Active Transportation in Dayton, Ohio: A Case Study

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Active Transportation in Dayton, Ohio: A Case Study

Danielle P. Tong

Wright State University
Acknowledgements

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Abstract

Introduction: The purpose of this case study was to describe Dayton, Ohio’s process for implementing an active transportation initiative and suggests ways in which it might be improved.

Methods: This paper compares the strategies used in Dayton, Ohio to the 5Ps of the Active Living by Design’s Community Action Model, and compares them with the strategies of three communities described in the literature.

Results: The City of Dayton fully initiated two of the 5Ps but neglected the other Ps. Some interview respondents attribute this to a lack of staffing within the City of Dayton. Dayton’s leadership for active transport comes from within local government, whereas the comparison communities’ leadership comes from community non-profit organizations. Respondents thought this was an asset because it was perceived to improve the program’s legitimacy. Some respondents reported that developing community partnerships had been a priority and exceeded the expectations since 2008.

Recommendations: The City of Dayton should invest time in recruiting community allies with specific talents, such as media outlets, corporate relationships, and funding relationships that may increase efforts in each of the 5P strategy areas. Another recommendation is to invest funds for a community coordinator position that would foster the necessary community relationships, build programs, and administratively assist the Dayton Bike Walk Committee. The City of Dayton should research independent funding sources in the vein of corporate sponsorships and grants to creatively fund programs, promotions, and minor physical projects.

Keywords: bike walk, cycling, physical activity, walking, safe routes
Active Transportation in Dayton, Ohio: A Case Study

Active transportation is any form of transportation that involves physical activity, which includes walking and cycling (Davis, 1999). The health benefits of walking and biking as modes of transportation are acknowledged in the literature, and cities across the globe are implementing interventions to encourage these activities with varying degrees of success (Lees, Slavensen, & Shay, 2008; Green & Klein, 2011; Hendricks, Wilkerson, Vogt, & TenBrick, 2009; Adler, Dobson, Fox, & Weigand, 2008; Fesperman, Evenson, Rodriguez, & Salvesen, 2008; Claus, Dessauer, & Brennan, 2012; Bors et al., 2009; Dobson & Gilroy, 2009). The most prominent element of success for these programs is the use of Active Living by Design’s (ALbD) 5Ps, an element of the ALbD’s ecological implementation strategies (Claus et al., 2012).

The name 5Ps refer to five activities included within the ALbD ecological implementation strategies: Preparation, Promotion, Programs, Policy, and Physical Projects. These activities have been successfully used by 25 different communities around the United States to implement active living interventions, including many active transportation initiatives. This is not surprising since a growing body of literature indicates that designing a community intervention from an ecological perspective is the most effective way to enact public health change (Claus et al., 2012; McLeroy, Bibeau, Steckler, & Glanz, 1988; Bors et al., 2009).

The City of Dayton, Ohio recently joined the active transportation conversation. A committee, called the Dayton Bike/Walk Committee was formed by commissioner Nan Whaley in 2010 (City of Dayton, 2010a), which ushered Dayton to Bronze Level “Bike Friendly” designation awarded by the League of American Bicyclists (2012a).
Statement of Purpose

The purpose of this case study is to describe Dayton, Ohio’s process for implementing an active transportation initiative and draw upon the literature to suggest ways in which its effectiveness might be improved. The study examined Dayton’s active transport planning and implementation methods, the 5Es developed by League of American Bicyclists (Engineering, Enforcement, Education, Evaluation/Planning, Maintenance) (League of American Bicyclists, 2012b), and compares them to the 5Ps (Preparation, Promotion, Programs, Policy, Physical Projects,) developed by Active Living by Design. Then Dayton’s 5Ps were compared with the 5P strategies of communities described in the literature. The study covers the period between 2009 and 2013. This is because 2009 was the introduction of what became the semi-annual Miami Valley Bike Summit, which some interview respondents describe the beginning of the bike/pedestrian movement in Dayton. The Miami Valley Bike Summit in 2009 was the first organized conversation about active transportation in Dayton, Ohio (Miami Valley Cycling Summit, 2013).

Literature Review

Significance to Public Health

Active transport is a mode of transportation in which an individual engages in physical activity, which itself constitutes a major tenant of public health. The United States Physical Activity Guidelines of 2008 made specific, evidence-based recommendations for adequate amounts of physical activity for chronic disease risk reduction. Those recommendations are two hours and 20 minutes per week of moderate intensity physical activity or one hour and 15 minutes per week of vigorous activity performed in 10 to 15 minute episodes throughout the
week. In addition, the guidelines recommend moderate- to high-intensity muscle strengthening activity two or more days per week (Physical Activity Guidelines Advisory Committee, 2008).

People across the nation are falling short of these recommendations and therefore encounter factors that put them at risk for many chronic health conditions. According to the 2011 Behavioral Risk Factors and Surveillance Survey (BRFSS) only 51% of Americans report achieving the recommended amount of physical activity (National Center for Health Statistics, 2011). Because of this, 64% of adults have a body mass index (BMI) greater than 25, which categorizes them as overweight or obese. This multiplies their risk for a variety of chronic diseases including heart disease and diabetes. These statistics illustrate that nutrition and physical activity are areas in need of improvement (National Center for Health Statistics, 2011).

Since 2008 the United States government has seen physical inactivity in Americans as an opportunity to implement national-level improvement measures. Physical activity objectives included in Healthy People 2020 (HP 2020) suggest different ways of encouraging physical activity and ways to increase the time that Americans are active.

Some of the objectives relevant to active transport stated in HP 2020 are listed below:

- PA-2: Increase the proportion of adults who meet current Federal physical activity guidelines for aerobic physical activity and for muscle-strengthening activity,
- PA-3: Increase the proportion of the Nation’s public and private schools that require daily physical education for all students,
- PA-14: Increase the proportion of trips made by bicycling, and
- PA-15: Increase legislative policies for the built environment that enhance access to and availability of physical activity opportunities.
These objectives focus on addressing physical inactivity by promoting an active lifestyle and can be met by effective active transport. The value of an active lifestyle will be explained in more detail in the next section.

**Health Benefits of Active Transportation**

The literature includes research that investigates the importance of physical activity as an active lifestyle as opposed to a leisure time activity. While formal exercise has significant protective health effects, such activities alone may not provide the consistency needed to protect individuals from chronic health conditions. This is clearly illustrated by Shephard’s (2008) review which describes reasons why leisure time exercise may not be enough to meet recommendations. The article discusses the expense and limited land reserve for preparing exercise grounds such as gyms, parks, fields, skating rinks, and other institutions necessary to promote leisure time fitness, especially for underserved and low-income populations. It also discusses the likelihood of avoiding leisure time activity to meet the demands and commitment of work and school (Shephard, 2008).

North American cultural and media messages encouraging physical activity are complex and ambiguous. In North America, active transportation has only recently become a municipal priority: cities like Portland Oregon, Sacramento California, Minneapolis, Minnesota, and Jackson, Michigan are good examples of cities now involved (City of Portland Oregon, 2013; WALKSacramento, 2013; City of Minneapolis, 2013).

However, many North American lives and careers promote a sedentary lifestyle and the limited vigor of active transport begs the question: Does daily cycling or walking to work or school provide a health benefit? The case/control INTERHEART study (Held et al., 2012)
compared 10043 cases of individuals with first-time myocardial infarction (MI) to 14217 controls with no previous reported disorders or disabilities. Each individual in the study completed a questionnaire concerning their participation in different intensities of occupational and leisure time activities. The authors found that ownership of both a car and a television was significantly associated ($p<0.0001$) with an increased risk of myocardial infarction compared to those who owned neither. The investigators concluded that leisure time physical activity and mild- to moderate occupational physical activity (including commuting) were significantly health protective. Further, indicators of a sedentary lifestyle (ownership of a car and television) were associated with an increased risk of MI, even after controlling for physical activity (Held et al., 2012). These findings support the assertion that physical activity is well-served in the capacity of a lifestyle.

The benefits of physical activity through active lifestyle can be described by the concept of “dose response,” in which greater intensity or length of time spent performing an activity results in a concomitant increase in health benefit. A meta-analysis performed by the Harvard School of Medicine and the Harvard School of Public Health showed that there is an inverse dose-response relationship between volume of physical activity and all-cause mortality (Lee & Skerrett, 2001). This research noted that any amount, or dose, of physical activity positively affects all-cause mortality: this benefit plateaued at “very rigorous” levels of activity. This research suggests, in short, that “any little bit” of exercise “helps.”

According to the literature, effective implementation of active transport can be important for public health because it broadens the practice of beneficial physical activity from formal exercise, which can be restrictive, to incorporating physical activity into lifestyle and daily life. This simply provides more options for improving health for more people.
Methods

This paper is a case study of Dayton, Ohio’s implementation process of an active transportation campaign. It compares the strategies used in this city to the 5Ps included in the Active Living by Design’s (ALbD’s) Community Action Model and the 5P strategies of four other communities described in the literature. ALbD’s 5P model was chosen because it is one of the most commonly cited ecological models of community action. More specifically the model presents a framework used for implementing an active travel initiative. For more information on the nonprofit Active Living by Design foundation, see www.activelivingbydesign.org.

Case Study Design

This case study design is based on the principles set by Yin (1994), in his book Case Study Research: Design and Methods. Yin provides step-by-step guidelines describing designing and conducting a case study, analyzing the results, and develop conclusions, recommendations, and implications.

The case study was based on individual semi-structured interviews, literature analysis and application of the ALbD 5P model with post-hoc cross comparisons. The questions for the interview were designed to uncover how bike and pedestrian community interventions are currently implemented in Dayton. These semi-structured interviews covered the history of bike and pedestrian policy in Dayton, the level of interdisciplinary cooperation, planning and preparations, and frameworks used in designing the intervention. The unit of analysis for this study was active transportation intervention per community that applied the ALbD 5P strategies.

Conducting the Study

The master’s degree candidate extensively reviewed literature to select an appropriate analytical framework and chose the ALbD: 5P model. This literature review was also used to
design appropriate interview questions. In addition, a list of potential follow-up questions was
devised to help participants delve deeper into the material and reflect on the meaning of the
questions/answers.

Written consent was obtained prior to interviewing. The lead researcher conducted the
interview in a private location agreed upon by both the interviewer and the subject. Participants
were told that the purpose of the study was to elicit the history of the active transport movement
and their personal opinions rather than ‘right’ or ‘wrong’ answers. The Wright State University
Institutional Review Board (IRB) deemed this research as not falling under the purview of
human subjects’ research because no personal data were collected (see Appendix A). Subjects
were connected with the study by way of a ‘snowball ‘convenience sampling approach, with
initial contacts identified by city officials familiar with the active transport movement. Other
active commuters were contacted through mutual connections. Interviews took place over a one
month period and data were collected until no new themes emerged. The data were synthesized
and compiled into a discussion, with the author making informed inferences about the topics
discussed during the interview.

Active Living by Design Community Action Model

The ecological 5P model is represented by a logic model (Figure 1) in which each section
signifies a different stage in a community level, health related intervention. Supports (Column 1)
describe the number of resources with which the initiative starts. It includes local officials,
programs and resources, coalitions, business and non-profit agencies, community members, and
funding sources. The 5Ps (Column 2) describe the strategies that the organization proposing
change takes to enact the expected change. The 5P strategies are an important focus because this
is the only part of the logic model that includes action. Every part of the model that follows is
dependent upon the choices made in the 5Ps. The strategies will be discussed in more detail in a later section.

**Figure 1.** Active Living by Design’s community action model (ALbD, 2012)

Note: The 5Ps are in the second column.

*Short Term Changes* (Column 3) describes the immediate outcomes of the intervention. It does not necessarily discuss overall goals, but the tangible, immediate outcomes. *Intermediate Changes* (Column 4), are longer-term outcomes that will ultimately lead to the overall goal of the intervention. Finally, Health and Lifestyle Changes (Column 5) address the long-term goals of the intervention. These goals are usually broad and address a greater societal need, in this case for increased physical activity and decreases in obesity, diabetes, and high blood pressure.

**5P Strategy Inventory**

The strategies suggested in the Community Action Model 5 P’s are the change agents for any community level intervention. The strategies are Preparation, Promotion, Programs, Policy, and Physical Projects (See Table 1). The table below discusses each strategy that helps to effectively implement an active transportation movement. In addition, it provides examples of each type of strategy.
Table 1. *ALbD’s Community Action Model's 5P Strategies*

<table>
<thead>
<tr>
<th>The 5 Ps</th>
<th>Definition</th>
<th>Examples</th>
</tr>
</thead>
</table>
| **Preparation** | Preparation is a critical first step in any community intervention. This includes developing and maintaining a community partnership to work collectively. This strategy also entails collecting relevant data to inform program planning and pursuing financial and other resources. | • Assessment  
• Focus Groups  
• Developing strong multidisciplinary partnerships  
• Establishing financial resources |
| **Promotion** | Promotion is how the message of active living is portrayed to the public. As part of this process, presentations, news releases, fact sheets, and other forms of communication are evaluated to determine whether they truly connect with the intended audiences | • Developing Materials  
• Hosting Events  
• Local Media Involvement |
| **Programs** | Programs are ongoing activities that engage the public in the mission of the community intervention. Programs can directly or indirectly encourage the public toward the goal by providing opportunities to participate actively. | • Clubs  
• Groups  
• Classes  
• Safe Routes to School program (National Center for Safe Routes to School, n.d.) |
| **Policy** | Policy development is key to sustaining community change. These efforts will include advocacy, relationship building with policy makers, presentations to policy boards, and influencing employer or school policies. Educating policy makers - as well as citizens, professionals and advocates - about the need for local environments that support active living -- is an essential component of this strategy. | • Presenting to different types of policy boards  
• Building relationships with government officials  
• Petitions |
| **Physical Projects** | Physical projects are strategies to directly impact built environments, removing barriers to physical activity and enhance safety and do not rely on policy decisions. | • Walking Trails  
• Bike Lanes  
• Beautification Projects |
The implementation method is considered successfully integrated when two or more of the 5Ps are executed together and balance each other. The best results, however, are seen when all five strategies are implemented together within one campaign (Baker, Wilkerson, & Brennan, 2012). In addition to implementing as many of the strategies as possible, the ALbD states that it is important to develop strong interdisciplinary partnerships, as some of the most considerable change happens in communities where this feature is strongest (Baker et al, 2012). They note that partnering with a variety of different disciplines can open doors to new funding opportunities because of the differing reasons that these partners have an invested interest in the intervention.

The ALbD notes that successful partnerships have had strong leading organizations that coordinated all efforts within the campaign. These organizations helped develop goals for broad-based ownership that made it meaningful for diverse community partners. The process of leading an intervention that sets out to integrate a 5P intervention is time-consuming and taxing due to their responsibility in mediating the dynamics of a multidisciplinary partnership. While these types of partnerships are considered beneficial, helping partners communicate with one another can be difficult given their diverse backgrounds and agendas.

Analyzing the 5P Inventories

The interviews were analyzed using the ALbD 5P Model framework. Once the data on Dayton’s active transport movement were fitted into the 5P framework, it was compared with the 5Ps of four United States communities that introduced active transportation initiatives using the 5P framework: Portland, Oregon, Slavic Village, Cleveland, Ohio; Jackson, Michigan; Columbia, Missouri. Once comparisons were made, specific recommendations were generated to improve upon the initiative in Dayton, Ohio.
Results

Four cities, Portland, Oregon; Columbia, Missouri; Jackson, Michigan; and Slavic Village, Cleveland, Ohio, all of which used the 5P strategies to implement their own active transportation initiatives were reviewed. For each city, demographic information and a chart describing the 5P strategies used were compiled into a table and are presented in the following sections. The review for Dayton contains an extensive review of their transportation movement including their current strategy system that used the “5Es” (City of Dayton, 2011). The 5Es model was fitted to the 5P framework and a summary was written to explain and how Dayton compared to the 5Ps used by the four other communities.

Portland, Oregon

Portland, Oregon is a large city with the population of 595,820, a land area of 133 square miles, and 4,375.2 people per square mile. The median income is $50,177.00 (U.S. Census, 2013). Portland is regularly presented in the literature as an example of a successful active transportation environment. The city’s extensive active transportation system has been in place since 1990, and officials have been evaluating the use of cycling as a form of transportation since that time (City of Portland, 2013).

Portland received a grant through ALbD in 2005 and adopted the 5P strategies for their active transportation intervention at that time. They have the most inclusive intervention in the country. In 1990 the city began a process of assessment and evaluation of the use of their active transportation infrastructure. This evaluation is conducted every five years and has been incorporated into the Preparation for the intervention as it relates to program improvement. In addition to regular assessments, the city forged alliances with more than twenty community organizations. These partnerships assisted with developing programs, promotional efforts,
policy, and physical projects. Over the years, Portland \textit{Promoted} this initiative in a variety of ways, such as events and media exposure with specific target populations. For example, the city hosted a stroll/bike ride for seniors and a separate one for women, targeting two audiences that have notoriously low levels of participation in active transportation. \textit{Programs} are another area of strength where the city provides programs to each of the target audiences identified during the assessment in the preparation phase. Collaborations made with Safe Routes to School during the preparation phase targeted school children. Other programs sponsored include safety and education programs, peer encouragement programs, and enforcement programs. \textit{Policies} include the adoption of a Complete Streets Policy and the adoption of a variety of other policies that regulate the future of urban planning in Portland as it relates to active transport. Some of the policies go as far as to dictate land use, making communities more accessible for bike and pedestrian commuters. \textit{Physical Projects} are another area of excellence for Portland, with the introduction of infrastructure dynamics similar to structures seen in Germany. Such structures include bike lanes, sharrows (shared lane markings to indicate bicycles on the roadway), and bike boulevards are just a few types of infrastructural improvements that are featured. Table 2 (below) highlights some of the 5P strategies included in the Portland, Oregon active transportation initiative (Adler et al., 2008).
Table 2. *Portland, Oregon 5Ps Strategies*

<table>
<thead>
<tr>
<th>5 P’s</th>
<th>Strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preparation</td>
<td>More than 20 strategic partnerships, divided into pilot specific collaborations (steering committees) to achieve multiple set goals at once. Regular assessments of community infrastructure use.</td>
</tr>
<tr>
<td>Promotion</td>
<td>Created awareness events around each project, such as trail reconstruction.</td>
</tr>
<tr>
<td>Programs</td>
<td>Created themed tours along walking paths, such as gardens, neighborhood history. Many of the programs had on-going technical assistance from the steering committees that instituted them.</td>
</tr>
<tr>
<td>Policy</td>
<td>Multiple policies including some regarding future development and land use. Complete Streets policy was adopted. Development of systems to financially sustain physical projects.</td>
</tr>
<tr>
<td>Physical Projects</td>
<td>Major portions of Portland trail ways were repaved and connected to outlets around the city.</td>
</tr>
</tbody>
</table>

(Source: Adler et al., 2008)

**Jackson, Michigan**

Jackson, Michigan has a population of 33,425, and is 10.87 square miles. There are 3,086 people per square mile (U.S. Census, 2013). This community is small but the cycling and pedestrian transportation program was very strong, in part, due to an ALbD grant and use of the 5P strategies to implement their program. Their strongest strategies were *Preparation*, *Promotion*, and *Programs* (Hendricks et al., 2009).

In preparation for this active transport project, Jackson developed a coalition of 20 interdisciplinary members called the Walkable Communities Task Force (WCTF). They also had a dominant lead organization called Fitness Council of Jackson. Because the Fitness Council of Jackson was a non-profit organization, it had extensive experience with community-building and promotion. In addition to developing strong leadership, this community defined target audiences for their promotions and programs early in the process of development. Their target audiences were elementary school children and working age adults (Hendricks et al., 2009; City of Jackson, 2013).
For Jackson, *Promotion* was specifically directed toward the selected target communities. The city worked in conjunction with the Safe Routes to School program (National Safe Routes to School, 2013) to participate in International Walk to School Day (www.iwalktoschool.org,) as a kick-off to a larger school related program. In addition the community regularly has Walk to School Day, which includes not only a walk, but also a variety of fun activities surrounding the event. Working-age adults were offered a city-wide promotional event called Smart Commute Day. This was an event where community businesses agreed to participate in a competition with other businesses, and the winner was determined by the business with the most employees choosing active transportation over motorized vehicles (Hendricks et al., 2009).

*Programs* were also directed toward the specific target audiences discovered during the preparation phase of the project development. The elementary school children collaborated with the Safe Routes to School program to build community-level support for the active transportation initiative among their peers. Safe Route to School provided education to parents and students, advocacy for physical changes around the school, and walking/biking encouragement. Working-age adults had a work-site pilot project called Foot Energy that provided maps, bike facilities such as racks and lockers, and bikes for employees to borrow. In addition to Foot Energy, a program was developed through a partnership with the Michigan Prisoner Reentry Initiative that provided parolees with a bike, helmet, and street riding lessons (Hendricks et al., 2009). Table 3 lists the 5P strategies used by Jackson Michigan to implement their active transportation program.
Table 3. *Jackson, Michigan 5P Strategies*

<table>
<thead>
<tr>
<th>5 P’s</th>
<th>Strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preparation</td>
<td>Defined target groups; Children, Working Adults, Used separate interventions to achieve results in each target group; has a lead organization separate from governmental organizations</td>
</tr>
<tr>
<td>Promotion</td>
<td>Through a partnership with safe routes to school, created a Safe Routes to School program kick-off as a part of a larger Safe Routes to School program. Created a city-wide Smart Commute Day with inter-business competition. Included educational settings about bike safety and other related topics. Production of trail maps</td>
</tr>
<tr>
<td>Programs</td>
<td>Safe Route to schools programs which created teams that advocate for physical changes in school routes to improve safety, and other walking promotional programs. Prisoner Reentry Programs that focus on the use of bikes as a low cost mode of transportation.</td>
</tr>
<tr>
<td>Policy</td>
<td>School created a district wellness project, which included safe routes to school as a mandates piece of policy, which aimed to improve the wellness of the school.</td>
</tr>
<tr>
<td>Physical Projects</td>
<td>Side Walks, Cross walks, Bike racks, Bike Lanes.</td>
</tr>
</tbody>
</table>

(Source: Hendricks, Wilkerson, Vogt, & TenBrick, 2009)

**Columbia, Missouri**

Columbia is a Missouri city with a population of 110,438, sized at 635 square miles, with 1,720 people per square mile (U.S. Census, 2013). The city’s largest employers are the University of Missouri, the University of Missouri Hospitals, and the public school system, respectively. The average annual income of residents is $43,102 (City of Columbia, Missouri, 2013). This city introduced an active transportation initiative that was funded in 2005 by Active Living by Design. In addition, Columbia was one of the four cities to receive the 22 million dollar pilot project allotment from the federal government to build active transportation infrastructure (City of Columbia, Missouri, 2013). Their program, named GetAbout Columbia, included all of the 5Ps in its design.

Although GetAbout Columbia incorporated all of the 5Ps (see Table 4), the intervention was most successful in its implementation of the *Policy* and *Physical Projects* strategies. Columbia’s active transportation initiative began within its government, which gave it immediate
political support. As the movement progressed, the initiative moved to its own permanent, appointed committee. Also, Columbia used initial federal grant dollars to make infrastructure improvements, which in turn fulfilled the Physical Projects portion of the 5Ps (Sayers, LeMaster, Thomas, Petroski, & Ge, 2012).

Unfortunately, literature about Columbia’s experiences with the ALbD has been limited, and a conclusive analysis of its long-term success cannot be made.

Table 4. Columbia, Missouri 5P Strategy

<table>
<thead>
<tr>
<th>5 P’s</th>
<th>Strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preparation</td>
<td>Developed Partnerships</td>
</tr>
<tr>
<td>Promotion</td>
<td>Educational and Motivational messages disseminated through radio advertisements and jingles, print media, and posters displayed throughout the community.</td>
</tr>
<tr>
<td>Programs</td>
<td>Increase in school wide activity programs</td>
</tr>
<tr>
<td>Policy</td>
<td>To make active living and physical activity opportunities more accessible and attractive.</td>
</tr>
<tr>
<td>Physical Projects</td>
<td>Sidewalks, trails, Connecting bike and walking infrastructure to existing street infrastructure.</td>
</tr>
</tbody>
</table>

(Source: Sayers et al., 2012)

Slavic Village, Cleveland, Ohio

Although the intervention in this section deals specifically with the Slavic Village in Cleveland, Ohio, there were no statistics available for this sub-community of Cleveland. Therefore, the following information pertains to Cleveland, Ohio as a whole. Cleveland, Ohio has a total population of 393,806 people, measuring 77.7 square miles, with 5,107.2 people per square mile (U.S Census, 2013). The city of Cleveland is predominantly urban, with a dense population. Slavic Village is a small community within east side of Cleveland (City of Cleveland, 2013).

Preparation was this community’s strength in implementing their initiative. This preparation began with the union of the Broadway Area Housing Coalition and the Slavic Village Broadway Development Corporation. These two community organizations came
together to develop an organization called Connecting Cleveland Communities as their lead agency. This agency was vital to organizing the strategic collaborations at every stage of the initiative. The group employed the Active Living by Design 5P strategies, with a strong emphasis on preparation. The non-profit group Connecting Cleveland Communities offered expertise in community organizing, engagement, and development (Miller & Scofield, 2009).

Within the Connecting Cleveland Communities, a steering committee was developed to help guide the group and make decisions. The steering committee developed a 5P work plan that incorporated evidence based programming such as Safe Routes to School. This partnership also took time to pursue varying funding streams for their projects (Miller & Scofield, 2009).

While the Slavic Village included each of the 5Ps in their intervention, their success appears to stem from their initial relationship-building and Preparation. The union was able to capitalize on the strengths of their partners. Table 5 lists some of the ways that Slavic Village incorporated each of the 5Ps (Miller & Scofield, 2009).

Table 5. Slavic Village, Cleveland, Ohio 5P strategies

<table>
<thead>
<tr>
<th>5 P’s</th>
<th>Strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preparation</td>
<td>Developed Connecting Cleveland Partnerships, as a lead agency. Separate from government, offered expertise in community engagement, organizing, and development. This organization formed an interdisciplinary steering committee. Strategically planned partnerships with community members such as marketing non-profits.</td>
</tr>
<tr>
<td>Promotion</td>
<td>Developed Cleveland-wide Community on the Move social-marketing plan; trail maps were developed.</td>
</tr>
<tr>
<td>Programs</td>
<td>The partnership targeted a school and work audience for programs. The group used grant funds procured through the ALbD collaborative to create mini-grants to community partners that were setting up their own walk/pedestrian programs. Pilot worksite wellness program.</td>
</tr>
<tr>
<td>Policy</td>
<td>Complete Streets Resolution</td>
</tr>
<tr>
<td>Physical Projects</td>
<td>Transportation for livable communities – A master greenway plan, neighborhood trail development, bike lanes.</td>
</tr>
</tbody>
</table>

(Source: Miller & Scofield, 2009)
Dayton, Ohio

Dayton, Ohio has a population of 142,148. The city spans 55.56 square miles, and has 2,543.1 people per square mile. The median household income is $28,843, which compares to $48,071 as a state average (U.S. Census, 2013). Dayton is located where I-75 north/south meets the I-70 east/west, which is one of the most used highway intersections in America. It is also a part of the Miami Valley region due to the fact that the Great Miami River runs through Downtown (City of Dayton, 2010a). Dayton has a long history in cycling, being the home of the Wright brothers and Huffy Bicycle Company. The city boasts a nationally-renowned trail network that attracts visitors from across the country (City of Dayton, 2010a). This cycling legacy has been used primarily in leisure time activities, but has recently begun to think of cycling as also a mode of transportation (City of Dayton, 2010a).

Dayton’s vision for its active transportation program is a city in which “the bicycle is commonly viewed as legitimate, safe, reliable, meaningful, and convenient method of transportation in the City of Dayton, for recreational, utilitarian, and commuting bicyclists of all methods” (City of Dayton, 2010a, p. 2). The stated goal of the program is to make “Dayton a nationally known center for walking and bicycling” (City of Dayton, 2010a, p. 4). When developing its active transportation plan, Dayton did not use the ALbD strategic model, but instead used the 5Es set forth by the League of American Bicyclists, the non-profit organization that awards bike friendly designations. The 5Es stand for Engineering, Enforcement, Education, Encouragement, Evaluation/Planning. Dayton chose to add an additional letter, M for Maintenance.

This section presents the bike/walk movement in Dayton, Ohio, based on information gathered from a literature review, additional research of the grey literature, and key informant
interviews. The history of the initiative, along with comparative implementation strategies of 5Es and 5Ps, and summaries of interview results are included.

**History of transportation in Dayton.**

Many interview respondents attribute the beginning of the bike and pedestrian movement in Dayton to the city’s first participation in the Miami Valley Bicycle Summit in 2009. The summit was developed by members of Five Rivers Metroparks, the region’s park district (Five Rivers Metroparks, n.d.), and was the first open forum for discussion of active transportation. Dayton is nationally recognized for its shared-use trail system. Starting from the first eight miles located downtown, the Regional Trail Network has grown to include 250 miles of trails that stretch across Clark, Greene, Miami, and Montgomery County (City of Dayton, 2010a). Potential users of the trail system regionally are never located more than five to ten minutes from a trail. The Bicycle Summit introduced an opportunity to discuss a transition of use from mostly leisure time use to transportation.

After the first Bike Summit in 2009, an interdisciplinary group of people formed the Dayton Bike/Walk Committee. The group started with only five members, one city commissioner, a city planner, two representatives from the Five Rivers Metroparks, and a member of a local cycling group. In 2013 the committee had over 25 different community members.

In 2010, Dayton passed a new policy called Livable Streets based on the model of policies from the National Coalition of Complete Streets (see www.completestreet.org). By this definition, a “completed street” is a roadway that has been prepared for all different modes of transportation including public transportation, freight vehicles, personal vehicles, and active commuters. Also in 2010, Dayton was awarded the bronze designation of Bicycle Friendly city
by the American League of Bicyclist, the group that developed the 5E strategy system currently being used. The 5Es will be discussed further in the next section.

2013 efforts.

Tables 6 through 10 list the 2013 efforts of the Dayton Bike/Walk initiative using the terminology of the ALbD 5P strategies. The Dayton Bike/ Walk initiative developed a committee, which was the movement accountability. They also created a large bike hub, which is a space for cyclists to shower, change, dress, repair their bike, and it also supplies them with a locker for storage. They have involvement with the Safe Routes to School program; host a monthly courteous mass ride, and adopted a complete streets policy.

Table 6. Dayton’s Preparation Strategies

<table>
<thead>
<tr>
<th>Preparation Strategies</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Miami Valley Trail User Survey</td>
<td>Survey that performs user counts and measures the annual economic impact of trail use by tallying equipment, food, and overnight accommodations consumed.</td>
</tr>
<tr>
<td>Miami Valley Cycling Summit</td>
<td>A biennial summit provides an opportunity for community members to share ideas with public officials. It also provides an opportunity for communities to share successes and struggles in achieving their biking goals, and finally brainstorm for new ideas on how to move the initiative forward.</td>
</tr>
<tr>
<td>City of Dayton Bike/Walk Committee</td>
<td>Under the leadership of the City Commission Office, this committee is made of a diverse group of community leaders and organization. The committee has representation from Police, Fire Department, Five Rivers Metroparks, Dayton Public Schools, Dayton-Montgomery Public Health, Sinclair College, University of Dayton, Miami Valley Conservancy District, Miami Valley Regional Planning Commission, community philanthropists, and bicycle enthusiasts.</td>
</tr>
<tr>
<td>City of Dayton Bike Route Map</td>
<td>Comprehensive map to provide users with information to help them choose road routes through the city depending on their level of experience.</td>
</tr>
</tbody>
</table>
### Table 7. Dayton’s Physical Project Strategies

<table>
<thead>
<tr>
<th>Physical Projects</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regional Trail Network</td>
<td>The Greater Dayton Region has a nationally recognized shared use trail system of over 250 miles of trails throughout the area. 30 miles of this trail is available to residents within a 5 to 10 minute ride from any shared use trail in the City.</td>
</tr>
<tr>
<td>Street Reconstruction</td>
<td>Main Street in downtown Dayton was reconstructed to provide fewer risks to cyclists.</td>
</tr>
<tr>
<td>Repaving</td>
<td>Repaved every street in downtown Dayton</td>
</tr>
<tr>
<td>Traffic Signal Upgrades</td>
<td>Traffic signals have been upgraded to have loop detectors, which allow them to more easily detect bicycles waiting at an intersection.</td>
</tr>
<tr>
<td>Bridges</td>
<td>Many bridges in Dayton are being improved to include walkways.</td>
</tr>
<tr>
<td>Bike Lanes</td>
<td>As a part of the City of Dayton resurfacing project, bike lanes are being added along certain streets.</td>
</tr>
<tr>
<td>Shared Lane Markings</td>
<td>Road markings that remind cyclists and drivers where a bike’s place is on the road and that they should be mindful of each other.</td>
</tr>
<tr>
<td>Bike Hub</td>
<td>A central biking facility, known as This Bike Hub, at Riverscape Metropark include indoor bike parking facilities, men’s and women’s showers and locker facilities, fully stocked repair shop, bicycle rentals, and a retail store that sells bicycle equipment and clothing.</td>
</tr>
</tbody>
</table>

### Table 8. Dayton’s Program Strategies

<table>
<thead>
<tr>
<th>Programs</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Life Enrichment Center Bike Shoppe</td>
<td>Life Enrichment Center, with a mission to serve the underserved population of Dayton, has collaborated with the Bike/Walk committee to provide training on bicycle maintenance.</td>
</tr>
<tr>
<td>Safe Routes to School</td>
<td>A grant of $583,000 was awarded to the City of Dayton to reconstruct roadways near 5 neighborhood schools to make them safer and more accessible to students.</td>
</tr>
</tbody>
</table>

### Table 9. Dayton’s Promotion Strategies

<table>
<thead>
<tr>
<th>Promotion</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bike to work Day/Month</td>
<td>Every May is Bike to Work month, and the 3rd of every May is Bike to Work Day. This event is an effort to promote active commuting as a viable means of transportation.</td>
</tr>
<tr>
<td>Courteous Mass Ride</td>
<td>Inspired by the Critical Mass ride, Dayton cyclists share the road with other motor traffic in very large numbers. This occurs the first Friday of every month, touring various parts of Dayton.</td>
</tr>
</tbody>
</table>
Table 10. Dayton’s Policy Strategies

<table>
<thead>
<tr>
<th>Policies</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comprehensive Local-Regional Bikeways Plan</td>
<td>Provides broad vision, policy, goal, and objectives for improving bicycling in Dayton over a 20-year period. Provides recommendations on how to maintain and grow a cycling community. Recommends 100 bike infrastructure projects to be realized over 20 years.</td>
</tr>
<tr>
<td>City of Dayton 2025 Bicycle Action Plan</td>
<td>This plan outlines the future of biking in Dayton and viable objectives for moving forward building a capable network of intermodal transportation corridors.</td>
</tr>
<tr>
<td>City of Dayton Livable Streets</td>
<td>A policy that works to accommodate all different types of transportation users along roadways. It addresses vision, purpose, sets of goals, and lists of directives to consider when identifying, planning, and designing all roadway projects, from maintenance to reconstruction. The policy also supports planning efforts to promote active transportation through zoning and urban design guidelines.</td>
</tr>
</tbody>
</table>

Dayton bike/walk committee.

The Dayton Bike Walk Committee was formed in September of 2009 under the leadership of commissioner Nan Whaley. It was designed as a forum to organize public and private community entities that promote walking and cycling as a form of transportation. The City of Dayton 2025 Bicycle Action Plan requires that the committee be led by the City Commission Office with the direct leadership of a Commissioner as the direct chairperson.

The Dayton Bike/Walk Committee meets on a quarterly basis or more often, as needed. However, Committee members are required to attend only two meetings per year to remain active members. The committee is responsible for governing community partnerships and pursuing the goals and mission of the 2025 Bike Action Plan. As of this writing the committee is led by Commissioner Nan Whaley, but administrative responsibilities for the group will soon be assumed by a city planner who has prepared meeting agendas and coordinated community collaborative efforts, in addition to his regular job responsibilities.
The City of Dayton 2025 Bicycle Action Plan outlines potential collaborations for the committee (See Figure 6 for a listing of these collaborations). At this early phase in the development of the committee there are 20 members that represent a number of City of Dayton workers and education and law enforcement personnel. It does not yet exhibit a strong representation of business, advocacy, or citizen groups. The Dayton Bike/Walk Committee will be discussed in more detail in the discussion.

**Bronze bike friendly designation.**

In May 2010 Dayton was awarded Bronze Medal Bicycle Friendly Status by the League of American Bicyclists, also known as the Bike League. Its mission is to promote bicycling for fun, fitness, and transportation through advocacy and education for a bicycle friendly America (League of American Bicyclists, 2012a). The Bike League has many programs that advance this mission, including Bicycle Friendly America, which provides incentives, hands-on assistance, and award recognition for communities that support active transportation. Any community interested in having a bike friendly designation can complete and submit an application. The Bike League will then provide feedback that can be used to meet that standard or improve to meet the next tier designation. Dayton’s Bike/Walk committee has plans to pursue the Silver Medal (City of Dayton, 2011).

The American League of Bicyclists uses a system of strategic measures called the 5Es to provide feedback and tools to improve conditions for cyclists on a community-wide level. These are also the evaluative tools they use to measure communities bicycle friendliness. Table 11 shows the definition for each of the 5Es and the “M” (*Maintenance*) added to this framework by Dayton. The 5Es differ from the 5Ps in that the 5Ps expands its focus to community engagement, beyond the bicycle movement. There are some similarities, however these two
systems might be better paired together to provide a complete and effective intervention. Dayton outlined their 5E efforts as shown in Table 12. The city has supported engineering projects that expand shared use trails.

**Table 11. League of American Bicyclists 5Es**

<table>
<thead>
<tr>
<th>The 5 E’s</th>
<th>Strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering</td>
<td>Provides safe, convenient, well-connected, and reliable road markings, separated bike lanes, and end-of-trip facilities for bicyclists of all skill levels.</td>
</tr>
<tr>
<td>Enforcement</td>
<td>Ensure all users of the transportation network, including bicyclists, respect the rights of other network users and obey all traffic laws.</td>
</tr>
<tr>
<td>Education</td>
<td>Create a knowledge base where all users of the transportation network understand and obey the rules of the road.</td>
</tr>
<tr>
<td>Encouragement</td>
<td>Promote bicycling as an affordable, reliable, convenient, environmentally-friendly, and health-conscious alternative to motorized transportation.</td>
</tr>
<tr>
<td>Evaluation/Planning</td>
<td>Accurately and regularly collect information of the five ‘Ws’ for bicycling in the City of Dayton by asking the ‘who,’ ‘what,’ ‘when,’ ‘where,’ and ‘why’ of bicycling. Update the City of Dayton 2025 Bicycling Action Plan on a regular basis.</td>
</tr>
<tr>
<td>Maintenance</td>
<td>Provide bicycle facilities with an appropriate level and quality of maintenance.</td>
</tr>
</tbody>
</table>

(Source: American League of Bicyclists, 2012b)

**Table 12. Dayton’s Use of the LAB 5Es**

<table>
<thead>
<tr>
<th>The 5Es</th>
<th>Strategy Used by Dayton</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering</td>
<td>Expanding the network of dedicated off-street shared use trails; Expanding the network of on-road bike facilities; Training</td>
</tr>
<tr>
<td>Enforcement</td>
<td>Continue enforcement of existing bicycle related traffic and zoning laws; Increase officer visibility; Bicycle Registration Program; Crash Reporting; Training</td>
</tr>
<tr>
<td>Education</td>
<td>Increase citizen knowledge of bicycling laws and etiquette; Establish first-time offender diversion program for bicyclists; Training</td>
</tr>
<tr>
<td>Encouragement</td>
<td>Increase available bicycle amenities; Support citizens in choosing bicycling for recreation and transportation; Support bicycling for commuting, recreating, health, economic development, and tourism; Continue Bike work and school events.</td>
</tr>
<tr>
<td>Evaluation/Planning</td>
<td>Increase bicycle mode share; Improve the City’s LAB Bicycle Friendly Status; Implement programs for data collection, and tracking; Bicycle Plan Maintenance.</td>
</tr>
<tr>
<td>Maintenance</td>
<td>Improve maintenance of bicycle facilities</td>
</tr>
</tbody>
</table>
Comparing Location Strategies

Table 13 presents a comparison of all the 5P strategies from each of the five cities reviewed. Preparation, as the first P, has a reoccurring theme among all the cities as the development of community partnerships. Some communities referred to these as strategic partnerships, emphasizing the reciprocal nature of the partnership. Another reoccurring concept was that of a lead organization, which organized collaborative community efforts. Finally, another similarity among the preparation activities is assessment of trail use.

Similarities among Promotion actions chosen by the different locales included various awareness events and social marketing plans. When Program-related activities were compared, many communities were found to be involved with Safe Routes to School. There are also some resemblances in policies, which include some variation of Complete Street Policies. Physical Projects were largely similar, including bike racks, bike lanes, trails, and road maintenance.

There are some differences in the cities use of each of the 5Ps. With Preparation, for example, each city had a non-profit as its lead, except for Dayton, Ohio. Some of the differences in Promotion are the frequency of the awareness events. Some cities had the events regularly such as once or twice a year, but other cities had them with the introduction of a new project. Programs varied widely. For example, one program served people who were recently released from prison, while another program served working commuters. Each program, however, worked to empower community non-profit organizations to provide services to the community. There was not much variance in community Policies, but there was some difference in how land use was addressed. For instance, some communities created extended year land zoning plans, designating that certain spaces would be used specifically commercial, or residential, and thereby designating a plan for making the space walkable.
### Comparison of 5Ps of Cities Included in this Study

<table>
<thead>
<tr>
<th>Preparation</th>
<th>Columbia, Missouri</th>
<th>Jackson, Michigan</th>
<th>Portland, Oregon</th>
<th>Slavic Village, Cleveland, Ohio</th>
<th>Dayton, Ohio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Developed Partnerships</td>
<td>Defined target groups; Used separate interventions to achieve results in each target group; has a lead organization separate from governmental organizations</td>
<td>Strategic Partnerships within non-profit lead agency to create Steering Committees; Regular Assessments of Public Infrastructure Use</td>
<td>Developed Connecting Cleveland Partnerships, as a lead agency. Separate from government, offered expertise in community engagement, organizing, and development; organization formed an interdisciplinary steering committee. Strategically planned partnerships with community members such as marketing non-profits.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Promotion</th>
<th>Columbia, Missouri</th>
<th>Jackson, Michigan</th>
<th>Portland, Oregon</th>
<th>Slavic Village, Cleveland, Ohio</th>
<th>Dayton, Ohio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Educational and Motivational messages disseminated through radio advertisements and jingles, print media, and posters displayed throughout the community.</td>
<td>Created a Safe Routes to School program kick-off as a part of a larger Safe Routes to School program; Created a city-wide Smart Commute Day with inter-business competition.</td>
<td>Created awareness events that surrounded each project, such as built trails or new programs.</td>
<td>Developed Cleveland-wide Community on the Move social-marketing plan; trail maps were developed.</td>
<td>Bike to work Day/Month Courteous Mass Ride</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Programs</th>
<th>Columbia, Missouri</th>
<th>Jackson, Michigan</th>
<th>Portland, Oregon</th>
<th>Slavic Village, Cleveland, Ohio</th>
<th>Dayton, Ohio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increase in school wide activity programs</td>
<td>Safe Route to schools programs advocated for physical changes in school routes, and provided other walking promotional programs. Prisoner Reentry Programs that focus on the use of bikes as a low cost mode of transportation.</td>
<td>Every Program had ongoing technical assistance from its steering committee</td>
<td>The partnership targeted a school and work audience for programs. The group used grant funds procured through the ALbD collaborative to create mini-grants to community partners that were setting up their own walk/pedestrian programs. Pilot worksite wellness program.</td>
<td>Life Enrichment Center Bike Shoppe Safe Routes to School</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Policy</th>
<th>Columbia, Missouri</th>
<th>Jackson, Michigan</th>
<th>Portland, Oregon</th>
<th>Slavic Village, Cleveland, Ohio</th>
<th>Dayton, Ohio</th>
</tr>
</thead>
<tbody>
<tr>
<td>To make active living and physical activity opportunities more accessible and attractive.</td>
<td>School created a district wellness project, which included safe routes to school as a mandates piece of policy, which aimed to improve the wellness of the school.</td>
<td>Multiple policies including some regarding future development and land use. Complete Streets policy was adopted. Development of systems to financially sustain physical projects.</td>
<td>Complete Streets Resolution</td>
<td>Comprehensive Local-Regional Bikeways Plan; City of Dayton 2025 Bicycle Action Plan; City of Dayton Livable Streets</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Physical Projects</th>
<th>Columbia, Missouri</th>
<th>Jackson, Michigan</th>
<th>Portland, Oregon</th>
<th>Slavic Village, Cleveland, Ohio</th>
<th>Dayton, Ohio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sidewalks, trails, Connecting bike and walking infrastructure to existing street infrastructure.</td>
<td>Side Walks, Cross walks, Bike racks, Bike Lanes.</td>
<td>Major portions of Portland trail ways were repaved and connected to outlets around the city.</td>
<td>Transportation for livable communities – A master greenway plan, neighborhood trail development, bike lanes.</td>
<td>Regional Trail Network of 250 miles of trail; Street Reconstruction; Repaving; Traffic Signal Upgrades that signify the presence of bikes; Bridges; Bike Lanes; Shared Lane Markings; Bike Hub</td>
<td></td>
</tr>
</tbody>
</table>

(Adler et al., 2008; Hendricks et al., 2009; Sayers et al., 2012; Miller & Scofield, 2009)
Discussion and Recommendations

Although Dayton has not used the Active Living by Design Community Action Model’s 5P Strategies to organize its actions, the city has used a valid organizational framework and experienced success in its young active transportation movement. The City chose to employ the 5Es of Bicycling from the League of American Bicyclists (engineering, enforcement, education, encouragement, evaluation/planning), and an additional “M” for maintenance. However, this planning method is tailored specifically to creating a biking movement and the Es address concerns specific to biking. This author recommends that the Dayton Bike/Walk Committee consider adding the 5Ps to the 5Es to develop a diverse, well-rounded, multi-faceted active transportation movement that appeals to audiences beyond the cycling community.

The ALbD 5Ps are designed to be general and fit a variety of types of programs. The primary benefit of the 5Ps is that they describe a process which originates from planning, while the 5Es start at implementation and only imply planning. The 5Ps emphasize the elements and process steps necessary for successful community action of any kind. However, the 5Es of Bicycling includes some elements that all fall within the categories of the 5Ps, but the 5Ps provide more explicit directions and greater general applicability. The 5Es are an essential part of a successful bicycle movement, but they are not inclusive of everything necessary to have successful community action.

Dayton’s Strengths

When comparing Dayton’s Bike/Walk committee actions through the framework of the 5Ps to four other communities, Dayton excels in their production of Physical Project and Policy. Dayton’s strong focus on Engineering in the 5Es has made the city equally as strong within the 5P domain of Physical Projects. The City of Dayton Bicycle Action Plan 2025 provides a very
detailed outline of past, current and future projects. For example, Dayton developed one of only three bicycle hubs east of the Mississippi River (City of Dayton, 2011). Located at the Riverscape Metropark, the hub boasts indoor secured bike parking, men’s and women’s shower and locker facilities, a bike repair shop, and a convenience store. In addition to the hub, Dayton is developing bike boulevards, paving, and other structural changes (City of Dayton, 2011).

In addition to succeeding in Physical Projects, Dayton has also excelled in the area of Policy, exemplified by the Dayton Livable Streets Policy (City of Dayton, 2010b) and the City of Dayton 2025 Bike Action Plan. Dayton has been very active in governmental relationships largely due to the fact that the Dayton Bike/Walk Committee has its leadership housed within the City Commissioner’s office. As I explain below, this close relationship with governmental organizations can be a hindrance in some situations, and an asset in others.

Areas to Target for Increased Effectiveness

Preparation, Promotion, and Programs are the three areas of identified in this case study for improvement in Dayton’s implementation of a bike and pedestrian movement using the 5P model. Each is explained below.

Preparation

Bors and colleagues (2009) define Preparation as “the deliberate process of getting ready for and reinforcing action” (p. S315). Typically, the preparation for a community action project entails data collection, creating a plan, identifying potential funding sources, and forming a community organization with diverse and dedicated members, generally called community partners. Preparation is a very important step because it sets the foundation for every other action step.
Dayton has performed some of the actions required in the preparation step, (for example, the development of the bicycle and pedestrian planning committee). However, the city would benefit from the critical step of building and maintaining strategic and diverse community partnerships. Strategic partnerships are a cornerstone to preparation because it is integral to building a resilient community movement. Active Living by Design’s Community Action Model is based on an ecological understanding of community action, and diversity in lead organizations and partnerships becomes an asset in the search for funding opportunities, expertise in promotion, and expertise in program development.

Dayton’s Bike Action Plan 2025 (City of Dayton, 2011) includes a number of existing partnerships, but these collaborations happen infrequently and are not well sustained. The Dayton Bike/Walk Committee has three tiers of partnerships they desire to achieve; Governmental; Education and Law Enforcement; and Business, Advocacy, and Citizen Groups. The Dayton Bike/Walk Committee has successfully attracted partners in the Governmental and Education and Enforcement categories, but has yet to cultivate relationships with local business, non-profit organizations, and citizen groups. Interview respondents attribute this to a lack of staff to cultivate and maintain such relationships.

The City of Dayton could also benefit from a more diverse representation within the active transport movement. The Dayton Bike/Walk Committee is currently very government focused. This is because the leadership for the Committee is housed in the City Commissioners office. Many government organizations therefore have a strong representation, but bring similar capabilities to the group. At the same time, they lack certain capabilities that outside business and non-profit organizations would bring to the table.
Several respondents noted that Dayton’s bike/walk movement is not a full time job for anyone in the movement, and therefore, few are able to commit the time necessary to build and manage community connections as they would like. This paper recommends creating a full-time Bike/Walk Coordinator position. The Coordinator would be responsible for building and maintaining community partnerships, managing programs, promotion, and projects surrounding the bike/walk movement. S/he would be responsible for identifying funding sources for specific projects and would handle administrative tasks surrounding the bike/pedestrian initiative. Because a Coordinator would have the full-time ability to establish a foothold for active transportation in Dayton, more human resources could be spent building relationships.

In addition to more diversity within the Dayton Bike/Walk Committee, the leadership would also benefit from diversification. The committee leadership is currently housed within the City Commission Office, and the 2025 Bike Action Plan indicates that that leadership is planned to remain there through 2025. Based on the successful experience of other communities, it is recommended that the Dayton Bike/Walk Committee develop a leadership board comprised of community leaders from various backgrounds. The City Commissioner would be a member of the board, but having a multiple people on the leadership board would divide leadership responsibilities and protect the interest of the committee in the event of changing political climate.

**Promotion**

Bors and colleagues (2009) define Promotion as “the means by which the initiatives connect with opinion makers and the public” (p. S316). This is the opportunity for a community to identify a target audience and to tailor its marketing tactics to that particular audience. In
addition, this is the opportunity to use some of the strategic partnerships that have an expertise in marketing and community organization, to help make the initiative more public.

Greater diversity in the Dayton Bike/Walk Committee leadership would provide new opportunities in marketing and Promotion. Examples of this include Jackson, Michigan, who sponsored an inter-business competition between two of their community partners, with the winner being the business which had the most employees biking to work (Hendricks et al., 2009).

Another feature of many active transportation movements nationwide is giving the movement a name. Columbia, Missouri named their active transportation initiative GoColumbia, (City of Columbia, 2013) and Sacramento, California named theirs WALKSacramento (WALKSacramento, 2013). Naming the movement creates an entity that exists independent of any other organization. This separate identity gives the program the potential sustainability to withstand environmental and political changes. In addition, naming the movement and developing a logo is the first step in the process of branding, which provides the general public name recognition. Finally, giving the movement a recognizable name will establish the committee up as an organization, spreading the ownership of the initiative from solely the City Commission Office to every individual that is a part of the committee and that participates in the movement.

Slavic Village in Cleveland, Ohio developed a separate marketing plan to supplement their strategic initiative plan. The marketing plan included social media, community engagement, neighborhood asset maps, and organized community events (Miller & Scofield, 2009). Having strong neighborhood partners makes these marketing campaigns possible. For example, Portland, Oregon had a kick-off event before the launch of every program or project
that was introduced. These events took place year-round and became common, expected events for the citizens of Portland (Adler et al., 2008).

Promotion is about defining a target audience. Dayton, in directing all of their marketing materials to bikes, has selected cyclists as their target audience. Cyclists are already participating in active transportation, and many are willing to increase the number of miles they cycle without exposure to much additional marketing or advertisement. It may be more beneficial for Dayton to reach out to individuals who are less likely to bike and more likely to walk. This diversification of target audiences from bicyclists or prospective bicyclists, to prospective active commuters, in general would broaden the City’s approach to both Promotion and Programs.

Dayton currently sponsors two Bicycle and Pedestrian marketing events per year, both of which happen in May; Bike to Work Day and Bike to Work Month. Dayton’s Promotion would benefit from creating seasonal events and media campaigns that connect with target audiences year-round, instead of just during the spring. Columbia, Missouri disseminated print information, radio and television information, and even had a jingle created to help their brand resonate with the target audience (Sayers et al., 2012).

**Programs**

Bors and colleagues (2009) define Programs as “ongoing organized activities that directly or indirectly engage individuals in physical activity” (p. S316). Programs provide opportunities for community members to actively participate in community change and to personally identify with a movement or intervention. They address community needs and barriers, provide necessary education, and then provide the opportunity to act. In Dayton few programs have been created to engage the community. There are two programs that Dayton currently features: The Life Enrichment Center (LEC) Bike Shoppe and Safe Routes to School.
The Life Enrichment Center Bike Shoppe is a facility intended to provide the community with the “opportunity to gain self-esteem and self-motivation while learning to operate and maintain a bicycle” (City of Dayton, 2010a, p. 8). Safe Routes to School is an essential program to any community working to develop a walkable neighborhood. The city was awarded a $583,000 grant from the Ohio Department of Transportation to address safety issues around Dayton Public School’s Neighborhood school project. The funds were used to perform infrastructure improvements around the schools for additional safety for walking students. These infrastructural improvements support the program even after the funding stream ended.

Dayton would likely see improvements in their overall program offerings with greater diversity of their committee. In other neighborhoods nationwide, bike and walk committees leverage their relationship with community business, neighborhood organizations, faith based institutions, and non-profit organizations to develop programs that directly affect specific populations being served by organization. Greater representation within the movement creates more opportunity for community engagement through programs.

Limitations and Conclusion

Dayton has the beginnings of a successful active transportation movement. The city has a detailed plan of action through 2025 that includes a number of physical improvement projects supported by a willing and active local government. By applying the Active Living by Design 5P strategies, they will be more inclined to address all aspects of successful community change. The city’s movement could benefit from greater diversity within committee leadership, and a relocation of the initiative’s leadership out of government. Finally, the committee would also benefit from hiring a full-time coordinator.
References


http://www.cdc.gov/brfss/pdf/PA%20RotatingCore_BRFSSGuide_508Comp_07252013FINAL.pdf


Appendix A: IRB Approval

DATE: July 11, 2012

TO: Danielle P. Tong, PI, Student  
Masters of Public Health  
John McAlearney, Ph.D., Faculty Advisor

FROM: Bette Sydelko, M.S.L.S., M.Ed.  
Facilitator, Expedited Review Advisory Committee

SUBJECT: SCI# 4814  
'From Driving to Biking: A Case Study of Greater Miami Valley's Evolution Toward Active Transportation'

This memo is to verify the receipt and acceptance of your response to the conditions placed on the above referenced human subjects protocol/amendment.

These conditions were lifted on: 07/11/2012

This study/amendment now has full approval and you are free to begin the research project. If this is a VA proposal, you must still receive a letter of approval from the Research and Development Committee prior to beginning the research project. This implies the following:

1. That this approval is for one year from the approval date shown on the Action Form and if it extends beyond this period a request for an extension is required. (Also see expiration date on the Action Form)

2. That a progress report must be submitted before an extension of the approved one-year period can be granted.

3. That any change in the protocol must be approved by the IRB; otherwise approval is terminated.

If you have any questions concerning the condition(s), please contact Jodi Blackledge at 775-3974.

Thank you!

Enclosure
RESEARCH INVOLVING HUMAN SUBJECTS

SC# 4814

ACTION OF THE WRIGHT STATE UNIVERSITY
EXPEDITED REVIEW
Assurance Number: FWA00002427

Title: 'From Driving to Biking: A Case Study of Greater Miami Valley's Evolution Toward Active Transportation'

Principal Investigator: Danielle P. Tong, PI, Student
John McAleeney, Ph.D., Faculty Advisor

Department: Masters of Public Health

Expeditied Category: 6, 7

The Institutional Review Board has approved the use of human subjects on this proposed project with conditions previously noted. The conditions have now been removed.

REMININDER: FDA regulations require prompt reporting to the IRB of any changes in research activity, changes in approved research during the approval period may not be initiated without IRB review (submission of an amendment), and prompt reporting of any unanticipated problems (adverse events).

Signed Facilitator, WSU-ERAC

Expedited Review Date: June 01, 2012
IRB Meeting Date: August 20, 2012

This approval is effective only through: June 1, 2013
To continue the activities approved under this protocol you should receive the appropriate form(s) from Research and Sponsored Programs (RSP) two to three months prior to the required due date.
If you do not receive this notification, please contact RSP at 775-2425.
Dear __________________:

My name is Danielle P. Tong, and I am a student with Wright State University’s Masters of Public Health program. I am contacting you because our mutual contact, __________________ said that you might be interested in providing some insight to my project about bike and pedestrian legislation in the Miami Valley. My project looks at perceptions of how current bike and pedestrian policy affects active commuters. I would like to make some recommendations on how to tailor legislation to the needs of potential active commuters.

Do you have 30 minutes to answer some questions on this topic? Your assistance would be greatly appreciated.

Thank you!

Danielle P. Tong
Student Investigator
Wright State University Masters of Public Health Program
INFORMED CONSENT – Agency Officials

Title: From Driving to Biking: A Case Study of Miami Valley’s Evolution toward Active Transportation

Primary Investigator: Danielle P. Tong, Licensed Social Worker (LSW) and Master of Public Health Candidate at Wright State University (WSU), Dayton, Ohio

Faculty Advisor: Dr. John Mclearney (WSU)

Purpose: The research study looks at perceptions of how current bike and pedestrian policy affects active commuters.

Procedure and Methods: I am participating in an interview, no longer than 40 minutes, with open-ended questions. If I agree to be in the study, I understand that:

- The lead researcher, Danielle P. Tong, will be conducting the interview, and that my voice and responses will be recorded using a digital voice recorder.
- The topics covered will be related to Greater Dayton transportation policy, street layout, and health as a factor actively commuting.
- I will be asked my opinion on policies in the Miami Valley area.
- Informal conversations pertaining to the topic may be included in research.

No sensitive issues will be discussed. No questions about HIV status, sexual preference, religion, race, gender, ethnic origin, or criminal convictions will be raised.

Risks: The research team does not foresee any undue or abnormal stress.

Confidentiality: A personal identifier will be used in place of my name, but I have the opportunity to provide permission for my responses to be recorded using a digital voice recorder during the interview. I may decline the use of the digital voice recorder. I may also decline the use of my position title and my organization. Please indicate your initials below:

- Yes, you may use a digital recording device to record my answers.
- No, do not use a digital recording device to record my answers.

- Yes, you may use my position title in the publication.
- No, you may not use my position title in the publication.

- Yes, you may use my organization name in the publication.
- No, you may not use my organization name in the publication.

Digital recordings and notes from the interview will be kept in a locked file cabinet with the faculty advisor in the Masters of Public Health Department of Wright State University campus. The files may be kept for three months or until the duration of the project, whichever is longer.

Benefits: There will be no direct benefit to me, in the way of compensation, for participating in the study; however, I understand that by participating in the study, I am providing a voice for Miami Valley’s story of evolution in its effort to build fully accessible streets.

Voluntary Participation: I understand that my participation in the study is voluntary and that I may withdraw my participation with no penalties or negative consequences.

Contact Information: I may contact Dr. John Mclearney, Faculty Advisor or Danielle P. Tong at (937) 638-5547 or by email john.mcleary@wright.edu for information about the research. If I have general questions about giving consent or about giving consent or about my rights as a research participant in this study, I can call Wright State University Institutional Review Board at (937) 775-4462.

If I agree to participate I should sign below:

Printed Name __________________________ Date ____________ Signed Name __________________________

Danielle P. Tong, Lead Investigator __________________________ Date ____________
INFORMED CONSENT – Bike Commuters and Walking Commuters

Title: From Driving to Biking: A Case Study of Greater Miami Valley’s Evolution toward Active Transportation

Primary Investigator: Danielle P. Tong, Licensed Social Worker (LJW) and Masters of Public Health Candidate at Wright State University (WSU), Dayton, Ohio

Faculty Advisor: Dr. John McAlernan (WSU)

Purpose: The research study looks at perceptions of how current bike and pedestrian policy affects active commuters.

Procedure and Methods: I am participating in a short interview (no longer than 20 minutes) with open-ended questions.

If I agree to be in the study, I understand that:

- The lead researcher, Danielle P. Tong, will be conducting the interview, and that my voice and responses will be recorded using a digital voice recorder.
- The topics covered will be related to Greater Dayton transportation policy, street layout, my reasons for biking or walking for transportation, and health as a factor commuting this way.
- I will be asked my opinion on policies in the Miami Valley area.
- Informal conversations pertaining to the topic may be included in research.

No sensitive issues will be discussed. No questions about HIV status, sexual preference, religion, race, gender, ethnic origin, or criminal convictions will be raised.

Risk: The research team does not foresee any undue or abnormal stress.

Confidentiality: A personal identifier will be used in place of my name, but I have the opportunity to provide permission for my responses to be recorded using a digital voice recorder during the interview. I may decline the use of the digital voice recorder. Please indicate by initialing below.

_ Yes, you may use a digital recording device to record my answers._

_ No, do not use a digital recording device to record my answers._

Digital recordings and notes from the interview will be kept in locked file cabinet in the Masters of Public Health Department of Wright State University campus. The files may be kept for three months or until the duration of the project, whichever is longer.

Benefits: There will be no direct benefit to me, in the way of compensation, for participating in the study; however, I understand that by participating in the study, I am providing a voice for Miami Valley’s story of evolution in its effort to build fully accessible streets.

Voluntary Participation: I understand that my participation in the study is voluntary and that I may withdraw my participation with no penalties or negative consequences.

Contact Information: I may contact Dr. John McAlernan, Faculty Advisor of Danielle P. Tong at (937) 258-5547 or by email john.mcalernan@wright.edu for information about the research. If I have concerns about the study, I can contact Cheryl Scroggins, Community Coordinator of Dayton Council on Health Equity at (937) 225-4662. If I have general questions about giving consent or about my rights as a research participant in the research study, I can call the Wright State University Institutional Review Board at (937) 775-4462.

If I agree to participate I should sign below:

Printed Name ________________________________ Date ______ Signed Name ________________________________

Danielle P. Tong, Lead Investigator ________________________________ Date ________________________________
## Appendix B: List of Tier 1 Core Public Health Competencies Met

<table>
<thead>
<tr>
<th>Domain #1: Analytic/Assessment</th>
</tr>
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<tbody>
<tr>
<td>Use methods and instruments for collecting valid and reliable quantitative and qualitative data</td>
</tr>
<tr>
<td>Recognize the integrity and comparability of data</td>
</tr>
<tr>
<td>Identify gaps in data sources</td>
</tr>
<tr>
<td>Adhere to ethical principles in the collection, maintenance, use, and dissemination of data and information</td>
</tr>
<tr>
<td>Collect quantitative and qualitative community data (e.g., risks and benefits to the community, health and resource needs)</td>
</tr>
<tr>
<td>Use information technology to collect, store, and retrieve data</td>
</tr>
<tr>
<td>Describe how data are used to address scientific, political, ethical, and social public health issues</td>
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<table>
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<tr>
<th>Domain #2: Policy Development and Program Planning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gather information relevant to specific public health policy issues</td>
</tr>
<tr>
<td>Describe how policy options can influence public health programs</td>
</tr>
<tr>
<td>Explain the expected outcomes of policy options (e.g., health, fiscal, administrative, legal, ethical, social, political)</td>
</tr>
<tr>
<td>Gather information that will inform policy decisions (e.g., health, fiscal, administrative, legal, ethical, social, political)</td>
</tr>
<tr>
<td>Incorporate policies and procedures into program plans and structures</td>
</tr>
<tr>
<td>Identify mechanisms to monitor and evaluate programs for their effectiveness and quality</td>
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<tr>
<th>Domain #3: Communication</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communicate in writing and orally, in person, and through electronic means, with linguistic and cultural proficiency</td>
</tr>
<tr>
<td>Solicit community-based input from individuals and organizations</td>
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<tr>
<th>Domain #4: Cultural Competency</th>
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</thead>
<tbody>
<tr>
<td>N/A</td>
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<tr>
<th>Domain #5: Community Dimensions of Practice</th>
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</thead>
<tbody>
<tr>
<td>Recognize community linkages and relationships among multiple factors (or determinants) affecting health (e.g., The Socio-Ecological Model)</td>
</tr>
<tr>
<td>Demonstrate the capacity to work in community-based participatory research efforts</td>
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<tr>
<td>Identify stakeholders</td>
</tr>
<tr>
<td>Collaborate with community partners to promote the health of the population</td>
</tr>
<tr>
<td>Maintain partnerships with key stakeholders</td>
</tr>
<tr>
<td>Identify community assets and resources</td>
</tr>
<tr>
<td>Gather input from the community to inform the development of public health policy and programs</td>
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<tr>
<th>Domain #6: Public Health Sciences</th>
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<tbody>
<tr>
<td>Discuss the limitations of research findings (e.g., limitations of data sources, importance of observations and interrelationships)</td>
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<tr>
<th>Domain #7: Financial Planning and Management</th>
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</thead>
<tbody>
<tr>
<td>N/A</td>
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<tr>
<th>Domain #8: Leadership and Systems Thinking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incorporate ethical standards of practice as the basis of all interactions with organizations, communities, and individuals</td>
</tr>
<tr>
<td>Describe how public health operates within a larger system</td>
</tr>
<tr>
<td>Participate with stakeholders in identifying key public health values and a shared public health vision as guiding principles for community action</td>
</tr>
<tr>
<td>Use individual, team and organizational learning opportunities for personal and professional development</td>
</tr>
<tr>
<td>Participate in mentoring and peer review or coaching opportunities</td>
</tr>
<tr>
<td>Participate in the measuring, reporting and continuous improvement of organizational performance</td>
</tr>
<tr>
<td>Describe the impact of changes in the public health system, and larger social, political, economic environment on organizational practices</td>
</tr>
</tbody>
</table>