SEATTLE, WASHINGTON

The Seattle Department of Transportation works citywide to create pedestrian and bicycle infrastructures that promote safe physical activity

Maintaining a commitment to bicyclists and pedestrians is a challenge that faces transportation and planning professionals who must keep pace with increased demand for automobile travel in rapidly growing cities throughout the US. Despite these pressures, the Seattle Department of Transportation (SDOT) continues to establish safe, interconnected bicycle and pedestrian pathways to encourage walking and bicycling for both transportation and recreation, making Seattle a model for the nation. Through partnerships with local advocacy groups, the SDOT's bicycle and pedestrian programs sponsor both community and staff initiated projects and work to ensure equitable distribution of limited resources across the region. By building safe, pedestrian friendly walkways and converting abandoned rails into a comprehensive urban trail system, SDOT is helping to create a city that encourages physical activity and promotes safe, reasonable alternatives to automobile travel.

THE PLACE

Surrounded by water on three sides, built on six hills of lush greenery, and set against a backdrop of mountains, Seattle is deemed one of the most beautiful urban areas in the country. The city boasts over 28 miles of shared use paths, 22 miles of on-street, striped bike lanes, and about 90 miles of signed bike routes. Seattle's population of about 563,374 is predominantly White, 13% Asian, 8% African American and 5% Latino, according to the 2000 US Census. The SDOT estimates that about 36% of Seattle residents bicycle for recreation, and anywhere from 4,000 to 8,000 people use their bikes to commute to work daily, depending on weather and time of year.

THE PROJECT

Seattle has long demonstrated its commitment to improve streets and sidewalks, reduce congestion, and facilitate walking and bicycling by creating a safe, interconnected system that links neighborhoods with key destinations. The primary means for this work are the city's pedestrian and bicycle programs managed by the SDOT. Program coordinator, Pete Lagerwey is proud of what they've been able to accomplish so far: "Among the big cities, we do really great things."

SEATTLE DEPARTMENT OF TRANSPORTATION IS WORKING TO COMPLETE A CITYWIDE BICYCLE NETWORK.

SEATTLE LAW REQUIRES THAT AN ARTS COMMISSION PROVIDE INPUT ON AESTHETICS, LANDSCAPING AND ART FOR ALL PEDESTRIAN PROJECTS.

The pedestrian program promotes walkability by building accessible sidewalk ramps; installing and maintaining school-crossing signs, marked crosswalks, and sidewalks; constructing features that increase pedestrian safety and visibility at curbs and crossing islands; providing walking maps for Seattle's 60 public elementary schools; and identifying and responding to pedestrian safety concerns. The program has a broad purview that includes assessing and maintaining over 700 intersections, implementing both small- and large-scale pedestrian projects, making more than 300 improvements at spot locations throughout the city, and overseeing the gradual implementation of neighborhood plans developed by community residents in the late 1990's. Among the 37 neighborhood plans that were introduced by residents between 1996 and 1998 and adopted through City Council resolution from 1998 to 2000, 35 identified pedestrian issues of paramount importance, sending a strong, clear message to the SDOT that pedestrian safety is a top priority for neighborhood residents.

The scope of the bicycle program is equally broad. Its mission is to implement a comprehensive urban trail system that connects the corners of the city with downtown. By converting abandoned rails into trails the city provides access to recreational activities, promotes bicycling as a viable transportation option, and links neighborhoods, parks, and open spaces throughout Seattle. This rails-to-trails system represents a longstanding goal to transform the city into a bike-friendly environment. In 1989, Lagerwey was involved in the negotiation process with the transcontinental rail system, Burlington Northern, that made it possible for SDOT to gain control of rail corridors as the company shut down rail lines.

The citywide bus system helps further these goals by offering free rides throughout downtown. This system provides a valuable service to the significant portion of downtown residents who commute to work on foot or by bike.

Despite Seattle's major infrastructure, policy, and programmatic strides toward a more pedestrian- and bike-friendly environment, this progress has been hard-won. "Nothing's easy; it's all difficult," said Lagerwey, who offered up one example. "In making transitions from rail corridors to trails, we have NIMBYs (Not In My Back Yard residents) that don't like the bike paths because they fear change, that they will hurt property values or result in crime. So, for every project, we'll bring testimonials from other people who've had trails built near them, we'll show real-estate advertisements which routinely boast 'proximity to trail' and try to give presentations that will help people overcome their fears. These presentations work well for people who are on the fence but don't change the adamant opposers. Still, we've never lost a trail because of NIMBYism. In the 1980's we did a phone survey interviewing residents adjacent to trails, tracked real estate values, monitored crime rates, and found that the trails have been overwhelmingly positive in terms of these factors as well as community building."

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Funding can also be an issue, especially in a tight economy, Lagerwey explained. Working with the Fire Marshall is an on-going challenge because the fire department

frowns on traffic calming devices and anything that might narrow the streets. Staffing and time are often short; with just five people on staff, the bike and pedestrian programs at SDOT can't touch everything in a city as big as Seattle.

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Despite these challenges, these programs stand out for their integrated approach to making healthy changes to urban environments. By partnering with local advocacy groups, responding to citizen groups and neighborhood plans, seeking review and comment from pedestrian and bicycle advisory boards, and conducting systematic inventories of neighborhoods, SDOT has worked to ensure equal distribution of limited resources for the greatest overall good.

Lagerwey notes that his programs are always "very concerned about social equity, so they have to balance being responsive while distributing resources fairly. If we based our decision-making entirely on an 'inbox approach' we'd be missing part of the picture, so we also have to use a systems approach." For example, some residents may not feel comfortable calling authorities, so SDOT is careful to look closely at neighborhoods with the following characteristics to assess crash probability and to ensure equity across SDOT projects:

- high concentrations of immigrant populations
- walking seniors
- neighborhoods that are poor
- communities with the most kids
- intersections with high pedestrian usage or crash rates

THE PEOPLE

Diverse Partners Collaborate to Build Healthy Environments

Community input and citizen participation in SDOT programming, planning and implementation of walking and biking projects occurs through several different mechanisms. Institutionally, SDOT utilizes two mayor-appointed boards, a pedestrian advisory board, and a bicycle advisory board, which meet once a month to review and comment on all major projects. These boards "look like the community, represented by men, women, people of color, young and old," explained Lagerwey. "Every single month a speaker presents a project before the boards for review and commentary. The boards have been very successful." Through partnerships with Feet First, a pedestrian advocacy group, and Bicycle Alliance of Washington, SDOT also gets input from special interest groups and activists. In accordance with Seattle law, a design commission made up of community members and a full-time artist also provide input on aesthetic enhancements such as trees, landscaping, and public art installations for almost all large projects. The Arts Commission provides a "huge value in terms of safety, accessibility and aesthetics by integrating art into all capital improvement projects," said Lagerwey.

SDOT also seeks resident input through official neighborhood groups and responds to individual calls from residents about neighborhood plans or specific locations of concern. In cases where members of SDOT staff identify safety-related issues, community members are informed of a proposed change through mailings or community meetings.

SAFE ROUTES TO SCHOOL ARE A PRIORITY FOR SEATTLE'S PEDESTRIAN PROGRAM.

THE RESULTS

Healthy Change in Local Environments

Walking and biking are known to be two important and popular forms of physical activity that are linked to improved cardiovascular health and reduced risks of diabetes and obesity. However, Lagerwey does not jump to quick conclusions about whether or not SDOT's bicycle and pedestrian work is correlated with increased physical activity or reduced injuries. He is clear that "in a macro sense we know what causes crashes and what prevents them, and we believe that by replicating these things throughout the city—like good walking routes and improvements at spot locations—that we've begun to have an overall impact." In 2003, the American Podiatric Medical Association (APMA) rated Seattle among the nation's top ten walking cities. The association's criteria included the number of people walking to work daily, air quality, number of parks, crime rates, dangers to pedestrians, and the availability of products, services, and amenities to serve pedestrians. While it is difficult to show causality and what came first, Seattle does have high "journey-to-work" rates via bike and foot, while maintaining low pedestrian fatalities (about one every ten years). Clearly this is indicative of an effective design that encourages and enables people to walk safely.

After nearly 15 years of negotiations, SDOT has now acquired 100% of the rail corridors needed to complete the bike trail system which is now two-thirds complete, with about $12 million worth of projects in the pipeline and another $25 to $30 million needed to complete the citywide system.

The SDOT is comparing 1990 and 2000 census data. Nevertheless, it will be "hard to draw direct correlations," said Lagerway, because Seattle's population has boomed over the decade. As SDOT builds up the bike trail system and connects long stretches of trail from industrial parts of town to the trail network, bike traffic increases significantly. "We get thousands of bicyclists, and then we are faced with the decision to not widen trails because we don't want to destroy the reasons why people enjoy riding on them, either," said Lagerway.

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SEATTLE BOASTS OVER 28 MILES OF SHARED USE PATHS THAT FACILITATE WALKING AND BIKING THROUGHOUT THE CITY.

Although Seattle-specific impact studies have yet to be done, research suggests that improvements can increase health-promoting physical activity. Studies show that rates of walking and cycling have been positively correlated with neighborhood and environmental factors such as availability of walking paths and bicycle paths, the presence of highly connected pathways, and proximity to trails.[1] In *Environmental Factors Associated with Adults' Participation in Physical Activity*, Humpel et al. review quantitative studies that examine the relationship between features of the physical environment and activity among adults. The researchers found evidence for an association between convenience of, and access to, local facilities and activity.[2] In a study of 3,392 adults by Ball et al., perceptions of neighborhood convenience and attractiveness were associated with walking.[3] Booth et al. studied over 2,000 older adults and similarly found that when footpaths were perceived as safe and accessible, participants were more likely to be active.[4]

Data also suggest that neighborhood level changes to the environment that slow traffic can prevent injuries. A systematic review

and meta-analysis by Bunn et al. in 2003 provides evidence that traffic calming strategies can prevent traffic-related injuries.[5] In their article, "Creating a Healthy Environment: The Impact of the Built Environment on Public Health," Jackson and Kochtitzky explain, "People are more likely to use parks, paths and bikeways when they are easy to get to and are safe and well-maintained." The authors also explain that there are "several regulatory and design strategies that can be applied to make communities safer for both child and adult pedestrians and bicyclists."[6] Existing evidence suggests that improving access to a highly interconnected system of bike and walking paths throughout the community is likely to promote physical activity and prevent injuries among residents.

WISDOM FROM EXPERIENCE

Lagerwey shared some of his secrets for success: "When you develop a successful program, use it as a model to avoid reinventing the wheel. Balance outcomes and products, select long-term, medium-term, and short-term projects and do some of each in parallel so that things get done within time cycles, like city council terms. Give attention to the 3 P's—policies, programs, and projects." And finally: "Work to benefit all the pedestrians and cyclists, don't spend all the time on one location; focus on systems issues."

LOOKING AHEAD

SDOT continually reviews neighborhood plans and prioritizes projects for each year, while identifying new small and large projects on an ongoing basis. SDOT will continue to transform the remaining third of the rail corridors to link with the bicycle trail network. Recently, SDOT along with Feet First and the King County Department of Public Health, were the recipients of a Robert Wood Johnson Foundation Leadership for Active Living Grant to improve infrastructure and implement a public education and health promotion project in several communities over the next four years. All signs point to continued success of SDOT's programs that encourage residents and visitors to take advantage of Seattle's natural beauty through health-enhancing walking and biking paths that provide safe and pleasant routes to all corners of the city.

PROGRAM CONTACT

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ENDNOTES

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3 Bunn F, et al. Traffic calming for the prevention of road traffic injuries: systematic review and meta-analysis. *Inj Prev*. 2003;9(3):200-204.

4 Jackson RJ, Kochtitzky C. Creating a Healthy Environment: The impact of the built environment on public health. Sprawl Watch Clearinghouse Monograph Series. Accessed 12/12/03: www.sprawlwatch.otg

This is one in a series of 11 profiles that reveal how improvements to the built environment can positively influence the health of community residents. The examples illustrate how changes to the built environment can be particularly meaningful in communities that have historically lacked important features such as pedestrian infrastructure, services and institutions, or public art. Taken more broadly, the profiles demonstrate how improvements to the built environment have the potential to reduce health disparities.

The profiles were written and produced by Prevention Institute. Funding and guidance were provided by the Centers for Disease Control and Prevention's National Center for Environmental Health. It is our hope that these profiles will stimulate and inspire partnerships between community residents and practitioners from multiple fields and sectors to design solutions and take action to improve the built environment for the health and well-being of all.