

Transportation Policy and Injury Control

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Transportation planning is in the midst of a paradigm shift; a change in the way transportation problems are defined and solutions evaluated. The old paradigm assumed that *transportation* means automobile travel, so transportation planning consists of accommodating more and faster motor vehicle traffic. The new paradigm recognizes a wider range of options, including nonmotorized modes, and a wider range of planning objectives. The new paradigm does not assume that more travel is necessarily better, but instead strive for *optimality*, that is, a proper balance so each mode is used for what it does best. With better planning we can create a healthier, more efficient and more equitable transportation system.

A key step in this paradigm shift is to recognize the full value of non-motorized modes (walking, cycling, and variants such as wheelchairs and scooters). Nonmotorized travel is basic and essential. It is virtually universal, used by almost everybody, both alone and in conjunction with other modes. For example, bus and trains stations, ferry terminals, airports and parking lots are pedestrian environments, and most motorized trips involve walking links, such as walking or cycling to a bus stop, or walking from a parked car to destinations. The quality of walking access is a key factor in the convenience and comfort of using motorized modes.

The article, "Who Owns the Roads? How Motorized Traffic Discourages Walking and Bicycling" [1] raises important questions about the unintended effects of current transportation policies and planning practices. Current transportation planning practices tend to undercount and undervalue nonmotorized travel, particularly walking [2]. Conventional travel surveys indicate that just 3-5% of travel is by walking and cycling, implying that nonmotorized travel is unimportant. But such surveys often ignore short trips, non-work travel, children's travel, recreational travel, and nonmotorized links of motorized trips. For example, many travel surveys classify walk-drive-walk trips simply as automobile trips and bike-bus-walk trips as transit trips, even if the nonmotorized links take place on public sidewalks, paths and roads. Nonmotorized travel is typically three to six times greater than such surveys indicate [3]. Some experts conclude that increased walking and cycling can do little to solve transport problems because they only consider current commute trips that can shift completely to these modes [4], but other studies suggest that nonmotorized travel can play a more important role by substituting for errand trips, supporting other modes, and helping increase land use accessibility [5].

Automobile-oriented planning practices applied in most North American communities, and followed to some degree in other countries, tend to create a self-fulfilling prophecy of increased motor vehicle travel, degraded walking and cycling conditions, and sprawled land use. As a result, people are forced to travel more to maintain a given level of accessibility, increasing a variety of costs to users and society, including vehicle costs, road and parking facility costs, accident costs, environmental damages, and reduced physical activity and health.

It is possible to cite many specific examples of public policies and planning practices that unintentionally stimulate automobile travel and constrain nonmotorized travel. For example, until about 1960 most children traveled to school under their own power. During the last half century, changes in community

design and social expectations resulted in most children being chauffeured to school by parents or school buses, and the few that do walk or bicycle face relatively high risk because of inadequate facilities and heavy automobile traffic. Yet, walking to school is healthy and enjoyable, improves children's ability to learn, reduces local traffic problems, and establishes multi-modal transportation habits [6]. It would be far better for society if communities shifted resources from roadway expansion and school busing to improving and encouraging nonmotorized transportation [7].

Public health officials are increasingly concerned about the various medical problems that tend to result as per capita motorized travel increases and displaces the majority nonmotorized travel [8]. These health problems including increased crash rates, pollution emissions and sedentary living, plus the stresses and inequities of unaffordable transportation.

Described more positively, a more balanced and efficient transportation system, with better walking, cycling and public transit service, and incentives to choose efficient transport options, can provide significant health benefits, in addition to other economic, social and environmental benefits such as reduced traffic congestion, road and parking facility cost savings, consumer savings, improved mobility for non-drivers, energy conservation and more efficient land use.

This is good news overall, since it means that public health officials can build partnerships with many other stakeholders who have interests in more efficient and diverse transportation systems. For example, public health professionals can collaborate with transport planner striving to reduce traffic congestion, developers who want to reduce their parking costs, consumer advocates wanting to reduce consumer costs, and environmentalists concerned about pollution emissions and sprawl impacts. These groups can work together to implement "win-win" solutions, which are policy and planning reforms that solve transportation problems by improving mobility options and removing market distortions that cause excessive motor vehicle travel [9].

These reforms are justified in virtually all countries, and are particularly important in developing regions where 90% of the injury burden occurs [10]. Planners, development agencies and donor nations must take into account the economic and public health costs of increased automobile dependency and the benefits of a more balanced transportation system.

The medical community has experience with successful interventions that involve a combination of policy and individual behavior changes, such as reduced tobacco consumption and improved diets. It turns out that most people want healthy lifestyles and are willing to support community efforts to help create healthier communities. You couldn't ask for a better "product" than walking and cycling: they are enjoyable, affordable, and feasible for just about everybody.

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