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The Benefits of Developing Bike-Specific Infrastructure

Cities in the United States face a wide range of problems. By creating a community environment that encourages cycling, many issues that plague American cities could be reduced. Both the communal and individual benefits of dedicated bicycle pathways and other bike-friendly infrastructure greatly outweigh the involved financial and opportunity costs associated with their construction. The current process that city planners use for creating public policies incorporating pedestrian infrastructure development is ineffective. City development committees should place a higher priority on successfully implementing pedestrian infrastructure by including dedicated bicycle facilities throughout their jurisdiction. A municipal environment with sufficient bike-friendly accommodations encourages a more active lifestyle, and presents the opportunity for reducing regional traffic congestion and environmental damage.

In order to properly suggest an effective avenue for creating bike-friendly infrastructure, one must first understand the flaws with the current approach. Transportation decision making at the federal, state, and local level is primarily conducted using a cost-benefit analysis. The research gathered for decision-making heavily favors using this method to format research techniques and analyze the results. This has impacted bicycle and pedestrian research to exclude a wide-variety of factors that affect pedestrian and cyclist behavior for selecting a regular mode of transportation (Schneider, 2013). While a cost-benefit analysis is great at interpreting economic factors, it does not provide sufficient data to take non-economic factors into account. This narrows the full spectrum of factors that affect pedestrian behaviors into mainly quantifiable financial terms. Not only does this limit the scope of empirical evidence, it over-generalizes behavior patterns, therefore simplifying the data. Johann Weber proposes an alternative framework that would allow planning committees to more effectively develop bicycle policies (2014). The multiple streams framework would increase the success rate of the actual implementation of public policy advocated by groups interested in improved bicycle and pedestrian infrastructure.

The multiple streams framework consists of three independent channels of data interpretation. Each stream contains a different part of the equation in public policy making, the problems faced, the available solutions, and the current political climate affecting the proposed legislation. The problems stream lists all of the related problems that a piece of legislation hopes to address or at least take them into account as factors that affect the problem the policy is focusing on solving. The solutions stream contains the whole spectrum of various policy choices available to solve problems in the problems stream. However, these solutions are not yet attached to a specific problem in the problem stream. Pairing solutions to the listed problems is done later in the policy development process. The most significant advantage of the multiple stream approach is the inclusion of the current regional political environment as a factor in developing policies. Creating a list of both problems and solutions is obviously necessary to drafting any public policy, but by including an assessment of the regional political climate the feasibility of proposed solutions can be further evaluated. This creates a huge advantage in determining the likelihood of a policy actually being implemented.

Policy makers are not the only individuals who benefit from the multiple streams approach. Cycling advocacy groups can devise plans of action that are more likely to succeed in their region. Research formulated using this framework would better indicate the causation of actual conditions by taking into account factors that are ambiguous; equipping legislators with more practical information for producing a transportation policy. Policies that prioritize bike-friendly infrastructure must be crafted using multiple streams framework, first by identifying the problems, developing a practical solution, and gathering support from both public officials and the affected population. A study that investigated fifty years of bicycle policies in Davis, California found that the success rate of policy implementation was directly correlated to the amount of consistent pressure on the political players involved in the development of the ordinances (Buehler, Handy 2008). According to the study, another key to success was the ability of cycling advocacy groups to partner with other interest groups, especially in the public-transportation or environmental sectors. By collaborating with the bus and rail industries, several bike-friendly plans in Davis County were successfully implemented that made gains in budget allocations, city-planning improvement strategies, bike infrastructure, and right of way laws. Policy makers should use the multiple streams approach to make better informed decisions and interpret more realistic outcomes from potential plan implementations. By developing bike-friendly policies using this approach, legislators could create more opportunities to diminish several challenges that affect their constituents, policies that later could be used as models to benefit American cities facing the same problems throughout the country.

It is no secret that the population of the United States has a disproportionately large problem with obesity. The current data supplied by the U.S. Department of Health and Human Services indicates that the average American obesity rate is approximately thirty-three percent for men and twenty-nine percent for women (2010). Outlined in the 2010 Healthy People report, the Center for Disease Control has set a goal of reducing the obesity rate to fifteen percent in all states (2010). The United States has a long way to go towards achieving this objective. The contemporary built environment has encouraged a sedentary lifestyle across the United States’ metropolitan areas. This is present in all areas of an individual’s life. Most careers are performed in an office environment that requires employees to sit for prolonged periods of time to perform their obligations to their company. The current transportation system in most major U.S. cities heavily focuses on automotive transportation and discourages commuting by bicycle. In the United States less than half a percent of Americans travel to work via bicycle. Other European countries have a predominantly higher rate of bicycle commuting among their populations. Thirty percent of citizens in the Netherlands commute to work by bicycle regularly (Weber, 2014). The lack of dedicated bicycle infrastructure accounts for the miniscule amount of bicycle mode share in the United States (Dill, 2003). Jennifer Dill conducted another comprehensive study in 2009 on the role bike-friendly infrastructure plays in determining the probability an individual will commute by bicycle and if this could help adults reach the recommended level of daily physical activity. She found that infrastructure developed to promote cycling greatly increased the amount of residents who cycled to work. The study was conducted in Portland, Oregon where the bicycle mode share is significantly higher than the rest of the United States at four and a half percent. Cycling is an activity that provides an individual numerous health benefits and participants in the study spent an average of 150 minutes per week cycling purely for commuting (Dill, 2009). If other cities developed bike-friendly infrastructure similar to Portland’s setup, this would significantly increase the amount of physical exercise the average American performed per week. This in turn would lead to better overall cardiovascular health and less prevalence of obesity across the United States.

The majority of individuals commute using their own automotive. This has created traffic problems and large amounts of pollution in urban areas. If a higher percentage of commuters traveled via bicycle, both of these problems would be reduced. According to the Texas Transportation Institute, passenger vehicle pollution accounts for 1.8 trillion pounds of Carbon Dioxide emissions per year. Traffic congestion caused over 2.8 billion gallons of fuel to be wasted in 2007. There is also the time wasted sitting in traffic to take into account. The average American spends thirty-six hours stuck in traffic every year (TTI, 2010). While these problems will not be solved by an increased use of bicycles for commuting, they will all be reduced in the regions that have higher bicycle usage. This is a step in the right direction to tackling these major issues and can serve as a piece of the overall solution. Research has proven that if the infrastructure is in place to promote bicycle use, people will utilize it (Zhao, 2013). Johann Weber’s study concluded that when cycle advocacy groups combined their efforts with public health officials, transportation policy makers, environmental organizations, and other interest groups, a higher rate of successful implementation of bicycle facilities occurred (2014). Outlined in a study on the results of improved bike-friendly infrastructure in Sydney, Australia, increased bicycle usage has proven to be a factor in reducing traffic congestion and improving local environmental conditions (Rissel, 2013). This is one of several other examples that enhance the credibility of reducing automotive modes as the primary mode of transportation to tackle issues associated with high quantities of vehicle usage.

After examining research related to current public policy decision making, individual mode of transportation factors, observations and analysis on bike-specific facilities, and current problems relating to infrastructure; it is safe to say that creating an increase in bike-friendly environments would be beneficial to communities throughout the United States. The main force of change is the responsibility of individual citizens to petition their elected officials to place a higher priority on creating bike facilities in their area. Elected leaders need to also take a better approach to problem-solving using the multiple streams model considering the results of using cost-benefit analysis appropriate for specific quantifiable data. Together through public pressure and more effective planning techniques, law-makers can create bike-friendly environments that will in turn reduce health and environmental problems common to all urban and suburban communities across the country.

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