

A New Social Equity Agenda For Sustainable Transportation

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Summary

This report discusses the importance of incorporating social equity and environmental justice objectives into transport policy and planning analysis. It recommends a more systematic and comprehensive framework for social equity impact analysis. Social equity refers to the equitable distribution of impacts (benefits, disadvantages and costs). *Environmental justice* is a subset of social equity analysis that focuses on illegal discrimination against disadvantaged groups. This is often the lens through which transportation equity impacts are analyzed. More comprehensive analysis considers additional impacts, including delay and risk that motor vehicle traffic imposes on pedestrians and cyclists, various costs that automobile dependency and sprawl impose on non-drivers, and subsidies for motor vehicle travel which are often overall regressive. More comprehensive analysis considers how various biases in the transport planning process tend to favor mobility over accessibility and automobile travel over other modes. These biases reduce transport system diversity, and therefore the transport options available to non-drivers, and exacerbate various external costs that are particularly harmful to disadvantaged people. More comprehensive analysis can help identify more integrated, win-win solutions, which achieve a variety of social, economic and environmental objectives. This can help build broader coalitions among diverse interest groups.

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Introduction

On 1 December 1955 in Montgomery, Alabama, Rosa Louise McCauley Parks, an African American woman, refused to obey a bus driver's order to give her seat to a white passenger. This began the Montgomery Bus Boycott, a major event in the U.S. civil rights movement which helped achieve more equitable public policies.

How much progress has occurred since? Racial discrimination is now illegal in business, education and employment, and various policies and programs exist to protect minority groups. However, many people still suffer inequities in their ability to access public services and economic opportunities.

In terms of transportation, most Montgomery, Alabama African American residents who can drive and afford an automobile are probably better off now because they have more mobility and do not face daily racial discrimination. However, residents of all races who either cannot drive or would prefer to use alternative modes (because they dislike driving, want to save money, or enjoy the physical activity and social interactions of walking, cycling and public transit) are probably worse off because their communities are less walkable, bus service declined and development patterns are more sprawled. Transport system discrimination has changed: it results less from race or ethnicity and more from disability and poverty. This is an important and timely issue. A number of demographic and economic trends are increasing consumer demand for alternative modes and more accessible, walkable communities (Litman 2006), and many citizens, public officials and practitioners sincerely *want* to address social equity objectives (Sanchez and Brenman 2007). It is therefore important to develop comprehensive and practical methods for evaluating transportation social equity impacts and achieving social equity objectives.

This report attempts to provide a comprehensive and systematic framework for evaluating these impacts and incorporating them into transport policy and planning analysis. It describes a new social equity agenda for transportation which addresses structural issues that affect overall transport system diversity and affordability by working to correct current policy and planning biases that, in various and often subtle ways tend to favor mobility over accessibility and automobile travel over other transport modes.¹

¹ In this case the word *accessibility* refers to people's general ability to reach services and activities. It can also refer to special policies and designs to accommodate people with disabilities, such as mobility impairments, called *universal design* in this paper. See *Access To Destinations* (www.cts.umn.edu/access-study/about/index.html) and *Evaluating Accessibility for Transportation Planning* (www.vtpi.org/access.pdf)

Defining Social Equity

Social equity (also called *fairness*) refers to the equitable distribution of impacts (benefits, disadvantages and costs). This is an important planning goal and a requirement for sustainable development, which balances economic, social and environmental objectives (Litman and Burwell 2006). Conventional transportation planning tends to focus on economic objectives (congestion reduction and increased travel speeds, travel cost savings, and traffic safety), and in recent decades, has added environmental objectives (resource conservation, emission reductions, and habitat protection). Various performance indicators have been established to help evaluate economic and environmental impacts. Social equity objectives receive less systematic analysis; they may be considered during political negotiations and through public involvement processes, but there are no standard methodologies for evaluating social equity impacts.

In practice, transportation social equity issues are often addressed using an *environmental justice* lens, which tends to focus on illegal and measurable harms to certain vulnerable minority groups, as defined in the following box. Political debates, transport agencies, professional organizations (such as TRB), advocacy groups and courts all tend to use this perspective when evaluating social equity issues (Bullard and Johnson 1997; Forkenbrock and Sheeley 2004).

Defining Environmental Justice

The principle of environmental justice is the product of a much broader movement to address the economic and health impacts of environmental racism. Environmental justice serves as an effective framework for understanding why low-income and minority communities face the brunt of negative impacts from transportation investment. "Environmental justice is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment means that no group of people, including a racial, ethnic, or socioeconomic group, should bear a disproportionate share of the negative consequences resulting from industrial, municipal, and commercial operation or the execution of federal, state, local and tribal programs and policies." (*Guidance for Incorporating Environmental Justice Concerns in EPA's NEPA Compliance Analysis* Office of Federal Activities, USEPA, April 1998, page 2).

This approach is understandable. It addresses what can be considered the worst categories of social inequities (measurable discrimination against vulnerable minorities), and it helps define a reasonable scope of issues that planning organizations can address. For example, to satisfy social equity requirements a planning agency should identify any vulnerable minorities and any impacts that a project will impose on them, and then work with that group to mitigate these impacts. Similarly, social equity advocacy organizations have a reasonably definable constituency with definable concerns and intervention methods, including legal action.

However, this approach also has significant limitations:

- It is not effective at representing the interests of less organized or geographically dispersed groups. For example, it is more likely to represent the interests of minority or low-income people if they live close together than if they are dispersed through a community. Transit riders and bicyclists tend to be represented politically, but the much larger group of people who rely on walking are generally not organized so their interests are poorly represented. Mobility for teenagers and young adults is generally overlooked as a social equity issue.

- It relies on often ambiguous classifications, such as race and age, as surrogates for functional status such as poverty and physical disability. Although African Americans tend to have high poverty rates, it is inaccurate to assume that all African Americans are poor, and unfair to overlook white population poverty. Similarly, although seniors tend to have high disability rates, it is wrong to assume that all seniors are disabled, and unfair to overlook the needs of younger disabled people. This can alienate people who feel that their interests are undervalued, such as low-income people who lack minority status.
- It tends to consider social equity issues in isolation, and so favors special mitigation actions rather than more integrated solutions that may help achieve more total benefits. For example, it is more likely to support special subsidies or transit services intended to help specific groups than to support broader policy and planning reforms that create more diverse transport systems and more accessible land use, which provide economic, environmental *and* social equity benefits.
- It tends to overlook issues that are important to physically, economically and socially disadvantaged groups but not specifically defined as discrimination, such as the impacts of planning decisions on health, general household affordability, and community livability (Bell and Cohen 2009; CNT 2008; Litman 2007)

Environmental justice, as it is currently applied, can therefore be considered a subset of total social equity issues. Environmental justice might be considered to reflect the most extreme and therefore most important issues, but this approach often excludes other impacts and groups.

Figure 1 Scope of Social Equity and Environmental Justice Issues



The current scope of transport environmental justice analysis only considers a subset of total social equity issues.

Professional organizations tend to give relatively little consideration to social equity issues. For example, the *Transportation Research Board* has dozens of committees that deal with economic and environmental issues, but few dealing with social equity issues. Some committees deal with specific disadvantaged groups, such as Women, Native Americans and people with disabilities, but only two committees consider social equity comprehensively: the *Social and Environmental Factors Committee* (ADD20) which has diverse interests, and *Environmental Justice in Transportation* (ADD50) which has a narrower focus. This is probably the organization that most transport professionals expect to address social equity issues. However, in practice it tends to focus on a specific set of issues: illegal discrimination and affirmative action, affordability of automobile travel, pollution impacts on minority communities, and basic bus service.

Social equity analysis can be more comprehensive, considering a wider range of groups, impacts and modes, with more attention to the overall planning process. Examples of some of these issues are below.

Planning Biases

Many current transportation policies and planning practices are biased in various ways that favor mobility over accessibility and automobile transport over other modes. For example:

- A major portion of total transport funding is dedicated to roads and parking facilities, and cannot be used for other modes even where demand exists and they are cost effective investments.
- Current transport system performance evaluation tends to use indicators, such as average travel speeds and roadway level-of-service ratings which primarily reflect motor vehicle travel conditions, with little consideration given to non-motorized modes.
- Current zoning codes require generous minimum parking supply, which forces households that own fewer than average automobiles to subsidize the parking costs of other households that own more than average vehicles.
- Current fixed insurance pricing overcharges lower-annual-mileage motorists in order to cross-subsidize higher-annual-mileage motorists.
- Transport and land use planning are separate, which can lead to inefficient planning. For example, disadvantaged people can often benefit from more affordable housing and improved services in accessible locations, but this is not usually considered a transport issue (Litman 2011).

Planning that favors automobile travel is inequitable in several ways:

- Non-drivers as a group receive less than their fair share of transport funding which is unfair (horizontally inequitable). For example, in a typical urban area, 10-20% of trips are made by non-motorized modes yet only 2-5% of total government transportation budgets are devoted to non-motorized facilities, and an even small portion including private expenditures on parking facilities mandated in local zoning laws.
- Wider roads and higher motor vehicle traffic volumes and speeds impose delay, risk, discomfort and pollution on other road users, particularly pedestrians and cyclists.
- Since physically, economically and socially disadvantaged people tend to rely heavily on walking, cycling and public transit (or described differently, people who drive less than average tend to be disadvantaged compared with high-annual-mileage motorists), these impacts tend to be regressive (vertically inequitable).
- These policies tend to cause *automobile-dependency*: transport systems and land use patterns which favor automobile access. This provides inferior access for non-drivers, and transport costs on lower-income households (Agrawal 2011).

Current environmental justice analysis often overlooks these impacts. These impacts may be considered if non-drivers are a geographically-concentrated, legally-recognized minority group, but not if the people who are harmed are geographically dispersed (such as people with disabilities) or not politically influential (such as teenagers).

Transport Pricing

Environmental justice analysis tends to focus on certain financial impacts but overlook others that are sometimes larger. For example a 50¢ transit fare increase would cost a typical transit commuter \$20 per month, while *parking cash out* (offering non-drivers the cash equivalent of parking subsidies) typically provides \$50-100 in additional monthly income to commuters who walk, bicycle, rideshare or use public transit. Similarly, unbundling residential parking (renting parking spaces separately from building space, so, for example, rather than renting an apartment renting for \$1,200/mo with two “free” parking spaces, the apartment rents for \$1,000 plus \$100 per parking space), would typically save non-drivers \$50-200 per month, and significantly increases urban housing affordability (Litman 2003; HUD 2008) yet parking cash out and unbundling are generally not considered environmental justice issues.

Environmental justice groups tend to oppose transport pricing reforms (road tolls, parking fees, increased fuel taxes, etc.), assuming they are regressive, without considering all impacts. For example, if roads and parking facilities are not financed by user fees (tolls, parking fees and increased fuel taxes) they must be financed by general taxes and building rents that everybody pays regardless of how much they drive, which is unfair and regressive. Disadvantaged people seldom drive on roads that are candidates for tolling (Schweitzer and Taylor 2010): Many do not drive (due to disability or poverty), many who do drive do not commute (they are retired or disabled), many who do commute work close to home, and many who commute longer distances use public transit, rideshare (and so only pay a share of tolls) or work off-peak and so pay discounted tolls, and some who currently commute by automobile would benefit overall if tolling improves transport options (if road pricing improves bus and rideshare travel speeds, or if some road pricing revenues are used to improve public transit services).

Table 1 summarizes road user fee equity impacts. Pricing opponents tend to focus on the increased costs to low-income motorists but ignore the larger number of lower-income people who benefit. Schweitzer and Taylor (2010) found that financing urban highway expansion with general taxes saves daily users about \$700 annually, but impose \$5 to \$80 annual costs on other households. Since few toll road users are low-income, general tax financing is regressive overall, causing cross-subsidies from lower- to higher-income households.

Table 1 Road User Fees Instead Of General Taxes

Group	Equity Impacts
High-income motorists	<i>Benefit.</i> They pay the tolls which finance the facility (reflecting horizontal equity principles) and benefit from reduced traffic congestion.
Low-income toll road users	<i>Harmed.</i> They pay the tolls.
Low-income travelers tolled off the roadway	<i>Varies.</i> If they lack good alternatives this is considered regressive. If tolling is implemented in conjunction with improvements to alternative modes (ridesharing and public transit improvements) then some may be better off overall.
Tax payers who seldom or never drive on the facility	<i>Benefit.</i> They pay taxes that finance a facility that they do not use, which is horizontally equitable, and since lower-income people tend to be a small portion of toll road users, this tends to increase vertical equity (poor people tend to benefit overall)

Physically, economically, and socially disadvantaged residents tend to benefit overall if highways are financed by user fees because they seldom drive on tolled highways but pay general taxes.

Similar analysis can be applied to other types of transport pricing. For example, public financing of parking facilities (including on-street parking), and zoning codes that require generous parking supply, force households that own fewer vehicles or drive less than average to subsidize their neighbors who own more vehicles or drive more than average. These cross-subsidies represent hundreds of dollars in annual economic transfers from low- to high-vehicle-owning households and contribute to housing inaffordability, automobile dependency and sprawl. Since vehicle ownership and use tend to increase with income, these subsidies are both horizontally and vertically inequitable (they harm disadvantaged populations).

Transport Planning and Investments

There are many reasons to improve alternative modes. For example, high quality public transit (comfortable vehicles and station, frequent and fast service, good user information and supportive land use policies) tends to reduce traffic congestion, road and parking facility costs, consumer costs, accidents, energy consumption, pollution emissions, as well as improving mobility options for non-drivers and public fitness and health. High quality public transit can be a catalyst for more multi-modal community development and helps make transit more socially acceptable. As a result, rational planning and funding (called “least-cost planning”) could significantly increase support for transit in transport planning and funding (VTPI 2010).

Environmental justice advocates tend to treat public transit funding as a zero-sum game, which pits interests groups against each other. For example, they sometimes criticize rail transit because it diverts resources from basic bus service. Yet, rail transit funds are often shifted from highway accounts or generated by special new taxes. Cities with high quality rail transit systems tend to have more total public transit, including more bus transit service per capita, than cities that lack rail transit (Litman 2004), and rail transit tends to increase the social status and build political support for alternative modes and supportive land use policies. It is therefore wrong to assume that rail transit investments necessarily harm disadvantaged people. Although it may seem so in the short run, over the long run, rail transit development can be an effective way to create more multi-modal transport systems and accessible land use development.

Conventional planning also tends to undervalue and under-invest in non-motorized transport. Non-motorized improvements can provide many economic, social and environmental benefits, but many tend to be overlooked in conventional transport project evaluation. People who are physically, economically and socially disadvantaged tend to rely heavily on non-motorized transport, and tend to benefit significantly from impacts such as improved fitness and health. Non-motorized transport improvements also provide an opportunity for coalition building among diverse interest groups. Yet, this has not been a significant environmental justice issue. This in no way ignores the wonderful non-motorized transportation advocacy work by some community groups, such as the Center of Neighborhood Technology and Transportation Alternatives, or the inclusion of walkability as an objective in the federal Livable Community agenda. In addition, social justice advocates often work to improve accommodation of people with disabilities by supporting universal design and physical accessibility. However, the structural biases against non-motorized transport have not been a significant environmental justice issue.

Table 2 compares equity impacts that are considered or ignored by current transport environmental justice analysis, and identifies ways to improve transport planning analysis and policies to better address social equity issues.

Table 2 **Scope of Transportation Environmental Justice Analysis**

Currently Considered	Generally Ignored	Improvement Strategies
Discrimination of recognized minorities (Black, Hispanic, people with disabilities, etc.) User fees (transit fares, road tolls and vehicle taxes) imposed on lower-income travelers. Distribution of public transit funding between buses and rail. High pollution exposure in disadvantaged neighborhoods. Accommodation of people with disabilities.	Discrimination favoring motorists over non-drivers. Delay, risk and pollution that motor traffic imposes on non-motorized travelers. Funding distribution between automobile and other modes. Parking requirements in zoning codes and parking subsidies. Cross-subsidies from non-drivers to finance roads and parking facilities. Policies that cause land use sprawl.	Multi-modal planning analysis (e.g., multi-modal level of service). More comprehensive project evaluation. More comprehensive non-motorized benefit analysis. Reduced parking requirements in zoning codes, plus parking cash out and unbundling. More direct user fees for roads. Smart growth land use policies, particularly more affordable housing in accessible locations.

Currently, transportation environmental justice analysis recognizes some impacts but overlooks others.

Table 3 summarizes how various transport policies affect different types of disadvantaged groups, and the degree these impacts are considered in current planning. For example, non-motorized transport is very important to people with disabilities or low incomes, and non-drivers in general, but is not generally considered a social justice issue, at least at a national level. General policy and planning reforms that better account for walking and cycling benefits, and so increase support for non-motorized transport improvements, are not generally considered social equity issues.

Table 3 **Transport Policy Impacts On Various Groups**

Policy	Disabilities	Low Income	Non-Driver	Current Consideration
Reduce discrimination against minorities	Some support	If minority	If minority	Considered by federal law and EJ groups.
Accommodate people with disabilities (universal design)	Very important	Moderate importance	Moderate importance	Considered when legally required
Support for non-motorized transport	Very important	Very important	Very important	Not generally considered at national level
Support for basic public transport	Very important	Very important	Very important	Often considered
Support for higher-quality public transport	Very important	Moderate importance	Very important	Often opposes, assuming that it harms basic transit
Support pricing reforms (increased road and parking user fees instead of indirect funding)	Mixed. Harms high-mileage, benefits low-mileage drivers	Mixed. Harms high-mileage, benefits low-mileage drivers	Significant benefit	Generally opposes due to concerns of impacts on higher-mileage motorists
Reduced parking requirements, cash out and unbundling	Important	Very important	Important	Seldom considered
Support affordable housing in accessible locations	Very important	Very important	Very important	Sometimes considered as an affordable housing issue, but not a transport planning issue.
Reduce traffic impacts on neighborhoods	Very important	Moderate importance	Very important	Considered if the neighborhood is predominantly minority
Smart growth land use policies	Very important	Mixed. Sometimes opposed due to gentrification concerns	Very important	Some support, but some opposition on grounds that more compact, infill development harms minority communities.
Transport subsidies for seniors and disabled	Very important for those who qualify	Very important for those who qualify	Very important for those who qualify	Often considered
Multi-modal performance indicators and least-cost planning	Very important	Very important	Very important	Usually considered technical issues, not social equity issues

This table indicates how various policies affect disadvantaged groups, and the degree these impacts are considered in current planning.

Sustainable Development Perspective

Conventional planning tends to be *reductionist*: individual problems are assigned to specific professions and agencies with narrowly defined responsibilities (Litman and Burwell 2006). For example, reductionist planning encourages transport agencies to widen roadways to reduce congestion, although by inducing additional vehicle travel and sprawl this tends to increase energy consumption and pollution emissions, and reduce accessibility for non-drivers. It also tends to undervalue solutions such as public transit improvements, since they provide modest congestion reductions, but many additional benefits.

Sustainable development requires more integrated planning that considers a wider range of impacts and options, identifies and implements *win-win* solutions, that is, policies and programs that help achieve economic, social and environmental objectives (Litman 2008). For example, sustainable planning encourages transportation agencies to implement congestion reduction strategies that also reduce pollution emissions and improve mobility for non-drivers, and environmental agencies to implement emission reduction strategies that also reduce congestion and improve mobility options, and social welfare agencies support strategies which improve mobility for non-drivers and also help reduce congestion and pollution. Some public policies, such as the U.S. federal livability agenda, support such integrated solutions, but many do not.

Sustainable transport planning offers practical benefits. Integrated solutions tend to be more efficient, and because they can build a broad coalition, they can gain more political support. For example, it would be difficult to build political support needed to significantly increase public transit funding based only on social equity objectives, but it becomes more feasible with a broad coalition of supporters, each interested in particular objectives, and willing to work together.

Some transport experts argue that affordable automobile transport increases economic opportunity for lower-income people (Blumenberg and Ong 2001) justifying policies that favor automobile travel, such as low vehicle registration fees and fuel taxes. However, such analysis tends to overlook important points (Litman 2002):

- User fees are not necessarily more regressive than other facility funding options, such as general taxes to finance roads and public parking, and higher rents to finance private off-street parking.
- Although workers who have automobiles tend to earn more on average than those who do not, about half their additional income must be spent on their vehicles, resulting in smaller net gains.
- Research indicates that welfare recipients who have access to high quality public transit also have greater chance of employment and earn higher average wages.
- High rates of automobile use impose other regressive costs on individuals and society, including high accident casualty rates, illnesses associated with sedentary living, and reduced housing affordability (to finance residential parking and additional property taxes).
- Many disadvantaged people cannot drive at all, due to physical or mental impairment, or legal constraints. Automobile-oriented planning tends to harm these people by reducing transport options and stimulating sprawl that increases travel distances.

In addition, trying to achieve social equity objectives with vehicle subsidies tends to exacerbate other transport problems such as traffic congestion, road and parking costs, degraded walking conditions, accident risk, and pollution emissions. Other social equity improvement strategies provide a much wider variety of benefits to users and society, as indicated in Table 4, and so can be considered win-win solutions. For these reasons, although vehicle subsidies may sometimes be justified to help low-income people (such as subsidized vehicles and discounted road tolls for low-income workers), they provide much less total benefit to users and society than policies that improve alternative modes and create more accessible communities. Because they help achieve so many planning objectives, these win-win solutions offer more potential for coalition building among various interest groups, and so are most politically feasible.

Table 4 Comparing Strategies (Litman 2008)

Planning Objective	Automobile Subsidies	Basic Bus Service	Travel Options ²	Pricing Reforms	Affordable Housing
Increased user convenience and comfort		✓	✓		✓
Congestion reduction	✗		✓	✓	✓
Roadway cost savings	✗		✓	✓	✓
Parking cost savings	✗		✓	✓	✓
Consumer cost savings	✓/✗ ³		✓	✓/✗ ⁴	✓
Reduced traffic accidents	✗		✓	✓	✓
Improved mobility for non-drivers	✗	✓	✓	✓	✓
Energy conservation	✗		✓	✓	✓
Pollution reduction	✗		✓	✓	✓
Physical fitness and health	✗		✓	✓	✓
Land use objectives (smart growth)	✗		✓	✓	✓

(✓ = Achieve objectives. ✗ = Contradicts objective.) Road and parking subsidies (financing these facilities indirectly rather than through user fees) tend to support one planning objective (more affordable automobile travel) but impose indirect costs, and by increasing motor vehicle travel and automobile dependency contradicts other planning objectives. Providing more basic bus service improves mobility options for non-drivers but does little to attract travelers who would otherwise drive and so does little to achieve other planning objectives. Improving non-motorized travel conditions, providing high-quality transport options, efficient transport pricing reforms, and more affordable housing in accessible locations helps achieve multiple planning objectives. These solutions tend to be most cost effective overall, and provide opportunities for creating broad coalitions.

This is not to suggest that environmental justice advocates never support integrated solutions or participate in broader coalitions (the *Transportation Equity Network* and the *Center for Neighborhood Technology* are good examples of diverse partnerships) but the potential is much broader. Environmental justice advocates could partner more with groups concerned with economic development, congestion reduction, reducing costs to businesses and developers, improved public fitness and health, and various other objectives.

² This includes significantly improved non-motorized travel conditions, and high-quality public transit with attractive vehicles and stations, frequent and fast service, convenient user information, and supportive land use.

³ Motorists save money but other costs increase. Financing roads through general taxes increases the cost of retail goods, and financing parking as building development costs increases rents which reduces housing affordability.

⁴ Transport pricing reforms increase costs to consumers who drive more than average but provide savings (reduced tax burdens and lower rents) for those who drive less than average.

Comprehensive Social Equity Analysis

Currently, social equity analysis tends to be ad hoc, with analysis, scope and methodologies that vary widely depending on the preferences and knowledge of people involved in a particular planning process. It would be useful to help develop better understanding of social equity issues, and more comprehensive and consistent evaluation practices.

For example Forkenbrock and Weisbrod (2001) and Litman (2002) define various types of transport equity impacts, how they can be evaluated, and performance indicators. Table 4 summarizes five transport equity indicators that can be used when evaluating transport policies and projects.

Table 4 **Transport Equity Indicators** (Litman 2002)

Criteria	Comments
Horizontal equity	Whether otherwise comparable people and groups are treated equally
Cost-based pricing	Whether consumers bear the costs they impose, excepting where subsidies are specifically justified
Progressive with respect to income.	Whether a policy or project benefits or harms lower-income households
Benefits transportation disadvantaged	Whether a policy or project benefits or harms transport disadvantaged people (with disabilities, low incomes, or legal constraints that limit their mobility)
Improves basic mobility.	Whether a policy or project favors more important transport (emergency response, commuting, basic shopping) over less important transport

Gao and Johnston (2009) and Rodier, et al. (2010) use geographic information systems (GIS) and integrated transport models to evaluate cost and benefits of various transport policies on different types of residents, including those with low incomes or inability to drive. Carlson and Howard (2010) demonstrate how various transport demand management strategies would affect various groups. Ng (2005) and Robinson, et al. (2010) demonstrate how transport equity analysis can be incorporated into regional transport planning. Schweitzer and Taylor (2008) and Wachs (2003) show various ways to evaluate transport pricing options, and ways to incorporate social equity objectives.

These are just a few examples of resources and examples that can be used to develop more comprehensive transport social equity analysis. These methodologies can be used to identify various equity impacts of specific policies and projects perform, and help develop alternatives that better achieve equity objectives.

A New Agenda

The new agenda for transport social equity considers a broader range of impacts, recognizes the problems of automobile dependency and the benefits of a more diverse transport system, and favors win-win strategies that help support other planning objectives because these provide an opportunity to build broader coalitions which interest groups with economic and environmental goals. Table 5 compares the old and new agendas.

Table 5 A New Social Equity Transport Planning Agenda

Issue	Old	New
Discrimination against minorities	An important issue	An important issue, with broadly defined “minority” categories
Accommodating people with disabilities	An important legal issue. Intervene as needed to meet legal requirements	An important planning issue. Develop practical performance indicators and implementation guidelines.
Support for non-motorized transport	Not important	Very important. Build coalitions with other interest groups.
Basic public transport	Very important. Advocate more funding and lower fares.	Very important. Build coalitions with other interest groups.
Higher-quality public transport	Mixed. Supports incremental bus improvements. Often opposes rail transit capital investments.	Very important. Build coalitions with other interest groups.
Pricing reforms (road tolls, parking fees, increased fuel taxes)	Generally oppose as regressive	Support, provided they include provisions to improve alternative modes or special discounts for lower-income motorists
Reduced parking requirements, cash out and unbundling	Not important.	Supports to increase affordability and provide savings to non-drivers. Build coalitions with other interest groups.
Support affordable housing in accessible locations	Important.	Very important. Build coalitions with other interest groups.
Reduce traffic impacts on neighborhoods	Important in minority neighborhoods	Important in any neighborhood, particularly those with lower incomes
Smart growth land use policies	Mixed. Supports some reforms but opposes others	Very important. Build coalitions with other interest groups.
Transport subsidies for seniors and disabled	Somewhat important	Focuses on subsidies based on disability and poverty than on age
Multi-modal performance indicators and least-cost planning	Not important	Very important. Build coalitions with other interest groups
Social equity impact assessment	Seldom applied	Potentially very important

This table compares the old and new transport planning social equity agenda.

Conclusions and Recommendations

Below are recommendations for a new transport social equity agenda:

- *Define key social equity concepts.* Establish standard definitions of key terms such as *basic mobility, accessibility, transport diversity*, and categories of *transport disadvantage*, and standard analysis methodologies and performance indicators suitable for transport planning.
- *Incorporate social equity analysis in all planning stages*, including funding allocation, strategic planning, public participation, economic evaluation, project design, operations, evaluation and enforcement.
- *Recognize the value of transport system diversity.* Support improvements to affordable modes, including walking, cycling, ridesharing, public transport, taxi, delivery services and telework. Apply *universal design* (transport systems that accommodate all users, including people with disabilities). Social equity requires correcting policy and planning biases that undervalue affordable modes (walking, cycling and public transit) and encourage sprawled development. Communicate the benefits of more diverse transport systems to stakeholders.
- *Focus on functional factors such as disability and poverty instead of demographic factors such as race, ethnicity and age.* Concentrating on socio-economic status helps expand support (for example, among all types of lower-income groups) and insulates these efforts from political and legal challenges.
- *Support pricing reforms that benefit disadvantaged people.* Support user pricing of highway and parking facility where appropriate to reduce subsidies of these facilities by non-drivers. Support parking cash out and unbundling. Support distance-based vehicle insurance and registration fees. Support congestion pricing in conjunction with improvements to alternative modes, including ridesharing and public transit services.
- *Favor win-win solutions.* As much as possible, environmental justice should favor strategies help achieve other planning objectives such as congestion reduction, consumer savings, accident reductions and smart growth land use development. This achieves greater total benefits and provides opportunities to build broad coalitions with other interest groups. This approach reflects sustainability principles.
- *Support high-quality public transport services, including commuter bus and urban rail.* This benefits users, attracts people out of cars, and helps create political and financial support for diverse transit service improvements that help both poor and wealthy. Providing only basic transit services implies that transit is inherently inferior, and so should be abandoned by travelers as soon as they can afford to purchase an automobile.

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