

Transportation finance



The conceptual framework

- Public transportation system
 - Highway, transit, air travel, train...
- Three key questions
 - Public or private input?
 - If public, which level of government?
 - What sources of revenue?
- The general principle
 - To align benefits with costs

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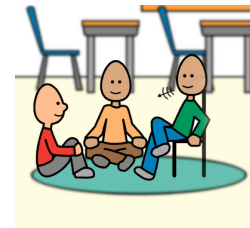
The practical issues

- The traditional approach
 - Fuel taxes and earmarked funds
- Challenges to the fuel taxes
 - Not enough revenue
 - Benefits and costs can be better aligned
- Alternatives
 - Congestion pricing
 - Mileage-based fees
 - Value capture

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Q1: Public or private?

- Turn to your neighbors and discuss:
 - How did you get here to attend the class?
 - What public inputs? Private inputs? Why?
 - Are there alternative ways?



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Q1: Public or private?

	Private	Public
Road transport	Automobiles, gasoline	Construction and maintenance of roads
Biking	Bicycle	Bicycle routes
Transit	Fare, permit	Transit systems
Air travel	Private airlines	Airport, air ways, and public air traffic control system
Water transport	Private boats	Publicly owned and maintained waterways and harbors

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Q2: Which level of government?

- Fiscal federalism
 - Revenue authorities
 - Fiscal responsibilities
 - Intergovernmental grants
- Which level of government?
 - Interstate highways
 - State highways
 - Local roads
 - Metropolitan transit system

Considerations

- Benefit area
- Devolution
- Externalities
- Economy scale
- Coordination
- ...

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Q3: What sources of revenue?

- Where from?
 - Own-source revenue (OSR)
 - Intergovernmental funds
 - (Borrowing?)
- How is it collected?
 - Taxes: property tax, sales tax, income tax...
 - Fees/charges: toll, fare, permits, congestion fees
- How is it used?
 - General revenue (general fund)
 - Special revenue (earmarked, dedicated fund)

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Pair-and-share

- Q1: public or private?
- Q2: which level of government?
- Q3: what kinds of revenue to be raised?

Any "Aha!" moment to you?

What is most confusing to you?



QUESTIONS

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Public transportation system

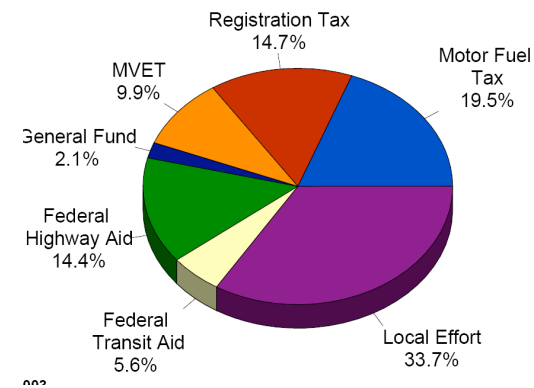
Public transportation expenditures (2001)

	Expenditure (millions)	Percentage of total
Highway	\$ 110,464	60.3%
Transit	\$ 33,590	18.3%
Air	\$ 27,404	15.0%
Water	\$ 10,469	5.7%
Rail	\$ 737	0.4%

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Transportation finance in MN

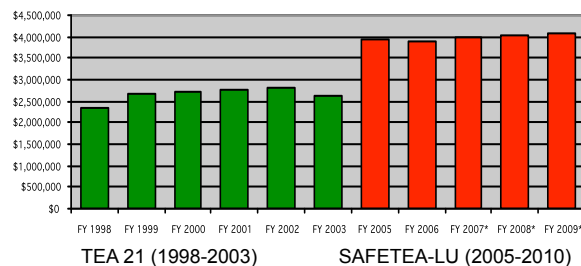
Total 2003 Revenues: \$3.4 Billion



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Transportation finance in MN

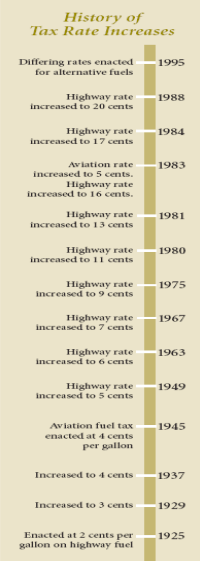
- Federal highway aid
 - Mostly from motor fuel tax
 - 18.4 (gasoline) & 24.4 (Diesel) per gallon
 - Sales tax on tires, trucks/ trailers, airline tickets, etc



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Transportation finance (MN)

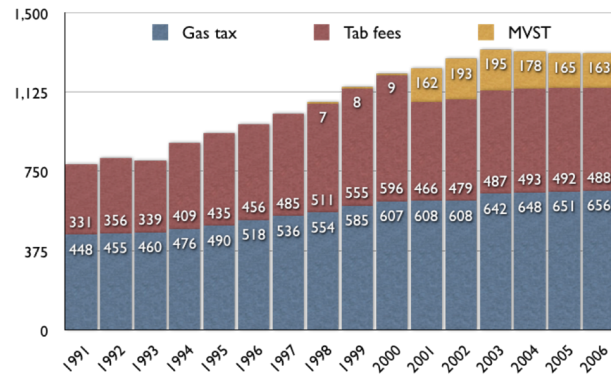
- State revenue sources
 - Motor fuel tax
 - 20 cent since 1988
 - Motor vehicle registration tax (tab fee)
 - On vehicle registration
 - Amount varied by "class" (\$35-\$99)
 - Motor Vehicle sales tax (MVST)
 - 6.4% on vehicle purchase
 - Partially dedicated for transportation
 - Provide relief for tab fee and property tax



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Transportation finance (MN)

Contributions to the HUTD

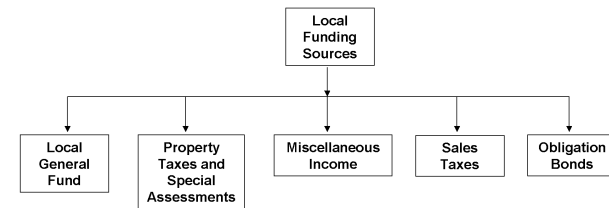


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Transportation finance (MN)

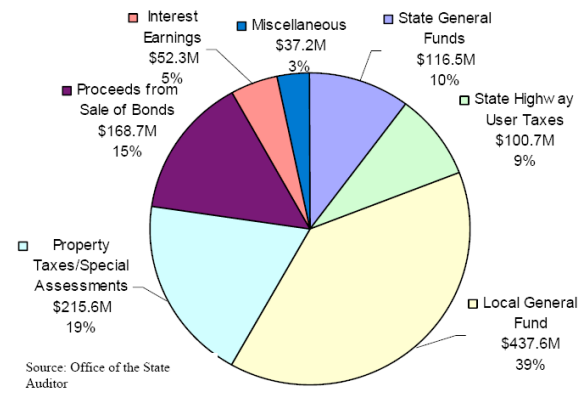
Local funding sources

- Local general fund
- Property tax and special assessment
- Local sales tax (some cities and Cook county)
- Miscellaneous income



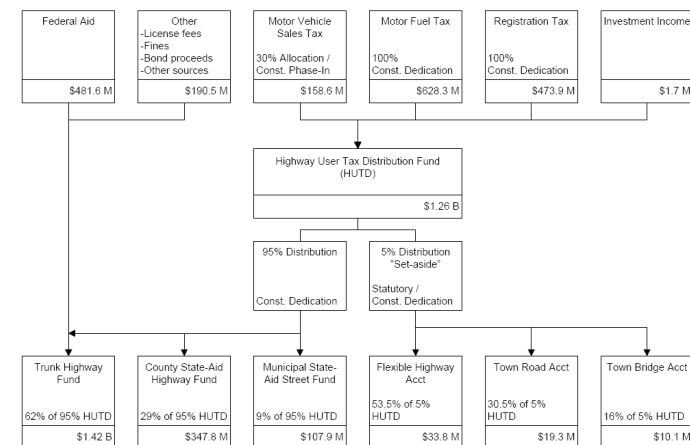
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Funding for local roads (MN)



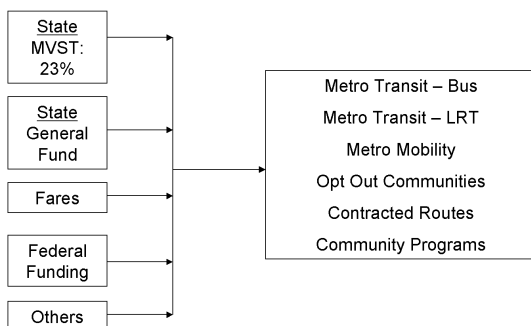
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Highway funding (MN)



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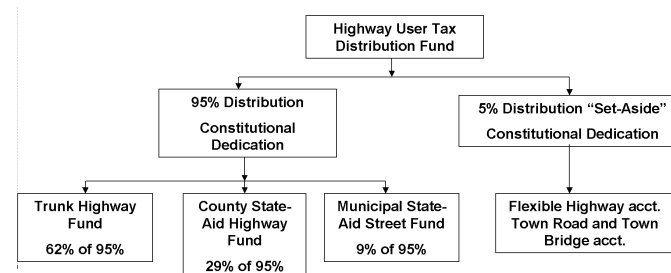
Transit funding (MN)



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Funding for local roads (MN)

State funding for local roads



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Overview: the current approach

- Fuel-based taxes
- Dedicated funds
- Intergovernmental: devolution
- Low level of tolling
- Low level of private contribution

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Challenges to the current system

- Adequacy: stagnant revenue increase
 - Fuel tax has not been raised for a long time
 - Fuel tax cannot catch up with inflation
 - Fuel price reduce gasoline consumption
 - New technologies reduce fuel consumption
- Efficiency: benefits/costs not fully aligned
 - Fuel: a poor measure of actual usage
 - Lower marginal cost leads to excess consumption
 - Other benefits become windfalls

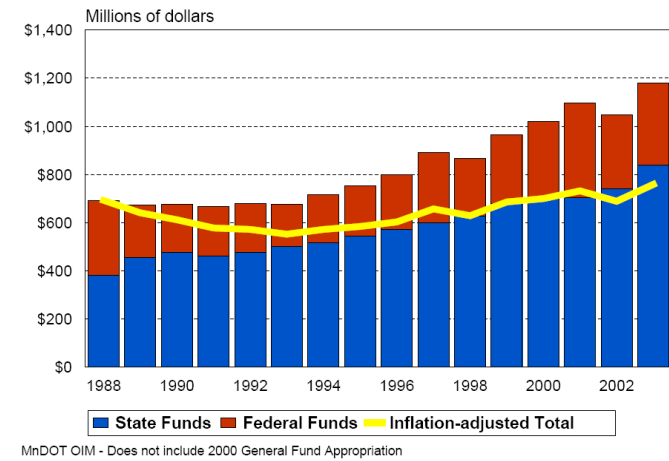
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Alternatives

- Adequacy:
 - Fuel tax not been raised → **then raise it**
 - Fuel tax and inflation → **indexation**
 - Fuel price decrease tax amount → **ad velorem tax**
 - Hybrid vehicles → **increased registration fee**
- Efficiency:
 - Fuel not a good measure → **mileage-based**
 - Lower marginal cost → **congestion pricing**
 - Private windfalls → **value capture**

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Highway funding (MN)



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Congestion pricing

- Congestion pricing: rationale
 - Internalizing negative externalities of congestion
 - Linking benefits to costs
 - Reduced (socially) inefficient traffic
- Methods of congestion charges
 - Using tollbooths to collect: depends
 - Metered usage: much easier now
 - Travel permits during congested hours

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Value capture

- Value creation of transportation
 - Direct value created
 - Enhanced value with mobility
 - Enhanced value with overall development
- Value capture: rationale
 - Matching benefits with costs
 - Improve efficiency of land use

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Value capture

- Value capture: strategies
 - Tax-based approaches
 - Special assessment, TIF, split-rate property tax
 - Fee-based approaches
 - Development impact fees
 - Exaction or other in-kind contributions
 - Market-based approaches
 - Rezoning, leasing, and selling
 - Joint-development

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Issues of transportation finance

- The current funding system
- Challenges
- Alternatives



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