

Parks and Recreation:

Essential Partners in
Active Transportation



National Recreation
and Park Association



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Executive Summary

For over three decades, public parks and recreation has played an important role in facilitating active transportation. Park and recreation agencies have consistently supported the implementation and use of modes of active transportation through initiating and planning, trails, greenways, multi-modal transportation connections and encouraging participation in active transportation as well as promoting conservation and environmental stewardship in the development transportation infrastructure. There are fundamental connections that public parks and recreation have with active transportation and the principles underlying development of active transportation and parks are complementary, thus substantiating the commitment of public parks and recreation in advocating for additional active transportation infrastructure and modes of transportation.

What is *active transportation*?

Active transportation is defined as human powered modes of transportation. The most popular modes of active transportation by far are walking and bicycling, however, skate boarding, canoeing, roller skating, etc. can all be considered forms of active transportation¹.

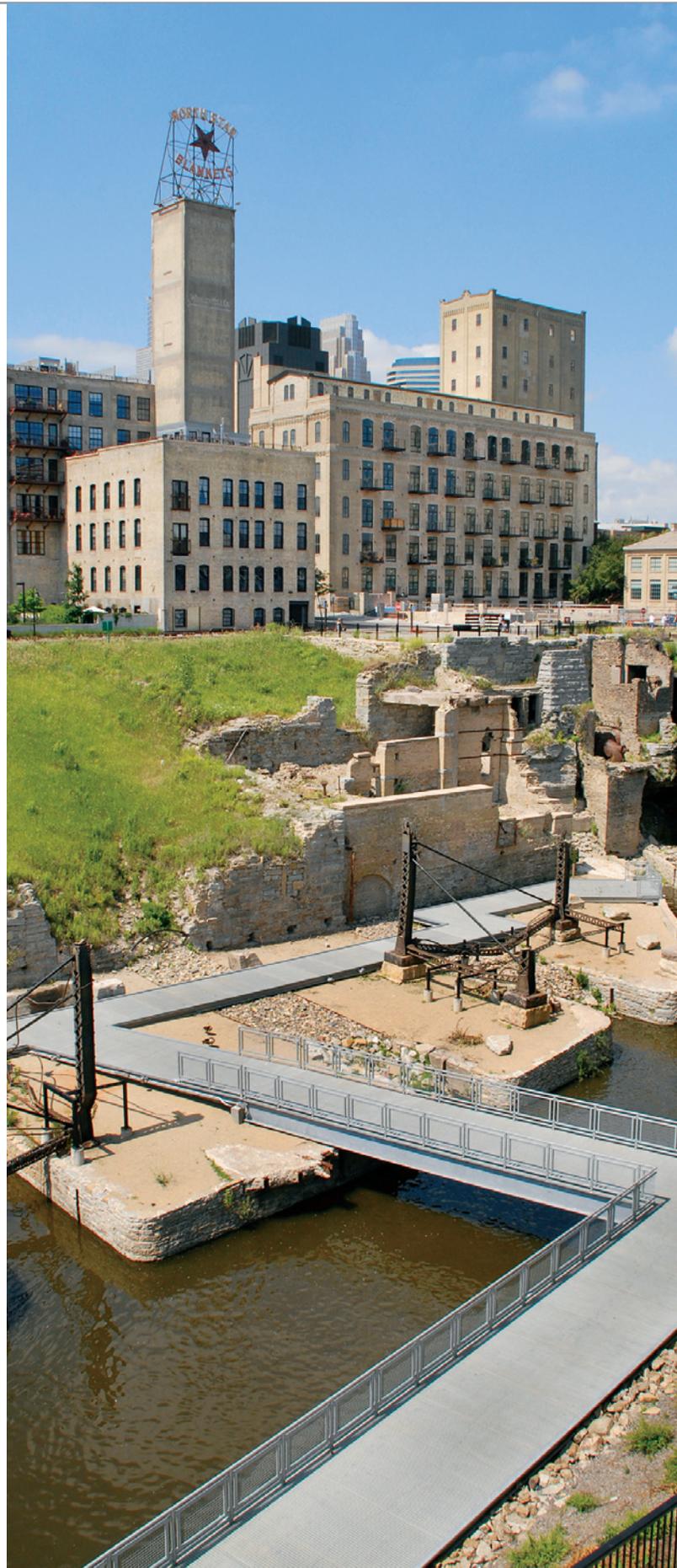
Currently, the United States is faced with a number of social, economic, and environmental challenges that can be effectively addressed by active transportation. These include the challenges of steadily increasing obesity rates for all ages, especially youth; a struggling economy; and issues related to climate change. Research illustrates that active transportation offers several benefits to our communities related to addressing these challenges. Active transportation can provide tools to begin tackling some of these challenges.



For purposes of this paper, the benefits of active transportation can be categorized into *economic*, *health* and *conservation benefits*.

- Trails, bicycle paths and pedestrian paths stimulate local economies through job creation, commercial business development and by boosting real estate values for properties located close to active transportation infrastructure.
- Active transportation infrastructure assists in building healthy communities as it encourages participation in physical activity as part of daily life. Moreover, development of transportation infrastructure to support active transport has the potential to ensure the safety of pedestrians and bicyclists, reducing loss of life and saving funds.
- As an alternative to motorized transport, the use of trails, bicycle paths, pedestrian paths and greenways reduces air and water pollution by removing cars from roadways, reducing congestion and slowing the need for growth of motorized transportation infrastructure to support more vehicles, thus, promoting conservation and enhancing future environmental sustainability.

The advantages of active transportation are invaluable. It is for this very reason that public parks and recreation enables, supports, and advocates for active transportation infrastructure so that our communities achieve benefits that improve the overall quality of our lives.



INTRODUCTION



As our society continues to face an economic downturn, deals with increasing obesity rates, and addresses climate change conditions, active transportation begins to emerge as a viable tool to meaningfully tackle these challenges.

Active transportation has the capacity to positively impact our communities in three ways through: boosting our local economies, improving our physical health and making strides towards a cleaner environment.

Park and recreation agencies play an integral role in the pursuit of the active

transportation movement through facilitating the development of active transportation modes and supporting participation in active transportation as a form of recreation. Many park and recreation agencies have consistently promoted active transportation via marketing, programs, partnerships and investments in active transportation infrastructure. Parks and recreation agencies are important players in influencing the cultural shift towards active transportation through its ability to foster landscape architecture, park planning, recreational programming and other design decisions that encourage active transportation. Creating networks of trails, greenways, parks, and recreation areas in residential and commercial areas as well as establishing bicycle racks, helmet loan programs and installing pedestrian lighting are all some of the ways in which the public parks and recreation enables active transportation.

To appreciate the immense benefits of developing active transportation infrastructure and new modes of active transportation, it is useful to look at the consequences resulting from the lack of individual participation in active transportation and the losses from reduced investments in active transportation infrastructure.

Transportation policies centered on automobiles have led to severe congestion, skyrocketing gas expenses and a transportation system that lacks efficiency in that it only provides very limited options, such as the automobile, as a means of transportation². Tremendous investment in motorized transportation infrastructure over the years has facilitated much easier access to work, shopping and other destinations, but it has also increased our dependence on automobiles while sacrificing alternative modes of transportation. In addition, the development of suburban communities has further contributed to this reliance since such areas are located at a distance from city centers and public transportation systems³.

Interestingly, approximately 50% of short trips (three miles or less) taken in the United States can be accomplished by bicycling for 20 minutes or less. Moreover, 25% of short trips can be completed by walking 20 minutes or less². Walking is often the most accessible and cost effective means of transportation. Nevertheless, Americans have continuously opted to use automobiles to complete a significant number of these trips^{1,2}. Although the majority of car trips are short and the trend in driving patterns has been declining, in 2008, it was estimated that the average American drove approximately 10,000 miles per year^{1,3}.

U.S. federal transportation policy remained fairly consistent since the initial planning and implementation of the interstate highway system in the latter half of the 20th century but evolved significantly since the adoption of the Intermodal Surface Transportation Efficiency Act (ISTEA) in the early 1990s^{3,4}. ISTEA recognized the need for alternative modes of transportation and restructured the way in which funds were allocated so that highway funding was not given sole preference⁴. The need for alternative modes of transportation is even greater today, but funding for such projects is at significant risk and even is under attack due to competition for funds and other reasons.

While automobiles and motorized transportation infrastructure have afforded Americans with convenience, comfort, mobility and accessibility, it has done so to the detriment of three important facets of our lives: our *health*, our *economy* and our *environment*. Over the years federal transportation policy and funding authorizations have often failed to incorporate the goals of broader national policy agendas such as health policies, economic policies and environmental policies⁵. In light of this, advocates for public parks and recreation continue to advocate for increased funding and development of active transportation modes as it provides communities across the nation with the hope of improving the overall quality of life, the health of citizens and the sustainability of our environment.

Parks and recreation play an integral role in supporting development of active transportation. Advocates for parks support a shift towards more active transportation, a strategy which has the ability to measurably improve *our health, our economy and our environment* to the benefit of all.



Iowa High Trestle Trail – ChicagoMag.com

<http://www.chicagomag.com/Chicago-Magazine/The-Escape-Artist/April-2011/What-to-Do-This-Week-end-Bike-the-High-Trestle-Trail-in-Iowa/>



PART I

Stimulating Economic Activity



Many of the principles that underlie the mission of public parks, recreation and active transportation overlap, therefore, public parks and recreation is an important player in advocating for funding and resources for active transportation infrastructure and in implementing actions to promote active transport strategies. Park and recreation agencies play a key role in project planning, initiation and completion through their appropriate jurisdiction and are participants in designing and creating trail networks.

Do investments in transportation infrastructure positively impact our economy?

Although future federal funding towards active transportation infrastructure remains uncertain partly due to the current economic crisis, trails, pedestrian pathways and bicycle paths have repeatedly proven to contribute to local economies through more than one route. Job creation, tourism, the development of commercial businesses and increases in real estate value are key areas through which existing active transport infrastructure has impacted local economies throughout the United States.

Vehicle for Job Creation

Trails, pedestrian pathways and bicycle facility projects stimulate the creation of numerous *direct*, *indirect* and *induced jobs*. Direct jobs are generated from the engineering and construction process itself. Indirect jobs are those that are initiated through product and service industries that are required in the construction phase such as cement manufacturing and trucking while induced jobs are created as a result of demand from local residents such as retail positions and food services specialists⁶. Since the United States is faced with a tough economic climate, additional investments in active transportation infrastructure can partly address high unemployment rates through its potential to create jobs⁶.

Active Transportation Infrastructure Creates More Jobs than Road Infrastructure

A recent study conducted by the Political Economy Research Institute at the University of Massachusetts to investigate the employment impacts of pedestrian and bicycle infrastructure in 11 cities in the U.S. reveals that Bicycle Infrastructure Only, Pedestrian Infrastructure Only and Off-Street Multiuse Trails create the most jobs (i.e. direct, indirect and enhanced jobs) while Road Infrastructure Only creates the least number of jobs⁶:

- Bicycle Infrastructure Only projects generate 11.41 jobs per \$1 million
- Pedestrian Infrastructure Only projects generate 9.91 jobs per \$1 million
- Off-Street Multiuse Trail projects generate 9.57 jobs per \$1 million
- Road Infrastructure Only projects generate 7.75 jobs per \$1 million

Catalyst for Economic Development

Multi-use trails, bicycling and pedestrian facilities play a critical role in facilitating business development and tourism in communities that are experiencing economic hardship. Numerous studies on active transportation infrastructure illustrate a substantial return on investment. Since a percentage of fuel expenditure is allocated to the federal fuel tax known as the Highway Trust Fund, expenditure on fuel does not necessarily remain in local economies, however, active transportation provides people with extra funds (that they would otherwise use for purchasing fuel) to spend at local businesses when walking or bicycling thus allowing funds to circulate within the local economy¹.

North Carolina Northern Outer Banks: Remarkable Return on Investment

Bicycle facilities in the Northern Outer Banks of North Carolina play a critical role in facilitating tourism. Research conducted by the North Carolina Department of Transportation (NCDOT) Department of Bicycle and Pedestrian Transportation highlights that 680,000 tourists travel to this area partly to cycle^{6,7}. It has been reported that over the last decade, approximately \$6.7 million of public funding has been invested on constructing bicycle paths/facilities in this particular area. As a result of this investment, bicycling activity continues to produce \$60 million annually in economic benefits translating to approximately 9 times more than the one-time expenditure of public funds to establish these facilities⁷.

High Trestle Trail: Business Boom for Iowa's Local Communities

The High Trestle Trail is a 25 mile trail that was officially opened in April 2011. Historically, the trail was a railroad that was formerly the property of Union Pacific Railroad^{8,9}. The trail runs through the towns of Ankeny, Sheldahl, Slater, Madrid and Woodward and counties of Polk, Story, Boone and Dallas and is visited by over 3000 people; consequently, local businesses around the trail have reported an increase in sales by 30% in May 2011 and expected a 75-100% increase in sales in June 2011^{8,10}.

Boost for Real Estate Values

Trails also serve as an amenity to the homes that are established close to it. The presence of trails in neighborhoods is found to increase real estate values for the properties adjacent to it. Moreover, homes that are located near trails are more likely to sell at a faster rate than those that are not in close proximity to a trail .

Home Sales Near Two of Massachusetts Trails

Between June 1, 2005 and September 30, 2005, data was collected on home sales in 7 towns through which two of Massachusetts trails run: Minuteman Bikeway and Nashua River Rail Trail¹². The data illustrated that homes located close to the rail trails sold at 99.3% of the list price while the remaining homes in these towns sold for 98.1% of the list price. Furthermore, the most compelling statistic derived from this data was that the average number of days on the market for homes near the rail trail was 29.3 days in contrast to other homes in these towns which amounted to an average of 50.4 days on the market¹².



Massachusetts Minuteman Bikeway – The Natural Connections Project

<http://naturalconnectionsproject.com/>

PART II

Building Healthier Communities



Building healthy communities is a common goal shared between active transportation and recreation thus warranting the role of park and recreation agencies to incorporate active transportation plans into their overall recreation strategy. Park and recreation agencies continue to work in partnership with public health officials and public transportation agencies in designing active transportation plans to encourage physical activity in order to reduce the prevalence of chronic diseases.

How Healthy Are We: the Current State of Health and Physical Activity Status

Currently, one third (33.8%) of the population in the United States is obese. The National Center for Chronic Disease Prevention and Health Promotion estimates 1 in 3 adults and 1 in 6 children are obese¹³. According to Healthy People 2010, the number of states that had an obesity prevalence exceeding 30% in 2009 leaped from 9 to 12 states in 2010. Almost a decade ago, none of the states had an obesity prevalence of over 30% demonstrating that obesity is indeed growing at a startling rate¹⁴.

Not only does obesity present the risk of chronic physical illnesses such as cardiovascular disease, high blood pressure, stroke, colon cancer, breast cancer and Type 2 diabetes but it also presents the risk of negatively affecting one's mental health^{15,16}. Although the Center for Disease Control and Prevention's (CDC) physical activity guidelines recommends that children/adolescents and adults/seniors should engage in *moderate intensity* physical activity for 60 minutes per day and 150 minutes per week respectively, less than 33% of the population meet these standards¹⁷. The CDC's criterion for moderate intensity physical activity simply means walking briskly (minimum 3 miles per hour) or bicycling at a slow pace (less than 10 miles per hour)¹⁸.

Linking Obesity and Health Care Costs

Beyond the fact that obesity is destructive to our physical and mental health, it also places an enormous burden on the health care system. Health costs related to obesity have continued to escalate steadily since 1998 estimating to \$147 billion in 2008¹⁹. Research has revealed that 9% of the total spending on health care in the U.S is attributed to obesity-related conditions. Furthermore, in 2006, the prevalence of obesity was responsible for \$7 billion in Medicare prescription drug costs¹⁹.

Safety Concerns

The transportation choices we make have an impact on our safety. For instance, in 2008, the cost of traffic crashes amounted to \$180 billion. These costs included healthcare costs, lost wages, property damage, legal/administrative costs, pain and suffering and lost quality of life³. Furthermore, in 2006, the lack of safe active transportation infrastructure was responsible for the deaths of over 4,784 pedestrians and 771 bicyclists travelling on roads in the United States². Interestingly, approximately 13% of all traffic fatalities happen to pedestrians and bicyclists yet only 1% of the federal safety funds are allocated to active transportation modes²⁰.

The Priceless Prescription: Active Transport

Even the smallest increase in physical activity is proven to be more beneficial than inactivity so much as to enhance longevity across both genders and age groups^{19,21}. Trails, pedestrian pathways and bike paths grant several opportunities for people to walk, bike, jog and skate in safe places. Many trails are located close to residential areas thus providing residents with free access to participate in physical activity on the trail. Such active transportation infrastructure is designed to promote healthy recreation activities that can be integrated into people's daily lives through a couple of avenues.

- Trails, pedestrian pathways and bike paths serve as connectors between people and places providing the means to either walk or bike to places whether it is to run errands or commute to work. Since a significant number of trips that people take on a daily basis tend to be relatively short, it becomes convenient to incorporate physical activity into one's daily life through the use of active transport infrastructure²².

Active transportation is the easiest way for people to meet the recommended levels of physical activity per day.

The New York City Department of Health and Mental Hygiene found that New Yorkers get a significant amount of the recommended daily physical activity from using active modes of transportation. On average, New Yorkers that walk or bike to work are getting over 40 minutes worth of physical activity per day versus those who use a car or cab to commute to work²³.

- Active transportation infrastructure provides the accessibility for children and adolescents to safely walk or cycle to school or to their peers' homes. Studies have demonstrated that walking or cycling to school is associated with increased levels of physical activity in children and adolescents²⁴. In addition to directly improving our physical and mental health, active transportation also provides the opportunity for us to reduce excessive medical costs related to obesity. A comparative National Park Service study between people who exercise on a regular basis versus those that do not

Research conducted in California illustrates that infrastructure improvements made to schools through The Safe Routes to School initiative facilitated an increase in walking and biking to school by as much as 20% to 200%²⁵. Moreover, children and adolescents that walk one mile each way to and from school accomplish roughly 40 out of the recommended 60 minutes of physical activity per day^{26,27}.

engage in any form of physical

activity indicated that the people who walked or hiked a few times per week filed 14% fewer healthcare claims to their insurance provider, spent approximately 30% fewer days at a hospital facility and had 40% fewer claims over the amount of \$5000²⁸. Research asserts that a miniscule decrease as little as 1% in the use of automobiles can lower obesity prevalence by 0.4% which in turn will assist in lowering medical expenditure²⁹.

Investments in new active transportation infrastructure and improving existing infrastructure have also proven to reduce and prevent traffic accidents and fatalities. The availability of infrastructure designed specifically for active modes of transportation does increase the safety of pedestrians and bicyclists.

In the early 1990s, the city of Portland, OR began expanding their active transportation infrastructure to accommodate bicyclists. Between 1991 and 1996, the number of people that bicycled via active transportation infrastructure grew by 4 times, the rate of accidents decreased by 69% and the maximum number of fatalities per year was five².



New York City – The City Fix

<http://thecityfix.com/blog/research-recap-march-21-new-car-emissions-support-for-bike-lanes-transit-oriented-development/>

PART III

Promoting Conservation and Environmental Stewardship



Conservation has long been a mission for public lands and parks. Open space, parks, trails and greenways are instrumental in mobilizing conservation efforts and environmental stewardship. Parks, greenways and trails play an essential role in protecting natural landscapes thus promoting future environmental sustainability for our communities.

How does active transportation infrastructure promote environmental conservation and environmental stewardship?

Transportation decisions that we make affect the essential features of our environment through their impact on air quality, water quality and congestion.

Active transportation infrastructure is a tool to conserve our natural resources in a variety of ways including removing vehicles from crowded commuter routes thereby reducing air and water pollution, reducing the rate of growth of congestion, and reducing or eliminating the need for highway expansion. For these reasons, short distance trips using active transportation modes can contribute to conservation and environmental sustainability.

Air Quality: Combating Carbon Dioxide Emissions

An excessive level of carbon dioxide has detrimental effects on our environment. Increased carbon dioxide emissions are causing temperatures to rise thus impacting climate change. The effects of climate change are posing serious threats to our ecosystems.

The largest contributor to carbon dioxide emissions in the United States is the transportation sector³⁰. Future projections have revealed that even with the introduction of 'clean' fuels and 'green' vehicles, the level of carbon dioxide is estimated to escalate to 41% over the current rate by 2030. The projected increase in carbon dioxide emissions rates is attributed to a projected increase in driving by 59% by the year 2030³⁰. In order to prevent the rise in carbon dioxide emissions, the amount of driving has to significantly decrease³⁰.

From Grey to Green: Portland's Extensive Walking and Bicycling Infrastructure

In 1993, as a response to the concerns over global warming, Portland, Oregon was the first city in the United States to embrace an active transportation plan to address increasing levels of carbon dioxide emissions from vehicles³¹. The goal of the plan was to reduce emissions by 10% below the 1990s levels by 2010. The city began to invest in construction of new active transportation infrastructure and made improvements to existing infrastructure. By 2005, as a result of pedestrian and bicycle infrastructure investments, the level of carbon dioxide emissions per capita dropped by 12.5%³¹. Consequently, Portland's active transportation infrastructure and land use policies has led to carbon savings of approximately \$28 to \$70 billion per year³².

Water Quality: Battling Water Pollution

Major sources of water pollution include motor vehicles, roadways and parking lots. Specific pollutants that present a risk to the quality of our water are crankcase oil drips and disposal, road salt damage, roadside herbicides to clear any vegetation and leaking underground fuel storage tanks³³.

Traditional roads pose challenges associated with water drainage and storm water runoff. Simply aiming to drain storm water quickly has negative environmental effects in terms of storm water since many times this water is combined with polluted runoff. Integrating trails and greenways assists in re-focusing our efforts in improving water quality through retaining and treating the sources of water pollution thus striving for environmental sustainability³⁴.

Congestion

Road congestion is a problem in many parts of the United States. Congestion occurs when the number of miles driven surpasses the infrastructure capacity; therefore, less driving will reduce congestion especially during "rush" hours. An effort to reduce the number of miles driven is much less costly than developing additional road infrastructure. Presently, 23 billion miles driven every year can be avoided by riding a bicycle or walking for short trips².

South Carolina's Congaree Bottomland Swamp has wetland that creates a natural water filtration system that would otherwise cost a minimum \$5 million if an alternative manmade water filtration system were to be installed³⁵.

Research has demonstrated that increasing a neighborhood's "walkability" by 5% is correlated with driving 6.5% fewer miles per capita³⁶.

CONCLUSION

For over thirty years, public parks and recreation has played an instrumental role in facilitating active transportation connections. Park and recreation agencies across the country have actively been involved in promoting the implementation and use of active transportation infrastructure through several routes. This sector undertakes a large role in advocating for and implementing active transportation infrastructure because parks, recreation and active transport have three overlapping characteristics: stimulating economic activity, building healthy sustainable communities, and promoting conservation and improving environmental quality.

Park and recreation agencies have consistently championed for active transportation through project initiation and planning of trail networks. Due to the familiarity with their local jurisdiction, park and recreation agencies have the expertise and knowledge to create strategic trail plans. Furthermore, public parks and recreation encourages the use of active transportation infrastructure since physical activity is a central theme for both public recreation and active transportation. In addition to project initiation, planning, and implementation of projects, as well as and encouraging healthy physical activity, public parks and recreation also supports the use of active transportation to conserve public spaces for future environmental sustainability.

Research continues to demonstrate that the benefits of active transportation are worthwhile for our communities. Active transportation meets the test of the triple bottom line: it promotes economic, social, and environmental benefits for all citizens.



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About NRPA

The National Recreation and Park Association is a national nonprofit organization dedicated to advancing park, recreation and conservation efforts that enhance quality of life for all people. Through its network of nearly 19,000 recreation and park professionals and citizens, NRPA encourages the promotion of healthy lifestyles, recreation initiatives, and conservation of natural and cultural resources.

Headquartered in Ashburn, Va., NRPA works closely with local, state and national recreation and park agencies, citizen groups and corporations to carry out its objectives. Priorities include advocating favorable legislation and public policy; continuing education for park and recreation professionals and citizens; providing professional certification, university accreditation, research and technical assistance; and increasing public awareness of the importance of parks and recreation. For more information, visit www.nrpa.org.



**National Recreation
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