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« **Todd Litman** : la pollution atmosphérique et des gaz à effet de serre, vers des pratiques novatrices pour améliorer la santé et l'avenir de notre planète »

dans le cadre des Journées annuelles de santé publique (JASP) 2007. L'ensemble des présentations est disponible sur le site Web des JASP, à l'adresse <http://www.inspq.qc.ca/archives/>.



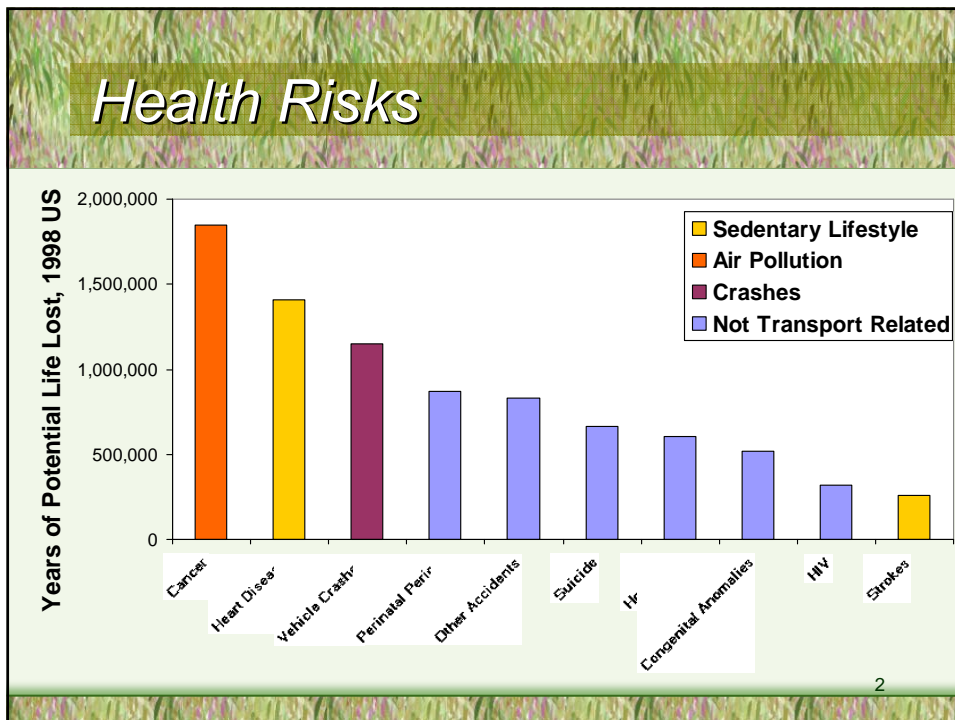
Win-Win Emission Reductions

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*Reducing air pollution and greenhouse gas emissions through effective transportation policies*

**Todd Litman**  
Victoria Transport Policy Institute

Presented  
**Air Pollution Reduction Meeting**  
Montreal  
23 November 2007



## Vehicle Pollutants

- Carbon monoxide (CO)
- Particulates (PM10 & PM2.5)
- Nitrogen oxides (NOx)
- Volatile organic hydrocarbons (VOCs)
- Toxics (e.g. benzene)
- Carbon dioxide (CO2)
- CFCs and HCFCs
- Noise
- Water pollution

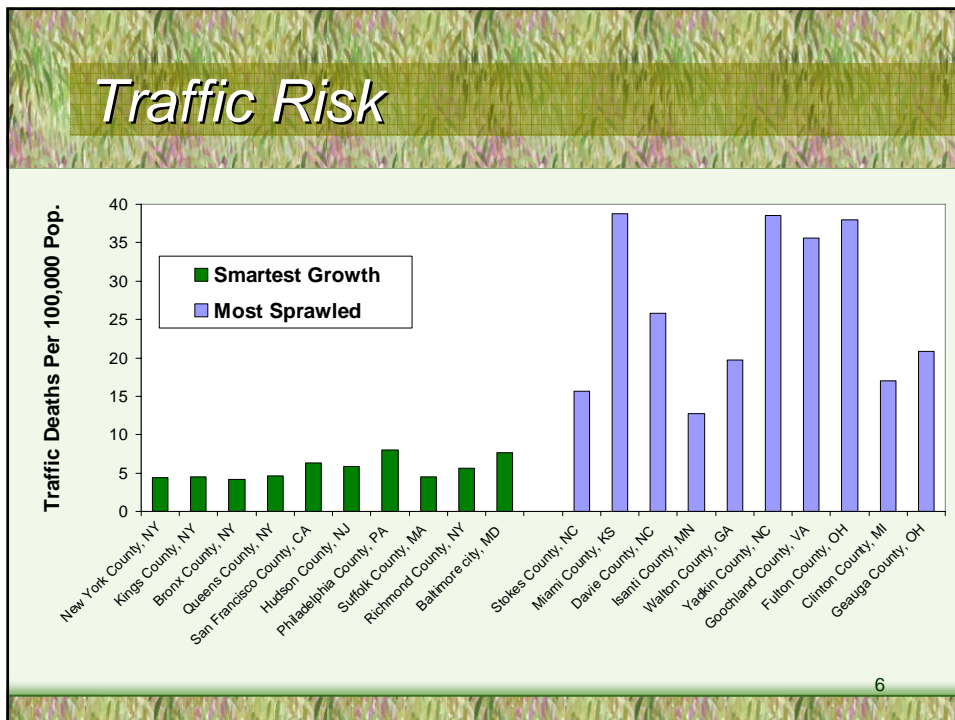
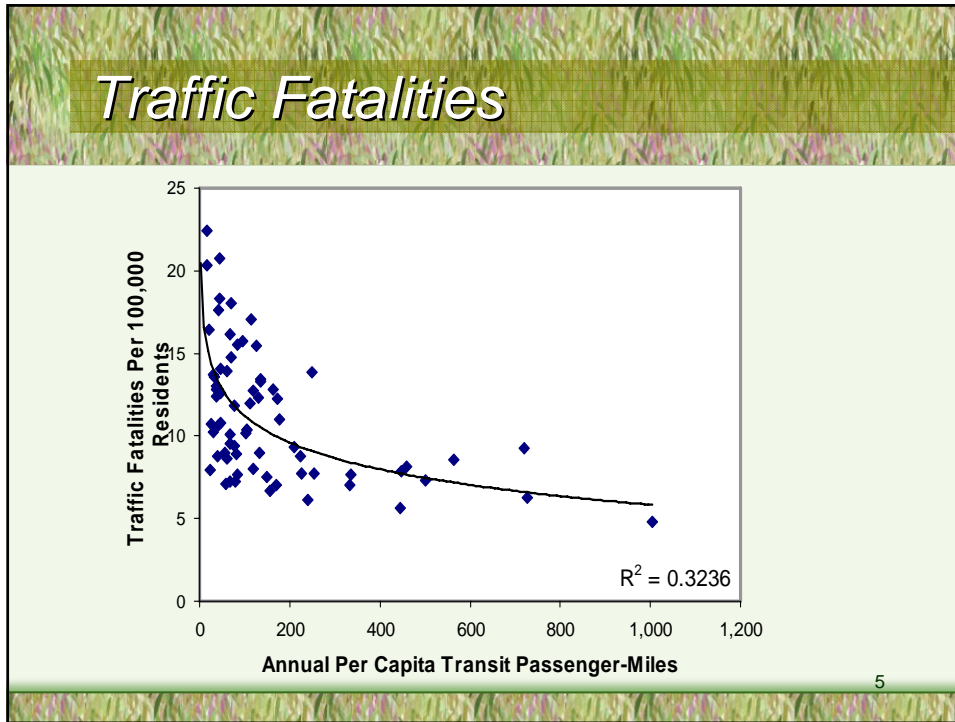


## 1996 Olympic Games

- Peak daily ozone concentrations decreased 28%.
- Peak weekday morning traffic counts dropped 23%.
- Asthma acute care events decreased 42%, and nonasthma acute care also decreased.

Friedman, et al. (2001), "Impact of Changes in Transportation and Commuting Behaviors During the 1996 Summer Olympic Games in Atlanta on Air Quality and Childhood Asthma" JAMA;285:897-905.



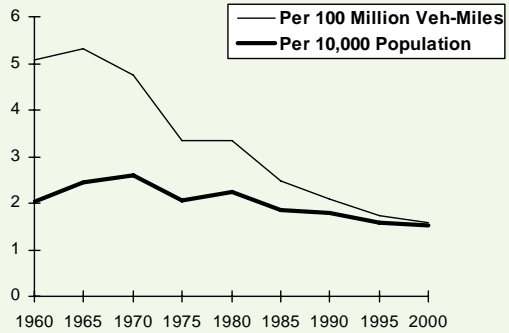


## How to Measure

How transport activity is measured can affect how problems are perceived and the solutions selected.

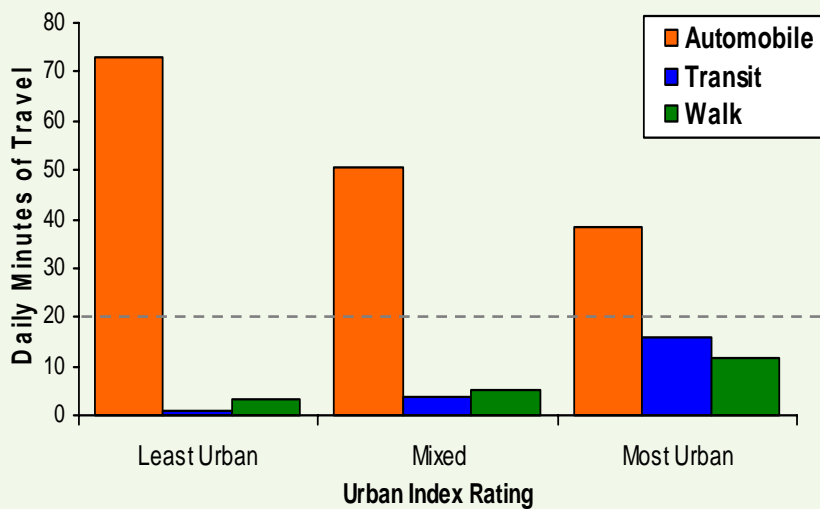
- Do we measure by mileage or per capita?
- Do we measure speed or travel time?
- Who is counted?

US Traffic Fatalities



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## Land Use Impacts On Travel



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## *What Gets People Moving?*

Walking is a natural and essential activity. If you ask sedentary people what physical activity they will most likely to stick with, walking usually ranks first.



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## *Equity*



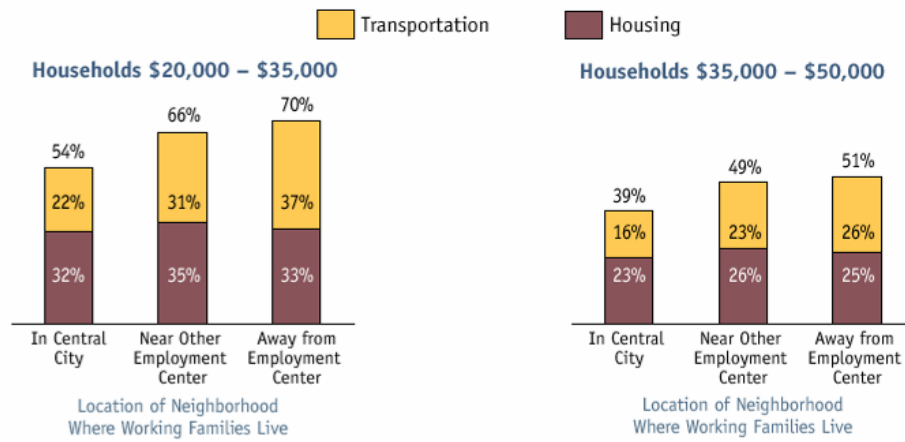
A more diverse transport system helps achieve equity objectives:

- Financial savings to lower-income people.
- Increased opportunity to physically, socially and economically disadvantaged people.

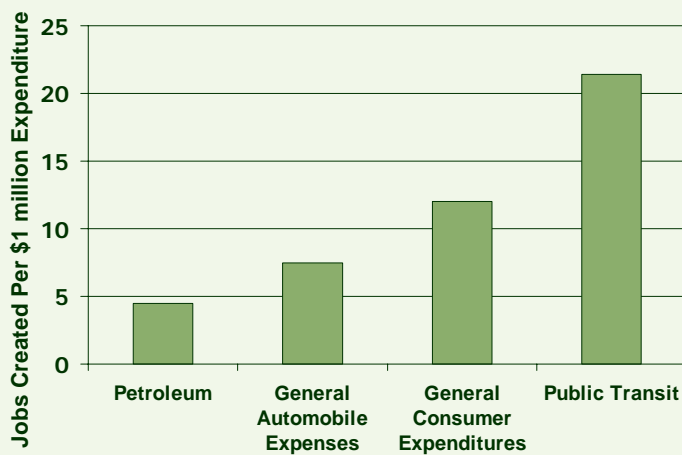
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## "A Heavy Load" Report

Share of Income Spent on Housing and Transportation



## Jobs Created



1,000,000 households in the region saving \$1,000 annually on vehicle expenses shifted to general consumer goods creates 6,000 additional regional jobs.

## Comparing Benefits

| Planning Objectives     | Mode Shifts | Smart Growth              | Efficient & Alt. Fuel Vehicles | Widen Roads |
|-------------------------|-------------|---------------------------|--------------------------------|-------------|
| Congestion reduction    | ✓           |                           | ✗                              | ✓           |
| Roadway cost savings    | ✓           |                           | ✗                              | ✗           |
| Parking cost savings    | ✓           | ✓                         | ✗                              | ✗           |
| Consumer cost savings   | ✓           |                           |                                |             |
| Better mobility options | ✓           | ✓                         |                                |             |
| Improved traffic safety | ✓           | ✓                         | ✗                              |             |
| Reduced pollution       | ✓           | ✓                         | ✓                              | ✗           |
| Energy conservation     | ✓           | ✓                         | ✓                              | ✗           |
| Land use objectives     | ✓           | ✓                         | ✗                              | ✗           |
| Public fitness & health | ✓           | ✓                         |                                |             |
| ✓ = Supports Objective  |             | ✗ = Contradicts Objective |                                | 13          |

## Current Transport Planning

Current planning tends to be reductionist: each problem is assigned to a single agency with narrowly defined responsibilities. For example:

- Transport agencies deal with congestion.
- Environmental agencies deal with pollution.
- Welfare agencies deal with the needs of disadvantaged people.
- Public health agencies are concerned with accidents and community fitness.
- Etc.

## *Reductionist Decision-Making*

Reductionist planning can result in public agencies implementing solutions to one problem that exacerbate other problems facing society, and tends to undervalue strategies that provide multiple but modest benefits.



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## *Better Solutions*

Put another way, more comprehensive planning helps identify “Win-Win” strategies: solutions to one problem that also help solve other problems facing society.

**Ask:**

*“Which congestion-reduction strategy also reduces air pollution emissions and parking costs, saves consumers money, and improves mobility options for non-drivers.”*

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## *Win-Win Strategies*

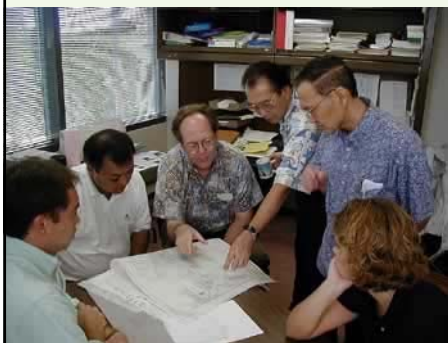
Market reforms justified on economic principles that help provide various economic, social and environmental benefits.

- Improved travel options.
- Incentives to use efficient modes.
- Accessible land use.
- Policy and market reforms.



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## *Employee Trip Reduction Programs*



Employers encourage employees to walk, bicycle, carpool and ride transit rather than drive to work. For example, offer a tax incentive for businesses that have effective commute trip reduction programs.

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## *Walking and Cycling Improvements*



- More investment in sidewalks, crosswalks, paths and bike lanes.
- More traffic calming.
- Bicycle parking and changing facilities.
- Programs to encourage safe walking and cycling.

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## *School & Campus Transport Management*



- Programs that encourage parents and students to use alternative modes to travel to schools, colleges and universities.
- Support alternative modes (e.g., bikeways, crosswalks and traffic calming around schools).

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## *Ridesharing: Puget Sound Example*

The Puget Sound region has the most successful vanpool program in North America. About 7% of commute trips over 20 miles in length are by vanpooling. A marketing study suggests that this could double or triple. More than a third of suburban automobile commuters would consider vanpooling, if it had:

- More flexibility.
- High Occupant Vehicle priority lanes and parking.
- More financial incentives.
- Integration with public transit.
- Employer support.



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## *Attracting Discretionary Riders*

- Quality service (convenient, fast, comfortable).
- Low fares.
- Support (walkable communities, park & ride facilities, commute trip reduction programs).
- Convenient information.
- Parking pricing or "cash out".
- Integrated with special events.
- Positive Image.



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## *Distance-Based Pricing*

Motorists pay insurance, registration and lease fees by the vehicle-mile, so a \$600 annual fee becomes 3¢/kilometre and a \$2,000 annual fee becomes 10¢/kilometre. This gives motorists a significant financial incentive to drive less, but is not a new fee at all, simply a different way to pay existing fees.



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## *Parking Management*

### **More efficient parking:**

- Reduced and more flexible parking requirements.
- Shared parking.
- Charge users directly for parking, rather than indirectly through taxes and rents.
- *Parking Cash Out* (Employees who currently receive free parking are able to choose a cash benefit or transit subsidy instead.)



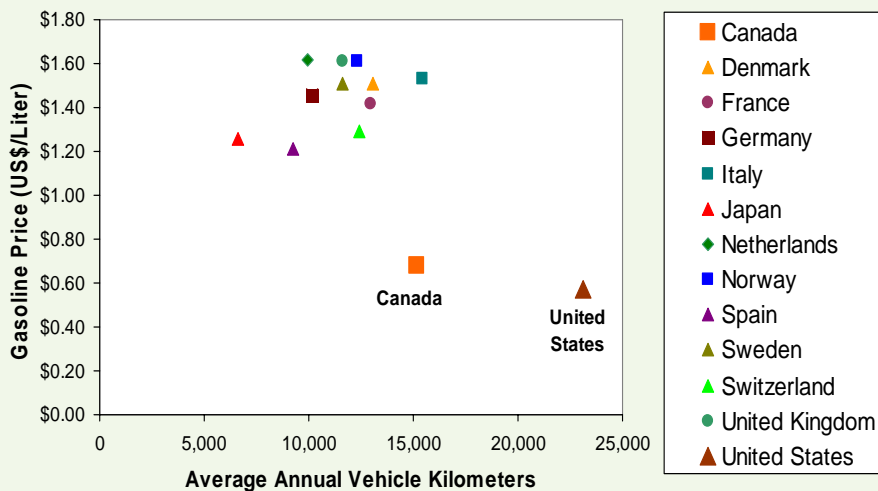
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## Road Pricing

- Charge motorists directly for using specific roads, based on use.
- Charge tolls, with higher rates during congested periods and lower rates during off-peak.
- Use electronic pricing systems that eliminate the need for tollbooths.



## Fuel Taxes



## Reform Planning Practices

- *Least-cost planning:* equal funding for mobility management solutions.
- *Multi-modal planning:* create a diverse and integrated transportation system.



## Motorists Benefit Too

Win-Win solutions create more balanced transport systems. It is no more “anti-car” than a healthy diet is anti-food. Motorists have every reason to support these reforms:

- Reduced traffic and parking congestion.
- Improved safety.
- Improved travel options.
- Reduced chauffeuring burden.
- Often the quickest and most cost effective way to improve driving conditions.





Victoria Transport Policy Institute

[www.vtppi.org](http://www.vtppi.org)

**“Win-Win Emission Reduction Strategies”**

**“If Health Matters: Integrating Public Health Objectives into Transportation Decision-Making ”**

**“Safe Travels: Evaluating Mobility Management Traffic Safety Benefits”**

**“Online TDM Encyclopedia”**

**Many Others...**

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