Connecting South Dakota and the Nation

Transportation Funding Alternatives for South Dakota

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2008 Interim Study on Highway Needs and Financing

Scope:

- projected long term state and local highway needs
- allocation and distribution of responsibility for all highway segments within the state
- future state and local highway cost projections **compared to projected revenue**
- strategies for creating greater efficiency in **financing state and local roads**
- strategies to promote the development of innovative ideas aimed at reducing highway funding needs

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Transportation Funding Alternatives for South Dakota (Study SD2007-02)

Research Objectives

- Describe current federal, state, and local revenue streams for roads and highways
- Examine the value and practicality of current and alternative federal, state, and local revenue streams
- **Not** to recommend adoption of specific funding alternatives

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Federal Funding

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Federal Funding: Highway Trust Fund History

- 1917 — Motor Vehicle Excise Taxes (3%)
- 1932 — First Fuel Tax 1 ¢/gal
- 1956 — Highway Trust Fund Established
- 1983 — Gas tax raised to 9 ¢/gal, gasohol 5 ¢ less 1 ¢/gal to Mass Transit
- 1990 — Gas tax raised to 14.1 ¢/gal 2.5 ¢/gal to deficit reduction
- 1993 — Gas tax raised to 18.4 ¢/gal 6.8 ¢/gal to deficit reduction
- 1997 — Deficit reduction diversion ended
- 2005 — 5 ¢/gal gasohol subsidy paid from other funds
- 2008 — Highway Trust Fund ➔$0 balance $8B transfer from general fund

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Allocation of Federal Fuel Tax (Gasoline) 1956-present

Beginning Date	Gas Tax Rate (¢/gal)	Highways	Mass Transit	Underground Storage Tank Repair	General Deficit Reduction
July 1956	3	3			
October 1959	4	4			
April 1983	9	8	1		
January 1987	9.1	8	1	0.1	
September 1990	9	8	1		
December 1990	14.1	10	1.5	0.1	2.5
October 1993	18.4	10	1.5	0.1	6.8
October 1995	18.4	12	2	0.1	4.3
January 1996	18.3	12	2		4.3
October 1997	18.4	15.54	2.86	0.1	

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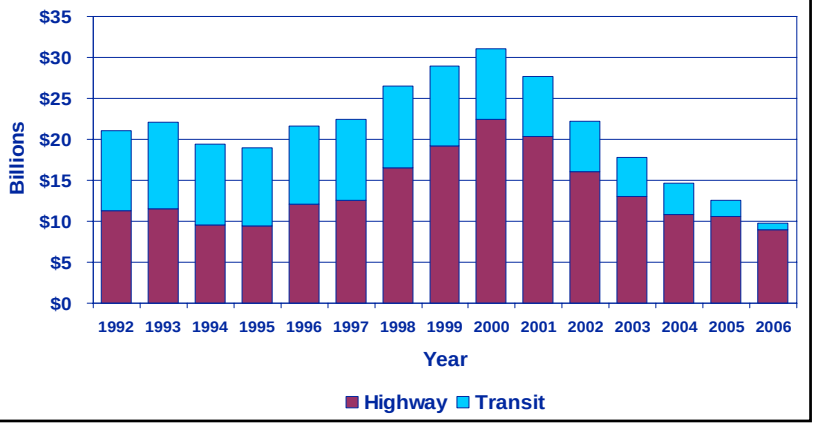
Factors Affecting the Highway Trust Fund Balance

- Improved fuel efficiency
- Use of alternative fuels
- Deficit reduction ('90-'97)
- Increased expenditures (higher highway costs)
- Gasohol subsidy ('83-'04)



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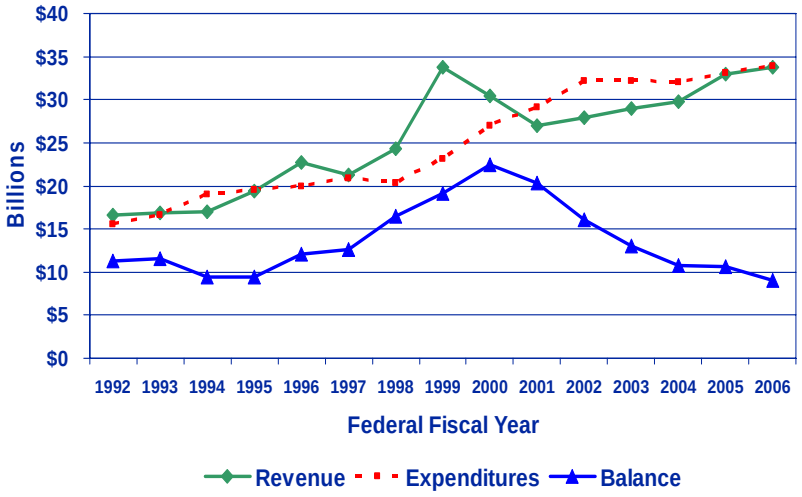
Highway Trust Fund Highway Account Revenues, Expenditures, & Balance



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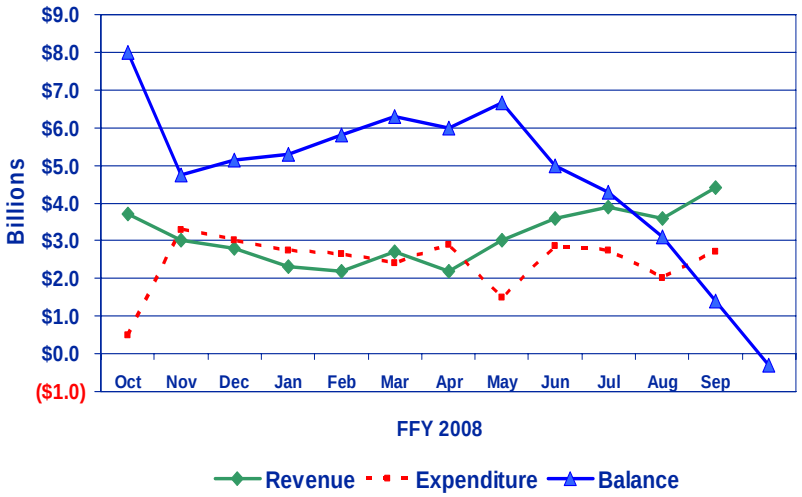
Highway Trust Fund Highway Account Revenues, Expenditures, & Balance



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Highway Use Tax: Concept

Mechanism
- Annual federal tax
- Collected by Internal Revenue Service

Current Use
- Revenues dedicated to federal Highway Trust Fund
- ~$6.7M per year from South Dakota (2006)

Link to User Benefits
- Assesses heavy vehicles
- Fee tied to gross weight

State/Local Applicability
- Only authorized federally

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Highway Use Tax: Current Practice

Rates
- 55,000 – 75,000 lb: $100 plus $22 per 1,000 lbs over 55,000
- ≥75,000 lb:$550 maximum

Equity Concerns
- IRS does not aggressively audit reported weight

Exemptions
- Low mileage vehicles
  - 7,500 miles non-commercial
  - 5,000 miles commercial

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Factors Affecting Allocation of Highway Trust Fund to States

Interstate Maintenance	Interstate mileage
	Interstate vehicle miles traveled
	Contributions from commercial vehicles to Highway Account of Highway Trust Fund
National Highway System	Principal arterial lane mileage
	Principal arterial vehicle miles traveled
	Diesel fuel used
	Principal arterial lane miles/person
Surface Transportation Program	Federal-aid highway lane mileage
	Federal-aid highway vehicle miles traveled
	Total contributions to Highway Account of Highway Trust Fund
Bridge Replacement and Rehabilitation Program	Cost to repair or replace deficient bridges
Congestion Mitigation and Air Quality Improvement Program	Population in non-attainment and maintenance areas
Recreational Trails Program	Non-highway recreational fuel use
Metropolitan Planning	Urbanized area population
State and Community Highway Safety Grants	State population
	Public road mileage

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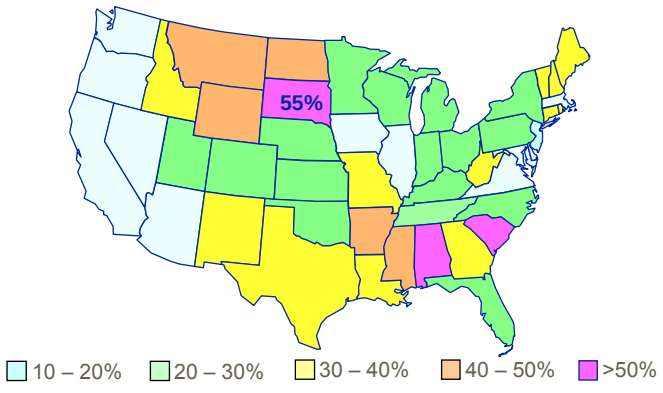
Federal Contributions as a Percentage of Total Highway Funding

- SD receives ~1.2% of Highway Trust Fund
- SD receives ~2.3 times its contribution to HTF
- 55% of SD's highway revenue derives from federal sources



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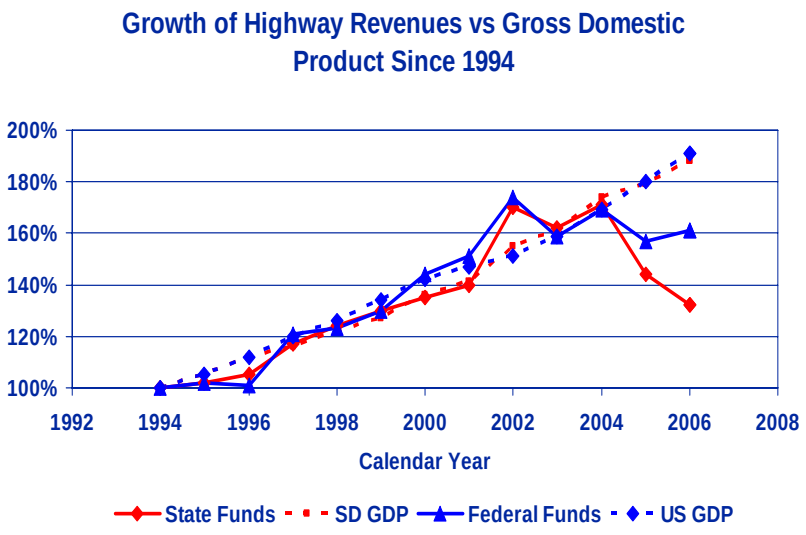
Growth of SDDOT Highway Revenues vs SD & US Gross Domestic Products



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SD Highway Financing

54.0%	$25,889,179 - Local H and B Fund
2.5%	1,198,573 - State License Plate Revolving Fund
2.0%	958,859 - State Motor Vehicle Fund

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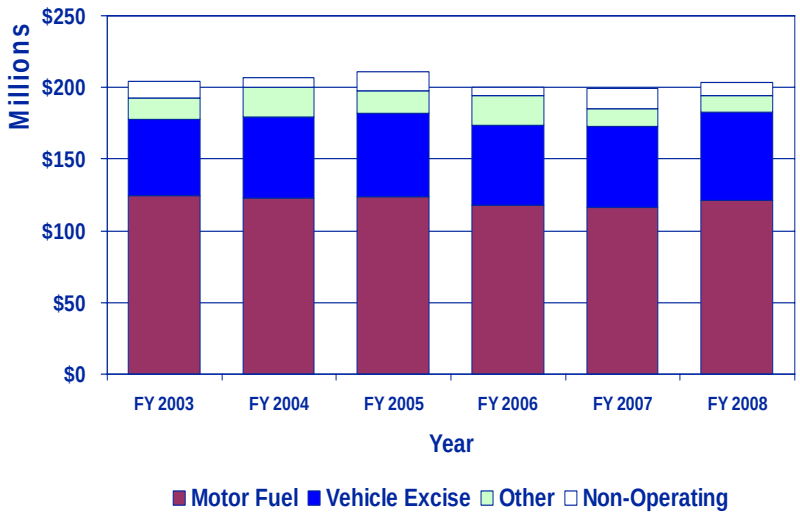
SD State Highway Fund Revenues



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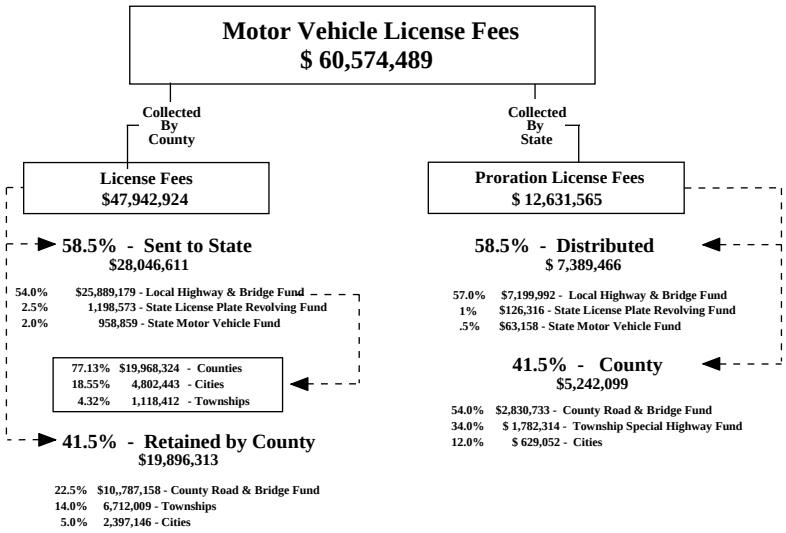
FY2007 Vehicle Registration Revenue and Distribution to Local Government



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FY2007 Highway User Fee Collection and Distribution to Highway Fund

Motor Fuel Tax – FY2007

Gross Collections	$ 134,090,950
Less Refunds	- 1,288,304
Administration	- 2,536,304
Conservation Comm.	- 450,906
Allowance for Suppliers	- 2,989,498
Tribal Motor Fuel	- 3,138,552
IFTA Refunds	- 5,671,448
Snowmobile Trails	- 350,928
Parks & Recreation	- 1,487,555
NET TO HIGHWAY FUND	**$ 116,177,453**

Vehicle Excise Tax

MV Excise Tax	$ 55,058,680
Rental 4.5% Gross Receipts	$1,276,509
Prorate Excise Tax	$1,245,671
Total Excise Tax	**$57,580,860**

Other Fees

To State Highway Fund $3,205,824

Tractor Registration $ 93,526
Duplicate Cab Cards $ 9,348
Transfer Fees $ 2,211
Special Highway Permits $ 3,100,739
License Plate Revolving Fund $ 208,183
- Duplicate plates $ 134,432
- Trailer Registration Fees $ 73,751

Motor Vehicle Fund $ 2,328,968
- Title and Lien Fees $2,271,122
- Administration Fees $ 57,846

Total Highway Fund

Motor Fuel Tax	**$116,177,453**
Vehicle Excise Tax	**$ 57,580,860**
Other Fees	**$3,205,824**
TOTAL	**$ 176,964,137**

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Highway User Fee Collection and Distribution for FY2007 to Counties

Motor Vehicle License Fees
$ 60,574,489

Local Highway & Bridge Fund	**$33,089,171**
77.13% Counties	$25,521,678
18.55% Cities	$ 6,138,041
4.32% Townships	$ 1,429,452
County	**$25,138,412**
County Road & Bridge Fund	$13,617,891
Townships	$ 8,494,323
Cities	$ 3,026,198
License Plate Revolving	**$ 1,324,889**
Motor Vehicle Fund	**$ 1,022,017**

Estimated Wheel Tax Collections CY2007
$ 8,185,368

County, City & Township Funding

54%/57 %License fees	$ 33,089,171
41.5% License fees	$ 25,138,412
Estimated Wheel Tax	$ 8,185,368
Other Funding Matches	$ 10,027,475
TOTAL	**$76,440,426**

State Highway Funds Transferred to Local Government for Federal Match

Match $ for Counties & Cities	**$4,299,622**
County Striping	**$1,313,659**
Community Access Roads	**$2,308,116**
GF&P Replacement Fees to Counties	**$1,033,269**
Industrial & Economic Roads	**$694,832**
Agricultural Roads	**$377,977**

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Funding Alternatives

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Analysis of State & Local Funding Alternatives

Concept
- Mechanism
- Current Use
- Link to User Benefits
- State/Local Applicability

Current Practice
- Rates
- Exemptions
- Equity Concerns

Revenue Potential
- Short Term
- Long Term

Implementation Issues
- Technology Needs
- Costs
- Statutory Basis
- Other Concerns

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Fuel-Based Mechanisms

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Motor Fuel Excise Tax: Concept

Mechanism

- Tax motor fuels on per-gallon basis
- Assessed at the rack in South Dakota

Current Use

- SD motor fuel dedicated to State Highway Fund
- Some states have legislated staged increases (MN, WA)

Link to User Benefits

- Linked to fuel consumption as surrogate for highway use and wear

State/Local Applicability

- Only used by state in SD
- Assessed by state and local agencies in some other states

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Motor Fuel Excise Tax: Current Practice

Rates

- Rates vary by fuel type
  - 22 ¢/gal gasoline
  - 22 ¢/gal diesel
  - 22 ¢/gal biodiesel
  - 20 ¢/gal gasohol
  - 10 ¢/gal E85
  - 20 ¢/gal LPG
  - 10 ¢/gal CNG

Exemptions

- Non-highway use
- Tribal agreements

Equity Concerns

- Fuel tax evasion
- Use of non-highway (dyed) diesel fuel on highways
- Variable rates for fuels do not correlate with highway wear

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South Dakota State Fuel Tax Rates

Year	Gasoline	Gasohol	E85	Diesel	Gasoline Pump Price
1933	$ 0.04				
1941	⇩			$ 0.04	
1951	$ 0.05			$ 0.05	$0.27
1957	$ 0.06			$ 0.07	$0.31
1969	$ 0.07				$0.35
1975	$ 0.08			$ 0.08	$0.57
1979	$ 0.09	$ 0.06		$ 0.09	$0.86
1980	⇩	$ 0.08		$ 0.12	$1.19
1981	$ 0.12	⇩		$ 0.13	$1.31
1984	$ 0.13	$ 0.09		⇩	$1.13
1986	⇩	$ 0.11		⇩	$0.86
1988	$ 0.18	$ 0.16		$ 0.18	$0.90
1997	$ 0.21	$ 0.19		$ 0.21	$1.23
1998	$ 0.18	$ 0.16		$ 0.18	$1.06
1999	$ 0.22	$ 0.20		$ 0.22	$1.17
2000	⇩	⇩	$ 0.10	⇩	$1.51
2005	⇩	⇩	⇩	⇩	$2.30
2007	⇩	⇩	⇩	⇩	$2.80
2008	⇩	⇩	⇩	⇩	$3.60

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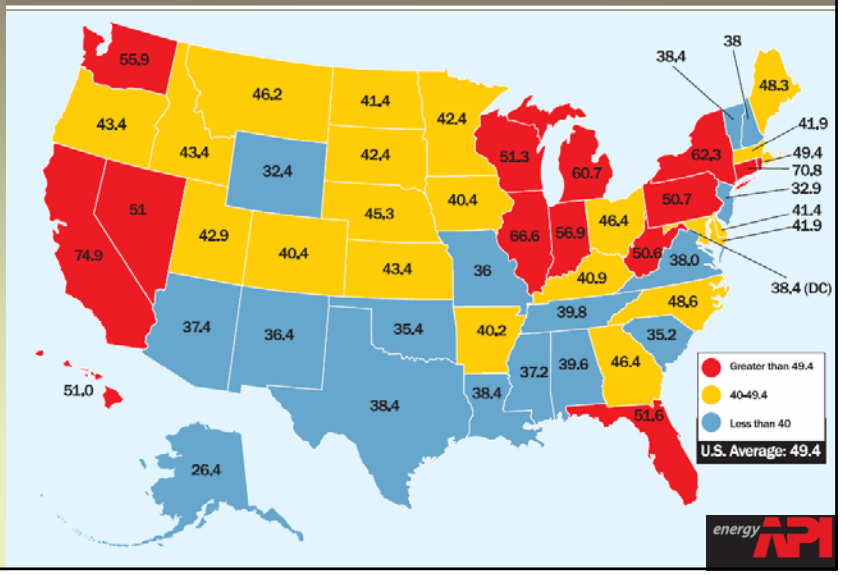
Total Gasoline Fuel Tax Rates (Federal, State, and UST July 2008)



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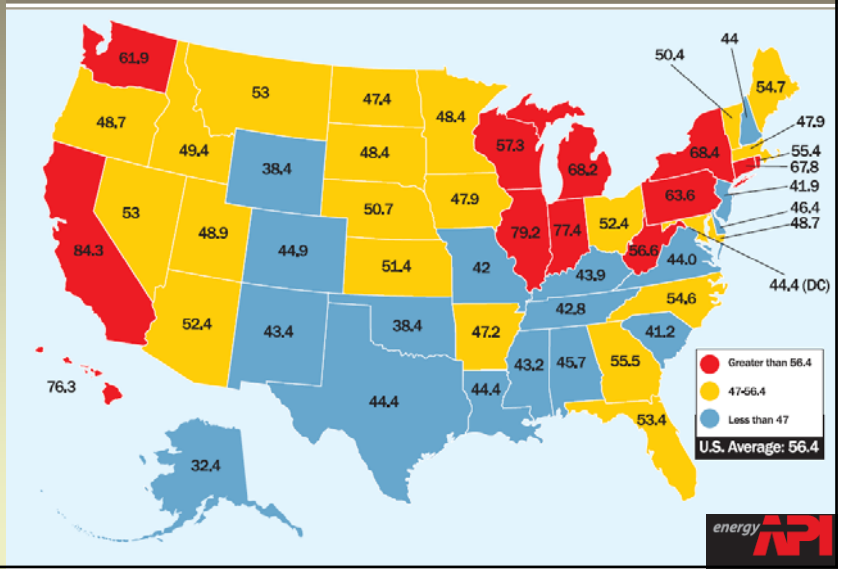
Total Diesel Fuel Tax Rates (Federal, State, and UST July 2008)



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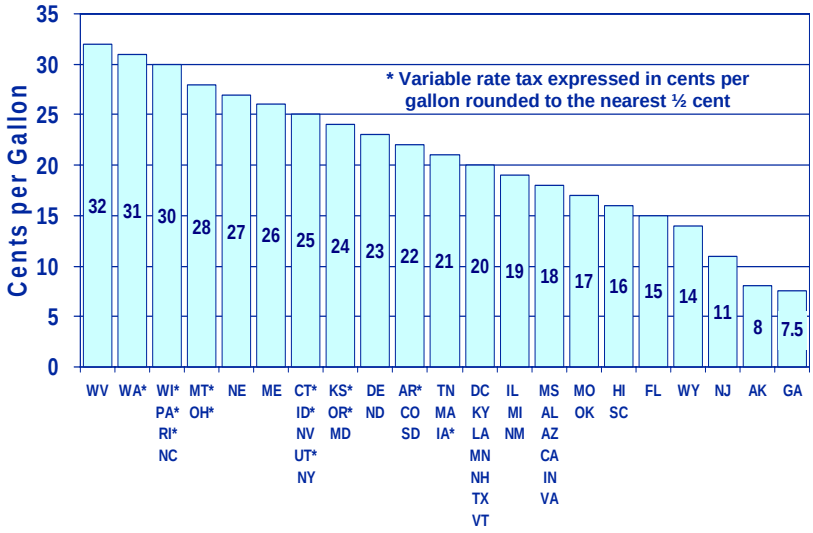
State Gasoline Taxes Throughout the United States



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Motor Fuel Excise Tax: Revenue Potential

Short Term

- Current annual revenue for South Dakota ~$120M
- Each 1 ¢/gal is ~$5.7M at current consumption level
- Revenue levels flat or slightly declining

Long Term

- Long-term viability threatened by:
  - No means to tax hybrid and alternative (electric, hydrogen) fuel vehicles
  - Increasing vehicle fuel efficiency
  - Corporate Average Fleet Efficiency (CAFÉ) standards
  - Rising fuel prices discourage consumption
  - Declining value of fixed-rate revenue source

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South Dakota Taxed Fuel Consumption

Year	Gasoline (M Gallons)	Gasohol (M Gallons)	Diesel (M Gallons)	E85 (M Gallons)	Total (M Gallons)	Revenue $ million
FY04	191.6	235.8	169.4		597.0	$122.8
FY05	184.1	249.9	181.0	0.7	615.7	$124.1
FY06	163.2	258.5	187.1	3.0	611.9	$118.3
FY07	186.1	231.5	193.2	3.5	614.4	$116.2
FY08	136.8	278.2	196.4	4.8	616.2	$121.0

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Motor Fuel Excise Tax: Implementation Issues

Technology
- Need means to assess tax on Compressed Natural Gas (CNG)

Statutory Basis
- SDCL 10-47B-4

Costs
- Collection mechanism well established for traditional fuels; stable cost

Other Concerns
- Biodiesel will temporarily drop to 20 ¢/gal during period between 20 and 35 million gallons produced
- 2¼% loss allowance to vendors, 1¼% to importers

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Indexed Fuel Tax: Concept

Mechanism

- Excise or sales tax on fuel, indexed to consumer price index or highway cost index

Current Use

- None in South Dakota
- Used in FL, KY, NC, ME, NE

Link to User Benefits

- Linked to fuel consumption as surrogate for highway use and wear
- Rate adjusts to track cost of providing highway infrastructure

State/Local Applicability

- Could be used at state and local levels, but taxing at rack makes identification of local tax difficult

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Indexed Fuel Tax: Current Practice

Rates

- Portion of total fuel tax is indexed:
  - FL: 11.6 of 33.2 ¢/gal
  - KY: 10 of 21.1 ¢/gal
  - ME: 28.4 of 29.9 ¢/gal
  - NE: 13.5 of 26 ¢/gal
  - NC: 12.35 of 29.9 ¢/gal

Exemptions

- None in states where used

Equity Concerns

- Same as ordinary fuel tax

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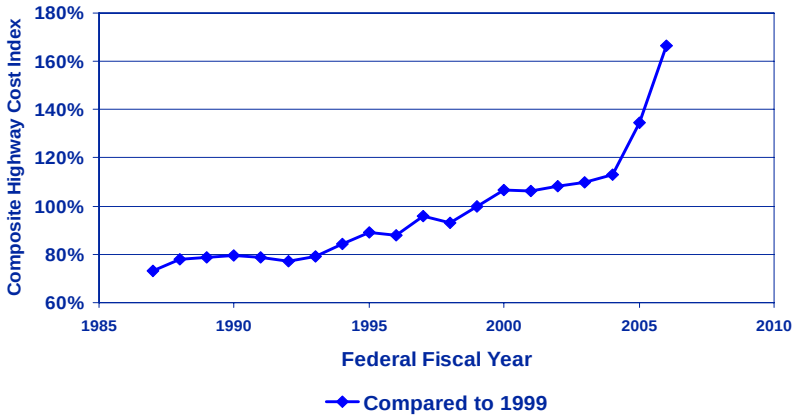
Indexed Fuel Tax: Revenue Potential

Short Term

- No immediate effect

Long Term

- Fully indexed tax would have grown 65% 1999-2006



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Indexed Fuel Tax: Implementation Issues

Technology

- Would require periodic updates to fuel tax rates; semiannual most feasible

Statutory Basis

- None in SD

Costs

- Modifications to fuel taxation information system

Other Concerns

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Fuel Sales Tax: Concept

Mechanism

- Tax fuel on basis of purchase cost rather on quantity

Current Use

- Not used in South Dakota
- Used along with conventional fuel tax in CA, CT, GA, HI, IL, IN, MI, WV

Link to User Benefits

- Linked to fuel consumption as surrogate for highway use and wear
- Revenue rises with oil price, which may track highway costs

State/Local Applicability

- Currently used in both state and local jurisdictions

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Fuel Sales Tax: Current Practice

Rates

- 4% – 8% at state level
- 1% – 2% at local level
- In addition to conventional fuel taxes

Equity Concerns

- For local sales taxes, point of sale may not match roads used

Exemptions

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Fuel Sales Tax: Revenue Potential

Short Term

- Each 1% of sales tax would generate $22M in South Dakota, assuming $3.60 pump price

Long Term

- Revenue would track pump price of fuel, possibly offsetting inflation

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Fuel Sales Tax: Implementation Issues

Technology

- No special technology required
- Would require modifications to state and local taxation systems

Statutory Basis

- None in South Dakota

Costs

- Information system modifications

Other Concerns

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Vehicle-Based Mechanisms

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Vehicle Excise Tax: Concept

Mechanism

- % of purchase price of new and used vehicles
- Collected upon title transfer

Current Use

- In SD, vehicle excise tax goes to State Highway Fund

Link to User Benefits

- Linked to vehicle ownership, not road use

State/Local Applicability

- Goes to State Highway Fund by statute

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Vehicle Excise Tax: Current Practice

Rates

- SD: 3% of purchase price
- ND: 5% IA: 5%
- MN: 6.5% WY: 4 – 6%
- NE: 5.5% plus local

Exemptions

- Cars >10 years old and <$2,200 value
- Transfers to family members
- Tribal members living on reservation
- Rental cars
- Many more….

Equity Concerns

- Large number of exemptions: 154,000 of 300,000 title transfers are not taxed
- Indirect tie of vehicle ownership to road use and wear

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Vehicle Excise Tax: Revenue Potential

Short Term

- ~$58M/year collected in South Dakota now
- 1% increase would add ~$19M/year
- Eliminating old car exemption would provide $2-3M/year depending on purchase prices
- Applying tax to all title transfers would provide $4-8M/year

Long Term

- Vehicle transactions relatively flat in South Dakota
- Revenues increase with rising average value of new and used vehicles
- Net result: relatively steady growth

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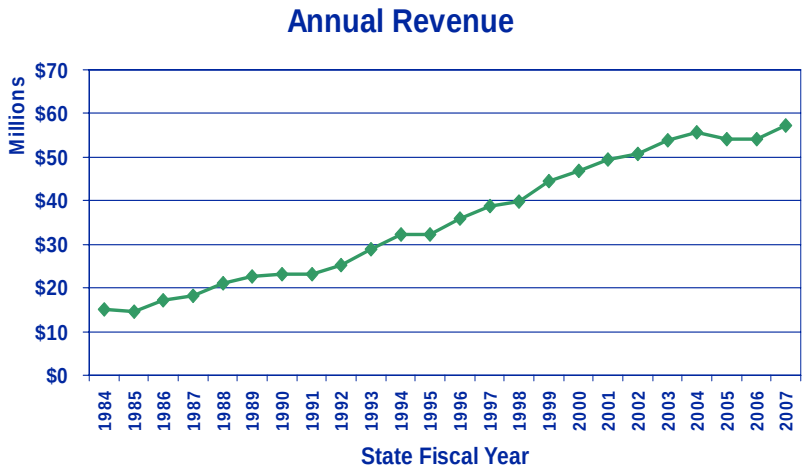
3% Motor Vehicle Excise Tax



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Vehicle Excise Tax: Implementation Issues

Technology

- No special technology needed to change rates

Statutory Basis

- SDCL 32-5B

Costs

- Rate changes would need to be installed in taxation system

Other Concerns

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Vehicle Registration Fees: Concept

Mechanism
- Vehicle owners are assessed annual registration fees depending on vehicle class, weight, age, and use

Link to User Benefits
- Linked to vehicle ownership rather than road use
- Rates by vehicle type and weight link to road impacts

Current Use
- 96.5% of vehicle registration fees are dedicated to local governments in South Dakota

State/Local Applicability
- By SD statute vehicle registration fees go to local governments

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Vehicle Registration Fees: Current Practice

Rates
- Passenger
- Non-commercial trucks
- In-state commercial trucks

Exemptions
- 30% reduction for passenger & non-commercial vehicle >5 years old
- 10% reduction for commercial vehicle >5 years old
- Non-commercial vehicles ⅓ – ½ commercial vehicles

Equity Concerns
- Commercial vehicle fees 2 – 3 times non-commercial fees for same vehicle class and weight
- Highway experiences no difference in wear between new and old vehicles

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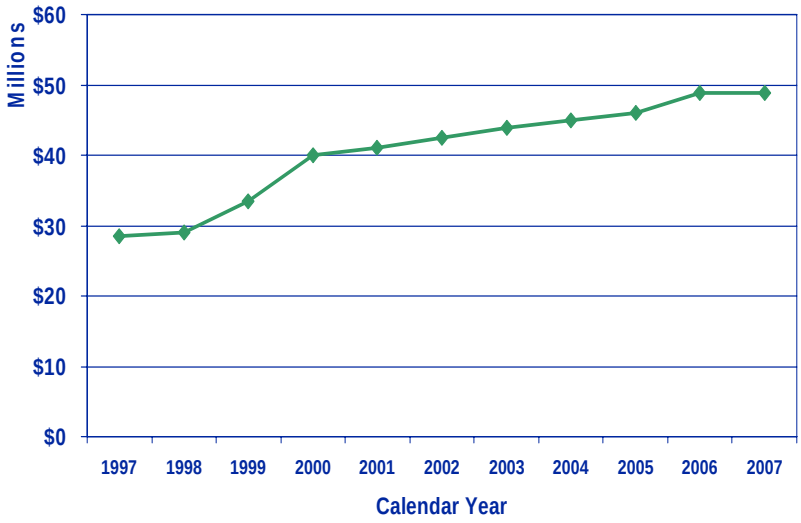
SD Vehicle Registration Revenue 1997-2007



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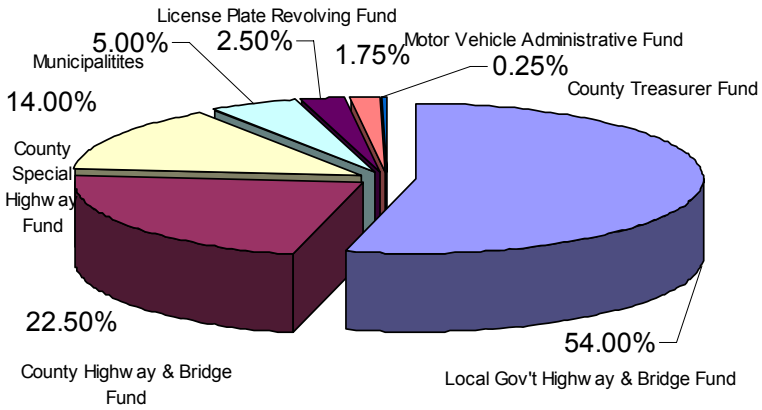
Distribution Formula for Non-Commercial License Fees



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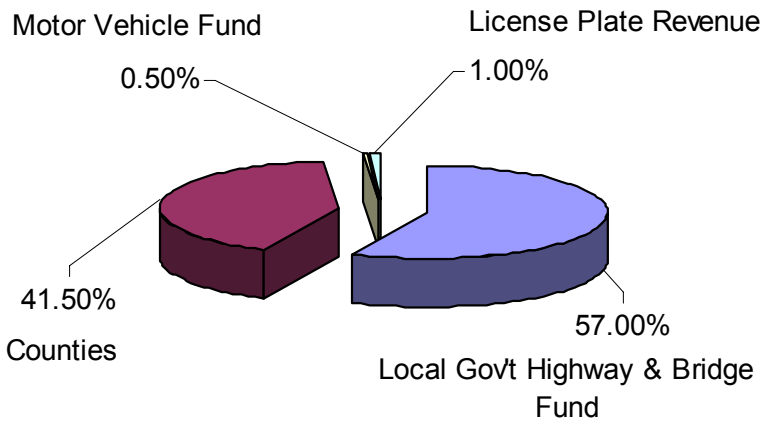
Distribution Formula for Commercial Registration Fees



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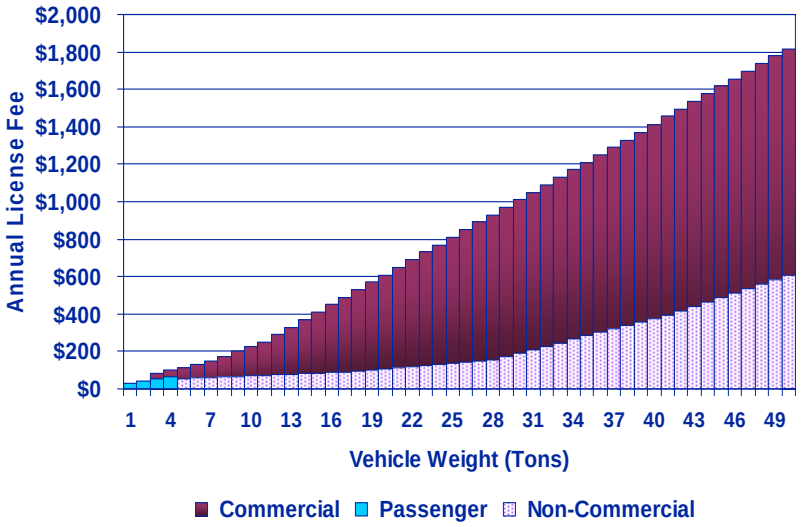
South Dakota Vehicle Registration Rates



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Vehicle Registration Fees: Revenue Potential

Short Term

- Eliminating non-commercial age discount ~$11.0M/year
- Eliminating commercial vehicle age discount ~$2.0M/year
- Requiring commercial registration for >54,000lbs $9.2M/year
- Requiring commercial registration for >26,000lbs $15.2M/year
- Raising intrastate plates $1: $1.2M/year

Long Term

- Number of registered vehicles fairly flat

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Vehicle Registration Fees: Implementation Issues

Technology

- No special technology needed

Statutory Basis

- SDCL 32-5

Costs

- Modifications to rate schedules in vehicle registration system

Other Concerns

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Wheel Tax: Concept

Mechanism

- Assess tax per wheel at time of vehicle registration
- Tax capped at 4 wheels

Current Use

- 38 of 66 counties use in SD
- Average distribution:
  - ~90% to counties
  - ~5% townships
  - ~5% cities

Link to User Benefits

- Tied to vehicle ownership, usually not to road impact
- Few counties tie rate to vehicle class or weight

State/Local Applicability

- Only used at local level now, but mechanism could be used at state level

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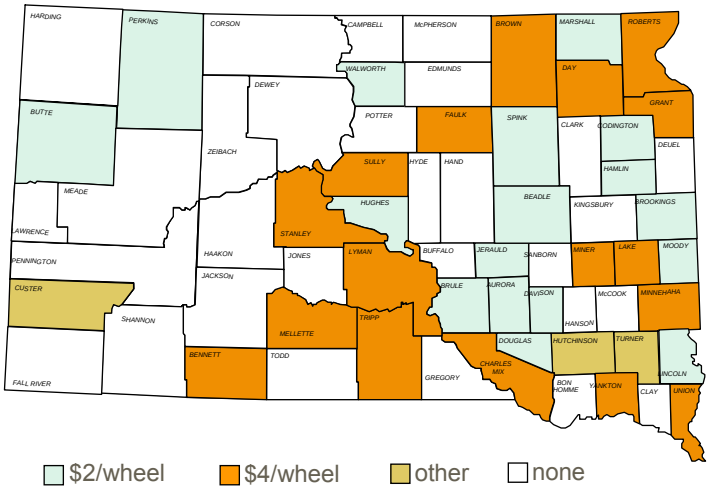
Wheel Tax: Current Counties



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Wheel Tax: Current Practice

Rates
- $2-4$ per wheel allowed
- 4 wheels maximum taxed
- Prorated for partial year vehicle use

Exemptions
- Unregistered vehicles
- Auto dealers' vehicles
- No wheels in excess of 4 are taxed
- County option to tax trailers

Equity Concerns
- Cars and small trucks are usually taxed same as trucks
- Weak relationship to impacts on road wear or capacity demand
- "Through Traffic" not taxed
- Sometimes perceived as a "city/country" issue

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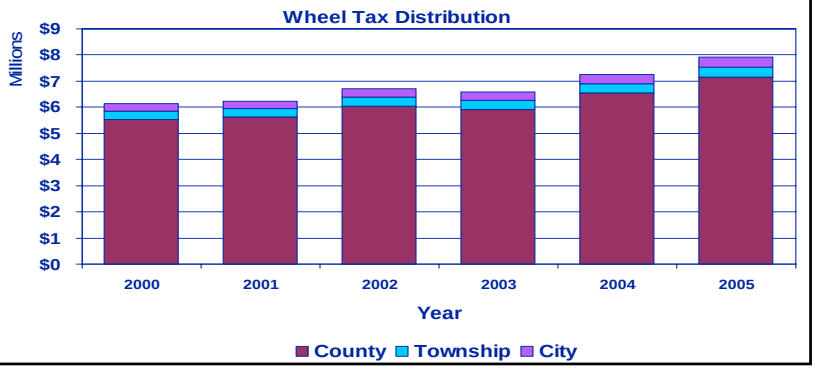
Wheel Tax: Revenue Potential

Short Term
- ~$8M/year collected now
- ~$12.4M/year if all vehicles taxed at $4/wheel

Long Term
- Rate caps fixed
- Increases require legislation
- Vehicle registrations "flat"



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Wheel Tax: Implementation Issues

Technology
- No special technology required

Statutory Basis
- Tax authorized for counties SDCL 32-5A

Costs
- Low costs tied to current vehicle registration process

Other Concerns
- Several counties have tried unsuccessfully to establish or raise taxes

59

Property- & Sales-Based Mechanisms

60

Front-Foot Assessments: Concept

Mechanism
- Annual assessment based on frontage adjacent to public roadways

Current Use
- Used by some, but undetermined number, of SD local agencies

Link to User Benefits
- Linked to road access, not use
- Weak tie to road use and wear

State/Local Applicability
- Only suitable at local level

61

Front-Foot Assessments: Current Practice

Rates
- Cities: 40¢/ft/year
- Townships: 80¢/ft/year
- Road Districts: 75¢/ft/year
- Sioux Falls: $1.00/ft/year (Home Rule Charter)

Exemptions

Equity Concerns
- Weak tie to road use
- "Through Traffic" not assessed
- Non-adjacent landowners not assessed
- Little tie to road impacts
  - vehicle weight
  - traffic volume
  - unequal business impacts

62

Front-Foot Assessments: Revenue Potential

Short Term

- Assuming 50% of roadway has taxable frontage on both sides, could generate annually:
  - Cities: ~$17M
  - Townships & County Secondary: ~$191M

Long Term

- Rate caps fixed
- Increases require legislation

63

Front-Foot Assessments: Implementation Issues

Technology

- Could be collected along with property tax
- May need to map landowners' frontage

Statutory Basis

- Townships: SDCL 31-13-51
- Cities: SDCL 9-45-38
- Road Districts: SDCL 31-13-17

Costs

- Determination and maintenance of frontage in property tax database

Other Concerns

- Discretionary tax
- Perceived as property tax
- Determination of feet frontage is difficult for many jurisdictions

64

Special Assessment: Concept

Mechanism

- City publishes a special assessment role and establishes a fee to recover the private special benefits created, can be for both new and replacement infrastructure

Current Use

- Used in South Dakota to recover the unique private benefits to each property from all types of infrastructure investment

Link to User Benefits

- Assessments must be only for the private benefits received, not for benefits for the public at large

State/Local Applicability

- Cities use to recover costs that exclusively benefit private property
- No authorization for state or county use

65

Special Assessment: Current Practice

Rates

- Can be assessed up to the amount of the private benefit received from the public improvement

Exemptions

- There are exemptions in statute but may raise constitutional issues because of equal protection

Equity Concerns

- Poor need sufficient notice to save fee. Loans and financing exist.
- Many feel property taxes and sales taxes should be used, not assessment
- More equitable than taxes if only those receiving benefits pay
- Fees may not exceed the private benefit received or recover benefits shared by the public at-large

66

Special Assessment: Revenue Potential

Short Term

- Has good revenue potential and many cities use it, particularly for new development because almost full cost recovery is possible

Long Term

- Has good revenue potential and many cities use it, particularly for new development because almost full cost recovery is possible

67

Special Assessment: Implementation Issues

Technology

- Need records like front footage and corner lots

Costs

- Administrative fees for new development are low
- For replacement infrastructure, property appraisals and precise estimates of private benefits needed
- Returns may not be worth administrative costs

Statutory Basis

- SDCL 9-43 and SDCL 9-45

Other Concerns

- Many governments do not understand the difference between assessing new development and replacement infrastructure
- Some conflicting language in existing statutes
- Developers don't like it because it increases their costs that must be passed on to consumers

68

County Road Districts: Concept

Mechanism

- Property owners may organize a road district to finance, build, and maintain roads

Current Use

- Typically used for new developments

Link to User Benefits

- Roads are financed by adjacent landowners

State/Local Applicability

- Only applicable to local level

69

County Road Districts: Current Practice

Rates

- 75 ¢/front foot may be assessed
- District may bond or set other assessments

Equity Concerns

- "Through traffic" does not pay for road use

Exemptions

70

County Road Districts: Revenue Potential

Short Term

- ~1.6$M per year now
- >180 road districts
- Counties include:
  - Charles Mix (5)
  - Custer
  - Fall River (4)
  - Hughes (4)
  - Lake (5)
  - Lawrence (27)
  - Lincoln (12)
  - Meade (25)
  - Pennington (89)
  - Yankton (2)

Long Term

- Long-term financial sustainability can be difficult as roads age
- Some road districts have asked to be assumed by county

71

County Road Districts: Implementation Issues

Technology

- None needed

Statutory Basis

- SDCL 31-12A

Costs

- Low administrative costs

Other Concerns

72

Developer Fees: Concept

Mechanism

- Jurisdiction sets or negotiates fees from developers to offset costs of road improvements

Current Use

- Sioux Falls just established fees, many developers supportive

Link to User Benefits

- Fees derive from a share of the appreciation in value resulting from the road improvements;

State/Local Applicability

- Local agencies can use broadly through jurisdiction
- State agencies could employ for specific improvement projects

73

Developer Fees: Current Practice

Rates

- Fees can be set by ordinance or negotiated on case-by-case basis

Equity Concerns

- Fees must be in proportion to benefit realized by the landowner

Exemptions

74

Developer Fees: Revenue Potential

Short Term

- Undetermined

Long Term

- Could facilitate develop of interchanges, lane expansions, new alignments

75

Developer Fees: Implementation Issues

Technology

- No special technology needs
- Policies and procedures would need to be developed

Statutory Basis

- Not specifically addressed

Costs

Other Concerns

-

76

Municipal Retail Sales & Use Tax: Concept

Mechanism
- Any municipality may impose a non *ad valorem* tax

Current Use
- Used in all municipalities in South Dakota
- Supports general fund expenditures including transportation

Link to User Benefits
- Directly tied to retail and user services
- Indirect tie to transportation improvements

State/Local Applicability
- Municipalities have the authority to implement a 2 cent sales and use tax
- Counties cannot impose a retail sales and use tax

77

Municipal Retail Sales & Use Tax: Current Practice

Rates
- Up to 2 ¢ per $1.00 sale

Equity Concerns
- Only indirect tie to road use
- Persons paying the tax may not use the transportation system

Exemptions
- Defined in SDCL 10-52, 10-45, 10-46
- Certain parts, repairs, or maintenance on agricultural equipment
- Health services

78

Municipal Retail Sales & Use Tax: Revenue Potential

Short Term

- Cities can impose up to a 2 ¢ tax on each $1.00 sale.
- Some cities restrict the use of the 2nd penny to capital improvements and debt retirement

Long Term

- Revenues increase with increased sales

79

Municipal Retail Sales & Use Tax: Implementation Issues

Technology

- No additional technology is required

Statutory Basis

- SDCL 10-52-2

Costs

- Low cost to collect

Other Concerns

- Transportation expenditures compete with all other city activities for funding

80

Use-Based Mechanisms

81

Vehicle Miles Traveled Fees: Concept

Mechanism

- Charge vehicles by miles driven; waive gas tax
- On-board unit accumulates miles but no trip details
- Gas pump interrogates vehicle for reports

Link to User Benefits

- Direct tie to miles driven
- Can vary rates by vehicle type for pavement wear
- Can vary rates by zone or time of day for capacity demand

Current Use

- Oregon pilot project
  - 299 motorists
  - 285 passenger vehicles
  - 2 gas stations
  - voluntary participation
  - participation incentives

State/Local Applicability

- Most suitable at state level
- More difficult to associate miles with local jurisdictions

82

Vehicle Miles Traveled Fees: Current Practice

Rates

- Oregon
  - 1.2¢/mile non-congestion
  - 10.0¢/mile rush-hour periods in metropolitan Portland

Exemptions

- Not yet in actual deployment

Equity Concerns

- Same rate for low and high fuel efficiency vehicles negates fuel savings

83

Vehicle Miles Traveled Fees: Revenue Potential

Short Term

- Very low because of startup effort and cost
- Assuming full deployment and Oregon rate, would generate $110M/year in SD
- (Rates appropriate to SD would have to be determined)

Long Term

- Adoption rate limited by vehicle fleet turnover
- Oregon estimates after 20 years 1/6 of total user-based revenues could be captured this way
- To maintain pace with highway cost inflation, per-mile fees would need to be adjusted

84

Vehicle Miles Traveled Fees: Implementation Issues

Technology
- On-board electronics
- Gas pump electronics
- Information system to query pumps, bill users
- Modifications to gas pump accounting systems

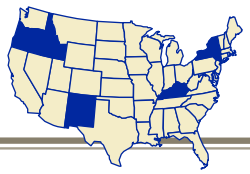
Costs
- ~$100 per vehicle
- ~$200 per gas pump
- ~$33M estimated for Oregon statewide startup
- ~$1.6M estimated for Oregon annual operation

Statutory Basis
- None in South Dakota
- Pilot required special legislation in Oregon

Other Concerns
- May dilute efforts to promote higher fuel mileage
- Privacy (even though unit does **not** record trip details
- Might never totally replace fuel taxes

85

Weight-Distance Fees: Concept



Mechanism
- Charge heavy vehicles fees based on weight and distance to compensate for pavement wear
- Quarterly self-reporting typical

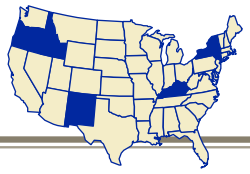
Link to User Benefits
- Directly tied to road use and wear

Current Use
- Used in ID, KY, OR, NM, NY (not SD)
- Also called Weight-Mile or Heavy Use Tax
- In addition to fuel tax

State/Local Applicability
- Most suitable at state level
- Hard to allocate miles traveled among local jurisdictions

86

Weight-Distance Tax: Current Practice



Rates (under 80,000 lbs)

- 2-17 ¢/mile (ID)
- 2.85 ¢/mile (KY)
- 1-4 ¢/mile (NM)
- 1-6 ¢/mile (NY)
- 4-13 ¢/mile (OR)

Exemptions

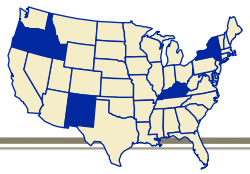
- Raw commodities (ID)
- 2-axle trucks (OR)
- Light trucks
  - KY <60,000 lbs
  - NM <26,000 lbs
  - NY <18,000 lbs

Equity Concerns

- Underreporting of miles hard to monitor
- Rate difference between raw and processed commodities not justifiable in terms of road wear

87

Weight-Distance Tax: Revenue Potential



Short Term

- Each 1¢ per truck mile traveled would equal $6.5M/year in South Dakota

Long Term

- Highway freight traffic is expected to grow in future years
- Fixed rates could require legislation or rulemaking to increase with inflation

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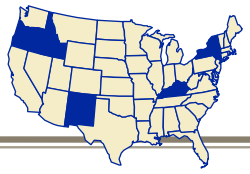
Weight-Distance Tax: Implementation Issues



Technology

- Manual reporting would require no special technology
- Electronic reporting would require extensive roadside infrastructure
- Fee structure would need to be determined

Costs

- For electronic monitoring, ~$200,000 per site; many would be needed

Statutory Basis

- None currently exists in South Dakota

Other Concerns

- Trucking industry has vigorously opposed nationally

89

Overweight Penalties: Concept

Mechanism

- Assess fines and civil penalties for violation of oversize/overweight vehicle laws

Current Use

- In SD, fines go to school district local to violation

Link to User Benefits

- Fines could offset damages to highway infrastructure

State/Local Applicability

- Most weight enforcement is done by SD Highway Patrol on state highway system

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Overweight Penalties: Current Practice

Rates

Pounds Overweight	Civil Penalty
1,001 – 3,000 lbs	5 ¢/lb
3,001 – 4,000 lbs	15 ¢/lb
4,001 – 5,000 lbs	22.5 ¢/lb
5,001 – 10,000 lbs	37.5 ¢/lb
Over 10,000 lbs	75 ¢/lb

Exemptions

- Allowances in weight tolerances for agricultural haulers
- Others

Equity Concerns

- Revenues currently are not used to compensate for road damage
- Most weight enforcement costs are borne by transportation funds to SDHP

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Overweight Penalties: Revenue Potential

Short Term

- ~$1M per year currently

Long Term

- Depends on weight compliance and intensity of enforcement

92

Overweight Penalties: Implementation Issues

Technology
- Enforcement personnel need fixed and portable scales

Statutory Basis
- SDCL 32-22

Costs
- Costs of scales
- Ongoing enforcement costs offset some revenue

Other Concerns
- Value of deterring overweight vehicles exceeds direct revenues

93

Tolls: Concept

Mechanism
- Direct charge for use of highway segments
- Manual toll booths
- Electronic collection *(I-PASS, EZ-PASS)*

Current Use
- None in SD
- Metropolitan freeways
- Turnpike authorities
- Sometimes tied to congestion pricing

Link to User Benefits
- Direct relationship to road wear and capacity demand
- Can vary by vehicle class
- Can vary by time of day
- Can vary by user type (by electronic pass)

State/Local Applicability
- Only applicable to state level
  - higher traffic volume
  - require limited access

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Tolls: Current Practice

Rates

- Rural United States:
  - 2 - 12¢/mile cars
  - 5 - 50¢/mile 5-axle truck

Exemptions

- Congestion pricing can be waived for high occupancy vehicles
- Preferential rates can be given to certain user classes

Equity Concerns

- Choice of tolled segments on basis of feasibility can be interpreted as arbitrary
- Congestion pricing can be perceived as regressive, unfair to poor
- Differential pricing between residents, non-residents, commuters, through travelers can be controversial

95

Tolls: Revenue Potential

Short Term

- Low in South Dakota because of low current traffic volumes
  - South Dakota I-29 2,000 – 21,000 /day
  - South Dakota I-90 3,000 – 13,000 /day
  - Pennsylvania Turnpike 30,000 – 65,000 /day

Long Term

- Possibly viable in 10 – 15 years if:
  - increased traffic levels
  - more economical collection technology
- Little basis for congestion pricing in South Dakota

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Tolls: Implementation Issues

Technology
- Toll plazas
- Electronic collection infrastructure

Costs
- Toll collection infrastructure at each segment entry/exit
- Ongoing operation & maintenance

Statutory Basis
- SD law only authorizes for local interstate bridges (SDCL 31-15)

Other Concerns
- Public concern about "paying twice" for roads
- High per-vehicle tolls: break-even would be 7¢ per mile on most favorable SD routes; higher if low traffic
- Can divert traffic to less capable parallel routes

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Financing Mechanisms

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Bonds: Concept

Mechanism

- Revenue Bonds: guaranteed repayment per a legal contract through a specified revenue generating entity like tolling or public private partnership
- General Obligation Bonds: guaranteed repayment secured by legally available resources including tax revenues
- GARVEE or Grant Anticipation Revenue Vehicles Bonds (Grant Anticipation Notes or GANs): guaranteed repayment by reimbursing with future Federal aid but does not constitute an obligation to pay by the Federal government
- Transportation Infrastructure Finance & Innovation Act of 1998 (TIFIA): Federal credit program for eligible transportation projects of national or regional significance capable of generating their own revenue streams
  - Three forms of credit assistance: secured (direct) loans, loan guarantees, & standby credit lines
  - Goal is to leverage Federal funds, attract substantial private and other non-Federal co-investment in critical improvements to nation's surface transportation system
  - USDOT awards credit assistance to eligible applicants (state DOTs, transit operators, special authorities, local governments, private entities)
  - Loan rates based on investment grade rating

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Bonds: Revenue Potential

Short Term

- Can provide funds for immediate, advantageous use
- Not a true revenue "source"
- Potential use limited by prevailing financial conditions

Long Term

- Undetermined

100

Bonds: Implementation Issues

State/Local Applicability

- Local governments can use in South Dakota
- State government cannot use for highways in South Dakota

Statutory Basis

- None in South Dakota
- ***Constitutionally Barred***

Costs

- Interest costs consume some financial capacity

Other Concerns

- See "Bonding Advantages & Disadvantages"

101

SD Constitution Article XI Revenue And Finance

- §8. Use of vehicle and fuel taxes shall be used exclusively for the maintenance, construction and supervision of highways and bridges of this state.
- Constitutional language is silent about bonding for maintenance, construction, and supervision of highways and bridges
- 1997 Session Law, Chapter 289 created a bridge authority to bond for bridge repair; Governor Kneip requested a Supreme Court opinion

Court held:

- Bonding requires interest payments to be made
- Interest payments & bond administrative expenses would not be maintenance, construction and supervision as required by §8
- SD did not include bonding as a provision in §8 but many other states with similar Constitutions did include sections for retirement of bonds
- Must assume "framers" intentionally excluded the provision; ignoring such an intended omission would be unconstitutional

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Bonding Advantages & Disadvantages

Advantages

- Mitigates inflation if annualized rate of interest and bond expense less than rate of construction inflation
- Allows improvements to be used while being amortized
- Good tool, but timing is critical
- Encourages productive transportation investments because payback is required
- Good benefit/cost ratio, positive return on investment, and a steady and reliable revenue stream are of the utmost importance

Disadvantages

- Interest payments and bond expenses are not used directly for improvements
- If inflation escalates, promised project delivery may fail
- Investment risk depends on ability to forecast inflation and revenue stream
- Leaves debt to others while benefits are immediate
- Payments can consume large portions of future budgets, reducing flexibility
- Unconstitutional in SD
- Potential effect on SD credit rating
- Vulnerable to national and global economic threats

103

Public/Private Partnerships: Concept

Mechanism

- Government leases or sells highway facility to private builder or operator
- Large, early payments go to government

Current Use

- None in SD
- Various nationally, for example:
  - Chicago Skyway
  - Indiana Turnpike
  - Pennsylvania Turnpike (considered & rejected)

Link to User Benefits

- Toll revenues dedicated to highway operation and maintenance

State/Local Applicability

- Applicable at both state and local levels, if sufficient traffic levels

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Public/Private Partnerships: Current Practice

Rates

- Same as other toll facilities

Equity Concerns

- Funds received for lease are not necessarily reserved for highway use

Exemptions

- Same as other toll facilities

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Public/Private Partnerships: Revenue Potential

Short Term

- Very low in South Dakota because of low traffic volumes and revenue streams

Long Term

- Very low in South Dakota because of low traffic volumes and revenue streams
- Becoming much less attractive nationally because of failed financial institutions in 2008

106

Public/Private Partnerships: Implementation Issues

Technology
- Same as other toll facilities

Statutory Basis
- None in South Dakota

Costs
- Costs are borne by operating entity
- Bonding and insurance can be difficult and expensive to secure

Other Concerns
- Non-compete clauses can limit DOT flexibility in maintaining and improving parallel routes
- Facility condition and salvage value at end of lease period is critical

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Conclusion

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Summary

- Current highway funding structure is complex
- Some funding mechanisms are not fully utilized
- Many small changes could make significant differences individually or in combination
- Improved financial reporting could facilitate future analyses of local road and street financing

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Summary of Funding Alternatives

Basis	Alternative	Potential Revenue
Fuel	Motor Fuel Excise Tax	$5.7M per ¢ tax
	Indexed Fuel Tax	$5.7M per ¢ tax
	Fuel Sales Tax	~$22M per % tax
Vehicles	Vehicle Excise Tax	~$19M per % tax
		$2-3M old vehicle exemption
		$4-8M exemptions
	Vehicle Registration	~$13M old vehicle exemptions
		~$9M >54,000lb commercial
		~$15M >26,000lb commercial
		~$1M per $1 general increase
	Wheel Tax	~$12M if all vehicles taxed

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Summary of Funding Alternatives

Basis	Alternative	Potential Revenue
Property	Front Footage	40 – 80¢ per frontage foot
	Special Assessments	(not quantified)
	Road Districts	(not quantified)
	Developer Fees	(not quantified)
Retail Sales	Municipal Sales & Use Tax	(not quantified)
Use	Vehicle Miles Traveled	~$90M per ¢ per mile
	Truck Weight-Distance	~$6M per ¢ per mile
	Overweight Penalties	~$1M
	Tolls	(not quantified)
Finance	Bonds	(not quantified)
	Public-Private Partnerships	(not quantified)

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Questions?

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Thank You!!

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