BICYCLE AND PEDESTRIAN PROJECTS IN SMALLER COMMUNITIES

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Cover: Jackson Hole, WY; Wyoming Pathways

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INTRODUCTION

Biking and pedestrian (bike/ped) issues vary significantly between urbans areas and smaller communities. Some common barriers include education and awareness, policy and advocacy, and technology integration. The challenges for smaller communities include limited financial resources to develop and maintain extensive biking and walking infrastructure; lack of connectivity between residential areas and key destinations like schools, shops, and workplaces; perception of safety, especially in areas with less traffic but higher speeds; limited resources for regular maintenance; and more dispersed land use patterns that make biking and walking less practical.

Addressing biking and pedestrian issues requires tailored approaches that consider the unique challenges and opportunities in smaller communities. Effective planning, community involvement, and policy support are essential for creating safe, accessible, and appealing environments for biking and walking.

What is an RTPO/RPO?

Regional Transportation Planning Organizations (RTPOs) generally operate in non-metropolitan areas to conduct outreach to the public and local officials and provide transportation planning support under contract to state departments of transportation (DOTs). A Governor may establish and designate federally recognized RTPOs to enhance the planning, coordination, and implementation of the long-range statewide transportation plan and STIP, with an emphasis on addressing the needs of nonmetropolitan areas of the State. Whether formally designated or not, regional rural planning partners can benefit state and local stakeholders. Sometimes, such organizations are also called Rural Planning Organizations (RPOs), and some states may refer to them as Regional Planning Affiliations, Regional Transportation Planning Agencies, or simply as general-purpose Councils of Governments or Regional Planning Commissions who have a rural transportation planning program. They generally exist to assist state DOTs with completing their requirements for statewide planning in rural areas and to enhance the outreach conducted to local officials and the public.

This issue brief will discuss the importance of data collection and community engagement in developing and implementing bike/ped projects in smaller communities.

To prepare this brief, NADO Research Foundation staff reviewed United States Department of Transportation website, Transportation Research Board publications, and several bike/ped resources and documents.

BRIEF HISTORY OF BIKE/PED TRANSPORTATION

Bicycles and pedestrians have played a significant role in transportation history. Walking has been the primary mode of transportation for many people over many years. Cities and towns were designed for the pedestrian and provided access to other modes (e.g., trains) for long-distance travel.[1]

In the 18th century, cities were compact and limited in size to the distance a person could reasonably walk. With the absence of mass transportation, the cities were laid out with short blocks and a mix of uses. Urban densities were very high as the available space was strongly constrained by accessibility. All economic activities were concentrated in a central node along with residential areas. The development of urban mass transit technologies allowed cities to expand outwards along major streetcar lines. Motorized transportation further expanded cities. The automobile had an incredible impact on the spatial layout of American cities, allowing for decentralized, low-density suburbs away from the central city.

Post-WWII saw more and more individuals able to afford an automobile, increasing individual mobility. Highways allowed for more suburbs further out on the urban fringe. The accessibility of this transportation mode supported the decentralization of not only residential areas but employment centers. Instead of clustering development within walking distance of home or a streetcar, buildings were built further away from each other. Federal funding for freeways and the desire to separate uses—factories from homes for example—led to the development patterns that became the standard by the mid-1900s. This rise in personal vehicle ownership and the expansion of the highway system led to automobile dependence, sprawl, and myriad other impacts on the built environment and the movement of people.[2]

In the 19th century, with the boom of urbanization, sidewalk construction started making pedestrian travel safer and more organized. In the late 20th century, a resurgence of cycling occurred due to environmental awareness and healthy living movement.

Source: Silver City, NM

FEDERAL TRANSPORTATION BILLS AND POLICY FRAMEWORK RELATED TO BIKE/PED INFRASTRUCTURE

At the national level, the policy framework that shapes bicycle and pedestrian programs, funding, and projects has evolved over time through a series of different types of measures. Surface transportation laws passed by Congress create the basis for transportation planning requirements, major funding programs, and types of projects and activities eligible to be funded through those programs. Following any major new legislation, Federal agencies such as the U.S. Department of Transportation and its modal administrations publish regulations on how provisions of the law are implemented and what transportation agencies must do to comply. Agencies also publish guidance documents, fact sheets, circulars, policy statements, and other non-regulatory documents that communicate additional information about programs or priority issues.

The Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991 is viewed as the Federal act that initiated a major policy shift in Federal funding priorities in the United States, making Federal funds much more accessible for State and local bicycling and walking facilities and programs.[3]

Subsequent Federal transportation legislation (the Transportation Equity Act for the 21st Century or TEA-21) has strengthened the emphasis on improving conditions for bicycling and walking. Adopted in 1998, it carried forward the same programs for bicycling and walking established in ISTEA and included several new and stronger directives. TEA-21 also amended Federal transportation law to require the Secretary of Transportation to ensure that bicycle and pedestrian linkages are maintained and improved. As mandated, bicycle and pedestrian coordinators are in place in all 50 States, and some State departments of transportation (DOTs) maintain programs that are staffed with several professionals who focus solely on bicycle and pedestrian planning and design issues.[4]

In 2005, the Safe, Accountable, Flexible, Efficient, Transportation Equity Act: a Legacy for Users (SAFETEA-LU) was passed by Congress, continuing funding for bicycle and pedestrian infrastructure and establishing the Nonmotorized Transportation Pilot Program.[5]

The United States Department of Transportation (DOT) on March 15, 2010, announced a Policy Statement to reflect the Department's support for the development of fully integrated active transportation networks. The DOT policy is to incorporate safe and convenient walking and bicycling facilities into transportation projects. Every transportation agency, including DOT, has the responsibility to improve conditions and opportunities for walking and bicycling and to integrate walking and bicycling into their transportation systems. Because of the numerous

individual and community benefits that walking and bicycling provide—including health, safety, environmental, transportation, and quality of life—transportation agencies are encouraged to go beyond minimum standards to provide safe and convenient facilities for these modes.[6]

The Moving Ahead for Progress in the 21st Century (MAP-21) Act passed by Congress in 2012 consolidated pedestrian and bicyclist funding into the Transportation Alternatives Program (TAP).[7]

On August 20, 2013, FHWA issued a memorandum to support flexibility in pedestrian and bicycle facility design.[8]

The Fixing America's Surface Transportation (FAST) Act, passed in 2015, required federally funded projects on the National Highway System (NHS) to consider access for people who bike and walk. The Infrastructure Investment and Jobs Act (IIJA), also known as the Bipartisan Infrastructure Law (BIL), was passed in 2021 by Congress, providing higher funding for Transportation Alternatives.[9]

Source: www.pedbikeimages.org/DanBurden

In response to growing numbers of fatalities and serious injuries across the U.S., the Vulnerable Road User Special Rule published in 2023 implemented a new policy requirement included in IIJA. This rule requires states where non-motorized user fatalities make up 15% or more of traffic fatalities to spend at least 15% of Highway Safety Improvement Program funds on the safety of non-motorized road users.[10]

BENEFITS

Biking and walking provide several economic benefits for communities and individuals, including increasing local business revenue; cost savings for individuals on items like fuel, parking, and vehicle maintenance; reduced infrastructure costs; improved property values; job creation; health care savings; boost in tourism; and enhanced productivity among workers.[11]

Biking and walking contribute positively to quality of life in several ways including enhanced mobility; community connectivity; reduced noise and air pollution; decreased traffic

Source: www.pedbikeimages.org/LauraSandt

congestion; safety improvements; increased outdoor activity; aesthetic improvements; and mental stress reduction.[12]

Biking and walking offer numerous environmental benefits, including reduced transportation emissions; lower energy consumption; improved air and water quality; conservation of resources; enhanced green spaces; and encouragement of sustainable practices.[13]

BIKE/PED DATA COLLECTION AND COMMUNITY ENGAGEMENT PROCESS

Growing attention on the benefits of bike/ped has increased the demand for accurate and timely pedestrian and bicycle travel data. Bike/ped data collection involves gathering information about the movements, behavior, and interactions of cyclists and pedestrians in various environments. This data is crucial for planners, transportation engineers, and policymakers to understand usage patterns, safety issues, infrastructure needs, and overall mobility trends. Techniques for data collection can include manual counts, video surveillance, GPS tracking, and sensor technology embedded in infrastructure.[14]

Source: www.pedbikeimages.org; boonslick.org

A combination of several data collection methods have been proven successful. For example, volunteers at several RPOs have helped community stakeholders with collecting bike/ped data, and some states like Connecticut provide trail census data.[15]

Engaging the public in bike and pedestrian priorities can foster community support and improve infrastructure. Successful strategies include hosting sessions and community workshops,

surveys and polls, pop-up events, collaborating with local groups, social-media campaigns, and safety education programs.

The AARP Livable Communities and the League of American Bicyclists created the *AARP Bike Audit Tool Kit* as a free, 32-page, information- and image-filled guide that can be used by cycling advocates and local leaders to assess and improve the safety and accessibility of a community's streets and paths for all users, including cyclists. Several RPOs have used this toolkit to provide them with the needed data, solutions and strategies for achieving change.[16]

Some RPOs have been developing Complete Streets policies as an approach to planning, designing, building, operating, and maintaining streets that enables safe access for all people who need to use them, including pedestrians, bicyclists, motorists and transit riders of all ages and abilities. While Complete Streets policies are most often implemented at the local or state government level, RPOs can use regional Complete Streets policies to encourage their local jurisdictions to follow suit or even tie local funding to the adoption of local Complete Streets policies.[17]

CASE STUDIES

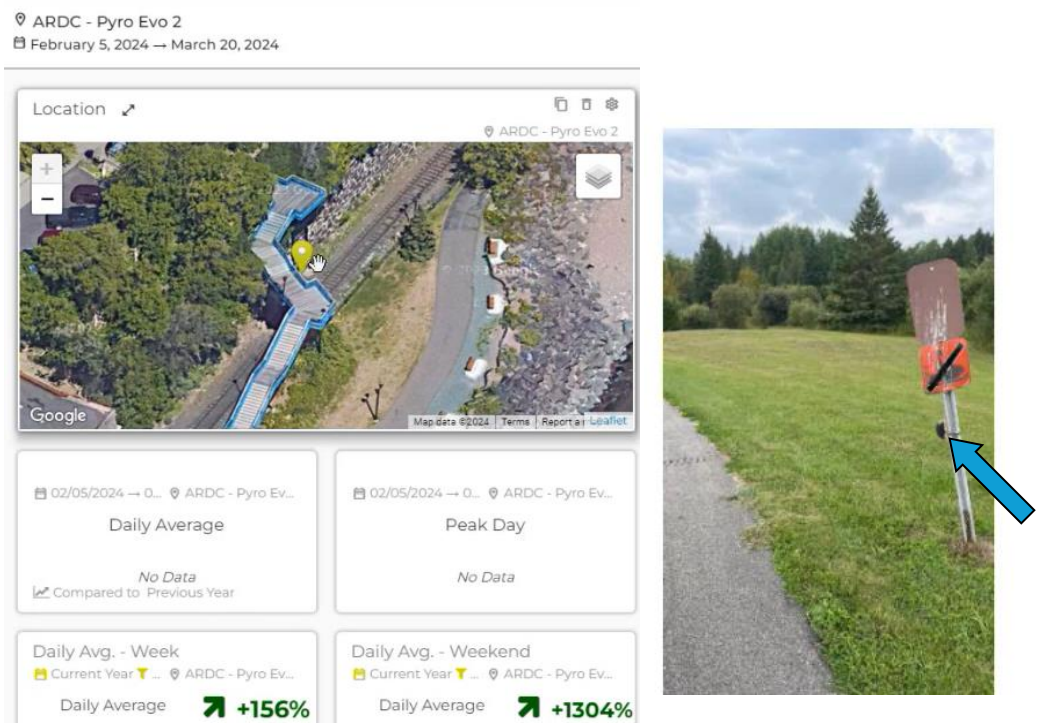
CASE STUDY #1: BIKE/PED DATA COLLECTION, ARROWHEAD REGIONAL DEVELOPMENT COMMISSION (ARDC), MN

ARDC serves Northeast Minnesota with a population of 325,716. ARDC uses Eco-Visio's Pyro-Evo and Mobile Multi counters for bike and pedestrian counts which are designed for accurate and reliable data collection.[18]

ARDC works with the Minnesota Department of Transportation to loan out the counters to interested groups within the seven-county region. The counters are used on sidewalks and trails. ARDC has been using the count data to help guide planning and design choices that are more data driven by way of tracking volume and identifying peak hours. In addition, the count data is used to prioritize traffic calming measures as well as identifying underserved areas.

Eco-Visio Pyro-Evo uses passive infrared technology to detect heat emitted by passing pedestrians and cyclists. It distinguishes between individuals based on their heat signature, making it highly effective for continuous monitoring. The Pyro-Evo counters are typically installed in fixed locations and provide real-time data, which can be used to analyze traffic patterns and peak usage times. Multi-mobile counters and Pyro-Evo are both used for counting pedestrians and cyclists, but they differ in their technology and features.[19]

Eco-Visio's dashboards offer a comprehensive platform for visualizing and analyzing data collected from various types of counters, including the Pyro-Evo and Mobile Multi counters. The dashboards provide real-time access to detailed information on pedestrian and cyclist traffic, allowing users to monitor and understand movement patterns effectively. Some key features include real-time data visualization, customizable interfaces/reports, and remote/portable access. The picture below shows the location and results from eco-counter installed at a trail in ARDC region.



Source: https://www.eco-counter.com/produits/eco-visio-range/eco-visio-5/

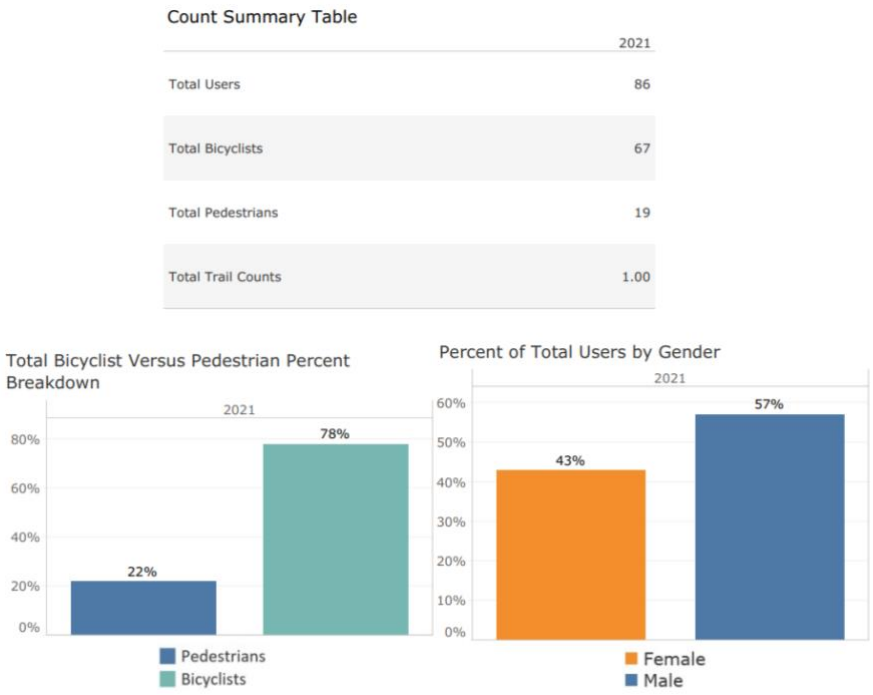
CASE STUDY #2: BIKE PED COUNT DATA PORTAL, CAPITOL REGION COUNCIL OF GOVERNMENTS (CRCOG), CT

CRCOG is the largest of Connecticut's regional planning organizations with a population of 976,248. In 2009, CRCOG developed the National Bike/Ped Documentation Project (NBPD) in an effort to collect better data on bike/ped behavior in the region. The project was sponsored by the Institute of Transportation Engineers and co-sponsored by Alta Planning + Design. As part of the project, CRCOG developed a data portal showing two different kinds of count data: intersection counts and screen line counts (mainly on trails and bridges).[20]

The project utilized volunteers stationed at select locations who counted both pedestrians and bicyclists, rather than separating out the two modes. The counts were performed every year,

however, due to limited volunteer availability not all desired locations and times were able to be counted each year. There was also fluctuation in the location of count sites from year to year. In some years, for example, a greater percentage of count sites were multi-use trails, while in other years, more on-road counts were done.

To improve the quality of the data collected, in 2017 CRCOG began a three-year rotation of data collection sites so that every three years the same sites would be counted. This new rotation allows for better comparisons between years for the same sites. The data portal is updated every year as new data is made available.[21]



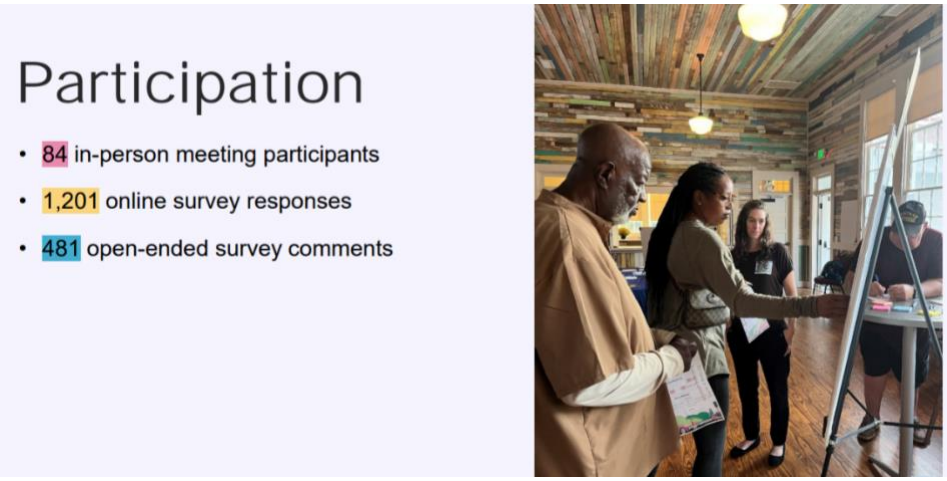
Source: crcog.org/bike-ped-count-project-data-portal/

CASE STUDY #3: COMMUNITY ENGAGEMENT PROCESS, BERKELEY-CHARLESTON-DORCHESTER COUNCIL OF GOVERNMENTS (BCDCOG), SC

BCDCOG serves a three-county region with a total population of 789,892. To initiate the bike/ped data collection, BCDCOG developed a set of five questions- "what do we need to know, what data already exists plus what are the constraints, how to collect the data, when & where should the data be collected, and who should be able to access the data." This was proven successful for developing meaningful data and measuring successes.[22]

The regional bike/ped data collection program was developed to evaluate the effectiveness of newly constructed pedestrian and bicycle projects and to help inform safety analyses. The data

is being utilized to understand before/after impacts, safety issues and economic impacts. As part of this process, several in-person meetings and online surveys were conducted to seek feedback.[23]



Source: https://pccsc.net/wp-content/uploads/2023/06/KJames-on-Micromobility-Data.pdf

SUMMARY

Bike/ped data collection and community engagement processes are crucial for developing quality bike/ped infrastructure. Bike/ped data counts are a relatively low-cost yet high-value tool that strengthens the case for bike/ped infrastructure by providing concrete evidence of its benefits to safety, mobility, public health, and the environment. Meaningful community engagement methods not only create a more collaborative planning process but also empower communities to shape the infrastructure that best supports their biking and walking needs.

RESOURCES

- https://www.fhwa.dot.gov/environment/bicycle_pedestrian/state_contacts.cfm
- https://mutcd.fhwa.dot.gov/?_gl=1*t6mtp2*_ga*MTY5NTg3ODQ3Ny4xNjk2MzQyNTk5*_ga_VW1SFWJKBB*MTcyOTEzMTY1Ni4xMjMuMS4xNzI5MTM0MzI4LjAuMC4w
- https://globaldesigningcities.org/publication/global-street-design-guide/
- https://www.transportation.gov/mission/office-secretary/office-policy/active-transportation/active-transportation
- https://www.fhwa.dot.gov/environment/bicycle_pedestrian/
- https://highways.dot.gov/safety/pedestrian-bicyclist
- https://highways.dot.gov/complete-streets
- https://www.fhwa.dot.gov/environment/micromobility/
- https://www.nhtsa.gov/road-safety/bicycle-safety
- https://www.nhtsa.gov/road-safety/pedestrian-safety
- https://safety.fhwa.dot.gov/ped_bike/ped_transit/fhwasa21130_PedBike_Access_to_transit.pdf

- https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/64501/fta0111researchreportsummary.pdf
- https://www.fhwa.dot.gov/environment/bicycle_pedestrian/publications/
- https://trailnet.org/safe-streets-glossary/

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