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A Voice for Walking: Pedestrian Advocacy in Low- and Middle-Income Countries

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Abstract

Despite its critical importance to mobility in low- and middle-income countries, the pedestrian environment has largely been neglected by policymakers. In response to this problem activists in several countries have created advocacy groups to address concerns about safety, health, equity, and traffic congestion. This paper explores the nature of these groups by documenting their structure, size and budget, and the activities they use promote better pedestrian access. Although most groups are small with limited funding, many have had success in furthering their cause by using websites and blogs, and by working directly with local governments as subject area experts in pedestrian design.

Keywords: Mobility, pedestrians, policy-making

1. Introduction

> *"God made us walking animals — pedestrians. As a fish needs to swim, a bird to fly, a deer to run, we need to walk, not in order to survive, but to be happy."*
> --Enrique Peñalosa, former mayor of Bogota, Colombia

Walking is the most fundamental form of human transportation. We might travel by car, bicycle, subway, or private jet, but every trip we take ultimately begins and ends with a walk. This is particularly true in low- and middle-income countries (as currently defined by the World Bank) where foot travel can represent 50 percent of trips (Montgomery & Roberts, 2008). Despite its clear importance to urban mobility, the pedestrian environment has largely been neglected in low- and middle-income countries. Sidewalks are damaged or non-existent, crossings are poorly placed, and numerous other factors make walking dangerous and unpleasant. In most countries pedestrians play a very limited role in the planning and design of cities and their transportation systems. However, in the past decade a growing number of pedestrian advocacy groups in low- and middle-income countries have begun to lobby for

improvements to the pedestrian environment and for the protection of pedestrian rights in their cities. This paper explores the problems that these groups are attempting to address, and how advocacy groups in low- and middle-income countries are working to improve conditions for pedestrians within their own cities.

2. What is Walkability?

One major challenge that advocates face in improving conditions for pedestrians is simply defining what exactly a good or "walkable" pedestrian environment is. For example, in *Designing Walkable Urban Thoroughfares: A Context Sensitive Approach* the Institute for Transportation Engineers and the Congress for New Urbanism identify six characteristics of walkable communities (2010). These include mixed land uses, mixed development density, street-facing building entries, pedestrian-scale street design, functional thoroughfares, and a highly-connected street network. A recent survey by the Brookings Institution defines walkability using a similar set of factors (Leinberger, 2007). On the other hand, leading pedestrian advocate Dan Burden includes 12 characteristics of walkability in his definition of the term, pointing to the role that community leadership, universal design, and speed control play in creating pedestrian-friendly environments (Walkable Communities, Inc). Key reasons for the inconsistencies in the definition of walkability are the lack of research regarding the specific factors that facilitate walking, as well as the complexity of pedestrian travel in general. Sorting through the myriad of elements that affect walkability is a difficult task that only has only just begun, and the definition of walkability will remain imprecise until more work has been completed on this topic.

While there is not universal agreement about the specific factors necessary for a good pedestrian environment, *safety, connectivity*, and *pleasant aesthetics* are generally recognized as fundamental to walkability. First, walkable communities are safe for walkers. Though specific safety measures will vary from place to place, in general walkable communities prevent pedestrians from encountering unreasonable or disproportionate dangers when walking. Physical safety features in walkable communities may include sidewalks or other barriers that separate pedestrian and vehicular traffic, well-marked pedestrian crossings, lighting to facilitate nighttime walking and ensure personal security, and roadways designed to maintain vehicle speeds of 30 km/hr or less. According to the last World Report on Road Traffic Injury Prevention (World Health Organization, 2004), pedestrians have a 90 percent

chance of surviving crashes at speeds of 30 km/h or below, but less than a 45 percent chance of surviving crashes at speeds over 45 km/h. Non-physical components, such as laws protecting pedestrian rights and police officers to enforce those laws, are also part of the safety aspect of walkability.

Second, walkable areas have strong connectivity. A community's pedestrian connectivity is based on two things: the availability of walking routes and the availability of destinations. Key pedestrian routes in walkable areas are not blocked by barriers such as fences, freeways, or large parking lots. Walking routes are direct and convenient, so that pedestrians do not have to walk far out of their way to get from one place to another. Pedestrian routes are easily navigable by all people, including the elderly and disabled. In addition, walkable communities have many destinations for pedestrians to walk *to.* Basic necessities, such as markets, health clinics, and jobs are within easy walking distance (1/4 to one mile) of residences. Pedestrian connectivity is closely related to safety, and many of the elements that improve safety (sidewalks, pedestrian crossings) also improve connectivity.

Finally, walkable communities have pleasant aesthetics. Though the definition of "pleasant" varies from person to person, walkable environments are generally clean and well-maintained, with undamaged sidewalks and street furniture. Building facades in walkable areas are typically located adjacent to sidewalks, and may include interesting or decorative architectural elements. Street art, murals, outdoor cafes, parks, and other green spaces also enhance walkability. Importantly, walkable streets are designed at a human scale; building heights and articulation, street widths, and other streetscape elements work together to create a sense of enclosure and "comfort" for pedestrians (Frazier Associates and Strategic Land Planning, 2001).

3. Why Does Walkability Matter?

With so many critical problems facing the low- and middle-income countries, concerns about the pedestrian environment are often dismissed as nonessential. However, walkability does have important implications for health, sustainability, economics, equity, and social capital.

Health: Injuries from road traffic crashes are a leading cause of death and disability worldwide. According to the *World Report on Road Traffic Injury Prevention,* in 2002 road traffic crashes killed nearly 1.2 million people and were the 11th highest cause of deaths overall (World Health Organization, 2004). In addition to these deaths, between 20 million and 50 million people

globally are estimated to be injured or disabled by road traffic crashes each year. Road traffic deaths have a particularly significant impact on people in their most productive years (ages 15 to 44). For this age group, road traffic crashes were the third leading cause of death in 2002, exceeded only by HIV/AIDS and tuberculosis. The burden of these deaths falls disproportionately on low- and middle-income countries; 90 percent of deaths from road traffic crashes occur in these countries. Deaths from road traffic crashes are forecast to increase to as many as 2.4 million per year by 2020. The vast majority of these deaths will occur in low- and middle-income countries, as death rates in high-income countries are predicted to decrease over time. While it is generally acknowledged that pedestrians and other "vulnerable" users are at greatest risk from road traffic crashes, specific data on pedestrian deaths and injuries in the low- and middle-income countries is limited. Based on one study, pedestrians account for between 41 and 75 percent of road traffic fatalities in developing countries (Odero, Garner, & Zwi, 1997), while another estimates pedestrian fatalities at between 29 and 51 percent (Downing, 1991).

Poor walking environments also contribute to health problems in more indirect ways. When walking is difficult or dangerous, people who can afford to will choose to travel by motorized vehicles. Particulate matter, noxious gases, and other pollutants emitted from these vehicles cause air and water pollution, particularly in those communities adjacent to high-traffic roads. For example, one report found that the transportation sector accounts for at least half the air pollutants in the most highly polluted cities in Latin America, and in some cities vehicular transportation causes nearly all air pollution (Bleviss, 1999).

People who live in auto-oriented neighborhoods are also less likely to be physically active. Combined with poor nutrition, this lack of activity contributes to obesity and over-weight. In the past problems of over-weight and physical inactivity were considered endemic to the developed world, but more recent research shows that urbanization, rising incomes, transitions from traditional diets, and shifts to passive transportation modes are increasing obesity in the developing world as well (World Health Organization, 2006).

Sustainability: Walking is recognized as one of the most sustainable mode of transportation for several reasons. First, walking does not cause air or water pollution, both of which significantly impact the environment. Second, a greater emphasis on pedestrian travel helps to reduce dependence fossil fuels

and other non-renewable energy sources. Third, pedestrian travel requires less space than motorized vehicle travel and promotes compact development, which leads to more efficient land use and less sprawl. Finally, replacing vehicular travel with walking can help to eliminate traffic congestion in urban areas. Not only does this improve overall mobility, it has positive environmental effects. As Bleviss explains, reducing traffic congestion is important because, "Lower travel speeds and frequent stops and starts produce greater fuel consumption, and greater emissions of noxious substances than freely flowing traffic" (1999, p.3).

Economics: Poor walkability imposes a number of economic costs on low- and middle-income countries, including costs associated with pedestrian deaths, injuries, and illnesses. Table 1 shows the 2002 estimated deaths from road traffic crashes throughout the world.

Table 1: Deaths due to Road Traffic Crashes

WHO Region	Low/Middle Income	High Income
All	1,065,988	117,504
African Region	190,191	NA
Region of the Americas	85,918	47,865
South-East Asia Region	296,141	NA
Eastern Mediterranean Region	130,782	1,425
Western Pacific Region	279,729	24,313

Source: World Health Organization, 2004

These crashes are estimated to cost low- and middle-income countries about $65 billion each year, which represents about one percent of the gross national product in these countries (Jacobs, Aeron-Thomas, & Astrop, 2000). Using the conservative assumption that pedestrian deaths and injuries make up 30 percent of overall road traffic deaths and injuries, pedestrian crashes cost low- and middle-income countries nearly $20 billion. However, because pedestrian injuries are generally more severe than other road traffic injuries, the true cost of pedestrian crashes in low- and middle-income countries may be higher.

Pedestrian crashes can also result in severe economic impacts at the household level due to funeral expenses, costs associated with caring for an injured household member, and the loss of income that occurs when a household member stops working due to death or disability. One study of

households in Bangladesh and Bangalore found death and injury from road traffic crashes was a significant cause of poverty. Seventy-one percent of urban households studied in Bangladesh and 33 percent of urban households studied in Bangalore were not poor prior to road traffic crashes (Commission for Global Road Safety). Reasons identified for this drop into poverty included funeral costs (which represented three months' income in urban areas), loss of income from primary breadwinners injured or killed, and loss of income from household members staying home to care for an injured person.

On the positive side, walkability can have multiple positive economic benefits (Litman, 2007). A good pedestrian environment means more customers walking by shops and more residents patronizing local businesses, both of which are important for economic strength. Walkable communities also enhance access, particularly in countries where walking is the primary mode of travel. "Ensuring that there is a foot-network to connect the entire urban area can facilitate the ability of the urban poor to reach essential destinations, such as employment centers, medical facilities, and schools," Montgomery and Roberts explain (2008, p. 5). Access to services and economic opportunities via a low-cost transportation mode such as walking benefits all households in the low- and middle-income countries, but is particularly valuable for poor households that would otherwise have to devote significant portions of their income to travel costs.

Equity: A walkable environment provides transportation options for groups that are traditionally underserved by auto-oriented transportation systems. According to pedestrian expert Todd Litman, "Walkability can help achieve several equity objectives, including a fair distribution of public resources for non-drivers, financial savings and improved opportunity for lower-income people, increased accessibility to people who are transportation disadvantaged, and providing basic mobility" (2007, p. 14). Walkable neighborhoods help to provide access for the elderly, children, the disabled, women, and others who cannot use or afford other modes of transportation (Montgomery & Roberts, 2008). Moreover, sidewalks, street corners, and other public spaces provide opportunities for people of all ages, classes, and occupations to meet and interact with one another on equal footing. As Enrique Peñalosa, mayor of Bogota between 1998 and 2001, said, "In our highly hierarchical societies, we meet separated by our socio-economic differences. The CEO perhaps meets the janitor, but from his position of power. In sidewalks and parks we all meet as equals" (Peñalosa, 2002).

Social Capital: Research shows that residents of walkable neighborhoods have higher social capital than residents of auto-oriented neighborhoods. For example, a study of walkability in Ireland indicated that, "residents living in walkable, mixed-use neighborhoods are more likely to know their neighbors, to participate politically, to trust others, and to be involved socially" (Leyden, 2003, p. 1550). One of the challenges of urbanization is the loss of social networks, which increases household vulnerability to economic shocks. Improving walkability can help address this problem by providing opportunities for urban residents to interact and build their social networks.

4. Pedestrians as Second-Class Citizens

Despite the magnitude of pedestrian travel in low- and middle-income countries and the impact of pedestrian crashes, these issues receive relatively little attention. Although some non-governmental organizations include pedestrians as part of their non-motorized transportation agenda, few focus entirely on the walking environment. Nor do government agencies often prioritize pedestrian projects. When funding does appear it is often funneled through transit systems, private vehicle travel, or other "modern" forms of transportation, resulting in a lack of attention focused on pedestrian issues.

Compounding the problem are issues of class. Since pedestrians often come from low-income households, walking is perceived as a "low-class" mode that is less important than other types of transportation. As Vasconcellos explains,

> "…class differences are translated into assumed differences in the right to occupy space. On one hand, people in the role of drivers actually think, as political human beings, that they have priority in occupying the circulation space. On the other hand, people in the role of pedestrians or public transportation passengers actually think, as political human beings, that they do not have priority in occupying the circulation space" (2005, p.8).

Even pedestrians themselves may not consider walking worthy of special attention or protection. In one study of pedestrian crashes in Mexico, pedestrians and drivers involved in crashes were interviewed. Pedestrian interviewees expressed feelings of guilt over the crashes, which they perceived to be their own fault for crossing roadways incorrectly, not paying attention to traffic, or not using pedestrian bridges. Drivers also reported feeling guilty, but they tended to blame bad pedestrian behavior and other circumstances outside their control, such as "pressure from daily life and work," for the crashes (Hijar, Trostleb, & Bronfman, 2003, p.2156). Attitudes

like these make the pedestrian environment even easier for decision-makers to ignore.

5. Pedestrian Advocacy in Low- and Middle-income Countries

The struggle to balance the needs of pedestrians with the needs of other road users has been a part of city life for thousands of years, but for much of history the champions of pedestrian issues have not been pedestrian advocacy groups. When pedestrians had a voice at all, it was because government officials, architects, planners, and others spoke on their behalf. However, a broader movement to create civil society organizations to promote walkability and address pedestrian issues began in the 1960s. Several European countries formed national pedestrian advocacy organizations, and transportation leaders joined together to form the International Federation of Pedestrians (IFP) in 1963. Since then, pedestrian advocacy groups have been founded in cities throughout the United States, Canada, Europe, Australia, and New Zealand. More recently, groups have begun in low- and middle income countries within Asia, South America, and elsewhere.

Although pedestrian advocacy has increased worldwide over the past several decades, few pedestrian advocacy organizations exist outside high-income countries. Moreover, there has been no investigation of the effectiveness of pedestrian advocacy groups in promoting walkability, nor has there been any consistent documentation of the activities and characteristics of any pedestrian organizations. A key purpose of this research is to identify the number of pedestrian advocacy organizations that exist in low- and middle-income countries, as well as to describe the organizations and their advocacy work to date. This will establish a baseline that can be used in future research on pedestrian advocacy.

6. Methodology

I began this research by contacting the International Federation of Pedestrians to learn more about their member groups, and obtain contact information for advocacy organizations in low- and middle-income countries. I also conducted an extensive internet search for organizations related to pedestrian advocacy and for advocacy activities related to pedestrians or walkability issues in low- and middle-income countries. In addition, several of the advocacy groups that I identified in my initial search were able to provide

me with contact information for other advocacy organizations working in their countries.

In my research on low- and middle-countries I identified only three organizations in Asia, two in Latin America, and two in Europe that focus strictly on pedestrians. Since this research was conducted I have identified two other advocacy groups in Latin America: Asociación Caminar in Costa Rica, and the Asociación de Peatones de Quito in Ecuador. These organizations were not included in the analysis. I did not identify any pedestrian advocacy organizations in Africa. After I had identified the organizations, I contacted group leaders through email to obtain additional details about the group's advocacy activities and organizational structure. In response, many of the groups provided publications, letters, articles, and presentations about their work. In addition, I reviewed information available on organization websites where available. For websites that were not in English or Spanish, I used an online translating service to translate the information into English when possible.

I also created an online survey to find out more information about each advocacy organization and its work. The survey included a combination of open-ended, ranked-choice, and multiple-choice questions. A copy of the survey is included in Appendix A. The survey was provided to each group leader in English or Spanish. Eight of the groups completed the online survey. Survey results of are summarized in Tables 2-4.

7. Pedestrian Advocacy Organizations

The following provides more detailed information about each of the pedestrian advocacy organizations identified in this research, including information about the groups' organizational structure, objectives and philosophy, and primary activities.

7.1. Right to Walk Foundation, India

Right to Walk Foundation (R2W) serves the twin cities of Hyderabad and Secunderabad in southeast India. Hyderabad is the fifth largest city in India, with a population of about 7 million. About 20 percent of all trips in the region are walking trips, with pedestrians representing a higher proportion (about 40 percent) of trips to work (Shah, 2006). According to a recent R2W presentation 263 pedestrians were killed in 2007 in vehicle crashes,

representing about 70 percent of the total vehicle crash fatalities in the area. There were also 2,047 pedestrian injuries due to vehicle crashes in 2007, representing about 60 percent of all injuries due to vehicle crashes in the area. About half of these deaths and injuries occurred when pedestrians were crossing the street (The Right to Walk Foundation, 2009).

Organizational Information: The Right to Walk Foundation (R2W) began with a footpath complaint filed with municipal authorities in 2005 by activist, Kanthimathi Kannan. She spent two years petitioning the authorities for a response before realizing that to effectively improve pedestrian safety in her city she needed to devote herself full time to the cause. In August 2007 Ms. Kannan quit her job and started the R2W.

The R2W is still in early stages of development, and was only able to start the process of registering as a tax-exempt non-governmental organization in June 2008. Although the registration process has not yet been completed, R2W does have seven formal members and a number of other informal supporters. As president of the R2W, Ms. Kannan is responsible for most of the group's day-to-day operations, which she performs on a volunteer basis. The R2W does not have any other permanent staff but several other volunteers assist with various R2W tasks as needed. Organizational funding comes entirely from individual donations.

Objectives and Philosophy: The R2W has documented a number of key objectives for the organization, including improving pedestrian safety through the installation of adequate sidewalks on each road, providing signals or safety personnel at pedestrian crossings, removing encroachments (such as buildings, shops, utilities, and parking) from public sidewalks, and generally improving the appearance and maintenance of sidewalks throughout Hyderabad and Secunderabad. The group considers social equity its highest priority, with pedestrian safety, and air pollution also important organizational objectives.

Activities: R2W uses a number of tactics to accomplish these goals, including meeting with city officials on pedestrian issues, lobbying, media outreach and press releases, and performing neighborhood walk audits. The R2W regularly submits petitions to municipal authorities on issues related to its objectives, including commercial/illegal parking on sidewalks, pedestrian crossings, and maintenance and design of sidewalks.

Ms. Kannan has also served as a "citizen journalist" for television news station CNN-IBN, producing a piece on footpath obstructions in the Mehdipatnam

neighborhood of Hyderabad. Other R2W activities include a rally, a signature campaign, a study walk and a seminar. R2W volunteers interact regularly with other civil society organizations that work on similar issues in their region, including the Forum for a Better Hyderabad, the Confederation of Voluntary Associations, and the Forum for Sustainable Development. The organization has a website, a blog, and produces other outreach materials to raise public awareness of pedestrian issues.

Local roadways in the Hyderabad/Secunderabad area are maintained by the Greater Hyderabad Municipal Corporation (GHMC) and highways are maintained by the Roads and Buildings Department. One challenge to improving the pedestrian environment in Hyderabad/Secunderabad is identifying which of these agencies is responsible for maintaining pedestrian facilities such as sidewalks and crossings. While the GHMC accepts responsibility for the sidewalks adjacent to its roadways, it claims that the Roads and Buildings Department should take charge of pedestrian facilities adjacent to highways. The Roads and Buildings Department, on the other hand, insists that it the GHMC has responsibility for all pedestrian facilities, even those adjacent highways controlled by the Roads and Buildings Department. This ambiguity makes it difficult for the R2W to effectively lobby for sidewalk and crossing improvements, as it is unclear who the group should contact with its concerns or whether their concerns will be heard at all.

7.2. Pedestrians FIRST, India

Pedestrians FIRST serves the city of Pune, which is located in western India. Pune is the eighth-largest city in India with a population of about 3.5 million. About 25 percent of trips in Pune are made on foot (Pucher et al. 2005). Approximately 170 pedestrians were killed in vehicle crashes in Pune in 2008 ("Fatalities on the rise in city roads, NGO writes to PMC," 2009)

Organizational Information: Pedestrians FIRST was initiated in January 2008 by Prashant Inamdar. Mr. Inamdar describes Pedestrians FIRST as a "movement" more than a formal organization. He explains that while Pedestrians FIRST has a core group of volunteers, they do not have a system of formal membership for the general public.

> "Whereas we take up major issues directly, we try to motivate and mobilize people to take up issues in [their] own neighbourhood, to create awareness that they should fight for their rights and also to build up and keep up pressure on the authorities."

Decision-making is done by the meeting group convener as needed, as there is no formal structure. About 8-10 volunteers regularly participate in the group's activities, and others take up specific issues in their own neighborhoods. Pedestrians FIRST does not have a formal budget, but core group members do contribute a limited amount of funding to projects as necessary. These volunteers participate in a wide variety of activities, which are described below.

Objectives and Philosophy: Pedestrians FIRST was founded specifically to take up issues related to pedestrian rights and safety. The group's mission statement is "Let us reclaim our right to walk," and its focus is on ensuring that pedestrians are given first priority in road engineering and traffic planning. As Mr. Inamdar puts it, pedestrians should have priority, "not as a favor, but as a right." Safety, equity/social justice, and traffic congestion are the three issues the organization identifies as its most important focus. Pedestrians FIRST believes one if its biggest challenges is changing the mindset of authorities and others who believe that traffic planning should prioritize vehicles over pedestrians.

Activities: Pedestrians FIRST volunteers participate in a wide variety of activities to promote pedestrian issues and regularly interact with government officials through meetings, letters, and emails. Group members have prepared a number of reports on the city's pedestrian problems and potential solutions, including a report the status of pedestrian facilities in Pune and another on local zebra crossings. The organization has also worked on projects related to sidewalk and crossing improvements, pedestrian refuges, road junction improvements, sidewalk encroachments, and pedestrian signals. Other activities of Pedestrians FIRST include lobbying government officials, testifying at public hearings, protest marches, media outreach and editorials, expert advising on pedestrian projects,conducting neighborhood walk audits, conceptual project design, data collection, including photos and accident statistics, and workshops and seminars

Pedestrians FIRST also works closely with other activist organizations in Pune, including Parisar (an NGO that works on sustainable transportation issues) and the Pune Traffic and Transportation Forum. Together with these groups Pedestrians FIRST has convinced the Pune Municipal Corporation to create a Non-motorized Transport (NMT) "cell" (subdivision of the local government) for the city, probably the first of its kind in the country.

To help improve the design of pedestrian facilities in Pune, Pedestrians FIRST has prepared and distributed an instructional publication, the *Guide for*

Correct Practices for Construction and Maintenance of Pedestrian Facilities. The guide includes detailed explanations of problem areas throughout the city, descriptions of potential solutions, and conceptual drawings. It has been well-received by the Pune Municipal Corporation, and it has been issued to all officers and engineers for adoption as suggested practice.

7.3. *Sahasi Padyatri (The Brave Pedestrian), India*

Sahasi Padyatri serves India's largest city, Mumbai, which has a population of approximately 13.6 million. Although a relatively small (13) percentage of trips in Mumbai are made on foot, pedestrians represent between 70 and 80 percent of fatalities in vehicle crashes (Pucher, Korattyswaropa, Mittal, & Ittyerah, 2005).

Organizational Information: Sahasi Padyatri is a pedestrian rights movement that began in 2008. Sahasi Padyatri is led by activists Krishnaraj Rao, Nikhil Desai, and Santosh Jangam, and often partners with other organizations to carry out its objectives, including groups such as H-West Ward Federation, Dignity Foundation, and the Citizens' Forum of Borivli. The group does not have a formal membership, but does regularly email about 100 citizens about its activities.

Objectives and Philosophy: Sahasi Padyatri's goals are to increase walkability and pedestrian safety in Mumbai. The group works to improve equity for pedestrians in local transportation policy, for removal of encroachments and obstructions into pedestrian space, for the reduction of traffic congestion, and for more orderly management of traffic and public space. As the group explains in its outreach materials, "Let roads be roads -- not walking areas and bazaars. Let bazaars be bazaars -- not thoroughfare for vehicles. Let footpaths [sidewalks] be footpaths -- not bazaars, dumping grounds or gutters." One challenge that Sahasi Padyatri faces in meeting its goals is corruption among police and municipal authorities. Street vendors regularly bribe these government officials in order to sell their products along public sidewalks. This limits the officials' willingness to prohibit the street vendors from using pedestrian walkways.

Activities: Sahasi Padyatri uses s*atyagraha*, the practice of non-violent civil disobedience developed by Ghandi, to accomplish its goals. Mr. Rao describes satayagraha as "a peaceful, non-violent way of agitating against a faulty system, in order to demand a change in the system" (Arpi, 2008). He identifies three types of satayagraha that are utilized by Sahasi Padyatri: Pedestrian Satyagraha, Debris Satayagraha, and Letter Satayagraha. Pedestrian

satyagrahas are held along streets throughout Mumbai, where citizens use white paint to demarcate a 6-foot pedestrian lane at the center of the roadway and then form a human chain around it. Participants hold up pickets and placards to explain the purpose of the protest and to raise awareness about the right to walk. As part of Debris Satayagraha, Sahasi Padyatri activists remove stones and other obstacles from pedestrian walkways and place them on the steps of city offices along with signs urging city officials to remove the debris. Sahasi Padyatri also uses blogs, email, media outreach, and letters to public officials ("Letter Satayagraha") to promote pedestrian issues in Mumbai.

In addition, Sahasi Padyatri leaders have worked with local traffic experts to develop a charter of citizens' demands, which was signed by over 200 intellectuals, prominent citizens, activists and leaders of NGOs and other civic leaders in Mumbai. The charter was presented to numerous government officials in Mumbai, including the mayors and municipal commissioners of the Municipal Corporations of Mumbai Metropolitan Region, the minister for urban development, and the chief justice of Mumbai High Court. The charter outlined a program of short-term and long-term improvements to the pedestrian environment, including the installation of marked pedestrian crossings every half-kilometer, removal of debris and obstructions along pedestrian walkways, relocation of street vendors outside of sidewalks, and retrofitting of pedestrian paths to accommodate the elderly and disabled.

7.4. *ABRASPE (Brazilian Association of Pedestrians), Brazil*

The Brazilian Association of Pedestrians (ABRASPE) serves all of Brazil, with a particular focus on the city of Sao Paulo. Sao Paulo is the largest city in Brazil, with a population of about 11 million inside the city limits and nearly 22 million in the greater metropolitan region. Walking represents about one-third of trips in Sao Paulo (Alcantara de Vasconcellos, 1999). About 30 percent of traffic fatalities in Brazil are pedestrians (World Health Organization, 2009).

Organizational Information: ABRASPE was founded in 1981 by a group of 25 professionals in the transportation and planning field, mainly civil engineers and architects. The organization currently has about 50 members. About 5-10 volunteers regularly participate in ABRASPE activities, which are primarily meetings to discuss pedestrian improvement proposals to present to government officials. There are no paid full-time or part-time staff and

organizational decisions are the responsibility of ABRASPE's president. ABRASPE's annual budget is approximately $2,000 BR ($850 USD), which comes entirely from individual donations. Several other groups are affiliated with ABRASPE as sponsors of the organization, including transportation technology firm, Perkons, the professional transportation association, ANTP, and Associação Brasileira de Medicina de Tráfego, the Brazilian Traffic Injury Prevention Association

Objectives and Philosophy: ABRASPE's mission is to improve pedestrian safety and comfort, with a particular focus on the needs the Brazil's most vulnerable populations. These include children, the elderly, and others with difficulties walking. ABRASPE founders started the organization because they felt that Brazil's government was not properly enforcing regulations related to pedestrian rights and duties, and that drivers and pedestrians were becoming too accustomed to ignoring them. ABRASPE considers safety, health, and equity/social justice the most important objectives; traffic congestion is not an important concern for the group. As ABRASPE explains on its website,

> "We are working to affirm (or reaffirm) the existence of the pedestrian, of the most ancient human skill in the world. The rights that belong to pedestrians, so simple, so natural, are easily summarized: they are the right to walk, the right to come and go. Although they may be the most humble and most ignored of all human rights, they belong to everyone. We want to walk" (Associação Brasileira de Pedestres, 2007).

ABRASPE views its lack of financial resources and Brazil's cultural tradition against mobilizing and working with volunteers as two of the biggest challenges to meeting its goals for improving the pedestrian environment.

Activities: Over the past three decades, ABRASPE has used many different strategies to advance the causes of walkability and pedestrian safety. Some of these include lobbying government officials, testifying at public hearings, meeting with government agencies, reaching out to media, and expert advising on pedestrian projects. ABRASPE regularly writes letters to politicians and government officials about pedestrian issues, including complaints about poor walking conditions and specific proposals for improvements to the pedestrian environment. The group considers its most successful strategies to be concentrating on technical discussions, and focusing on critical issues to make government officials and politicians conscious of their responsibilities to increase walking by improving pedestrian safety and comfort. ABRASPE has a website and online forum and

has published a number of reports and essays about pedestrian issues in Brazil.

ABRASPE is currently working on several major projects. These include:

- Working to convince government officials of the need for pedestrians walking at night to use retro-reflective material that can be seen by drivers, particularly in places where vehicle speeds are high;
- Updating a pedestrian safety manual published by the National Traffic Department in 1979 to include modern techniques for preventing pedestrian crashes;
- Identifying safer places to locate primary schools in order to encourage children to walk alone or with an adult to school;
- Demonstrating the need to build pedestrian refuges on major streets and rural roads that do not have a median strip to separate the lanes.

7.5. *Fundacion Colombiana de Peatones (Colombian Pedestrian Foundation), Colombia*

The Fundación Colombiana de Peatones (FCP) primarily serves the city of Bogota, the largest city in Colombia, with a population of nearly 7 million. About one-third of travel in Bogota is done on foot (Cain, Darido, Baltes, Rodriguez, & Barrios, 2006). Overall, pedestrian deaths in Colombia represent about 25 percent of all traffic-related fatalities (World Health Organization, 2009).

Organizational Information: The FCP was founded in 1999 and has about 200 members, as well as two full-time and two part-time staff. The FCP's Founding Council is primarily responsible for decision-making within the organization, and about 20 volunteers regularly assist with the group's activities. Volunteer tasks include visits to project sites, and the creation of technical plans, polls and surveys, and digitizing texts. The FCP's annual budget is about $120,000,000 COP ($48,000 USD), all of which comes from private donations. The FCP is sponsored by a number of Colombian planning, environmental, and transportation firms, including the Instituto Tecnológico del Transporte (Transportation Technology Institute), City Parking, and Sistemas Andinos de Ingeniería y Planificación (Andean Engineering and Planning Systems).

Objectives and Philosophy: The FCP was founded to address walkability, environmental concerns, and pedestrian safety issues in Bogota. The group's mission is to *mejorar en Colombia la situación general de los peatones* (improve the pedestrian environment in Colombia). The organization believes

that walking in Colombian cities should be easy, healthy, safe and fun, and that Colombian pedestrians shouldn't be harmed "in any sense of the word"(Fundación Colombiana de Peatones 2009). Health and safety are the most important issues to the FCP, while concerns about traffic congestion are the least important. The FCP also recognizes the importance of walking for ecological sustainability, and believes that non-motorized transportation modes make an important contribution in this area.

Activities: The FCP is very active in transportation planning in the city of Bogota. It regularly lobbies government officials about pedestrian issues, provides technical resources and training for transportation officials, and conducts transportation studies and scientific investigations. The FCP also works with local neighborhoods to conduct community walk audits, and has created a walkability checklist for citizens to download and use to evaluate the walkability of their own neighborhoods.

While the FCP considers a lack of financial resources its biggest challenge, the organization also struggles to promote pedestrian issues in a country plagued with a wide variety of other social difficulties. As one member explains, "Despite the great importance of issues such as walkability and the environment, it is difficult to promote these concerns over other projects in our country aimed at controlling poverty, violence, and drug trafficking." To better promote pedestrian issues to the media and the public, the FCP maintains a website, blog, and publishes a newsletter called *El Peatón* (The Walker). The FCP considers this newsletter one of its most successful outreach tools.

The FCP's current projects include a study of leadership in the management of public space within Bogota and a series of roadway safety audits. In addition the organization has conducted dozens of other urban mobility studies, including the development of mathematical models that explain traffic crashes and a noise calculator program to measure traffic noise levels. Many of these studies have been conducted as part of work for government organizations and global NGOs such as the World Bank. The FCP was also part of the international team that worked on the Mobility Master Plan for Bogota. As part of this team the FPC took charge of the environmental, roadway safety, and non-motorized transportation sections of the plan.

7.6. *Pedestrians Foundation, Bulgaria*

The Pedestrians Foundation serves all of Bulgaria, with a particular focus on the city of Sofia. Sofia is the largest city in Bulgaria and has a population of

about 1.4 million. About 80 pedestrians were killed in roadway crashes in Sofia in 2006 ("95% of Car Crashes in Bulgaria Due to Speeding," 2007). Overall, pedestrian deaths in Bulgaria represent about 25 percent of all traffic-related fatalities (World Health Organization, 2009).

Organizational Information: Founded in 2007, the Pedestrians Foundation has two part-time paid employees and no full-time staff. The group's annual budget is approximately $10,000 BGN ($6,500 USD). In the past the Pedestrians Foundation has received some project funding from the municipality of Sofia, but the bulk of its funding comes from individual and corporate donations. Jordan Philipov, the founder and present chairman of the Pedestrians Foundation is the primary decision-maker in the organization. The Pedestrians Foundation lists a number of partners on its website, including two magazines, the city of Sofia, an insurance company, and several others.

Objectives and Philosophy: The Pedestrians Foundation's goals are to improve walkability and pedestrian safety in Bulgaria. The group works to accomplish these by raising public awareness of pedestrian issues and building support for pedestrian-friendly transportation policies, sometimes by partnering with city traffic enforcement on projects. The Pedestrians Foundation uses the internet and other media to foster a "positive social attitude" towards pedestrians and improve transportation decision-making. The organization cites lack of funding as its biggest challenge.

Activities: To accomplish its goals of raising awareness of pedestrian issues, the Pedestrians Foundation lobbies government officials through meetings and letters, provides expert advice on pedestrian projects, and produces printed publications about walking and pedestrian safety. The Pedestrians Foundation also has a website, blog, and online forum.

To date, the group has conducted two major public awareness campaigns on pedestrian issues. The first, *You Have the Right of Way* took place in May 2008. The second, which is currently ongoing, is a joint project with local traffic enforcement to promote pedestrian safety for children. As part of this campaign, the Pedestrians Foundation is sponsoring a photo contest and art contest for children ages 9-11 years. The goal of this competition is to reduce pedestrian crashes involving children by familiarizing them with common traffic risks. Participants are invited to submit a photo or drawing that represents walking in Sofia from a child's perspective. Winners receive bicycles, digital cameras, and other prizes.

7.7. *Pedestrian Association, Turkey*

The Pedestrian Association serves the city of Istanbul, Turkey. Istanbul is the country's largest city, with a population of about 12.6 million. Walking represents about 35 percent of trips in Istanbul (Gerçek, 2008). Overall, about 20 percent of traffic fatalities in Turkey are pedestrians (World Health Organization, 2009).

Organizational Information: Formed in 2008, the Pedestrian Association is Turkey's first pedestrian organization. The group has about 40 members, including 10 volunteers who help regularly with meetings and street audits. The Pedestrian Association has no paid employees, and organizational decisions are made by a board of directors. The group's annual budget is about $1000 TRY ($600 USD), all of which comes from private donations.

Objectives and Philosophy: The Pedestrian Association was founded to "increase awareness of pedestrian rights and improve the life of pedestrians." The organization works to promote pedestrian safety and security, city planning at the "human" scale, and streets designed primarily for people and not cars. The Pedestrian Association believes that the increasing automobile dependence is leading to environmental harm, noise pollution, congestion, and other problems in Istanbul. The group considers safety and traffic congestion to be its most important focus, with equity/social justice its least important concern. The Pedestrian Association believes its biggest challenge is the inadequate involvement of the city's pedestrians in the organization. As one of their leaders explains,

> "Our organization is the only and the first pedestrian society in Turkey. Hence, Turkish people are not aware of the pedestrian rights. I think that we need to work harder than any western country where pedestrian rights are regarded to a certain extent."

Activities: The Pedestrian Association participates in a number of activities to promote walkability in Turkey including lobbying government officials, protests and marches, and media outreach through printed publications and a website. Current projects include street audits of various roadways throughout Istanbul. The organization's strategy is to focus on smaller, "micro" projects instead of larger projects. The group believes that by improving the daily lives of people in Istanbul, it can raise awareness of pedestrian issues and make a difference in Turkey.

Table 2: Basic Organizational Information

Organization	Location	Year Founded	Number of Members	decision-making	Employees	Annual Budget	Funding Sources
Right to Walk Foundation	Hyderabad, India	2005	7	President	None	NA	Private Donations
Pedestrians First	Pune, India	2008	NA	Convener	None	NA	Private Donations
Sahasi Padyatri	Mumbai, India	2008	NA	Convener	None	NA	Private Donations
ABRASPE	Sao Paulo, Brazil	1981	50	President/ Executive Director	None	$850	Private Donations
Fundación Colombiana de Peatones	Bogota, Colombia	1999	200	Founding Council	Two full-time, two part-time	$48K	Private Donations
Pedestrians Foundation	Sofia, Bulgaria	2007	NA	Founder/Pre-sident	None	$6,5K	Private Donations, Grants
Pedestrian Association	Istanbul, Turkey	2008	40	Board of Directors	None	$600	Private Donations

Table 3: Important Issues and Publicity

Organization	Most Important Issues						Publicity						
	Equity	*Safety*	*Congestion*	*Health*	*Walkability*	*Other*	*Website*	*Blog*	*Email*	*Media outreach/ Press Releases*	*Online Forum*	*Printed Publications*	*Other*
Right to Walk Foundation	X	X					X	X	X	X		X	Booths at community events
Pedestrians First	X	X	X		X	Continuity, Connectivity			X	X			Articles on pedestrian issues (in English and local languages), presentations
Sahasi Padyatri	X		X		X			X	X	X			SMS
ABRASPE		X		X			X			X	X		
Fundacion Colombiana de Peatones		X		X			X	X	X	X		X	
Pedestrians Foundation		X			X		X			X		X	
Pedestrian Association		X	X				X			X		X	

Table 4: Activities and Challenges

Organization	Activities					Major Challenges
	Lobbying	*Protest Marches*	*Expert Advising*	*Street Audits*	*Others*	
Right to Walk Foundation	X	X	X	X	Recreational Walks	Unclear who is responsible for roads/road improvements, for which the government resists responsibility
Pedestrians First	X	X	X	X		Changing the mindset of administration officers and engineers
Sahasi Padyatri	X	X	X			Government corruption
ABRASPE	X		X			Lack of funding and of cultural tradition to mobilize and work with volunteers.
Fundacion Colombiana de Peatones	X		X	X		Lack of funding
Pedestrians Foundation	X		X			Lack of funding
Pedestrian Association	X	X		X		Inadequate involvement of pedestrians

8. Conclusion

Review of the structure and activities of the seven pedestrian advocacy groups identified in low- and middle-income countries reveals several trends. First, pedestrian advocacy is a new phenomenon in low- and middle-income countries; nearly every group was formed in the last decade and four were formed in the last two years. One likely reason for this is the rise in motorization rates within low- and middle-income countries. As the number of vehicles on the road grows, pedestrian safety is threatened and the competition for scare roadway space increases. As vehicle ownership becomes more common in low- and middle-income countries, it is not surprising that advocacy groups have also formed in these countries to address the externalities that automobiles create.

Each advocacy group addresses multiple issues related to walkability in its work. However, safety is clearly the highest priority for pedestrian advocacy organizations in low- and middle-income countries, as nearly every advocacy group cited safety as a top concern for their organization. Traffic congestion, health, equity/social justice and general walkability were also considered important by many groups. Interestingly, air pollution and other environmental issues were not considered a top concern for any of the advocacy organizations, despite the fact that pollution is generally more severe in low- and middle-income countries than elsewhere in the world.

Annual budgets of the organizations range from about $600 to $48,000 USD, with many activities funded by group participants on an as-needed basis. Funding comes almost entirely from private donations, with the exception of the Pedestrians Foundation in Bulgaria, which has received some project funding from the municipality of Sofia. Several organizations have identified lack of funding as one of their biggest difficulties in improving walkability. The relative lack of funding is not surprising, given the disproportionately low levels of funding for roadway safety worldwide (World Health Organization, 2004). However, pedestrian advocacy groups in low- and middle-income countries seem to have fewer funding sources than those in high-income countries. Many pedestrian advocacy groups in high-income countries receive funding from government sources and non-governmental organizations. In addition, some groups also receive consulting fees for the work they perform as technical experts on pedestrian projects. Although the lack of government and NGO financial support for pedestrian advocacy groups in low- and middle-income countries could be because most groups are relatively new, it

may also slow the groups' efforts to improve the pedestrian environment in their countries.

In addition to low levels of funding, a lack of motivation to address pedestrian issues on the part of government officials, as well as pedestrians themselves, has also created difficulties for some organizations. One way that the groups attempt to address this is by heavily promoting awareness of walking and pedestrian issues. Many groups use websites, blogs and online forums to post information about their activities and philosophies, and hold ongoing electronic conversations with members and others. At least one member of each organization has email access, and many groups use email distribution lists to spread the word about events. Sahasi Padyatri in India uses short message service (SMS text messaging) to pass on information about their events. Most groups also publish printed material related to their organizations, and all groups reach out to the general media through press releases, editorials, and citizen journalist pieces.

The use of tools such as websites, blogs, and online forums will undoubtedly continue to be important for pedestrian advocacy. There may be additional ways that pedestrian advocacy groups can utilize new media. For instance, some groups in the US and Europe use social networking sites like Facebook to publicize themselves and their activities. Similarly, services like Twitter may be useful for communicating information about lobbying efforts or upcoming events, particularly in countries where cell phones are becoming more prevalent. The advantage of these technologies is that they are relatively low-cost, especially compared to more traditional media outlets. Providing technological support in the form of equipment, internet access, or space on a related website may be an easy way to grow the membership of pedestrian advocacy organizations in low- and middle-income countries and increase support for pedestrian causes.

In addition to publicity activities, most groups participate in some form of government lobbying, such as testifying at public hearings or writing letters to government officials. Many groups also lead marches or protests to raise awareness of pedestrian issues and force government action to improve the pedestrian environment. The members of several of the advocacy organizations work as subject area experts on pedestrian projects within their cities, providing design recommendations and conducting research for government agencies. In some cases organization members are transportation professionals themselves, or students in a transportation-related field.

However, often advocates do not have a technical background, and have simply developed expertise in pedestrian issues and design over time.

In their role as technical advisors, group members provide training for engineers and other transportation professionals, develop pedestrian projects, conduct studies of walking issues, and evaluate local streets to identify barriers to walking. Integrating pedestrian advocacy groups so fundamentally into public works projects may provide them with greater influence than they would have if they worked from outside the system. However, this phenomenon does suggest a gap in the knowledge of transportation planners and engineers within government transportation departments, who normally would perform the type of work that independent advocacy groups are called upon to assist with.

9. Future research

The work of pedestrian advocacy organizations clearly has the potential to help advance the walkability of low- and middle-income countries, but until now there has been no evaluation of the role these groups play in improving the pedestrian environment. This research provides a set of basic information about pedestrian advocacy in low- and middle-income countries, but clearly many gaps in our knowledge remain. about pedestrian advocacy efforts that remain to be filled. Perhaps the most obvious questions are those related to the effectiveness of the organizations. Have the efforts described above produced measurable improvements in pedestrian safety, connectivity, and aesthetics? Are there particular advocacy activities that work better than others, and does the success of these activities vary from country to country? How do advocacy efforts in low- and middle-income countries differ from those in high-income countries? Answering these questions can help focus the work of pedestrian advocacy organizations, leading to greater improvements in the pedestrian environment in low- and middle-income countries.

In addition, there remains a dearth of broader research on pedestrian issues and walkability. Few studies explore why, where, or when people walk, or which factors affect their transportation choices. Nor has the effectiveness of interventions to improve the pedestrian environment, such as constructing sidewalks or increasing penalties for violating crossing policies, been evaluated. Where information on the pedestrian environment has been collected, it often focuses on pedestrians in high-income countries, and may not be relevant to pedestrians in low- and middle-income countries. Better

data on walkability could help pedestrian groups understand where to concentrate their efforts and how to most effectively advocate for improvements to the pedestrian environment in their cities.

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Appendix A – Survey Questions

Organizational Info

1. What year was your organization founded?
2. What city or region does your organization serve primarily?
3. Approximately how many members does your organization have?
4. Who is primarily responsible for decision-making within your organization? (choose one)
   - Board of Directors
   - President/Executive Director
   - Others (please specify)
5. How many full-time and/or part-time paid employees does your organization have? (choose one)
   - Number of full-time employees
   - Number of part-time employees
6. How many volunteers regularly (at least once every two months) assist with your organization's activities?
7. What activities do your volunteers participate in?
8. What is the approximate annual budget of your organization (in your currency)?
9. Approximately what percent of your funding comes from: (indicate percent)
   - Individual (private) donations
   - Corporate donations
   - Government funding
   - Non-governmental organizations
   - Other (please explain)

Philosophy

10. Why was your organization founded?

11. What is your organization's mission statement/guiding principles?

12. What aspects of walking does your organization focus on (please rank - 1 = most important, 5 = least important, blank=not applicable):
    Safety
    Air pollution
    Equity/Social Justice
    Traffic congestion
    Other environmental issues
    Health
    Others (please list)

Activities

13. Which of the following activities does your organization participate in:
    Lobbying government officials
    Testifying at public hearings
    Protests, marches, or similar activities
    Printed publications or brochures
    Websites/blogging
    Media outreach and press releases
    Technical training for engineers, planners, or other transportation professionals
    Expert consulting/advising for pedestrian-related projects
    Performing or assisting with neighborhood walk audits
    Leading recreational walks
    Booths at community fairs or festivals
    Other (please specify)

14. What are some of the main projects your organization is currently conducting or participating in?

15. What are some of the main challenges or difficulties your organization faces in advocating for pedestrians?

16. What strategies has your organization found to be the most successful in advocating for pedestrians?

17. Any other information that you would like to share about your organization.

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