

# Bike, Walk, and Wheel

## A Way of Life in Columbia, Missouri

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**Background:** With funding support from the Robert Wood Johnson Foundation, the Active Living Partnership of Columbia, Missouri, sought to make routine physical activity more commonplace in the community through behavioral and environmental change strategies.

**Intervention:** The Active Living by Design 5P model (partnerships, promotions, programs, policy changes, and physical projects) was modified to create two mutually reinforcing components. Programs and promotions (e.g., Walking School Bus) were implemented to influence individual behaviors and generate public policy advocates. Policy changes, such as activity-friendly street design standards, created safe and attractive places for physical activity programs. A strong, diverse community partnership supported all efforts.

**Results:** Key project successes were a citywide social marketing program; the Walking School Bus program, which grew rapidly; and policy campaigns resulting in improved street design standards and a voter-approved \$3.5 million sales tax for sidewalks around schools. Notable challenges included programs targeting teenagers and efforts to increase physical activity through self-reported activity logging.

**Lessons learned:** The most important lesson was to implement multiple strategies because programs can leverage policy successes, and new policies often lead to more funding for infrastructure. Other lessons learned were to build early successes by reaching first for the “low-hanging fruit” (e.g., elementary-age children rather than teenagers) and to have a flexible plan to take advantage of unexpected opportunities (e.g., a new, influential partner with a specific interest).

**Conclusions:** A modified 5P model was tested and found to be an effective framework for achieving behavioral and environmental changes that promote healthy, active lifestyles in the community.

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### Introduction

In 2003, the Robert Wood Johnson Foundation awarded Columbia, Missouri, an Active Living by Design (ALbD) grant to promote routine physical activity in the community. The project, led by the nonprofit PedNet Coalition and titled *Bike, Walk, and Wheel: A Way of Life in Columbia*, evolved from an earlier community initiative. Launched in 2001, the Mayor’s Challenge: Bike, Walk, and Wheel Week (BWWW) is an annual event designed to encourage citizens of Columbia to use nonmotorized modes of transportation for recreation and transportation during a designated week in May. Highlights include group walks and bicycle rides, classes in bicycle safety and

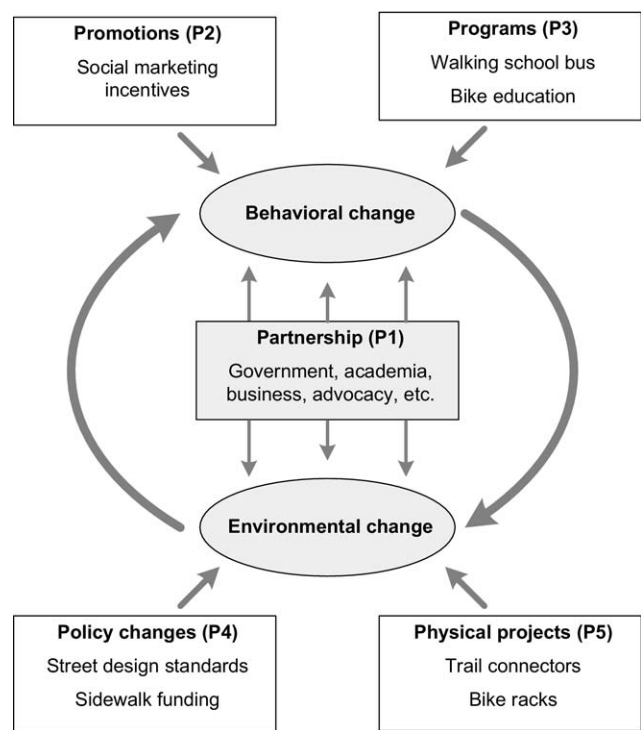
maintenance, local media campaigns, and free breakfasts at participating local restaurants for those walking, bicycling, or wheeling around town.

This event has raised awareness of the benefits of active living and helped individual citizens transition from driving exclusively to walking and bicycling for some journeys or to becoming full-time active commuters. With modest financial support from city government, business sponsors, and, since 2004, Columbia’s ALbD grant, participation has grown from 750 to 4750 in 6 years. *Bike, Walk, and Wheel: A Way of Life in Columbia* was designed to help Columbians move to the next level (i.e., a way of life, rather than an annual event) through both behavioral and infrastructure changes.

Active Living by Design provided a general approach to the project, known as the 5P model, which involves multiple interacting strategies ([www.activelivingbydesign.org/our-approach/community-action-model](http://www.activelivingbydesign.org/our-approach/community-action-model); partnerships, promotions, programs, policy changes, and physical projects).<sup>1</sup> The Columbia team developed a modified 5P model (Figure 1) in which

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**Figure 1.** Conceptual model for Bike, Walk, and Wheel: A Way of Life in Columbia project activities

programs and promotions that encourage active living behaviors (e.g., BWW and social marketing efforts) drive changes in the physical environment by generating a powerful grassroots advocacy movement working for complete sidewalks, bicycle trails, and safe intersections. At the same time, changes in transportation and planning policy and the resulting infrastructure projects create new places where active living behaviors are easy, safe, and natural.

The central (human-powered) engine that drives this system is the community partnership, which, in Columbia, includes the mayor (who played a leadership role in securing the grant), city government, law enforcement, public health, public education, academia, private enterprise, and nonprofit advocacy. Although mediated by various internal and external factors, these two mutually reinforcing components—behavior change through programs and promotions and improved infrastructure through policy advocacy—have sustained and strengthened each other and are moving Columbia toward a “tipping point” where active living will become the norm rather than the exception.

## Methods

### Setting and Population

Columbia is a Midwestern college town with a resident population of about 95,000 and a transient student population of about 25,000.<sup>2</sup> The initial project design focused on a 4-square-mile urban area, with approximately 12,500 resi-

dents (22% black and 72% white) and five public schools (four elementary and one junior high). However, most programs and all policy initiatives affected the entire city.

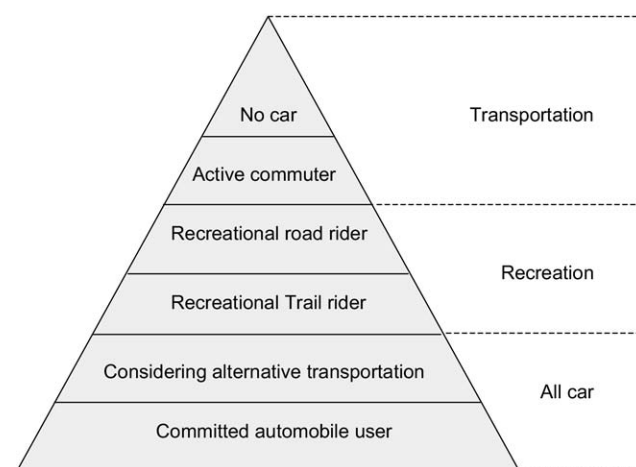
Like many Midwestern towns, Columbia has a strong culture of automobile use for most journeys. A preliminary assessment of the four target elementary schools showed that about 80% of children living closer than 1 mile from school, who were ineligible for school bus service, were being driven to school in parents’ cars rather than walking.

### Active Living by Design Community Action Model

**Preparation.** The PedNet Coalition, a grass-roots nonprofit group with 6700 members and a mission to promote active transportation in Columbia, was the lead agency. The Active Living Partnership included the mayor and city council members; the city’s health, public works, parks and recreation, and police departments; the government-access television station; the University of Missouri, Columbia Public Schools; local business leaders; a local hospital; and nonprofit groups. The diversity of this partnership, whose formation was initiated by PedNet, was effective in demonstrating broad support for the project to the local community and to additional outside funders who continue to support related initiatives. Day-to-day project management was the responsibility of a small project team consisting of PedNet, the Columbia/Boone County Health Department, and the Mayor’s Council on Physical Fitness and Health.

**Promotions and programs.** PedNet led the design and implementation of promotions and programs (details at [www.pednet.org](http://www.pednet.org)) with support from other partners. A variation of the stages-of-change model developed for smoking cessation<sup>3</sup> was used to target these efforts to specific populations based on their state of readiness (Figure 2). The overall goal was to move community members upwards through the various levels, although there were exceptions. Most programs and promotions targeted lower levels, where automobile use is the norm, encouraging individuals to try active transportation for the first time:

- Special Walk-to-School Day events provided children with opportunities to be active.



**Figure 2.** Conceptual model for stages of change of community members moving from heavy automobile dependence to higher usage of active modes

- The Walking School Bus (WSB) program consisted of a daily walk to school under the supervision of trained adult volunteers.
- The Passport to Fitness program challenged young people to achieve a minimum of 60 minutes of moderate to vigorous physical activity each day.
- Bike, Walk, and Wheel Week expanded into a full week of ten to 15 individual promotion and education events, including Cycle-Recycle, where donated bicycles were repaired by volunteers and provided to low-income families at no cost.
- Neighbors on the Go, based on Portland's SmartTrips model, was a targeted neighborhood program in which educational materials related to active transportation were provided and numerous active events offered to residents.

Other promotions and programs were designed to affect the entire spectrum of active living readiness (Figure 2):

- Social marketing campaigns, led by the health department, targeted citizens to increase physical activity through educational and motivational media messages.
- The education program included basic pedestrian and bicycle safety programs for a wide range of ability levels and experience in both children and adults.
- Organized bicycle rides provided cyclists (individuals and families) with a wide range of ability levels and experience the opportunity to increase active living.

Finally, the following efforts were directed toward reinforcing positive behaviors and challenging intermediate or high-level individuals to become role models:

- Way to Go to Work! rewarded existing active commuters and targeted those just starting to use active transportation modes.
- The No-Car Diet Challenge challenged those at the very pinnacle of the diagram in Figure 2 to use only active modes and mass transportation for a month.

**Policies and physical projects.** As the ALbD project engaged more community members, these individuals joined policy campaigns designed to change the built environment, and PedNet's small, grassroots advocacy effort grew in strength and scope, as summarized below.

- The ALbD project injected energy and resources into an ongoing campaign to change Columbia's street design standards.
- The popular Walk-to-School program built community-wide support for a ballot initiative to fund sidewalk improvements around schools through a city sales tax.
- As the partnership with the Columbia Public Schools Board of Education strengthened, largely as a result of the successful WSB program, an increasingly action-oriented discussion of travel-to-school policies developed.
- Partly as a result of work done by Columbia's Active Living Partnership, the city was awarded a \$22 million federal Nonmotorized Transportation Pilot Program grant to plan, build, and promote use of a network of pedestrian, bicycle, and wheelchair-accessible paths throughout the city.
- In a low-income neighborhood, the creation of the 1-mile Douglass Neighborhood Trail provided opportunity for increased activity for residents.

- Most recently, the implementation of a "staging post" WSB program at one elementary school increased physical activity participation for a larger number of children by providing a 15-minute walk to school through an adjacent park, for children driven most of the way to school.

## Results

### Successes

**Promotions and programs.** A social-marketing campaign was implemented to build awareness of the benefits of physical activity, its incorporation into daily routines, and specific programs such as BWW and the WSB, helping to generate community support for Columbia's programs and policy initiatives. Separate funding support enabled members of the project team to attend professional communications training workshops and learn how to develop effective media messages based on the results of an intensive survey of current activity levels; motivators and barriers to active living; and media choices of children and parents attending project-area schools. Finally, the production and placement of print and radio social-marketing advertisements was funded with approximately \$200,000 in Missouri Foundation for Health grants awarded to the health department.

The WSB (Figure 3) was the signature program of Columbia's ALbD project. In less than 4 years, this daily program grew from an initial pilot involving 30 children and a handful of parents to 400 children, attending 14 schools, and 120 trained volunteers. Successful project outcomes included the development of the "school-based coordinator" and staging-post models of the WSB program (see Discussion section).

During the final years of the ALbD project, a bicycle proficiency education program was initiated after two members of the project team traveled out of state to receive national certification training as cycling instructors. Later, in 2008, PedNet hosted a national training in Columbia, and another dozen instructors received certification. During the program, approximately 300 children and adults completed the 8- to 9-hour classes, and, according to a survey of adult graduates conducted 6 weeks after the classes, 75% rode their bicycles more often, 97% felt safer when riding, and 73% reported improved physical fitness since taking the course. In addition, 35% of automobile trips were replaced with bicycle trips among graduates of the classes.

**Policy changes and physical projects.** Increased participation in the programs, and awareness brought about by the promotions, built public support and advocacy for policy changes that created a more activity-friendly environment, such as a \$3.5 million, voter-approved city sales tax to improve sidewalks around schools, and new progressive, multi-modal street design standards. In





**Figure 3.** The Walking School Bus program in action

2003, there were no requirements for bicycle or pedestrian facilities other than 4-foot sidewalks in residential areas. With city growth and new streets being designed quickly, it became impossible for unpaid advocates to do the research and attend public hearings to argue effectively for “complete streets,” but ALbD funding provided staff time to focus exclusively on this issue. Following a 3-year campaign, the city council approved a new ordinance requiring 5-foot sidewalks on all streets and mixed-use paths, and either bicycle lanes or shared lanes on major roads (Figures 4 and 5).

Positive changes in Columbia also became institutionalized: the City of Columbia hired a bicycle/pedestrian coordinator and is planning to establish a permanent department of nonmotorized transportation; the University of Missouri updated its bicycle

and pedestrian master plan and partnered with the city in the federal Nonmotorized Transportation Pilot Project; and Columbia Public Schools is considering including an analysis of walking to school in their transportation planning.

The national exposure Columbia received through its ALbD project was an important factor in its selection as one of four communities to receive a \$22 million federal transportation grant. For example, Columbia was featured in a 2004 RWJF advertisement in *Roll Call* during the time the legislation (passed in 2005) was being drafted and pilot communities were being selected.

By 2010, this project will have accomplished the following: 75 miles of striped bicycle lanes and 72 miles of shared bicycle routes; 6.5 miles of new trails and five new trail connections linking neighborhoods, schools, and businesses into the existing trail system; seven sidewalk improvement projects; nine key intersections fitted with pedestrian crossing lights and (where appropriate) reconfigured to accommodate bicycle lanes and calm traffic; two separated bikeway projects; and the installation of 729 bicycle racks and two bicycle shelters.



**Figure 4.** The East Broadway bridge over Hinkson Creek ca. 2000



**Figure 5.** The same location in 2008, after highway improvements were carried out according to the 2004 street design standards

## Challenges

In the first year, an 8-week nutrition and fitness class targeting 8th and 9th graders at the junior high school in the project area was developed. Despite multiple recruitment strategies, only a handful of children signed up. Children often dropped out of the program because of the stigma of acknowledging a problem with personal weight.

The Passport to Fitness program challenged children to attain moderate or vigorous physical activity levels daily. Participants were given a pocket-sized “passport” with information about healthy lifestyles, and calendars where they recorded their daily minutes of activity. By reaching the equivalent of 60 minutes daily, children qualified for a prize from the monthly sponsor. The program was initially offered at the junior high school and almost entirely ignored, but a better response was achieved with elementary-age children with 2500 children signing up in 2007. It was later discovered, however, that very few children logged their activity or completed the challenge.

The Douglass Neighborhood Trail was a physical project targeting one of Columbia’s low-income neighborhoods. The 1-mile neighborhood loop was marked with posts every 0.1 mile and painted footprints on the sidewalks. Brochures describing a 12-week walking program with a \$100 prize were placed on the marker posts and distributed throughout the neighborhood. In spite of numerous neighborhood and church meetings that were held to engage the community and promote use of the trail, nobody from the neighborhood participated in the program.

## Discussion

Bike, Walk, and Wheel: A Way of Life in Columbia yielded both programmatic and policy successes to increase physical activity in the community. The discussion focuses on specific lessons learned from the project that will be valuable to other pioneers of the healthy community concept as they attempt to build partnerships, increase awareness, design programs, implement policy, and undertake physical projects to increase active living in their communities.

### Lesson Learned 1: Reach First for the “Low-Hanging Fruit”

Columbia’s ALbD project area included four elementary schools and one junior high school. There was a fundamental difference in how these two groups of children responded to encouragement and education programs: older children ignored them while elementary kids were eager to participate. As a result, elementary kids were the “low-hanging fruit,” and the project built momentum by targeting this population. In the

WSB program, for example, younger children served as positive role models for other children and adults. It may have been that the programs targeting teenagers were simply not in line with their interests and that other programs may have resulted in greater participation. These findings should not indicate that health promoters avoid engaging teenagers in active living. Nevertheless, communities that focus on younger children will have strong programs, make a long-term investment in health awareness and behavior, and help define the culture of the next generation of teenagers.

### Lesson Learned 2: Keep It Simple

A successful design for a physical activity program makes participation simple. Two examples that fit this description are the WSB program, in which kids simply have to be ready to walk to school when the leader comes by, and BWWW, in which community members have more than a dozen different opportunities to participate in physical activity events within a single week.

Two initiatives that required too much “work” by the participants were the Passport to Fitness challenge and the Douglass Neighborhood Trail program. It became clear that the systematic and meticulous documentation of physical activity was too great a burden that did not reinforce positive behavior or encourage participation. Even when desirable prizes were offered, most people were not willing to complete logs. The failure of the Douglass Neighborhood Trail program was also connected with a failure to effectively give the local (low-income) community ownership of the program, in spite of efforts by the project team to do this.

### Lesson Learned 3: Implement Multiple Strategies

One of the key lessons learned in this project was that public participation in programs and acceptance of policy initiatives occur most easily when multiple strategies are employed simultaneously. For example, the social marketing campaign was largely responsible for the growth of the WSB program. Initially, parents were resistant to the idea of letting their children walk to school, but surveys revealed that consistent, evidence-based messages delivered over a 3-year period in print and radio advertising were among the most important factors in building awareness and trust in the WSB program, leading to the exponential rise in participation observed throughout the project.

Programs can also support policy and funding initiatives. The success and general popularity of the WSB program supported the campaign to pass a sales tax increase providing \$3.5 million for sidewalk projects around elementary schools. In addition, the growing participation in BWWW between 2001 and 2004 was



leveraged to demonstrate citizen support for the new multi-modal street design standards ordinance during the critical advocacy phase. In both of these examples, individuals who participated in the programs became vocal and credible advocates for the relevant policy change. Finally, funding and infrastructure can also support programs, as illustrated by an increased interest in bicycle education, which coincided with the striping of 60 miles of bicycle lanes and shared routes in the fall of 2008.

A related lesson learned about effective policy advocacy is the value of the partnership between a strong grassroots organization and a visionary and supportive legislative leader—in this case, the mayor of Columbia.

#### **Lesson Learned 4: Expect Growing Pains and Gradual Change**

As the profile and practice of bicycling has increased in Columbia, so has conflict between motorists and cyclists. To mitigate these growing pains, the PedNet Coalition worked with the Columbia Police Department to develop Operation Share the Road, a campaign designed to educate bicyclists and motorists about road safety and relevant traffic laws. The goal was to reduce the number of bicycle-related accidents and decrease harassment of bicyclists from motorists. League-certified instructors from the Active Living Partnership provided educational seminars for all 150 Columbia police officers, focusing on the legal rights and responsibilities of bicyclists on public streets. Following the training, the police department reported more than 100 Operation Share the Road interactions with motorists and cyclists (i.e., conversations or tickets) during October 2008.

Although Columbia's Active Living Partnership has been successful at increasing participation in community programs such as the WSB and BWW, it has taken 5 to 7 years to achieve the several hundred children participating in the WSB program and several thousand citizens participating in BWW. In addition, despite a rapid growth in bicycle education class participation, the total number of graduates is still less than 1% of the population of Columbia. Thus, when surveys show a 35% increase in bicycling journeys among graduates, this is a small change for the community at large, but it does represent measurable upward movement in the stages-of-change model (Figure 2).

#### **Lesson Learned 5: Leverage Innovative and Unexpected Opportunities**

With 400 participating children and 120 volunteers, the WSB program currently requires one full-time coordinator, numerous student interns, and a considerable budget for prizes and incentives. Clearly, this level of

funding is not available to every community the size of Columbia, and a more affordable model must be developed. An innovative solution to reduce costs was to provide a small cash stipend to a school-based WSB coordinator, improving efficiency, increasing ownership of the program by the school, and leveraging a large volunteer effort. In a pilot of this system, coordinators at four schools (i.e., two parents, one physical education teacher, and one home-school coordinator) each received \$500 stipends for managing the WSB program for one semester and for organizing a school-wide event on International Walk to School Day. Participation increased dramatically at three of the four schools. The success of this model relies on identifying a true champion of the program, whose commitment and motivation will drive the program's success.

A second challenge for the WSB program was to find a way to expand the program to children who live too far away from school to participate. The solution was to set up a staging post where school and community volunteers met the children and walked them to school. In a pilot program, two school buses and about ten parents' vehicles that previously dropped children in front of school dropped them at the staging post, about one third of a mile from school on the far side of an adjacent city park. Early results suggested the ten to 15 minutes of exercise prior to the school day improved these children's educational achievement and reduced their disciplinary referrals. These two innovative solutions are now being developed in RWJF's Active Living Sustainability project.

#### **Conclusion**

In summary, the Bike, Walk, and Wheel: A Way of Life in Columbia project yielded several programmatic and policy approaches to increasing physical activity in the community that worked and a few that did not. Key lessons learned were to take the "low-hanging fruit" and implement multiple strategies. The project model, in which program success drives policy advances, and new policies drive program participation, was validated.

There was tangible evidence that awareness of programs and policy initiatives led to their successful adoption. In addition, keeping programs simple for participants appeared to be the best strategy for continued participation. The WSB was clearly the most successful program, and the school-based coordinator and staging-post models were innovative and unexpected outcomes of the project that can potentially spread the benefits of the program throughout the country.

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