,245	33,474	33,731	40,791	44,472	32,408	60,791	76,168	107,969	116,105
FICA	171,693	186,968	195,222	201,540	218,034	280,528	285,133	238,916	358,614	427,304	539,134	777,163	855,849
PEIA	258,537	340,837	357,099	387,883	418,997	462,488	534,565	647,012	701,756	827,017	1,023,512	1,508,813	1,676,051
Workers Compensation	7,743	17,227	20,164	27,071	37,628	39,668	40,111	45,709	34,212	61,473	60,906	100,805	132,513
Unemployment	6,879	4,847	9,274	5,030	5,466	4,482	3,195	7,548	3,842	721	7,614	5,775	29,242
Retirement	194,514	204,578	212,931	238,757	261,065	302,141	351,082	419,174	441,517	518,102	664,141	931,287	1,032,410
Total Benefits	655,508	782,287	827,510	891,526	974,664	1,123,038	1,254,877	1,402,831	1,572,349	1,895,408	2,371,475	3,431,812	3,842,170
Other Internal Expenses													
Total Current Expense	3,050,757	4,275,727	4,297,000	4,473,260	3,992,598	5,422,255	5,887,003	5,505,325	6,403,723	7,681,895	7,797,024	9,158,823	10,145,091
Total Repairs and alterations	21,011	6,170	13,469	9,502	14,590	38,684	68,089	67,687	114,133	78,711	94,287	376,570	219,605
Total Equipment	193,877	153,189	230,831	145,496	131,676	1,865,642	1,299,699	376,472	436,251	791,153	829,919	271,791	297,677
Claims		75,676		5,389	17,700			65,012	5,443			1,275	13,513
Purchase of Land						350	298,000						
Total Other Expenses	3,265,645	4,510,762	4,541,300	4,633,647	4,156,564	7,326,931	7,552,791	6,014,496	6,959,550	8,551,759	8,722,505	9,820,697	
Total Cost Internal Operations	6,176,730	7,659,226	7,871,563	8,262,326	8,029,715	11,958,151	12,819,575	12,236,790	13,329,045	16,165,319	18,341,308	23,653,009	25,947,513
Transfers													
Payment to State Police		6,000,000	6,343,811	5,605,769	5,931,099	6,400,000	6,400,000	6,399,062	6,437,376	6,746,966	6,726,362	5,469,912	5,466,128
PEIA Reserve Fund Transfer											68104	99,160	109,660
IFTA Tax Department						341,993	529,272	535,364	469,553	572,579	558,834	527,793	505,756
Total Transfers	0	6,000,000	6,343,811	5,605,769	5,931,099	6,741,993	6,929,272	6,934,426	6,906,929	7,319,545	7,353,300	6,096,865	6,147,493
Total Expenditures	6,176,730	13,659,226	14,218,374	13,868,094	13,960,814	18,700,144	19,748,847	19,171,216	20,235,974	23,484,864	25,695,608	29,749,874	32,029,055

Source: West Virginia department of Transportation Division of Motor Vehicles

Table 31
Division of Highways: Debt Service Costs and Long Term Debt

End Of FY	1973 ¹ Issuance \$ Millions	1998 ² Issuance \$ Millions	1999 ² Issuance \$ Millions	2000 ² Issuance \$ Millions	2001 ² Issuance \$ Millions	Total Principal Outstanding \$ Millions	Total Interest Outstanding \$ Millions	Total Outstanding Balance \$ Millions	Yearly Debt Service Payment ³ \$ Millions
2002	\$18.660	\$204.080	\$105.020	\$110.000	\$101.780	\$539.540	\$321.670	\$861.210	\$49.446
2003	10.815	199.750	103.270	110.000	93.665	517.500	293.714	811.214	49.798
2004	5.090	192.660	101.445	110.000	85.235	494.430	266.790	761.220	49.850
2005	1.480	182.810	99.535	110.000	76.390	470.215	241.015	711.230	49.996
2006	0.000	170.180	97.545	110.000	67.120	444.845	216.385	661.230	49.998
2007		155.435	95.455	110.000	57.490	418.380	192.850	611.230	49.997
2008		139.950	93.275	110.000	47.360	390.585	170.645	561.230	49.996
2009		123.655	90.985	110.000	36.745	361.385	149.855	511.240	49.999
2010		106.505	88.585	110.000	25.595	330.685	130.555	461.240	49.997
2011		88.455	86.065	110.000	13.890	298.410	112.830	411.240	49.996
2012		69.455	83.410	110.000	1.565	264.430	96.810	361.240	49.998
2013		64.540	65.540	110.000	0.000	240.080	82.540	322.620	38.620
2014		59.380	46.655	110.000		216.035	69.605	285.640	36.978
2015		53.960	26.700	110.000		190.660	58.000	248.660	36.984
2016		48.270	5.615	110.000		163.885	47.795	211.680	36.983
2017		42.295	0.000	106.885		149.180	38.980	188.160	23.522
2018		36.025		97.685		133.710	30.920	164.630	23.522
2019		29.440		87.970		117.410	23.700	141.110	23.521
2020		22.560		77.710		100.270	17.330	117.600	23.518
2021		15.370		66.865		82.235	11.845	94.080	23.519
2022		7.855		55.395		63.250	7.310	70.560	23.521
2023		0.000		43.270		43.270	3.770	47.040	23.519
2024				22.240		22.240	1.280	23.520	23.518
2025				0.000		0.000	0.000	0.000	23.520

Source: Information provided by the West Virginia Department of Transportation, Division of Highways

* Actual Payment

¹ Better High way Bonds (outstanding as of June 30).

² Safe Road Bonds (outstanding as of June 30).

³ Debt Service is the amount paid yearly to cover principal and interest costs.

Table 32
Gasoline Tax
Revenue Forecasts Under Alternative Tax Policies

FY	Base Case 20.5 ¢ per Gallon (millions\$)	Policy Option 1 Increase by 1 cent to 21.5 ¢ per Gallon (millions\$)	Policy Option 2 Increase by 2 cents to 22.5 ¢ per Gallon (millions\$)	Policy Option 3 Increase by 3 cents to 23.5 ¢ per Gallon (millions\$)
2003 Actual	221.4			
2004	228.5	239.7	250.8	262.0
2005	236.2	247.7	259.2	270.7
2006	236.2	247.7	259.2	270.7
2007	236.2	247.7	259.2	270.7
2008	236.2	247.7	259.2	270.7

Source: BBER forecast calculations.

Table 33
Gasoline Tax
Revenue Forecasts Under Alternative Tax Policies
Inflation Adjusted (2002\$)

FY	Base Case 20.5 ¢ per Gallon (millions\$)	Policy Option 1 Increase by 1 cent to 21.5 ¢ per Gallon (millions\$)	Policy Option 2 Increase by 2 cents to 22.5 ¢ per Gallon (millions\$)	Policy Option 3 Increase by 3 cents to 23.5 ¢ per Gallon (millions\$)
2003 Actual	217.2			
2004	215.6	226.2	236.7	247.2
2005	214.3	224.7	235.2	245.6
2006	206.1	216.1	226.1	236.2
2007	198.1	207.8	217.4	227.1
2008	190.5	199.8	209.1	218.3

Source: BBER forecast calculations.

Note: Inflation adjusted based upon assumption that the Federal-aid Highway Construction Price Index increases at an annual rate of 4 percent per year over the forecast period.

Table 34
Wholesale Tax Revenue Forecasts Actual and
Inflation Adjusted (2002\$)

FY	Base Case (millions\$)	Base Case Inflation Adjusted (2002\$) (millions\$)
2003 Actual	67.8	66.6
2004	72.2	68.2
2005	74.6	67.7
2006	74.6	65.1
2007	74.6	62.6
2008	74.6	60.2

Source: BBER forecast calculations.

Note: Inflation adjusted based upon assumption that the Federal-aid Highway Construction Price Index increases at an annual rate of 4 percent per year over the forecast period.

**Table 35
Registration Fee Forecasts
Under Alternative Rates**

FY	Revenue Forecast Base Case (millions\$)	Policy Option 5 Increase Rates 20 percent in FY 2004 (millions\$)	Policy Option 6 Increase Rates by CPI on Annual Basis (millions\$)	Policy Option 7 Increase Rates by FAHCPI on Annual Basis (millions\$)
2003 Actual	86.2			
2004	88.0	103.5	88.0	89.7
2005	89.7	103.5	89.7	93.3
2006	91.5	103.5	91.5	97.0
2007	93.3	103.5	93.3	100.9
2008	95.2	103.5	95.2	104.9

Source: For this forecast it is assumed that the Registration Fee increases at an annual rate of 2 percent per year over the forecast period.

Note: Policy Option 5 entails a one time increase of 20 percent in all registration fees in FY 2004.

Policy Option 6 entails an annual adjustment in all registration fees by the use of the consumer price index annual percentage change in the previous FY. Forecasts of the CPI on an annual basis obtained from Global Insights and converted to a FY basis.

Policy Option 7 entails an annual adjustment in all registration fees by the use of the Federal-aid Highway Construction Price Index annual percentage change in the previous FY. For this forecast it is assumed that the federal-aid highway construction price index increases at an annual rate of 4 percent per year over the forecast period.

**Table 36
Registration Fee Forecasts
Under Alternative Rates
Inflation Adjusted (2002\$)**

FY	Revenue Forecast Base Case (millions\$)	Policy Option 5 Increase Rates 20 percent in FY 2004 (millions\$)	Policy Option 6 Increase Rates by CPI on Annual Basis (millions\$)	Policy Option 7 Increase Rates by FAHCPI on Annual Basis (millions\$)
2003 Actual	84.6			
2004	83.0	97.6	83.0	84.6
2005	81.4	93.9	81.4	84.7
2006	79.8	90.3	79.8	84.6
2007	78.3	86.8	78.3	84.6
2008	76.8	83.5	76.8	84.6

Source: For this forecast it is assumed that the Registration Fee increases at an annual rate of 2 percent per year over the forecast period.

Note: Policy Option 5 entails a one time increase of 20 percent in all registration fees.

Policy Option 6 entails an annual adjustment in all registration fees by the use of the consumer price index annual percentage change in the previous FY. Forecasts of the CPI on an annual basis obtained from Global Insights and converted to a FY basis.

Policy Option 7 entails an annual adjustment in all registration fees by the use of the Federal-aid Highway Construction Price Index annual percentage change in the previous FY. For this forecast it is assumed that the federal-aid highway construction price index increases at an annual rate of 4 percent per year over the forecast period.

Table 37
Privilege Tax Revenue Forecasts
Under Alternative Rates

FY	Base Case 5 percent Privilege Tax (millions\$)	Policy Option 8 Increase to 6 percent Privilege Tax (millions\$)	Additional Revenue Yield in 2002\$ (millions\$)
2003 Actual	167.7		
2004	173.3	208.0	34.7
2005	179.7	215.6	35.9
2006	186.1	223.3	37.2
2007	192.7	231.2	38.5
2008	199.4	239.3	39.9

Source: BBER forecast calculations.

Table 38
Privilege Tax Revenue Forecasts
Under Alternative Rates
Inflation Adjusted (2002\$)

Fiscal Year	Base Case 5 % Privilege Tax (millions\$)	Policy Option 8 Increase to 6% Privilege Tax (millions\$)	Additional Revenue Yield in 2002\$ (millions\$)
2003 Actual	164.6		
2004	163.5	196.2	32.7
2005	163.0	195.7	32.6
2006	162.4	194.8	32.5
2007	161.6	194.0	32.3
2008	160.8	193.0	32.2

Source: BBER forecast equations.

Note: Inflation adjusted based upon assumption that Federal-aid Highway Construction Price Index increases at an annual rate of 4 percent per year over the forecast period.

Table 39
Revenue Forecasts Under Current Financing System

FY	Gasoline Tax (millions\$)	Wholesale Tax (millions\$)	Registration Fees (millions\$)	Privilege Tax (millions\$)	Total Dedicated Tax Revenues (millions\$)
2003 Actual	221.4	67.8	86.2	167.7	543.1
2004	228.5	72.2	88.0	173.3	562.0
2005	236.2	74.6	89.7	179.7	580.2
2006	236.2	74.6	91.5	186.1	588.4
2007	236.2	74.6	93.3	192.7	596.8
2008	236.2	74.6	95.2	199.4	605.4

Source: BBER forecasts.

Table 40
Revenue Forecasts Under Current Financing System
Inflation Adjusted (2002\$)

FY	Gasoline Tax (millions\$)	Wholesale Tax (millions\$)	Registration Fees (millions\$)	Privilege Tax (millions\$)	Total Dedicated Tax Revenues (millions\$)
2003 Actual	217.2	66.6	84.6	164.6	533.0
2004	215.6	68.2	83.0	163.5	530.3
2005	214.3	67.7	81.4	163.0	526.5
2006	206.1	65.1	79.8	162.4	513.4
2007	198.1	62.6	78.3	161.6	500.6
2008	190.5	60.2	76.8	160.8	488.3

Source: BBER forecasts.

Appendix A

Highway Financing Developments Since 1980

The following are the important changes since 1980 in West Virginia and federal financing of highways. A summary of the rates of the two components of the Gasoline Tax is presented in Table 2.

In 1980, the federal tax on gasoline and diesel fuel was 4.0 cents per gallon (a tax level that was enacted in 1959). In 1980, the West Virginia Gasoline Tax was 10.5 cents per gallon (a tax level that was enacted in 1978).

In 1981, West Virginia voters for the first time rejected a road bond amendment; this amendment would have authorized the issuance of \$750 million in highway bonds.

In 1983, the federal tax on gasoline and diesel fuel was increased to 9.0 cents per gallon while West Virginia imposed a 5.0 percent Wholesale Tax on gasoline. In effect, the new Wholesale Tax increased the state tax on gasoline by 4.85 cents per gallon, to 15.35 cents per gallon. The base is 97.0 cents per gallon for the 5.0 percent Wholesale Tax.

In 1984, the federal tax on diesel fuel was increased to 15.0 cents per gallon. The differential between diesel and gasoline taxes reflected an effort to charge heavy vehicle users for the higher damage and resulting road maintenance costs that these vehicles inflict on the highways.

In 1984, West Virginia voters rejected an additional one percent in the sales tax that would have authorized the issuance of \$200 million in road bonds.

In 1986, West Virginia voters again rejected an additional one percent in the sales tax that would have authorized the issuance of \$500 million in road bonds.

In 1987, the federal tax on gasoline was increased to 9.1 cents per gallon and the federal tax on diesel fuel was increased to 15.1 cents per gallon.

In 1989, the West Virginia Gasoline Tax was increased to 15.5 cents per gallon. Combined with the Wholesale Tax, this resulted in a total state Gasoline Tax of 20.35 cents per gallon.

In 1990, the federal tax on gasoline was increased to 14.1 cents per gallon and the federal tax on diesel fuel was increased to 20.1 cents per gallon with 2.5 cents of each tax dedicated to reducing the federal deficit.

In 1993, the federal tax on gasoline was increased to 18.4 cents per gallon and the tax on diesel fuel was increased to 24.4 cents per gallon with 6.8 cents of each tax dedicated to reducing the federal deficit.

In 1993, the West Virginia Gasoline Tax was increased to 20.35 cents per gallon, with the 5 cent hike legislated to expire in 2001. Combined with the Wholesale Tax, which is equivalent to 4.85 cents per gallon, this resulted in a total state gasoline tax of 25.35 cents per gallon. It should be reiterated that the base is 97.0 cents for the 5.0 percent Wholesale Tax.

In 1995, the amount of the federal gasoline tax and federal diesel tax dedicated to reducing the federal deficit was decreased to 4.3 cents per gallon.

In 1996, the federal tax on gasoline was decreased to 18.3 cents per gallon and the federal tax on diesel fuel was decreased to 24.3 cents per gallon.

In 1996, West Virginia voters approved a road bond amendment that authorized the issuance of \$550 million in road bonds.

In 1997, the revenues from the federal tax on gasoline and diesel fuel dedicated to reducing the federal deficit were redirected to the Highway Trust Fund.

In 1998, West Virginia issued the initial \$220 million of the authorized \$550 million in road bonds.

In 1999, West Virginia issued an additional \$110 million of the authorized \$550 million in road bonds.

In 2000, West Virginia issued an additional \$110 million of the authorized \$550 million in road bonds.

In 2001, West Virginia issued the final \$110 million of the authorized \$550 million in road bonds and extended the 1993 5 cents per gallon Gasoline Tax rate increase to 2007.

Appendix B

Federal Aid and Its Use in West Virginia

Primary funding for highway construction and maintenance comes from the federal government and the State of West Virginia. While the major part of this report reflects current and proposed funding options from West Virginia sources, current and future federal funding will also play a major role in future highway development within the state.

To better understand the role of federal funding, this appendix provides a short summary of current Federal Aid highway programs. The following section is from the *West Virginia Transportation Facts Book*.

The Federal Aid highway program is a federally assisted, state-administered program that distributes federal funds to the states for the construction and improvement of urban and rural highway systems. This program is administered by the Federal Highway Administration (FHWA) as a grant-in-aid program. It is financed from the proceeds of motor fuel (the current Federal gasoline tax is \$0.184 per gallon; the current Federal diesel fuel tax is \$0.244 per gallon) and other highway-related excise taxes. These taxes are deposited in the Federal Highway Trust Fund (HTF), established by the Highway Revenue Act of 1956, and are not a part of the General Revenue Fund of the federal government. In April 1983, the Highway Revenue Act of 1982 created the Mass Transit Account within the Highway Trust Fund. This Act provided that the equivalent of one cent per gallon of the motor-fuel taxes would be deposited in the Mass Transit Account for transit system capital expenditures.

.....

An important characteristic of the HTF is that it was established to operate on a “pay-as-you-go” basis, which means that it must contain enough money to make reimbursements. To insure that the highway account remains solvent, the Byrd Amendment requires unfunded authorizations (unpaid commitments in excess of amounts available in the HTF) at the end of the federal FY (September 30) in which the apportionment is to be made to be less than the revenues anticipated to be earned in the following 24-month period. The transit account of the HTF is subject to a similar control mechanism, which is identical to the Byrd Amendment with the exception that outstanding commitments are compared to estimated income for the following 12 months, instead of 24.

Most Federal-Aid funds are apportioned to the states in accordance with certain formulas and procedures which give weight to population, area,

mileage, relative costs (needs), and the percent share of prior apportioned funds...When funds are distributed by apportionment, every state is assured of receiving some portion of the amount distributed (known as a “minimum apportionment”), with the exception of the Interstate Construction and Interstate Substitution programs, which are based on the cost of completion. Once an apportionment is made to a state, it cannot be retracted (other than by lapsing), except by Congressional action. Federal-Aid funds are apportioned by year, and a “grace period” in expending the funds is permitted to allow the state time for orderly planning, budgeting, and execution of its highway program. At the time of an apportionment, generally the first day of the federal FY (October 1), the FHWA issues certificates denoting the exact amount of each apportionment. These certificates officially notify the states of the opportunity to obligate funds in the various categories, thereby promising to pay the states at a later date. It is important to note that a new line of credit or an addition to unused lines of credit previously provided is what is apportioned to a state—not cash. Although apportionments are made to the states, Congress frequently mandates provisions that require a state to further distribute the fund within the state, by “earmarking” certain sums that may be used only for specific purposes.

Some funding categories do not contain a legislatively mandated apportionment formula. Usually, these categories are referred to as discretionary programs. When no *formulas in law* exist, funds may be distributed to the states by using “allocations”. In most cases, allocated funds are divided among the states using *administratively determined formulas* and/or criteria provided in law. If a state receiving an allocation does not use it within a specified period of time, it can be withdrawn and reallocated to other states.

An “obligation” is a commitment of the federal government to reimburse a state for the federal share of a project’s eligible cost. This commitment usually is made when the plans, specifications, and estimate (PS&E) are approved. For most programs, apportioned or allocated funds are matched by a state on an 80 percent federal share to a 20 percent state share basis. A project need not be completed before a state begins to receive reimbursement. In fact, depending upon the type of project, the time period elapsing from obligation to reimbursement may vary from a few days to several years; however, the final reimbursement payment is made after completion of the project. In West Virginia, any state-maintained highway on which Federal-Aid monies are expended remains under the administrative control of the WVDOH.⁴⁴

⁴⁴ West Virginia Department of Transportation, West Virginia Transportation Facts Book, January 2003, pp. 35-36.

Congress is now examining the future of federal transportation funding as it debates the reauthorization of the funds for federal-aid highways, highway safety programs and transit. While it appears that the reauthorization will be delayed until late 2004 or 2005, any significant changes will undoubtedly impact West Virginia transportation policy.

Appendix C

Operation of the Division of Highways

West Virginia Division of Highways (DOH) operations have changed dramatically over time. Within this section, we examine the revenue and operational costs trends associated with the agency. The analysis also reviews major administrative and structural changes, which have occurred in these programs over time, and arrives at conclusions relevant for this report.

Table 7 summarizes the total DOH expenditures by major function for the FY 1988 through FY 2003. The table presents the annual amounts spent in the major categories of debt service, construction, maintenance, and administration as well as the percentage distribution among these categories each year.

Examining the actual expenditures, one notes that debt service has declined considerably over this period. In FY 1988, debt service represented 13.7 percent of total expenditures declining to only 5.3 percent in FY 2003. During this time, the peak period for debt services was in FY 1989 when the amount totaled \$67.3 million or 16.2 percent of total expenditures.

Construction expenditures have risen annually over the period FY 1988 through FY 2003, reflecting in part the growth of federal funds available for this purpose. The lowest amount was in FY 1988 when \$137.3 million was spent, which was 33.1 percent of total expenditures. From this low point, expenditures have grown to a peak amount of \$521.6 million in FY 2002, which was 56.8 percent of total expenditures.

Maintenance expenditures, to a large extent, are influenced directly by weather. Floods, snowfall, wind and ice storms, and other naturally occurring events all impact maintenance costs. Maintenance expenditures have ranged from 29 to nearly 48 percent of total expenditures over the period FY 1988 through FY 2003 with the highest funding in FY 2003 when over \$323 million was spent on maintenance.

Administrative and support expenditures have ranged from just over four to over eight percent of total expenditures over the period. Since 1996, administrative costs have hovered around 5.5 percent of total expenditures.

As in the earlier analysis, one must ascertain the real level of expenditures by adjusting the actual amounts to remove the effects of inflation. Table 29 reports the expenditures by function adjusted for inflation. Adjusting for inflation, the real value of expenditures rose from \$736 million (2002\$) in FY 1988 to over 936 million (2002\$) in FY 1997, an increase of 27 percent over the period. Since their peak in FY 1997, total expenditures have declined to \$899 million in FY 2003, a reduction of roughly 4 percent. For the period FY 1988 through FY 2003, declines of nearly 52 percent in debt service and 9

percent in administration and support partially offset increases of nearly 33 percent in construction and over 46 percent in maintenance.

Over the past two decades, increasing demands have been placed on the West Virginia State Road Fund in the form of Specialized Infrastructure Projects, which have reduced funds available for needed construction and maintenance activities on existing facilities. Almost all of these projects were undertaken in response to requests from various governmental agencies or offices approved to meet a public need for new infrastructure development. These projects fall into one of the following categories:

- Construction and upgrade of airport access roads
- Cost share and /or reimbursement associated with United States Corps of Engineer infrastructure improvement/replacements
- Construction and upgrade of roads/bridges for correction facilities
- Construction and upgrade of roads/bridges associated with educational facilities
- Construction and upgrade of roads/bridges associated with housing developments
- Construction and upgrade of roads/bridges associated with hospital access
- Construction and upgrade of roads/bridges associated with industrial development
- Projects addressing legislative intent
- Construction and upgrade of roads/bridges associated with military facilities
- Construction and upgrade of roads/bridges associated with recreation areas
- Construction and upgrade of roads/bridges associated with shopping centers
- Construction and upgrade of roads/bridges associated with the United States Natural Resources Conservation Service

Table 5 summarizes some of the Specialized Infrastructure Project expenditures from the West Virginia State Road Fund over the years 1982-2002. While individual projects may not have been relatively expensive, over the years 1982-2002, a total of over \$253 million has been expended from the West Virginia State Road Fund for these purposes.

In addition, additional charges have been levied on the West Virginia State Road Fund for PEIA, Public Safety, expansion of DMV, and other programs. In some cases, these changes are the result of increased financial accounting and cost allocations to all West Virginia state agencies. In other cases, particularly with DMV, the changes are the result of reorganization and decentralization of services.

The State of West Virginia established the Board of Risk and Insurance Management (BRIM), the Public Employees Insurance Agency (PEIA) and the Worker's Compensation Fund to account for and finance uninsured risks of losses for the DOH and other state agencies. Over the past two decades, there has been a shift in activity costing which has entailed transfers out of the West Virginia State Road Fund to these other agencies. In part, these transfers reflect more appropriate allocation of actual costs on an annualized basis to the agency; however, the effect is to reduce funds directly available

for highway construction and maintenance. Table 6 summarizes the financial transfers to the PEIA Reserve Fund, which were initiated in FY 2000 and are currently over \$1.5 million annually for both the DOH and DMV. This transfer of funds is an assessment to insure PEIA's financial stability and is not a payment for premiums.

Beginning in FY 1999, the Highway Courtesy Patrol was funded out of the West Virginia State Road Fund in the initial amount of \$2.4 million annually. The funding requirements for this program have increased to over \$4.3 million in FY 2003.

Appendix D

Operation of the Division of Motor Vehicles

The DMV is a large organization with multiple responsibilities including the following:

- Vehicle Services

This program titles and registers motor vehicles and licenses and monitors motor vehicle dealers throughout West Virginia. DMV has sole responsibility for all elements of the driver's license applicant examination process, a process that in the past was shared with the West Virginia State Police. DMV operates regional offices in Beckley, Clarksburg, Elkins, Flatwoods, Franklin, Huntington, Kanawha City (Charleston), Lewisburg, Logan, Martinsburg, Morgantown, Moorefield, Moundsville, Parkersburg, Point Pleasant, Princeton, Romney, Spencer, Welch, Williamson and Winfield.

- Motor Carrier Services

This program oversees credential issuance to and revenue collection from the commercial trucking industry.

- Legal Services

This program serves as DMV's in-house counsel, conducts administrative hearings that arise from disciplinary actions taken by DMV against drivers, license services and motor vehicles dealerships, and tracks relevant court processing.

- Information Services

This program provides data entry, records management, help desk support to issuing agents, and analysis.

- Drivers Services

This program oversees the driver licensing process in West Virginia including license transactions (issuances, duplication, renewals, revocations, suspensions, transfers and permits), driver improvement programs, reciprocity agreements with other states, compulsory insurance, Governor's Highway Safety Program, and related safety initiatives.

- Management Services

Provides administrative and fiscal support to all DMV programs.

Table 30 provides an historical review of expenditures from the West Virginia State Road Fund on behalf of the DMV. The following are some key findings from this review:

- DMV positions rose from 158.5 in June 1990 to 464.5 in June 2002, an increase of 193 percent over the period. This increase reflects the decision to open satellite DMV offices throughout the state. Concurrent with the increased positions was an increase in personal services and fringe benefits from \$2.9

million in June 1990 to nearly \$15.3 million in June 2002, an increase of 425 percent.

- Registrations processed per position were 9,326 in FY 1990, the highest level since FY 1984. The expansion of regional offices and new positions resulted in a decline in the number of registrations per position to 3,526 in FY 2002.
- Total DMV expenditures for internal operations rose from \$6.2 million in FY 1990 to \$25.9 million in FY 2002, an increase of 320 percent.
- In addition to its internal operations, DMV is required to provide funding to other agencies. These transfers from the West Virginia State Road Fund are reflected in Table 6. Beginning in FY 1995, funds were transferred to the Tax Department in the amount of \$342 thousand, rising to over \$560 thousand by FY 2003. Beginning in FY 1991, six million dollars was transferred to the Department of Public Safety for the West Virginia State Police, an amount that increased to over \$6.7 million in FY 2000. With the transfer of the driver examination function from the State Police to DMV in 2001, the annual transfer dropped to \$5.5 million. The transfer to PEIA already has been discussed in Appendix C.

Appendix E

West Virginia Courtesy Patrol⁴⁵

The West Virginia Courtesy Patrol Program WVCP was designed to address traffic congestion caused by vehicle accidents and crashes; minimize response times in rural, urban and mountainous locations; improve safety, security and customer service; reduce travel time which can attribute to less fuel consumption; clear incidents more quickly, thereby reducing the number of secondary accidents and the resultant congestion; provide or assist law enforcement and other highway personnel with freeway incident management or reporting locations of suspicious activities, including wanted criminals; enable State Police troops to shift their focus and time in a more productive manner; and improve technology and communications.

The Courtesy Patrol, in general, assists stranded motorists, provides gasoline or directions, changes flat tires, assists with traffic control on accident scenes, and provides motorists access to cellular telephones, in order to ensure safety on our state's urban and rural expressways.

Other types of assistance provided by the Patrol members include providing anti-freeze, battery boosts, minor mechanical repairs, and placing safety cones or flares in identified areas of need, as well as giving directions and relaying traffic and construction updates to appropriate authorities.

The ability to react to changing weather conditions is also an important emphasis and vital role for which the Courtesy Patrol is prepared and trained. Not only do the Courtesy Patrol units monitor closely for distressed motorists, accidents, or other problems more rampant during inclement road conditions, but they also set the tone for travelers by decreasing their speed and being the "eyes and ears" on the highway.

Immediately following the September 11th terrorist attacks, WVCP managers met with Division of Highways and Office of Emergency Services managers to discuss Homeland Security issues. To further enhance these skills, WVCP officials received customized training from the Federal Bureau of Investigation's Professional Development and Training Security Unit. Since the September 11th attacks, the WVCP has assisted the DOH and law enforcement during alerts of heightened awareness by monitoring critical infrastructure on and near our expressway highway system.

The West Virginia Courtesy Patrol covers a span of 549 miles of Interstate highway and 231 miles of Appalachian Corridors. Operating vehicles include a fleet of twenty-five, white pick-up trucks. Each patrol unit is strategically assigned to a 30 – 35 mile section of expressway, operating 3 shifts 24/7 each day of the year.

⁴⁵ Reprinted from the West Virginia Division of Highways.

Each truck is equipped with a two-way radio and a wireless digital cellular phone for communications; each driver is also equipped with a statewide pager for local or long distance outreach. For rural areas, the Courtesy Patrol has collaborated with local Sheriff Departments to equip the truck with their radio devices to ensure effective communications where proven necessary. The Courtesy Patrol manages a toll-free hotline and also can be contacted via West Virginia State Police 911 Centers statewide.

Patrol drivers provide or assist law enforcement and other highway personnel with freeway incident management associated with construction, accidents, and other related incidents. Patrol drivers also alert the State Police of driving patterns that pose an immediate threat or risk on the highway. The Courtesy Patrol Communication Center, open 24 hours a day, serves as a vessel for all 911 Centers that need to reach our units for emergency and non-emergency incidents and accidents.

The West Virginia Courtesy Patrol Program began operation with the midnight shift November 21, 1998. While other states/jurisdictions operate similar programs, the WVCPP is the only one that utilizes Welfare-to-Work/TANF individuals (welfare recipients that are transitioning from public assistance towards self-sufficiency) as patrol operators and is the only program of this type that operates 24/7 – 365 days per year on all state Interstate and APD corridor routes.

The WVCPP is operated via competitive bid state contract awarded by the State Purchasing Division and administered by the Division of Highways. Several other state agencies partnered with the DOH at the inception of the program and several of these agencies continue to provide services/support for the program today. Patrol operator referrals are handled through DHHR and that agency provides uniforms for the patrol operators.

The contract vendor that provides the WVCPP Service is the West Virginia Citizens Conservation Corps.

Appendix F

Economic Incidence of the West Virginia Taxes on Gasoline and Special Fuels*

West Virginia imposes 20.5 cents per gallon excise tax on gasoline and special fuel such as diesel fuel and other gas or liquid products. In addition, the state also uses a Consumer Sales and Use Tax on gasoline and special fuel, also known as the Wholesale Motor Fuel Tax. This tax is based on the average wholesale price of gasoline and special fuel and imposed at an effective rate of 4.85 cents per gallon.⁴⁶

Incidence of the Gasoline Tax

Tax incidence is defined as the change in the distribution of economic welfare due to tax policy. Simply put, tax incidence is about “Who pays the taxes?” Economists distinguish between “statutory” and “economic” incidence. The statutory incidence of a tax is on the taxpayer that is legally liable to remit the tax while the economic incidence of the tax is on the people that ultimately pay the tax. While the gasoline tax is generally imposed on the producer, distributor or retail dealer by law, the tax is generally considered to be shifted ultimately to consumers in terms of higher gasoline prices. Various previous studies that examined the incidence of the gasoline tax also indicate that the gasoline tax is a regressive tax, meaning that lower income households bear a disproportionately high burden of the tax.⁴⁷

An issue of concern in tax incidence estimation is tax exporting. Tax exporting is defined as “the process by which a tax levied by one jurisdiction is shifted (“exported”) to a taxpayer of another jurisdiction (Phares, 1999). While tax incidence studies address the question “who bears the burden of a tax?”, analyses of tax exporting go a step further and ask specifically whether the ones who bear the burden are state residents. In other words, tax exporting is about the geographical incidence of state and local taxes.

This is an important issue in estimating the incidence of state excise and sales taxes. In Minnesota, sixty-four percent of the gasoline tax is borne by Minnesota’s consumers, while thirty six percent of the tax burden is exported to the gasoline consumers from other states (Minnesota Department of Revenue, 2003). Tax exporting can have significant implications for the accuracy in estimating the gasoline tax incidence in West Virginia. It is quite plausible that the residents from bordering states traveling through

* This report was written by Mehmet S. Tosun and Pavel Yakovlev. It also appeared in the December 2003 issue of the West Virginia Business and Economic Review – http://www.bber.wvu.edu/pdf_files/BBER-2003-21.pdf

⁴⁶ On January 1 201, the wholesale gasoline sales and use tax rate increased from 4.85 cents per gallon to 5.15 cents per gallon. On January 1, 2002, it reverted to 4.85 cents per gallon. Calendar year 2001 is the only year since the inception of the tax that the wholesale price of gasoline rose above 97 cents per gallon.

⁴⁷ See Poterba (1991), Casler and Rafiqui (1993) and Chernick and Reschovsky (1997) for studies that show the distribution of the gasoline tax by income groups.

West Virginia counties purchase gasoline and pay the West Virginia taxes on gasoline during their visit. This would make per capita gasoline consumption and the tax payments particularly high in border counties compared to the interior counties. In our comparison of the interior counties to the border counties, we have not observed significantly higher per capita gasoline sales in West Virginia border counties.⁴⁸ Thus, we do not control for the existence of exporting in our estimates and leave a further examination of the potential exporting of the gasoline taxes for a future report.

Applied Incidence Methodology

In our estimation⁵, we have used the 2000 West Virginia personal income tax return micro-unit data, which includes the individual federal adjusted gross income. This micro-unit dataset includes all of the filed resident tax returns. We have created ten income groups based on the income brackets used in the Statistics of Income for West Virginia from the Internal Revenue Service.⁴⁹ We then used the 2000 Consumer Expenditure Survey from the Bureau of Labor Statistics to get the general gasoline consumption patterns for the U.S. and derived a distribution of the total gasoline consumption across the ten income groups that we created. As a final step, we computed average tax rates for these income groups to determine the tax burdens. Average tax rate for each income group is calculated by dividing the total attributed tax by the total federal adjusted gross income for that income group.

Distribution of the West Virginia Gasoline and Special Fuel Taxes By Income Groups

Table F-1 shows the distribution of the average adjusted gross income, average gasoline consumption, and average gasoline tax burdens across ten income groups in West Virginia. The gasoline consumption figures come from the Consumer Expenditure Survey (CES), which cites a survey bias that may increase consumption figures for the lowest income group. We see in F-1 that the average gasoline consumption for the lowest income group is indeed surprisingly high. It is explained by the Bureau of Labor Statistics that this could be due to serious income underreporting leading to unusually high expenditure levels particularly for the lower income consumer units.⁵⁰ The average gasoline consumption rises consistently for income groups 2 through 10.

Since the gasoline tax collections depend largely upon gasoline consumption, one can expect to see a biased tax burden estimate for the lowest income group. In fact, this is what Table F-1 shows. The average gasoline tax paid by the first income group appears to be substantially higher than the tax paid by the second income group. Thereafter, the average tax burden appears to rise consistently from one income group to another;

⁴⁸ More information, including the results of the regression analysis, on the cross-border effects of gasoline sales is available upon request.

⁴⁹ See the related IRS web site at <http://www.irs.gov/pub/irs-soi/00in49wv.xls>.

⁵⁰ Another argument that BLS used is that some consumer unites in the lower income classes may have expenditure levels that are more typical of upper income consumer units. This would increase the average expenditure levels of the lower income class.

however, the average gasoline tax rates, which give us the average tax burden relative to income, indicate that the West Virginia gasoline and special fuel taxes are very regressive. In fact, consumers in the bottom income group pay nearly 90 times more in gasoline taxes as a share of their income compared to those in the top income group. Similarly, the average rate for the second lowest income group is about 27 times greater than the rate for the highest group. Furthermore, the average gasoline tax rate decreases consistently as we move from the bottom to the top income group confirming the overall regressivity of the West Virginia gasoline and special fuel taxes.

Table F-1.
West Virginia Gasoline Consumption and Gasoline Tax Burden
by Income Group in Tax Year 2000
(Dollars)

Table F-1.										
West Virginia Gasoline Consumption and Gasoline Tax Burden										
by Income Group in Tax Year 2000										
(Dollars)										
Income Group	Group1	Group2	Group3	Group4	Group5	Group6	Group7	Group8	Group9	Group 10
	0	10,000	20,000	30,000	50,000	75,000	100,000	150,000	200,000	500,000
Income Range	To 10,000	To 20,000	To 30,000	To 50,000	To 75,000	To 100,000	To 150,000	To 200,000	To 500,000	And Over
Average Adjusted Gross Income (\$)	5,351	14,929	24,680	38,005	59,510	85,034	118,274	169,642	323,847	1,150,392
Average Gasoline Consumption (\$)	1,013	846	1,145	1,422	1,773	2,051	2,067	2,212	2,273	2,403
Average Gasoline Tax (\$)	336	281	380	472	589	681	686	734	754	797
Average Gasoline Tax Rate	6.29%	1.88%	1.54%	1.24%	0.99%	0.80%	0.58%	0.43%	0.23%	0.07%

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