Win-Win Transportation Solutions
Planning To Help The Economy, Benefit The Environment and Improve Our Communities

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Sustainability emphasizes the integrated nature of human activities and therefore the need to coordinate planning among different sectors, jurisdictions and groups.
Would we have a sustainable transportation system if all automobiles were electric powered?
Electric Power Does Not:

- Reduce traffic congestion
- Reduce accidents
- Reduce roadway costs
- Reduce parking facility costs
- Reduce vehicle purchase costs
- Improve mobility for non-drivers
- Improve social equity
- Improve public fitness and health
- Reduce sprawl
- Eliminate hazardous waste
- Protect threatened habitat
“Win-Win” strategies: solutions to one problem that also help solve other problems facing society.

Ask:

- “Which congestion-reduction strategy also reduces parking costs, saves consumers money, and improves mobility options for non-drivers.”
- “Which emission reduction strategies also reduce congestion and accidents, and improve public fitness and health.”
# Comparing Benefits

<table>
<thead>
<tr>
<th>Planning Objectives</th>
<th>Expand Roadways</th>
<th>Efficient and Alt. Fuel Vehicles</th>
<th>Improve Alt. Modes and Smart Growth</th>
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<td><strong>Vehicle Travel Impacts</strong></td>
<td><strong>Increased VMT</strong></td>
<td><strong>Increased VMT</strong></td>
<td><strong>Reduced VMT</strong></td>
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<td>Reduce traffic congestion</td>
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<tr>
<td>Improved travel experience</td>
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<td>Roadway cost savings</td>
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<td>Parking cost savings</td>
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<td>Consumer cost savings</td>
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<td>✓</td>
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<tr>
<td>Improve mobility options</td>
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<td>Improve traffic safety</td>
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<td>Energy conservation</td>
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<td>Pollution reduction</td>
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<td>Land use objectives</td>
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<tr>
<td>Public fitness &amp; health</td>
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</table>
Comparing Costs

Dollars Per Vehicle Mile

- Vehicle Ownership
- Crash Damages
- Vehicle Operation
- Travel Time
- Parking
- Road Facilities
- Land Use Impacts
- Congestion
- Resources
- Air Pollution
- Land Value
- Greenhouse Gas
- Water
- Barrier Effect
- Traffic Services
- Noise
- Transport Diversity
- Waste
Trends Supporting Multi-Modalism

- Motor vehicle saturation.
- Aging population.
- Rising fuel prices.
- Increased urbanization.
- Increased traffic and parking congestion.
- Rising roadway construction costs and declining economic return from increased roadway capacity.
- Environmental concerns.
- Health Concerns
Compared with a typical detached single-family house in an auto-dependent suburb, an attached green (energy efficient) home in an urban location reduces energy consumption 64%, and a multifamily home reduces energy consumption 75%.

JRC (2011), *Location Efficiency and Housing Type—Boiling it Down to BTUs*, Jonathan Rose Companies for the U.S. Environmental Protection Agency (www.epa.gov); at www.epa.gov/smartgrowth/pdf/location_efficiency_BTU.pdf.
Compared with an average efficiency office building in an auto-dependent suburban location, a green building in a central location reduces energy consumption 36% in a typical North American city such as Seattle, and as much as 55% in a city with excellent public transit service such as New York. (JRC 2011)
Energy Conservation (JRC 2011)

Housing location and type have greater impacts on total household energy use than vehicle or home energy efficiency.

(JRC 2011)
Traffic Fatalities

- **Automobile Dependent**
- **Multi-Modal**
Smart Growth Safety Impacts

Annual Traffic Deaths Per 100,000 Population

- **Most Sprawled**
- **Smartest Growth**

Data for various counties in different states is displayed, comparing the annual traffic deaths per 100,000 population between the most sprawled and smartest growth areas.
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.
Healthy Communities

**Walkability**
- Improves public fitness and health
- Improves mobility options for non-drivers
- Transport cost savings and affordability
- Increases community livability
Households in multi-modal communities can save thousands of dollars annually in transportation costs.
Community Economic Impacts

- Transport savings and efficiencies (congestion, parking, taxes) increases productivity and competitiveness.
- Reducing vehicle expenditures and expanding transit service increases regional employment and business activity.
- Agglomeration efficiencies.
- Supports strategic land use development objectives.
- Increases affordability, allowing businesses to attract employees in areas with high living costs.
- Changes in household expenditures on vehicles and fuel.
Productivity tends to decline with increased mobility. (Each dot is a U.S. urban region.)

Bureau of Economic Analysis and FHWA data

\[ R^2 = 0.2923 \]
A more diverse transportation systems helps achieve equity objectives:

- A fair share of public resources for non-drivers.
- Financial savings to lower-income people.
- Increased opportunity to people who are physically, socially or economically disadvantaged.
Hope for the best but prepare for the worst:

- *Physical disability* – diverse and integrated transport with universal design (accommodates people with disabilities and other special needs).
- *Poverty and inflation* – affordable housing in accessible, multi-modal locations.
- *Higher energy prices* – improve efficient modes (walking, cycling and public transport).
- *Isolation and loneliness* – community cohesion (opportunities for neighbors to interact in positive ways).
Planning and Market Distortions

- Many current planning practices tend to favor automobile travel over alternative modes.
- Underpricing (user fees do not reflect the full costs of providing roads and parking facilities, traffic accidents, pollution impacts, etc.)
- Planning is often uncoordinated, resulting contradictory decisions.
Market reforms justified on economic principles that help provide various economic, social and environmental benefits.

- Improved travel options.
- Incentives to use travel alternatives.
- Accessible land use.
- Policy and market reforms.
An efficient transportation system is diverse and has suitable incentives for users to choose the best mode for each trip, considering all impacts (benefits and costs). Current planning does a poor job of accounting for many of benefits of this diversity.

Institute for Transportation and Development Policy (www.itdp.org)

EMBARQ (www.embarq.wri.org)
THERE IS TOO MUCH TRAFFIC FOR BILLY TO WALK TO SCHOOL; SO WE DRIVE HIM.

Traffic Inducing Traffic
Sustainable Transport Hierarchy

1. Walking
2. Cycling
3. Public Transit
4. Service & Freight
5. Taxi
6. HOV
7. Private Automobile
A Complete Street is designed for all activities, abilities, and travel modes. Complete Streets provide safe and comfortable access for pedestrians, cyclists, transit users and motorists, and a livable environment for visitors, customers, employees and residents in the area.
## Mobility Management

<table>
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<th>Improved Transport Options</th>
<th>Mode Shift Incentives</th>
<th>Land Use Management</th>
<th>Policies and Programs</th>
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<tr>
<td>Alternative Work Schedules</td>
<td>Bicycle and Pedestrian Encouragement</td>
<td>Car-Free Districts</td>
<td>Access Management</td>
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<td>Bicycle Improvements</td>
<td>Congestion Pricing</td>
<td>Compact Land Use</td>
<td>School and Campus Transport Management</td>
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<td>Bike/Transit Integration</td>
<td>Distance-Based Pricing</td>
<td>Location Efficient Development</td>
<td>Commute Trip Reduction</td>
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<td>Carsharing</td>
<td>Commuter Financial Incentives</td>
<td>New Urbanism</td>
<td>Freight Transport Management</td>
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<tr>
<td>Guaranteed Ride Home</td>
<td>Fuel Tax Increases</td>
<td>Smart Growth</td>
<td>Marketing Programs</td>
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<tr>
<td>Security Improvements</td>
<td>High Occupant Vehicle (HOV) Priority</td>
<td>Transit Oriented Development (TOD)</td>
<td>Special Event Management</td>
</tr>
<tr>
<td>Park &amp; Ride</td>
<td>Pay-As-You-Drive Insurance</td>
<td>Street Reclaiming</td>
<td>Tourist Transport Management</td>
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<tr>
<td>Pedestrian Improvements</td>
<td>Parking Pricing</td>
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<td>Transport Market Reforms</td>
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<tr>
<td>Ridesharing</td>
<td>Road Pricing</td>
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<tr>
<td>Shuttle Services</td>
<td>Vehicle Pricing</td>
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<tr>
<td>Improved Taxi Service</td>
<td>Vehicle Use Restrictions</td>
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<td>Telework</td>
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<tr>
<td>Traffic Calming</td>
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<td>Transit Improvements</td>
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How do we convince people who drive luxury cars to shift mode?
A portion of the population is *transit dependent* and will use transit services even if poor quality.

As public transit service quality improves it will attract an increasing portion of *discretionary travelers* (people who can travel by automobile).
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.
Employer Trip Reduction Programs

Employers encourage employees to walk, bicycle, carpool, ride transit and telework rather than drive to work.
Walking and Cycling Improvements

- More investment in sidewalks, crosswalks, paths and bike lanes.
- Improved roadway shoulders.
- More traffic calming.
- Bicycle parking and changing facilities.
- Encouragement, education and enforcement programs.
Smart Growth Development

- Compact (density)
- Mixed development (proximity)
- Urban villages
- Connectivity
- Walkability/bikability
- Public transport
- Public realm
- Parking management
**Smart Growth Benefits**

More compact, accessible land use development provides numerous economic, social and environmental savings and benefits.

<table>
<thead>
<tr>
<th>Economic</th>
<th>Social</th>
<th>Environmental</th>
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</thead>
<tbody>
<tr>
<td>Development cost savings</td>
<td>Improved transport options, particularly for non-drivers.</td>
<td>Greenspace &amp; habitat preservation</td>
</tr>
<tr>
<td>Public service cost savings</td>
<td>Improved housing options.</td>
<td>Pollution emission reductions</td>
</tr>
<tr>
<td>Transportation cost savings</td>
<td>Community cohesion.</td>
<td>Energy conservation</td>
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<tr>
<td>Agglomeration efficiencies</td>
<td>Cultural resource (historic sites, older neighborhoods, etc.) preservation</td>
<td>Reduced “heat island” effect</td>
</tr>
<tr>
<td>Supports environmentally sensitive industries (tourism, farming, etc.)</td>
<td>Increased physical fitness and health</td>
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More compact, accessible land use development provides numerous economic, social and environmental savings and benefits.
Affordable-Accessible Housing

- Locate affordable housing in accessible areas (near services and jobs, walkable, public transit).
- Diverse, affordable housing options (secondary suites, rooms over shops, loft apartments).
- Reduced parking requirements.
- Reduces property taxes and utility fees for clustered and infill housing.
Parking Management

- More flexible parking requirements.
- Share parking spaces rather than having assigned spaces.
- 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.)
"Raise My Prices, Please!"

Of course, motorists do not like to pay more for roads and parking, but unpriced facilities are not really free, consumers ultimately pay through higher taxes and retail prices. The choice is actually between paying directly or indirectly.
Paying directly is more equitable and efficient, since users pay in proportion to the costs they impose. “Free” facilities force everybody to pay, including non-drivers and motorists who reduce their vehicle use. Paying directly gives individual consumers the savings that result when they drive less, providing a new opportunity to save money.

Motorist Reduces Mileage
↓
Reduced Congestion, Road & Parking Facility Costs, Reduced Crashes, etc.
↓
Economic Savings
Distance-Based Pricing

Motorists pay by the vehicle-kilometre, so a $600 annual premium becomes 3¢/km and a $2,000 annual premium becomes 10¢/km. 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.
Policy Reform Examples

• Local, regional and provincial transport policy reforms to support walking, cycling and public transport.
• Complete streets policies, with bus lanes on most major arterials, and more investments in active transport.
• Local, regional and provincial planning reforms to support smart growth.
• Apply road tolls on existing urban roads, and parking pricing to reduce congestion and generate revenue.
• Support commute trip reduction programs, particularly in large employment areas.
• Distance-based insurance and registration fees.
In 2006 the BC Ministry of Transportation investigated various options for reducing traffic problems on the Malahat Highway. Their study evaluated options based only on improved vehicle traffic flow, it ignored other planning objectives including consumer savings, parking cost savings and improved mobility for non-drivers. As a result, it undervalued improving basic bus service as a solution.
Regional Transit Future Plan
New Planning Resources

Employee Transportation Coordinator

Creating Walkable + Bikeable Communities
A user guide to developing pedestrian and bicycle master plans.

Street Design Manual
New York City Department of Transportation

Parking Management Best Practices
Steps to a Walkable Community
A Guide for Citizens, Planners, and Engineers

Complete Streets by Design
Toronto streets redesigned for all ages and abilities
Motorists Benefit Too

More balanced transport policy 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.
Win-Win Partnerships

Many other interest groups have reasons to support policies that result in more efficient and multi-modal transport planning:

- Economic development and businesses
- Public fitness and health professionals
- Transportation professionals
- Seniors and people with disabilities
- Youths and students
- Affordable housing and low-income advocates
- Environmentalists
- Local governments concerned about infrastructure costs
“Rethinking Malahat Solutions: Or, Why Spend A Billion Dollars If A Five-Million Dollar Solution Is Better Overall?”

“Raise My Taxes, Please! Evaluating Household Savings From High Quality Public Transit Service”

“Evaluating Complete Streets Benefits and Costs”

“Win-Win Transportation Emission Reductions”

“Transportation Cost and Benefit Analysis”

“Online TDM Encyclopedia”

and more...

www.vtpi.org