

# Highway Subsidies 2004

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Based upon year 2004 data

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*Is our road and highway system fully paid for by its users, or is it the beneficiary of “huge government subsidies”? Can we afford the capacity increases traffic experts say are required to stem growing congestion? Are roads or transit the best way to provide this needed capacity? These critical transportation policy issues all hinge on the government net cost of highways in other words, highway subsidies.*

*In recent years, the government accounting of that statistic finds it closely balanced, that is, highway fees very nearly match highway expenditures. Thus there is little if any left over for recognized crucial capacity and maintenance needs*

*We find that result is based on a problematic, ad-hoc accounting of highway user fees. We develop a rational and consistent working definition of “user-fee” in terms of the total net impact of the roads and highways program on general funds available for other, non-highway uses. Under this definition, the government net cost of our highway system is negative, that is, a profit of \$66 billion or 45% in 2004. All other things being equal, if the government were not in the highway business, funds available for other purposes would be less by this amount.*

## HIGHWAY SUBSIDY

*Is our road and highway system paid for by its users?*

*Or is it the beneficiary of huge government subsidies?*

*Can we afford the capacity increases traffic experts say are required to stem growing congestion?*

*Are there better ways than roads to provide this needed capacity?*

Underlying all these fundamental issues, is the “*net government cost of highways*” generally understood to mean the

government “*gross highway expenditures*”, (the amount the government spends for highways), *minus* “*highway user fees*”, (the amounts highway users themselves pay for their use of the highway).

The seminal source of such highway finance data in the United States is the FHWA annual “Highway Statistics” (“HS”). As such HS has come to be the default arbiter for the specific, operational definitions of the above terms. There turns out to be little or no problem in defining the “*gross highway disbursements*” term, but the “*highway user fees*” term is problematic.

In recent years, the HS data suggest that taking into account the time value of interest and borrowing, *highway user fees* just about balance disbursements, with little if any funding left over for much needed highway capacity expansions and maintenance. Critical transportation policy is being decided largely based on that inference, including

- the search for alternative means of user taxation,
- explosive interest in road and cordon tolling or congestion pricing, and
- massive subsidization of transit new starts alternatives to highways.

This inferred balance, however, is critically dependent on HS’ definition of “user fee”, and that as we shall see, is highly problematic, we claim arbitrary, and misleading.

## THE USER FEE CONCEPT

What do we mean by “user fee”?

What does “government net cost mean”?

In spite of its common and significant usage one may search in vain for a simple fundamental definition of user fee, particularly highway user fee.

It is generally understood that these components are related by:

$$\{ hwy \ net \ cost \} \equiv \{ hwy \ gross \ cost \} \ minus \ \{ hwy \ user \ - \ fee \}$$

But the terms here are more subtle than one might think so it is essential to define them very carefully.

To clarify the concept of highway user fee and net highway cost a useful thought exercise is to imagine that we were suddenly, tomorrow, able to abolish government participation in

the roads and highways system, replacing it with a private enterprise *teleportation* system that *costs the total government nothing*. The government takes no part in the new industry and imposes no taxes on its use! There are no more highways or road vehicles. Everyone employed in the old highways and automobile industry finds equivalent employment in the new teleportation industry. All the rest of the social and economic system, incomes, taxation, and fiscal structure is left intact as is.

In this hypothetical world, certain items of government *expenditure* would disappear. Those are the current real world {gross hwy costs}.

Similarly, certain items of government *income* would disappear. Those are the real world {highway user-fees }.

*The net increase (or decrease) in total government funds then available in the hypothetical world for use for other non-highway purposes is exactly the real world net highways cost (or profit).*

If this {hwy net cost} is greater than zero it is a highway *subsidy*; if less than zero, it is a highway net *profit* and the government would end up *poorer* after abolishment of the highway program (we will see later that this in fact is the case.) This is the real meaning and important significance of {hwy net cost}, it is the *financial impact of the highway program, plus or minus, on the funding available to other government funds and services.*

Similarly, highway user-fees may be seen as the real world fees and tax income that would vanish if there were no roads nor automobiles.

In the real world then, any tax or fee payment that an individual would not have to pay if he gave up the use of automobiles and highway use is a *user fee payment*.

These are the fees he now pays as a necessary (either de jure or de facto) condition of his use of highways.

We are now in a position to define user-fee in accordance with the preceding considerations as follows:

<p><b>Definition:</b> Highway User Fee: any tax, fee, or toll payment to the government, paid as a necessary (de jure or de facto) condition of highway use.</p>
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**D1**

This is a necessary and sufficient definition. If a tax payment satisfies this condition it is a highway user fee, irrespective of how it came into existence, what it is called or any other properties.

Note that this defines user-fees in terms of the properties of individual tax payments irrespective of higher level properties or categories to which those payments may belong. This is a *major* difference as compared to the FHWA user-tax convention and makes possible a simpler, more precise statement of the user fee property.

Under this definition, *all* {ad valorem sales taxes paid by highway users on automotive parts and supplies} are such taxes, paid by and only by<sup>1</sup> highway users and thereby are highway user fees. They are items of government income that would cease if the payers no longer used the highways, and therefore they are highway user-fees, notwithstanding that they may come under the same legislative provisions and at the same rate as taxes paid more generally on non-automotive items. This is in direct contradiction to the Highway Statistics “user tax” convention.

## **PROBLEMS WITH THE HIGHWAY STATISTICS “USER-REVENUE” CONVENTION**

Possibly to avoid arguments over definitions, HS conspicuously avoids and nowhere uses the common terms “highway user-fee” and “highway net cost”. Rather, they use and evaluate quantities called “highway user tax” and its corresponding “highway user revenue”. Nevertheless, they then use these terms, (in Table HF-10) in such a way that readers almost universally have understood and interpreted them, to mean the same as the more common usage terms “highway user-fee” which we have defined above.

At the conceptual level HS defines highway user taxes as follows:

*(Categories of) “Taxes or fees imposed on the owners and operators of motor vehicles for their use of public highways are classified as highway user taxes and the revenue generated as highway-user revenues.”*<sup>[1]</sup>.  
(parenthetic added)

**D2**

That leaves a lot of room (ambiguity) for interpretation. In fact HS then devotes some 1200 words to examples, exceptions, and clarification.

HS provides guidance in the form of a myriad of largely seemingly arbitrary, ad-hoc, yes/no properties as to categories of taxes that are and are not highway user-fee, including:

Road and bridge tolls:    Yes  
Vehicle Registration and license fees:    Yes  
Automotive fuel taxes levied per unit of volume (volumetric):    Yes  
Automotive fuel taxes levied per cent of price (ad valorem):    No.

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<sup>1</sup> A small fraction of purchase of automotive parts and supplies is for non-highway use, but as in the case of fuel gallonage taxation, the amount is not significant and is ignored by HS.

Sales taxes on automotive vehicles, parts, and supplies, if at general tax rate:	No.
if at a different rate	Maybe
Sales taxes that “are “part of” a tax imposed on items other than automotive”.	No.
Taxes <i>used</i> for other than highway purposes even though otherwise qualified as user-fees	
Prior to 1993:	No
After 1993:	Yes.

Trying to discern an underlying principle or significance of these examples leads one to a number of inconsistencies with the objective of highway net cost accounting. For example, automotive fuel taxes imposed per gallon are classified as user-fees while fuel taxes imposed per dollar cost are not. Clearly that distinction is irrelevant to either highway net cost or the impact on highway user or government net cost of highways. At a gas price of \$3.00 /gallon, a 15 cent/gal volumetric tax and a 5% sales tax, with both typically buried in the pump price are *identical* in their impact on the government and on the user; yet HS considers the former highway user revenue and the latter not.

Particularly problematic is the HS sales tax convention, namely that general sales taxes imposed *ad valorem* on automotive fuel, equipment, and supplies, are *not* considered user taxes,

“...since they are a part of {sales taxes} imposed more generally”

irrespective of the fact that they are incident on and only on highway users, as a de facto condition of their use of roads and highways. How about motor fuel volumetric taxes? By the same token, are they not

‘ a part of {the class of all taxes}, imposed more generally’

and thereby disqualified from user-fee status? A consistent application of this rule would consider *all* taxes non-highway user fees, invalidating the whole concept of user fees. California law was changed in 2003 to dedicate all sales taxes from gasoline to transportation. Does that qualify it as “special” and therefore a “highway user fee”?

While this convention may have a long history of use, it of no pragmatic relevance to the issue of highway net cost and it leads to some strange, and sometimes self-contradictory distinctions.

Viewing these problems as a whole, it seems clear that they arise from trying to define the user-fee property in terms of existing tax *categories* rather than at the individual payment level. Surely, if the user-fee property is of any real pragmatic significance in the context of net cost, it should be based on *properties of the tax payment itself and its incidence on the payer*, independent of how the tax came to be, or what the enabling legislation arbitrarily chooses to label or categorize it, or whether there happens to be another, non-highway tax imposed at the same rate. In spite of widespread acceptance and long usage, these HS user revenue conventions are arbitrary, and not logical for the purpose of net cost accounting.

In the preceding section we have defined the single simple necessary and sufficient condition for a tax *payment* to be a user-fee for the purpose of net cost accounting as that it “*is paid as a necessary (de jure or de facto) condition of highway use*”.

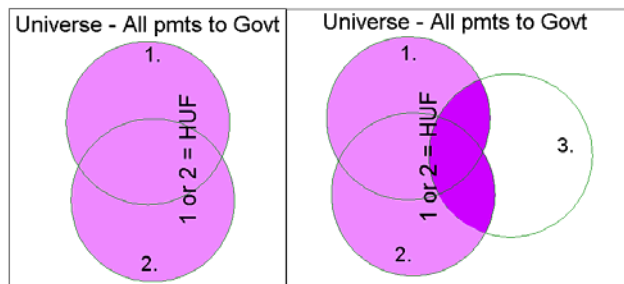
From this, we can infer among other things that a *payment by other than a highway user is not a highway user-fee*. However, it does not follow from this, and it would be a logical error to conclude from this, as the HS convention appears to do, that since the *category* of general sales taxes does not *specifically exclude* non-highway users, all general sales tax payments are non-highway user taxes.

A useful tool to sort out and explain the logic of issues such as this involving overlapping categories is the Venn Diagram (*cf* Wikipedia, “Venn Diagram”).

**Comment:** Diagram from d:/vcadd/drawings/venn.vcdf

## VENN DIAGRAM

Universe: All payments to government  
 Properties (sets):  
 1. Payment is de jure condition of highway use  
 2. Payment is de facto condition of highway use  
 3. Payment is sales tax imposed generally  
 1 or 2 --> Hwy User Fee



Every point in the above rectangles (“the universe”) represents a {payment to the government}.

In the left rectangle, the partially overlapping circles represent the categories of

1) {Payments that are a de jure condition of highway use}, ( e.g. a toll), and

2) {Payments that are a de facto condition of highway usage} (e.g. automotive fuel taxes).

The shaded region (“union”) represents those payments which satisfy conditions 1) or 2) *and are thus by our definition*, highway user-fees.

On the right we introduce a third category, 3) all {general sales tax payments}. At issue is the region of overlap between user fees i.e. {1 or 2}, and {3}, shown here as a darker shading. e.g. a 5 percent cent ad valorem sales tax on gasoline. The Highway Statistics convention specifically holds that any such tax (*category*) which is “part of a general sales tax (*category*)” is considered not to be a user-fee. But the above definition, states that properties 1 or 2 are *sufficient* conditions for user-fees and therefore payments satisfying all 3 properties, the darker overlap area, *are* highway user-fees in direct contradiction of the Highway Statistics convention — the general sales tax property is

simply irrelevant to the issue of whether or not a particular payment is user-fee. It is one of an infinite number of other definable properties, for example {paid on Thursday}, {paid by check} etc, that have no bearing on whether or not the payment satisfies either or both of the two *sufficient* properties of the definition of user-fee.

The calculations in Appendix 1 show that this triple overlap area represents about \$60-\$70 billion/year of current understatement of government highway user-fee income.

Aside from satisfying the net government affordability objective of this study, this simpler definition nicely separates the tangible, question-of-fact issues from the more difficult, subjective ones involving externalities. In quantifying user-fees, below, we will only need to deal with questions-of-fact, and the results should be objectively verifiable or refutable by other workers. It is to be hoped that some consensus on this issue could be reached as at least a sound point of departure for discussion of the more difficult externalities or societal cost issues. In order to support such critical review and consensus, all source references have been extensively documented, explained, and identified as to precise line item in each reference.

## QUANTIFYING THE NET COST OF HIGHWAYS

Details of the data compilation are contained in Table A1-1 corresponding to the present *Net Cost* convention and, A1-2 corresponding to the Highway Statistics “user revenue” convention, inapplicable for the purpose of highway net cost but put forth for comparison.

The results for 2004 are summarized in Table 1 below and detailed in the Appendix. The first column corresponds to the proposed “net cost conventions” arguably necessary for net cost calculations. The second column is what one *would* get using the arbitrary, ad hoc and arguably inapplicable HS convention taking HS’s “Highway-user revenue” as equivalent to user-fee.

**Table 1**

**Total US Highway Disbursements and *User-fees* Billion 2004**

\$

	"Net Cost" Convention (Table A1-1)	Inapplicable "HS" Convention (Table A1-2)
Highway system Gov't Gross Expenditures	\$147.4	\$147.4
Hwy User-fees (or -Revenues)	\$213.0	\$143.2
Net Government subsidy (profit )	(\$65.6)	NA
Subsidy (Profit) as % of costs	(45%)	NA
Net Govt Cost (profit) ¢/ ps-mi	(1.67)	NA

Gross Expenditures: Total highway disbursements (costs) in 2004 were **\$147.4 billion**. This is stated to include all direct, monetary maintenance and operation, administration, research and planning, capital outlay (Rights-of-Way and construction), police and safety, and bond interest and redemption disbursements at all levels of U.S. government.

User-fees / Revenues: The result, detailed in Appendix 1 hereto, and Table A1-1 is total 2004 *highway user-fees* net of collection costs, of **\$213 billion**. Of this, only **\$143 billion** or 67% is accounted for by what "Highway Statistics" calls "Highway User Revenues", with \$70 Billion of highway user-fees (tax payments made as a necessary condition of highway use) unaccounted for.

Net Cost: In 2004, the government thus realized a net profit of \$66 billion or 45% over expenditures on its roads and highways operation.

During 2004, the entire roads and highways system supported 3.93 trillion person-miles of travel (2001 NHTS [7], US Natl. Avg. AVO, all trip purposes =1.63 ps/veh). Expressed per unit service benefit, the normalized or specific cost(profit) /benefit factors are then:

Gross <i>cost</i>	3.7 ¢/ps-mi
<u>User-fees</u>	5.4 ¢/ps-mi
Net <u>Profit</u>	1.7 ¢/ps-mi

**IMPLICATIONS**

1. We attempt to define the concept of net cost of the national highway system as

$$\{\text{Hwy Net Cost}\} = \{\text{Hwy Gross Cost}\} - \{\text{Highway User Fees}\}$$

2. We define "Hwy User Fee": "A tax, fee, or toll payment to the government is a highway user-fee payment, if and only if paid as a necessary (*de jure* or *de facto*) condition of highway use". We submit that this necessary and sufficient condition captures all the commonly understood properties of "user fee" for the purpose of the above net cost equation.

3. As the seminal source of U.S. highways cost and finance data, the FHWA "Highway Statistics" has become the default arbiter of highway accounting conventions. Possibly to avoid controversy, HS carefully never uses the term "Highway user fee" but does use a somehow related term "highway user revenue" (HUR). HUR is not operationally defined but illustrated with extensive ad-hoc examples as to what is and what is not.

4. Nevertheless, most users of HS have interpreted or misinterpreted HS' "highway user revenue" as synonymous with "highway user fee". Thus interpreted, the HS conventions lead to a number of problematic contradictions with the common concepts of highway user fee and definition in 2 above.

5. In 2004, believed to be typical, this misunderstanding resulted in a \$70 billion understatement of highway user fees and overstatement of highway net costs as compared to the definition in 2 above.

6. Far from highways being subsidized, it is the other way around. Highway user fees in 2004 exceeded total highway expenditures by some \$70 million, most of that accruing from state sales taxes on road vehicles, parts and supplies, to state general funds.

7. Neither external benefits (such as mobility, economic stimulation, freedom of movement, social welfare) nor external costs (such as air pollution, noise) have been included in these totals.

8. As a result of misuse of Highway Statistics results, based on the misleading HS user-fee conventions, highway net costs and highway subsidy have been seriously overstated with resulting serious distortion of transportation policy.

9. FHWA should be urged to revise or augment its "Highway Statistics" tabulations to include a complete tabulation of all state and local road vehicle, fuel, parts and accessories sales taxes, total user-fees, and *net cost*, as required for policy guidance on the important issue of net government profit and affordability of the highway system.

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## REFERENCES

1. "Highway Statistics, 2004" Annual, Federal Highway Administration, US GPO, Superintendent of Documents, Washington, DC.
2. DeLuchi, Mark, "Saving Energy in US Transportation" ITS, UC Davis, in Ref. 3 below.
3. "Saving Energy in U.S. Transportation", Congressional Office of Technical Assessment, July 14, 1994.

4. Hart, Stanley, "An Assessment of the Municipal Costs of Automobile Use", Sierra Club, December 1985.
5. Komonoff, Charles, "Highway-Finance Subsidies in New Jersey", Komonoff Energy Associates, April 1995.
6. MacKenzie, Dower, and Chen, "The Going Rate, What it Really Costs to Drive," World Resources Institute, 1992.
7. "National Household Transportation Survey", ORNL, FHWA, U.S. DOT, 2001. On line at <http://nhts.ornl.gov/index.shtml>
8. Mallinckrodt, A.J. "Highway Subsidies" AJM Engineering, April 12, 2003, the preceding version of the present paper. On line at <http://www.urbantransport.org/hwysub.pdf>

# APPENDIX 1. DATA ANALYSIS

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## GOVERNMENT GROSS AND NET COST

All highway *user-fees* and government highway expenditures are compiled in Table A1-1.

The table content is in 5 columns, respectively:

HUR: "This is the entire category defined as "Highway User Revenues" in FHWA's "Highway Statistics" (HF-10A) line 1 except that it is net of collection expenses (those expenses are not included in expenditures). It does include user-fees spent for other purposes such as mass transit and general fund support. It does not include tolls, bond proceeds, sales taxes on automotive parts nor supplies nor interest on surplus funds as should be in *user-fees*.

STX: Ad valorem sales taxes on automotive vehicles, fuel, parts and supplies "*paid by and only by road and automobile users as a de facto condition of their use of roads and automobiles.*" These are not included in the "Highway Statistics" "User Revenue" category but must be included here for the purpose of correct government net cost accounting.

BND: Bond proceeds. These balance bond redemption and interest payment, both of which are included in expenditures. Both must be included here to properly account for the time-value of user-fees as compared to expenditures.

INT: (Interest) These are interest earned on surplus funds. To the extent that those funds have their source in *user taxes*, (which turns out to be entirely) then the interest on them must be counted as *user-fee*.

TOT: is the summation over all the above revenue categories for each source.

Items are categorized by collecting level of government (rows) and by taxed category (columns) The following discussion of Table A1-1 follows the line item numbers: Amounts are all for the year ending in 2004 (fiscal or calendar in various tables). This concurrency problem as well as the different handling of a number of minor adjustment categories results in a number of minor disagreements among various tabulations of the nominally same item in different HS tables. Thus in order to support full verifiability of these results, each item in the following tabulation is referenced to source, table (t.), data column (c.), and row (r.) item.

Highway Statistics ("HS") references are to the 2004 volume for the fiscal year ending in 2004. Sometimes a nominal quantity is given in different sections of the HS reference with slightly different amounts due presumably to timing differences or differing parts included in the higher level summary sheets. Such differing multiple amounts are resolved by using the latest reference (2004 volume if possible. In most cases this means use of Table HF-10A where possible. All amounts are in 2004 \$billion. Specific references in parenthesis on each item use the designators: t. (table), c. (column), r. (row).

Table A1-1 on the left is compiled on the basis of the claimed correct definition of user fee as herein. Table A1-2 on the right is the results of interpreting the problematic, and claimed inapplicable ad hoc HS conventions as defining "user fee".

<b>Table A1-1 Highway User Fees and Net Subsidy</b>						
HS FY2004		Amounts in billions of 2004 dollars				
Net Cost Convention for User Fees						
	Source of Funds	Category:				
Line	FEDERAL	HUR	STX *	BND	INT	TOTAL
1	MV Fuel & Veh Tax	35.9				35.9
2	HTF Interest				9.2	9.2
3	Federal SubTotal	35.9	0.0		9.2	45.1
<b>STATE:</b>		<b>HUR</b>	<b>STX</b>		<b>INT</b>	<b>TOTAL</b>
4	MV Fuel & Veh Tax	64.2	15.5			79.7
5	Tolls	5.6				5.6
7	Motor Veh. sales tax		49.7			49.7
8	MV Parts & Acc. Sales Tax		4.6			4.6
10	Bond Proceeds			10.4		10.4
11	Interest on Funds				2.6	2.6
12	State SubTotal	69.8	69.8	10.4	2.6	152.6
<b>LOCAL:</b>		<b>HUR</b>	<b>STX</b>		<b>INT</b>	<b>TOTAL</b>
13	MV Fuel & Veh Tax	4.1				4.1
14	Tolls	0.9				0.9
15	MV Sales Tax					0.0
16	MV Parts & Acc. Sales Tax					0.0
17	MV Prop Taxes					0.0
18	Bond Proceeds			5.4		5.4
19	Interest on Funds				4.9	4.9
20	Other Taxes and Fees					0.0
21	Local Sub-total	5.0		5.4	4.9	15.3
22	<b>Total User Fees</b>	<b>110.7</b>	<b>69.8</b>	<b>15.8</b>	<b>16.7</b>	<b>213.0</b>
23	<b>Total Hwy Exp. (incl bond interest and redemption)</b>				<b>\$Bill/yr</b>	<b>147.4</b>
24	<b>Net Government Profit (Subsidy)</b>				<b>\$Bill/yr</b>	<b>65.6</b>
26	<b>Net profit (subsidy) /ps-mi</b>				<b>%</b>	<b>45%</b>
27	<b>2003 US Hwy Person Travel</b>		bill ps-mi/yr		3927	
28	<b>Gross cost/ps-mi</b>		cents per ps-mi		<b>3.75</b>	
29	<b>User fee/ps-mi</b>		cents per ps-mi		<b>5.42</b>	
30	<b>Net profit (subsidy) /ps-mi</b>		cents per ps-mi		<b>1.67</b>	

\* State and Local sales taxes are combined under State

<b>Table A1-2 Highway User Fees and Net Subsidy</b>						
HS FY2004		Amounts in billions of 2004 dollars				
Highway Statistics Conventions on User Fees						
	Source of Funds	HUR	STX	BND	INT	TOTAL
Line	FEDERAL	HUR	STX	BND	INT	TOTAL
1	MV Fuel & Veh Tax	35.9				35.9
2	HTF Interest				0.0	0.0
3	Federal SubTotal	35.9	0.0		0.0	35.9
<b>STATE:</b>		<b>HUR</b>	<b>STX</b>		<b>INT</b>	<b>TOTAL</b>
4	MV Fuel & Veh Tax	64.2				64.2
5	Tolls	5.6				5.6
7	Motor Veh. sales tax					0.0
8	MV Parts & Acc. Sales Tax					0.0
10	Bond Proceeds			10.4		10.4
11	Interest on Funds				2.6	2.6
12	State SubTotal	69.8	0.0	10.4	2.6	82.8
<b>LOCAL:</b>		<b>HUR</b>	<b>STX</b>		<b>INT</b>	<b>TOTAL</b>
13	MV Fuel & Veh Tax	4.1				4.1
14	Tolls	0.9				0.9
15	MV Sales Tax					0.0
16	MV Parts & Acc. Sales Tax					0.0
17	MV Prop Taxes					0.0
18	Bond Proceeds			5.4		5.4
19	Interest on Funds				4.9	4.9
20	Other Taxes and Fees					0.0
21	Local Sub-total	5.0	0.0	5.4	4.9	15.3
22	<b>Total User Fees</b>	<b>110.7</b>	<b>0.0</b>	<b>15.8</b>	<b>7.5</b>	<b>134.0</b>
23	<b>Total Hwy Exp. (incl bond interest and redemption)</b>				<b>\$Bill/yr</b>	<b>147.4</b>
24	<b>Net Government Profit (Subsidy)</b>				<b>\$Bill/yr</b>	<b>NA</b>
26	<b>Net profit (subsidy) /ps-mi</b>				<b>%</b>	<b>NA</b>
27	<b>2003 US Hwy Person Travel</b>		bill ps-mi/yr		3927	
28	<b>Gross cost/ps-mi</b>		cents per ps-mi		<b>3.75</b>	
29	<b>User fee/ps-mi</b>		cents per ps-mi		<b>NA</b>	
30	<b>Net profit (subsidy) /ps-mi</b>		cents per ps-mi		<b>NA</b>	

## FEDERAL:

Column abbreviations stand for:

- HUR: "Highway User Revenue" as tabulated in HS
- STX: Sales taxes on Road Vehicle equipment, parts, and supplies incl fuel.
- BND: Bond proceeds, included since HS tabulated expenditures include bond redemption.
- INT Interest on surplus fund
- TOTAL of columns

## ITEMS:

1: MV Fuel and Vehicle Taxes.

HUR: \$35.9 billion (b.) (HS2004 t.HF10-A c.3, r.1). This includes all highway user taxes in support of mass transit and general funds. It does not include bond proceeds nor interest received.

2: Interest. \$9.2 b

INT: 0.016 b, (HS2004 t.HF10-A c.3, r.13 0.016b). To the extent that interest income is generated by surplus *user taxes*, (100% in this case), they represent the time-added value of *user taxes* and must be attributed to user-fees. Prior to 1998, surplus Highway Trust Funds, were held as HTF assets in the form of Treasury Certificates of Indebtedness, and generated interest accruing to the HTF, at the then current federal funds rate. The 1998, budget reconciliation legislation, diverted some \$8.47 billion (approximately ½ the then current carryover balance) from HTF surplus to the treasury general fund, and mandated that henceforth, carryovers would revert to the General Fund and Highway Trust Fund balances, would draw no interest.

To properly account for the time-cumulative value of these diversions, we created a virtual "diversion fund" which is credited with the \$8.47 billion initial diversion in 1998 and all diversions of interest and carryover since 1998 and is credited every year with compounded virtual interest at the then current Federal Funds rate, (presently, 2004, 1.13%). The 2004 accumulated value of that virtual fund is \$61 billion and the year 2004 interest diversion \$9.2 billion. This is how much more current user-fee income *would* have been credited as HS "user-fee" absent the 1998 carryover diversion and zero interest mandate.

3. Federal Total \$45.1 billion

## STATE

4: Motor Vehicle Fuel and Vehicle tax and Tolls.

HUR: \$64.2 b. (HS2004 t.HF-10 c.4, r.1) \$66.9 billion, minus collection costs (HS2004 HF-10A c.4, r.4) of \$2.7 billion

STX: ad valorem fuel sales taxes, \$15.5b. (see Appendix 2 below).

5. Tolls: \$5.6 b. HS2004 t HF-10 c.4, r.8.

7... Motor Vehicle Sales Tax

STX: \$49.7 billion (see Appendix 2, Table A2-1, below)

8. MV Parts and Accessories Sales Tax

STX: \$4.6 billion (See Appendix 2, Table A2-1, below)

10. Bond proceeds, 10.4 billion (HS2004, t.HF-10,c.4, r.15). Bond redemption is included in Total Highway Exp, line 23.

11. Interest on funds INT:.\$2.6 billion. This is the time-added value of prior user taxes. In this case, that income was entirely user taxes so interest must be counted as entirely *user taxes* (HS 2004, t HF-10 c.3, r.13)

12. State sub-total \$152.6 billion.

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## LOCAL

13. MV Fuel and Vehicle tax
  - HUR: \$4.1 billion (HS2004 t. HF-10, c.5, r.3)
  - STX \$11.0 billion (See Appendix 2)
14. Tolls:\$0.9 b HS2004, c.5. r.8.
15. MV Sales 0.0 Included under State.
16. MV Parts and Accessories Sales tax 0.0 . Included under State.
17. MV Property tax. \$0. Placeholder assigned pending determination of fraction countable as road user-fee.
18. BND Bond Proceeds: \$5.4 billion (HF-10, c.5, r.15)
19. INT: \$4.9b (HF10 c.5 r.13) See comment under #11.
20. Other taxes and fees. \$0.0 billion. Placeholder assigned pending determination of fraction countable as road user-fee.
21. Local subtotal: \$15.3 billion
- 22 **TOTAL USER FEES** \$213.0 billion.
  
23. **TOTAL HIGHWAY EXPENDITURES** (current disbursements, not including bond repayment)( HS2000, t. HF-10, c.6, r.36, \$147.4 billion.
  - "..general overhead and engineering and research costs; highway law enforcement, federal highway safety program, state highway patrols, safety education, driver training programs, enforcement of vehicle size, weight, and emissions, municipal traffic police":
  - These total highway system expenditures are stated to include: "..land acquisition and other right-of-way costs, preliminary and construction engineering; construction and reconstruction; resurfacing, rehabilitation and restoration costs of roadway and structure; installation: of traffic service facilities such as guard rails, fencing, signs, and signals; maintenance: "..routine patching repairs, bridge painting, other maintenance of condition costs; traffic service costs, snow and ice removal, pavement markings, signs, signals, litter cleaning, toll collection expenses."
  - administration: financing: bond interest and redemption;summed over all levels of U.S. government.
24. **NET GOVERNMENT PROFIT** \$ 69.6 billion.
26. **PROFIT AS A PERCENTAGE OF EXPENDITURES**, 45%

## Appendix 2

### Automotive Sales Taxes

For the purpose of net cost accounting, “*user-fees\**” include all sales taxes on automotive equipment and supplies. They are not accounted for in HS but estimated separately here.

**Table A-2**

Wtd Avg State + Local Sales Tax Rate	6.8%	
	Sales	Tax
Retail Price	mill \$	mill \$
Gasoline	168,300	11,420
Diesel	58,825	3,992
New Cars	665,894	45,184
Used Cars	68,835	4,671
Auto Parts & Accessories	67,249	4,563
Totals	1,029,103	69,830

Ref. "Transportation Energy Data Book, 2004, DOE  
 "Annual Retail Trade Survey, U.S.Census Bureau, 2004

The national Motor Vehicle count weighted average, 2004, state + local sales tax rate, 6.8%. is applied to total retail sales of \$1.029 Trillion yielding a total automotive equipment, parts, and supplies user-fee of \$ 69.8 billion dollars.