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Pedestrian Safety in Hillsborough County, Florida: A Proposed Policy Approach

Alyssa B. Mayer, BA

ABSTRACT

Despite the resurgence of interest in policy implementation, communities, community-based coalitions, and other community-based groups have had mixed success in effecting state and local health policy changes. However, policy changes have been deemed more effective than individual behavior change programs. The creation of a policy advocacy framework may simplify the policy analysis process and arm community groups with practical tools to select, modify, and promote effective public health policies. This paper applies a hypothetical framework for equipping community groups to apply an evidence base to focus policy advocacy efforts systematically.

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Background: Policy Selection

In 2008, 4,378 pedestrians were killed and 69,000 were injured in traffic crashes in the United States (National Highway Traffic Safety Administration [NHTSA]), 2008; UNC Highway Safety Research Center, 2010). Traffic fatalities are the sixth leading preventable cause of death in this country (Ewing & Dunbaugh, 2009), placing the U.S. at the top of the list among developed countries for pedestrian accidents per mile traveled (Sebert Kuhlmann, Brett, Thomas, & Sain, 2009). On average, a pedestrian is killed in a traffic collision every 120 minutes and injured every eight minutes (Centers for Disease Control and Prevention [CDC], 2010). Most pedestrian fatalities occur in urban areas and at night, and more than two-thirds of pedestrians killed in 2008 were male (CDC, 2010; NHTSA, 2008). Older Americans and children are disproportionately affected by pedestrian injuries and fatalities, as are Black and Hispanic Americans and immigrants (CDC, 2010; UNC Highway Safety Research Center, 2010), making pedestrian safety not only a public health issue, but also one of social justice (Krieger, Rabkin, Sharify, & Song, 2009).

Florida is especially affected by pedestrian injuries and fatalities. In 2008, Florida had 2.67 pedestrian fatalities per 100,000 population, the highest rate in the United States and almost double the national average of 1.44 pedestrian fatalities per 100,000 population (NHTSA, 2008). In Hillsborough County, there were 600 vehicle crashes and 41 pedestrian deaths in 2010. About 57% of these crashes happened in Tampa, and 70% involved adult males. Approximately 74% of collisions occurred when pedestrians were crossing major roads, and 62% occurred at locations without control signals (Hillsborough County MPO Policy Committee, 2010; Shaw, 2011). The Tampa/St Petersburg/Clearwater metropolitan area is ranked as the 5th most dangerous region for pedestrians in

the United States out of 47 regions. In contrast, Orlando is ranked 11th, Atlanta 12th, and Miami 14th (Safe Kids Worldwide, 2005).

Pedestrian safety experts theorize that Florida's high rate of pedestrian injuries results from a combination of urban sprawl and low investment in safety infrastructure. This phenomenon, along with more miles walked per capita in Florida than in other states, increases the risk of pedestrian-vehicle collisions (Florida Department of Transportation [FDOT], 2011). When Jeanette Rouse, the Community Traffic Safety Manager for the Hillsborough County Department of Transportation, was asked why Tampa is such a dangerous place for pedestrians, she listed several factors:

- Drivers are more aggressive in the city compared to more rural areas;
- Roads are wider, cars travel faster;
- Drivers and pedestrians are inattentive;
- Pedestrians cross at areas without traffic signal controls;
- Cars do not always stop when they should; and
- Drivers and pedestrians are eating, texting, and talking on their cell phones (Shaw, 2011).

Pedestrian safety is clearly a multifaceted issue requiring behavioral intervention as well as engineering countermeasures to ensure that the built environment is conducive to safe travel. Local and state officials regularly cite the 4Es of pedestrian safety as the foundation of local pedestrian safety initiatives: Infrastructure (Engineering), Behavior (Education and Enforcement), and Emergency Services (Hillsborough County MPO, 2010; Jones, Evenson, Rodriguez, & Aytur, 2010; US Department

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of Transportation Federal Highway Administration [US DOT FHWA], n.d.). Furthermore, research conducted as part of the Advocacy in Action study (Lyons et al., 2008) showed an association between local political influence and the distribution of traffic calming patterns, lending support to the hypothesis that advocacy used to increase local politicians' knowledge of pedestrian safety risks could result in interventions to increase pedestrian safety.

Pedestrian safety is a local issue, and at the same time certain factors are common to more dangerous areas, including street networks with wide, high-speed roads, diffuse streets limiting travel to major roads, and residential areas with houses spread out from one another and from commercial areas. Factors commonly found in safer areas include extensive walking and bike paths, green areas, and smaller local access roads with traffic calming features (Jones et al., 2010; Safe Kids Worldwide, 2005; Shuurman et al., 2009). A comprehensive approach to pedestrian safety includes the control of urban sprawl, the implementation of parking restrictions, the improvement of public transit, traffic calming measures, speed enforcement, and enforcement of safe behaviors for both pedestrians and motorists (Morency & Cloutier, 2006; Shuurman et al., 2009). Lobbying city councilors and state officials to create planning documents is one macro level approach to this issue; these documents can be used to affect policies, programs, funding, and infrastructure (Lyons, Jones, Newcombe, & Palmer, 2006). In the United States, this type of planning is done through metropolitan planning organizations (MPOs), which are federally designated and funded.

A review of the literature resulted in the following comprehensive list of potential policies related to pedestrian safety. These initiatives were assembled from local MPOs (Tindale Oliver & Associates, 2009), government agencies (CDC, 2010; US DOT FHWA, n.d.; NHTSA, 2008), community coalitions throughout the country (Currie, 2009; Ellis & Van Houten, 2009; Safe Kids USA, 2009), and the American Public Health Association (2009):

I. General engineering strategies

- Advance yield markings at crosswalks with an uncontrolled approach;
- Recessed or offset stop lines for intersections with traffic signals;
- Leading pedestrian intervals (LPIs);
- Pedestrian pushbuttons that confirm having been pressed;
- "Turning Vehicles Yield to Pedestrians" symbol signs for drivers;

- Elimination of permissive left turns at a signalized intersection;
- In-street pedestrians signs;
- Pedestrian zone signs;
- Midblock traffic signals;
- Sidewalk expansion in residential and mixed use neighborhoods;
- Creation of dog and jogging green spaces in underserved areas to allow residents space for walking/jogging/exercising;
- Smart lighting at crosswalks with nighttime crashes; and
- "Dwell on red" lights in entertainment districts during peak hours (night).

II. Reduce vehicular travel

- Improve public transport: buses, light rail, carpools, park and rides;
- Increase tax on/price of gas;
- Increase vehicle registration fees (to discourage car ownership and/or pay for increased enforcement and city planning);
- Offer tax breaks/incentives for use of public transport; and
- Offer tax breaks to companies that have: (1) Shuttles to work, (2) A carpool program, or (3) Telecommuting for their employees.

III. Increase enforcement

- Fund additional police enforcement at high traffic corridors;
- Increase fines for pedestrian related offenses;
- Fund additional marketing of enforcement efforts;
- Place warning signs at key pedestrian spots (crosswalks, mixed use zones, near parks and schools);
- Sponsor "Enforcement Days" where numerous tickets are issued in key zones; and
- Outlaw cell phone use for drivers and pedestrians.

IV. Divert traffic

- Change city zoning to divert traffic around schools, churches, parks

- and outdoor areas, either permanently or during peak hours;
- Re-write code to require specific road design in new development; and
- Make environmental changes or increase enforcement around bars, liquor stores, and schools.

A review of planning documents from across the country shows the most common policy initiatives include building new sidewalks, trails or greenways, maintaining or upgrading existing pedestrian facilities, and developing new traffic calming initiatives. These initiatives are often combined with increased enforcement of pedestrian laws, as well as education programs in schools and driver-education courses (Jones et al., 2010; Krisberg, 2010; Li & Fernie, 2010). Policy-based initiatives should include supporting the *Safe, Accountable, Flexible, Efficient Transportation Equity Act—A Legacy for Users* and encouraging state and local governments to dedicate funds to the construction of pedestrian facilities like crosswalks, sidewalks, traffic calming measures, speed bumps, multi-use pathways, and enforcement efforts (Mendoza, Watson, Baronowski, Nicklas, & Uscanga, 2010; Mendoza et al., 2010; Safe Kids Worldwide, 2005; Turner, Fitzpatrick, Brewer, & Park, 2006). Locally, a 2009 report by Tindale Oliver & Associates issued to the Pinellas County Metropolitan Planning Organization resulted in the implementation in that county of the following initiatives:

- Installation of enhanced mid-block crosswalks;
- Installation of raised medians and traffic control islands along roadways without raised medians;
- Improvements to signing, striping, and traffic signals at intersections;
- Improvements to street lighting at intersections, major transit stops, high crash corridors, and mid-block crossing locations;
- Expansion of driver-oriented enforcement efforts including a strong educational component; mass media is used to warn drivers along corridors during enforcement waves; and
- Implementation of “Penny for Pinellas,” a one percent local sales tax earmarked for capital improvement projects dealing with public safety.

In a study of three modified intersections in St. Petersburg, Florida, the odds of conflict for pedestrians leaving the curb were reduced by 95% with the use of the above-mentioned engineering measures (Fayish & Gross, 2010). Because pedestrian safety is largely dependent on the local context, we argue that these specific initiatives would be most appropriate for Hillsborough County, based on their success in neighboring Pinellas County.

Policy initiatives one through four are part of the same effort; namely, these are simple engineering efforts to improve the built environment. The literature supports the high impact and cost effectiveness of environmental modifications, and so we propose these initiatives as a package. Proposal five could be considered an education program, but certainly enforcement efforts should be part of the overall policy initiative, if only to alert drivers and pedestrians of the environmental modifications. Increased enforcement of existing pedestrian laws is likely to be somewhat effective, although there is potential for pushback from voters. The same can be said for proposal six: Tax increases are rarely met with support except by direct beneficiaries, and success is unlikely in the current economic environment. Furthermore, other efforts are unlikely to succeed if packaged with excessive enforcement and taxation; in the interest of minimizing pushback, we propose to begin our initiative with simple, cost-effective engineering measures at key problem areas in Hillsborough County. We may expand the effort to include increased enforcement, a local tax for expanded pedestrian infrastructure, and more extensive education programs as initial efforts pay off.

Identification of Key Partners and Policy Influencers

According to the Pedestrian Injury Prevention Partnership New Jersey (Currie, 2009), the successful coalition brings together public health workers, law enforcement, engineers, and educators to improve pedestrian safety. The CDC (2010) recommends the following national organizations as supporters of local efforts: Walkable Communities, Inc., America Walks, DOT, AARP, the AASHTO Non-Motorized Committee, the Insurance Institute for Highway Safety, the National Center for Safe Routes to School, the Association of Pedestrian and Bicycle Professionals, CALTRANS, and the Transportation Research Board. Similar initiatives in Miami-Dade and Pinellas Counties include stakeholders from the Safe Kids Coalition, the Injury Prevention Coalition, FDOT, Community Traffic Safety Teams, the WalkSafe Program Task Force, county MPOs, public schools, the Department of Public Works, the Department of Transportation &

Parking, the Sheriff's Office, and the FHWA Florida Division (Ellis & Van Houten, 2009; Tindale Oliver & Associates Inc., 2009; Zegeer et al., 2008). Beneficiaries include community groups, concerned citizens and parents, and anyone who has been or will be a pedestrian in Hillsborough County. Policymakers include some of the organizational leaders in these local groups, as well as area mayors and county commissioners for Tampa and Hillsborough County. Local and state law enforcement agencies are most likely strong supporters of any effort to improve pedestrian safety in the area, and they have the potential to be very influential at both the community and government levels.

The key to growing support is clear communication of the extent of this problem in Hillsborough County. We must emphasize Pinellas County's successful implementation of cost-effective traffic calming measures at key hotspots to show how effective these simple efforts can be at a local level. By focusing on simple environmental modifications for the initial effort, avoiding the more invasive enforcement and tax initiatives, we hope to minimize resistance from the outset. Eventually, the evidence will speak for itself in reduced pedestrian injuries, and we can use the momentum of our success to push for enhanced enforcement, infrastructure, and education related to pedestrian safety.

Communication Strategy

Positioning Statement / Elevator Speech: *Our community has one of the worst pedestrian safety records in the nation; year after year, our children, spouses, and parents are killed and injured as they try to cross the road. Our roads and crosswalks are so unsafe that we are unable to walk in our own neighborhoods, exercise outdoors, and go from one place to the other with ease. Simple changes like signs, improved lighting, and traffic calming measures can improve the safety of our streets. These measures have been implemented in Pinellas County with astounding success. As a result, Pinellas County had half the number of pedestrian fatalities as Hillsborough County last year. Something must be done to improve the safety of Tampa city streets, so that our community can be a safe place for us to live. We are blessed to live in such a beautiful place, and a few simple, inexpensive changes to our roads and intersections can increase the quality of life for all citizens of Tampa and those who come to visit our wonderful city each year.*

Five talking points:

- Our area has the highest rate of pedestrian injuries and fatalities in the state;

- Pedestrian injuries disproportionately affect the elderly, children, Black and Hispanic Americans, and immigrants, all of whom have a significant presence in our community;
- Pedestrian injury is a costly burden on the local economy;
- Simple environmental modifications have been proven to increase the safety of roads and intersections for pedestrians at an extremely low cost. In Pinellas County, dozens of lives are saved each year, and countless injuries prevented, at a cost of about \$300 per intersection; and
- Everyone benefits from safer roads: pedestrians, drivers, law enforcement, children, the elderly, joggers, walkers, those using public transportation—everyone.

This message should be part of a comprehensive campaign brought to city and county planning meetings, law enforcement officials, the mayor's office, and local concerned organizations. Press releases, letters from concerned citizens, and letters to the editor in local newspapers are a few ways to begin this conversation. Similar coalitions in Pinellas and Miami-Dade Counties can help with the development of a strategic plan. It may be beneficial to increase communication efforts prior to large community events such as Gasparilla, local sports events, and holidays, as well as immediately following pedestrian-related incidents.

Evaluation

An evaluation schema modeled from that described by McDermott and Sarvela (1999) is proposed:

Who: Pedestrians in Hillsborough County
What: Pedestrian injuries/fatalities in Hillsborough County
When: 12 months after implementation and ongoing as efforts are expanded
Where: Hillsborough County
How: FDOT data, GIS mapping

Data from other communities indicate that implementation of pedestrian safety initiatives is easily monitored using GIS mapping prior to and following environmental modifications (Ellis & Van Houten, 2009). GIS mapping easily identifies hot spots and can display before and after data in an easy to understand format for local policy makers and the community. The Florida Department of Transportation regularly collects detailed statistical

data on pedestrian injuries and fatalities throughout the state of Florida, and this information can be analyzed on an ongoing basis (FDOT, 2011). Successful coalitions in Pinellas and Miami-Dade Counties can be counted on to help our coalition strategize the best way to disseminate results and push for future expansion of the initial initiative to include enforcement and education.

References

- Centers for Disease Control and Prevention (CDC). (2010). *Injury prevention & control: motor vehicle safety: pedestrian safety*. Retrieved March 29, 2011 from http://www.cdc.gov/Motorvehiclesafety/Pedestrian_safety/.
- Currie, D. (2009). APHA institute teams improving traffic safety: year-long institute focusing on pedestrian, motorcycle safety. *The Nation's Health*, 39(2), 5.
- Ellis, R., & Van Houten, R. (2009). Reduction of pedestrian fatalities, injuries, conflicts, and other surrogate measures in Miami-Dade, Florida. *Transportation Research Record*, 2140(1), 55-62.
- Ewing, R., & Dumbaugh, E. (2009). The built environment and traffic safety: a review of empirical evidence. *Journal of Planning Literature*, 23(4), 347-367.
- Fayish, A.C., & Gross, F. (2010). Safety effectiveness of leading pedestrian intervals evaluated by a before-after study with comparison groups. *Transportation Research Record*, 2198(1), 15-22.
- Florida Department of Transportation [FDOT]. (2011). *Transportation issues: pedestrian safety*. Retrieved March 29, 2011 from http://www.dot.state.fl.us/safety/ped_bike/ped_bike_reports.shtm#Transportation%20Issues:%20Pedestrian%20Safety.
- Hillsborough County Metropolitan Planning Organization Policy Committee (2010). Meeting of March 23, 2010. Retrieved April 2, 2011 from http://www.hillsboroughmpo.org/meetevents/meet_events_folders/foldermeetings/agenda_files/pc/2010-meetings/april-2010/POLICY_Apr2010_Item_II_MarMinutes.pdf.
- Jones, D.K., Evenson, K.R., Rodriguez, D.A., & Aytur, S.A. (2010). Addressing pedestrian safety: a content analysis of pedestrian master plans in North Carolina. *Traffic Injury Prevention*, 11(1), 57-65.
- Krieger, J., Rabkin, J., Sharify, D., & Song, L. (2009). High point walking for health: creating built and social environments that support walking in a public housing community. *American Journal of Public Health*, 99(s3), s593-s599.
- Krisberg, K. (2010). Poor road design contributes to U.S. pedestrian fatalities: safety advocates call for new approach. *The Nation's Health*, 39(10), 1-10.
- Li, Y., & Fernie, G. (2010). Pedestrian behavior and safety on a two-stage crossing with a center refuge island and the effect of winter weather on pedestrian compliance rate. *Accident analysis and prevention*, 42(4), 1156-1163.
- Lyons, R.A., Jones, S.J., Newcombe, R.G., & Palmer, S.R. (2006). The influence of local politicians on pedestrian safety. *Injury Prevention*, 12(5), 312-315.
- Lyons, R.A., Towner, E., Christie, N., Kendrick, D., Jones, S.J., Hayes, M., et al. (2008). The Advocacy in Action Study: a cluster randomized controlled trial to reduce pedestrian injuries in deprived communities. *Injury Prevention*, 14(2), e1-e5.
- McDermott, R.J., & Sarvela, P.D. (1999). *Health education evaluation and measurement: a practitioner's perspective* (2nd ed.). Madison, WI: WCB McGraw-Hill.
- Mendoza, J.A., Watson, K., Baronowski, T., Nicklas, T.A., & Uscanga, D.K. (2010). Ethnic minority children's active commuting to school and association with physical activity and pedestrian safety behaviors. *Journal of Applied Research on Children: Informing Policy for Children at Risk*, 1(1), 1-23.
- Mendoza, J.A., Watson, K., Baronowski, T., Nicklas, T.A., Uscanga, D.K., & Hanfling, M.J. (2010). Validity of instruments to assess students' travel and pedestrian safety. *BMC Public Health*, 10, 257-264.
- Morency, P., & Cloutier, M.S. (2006). From targeted "black spots" to area-wide pedestrian safety. *Injury Prevention*, 12(6), 360-364.
- National Highway Traffic Safety Administration (NHTSA). (2008). *Traffic safety facts (2008 data); Pedestrians*. Retrieved from April 1, 2011 from <http://www-nrd.nhtsa.dot.gov/Pubs/811163.PDF>.
- Safe Kids USA. (2009). *Pedestrian safety*. Retrieved March 29, 2011 from <http://www.safekids.org/safety-basics/safety-resources-by-risk-area/pedestrian/>.
- Safe Kids Worldwide. (2005). *Child pedestrians at risk: A ranking of U.S. metropolitan areas*. Retrieved June 24, 2011 from <http://www.safekids.org/assets/docs/ourwork/research/research-report-pedestrian-2005.pdf>.
- Sebert Kuhlmann, A. K., Brett, J., Thomas, D., & Sain, S. R. (2009). Environmental characteristics associated with pedestrian-motor vehicle collisions in Denver, Colorado. *American Journal of Public Health*, 99(9), 1632-1637.
- Shaw, R. (2011, March 28). Tampa Bay area sees high numbers of pedestrian deaths. *The Tampa Tribune*. Retrieved on March 29, 2011 from

<http://www2.tbo.com/content/2011/mar/28/bay-area-sees-high-numbers-of-pedestrian-deaths/news-breaking/>.

Shuurman, N., Cinnamon, J., Crooks, V.A., & Morad Hameed, S. (2009). Pedestrian injury and the built environment: an environmental scan of hotspots. *BMC Public Health*, 9, 233-243.

Tindale Oliver & Associates Inc. (2009). *Pinellas County pedestrian safety action plan*. Retrieved April 2, 2011 from <http://www.pinellascounty.org/mpo/docs/Pinellas%20PSAP%20Final%20Report%20083109.pdf>.

Turner, S., Fitzpatrick, K., Brewer, M., & Park, E.S. (2006). Motorist yielding to pedestrians at unsignalized intersections: findings from a national study on improving pedestrian safety. *Transportation Research Record*, 1982(1), 1-12.

UNC Highway Safety Research Center. (2010). *Pedestrian Safety Program strategic plan: Final background report*. Retrieved April 1, 2011 from http://safety.fhwa.dot.gov/ped_bike/pssp/background/background092010.pdf.

U.S. Department of Transportation Federal Highway Administration [US DOT FHWA]. (n.d.). *Pedestrian & bicycle safety*. Retrieved March 29, 2011 from http://safety.fhwa.dot.gov/ped_bike/.

Zegeer, C.V., Blomberg, R., Henderson, D., Masten, S., Marchetti, L., Levy, M.M., et al. (2008). Evaluation of Miami-Dade pedestrian safety demonstration project. *Transportation Research Record*, 2073(1), 1-10.

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