Making the Car Pay Its Way:

The Case of Minneapolis Roads

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MAKING THE CAR PAY ITS WAY:

The Case of Minneapolis Roads

Most of us view the road system as a pay-as-you-go proposition. We believe that vehicle licenses, parking fees and gas taxes fully finance the construction and maintenance of our roads. The truth is that less than 50 percent of the nearly $90 million the city of Minneapolis spends on driving-related projects each year is covered by transportation user charges. The remainder is picked up by Minneapolis residents and businesses, largely in the form of property tax assessments.

That the majority of money for local road construction and maintenance comes from property taxes will surprise most residents, but will not surprise transportation planners. They argue that local roads are used primarily by local residents, that everyone uses the roads, and therefore it is appropriate for people living alongside the roads to be charged for them.

That would be a legitimate perspective if roads were used relatively equally for different forms of transportation—walking, biking, cars, buses. This is clearly not the case. Over 90 percent of road space is occupied by cars and a significant proportion of Minneapolis households (22%) do not own cars. Therefore it seems more rational to require cars to pay for the roads.

For comparative purposes we might look at sidewalks. Sidewalks are paid by homeowners. That is reasonable since sidewalks are overwhelmingly used by walkers and every household makes use of the sidewalk.

Not requiring motorists to pay the full cost of driving creates two problems.

First, motorists do not "see" the true cost of road maintenance. They pay an artificially low price that encourages greater vehicle use.

Second, those without cars subsidize those with cars. This raises an equity issue since those without cars tend to be the elderly, low income and rental sectors of the city.

A more equitable and sensible arrangement would be to impose road costs directly on users. This paper argues that, as a first step toward a rational, self-financing transportation system, cars should be charged the costs of roads and recommends this be done via the gas tax.

A gas tax is a convenient but not perfect surrogate for road use. A superior financing mechanism would charge for actual use. This type of system, called road pricing, is being implemented by some communities. Road pricing depends on electronic monitoring systems in the vehicle and under or on the side of the road. Road pricing systems can charge vehicles not only by use but also by time of use. In the latter case the practice is called "congestion pricing". We recommend that such systems be seriously investigated for use in Minneapolis.[1]

In the case of Minneapolis, about $48 million of non-transportation related revenue is subsidizing roads. Sixty percent of this money comes from property taxes. If these costs were paid from gas taxes rather than property taxes, the gasoline tax would have to be raised by 17.5 cents per gallon.

The purpose of raising the gasoline tax is not to raise additional revenues overall, but to shift the burden of roads to those who use them. Thus the additional $48 million derived from gasoline taxes should be offset by reductions in other local taxes. Since property taxes presently account for 60 percent of the subsidies for roads, it is reasonable and administratively convenient to apply the full $48 million raised by increased gasoline taxes to lower existing commercial and residential property taxes.

Property taxes in Minneapolis are raised more or less equally between residential and commercial sectors. Thus the increased gas tax would be used to reduce residential property taxes by $24 million. This is equivalent to a 40 percent reduction in the present $60 million paid by

Minneapolis households.

If the property tax reduction were spread out equally among all households, the net result for a household with no cars, taking into account the increased gas tax and the decreased property taxes, would be a $150 decrease in annual taxes. A one car family would experience a decrease of $35. A two car family would see its annual tax bill increase by $79. A three car family would experience a $193 increase in taxes and a four car family would have a $308 tax hike.[2]

The end result is that families who make more use of the road would pay proportionately higher transportation taxes. For households without cars, the net benefit of reduced property taxes and increased gasoline taxes would be very attractive. The more cars a household owns, the less attractive the new financing scheme becomes.

TABLE 1
The Minnesota Highway, Road and Street Funding System

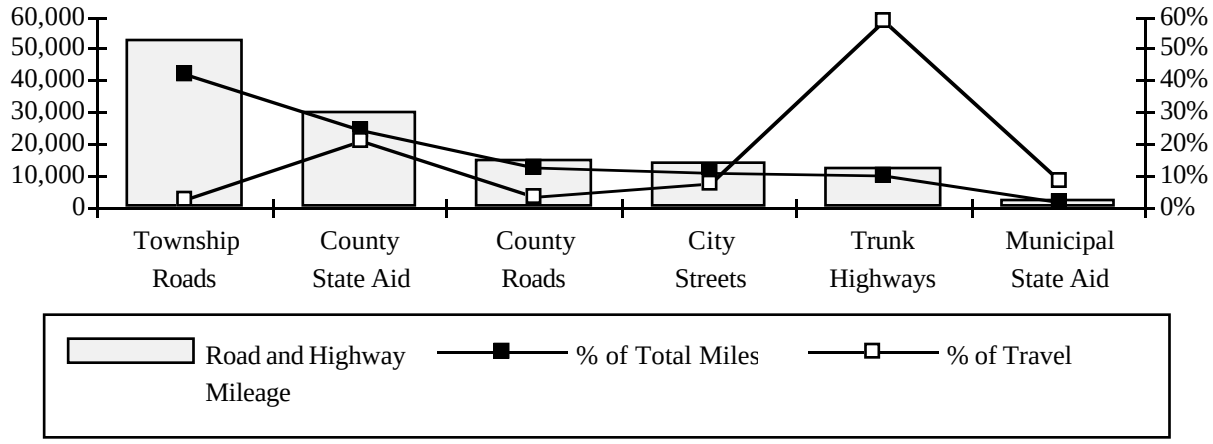
Category	Mileage	% of Total Miles	% of Travel
Funded from Transportation Revenues			
Trunk Highway	12,100	9	59
County State Aid	30,100	23	21
Municipal State Aid	2,000	2	8
Subtotal	44,100	34	88
Funded from Non-Transportation Sources			
County Roads	15,300	12	3
Township Roads	53,100	41	2
City Streets	13,900	11	7
Other(e.g. forest roads)	2,900	2	—
TOTAL	**129,400**[3]	**100**	**100**

This report examines the current cost of Minneapolis roads and the sources of financing those roads. This paper does not examine the full cost of driving. Doing so would take into account a wide range of costs currently paid by society but not by drivers (e.g. medical, police and fire costs from accidents, environmental costs from burning gasoline, national security costs of protecting access to foreign sources of oil, etc.)

This report also does not examine the issue of using the gas tax as a source of revenue for either balancing the budget or for paying for the full costs of driving.

Our focus is limited to investigating the present financing mechanisms for local roads and the impact of relying solely on transportation related revenue sources to fund transportation related projects.

CHART 1
Road and Highway Mileage by Category
(% of Total Road Miles and % of MIles Travelled)



THE MINNESOTA ROAD SYSTEM

Minnesota divides its roads into four categories:

- Trunk Highways(includes interstate)
- County State Aid Highways
- Municipal State Aid Streets
- Local Streets and Roads

Only the first three categories and forest roads are eligible for federal and state funds[4]. These represent 88 percent of the vehicle miles traveled but only 36 percent of the total road mileage. Almost two thirds of the roads in the state do not receive state or federal funding.

Within a city, several kinds of roads may exist, each with different sources of financing. Indeed, a different section of the same road may receive financing from different pots of money. For example, downtown Minneapolis streets receive both state and federal funding. For example, the 3rd Avenue bridge coming into downtown Minneapolis, up to 4th street, is a trunk highway and receives both state and federal moneys. From 4th street on it becomes a Municipal State Aid road and receives state funds. On the other hand, 8th Street is considered a trunk highway all the way through downtown. Portland Avenue downtown is a County State Aid road.

The State of Minnesota will spend over $l billion on its automobile and truck related transportation system in fiscal year 1992.[5] This money comes from two sources. One is the Highway User Tax Distribution Fund (HUTDF), which is financed by state gas taxes and vehicle licenses. The other is the State Trunk Highway Fund (STHF). (see Flow Chart)

On a statewide basis, approximately 62 percent of the HUTDF is now allocated to the STHF. Aside from state gas tax money, the STHF also receives funds from vehicle fees, drivers' license fees, the federal gas tax, and some other smaller sourcesof revenue.

In 1992 the STHF will disburse an estimated $719 million.[6] The HUTDF will disburse $786 million.[7] The approximate distribution for FY 1992 is as follows:

County State Aid Highway Fund

The County State Aid Highway Fund (CSA) receives money from the highway user tax distribution fund and from investment income and unexpended balances. CSA money, in turn, is distributed to Minnesota counties according to the following formula[8]:

Equalization	10%	1/87th going to each county
Registration	10%	Ratio of county registrations to total
Mileage	30%	Center line mileage (not lane mileage)
Money Needs	50%	County needs compared to total need

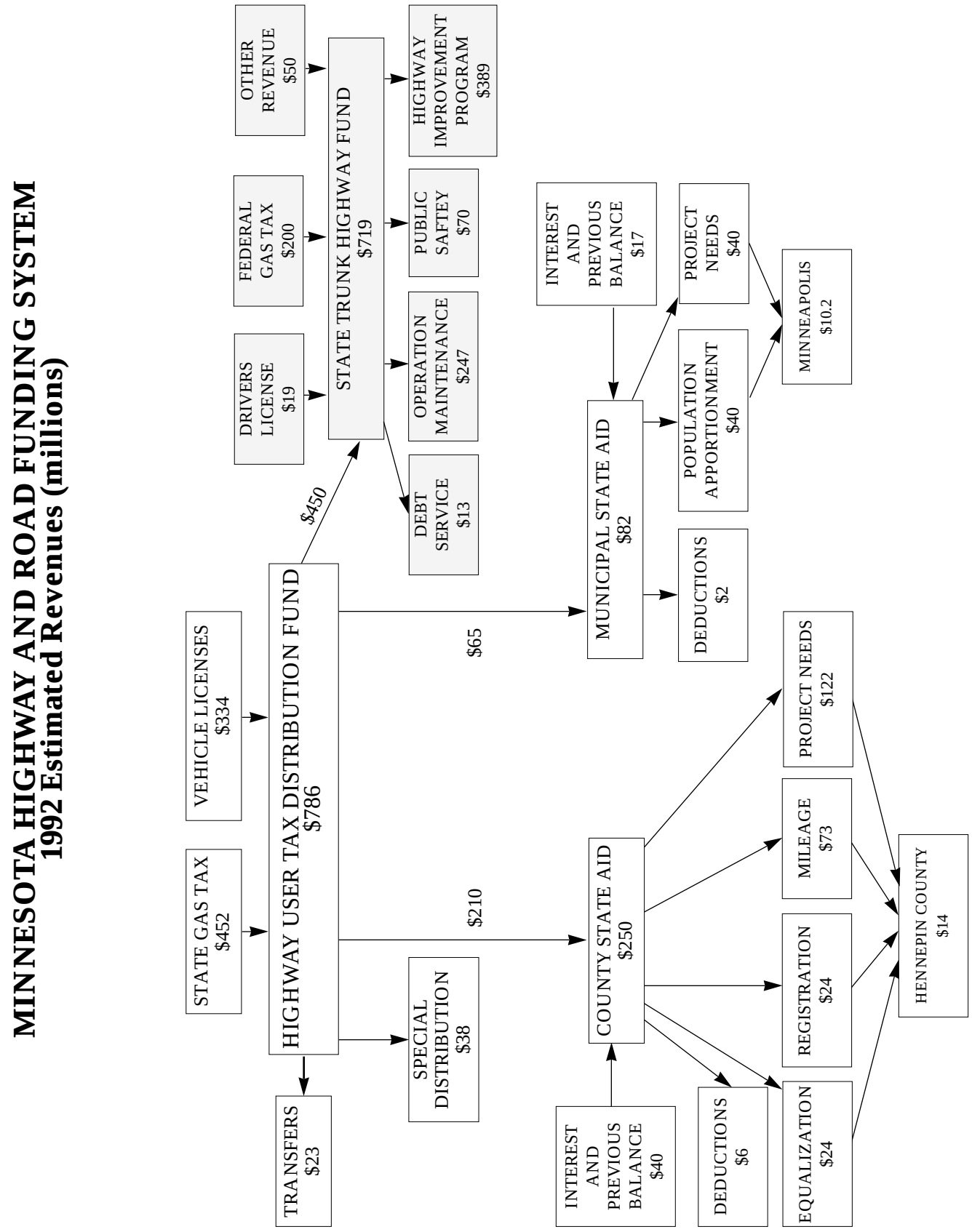
Nearly $245 million was available to Minnesota counties in FY 1992.[9] Hennepin County will receive approximately $14 million in CSA in 1992.

Municipal State Aid Street Fund

The Municipal State Aid Street Fund (MSA) assists cities in constructing and maintaining the 2,000 miles of Municipal State Aid streets. In FY 1992 the MSA will have over $81 million available for distribution.[10] Currently, MSA funding is only available to communities with populations greater than 5,000. In FY 1992, 116 cities were eligible for MSA funds.[11]

Fifty percent of the MSA money is distributed on the basis of population; the other half is distributed on the basis of project needs. Need in this case refers to an amount communities request to maintain and upgrade their respective MSA routes.

In 1992 $14.04 per person was apportioned by population. About $30.40 for every $1000 in expressed need was allocated.[12] In the case of Minneapolis, the total came to $10.2 million.[13]


MINNESOTA HIGHWAY AND ROAD FUNDING SYSTEM
1992 Estimated Revenues (millions)
STATE GAS TAX $452
VEHICLE LICENSES $334
HIGHWAY USER TAX DISTRIBUTION FUND $786
TRANSFERS $23
SPECIAL DISTRIBUTION $38
$450
$210
$65
DRIVERS LICENSE $19
FEDERAL GAS TAX $200
OTHER REVENUE $50
STATE TRUNK HIGHWAY FUND $719
DEBT SERVICE $13
OPERATION MAINTENANCE $247
PUBLIC SAFTEY $70
HIGHWAY IMPROVEMENT PROGRAM $389
MUNICIPAL STATE AID $82
INTEREST AND PREVIOUS BALANCE $17
DEDUCTIONS $2
POPULATION APPORTIONMENT $40
PROJECT NEEDS $40
MINNEAPOLIS $10.2
COUNTY STATE AID $250
INTEREST AND PREVIOUS BALANCE $40
DEDUCTIONS $6
EQUALIZATION $24
REGISTRATION $24
MILEAGE $73
PROJECT NEEDS $122
HENNEPIN COUNTY $14

MINNEAPOLIS-CASE STUDY

As pointed out above, Minneapolis is home to many types of roads, each with its own funding source.

Trunk highways are maintained by the State, CSA roads by the respective counties, MSA and local streets by the respective municipality. If work is done on a road by another party, reimbursement is usually made by the primary caretaker.

Table 2

Minneapolis Roads By Type, Mileage and Funding Source

Road Type	Mileage	(%)	Primary Funding Source
State Trunk Highway	54.00	(5)	Trunk Highway Fund
County State Aid	87.06	(8)	County State Aid Fund
Municipal State Aid	187.72	(17)	Municipal State Aid Fund
Local Streets	749.24	(70)	Property Assessments
Total	**1078.02**	**(100)**	

The Minneapolis budget is divided into eight Clusters.

Economic Development	Government Management
Public Health and Safety	Housing
Physical Environment	Property Services
Transportation	Human Development

Each Cluster Group is broken down into Level One Departments. Each Level One is further broken down into Cost Centers, the fundamental units used to track city expenditures.[14]

The Transportation Cluster is divided into seven Level One departments: Engineering Design, Streets and Malls, Administration, Paving Products, Transportation and Special Projects, Park Board, and Licenses and Consumer Services.

The second column in Table 3 shows the net operating cost of six Level One departments of the Transportation Cluster for the 1992 Minneapolis operating budget.[15]

As Table 3 reveals, Minneapolis spent over $49 million on the operation of transportation-related projects in 1992 and received only $21.9 million from transportation related sources. About 33 percent of the $27.1 million in local revenues, or $9.2 million came from property taxes. Over 55 percent of road operating expenditures in Minneapolis comes from non-transportation related revenue sources.

Table 4 breaks down the capital costs of transportation-related projects. Projects have been broken down into six categories.[22] Nearly 75 percent or $20.8 million of the revenue for capital projects comes from non-transportation revenue sources. Of the $20.8 million subsidy, $19.2 or 92 percent comes from net debt bonds or assessments financed by property taxes.[23]

TABLE 3

Net Operating Costs for Transportation in Minneapolis[16]

Transportation Cluster Level One	Net Operating Expenditure	Transportation Related Revenue[17]	Net Cost to Local Government[18]
Engineering Design[19]	$3,661,581	$0	$3,661,581
Streets / Malls[20]	$17,136,419	$5,005,668	$12,130,751
Administration	$604,187	$0	$604,187
Trans&Special Projects	$25,278,302	$16,671,720	$8,606,582
Park Board	$854,200	$0	$854,200
Licenses &Consumer Ser.[21]	$1,542,196	$196,923	$1,345,273
TOTAL	**$49,076,885**	**$21,874,311**	**$27,202,574**

TABLE 4
Net Capital Costs for Transportation in Minneapolis[24]

Transportation Related Capital Projects[25]	Total Expenditures	Transportation Related Revenue[26]	Net Cost to Local Government[27]
Project 1	$9,576,000	$0	$9,576,000
Project 2	$725,000	$0	$725,000
Project 3	$4,211,000	$3,806,000	$405,000
Project 4	$965,000	$0	$965,000
Project 5	$7,960,000	$1,330,000	$6,630,000
Project 6	$4,383,650	$1,867,100	$2,516,550
TOTAL	**$27,820,650**	**$7,003,100**	**$20,817,550**

Minneapolis spent $77 million on transportation related projects in 1992 while receiving back from transportation related revenue sources only $29 million.[28] About $48 million in transportation expenses is paid for from non-transportation related revenues, almost 60 percent from property taxes. The breakdown of transportation related revenues is shown in table 5.

TABLE 5
Minneapolis Transportation Related Revenue Sources
(1992)

Operating[29]	
CSA	$772,000
MSA	$3,772,200
Trunk Highway Fund	$150,000
Parking Fund	$16,868,649
Sidewalk Revolving Fund	$311,462
Total	**$21,874,311**
Capital[30]	
CSA	$209,800
MSA	$1,747,000
Reimbursable, Federal Aid Urban	$2,900,000
Trunk Highway Fund	$22,000
Parking Fund / Bonds	$2,124,300
Total	**$7,003,100**

TABLE 6
Additional Gas Tax to Fully Fund
Transportation Within Minneapolis

Minneapolis Transport. Budget	Locally Subsidized Net Expenditures[31]	State Gas Tax Increase Needed
Operating	$27,202,574	$0.099
Capital	$20,817,550	$0.076
TOTAL	$48,020,124	$0.175

Increasing the Gas Tax

For motorists to pay the full cost of road maintenance, vehicle taxes or gasoline taxes would have to be raised substantially. If the additional $48 million were derived from gasoline levies, the gas tax would have to rise by 17.5 cents per gallon.

It would be impossible for Minneapolis to increase gasoline taxes unilaterally even if it had the legal authority to do so. Motorists would simply refuel outside city limits. However, most cities find themselves in a similar situation with respect to local property taxes subsidizing cars and trucks. This might be especially true in smaller towns and cities not currently eligible for state municipal funds. Thus a statewide increase in the gas tax, with the additional revenues distributed back to cities in a similar manner as is done today would be the best remedy.

A substantial increase in the state gas tax, however, could prove harmful to gasoline suppliers in border towns such as Duluth, Moorhead, and Stillwater. The effects on the local economies should be taken into consideration and possible exemptions investigated.

One other point should be raised concerning automobile related revenues. In fiscal year 1992 about $200 million will be raised from motor vehicle excise taxes. In the past as much as 22.5 percent was put in the HUTDF, but in 1992 all of it went into the state general fund. It is reasonable to suggest that this is a form of subsidy to non-transportation related programs by the transportation sector. If the entire

motor vehicle excise tax revenue were put into the HUTDF and distributed by current formulas then the various funds would be increased by about the following amounts:

Trunk Highway Fund	$125 million
MSA	$18 million
CSA	$58 million
Minneapolis	$2.2 million

Minneapolis would receive an additional $2.2 million for roads and Hennepin County would receive an additional $3 million. The overall result is to provide approximately $3 million in aid to Minneapolis. This would lower the gas tax increase needed by a penny to 16.4 cents per gallon.

Another scenario would be to dedicate the motor vehicle excise tax revenues specifically to local roads. If this were done, then Minneapolis transportation related revenue would increase substantially. There would still be a need for a gas tax increase, but it would be in the range of 8.2 cents per gallon.

Thus no matter how we take into account the motor vehicle excise tax revenues, local roads still receive a substantial subsidy from non-transportation related revenue sources.

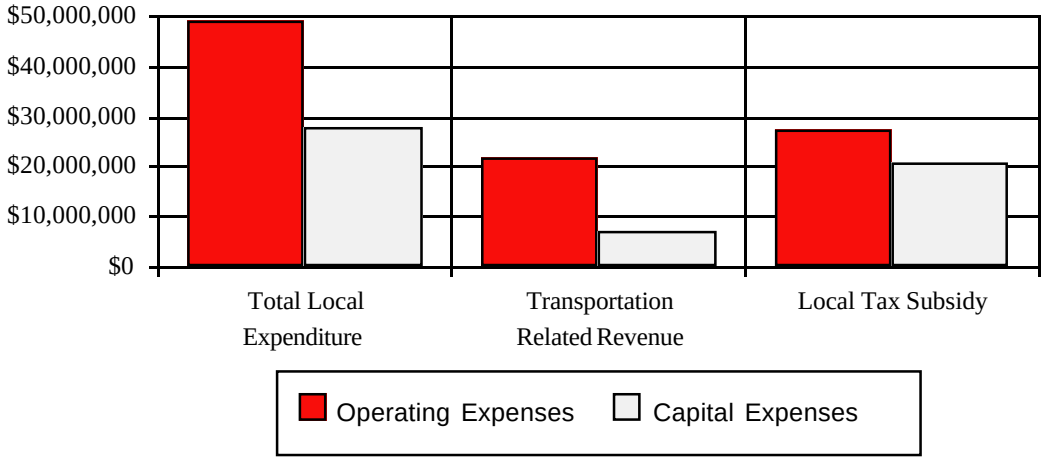
Reducing the Property Tax

The purpose of raising the state gas tax is not to raise additional net transportation-related revenue but to change the sources of funding to make the system more equitable and rational. Thus any significant gas tax increase should be offset by equivalent reductions in local taxes. There are many ways to do so and what follows is only one strategy.

Since property taxes account for almost 60 percent of the total non-transportation related revenues for roads, it is reasonable and administratively convenient to balance the increase in gasoline taxes with a reduction in commercial and residential property taxes. Currently Minneapolis levies close to $120 million in property taxes, split about evenly between commercial and residential. Within the residential category, about 70 percent of the tax revenue comes from individual homes and the rest from apartments.

If we were simply to take the $24 million that is the residential property share of the subsidy to local transportation and divide it by the number of occupied housing units in the city(160,000 approx.), it would come to a $150 tax reduction per unit. If we were to divide it proportionally between apartment units and homes, then homes would receive a $258 property tax reduction. In the first case, the property taxes of lower valued Minneapolis homes would be reduced by over 90 percent while the higher valued homes would be reduced by about 10 percent. In the latter case property taxes for homes below about $90,000 in value could be completely eliminated.

CHART 2
Local Subsidy for Minneapolis Roads



For purposes of illustration, we have assumed that the property tax reduction is distributed equally among all households.[32] The effect of the 17.5 cent per gallon gasoline tax hike and the $150 property tax reduction is shown in Chart 3. For a household with no cars, the net result is a $150 decrease in annual taxes. A one car family would experience an overall decrease of $35. A two car family would suffer a penalty of $79. A three car family would see a $193 tax increase and a four car family would experience a $308 overall annual tax increase.[33]

Aside from the objective of imposing the true costs of road maintenance on motorists, the gas tax/property tax trade-off also achieves an equity goal. Table 7 shows that approximately 22 percent of Minneapolis residents do not own an automobile (9.4 percent owner occupied, 36 percent renters). Also, 40 percent of those age 65 and older do not own a car. Table 8 shows that a large portion of households with less than $20,000 annual income own one or zero vehicles. A well planned gas tax increase thus need not be detrimental to lower income households and could actually benefit them by reducing property taxes.

TABLE 7
Minneapolis Vehicle Ownership By Property Type[34]

Vehicles available	Minneapolis Owner Occupied	% of Total	Minneapolis Renter Occupied	% of Total
0	7,503	9.40	29,230	36.16
1	30,828	38.61	35,259	43.62
2	31,321	39.23	12,797	15.83
3	7,874	9.86	2691	3.33
4 or over	2319	2.90	860	1.06
TOTAL	**79,845**	**100.00%**	**80,837**	**100.00%**

TABLE 8
U.S. Vehicle Ownership by Household Income-1988[35]
(%)

Number of Vehicles	Under $10,000	$10,000 $19,999	$20,000 $34,999	$35,000 $49,999	$50,000 or More	All Households
None	39.6	14.3	6.6	2.2	2.2	13.1
One	42.7	47.8	34.8	18.2	15.3	34.1
Two	14.6	28.5	43.2	52.3	48.2	36.5
Three or More	3.1	9.4	15.4	27.3	34.3	16.4

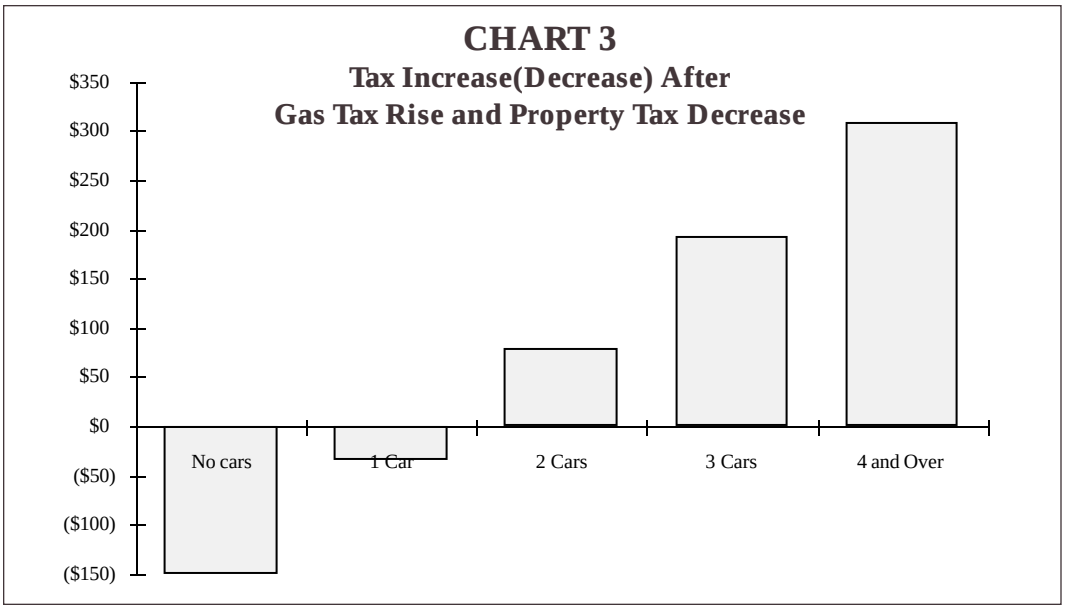


CHART 3
Tax Increase(Decrease) After
Gas Tax Rise and Property Tax Decrease
$350
$300
$250
$200
$150
$100
$50
$0
($50)
($100)
($150)
No cars
1 Car
2 Cars
3 Cars
4 and Over

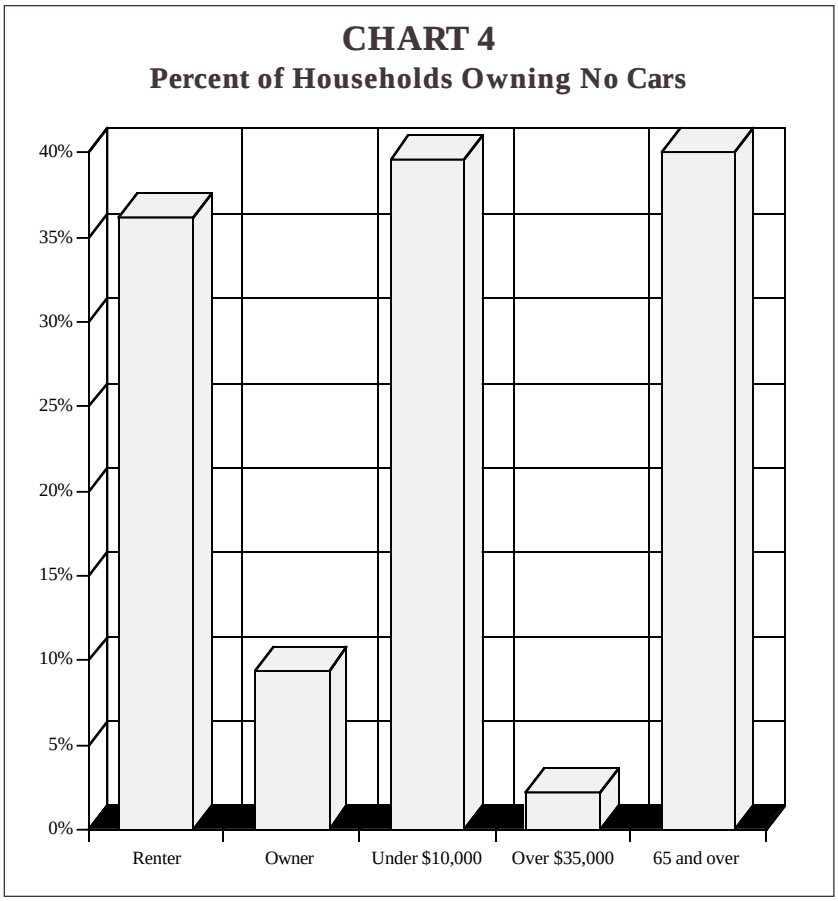


CHART 4
Percent of Households Owning No Cars
40%
35%
30%
25%
20%
15%
10%
5%
0%
Renter
Owner
Under $10,000
Over $35,000
65 and over

NOTES

[1]Road pricing is also preferable to gas taxes because it avoids the issue of alternative fuels or of efficient vs. inefficient cars. For example, electric vehicles or fuel efficient cars might be used as often as inefficient gasoline cars but would pay less or no gasoline taxes. Less revenue would be generated for road upkeep even though the same number of vehicles were using the road.

[2]The average mileage driven in Minnesota is 10,860 miles per year. The average fuel efficiency in 1990 in Minnesota was 16.5 miles per gallon. One cent increase in State gas tax raises $22 million per year.

[3]The 129,400 miles are in center line mileage. Total lane mileage in the State is 265,100 (September 1991). The two State funds are set up to provide money for projects on any of the three systems of roads in Minnesota; trunk highway, county state aid, and municipal state aid. MN Department of Transportation.

[4]Some towns may receive monies for certain projects from two other state funds; the Town Bridge account($6,272,241) and the Town Road account($11,917,258) will provide funding for some towns which are excluded from the Municipal State Aid distribution. From June 3, 1992 City of Minneapolis memorandum, Robert Heacock.

[5]MN Department of Transportation, "Highway Improvement Program, Fiscal Years 1992-1997", November 1991.

[6]MN Department of Transportation, "Highway Improvement Program, Fiscal Years 1992-1997", November 1991.

[7]From June 3, 1992 City of Minneapolis memorandum, Robert Heacock. The money is distributed according to Minnesota statutes 161.081-161.083 and Minnesota Constitution Article XIV, Sect. 5.

[8]In addition to revenues from the HUTDF, the CSA funds also include investment interest and unexpended balances. Additions are approximately as follows for FY 1992: Investment interest($18.0 million), Increase in income over 1991 estimate($9.4 million), Unexpended balance of Administrative account($1.3 million), unexpended balance of 1991 research account($15,000), release of County turnback Fund($12.0 million). Deductions are approximately as follows: Administrative account($3.7 million), Research account($570,000), State Park road fund($1.8 million). From June 3, 1992 City of Minneapolis memorandum, Robert Heacock, and Minnesota Department of Transportation, "Highway Improvement Program, Fiscal Years 1992-1997", November 1991.

[9]From June 3, 1992 City of Minneapolis memorandum, Robert Heacock.

[10]The original $65 million from the HUTDF has additions as follows: Interest on investments($12.0 million), Increase in income over 1991 estimate($4.8 million), unexpended balance of Administrative account($502,000), unexpended balance of 1991 research account($3,445). Deductions include: Administrative account (1.5% of total funds, $1,239,228), Disaster Fund ($66,801 added to make maximum allowed), Research account ($199,434). From June 3, 1992 City of Minneapolis memorandum, Robert Heacock.

[11]The distribution is according to Minnesota Statutes Chapter 162.13, Subdivision 1 (2).

[12]From June 3, 1992 City of Minneapolis memorandum, Robert Heacock.

[13]Each city can draw down its share, but its spending must be divided into two parts: construction and maintenance. Maintenance can be allocated no more than 35 percent of the total; the remainder must be spent on construction. Minneapolis budget office.

[14]Each Level One can have Cost Centers which apply to different Cluster Groups. For example, licenses and consumer services Level One has three Cost Centers, each of which are related to a different Cluster Group(City of Minneapolis Cost Center Index listing 8-26-92).

[15]The expenditures of the Paving Products Level One has been deleted because it has a zero net operating expenditure because of Inter-Departmental Transfers (IDTs).

[16]Numbers taken from the City of Minneapolis-Summary of the 1992 Budget.

[17]Transportation related revenue for this analysis consists of Municipal State Aid, County State Aid, Trunk Highway Fund Aid, Minneapolis Parking Fund, Parking Bonds, and the Sidewalk Revolving Fund.

[18]The net cost to Local Government is the money that Local Government provides that is not raised by a transportation related revenue source. The net cost reflects IDTs, and revenue earned to funds from transportation related revenue sources. This analysis did not include money needed for debt service in bond retirement.

[19]Engineering design Level One has a total operating cost of $4,816,517 according to the final approved budget for 1992. Engineering design has one Cost Center, sewer design, which is not associated to the Transportation Cluster. The operating costs of $1,154,936 have been taken out to leave $3,661,581 as the net operating cost associated with Transportation.

[20]Project relating to sidewalks taken out because it relates to pedestrians rather than automobiles. Total cost $453,517. Minneapolis city budget.

[21]Licenses and consumer services Level One has one Cost Center associated with Transportation. The adjusted amount is shown as $1,542,196. From 1993 Minneapolis City Budget Transportation total operating costs (original 1992 appropriation).

[22]"The Summary of the 1992 Budget for the City of Minneapolis, January 1992 "(p. 19-20) identifies the various Capital Budget projects. See footnote 25 for project groupings for this analysis.

[23]Minneapolis budget office.

[24]Figures used in this table come from the 1992 Capital Budget Appropriations Resolution p. 19-20 of the "Summary of the 1992 Budget for the City of Minneapolis, January 1992". Throughout the year other capital projects may be funded. This would increase the total capital expenditures and the net cost to the Local Government. It is assumed, however that the ratio of non-transportation revenue and transportation related revenue would be similar on any new projects. It can also be mentioned that there seems to be a portion of the $10.2 million MSA allotment which is unaccounted for. According to the Minneapolis budget office, sometimes there are not enough proposed projects at the time of the budget resolution to use all the available MSA funds. Throughout the FY the City can propose new projects and tap into the unused MSA money. It can be noted that on a City of Minneapolis budget program code summary from 6-25-92, the capital improvement expenditures associated with the Transportation cluster are $48,664,028. This amount is about $20,000,000 higher than the amount used in Table 2.

[25]Capital projects from the 1992 Capital Budget Appropriations Resolution p.19-20 of the "Summary of the 1992 Budget for the City of Minneapolis, January 1992". Project 1: 1992 residential street and University commercial paving programs. Total funding provided by net debt bonds(70%) and assessment bonds(30%). Project 2: Sidewalk intersection replacement. Total funding provided by assessments. Project 3: Street Paving, Excelsior Blvd., Stone arch bridge, Convention Center Hotel area, Sidewalk intersection replacement. Funding provided by Reimbursable fund, CSA, MSA, net debt bonds, permanent improvement tax, Hilton tax, CDBG Community Development Block Grant(handicap access). Project 4: Logan Avenue bridge. Total funding by net debt bonds. Project 5: Plymouth Bldg. skyway, Downtown fringe parking and skyways, Leamington ramp and skyways. This project involves skyways which could be related to pedestrian use not automobile use. However, this project was included due to the Federal funding and parking bonds which were used. Funding by assessment bonds, Federal Aid Urban (FAU), and parking bonds. Project 6: 1992 Residential street paving program, Bloomington avenue signals, Traffic signals, signs and lights, guide signs. Funding from Permanent improvement tax, net debt bonds, MSA, Trunk Highway Fund, MSA, Hilton tax, Parking fund, parking bonds, MCDA.

[26]Transportation related revenue includes, MSA, CSA, State Trunk Highway Fund, Parking Fund and Parking Bonds, Federal Aid Urban, Sidewalk Revolving Fund.

[27]Net cost to local Government is the total expenditures less the Transportation related revenue sources.

[28]Numbers are the net expenditures showing adjustment of inter-department transfers.

[29]The numbers for CSA, MSA, and Trunk Highway are estimates from the Minneapolis budget department.

[30]Numbers from the 1992 Capital Budget Appropriations Resolution p. 19-20 of the "Summary of the 1992 Budget for the City of Minneapolis, January 1992".

[31]Net expenditures using non-transportation related revenue.

[32]Rental property owners roll property taxes into rent. In order to benefit renters, who tend not to own cars, rather than property owners who do own cars, the property tax reduction should be required to be passed through to renters.

[33]The average mileage driven in Minnesota is 10,860 miles per year.

[34]From the Metropolitan Council, vehicles available in occupied housing, 1990 census, tables H37-H41, p. 13.

[35]From US. Department of Energy, Energy Information Administration, "Household Vehicles Energy Consumption", 1988.