Transportation Equity and Planning

A New Paradigm

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Creating Paradise

Paradise is not a distant destination - it is something we create in our own communities.

How to Help Create Paradise

1. Determine what people want (“demands” or “problem statements”).
2. Consider diverse and integrated solutions.
3. Apply comprehensive evaluation of impacts (benefits and costs).
4. Tell persuasive stories, backed with solid analysis.

Greetings from
Victoria, BC
THE EMPRESS

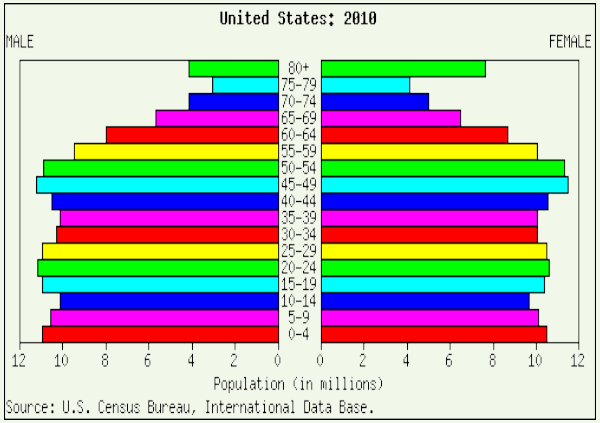
Pandora Ave.
ONE WAY

INN
Gladstone

FERNWOOD
INN
FERNWOOD INN
FERNWOOD INN
Fernwood

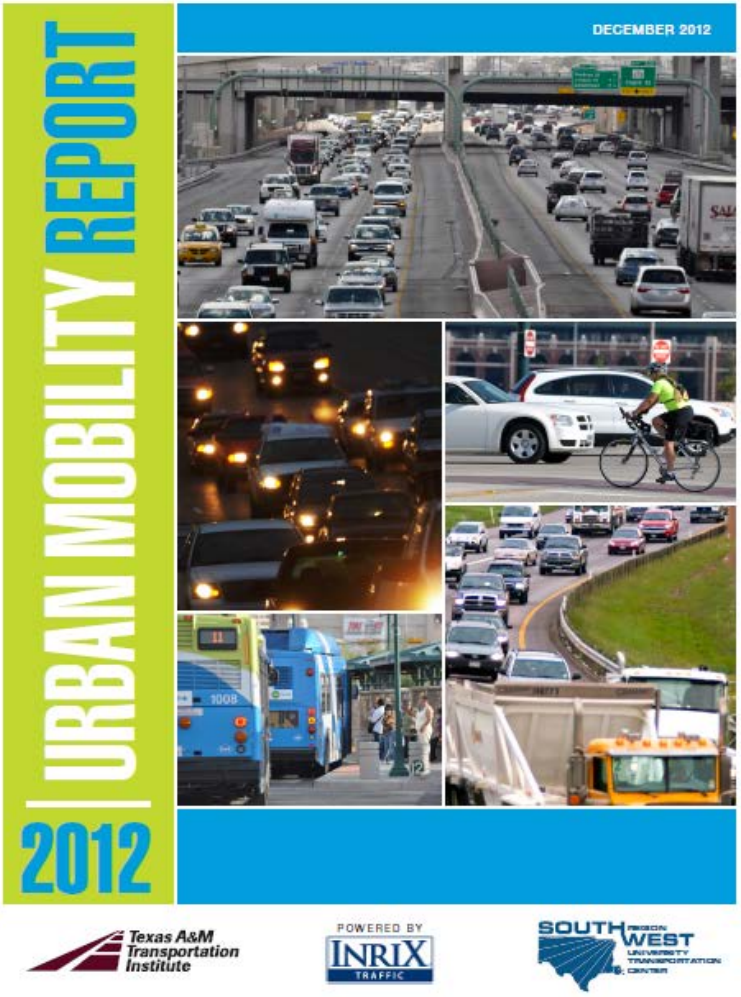
Who Benefits?

- Law-abiding drinkers.
- Youths 8-18 (about 20% of total population).
- Seniors over 70 who do not or should not drive (about 10% of total population and increasing).
- Adults who cannot drive due to disability (3-5%).
- Households with low incomes that want to minimize automobile expenses.
- People who walk or bike for enjoyment and health.
- Pets who walk or bike for enjoyment and health.
- Residents who don’t want vehicle pollution.
- Motorists who want to avoid chauffeuring non-drivers.
- Motorists who want convenient parking.



Current Evaluation Favors Automobiles

Current planning tends to evaluate transportation system performance based largely on automobile travel conditions such as traffic speed, vehicle operating costs and crash rates. Alternative modes and smart growth are only valued to the degree that they improve driving conditions. This exaggerates roadway expansion benefits and undervalues walking, cycling and public transit improvements.



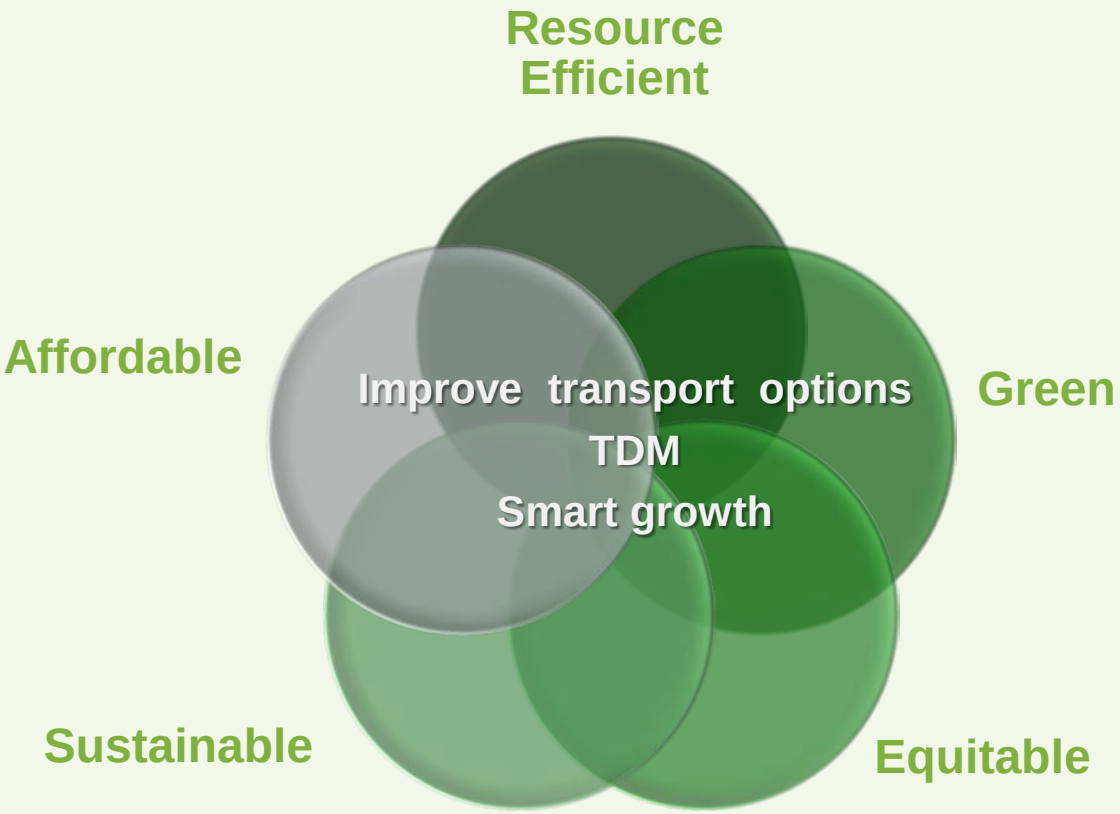
Transport Diversity Benefits Categories

Improved Transport Options	Increased Use of Alt. Modes	Reduced Automobile Travel	More Compact Development
• Improved user convenience and comfort • Improved travel options, particularly for non-drivers • Improved local property values	• User cost savings • User enjoyment • Economic development benefits from increased access to education and employment • Increased public fitness and health	• Reduced traffic and parking congestion • Road and parking cost savings • Consumer cost savings • Reduced crash risk to others • Air and noise pollution reductions • Energy conservation • Economic development benefits	• More livable communities • Reduced land consumption, heritage and openspace preservation, and public service cost savings • Improved accessibility, particularly for non-drivers • Reduced vehicle ownership

What's In a Name?

Improving transport options (walking, cycling and public transit), transportation demand management (TDM) and smart growth development policies can increase transport system efficiency and so can be justified for a variety of reasons.

Which perspective or term is best to use?



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.

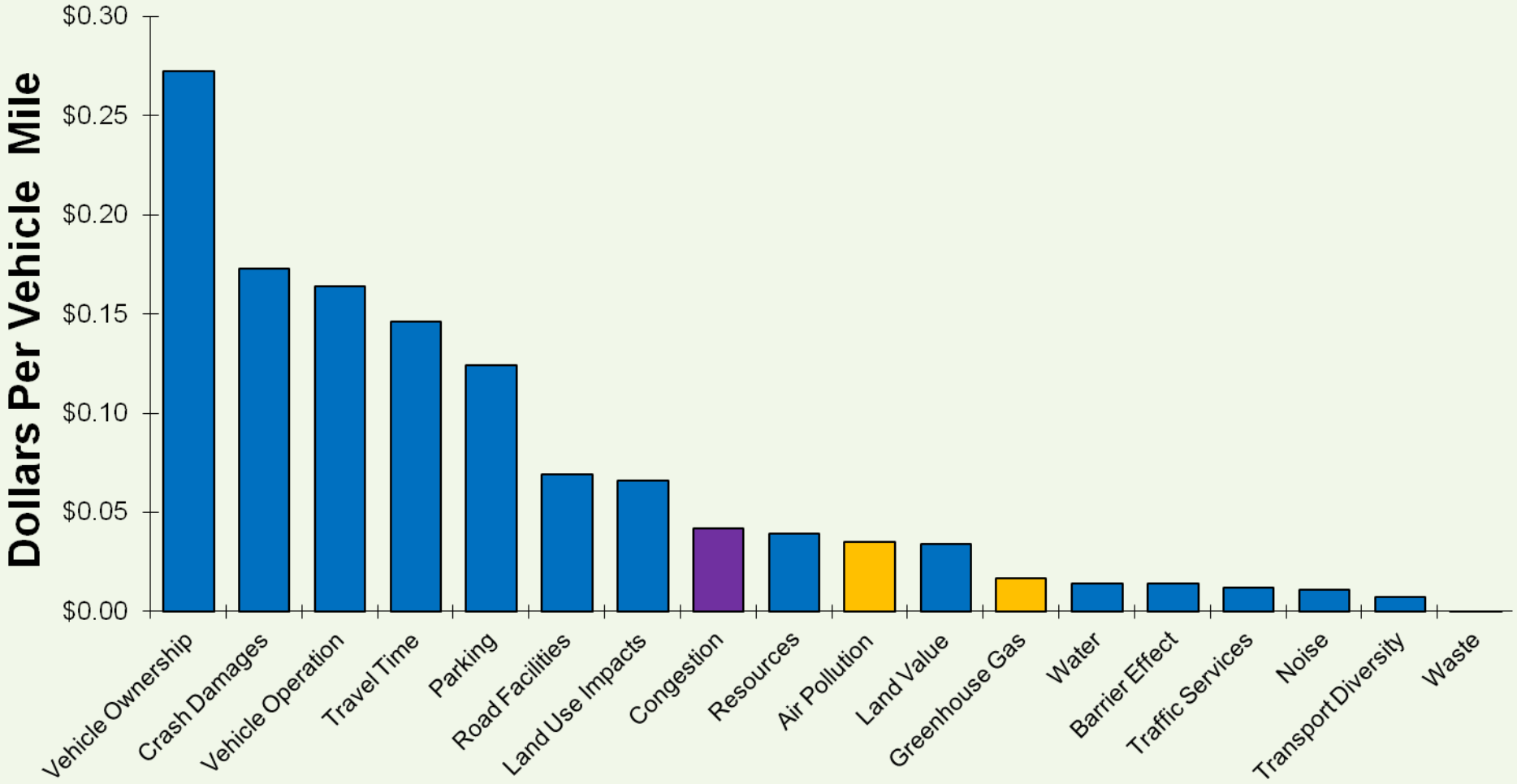
Ask:

"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	Improve Alt. Modes and Smart Growth
Vehicle Travel Impacts	*Increased VMT*	*Increased VMT*	*Reduced VMT*
Reduce traffic congestion	✓		✓
Improved travel experience	✓		✓
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			✓

Comparing Costs

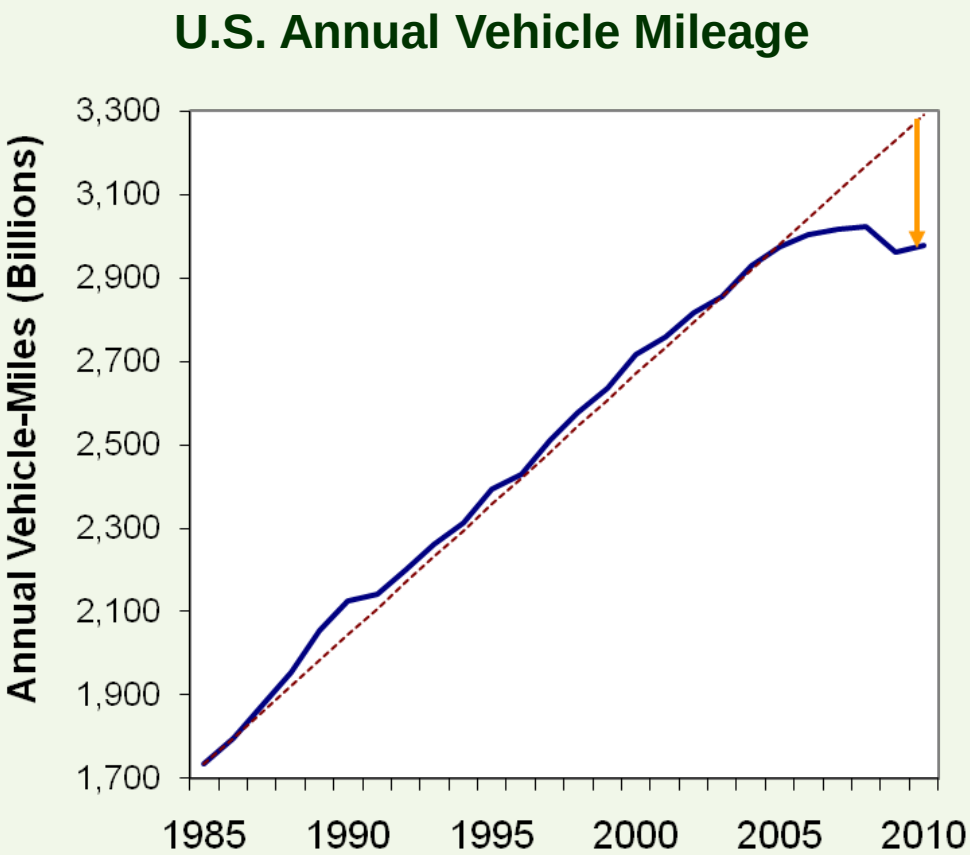


Diversity Responds to Demands

A more diverse transport system responds to demands:

- In any community 20-40% of residents cannot drive or have limited access to a vehicle (young, old, poor, tourists, etc.).
- Financial savings.
- Health and enjoyment.
- Some commuters prefer public transit because they can rest or work while traveling.

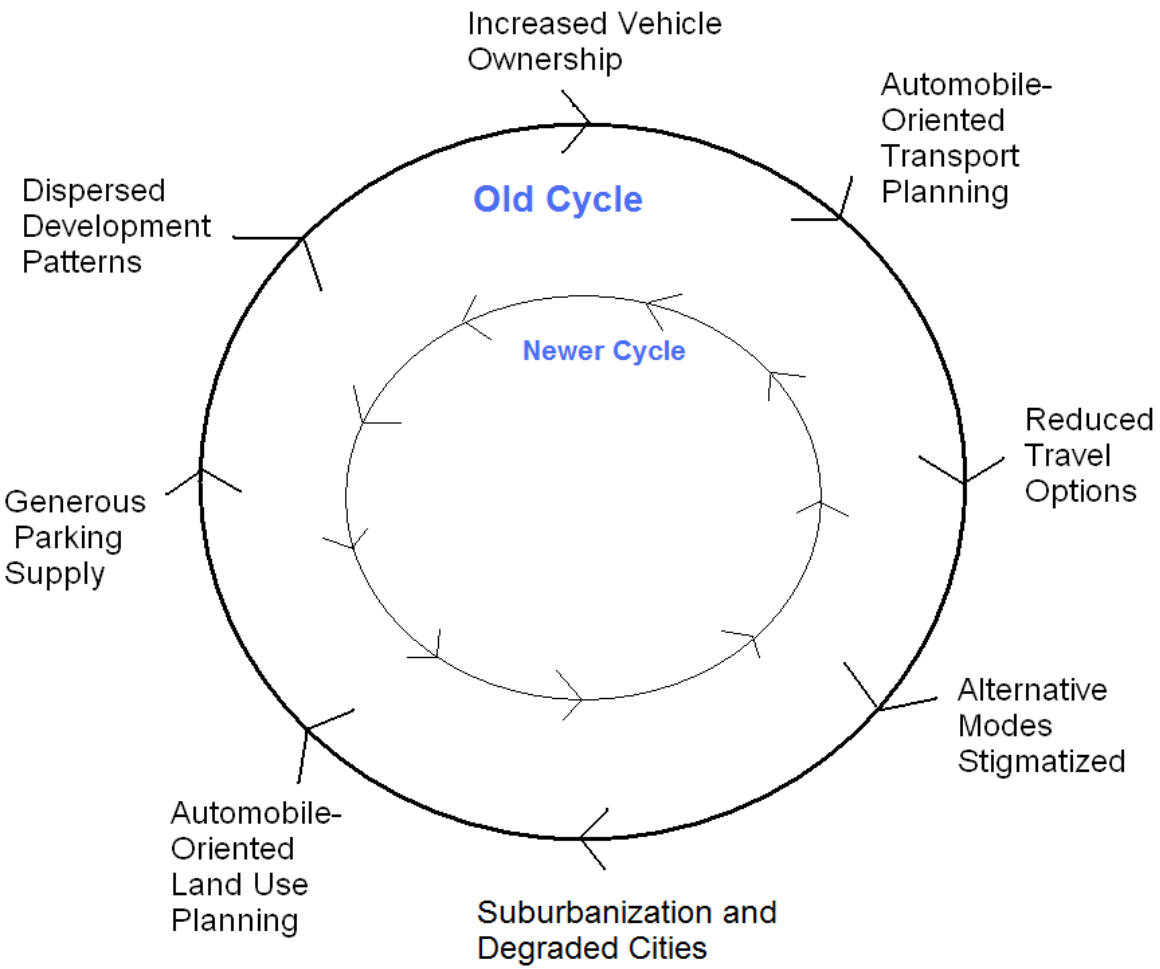
Trends Supporting Multi-Modalism



U.S. vehicle travel grew steadily during the Twentieth Century but stopped about 2003.

- Motor vehicle saturation.
- Aging population.
- Rising fuel prices.
- Increased urbanization.
- Increased traffic and parking congestion
- Improved transport options
- Changing preferences
- Environmental concerns.
- Health Concerns

Automobile Dependency and Sprawl

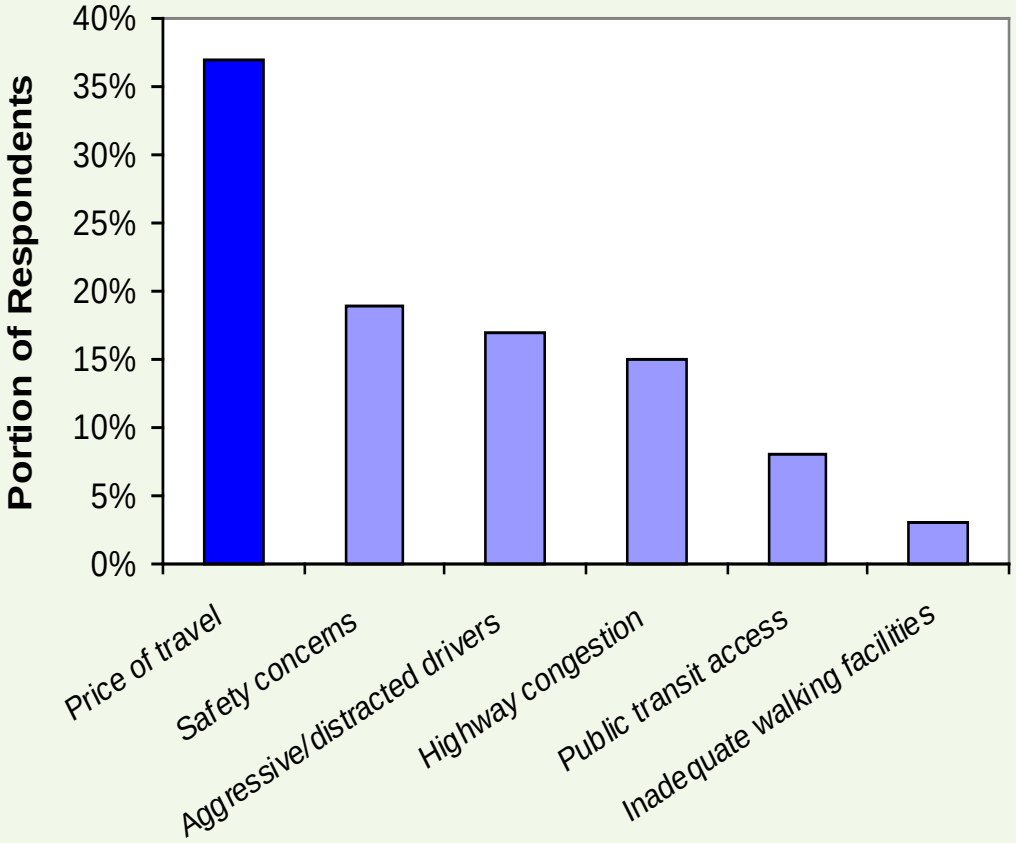


During the last century many transport and land use development practices tended to favor automobile dependency and sprawl. Many of these trends are now reversing, resulting in a new cycle of growing demand for multi-modal transportation systems and more compact communities.

Paradigm Shift

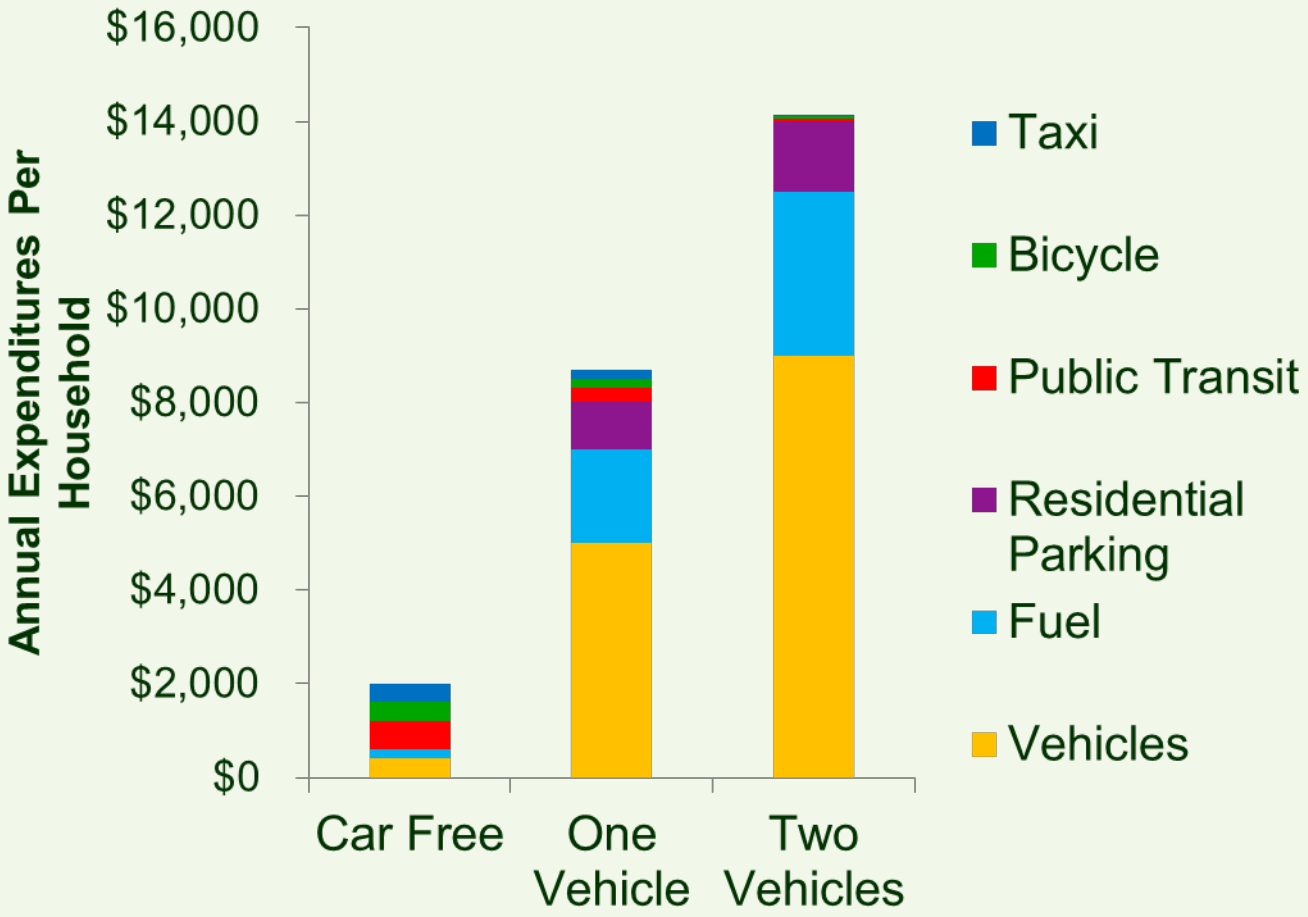
	Old Paradigm	New Paradigm
Definition of *Transportation*	*Mobility* (physical travel)	*Accessibility* (people's overall ability to reach services and activities)
Transport planning goals	Maximize travel speeds and minimize user costs	Optimize transport system efficiency and equity
Modes considered	Mainly automobile	Multi-modal: Walking, cycling, public transport, and automobile
Performance indicators	Vehicle traffic speeds, roadway Level-of-Service (LOS), distance-based crash and emission rates	Quality of transport options. Multi-modal LOS. Land use accessibility. Quality of accessibility for disadvantaged groups. Various costs to users and society.
Favored transport improvement strategies	Road and parking facility expansion.	Improve transport options. TDM. More accessible land development.
Health impacts considered	Per-kilometer traffic crash and pollution emission rates	Per capita crash, emission and physical activity rates, and basic access

Affordability as a Planning Issue



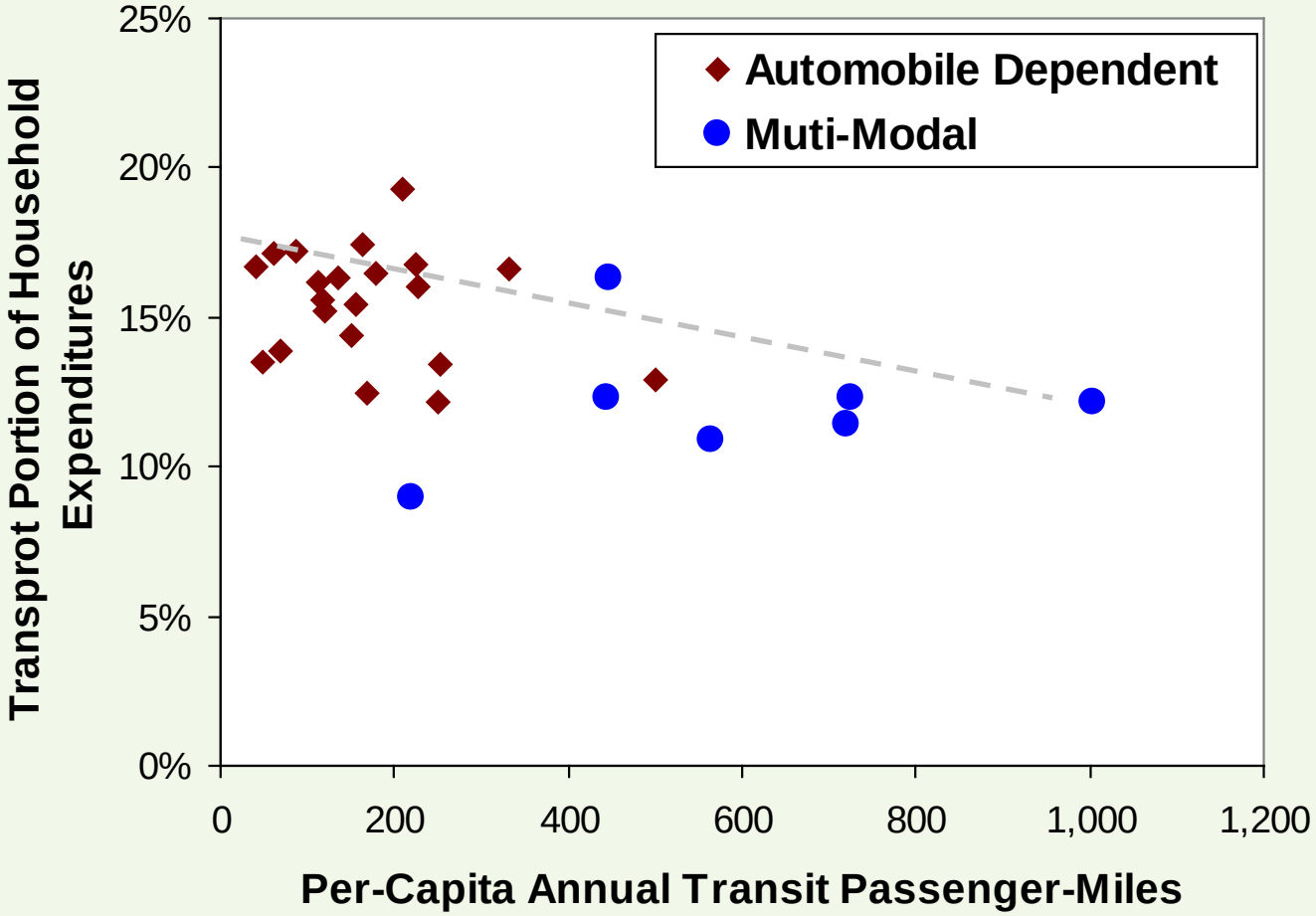
2009 National Household Travel Survey respondents ranked the "Price of Travel" most important of the six transport issues considered.

Affordability

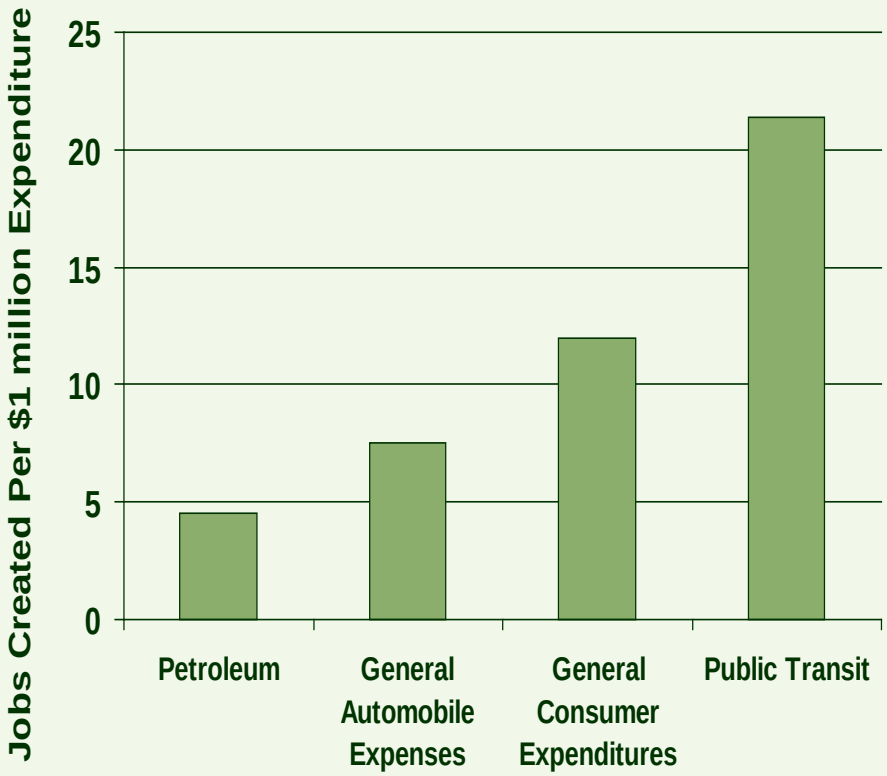


Households in multi-modal communities can save thousands of dollars annually in transportation costs.

Transportation Affordability



Community Economic Impacts

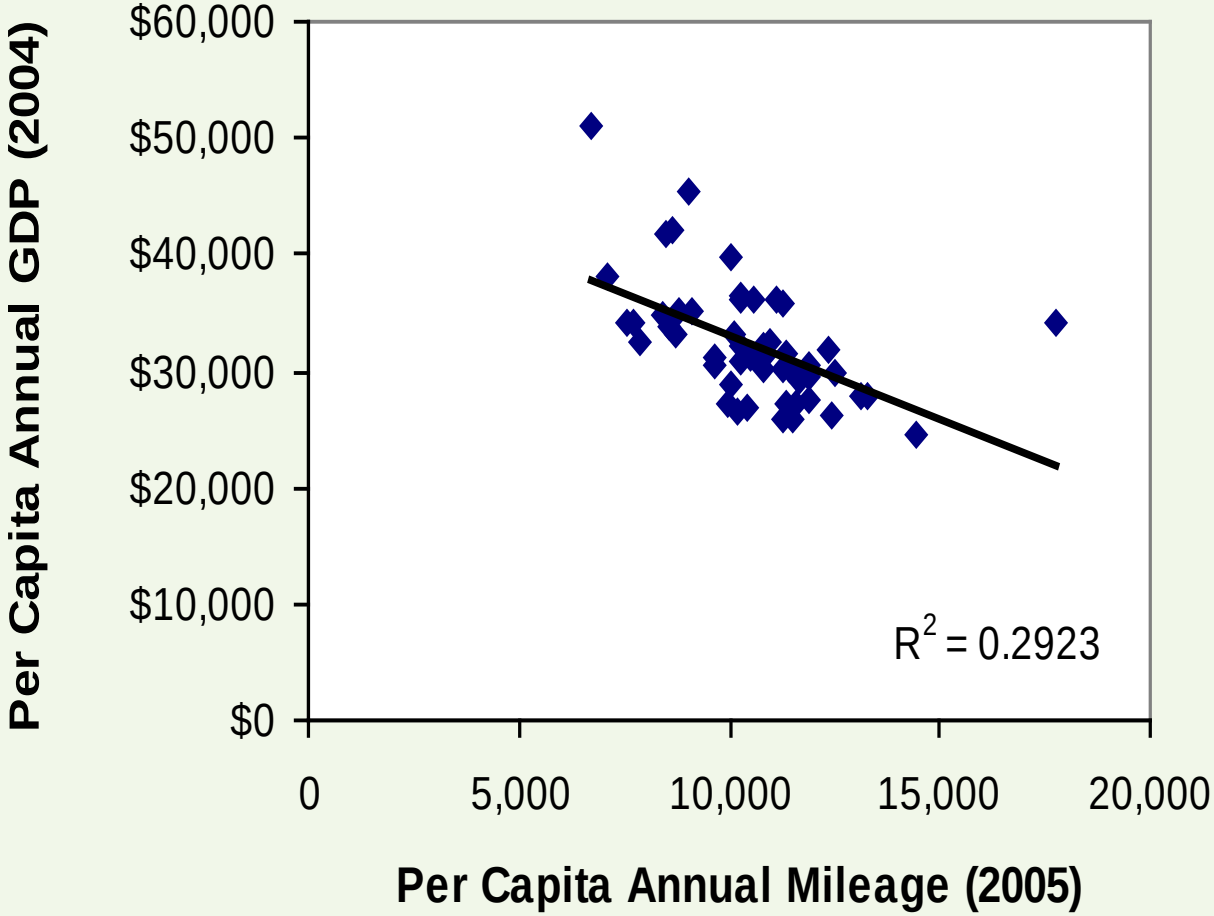


- Transport savings and efficiencies (congestion, parking, taxes) increases productivity and competitiveness.
- Reducing vehicle expenditures and expanding transit service increases regional employment and business activity.
- Agglomeration efficiencies.
- Supports strategic land use development objectives.
- Increases affordability, allowing businesses to attract employees in areas with high living costs.
- Changes in household expenditures on vehicles and fuel.

Per Capita GDP and VMT

Productivity tends to decline with increased mobility. (Each dot is a U.S. urban region.)

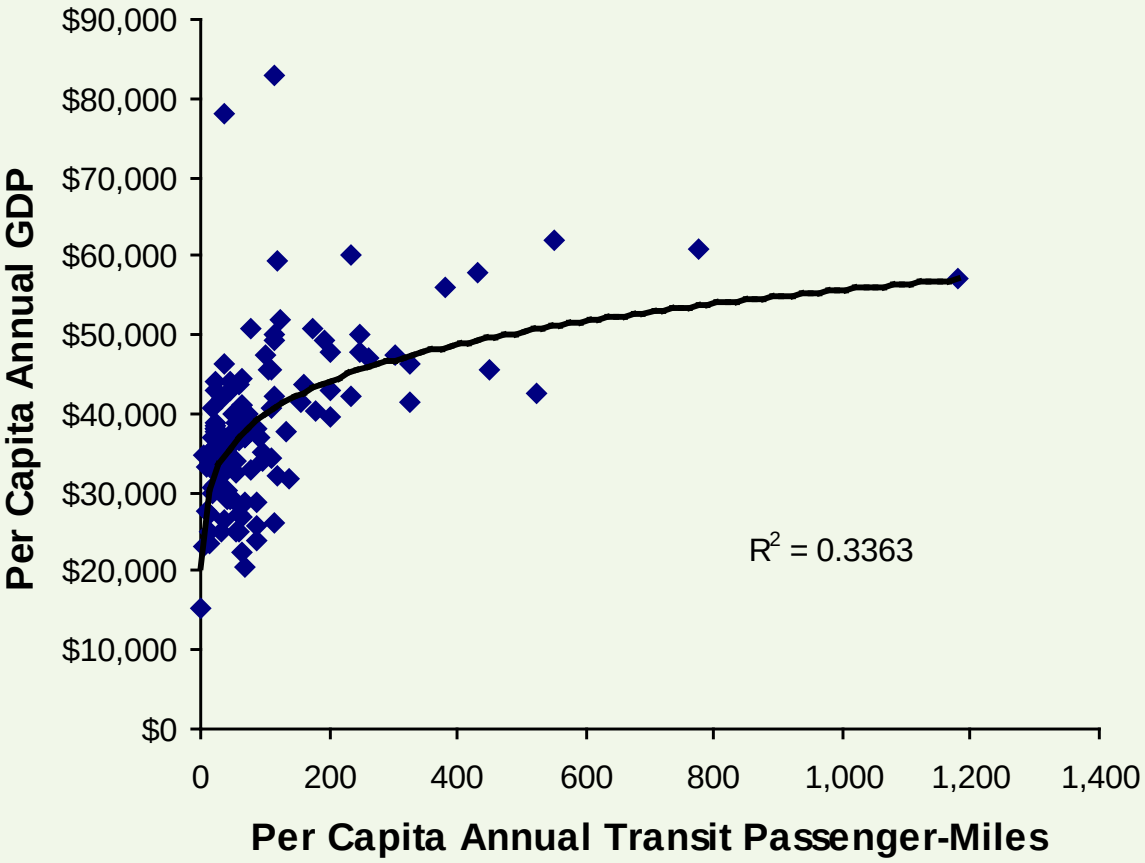
Bureau of Economic Analysis and FHWA data



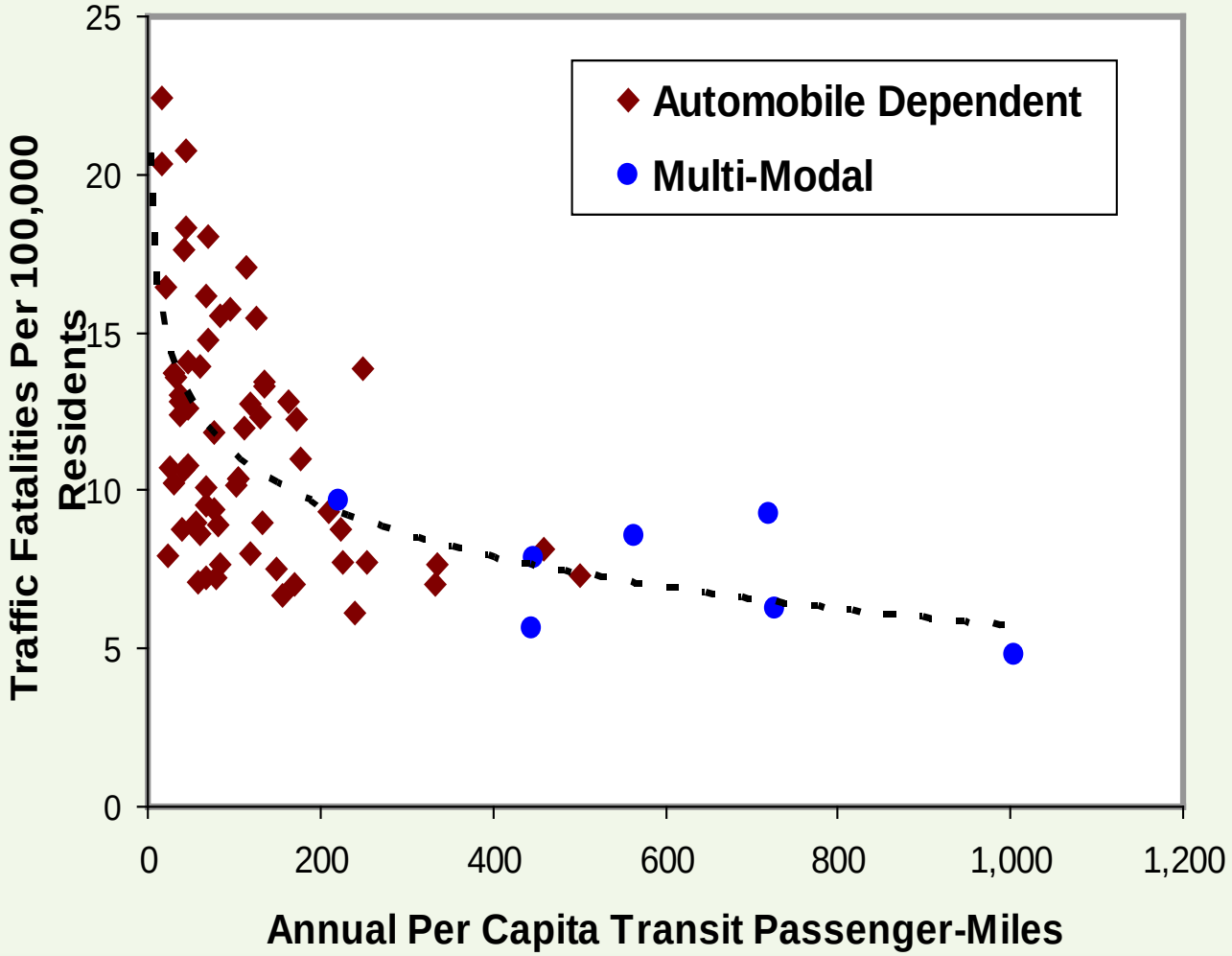
Per Capita Transit Ridership and GDP

Productivity tends to decline with increased vehicle travel. (Each dot is a U.S. urban region.)

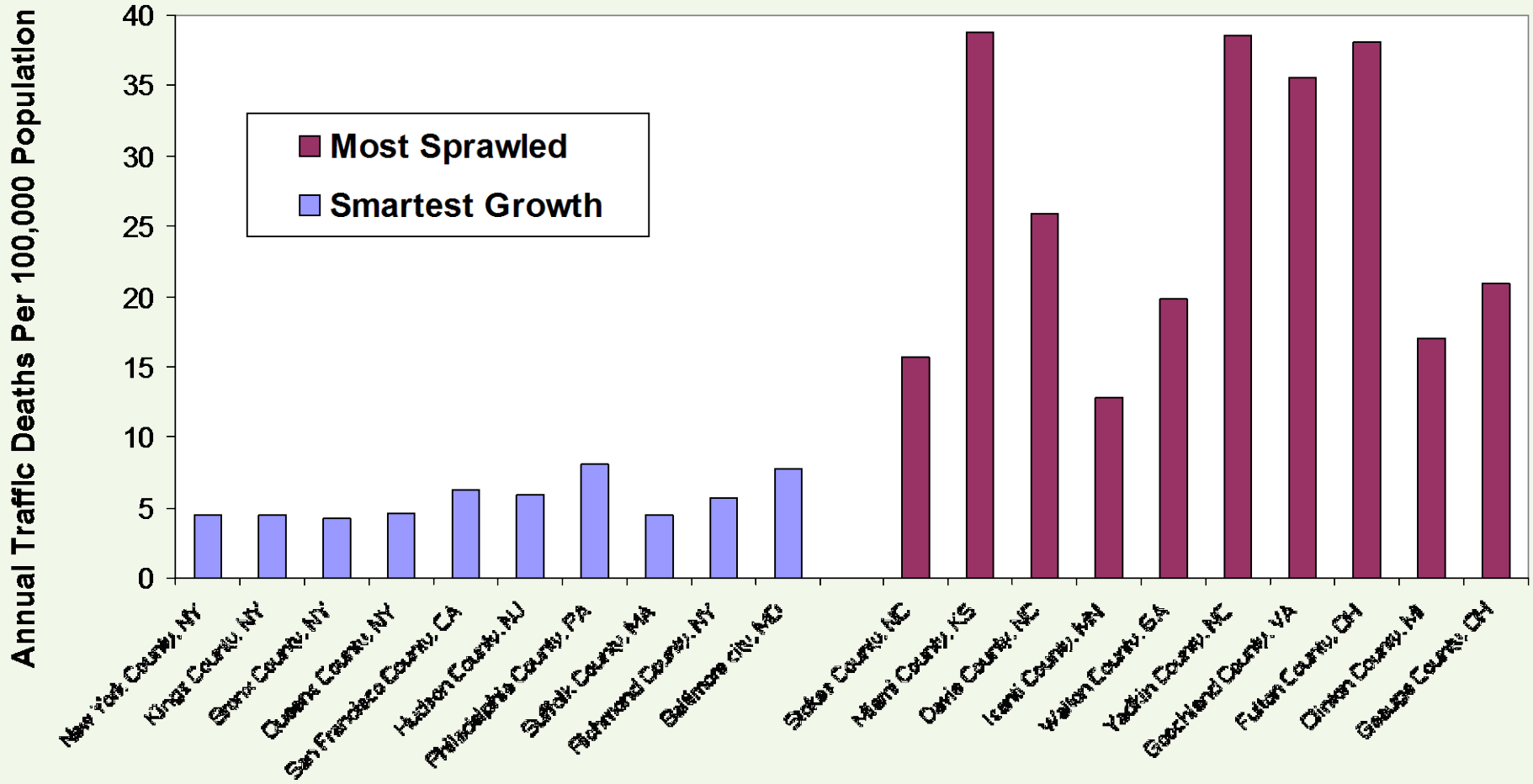
Bureau of Economic Analysis and FHWA data



Traffic Fatalities



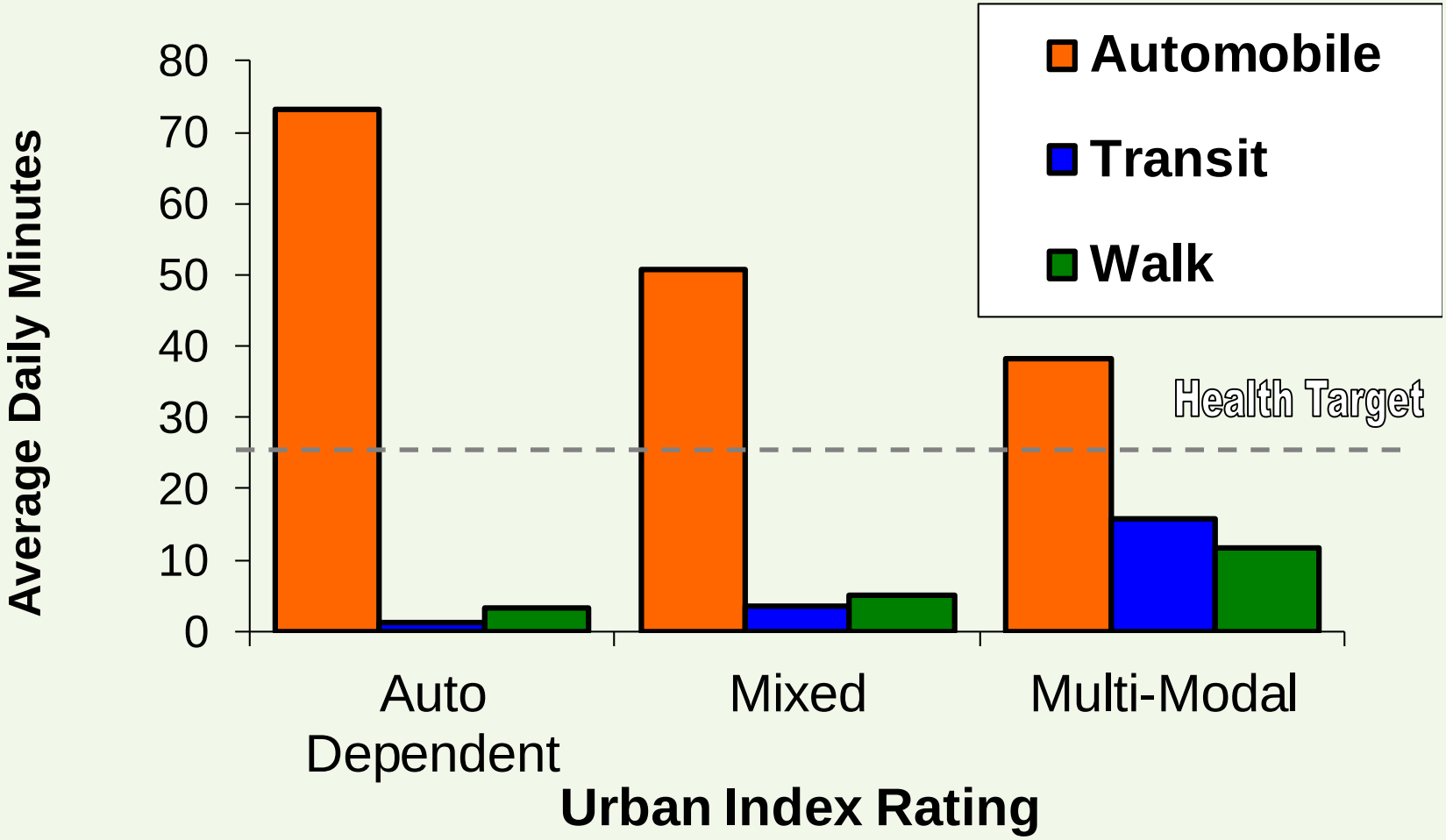
Smart Growth Safety Impacts



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.

Land Use Impacts On Travel



Basic Mobility and Accessibility

- *Basic mobility* and *basic accessibility* refer to people's ability to access goods, services and activities society considers "basic" or "essential."
- Inadequate basic mobility can contribute to health problems, including inadequate access to healthy food, exercise and healthcare.
- In most communities, 20-30% of the population cannot drive due to constraints including age (including teenagers), disability and poverty.
- Improving walking, cycling, public transit and taxi services, and providing more affordable-accessible housing improves basic access to disadvantaged populations.

Community Livability & Cohesion

Community Livability refers to the environmental and social quality of an area as perceived by residents, employees, customers and visitors.

Community Cohesion refers to the quantity and quality of positive interactions among people in a community.

Streets that are attractive, safe and suitable for walking and cycling increase community livability and cohesion.

Memo From Future Self

Hope for the best but prepare for the worst:

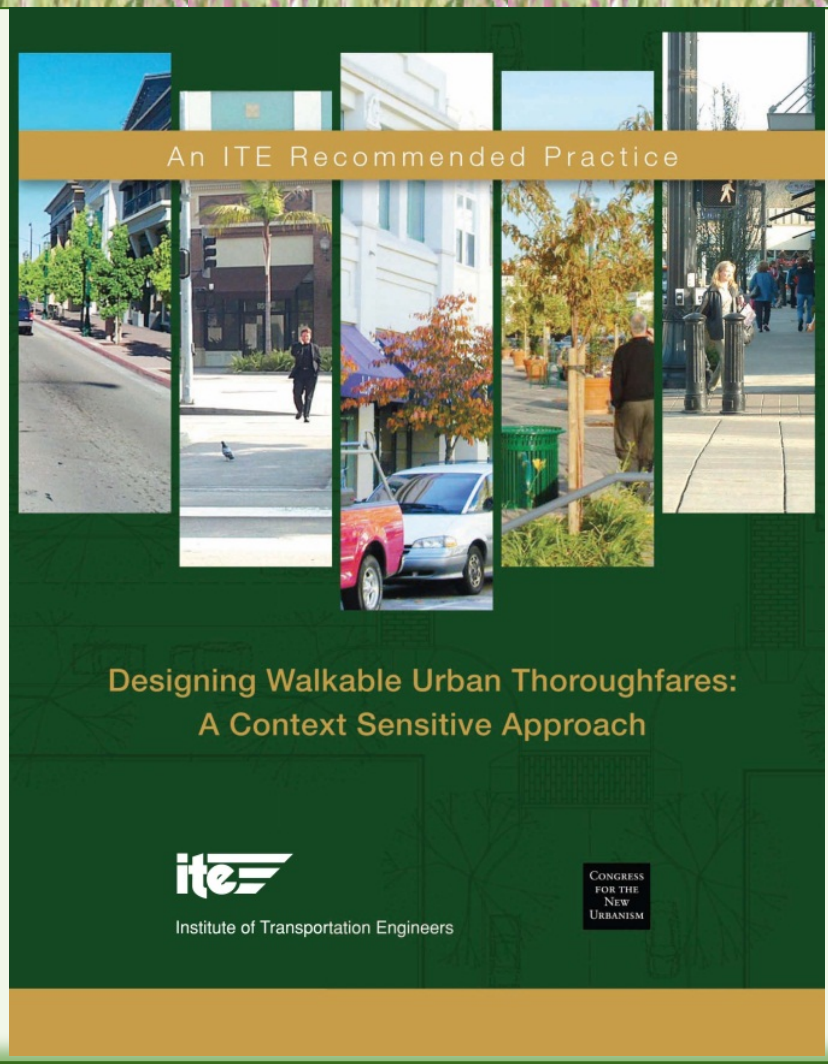
- *Physical disability* – diverse and integrated transport with universal design (accommodates people with disabilities and other special needs).
- *Poverty and inflation* – affordable housing in accessible, multi-modal locations.
- *Higher energy prices* – improve efficient modes (walking, cycling and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

Sustainable Transport Hierarchy

1. Walking
2. Cycling
3. Public Transit
4. Service & Freight
5. Taxi
6. HOV
7. Private Automobile

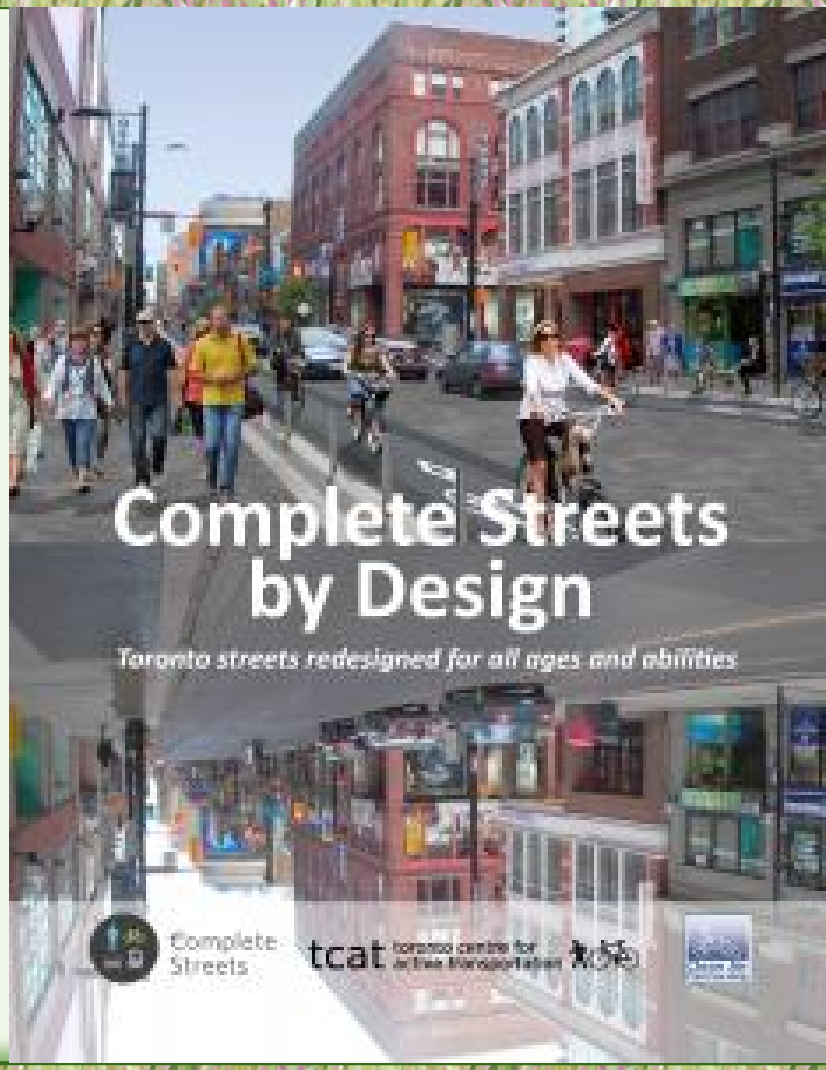
Innovative Transport Planning

- Smart growth/New Urbanism
- Context oriented planning
- Complete streets
- Streetscaping
- Road diets
- Traffic calming
- Transportation Demand Management (TDM)
- Transit-Oriented development
- Parking management



Complete Streets

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.



Complete Streets

Comprehensive Multi-Modal Planning

- Evaluation and planning based on *accessibility* instead of *mobility.*
- Consider all modes
- Consider all impacts and objectives
- Least-cost funding (invest in the most cost effective solution, considering all impacts and objectives)

Mode Shifts

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

Attracting Discretionary Riders

- Quality service (convenient, fast, comfortable).
- Low fares.
- Support (walkable communities, park & ride facilities, commute trip reduction programs).
- Convenient information.
- Incentives such as commute trip reduction programs and parking cash out.
- Positive Image

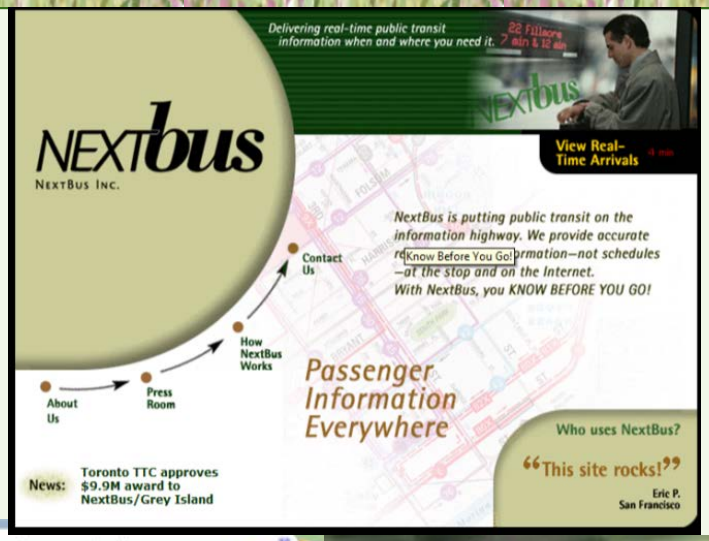
Transit Station Level-Of-Service

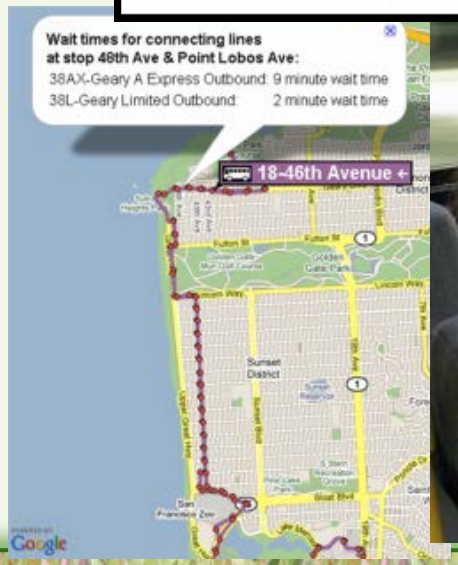
- Clean
- Comfort (seating, temperature, quiet)
- Convenience (real-time user information, easy fare payment)
- Accessible (walkability, bike parking, nearby housing, employment, nearby shops)
- Services (refreshments, periodicals, etc.)
- Security

User Information

Provide information when and were users need it:

- Transit route, schedule and fares
- Discounts and incentives.
- Real-time arrival.
- Navigation to bus stops, train stations and destinations.
- Travel times for various modes (e.g., transit vs. driving).
- Special problems (warnings of delays).
- On-board wifi services.
- Parking availability and price.





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

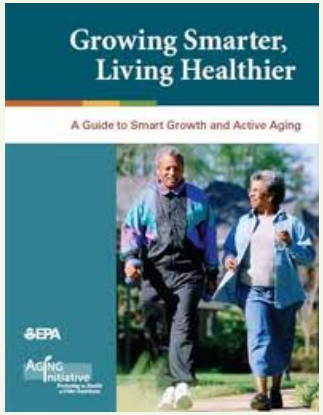
- More investment in sidewalks, crosswalks, paths and bike lanes.
- Improved roadway shoulders.
- More traffic calming.
- Bicycle parking and changing facilities.
- Encouragement, education and enforcement programs.

School & Campus Transport Management

Programs that encourage parents and students to use alternative modes to travel to schools, colleges and universities.

Smart Growth

- Compact (higher density)
- Mixed use
- Diverse housing types
- Connected roads
- Multi-modal
- Good walking and cycling conditions
- Good public transit services
- Efficient parking management
- Emphasis on the public realm (public places where people interact)



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 and unbundle parking.
- Reduces property taxes and utility fees for clustered and infill housing.

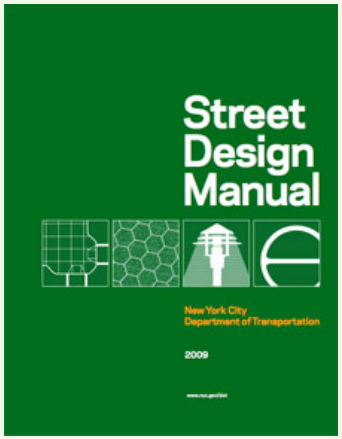
Carsharing

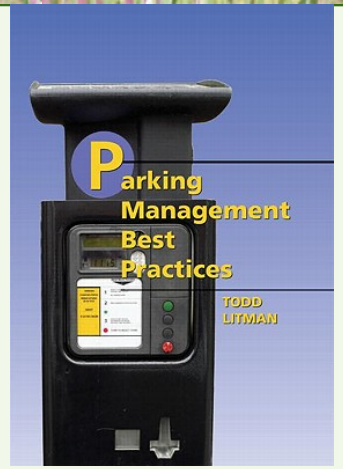
Automobile rental services intended to substitute for private vehicle ownership.

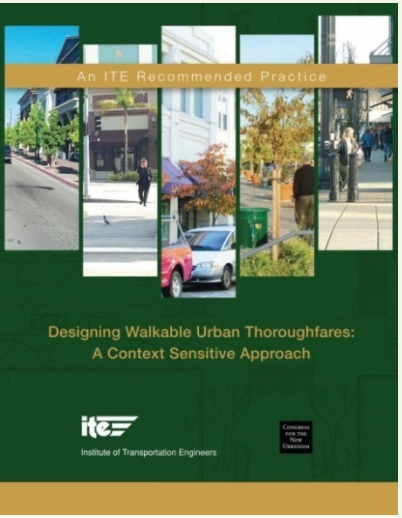
Parking Management

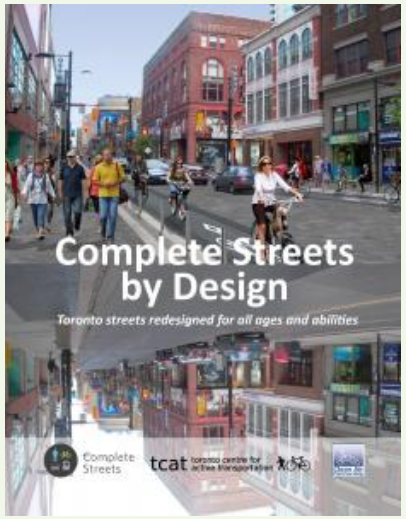
Various strategies that result in more efficient use of parking supply

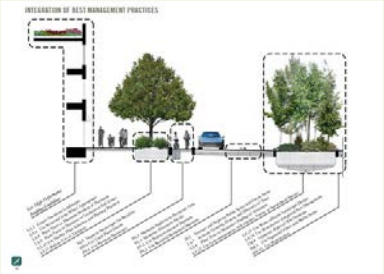
New Planning Resources

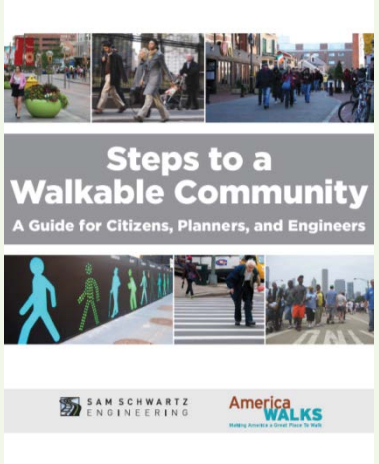












Potential For Change

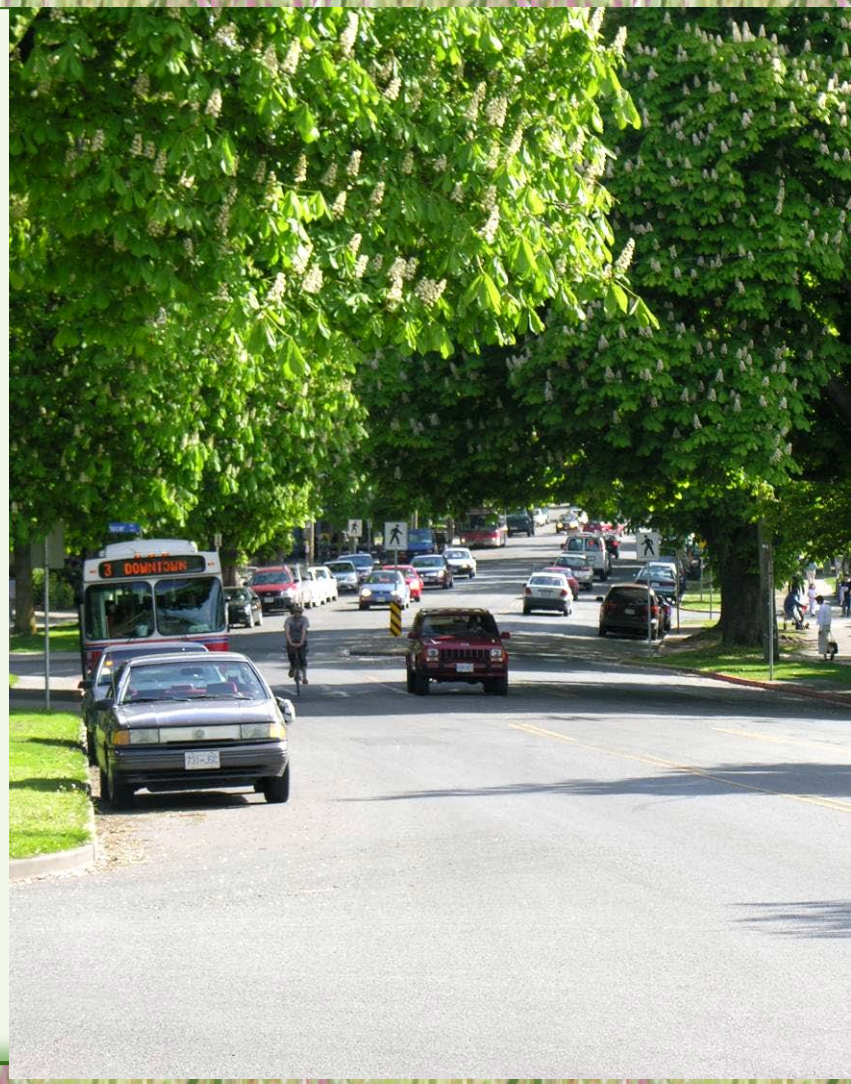
Some people would prefer to drive less and use alternatives more. *Focus on them.*

What would help these people change their travel behavior?

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



“Evaluating Complete Streets Benefits and Costs”

“Evaluating Public Transit Benefits and Costs”

“The New Transportation Planning Paradigm”

“Evaluating Transportation Equity”

“Smart Congestion Relief”

“Online TDM Encyclopedia”

and more...

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