



## From Practice to Policy: The Expansion and Sustainability of the WalkSafe Program Over the Past 20 Years

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# From Practice to Policy:

## The Expansion and Sustainability of the WalkSafe Program Over the Past 20 Years

GILLIAN A. HOTZ, CAROLINA GOMEZ ,  
AND JAYNE D. GREENBERG 



In 2001, Miami-Dade County (M-DC), Florida, was the third most dangerous city with respect to pedestrian safety in the United States (Hotz et al., 2004). Concerns regarding the high pedestrian injury rates in M-DC were highlighted in a 2004 study that identified 235 pediatric pedestrian trauma cases over a three-year-period, emphasizing the need for a prevention plan that reduced the incidence of children struck by motor vehicles (Hameed et al., 2004).

In response to the disproportionately high pediatric pedestrian injury rates occurring in M-DC, the Miami Pediatric Traffic Injury Task Force was assembled in 2001, bringing together a multidisciplinary team of experts including school board members and community stakeholders from both private and governmental agencies to share the need for such programs that would have a direct impact on the reduction of these injury rates. As a result of this meeting, and with expert input, the WalkSafe program was created by the University of Miami KiDZ Neuroscience Center (KNC). Meeting attendees extensively discussed their collaborative vision for how a program like WalkSafe can be implemented in the schools as a mandate to ensure all students, regardless of zip code, receive the same lifesaving safety education. With strong support from the M-DC School Board, after being presented with the evidence-based research that the KNC performed, the school district unanimously approved the WalkSafe program as a district mandate in 2003.

The purpose of this article is to describe the success of a 20-year implementation of the WalkSafe program that was created through a collaborative partnership to increase pedestrian safety in youth and prevent brain and spinal cord injuries and fatalities in adolescents through the delivery of WalkSafe in the schools. The program was implemented countywide in 2005 and funded by the Florida State Department of Transportation in the hopes that other states, cities, communities, and school districts can implement similar programs to increase pedestrian safety and reduce injury rates.

The WalkSafe program focuses on pedestrian safety for youths, promotes physical activity through active transportation, and encourages the creation of safe, traffic calmed streets with supportive pedestrian infrastructure. The WalkSafe evidence-based curriculum for pedestrian safety is geared toward students from Kindergarten to fifth grade, with the curriculum delivered through both in-person and virtual training. The WalkSafe program has further developed an expansion to encompass students in grades 6 through 8, featuring a distinct virtual education component. This program adheres to the Safe Routes to School framework, which addresses engagement, education, equity, evaluation, encouragement, and engineering.

The elementary in-person curriculum for WalkSafe spans three days across homeroom, physical education, and art classes, and has been mandated by the school board in M-DC Public Schools (M-DCPS) for more than 20 years. On the first day, a classroom teacher-led discussion introduces pedestrian concepts. Homeroom teachers facilitate this discussion using visual aids to illustrate various signs, signals, behaviors, and safety equipment. The second day takes place in the physical education class, featuring an interactive simulation where students engage in reenactments of safe pedestrian behaviors, applying knowledge that was previously acquired. The final day occurs during art class, where students are tasked with creating

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projects depicting safe streets or their perception of what safe streets entail. Other curriculum implementation details are addressed later in the article. Additionally, the KNC hosts an annual Walk to School Day celebration in collaboration with local authorities, advocacy groups, M-DCPS school district personnel and leadership, and other change makers to extend its outreach to children in the community.

Since the initial implementation of WalkSafe in 2003, the program mission and the overall purpose have been consistent—to decrease pediatric injuries and fatalities through education; to promote physical activity and safety to and from school; and to recommend infrastructure changes and modifications around schools that further promote pedestrian safety. WalkSafe further supports the benefits of walking to school by enhancing health benefits, social skills, mental health, and increased family time, to state just a few. The need to increase physical activity in youth and children is further recognized in Healthy People 2030, which calls to, “Increase the proportion of adolescents who walk or bike to get places” (Office of Disease Prevention and Health Promotion n.d.b).

Additionally, since 2003, the KNC research team has been tracking M-DC crash data and Level 1 Trauma Center data of 5- to 14-year-old children in order to categorize and report the number of injuries and fatalities in specific zip codes and high-risk areas. The expert team and advisory committee continues to meet annually to discuss the program results and provide recommendations and input for future revisions and programmatic activities.

## The Why and Where

When analyzing 2003 pedestrian crash data by zip codes, it was evident that a large number of incidents occurred in the zip codes within the neighborhood of Liberty City, Miami, Florida. Due to the elevated frequency of crashes in this neighborhood, the KNC research team chose to pilot the initial WalkSafe program in 16 elementary schools in 2003. Liberty City is a predominately African American neighborhood within M-DC. In 2000, Liberty City had a population of 23,009 and a median household income of \$18,809 (City of Miami - Planning Department, 2008). The data collected from this pilot program were shared with the M-DC School Board to show the necessity of injury prevention intervention programs. The successful implementation of the program in Liberty City led M-DCPS to mandate the WalkSafe program and curriculum in all elementary schools on an annual basis.

## Implementation

The WalkSafe curriculum, developed in 2003 by a team of experts in trauma care, public health, road safety and physical education teachers, was implemented in all 206 M-DCPS elementary schools by 2005 (Miami-Dade County Public Schools, 2006). Since then, the public school district has expanded, and now the WalkSafe curriculum is implemented in all 291 elementary schools (Miami-Dade County Public Schools, 2023). Incorporating the WalkSafe program into the established M-DCPS physical education curriculum was a seamless process because it met both the Florida Sunshine State Standards and national standards for safety education, which are also aligned with the 2024 SHAPE America National Standards for Physical Education (SHAPE America – Society of Health and Physical Educators, 2024). Therefore, the overall M-DCPS physical education program was enhanced by incorporating the WalkSafe curriculum annually.

## Development

At the time of its inception, the WalkSafe program was implemented across five consecutive days, including two days with instruction delivered by the classroom teacher, two days by the physical education teacher, and one day by the art teacher. In 2009, however, the program was reduced to three days, based on feedback and recommendations from homeroom and physical education teachers. To date, the program is still being implemented over a three-day period during the month of October to coincide with the International Walk to School Day. The full curriculum by grade span can be found at [www.iwalksafe.org](http://www.iwalksafe.org), with accompanying videos to enhance the students' learning experiences and engagement (see Figure 1).

To highlight the evolution of the program, Vayssier et al. (2016) detailed the 13 developmental stages that the WalkSafe program progressed through from its inception in 2003 to 2014. These developments were made possible as a result of the continuous financial support received from various partners. Beginning in 2015 to the present, funding has been provided by the Florida Department of Transportation, the Safe Routes to School initiative, the Miami-Dade Transportation Planning Organization, and the Transportation Alternative Program.

The educational curriculum is continuously revised and developed with regard to age and grade level. Specific age-appropriate pedestrian safety concepts are taught to students in Kindergarten to first grade (K-1), second to third grade (2-3), and fourth to fifth grade (4-5). The WalkSafe curriculum is divided into three days: Day 1 is a teacher-led pedestrian safety discussion in homeroom; Day 2 is an outdoor pedestrian safety simulation in physical education class (see Figure 2); and Day 3 is an art lesson for which students may showcase their learnings through two- and three-dimensional

creations that illustrate pedestrian safety behaviors and/or safe complete streets. These student art pieces are then entered into a poster contest, with winners selected by grade level. Students with the winning posters are recognized at a M-DCPS School Board meeting at the end of the year where they also receive a framed copy of their poster. It is important to note that this pedestrian safety program is free for all educators interested in implementing an evidence-based program to both increase youth physical activity through active transportation to school and prevent pedestrian injuries by providing comprehensive educational materials and resources.

During the early stages of curriculum development, the comprehensive 5-Es of the *Safe Routes to School* model, a framework for teaching and learning, were used to guide program creation and county-wide implementation. At that time, the standard was the 5-E model, as follows: (1) *education*, (2) *engineering*, (3) *encouragement*, (4) *enforcement*, and (5) *evaluation*. However, in 2020, the Safe Routes to School Partnership organization formally announced a revised 6-E model, which consists of (1) *engagement*, (2) *equity*, (3) *engineering*, (4) *encouragement*, (5) *education*, and (6) *evaluation*. Following this change, the 6-E model and framework for teaching and learning continues to guide further developments of the WalkSafe program. Figure 3 presents the 6-E framework.

## Evaluation

### Program Evaluation

Throughout the years of implementation, several different evaluation tools have been developed and utilized. Evaluation included studying the implementation of the program as well as the knowledge gain of the students who participated in the program.

**Our Curriculums: Key Features**

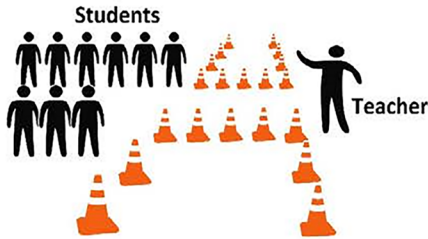
- Evidence-Based:** Significantly improves pedestrian & bicycling safety knowledge
- Multi-Modal Teaching Techniques:** Instructional, Simulation, Creative
- Age-Appropriate Versions:**
  - WalkSafe:* Kindergarten – 1<sup>st</sup> Grade, 2<sup>nd</sup> Grade – 3<sup>rd</sup> Grade, 4<sup>th</sup> Grade – 5<sup>th</sup> Grade
  - BikeSafe:* 6<sup>th</sup> – 8<sup>th</sup> Grades
- Online Teacher Training:** Getting started? You can go to the "Schools and Teachers" Zone on our site to become a WalkSafe Educator & the "Schools" Zone on our site to become a BikeSafe Educator
- Reporting:** Ability to track and report number of children educated each year via Curriculum Completion Form
- Florida Standards:** Health Education (HE), Physical Education (PE), Visual Arts (VA)
- Free Resources:** Available for download at [iwalksafe.org](http://iwalksafe.org) and [ibikesafe.org](http://ibikesafe.org)

**Figure 1.**  
**Curriculums: Key features.**  
Source: University of Miami (2024b). WalkSafe Program. Retrieved on October 29, 2024, from [www.iwalksafe.org](http://www.iwalksafe.org)



# Day Two- PE Crosswalk Simulation

## Crosswalk Activity



Instructor - Led Prompts	Discussion
1. Instructor rolls ball into the street and asks a volunteer to walk across the street <i>without</i> looking left or right to retrieve the ball.	<b>Unsafe.</b> The ball was retrieved from the street without stopping or looking left-right-left. The volunteer should stop at the edge of the street and look left-right-left before crossing the street to retrieve the ball. Remember to emphasize the importance of not entering the street without an adult present.
2. Instructor situates a visual screen on the simulated road. Instructor asks volunteer to walk to the edge of the visual screen, stop, look left-right-left then cross.	<b>Safe.</b> The pedestrian followed the visual screen safety steps (stop at the edge of the screen and look left-right-left before crossing).
3. Instructor asks a volunteer to cross the street at the middle of the road looking left-right-left.	<b>Unsafe.</b> It is not safe to cross the street at the middle of the road. The volunteer should stop at the corner or simulated crosswalk and look left-right-left before crossing.
4. Instructor stands at the curb and holds up "WALK" signal flashcard (pg. 19) and asks volunteers to cross without looking.	<b>Unsafe.</b> Always look and listen when crossing the street, even when crosswalk signals tell you it's safe to walk.
5. Instructor tells students that this street has no sidewalk and asks a volunteer to walk on the right edge of the street.	<b>Unsafe.</b> When there is no sidewalk, pedestrians should walk on the left side of the street facing cars so that they can see traffic. The volunteer should walk along the left edge of the street.
6. Instructor stands at curb and hold up "DON'T WALK" signal flashcard (pg. 20) and asks the volunteer to stop at the curb.	<b>Safe.</b> Pedestrian obeyed crosswalk signal and stopped at the curb before crossing.
7. Instructor simulates a school bus using a group of students or a large object, and asks volunteer to cross behind the school bus.	<b>Unsafe.</b> The driver of the bus cannot see pedestrians when they cross behind the school bus. Volunteer should cross in front of the school bus to look and listen for oncoming vehicles.
8. Instructor asks one volunteer to act as a crossing guard, and asks another volunteer to act as a pedestrian that is crossing the street before the crossing guard signals it is safe to cross the street.	<b>Unsafe.</b> Pedestrians need to wait for the crossing guard to hold up a "STOP" sign towards oncoming vehicles, then signal to pedestrians it is safe to cross the street. The volunteer should wait for the crossing guard to signal it is safe to cross the street.

Figure 2.

### Day Two: Physical education crosswalk simulation.

Source: University of Miami (2024c). WalkSafe Program. Day 2 teacher sample lesson plan. Retrieved on October 29, 2024, from [www.iwalksafe.org](http://www.iwalksafe.org)



# 6-E Model

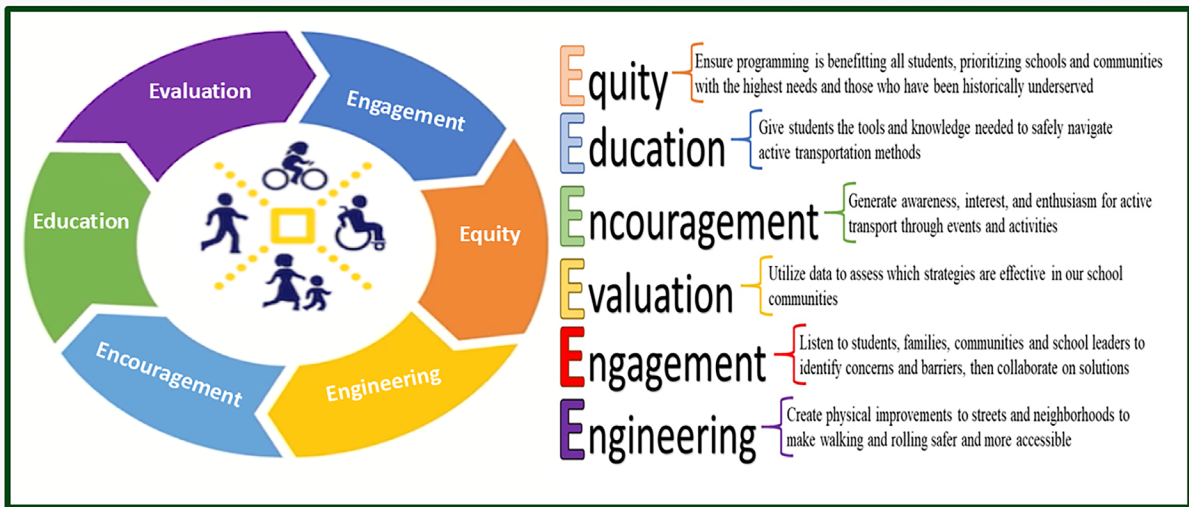


Figure 3.

### Safe Routes to School 6-E framework.

Source: Safe Routes Partnership (n.d.). The 6 Es of safe routes to school. Retrieved on October 29, 2024, from <https://www.saferoutespartnership.org/safe-routes-school/101/6-Es>

Additionally, the WalkSafe curriculum is continuously monitored and evaluated by staff in the KNC office utilizing curriculum completion forms (CCFs). The CCFs allow for the collection of data across M-DCPS elementary schools. These forms are submitted on a yearly basis by classroom and physical education teachers that facilitate the implementation of the curriculum at their respective schools. These data provide aggregated information, which includes the number of teachers who implemented the curriculum each year, the number of days that the program was implemented, and the number of students educated per grade. Over the years, the survey questions on the CCFs have changed to reflect new research goals and future improvements to the curriculum. From 2001 to 2008, the CCFs were collected through telephone calls, faxes, and e-mails. In 2009, the first online version of the CCFs went live using an online submission form for data collection and later migrated onto Qualtrics XM, which is still being utilized as the current system (Vayssier et al., 2016).

The teachers that participate in the delivery of this curriculum are also required to attend an annual professional development training to ensure that updated evidence-based instructional strategies are utilized. Prior to 2020, the attendance at these trainings was in-person and monitored by teacher training logs. Currently, the training is held via videoconferencing and attendance is monitored electronically. Another tool that was previously used to evaluate the implementation of the program was the WalkSafe Curriculum Dissemination Survey (WCDS). This tool was used in a 2015 study published by the KNC, and it captured qualitative data on curriculum dissemination from 2005 to 2015 (Vayssier et al., 2016).

Of greatest importance to the overall program, which emphasizes the overarching mission of injury and fatality prevention, is the knowledge gained by students who are administered the WalkSafe curriculum. This factor is another that has been evaluated annually since the inception of the program. Currently, all students who are taught the WalkSafe curriculum are administered a pre-test and a post-test to quantitatively measure knowledge gained. In the past, a 3-month post-test was also administered to assess short-term knowledge retention. The results of these tests were analyzed and discussed in a 2009 study that assessed the efficacy of the WalkSafe program (Hotz et al., 2009). Another tool that was previously used to evaluate the knowledge gained in students was the Student Knowledge Assessment (SKA). The SKA is a standardized assessment tool created specifically for measuring and monitoring the progress of preschool children ages 3 to 5 years old. The SKA was used in KNC's 2016 Pediatric Pedestrian Safety paper, which demonstrated that an increase in preschoolers' knowledge on basic pedestrian safety concepts occurred after being taught the WalkSafe curriculum (Bovis et al., 2016).

## Findings

The implementation of the WalkSafe program has continuously led to positive results. High-risk districts and diverse communities have reported behavior changes in students who participated in the WalkSafe program, which in turn resulted in a decrease of injuries and fatalities. A 2004 study analyzed pedestrian-related behavioral changes and reported that children who received the WalkSafe educational materials were more likely to stop and look when crossing the street. The same study showed that this change in behavior was maintained over a three-month period. Overall, this study reported



iStockphoto/StockPlanets

changes in behavior that had beneficial effects and caused an overall decrease of the presence of dangerous situations involving youth pedestrians and motor vehicles (Hotz et al., 2004). An additional study was presented at the 2009 Society for Advancement of Violence and Injury Research (SAVIR) conference. This study utilized different colored backpacks to identify students who were educated with the WalkSafe curriculum versus those who were not. Results found that elementary school-age children showed significant knowledge gain after receiving the educational component of the WalkSafe program; however, acquiring this safety knowledge only led to some behavioral change. Walking behaviors were associated with other environmental and situational factors. The significant findings included the following: (1) children were more likely to look left-right-left than to stop before crossing the street; (2) walking in groups decreased safe crossing behaviors; and (3) overall children were more likely to cross at the corner than mid-street (Hotz et al., 2009).

Hotz et al. (2009) further analyzed knowledge gains after the implementation of the WalkSafe curriculum and found that the program significantly increased knowledge gain among elementary school-age children. This study also found that students retained the knowledge when they were tested again using the 3-month post-test. After this research was reported, the KNC staff conducted an additional study in 2015 that used the WalkSafe Curriculum Dissemination Survey (WCDS) as an evaluation tool. This study collected 31 WCDS

from representatives that participated in the dissemination of the WalkSafe curriculum. All the respondents described the lesson plans as “exceptional for age-appropriate learning” and “easy to use and follow.” Overall, the WCDS responses provided positive feedback as well as identified necessary improvements that were later added to the curriculum.

A follow-up study by Bovis et al. (2016) supported previous findings of an increase in children’s knowledge following the implementation of the WalkSafe curriculum. This study conducted a paired-sample *t* test to compare the SKA scores that were collected prior to implementation and following implementation. The results showed a statistically significant difference between the pre- and post-implementation scores, which led to the conclusion that the implementation of the curriculum increased preschoolers’ knowledge on basic pedestrian safety concepts.

### Changes Over Time

When analyzing the zip code crash data, it became evident that certain areas that had high pedestrian crash rates prior to the implementation of the WalkSafe program now have lower pedestrian crash rates (Figure 4). Aside from the zip code crash data, trauma data are reviewed quarterly and details pedestrian-hit-by-car (PHBC) injuries and fatalities in children from birth to age 14 years. Data from two Level 1 Trauma Centers in M-DC show an 87% decrease in the number of pediatric pedestrian injuries since 2003, which was the year the M-DCPS School Board mandated that the WalkSafe curriculum be taught annually in M-DCPS (Figure 5).

Another valuable source of data used to monitor pedestrian crash rates is the crash data provided by the Signal Four Analytics Program of the State of Florida. In 2022, Signal Four Analytics created a new query system that provides improved reports of all the PHBC

incidents in M-DC from 2012 to present. The crash data prior to 2011 are provided by the Metropolitan Planning Organization. When analyzing these data, it is clear that a downward trend in PHBC incidents occurred from 2003 to 2022. Given that the WalkSafe program was first implemented in 2003 and has undergone some modifications and improvements over the years, the WalkSafe program can be considered a countermeasure in lowering PHBC rates from 2003 to 2022 (Figure 6).

## Sustainability

### Recognizing Community Partnerships and their Impact

From the initial Miami Pediatric Traffic Injury Task Force meeting in 2001, the WalkSafe program has continued and is sustained through the physical education program in M-DCPS. Securing the partnership with M-DCPS District Director of Physical Education and Health Literacy in 2001 proved to be the most beneficial tactic in getting a foothold into the then-fourth largest school district in the United States. Currently M-DCPS is the third largest school district in the United States, making this program even more impactful as the student population has grown over the years. Working with M-DCPS through open communication and collaborative planning via strategic initiatives is needed to implement programs to reduce the number of pediatric brain and spinal cord injuries, as well as pedestrian injuries and fatalities, and increase physical activity in the youth of M-DC. The KNC further held listening sessions with M-DCPS staff and policymakers to ensure that the district’s needs were met in compliance with their protocols for partnership collaborations. This process produced a long-standing relationship as well as the ability to implement future safety programs, including BikeSafe in 2009.

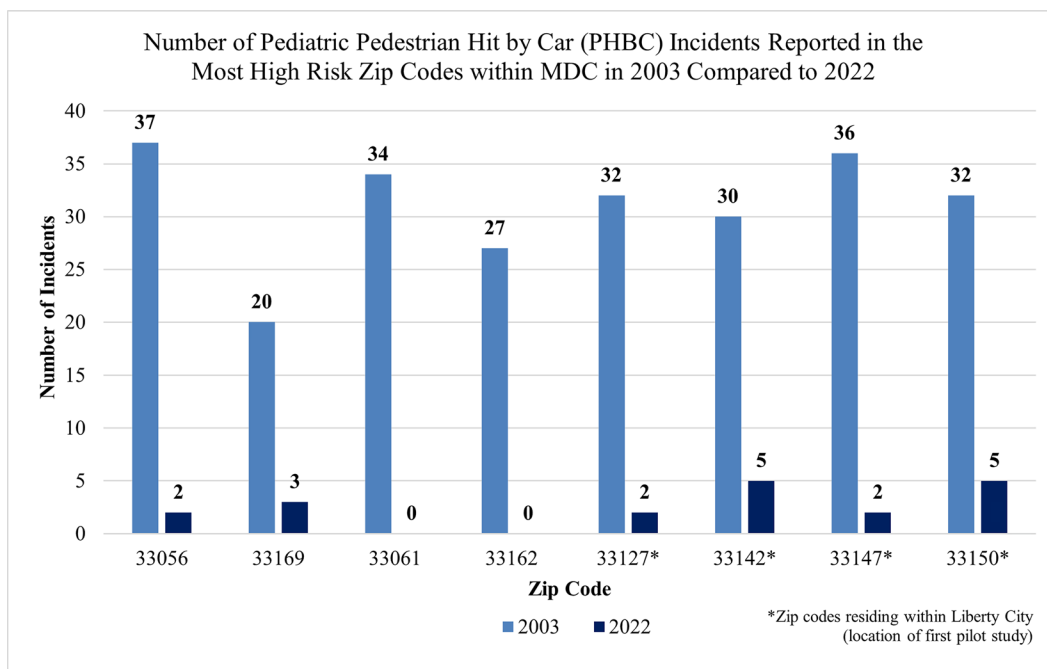
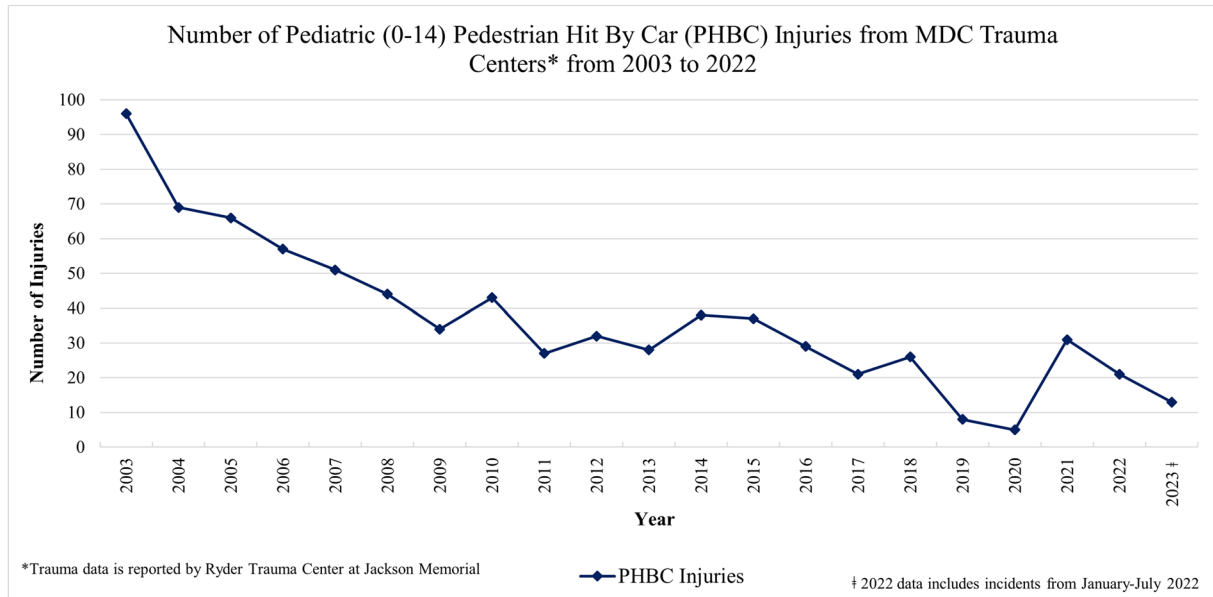


Figure 4.

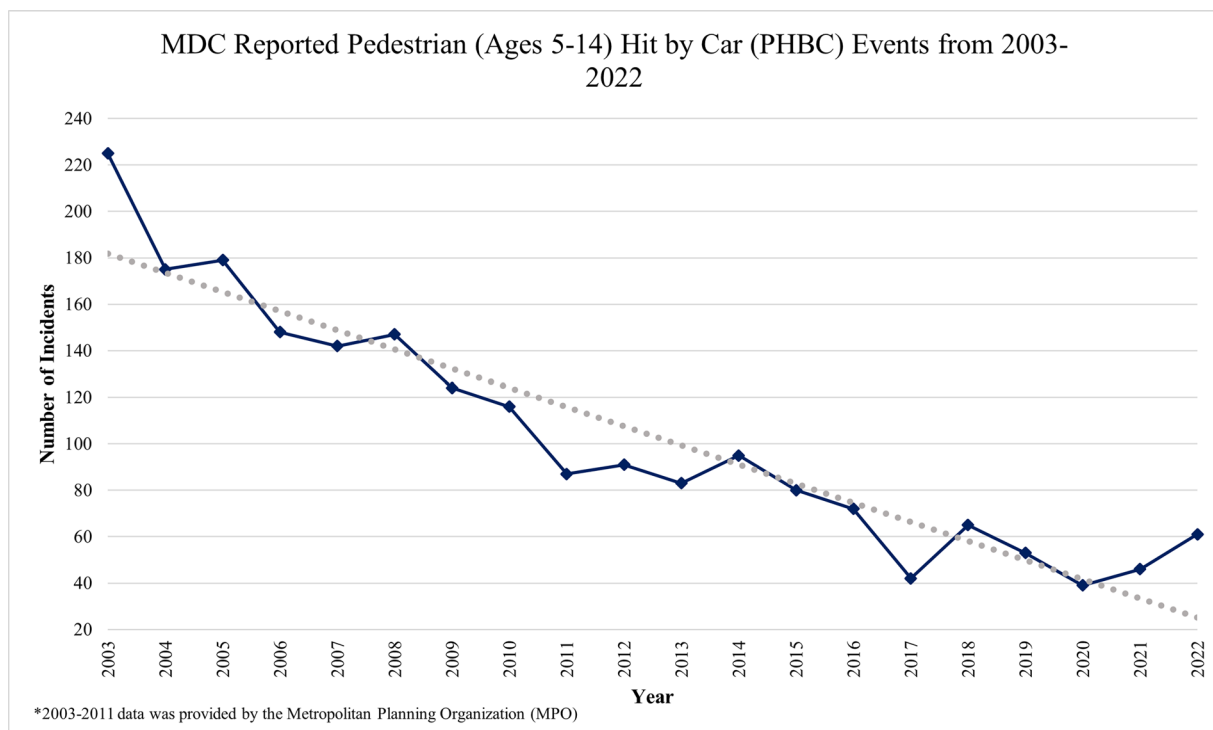
Zip code data comparisons between 2003 and 2022.

Source: Florida Traffic Safety Dashboard (n.d.). Signal 4 Analytics. Retrieved on October 29, 2024, from <https://signal4analytics.com/>



**Figure 5.**

**Trauma data From the University of Miami/Jackson Ryder Trauma Center and Nicklaus Children’s Hospital.**  
 Source: Miami-Dade County Transportation Planning Organization (TPO). (n.d.) Metropolitan Planning Organization for Miami-Dade County, Florida, from the University of Miami KiDZ Neuroscience Center database, Miami, Florida; University of Miami, 2024a.



**Figure 6.**

**Miami-Dade County reported pedestrian (age 5–14 years) hit by car (PHBC) events from 2003–2022.**  
 Source: Miami-Dade County Transportation Planning Organization (TPO). (n.d.) Metropolitan Planning Organization for Miami-Dade County, Florida, from the University of Miami KiDZ Neuroscience Center database, Miami, Florida.

Every year, the University of Miami KNC also hosts a community task force meeting where they summarize their program reach and findings for the year as well as share future expansions, projects, and funding sources. They also seek feedback

and suggestions from attendees in order to improve in the coming year. This annual meeting further ensures community support and transparency in research and results with their partners.



The key to sustainability is further illustrated by the continuous support and recognition by the M-DC School Board with an annual awards ceremony for the safety poster contest at a school board meeting; professional development of teachers, either through in-person or virtual trainings; and the request that the curriculum be implemented in October of each year in coordination with the International Walk to School Day.

Most importantly, the successful implementation and sustainability of the WalkSafe program is contingent on the many community partners, including the following initial partners: M-DCPS; U.S. Department of Transportation Federal Highway Administration; Florida Department of Transportation; Miami-Dade Metropolitan Planning Organization (now the Transportation Planning Organization); M-DC Department of Transportation and Public Works; M-DC and Municipal Police Departments; M-DCPS Schools police; school crossing guards; Level 1 Trauma Centers; University of Miami/Jackson Ryder Trauma Center; Nicklaus Children's Hospital; Florida Department of Health; and The Children's Trust. Over the years, other partners have been added including M-DC Parks and Recreation and Open Spaces, The Underline, Rails to Trails Conservancy, and Urban Health Partnerships. Partnerships are critical for the implementation of any program looking to make a community-wide impact. Having a vested interest in the safety and well-being of all youth is the responsibility of all community members, and the WalkSafe program, through continuous evaluation, has proven the effectiveness of this community-based strategy.

## Funding

The initial funding for the WalkSafe program began in 2003 from the Florida Department of Transportation Concept Grant program. With this funding, over a three-year period, the KNC research team was able to develop proof of concept for the implementation of a pilot program in the 16 highest-risk elementary schools in Liberty City in M-DC. Findings included pedestrian safety knowledge gain and that children were able to learn basic concepts in a classroom setting.

By 2005, all elementary school physical education teachers were trained, and every school was required by the M-DC School Board to implement the program on an annual basis. In 2007, the National Safe Routes to School program at the federal level of the Department of Transportation was announced, and every state received funding for infrastructure and non-infrastructure (educational) programs to increase children walking and biking to schools. These funds allowed KNC to target elementary and middle school-age children, with WalkSafe being disseminated, implemented, and evaluated across the State of Florida. Today, funding continues in Florida for only infrastructure projects around the schools with non-infrastructure funding ending in 2020. The Transportation Planning Organization through the Transportation Alternative Program and The Children's Trust have been funding the program locally since 2015. These grants have enabled KNC to continue to implement and sustain the WalkSafe program across M-DC. For after-school and summer programs, the M-DC Parks and Recreation and Open Spaces Department has also granted the WalkSafe program funding to administer and evaluate both the WalkSafe and BikeSafe programs in county parks.

Securing funding from foundation, state, local, and federal grant sources is also a critical piece for sustainability. More recently KNC received funding from the USDOT Safe Streets and Roads for All through partnerships with the Miccosukee Tribe of Indians and M-DC. As a result, the WalkSafe program is not only thriving, but also the curriculum is revised on a regular basis through continuous research and evaluation measures.

## New Programs

While observing and evaluating the positive impact that the WalkSafe program has had on M-DCPS, the KNC has developed several other programs that are designed to keep children physically active while preventing brain and spinal cord injuries. These programs include BikeSafe, intended for middle school, which is now also being piloted in elementary schools; after-school Bike Clubs; SkateSafe; and an electric bike and scooter program that is currently in development.

The BikeSafe program was created in 2009 and is based on the same concepts and purpose as the WalkSafe program. BikeSafe was developed to counteract the high rate of bicyclist-hit-by-car incidents in middle school children age 10 to 14 years in M-DC. The BikeSafe educational materials were first piloted in the Spring of 2010 at a community children's center. After the success of this pilot, the BikeSafe curriculum was further modified, and the curriculum for students in grades six to eight was implemented in middle schools for the first time during the 2012/2013 school year. A new elementary school BikeSafe curriculum has been developed and piloted in 9 M-DCPS schools during the 2022/2023 school year, which is encouraging more students to bike to school as well as teaching safety procedures when biking in non-school settings (i.e., parks, neighborhoods). A new version of this curriculum is currently being

piloted in 10 additional schools in M-DCPS. The BikeSafe elementary curriculum, like WalkSafe, currently includes age-appropriate curriculums, with versions for Kindergarten to first grade (K-1), second to third grade (2-3), and fourth to fifth grade (4-5).

During the 2022/2023 school year, Bike Club was introduced in eight M-DCPS middle schools. The Bike Club program is an afterschool enrichment and primary injury prevention program that addresses health promotion and primary injury prevention as well as walking and bicycling safety in pre-adolescents ages 10 to 14 years old (grades 6 to 8) through the development and dissemination of a middle school bicycle safety and wellness curriculum. Feedback and suggestions were collected from the year 1 facilitators of the program, and revisions have been made to the initial curriculum. The new version of the Bike Club program was implemented in 12 middle schools in M-DCPS during the 2023/2024 school year.

With the increased interest in skateboarding, the KNC was encouraged by a pre-medical student, who regularly skateboarded to the University of Miami campus, to develop, implement, and evaluate a SkateSafe program in 2015. The program created a basic safety tip flyer to disseminate to the Greater Miami community and has since partnered with county parks to improve their skateparks and provided recommendations for wearing helmets and safety equipment. The program has directly partnered with a skatepark developer, artists, and other community partners to build new skateparks and develop educational messaging for helmet usage and safety equipment. Lastly, with the increase in electronic bikes and scooters in the Miami community, the KNC is in the process of developing safety educational materials to be disseminated among M-DCPS high schoolers.

In addition to the various programs that the KNC has developed, the office regularly hosts and participates in community outreach events throughout the year that inform other communities and partners on how they could reduce PHBC and bicyclist-hit-by-car incidents. The KNC has a very active research team that continues to evaluate and analyze data in order to share their research findings globally. Currently, the research team is analyzing data from the latest study that looks at the longitudinal pedestrian safety knowledge effects of the WalkSafe program. With the use of certain social media platforms such as X (formerly known as Twitter), Facebook, Instagram, and YouTube, the KNC has been able to highlight the importance of safe streets and further the dissemination of both the WalkSafe curriculum and the center's mission. Using these social media outlets has led to national recognition of these programs as well as an increase in the local influence of the WalkSafe educational curriculum.

## Public Health Significance

Over the years, the WalkSafe program has been able to ensure that effective strategies are being used to improve population health, based on utilizing evidence-based practice (Brownson et al., 2009). The WalkSafe program has played an integral role in the collaborative effort to reduce pedestrian injury rates in M-DC. These efforts have led to an overall decrease in the reported number of pediatric pedestrian injuries and fatalities in the county. This program serves as an example of how community partners can prioritize the incorporation of safety educational programs into their long-term goals when strategizing for injury prevention (Florida Department of Health, 2015).

The WalkSafe program also directly supports the Healthy People 2030 mission proposed by the U.S Department of Health and Human Services. The Healthy People 2030 initiative includes 359 core objectives as well as developmental and research objectives that aim to improve health and well-being over the next decade. One of these objectives is injury prevention. Healthy People 2030 focuses on preventing intentional and unintentional injuries, including injuries that cause death (Office of Disease Prevention and Health Promotion, n.d.a). The WalkSafe program directly aids in achieving the goals of this initiative by preventing all types of PHBC incidents. Additionally, the WalkSafe program supports the strategies, tactics, and objectives of the Education Sector of the National Physical Activity Plan of the Physical Activity Alliance.

Finally, from a global perspective, the WalkSafe program further supports the United Nations Sustainable Development Goals through promoting good health and well-being (Goal 3); quality education (Goal 4); industry, innovation, and infrastructure (Goal 9); and sustainable cities and communities (Goal 11; United Nations, 2015).

## Conclusion

The expansion and sustainability of the WalkSafe program has accomplished the following: (1) provided valuable data to show a decrease in pedestrian brain and spinal cord injuries, a reduction in fatalities, and an increase in student safety measures; (2) provided for more community connectedness; and (3) provided street audits contributing to future infrastructure modifications. Utilizing a continuous improvement model over the years has allowed for curriculum and program modifications that are important and timely, especially the transition to online training and curriculum delivery during the COVID-19 pandemic. The future looks promising for even more lifesaving work with the Vision Zero initiative being conducted nationally. Additionally, with improved injury surveillance systems, injury reporting is more accurate and can be specific to high-risk zip codes. With advancements in artificial intelligence visual-detection systems, the opportunity to create safer streets is now more feasible. With KNC's research over the years, the research team is confident that the implementation of the WalkSafe program has made a significant impact in the reduction of brain and spinal cord injuries and fatalities for children in M-DC. The KNC will continue its overall mission of injury prevention through program development and implementation.

In summary, this article was written for the purpose of sharing the results of an evidence-based pedestrian safety program that showed a sustained reduction in adolescent and youth pedestrian injuries over a 20-year implementation period. It is hoped that other states, cities, communities, and school districts are encouraged to consider similar pedestrian safety programs to reduce injury rates, increase safety, promote active transportation and physical activity, and advance the pedestrian safety education among youth in their schools and communities.

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No potential conflict of interest was reported by the author(s).

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