



Optimisation of the Transport System

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TRANSPORT NETWORK OPTIMISATION

Managing Transport Challenges when Oil Prices Rise

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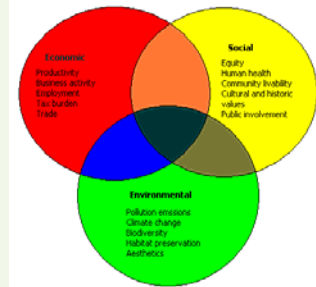
Create Paradise



Paradise is not a distant place, it is something we can create in our own communities.

Sustainability Planning

Sustainability emphasizes the integrated nature of human activities and therefore the need to coordinate planning among different sectors, jurisdictions and groups.



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Sustainable Transportation?

Would we have a sustainable transportation system if all automobiles were solar powered?



Past Visions of Future Transport



1949 ConvairCAR Flying Car



1958 Firebird



Segways



Supersonic Concorde

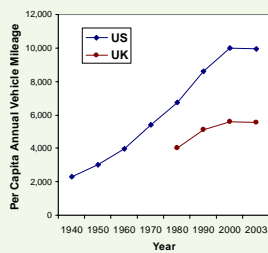
2001 A Space Odyssey



Wheeled Luggage



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

Official Oil Price Projections



Energy Information Administration, 2007 International Energy Outlook

What is "The" Transportation Problem?

- Traffic congestion?
- Road construction costs?
- Parking congestion or costs?
- Excessive costs to consumers?
- Traffic crashes?
- Lack of mobility for non-drivers?
- Poor freight services?
- Environmental impacts?
- Inadequate physical activity?
- Others?



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 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.



Win-Win Solutions

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

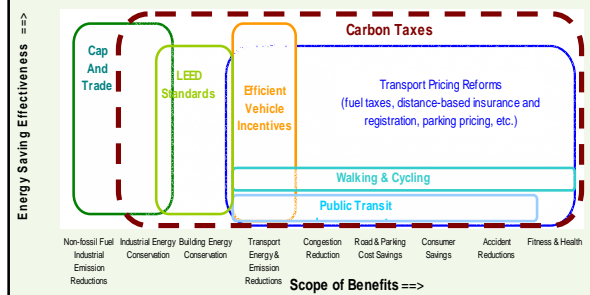
Ask:

"Which congestion-reduction strategy also reduces parking costs, saves consumers money, and improves mobility options for non-drivers."

Comparing Benefits

Planning Objectives	Expand Roadways	Efficient and Alt. Fuel Vehicles	Mode Shifts & Smart Growth
Reduce traffic congestion	✓		✓
Roadway cost savings			✓
Parking cost savings			✓
Consumer cost savings			✓
Improve mobility options			✓
Improve traffic safety			✓
Energy conservation		✓	✓
Pollution reduction		✓	✓
Land use objectives			✓
Public fitness & health			✓

Emission Reduction Strategies



Win-Win Transportation Solutions

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

- Improved transport options.
- Incentives to use efficient transport options.
- More accessible land use.



Mode Shifts



How do we convince people who drive luxury cars to shift mode?

Attracting Discretionary Riders

- Quality service (convenient, fast, comfortable).
- Comfortable and safe stops and stations.
- Affordable fares.
- Support (commute trip reduction programs, park & ride facilities, public bikes).
- Convenient information.
- Financial incentives (parking pricing and "cash out", distance-based vehicle insurance, road pricing).
- Integrated with special events.
- Positive Image.



Transit Stations



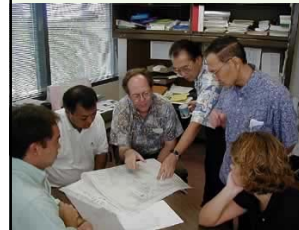
Ridesharing

Market studies suggest that a third of suburban automobile commuters would consider vanpooling, if it had:

- Flexibility.
- High Occupant Vehicle priority lanes and parking.
- Financial incentives.
- Integration with public transit.
- Employer support.



Employee 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.



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.

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 current receive free parking are able to choose a cash benefit or transit subsidy instead.)

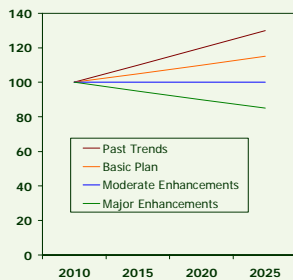


Location-Efficient Development

- 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.



Choosing Transportation Futures



- Walking/cycling programs
- Transit service
- Transit-oriented development
- Parking management & pricing
- Commute trip reduction
- School transport management
- Smart growth policies
- PAYD insurance
- Road pricing

Motorists Benefit Too

Mobility Management strives for balance. It is no more "anti-car" than a healthy diet is anti-food. Motorists have every reason to support it:

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



"Appropriate Response To Rising Fuel Prices"

"Smart Emission Reduction Strategies"

"Win-Win Transportation Solutions"

"Online TDM Encyclopedia"

and more...

www.vtppi.org