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# Pedestrian Safety in Athens Clarke County



Athens Wellbeing Project 3.0  
White Paper Series

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## Abstract

Traffic safety is one of the most pressing problems of Athens-Clarke County. The Georgia Department of Transportation (GDOT) reported that Athens-Clarke County is ranked as the seventh county in the state for the highest number of crash and injury rates (per vehicle miles traveled). Since a significant number of people in this county rely on walking (21%) and public transportation (11%), vital measures must be taken to ensure pedestrian safety. We used a mixed method approach for the situation analysis of this problem. The data sources used for the analysis included crash data from the Georgia Department of Transportation and transportation data from Social Mapping Atlas, Athens Wellbeing Project. This paper focused on the prevalence of fatalities and serious injuries involving pedestrians in Athens-Clarke County and its associated factors and geographic distributions. An estimated 17 pedestrian fatalities and 40 serious injuries occurred in Athens-Clarke County from 2017 to 2021. Based on the data analysis and findings, two policy options were suggested in this paper to improve the issue: These slowing down traffic on major roads and implementing safe pedestrian crossings as potential and feasible recommendations.

# Introduction

Walking is a powerful tool to increase physical activity, limit traffic, reduce climate change, and create more equitable and socially connected communities (Jennings, 2016; ITF, 2020; WHO, 2018). It is also one of the most basic forms of transportation. As such, almost everyone will be a pedestrian at some point in their lives, and it is essential to consider the most vulnerable of road users. Walking exposes individuals to the public environment of cities more than any other mode of transportation (Loukaitou-Sideris, 2020). Factors including safety, comfort, convenience, and even the mere pleasure of walking may play a significant role in determining whether or not an individual chooses to walk. Of these factors, the primary concern is safety, which is influenced by neighborhood crime rates, traffic characteristics, and the condition of the sidewalk infrastructure (Loukaitou-Sideris, 2020).

In the past, walkability and pedestrian safety has not been a prominent factor in transportation research, and walking is often considered part of a larger journey involving several different modes of transportation (Loukaitou-Sideris, 2020). This is an issue since pedestrian death and injuries are often preventable given the proper intervention or safety measures (Loukaitou-Sideris, 2020). Understanding the causes and ramifications of pedestrian injuries and death as well as sustainable strategies to prevent these events is essential. Because the importance of pedestrian safety has been underestimated and overlooked in many studies, this white paper aims to highlight it as the main topic. Specifically, we will identify the prevalence, causes, geographic locations, and potential solutions for pedestrian fatalities and serious injuries in Athens-Clarke County.

# The Policy Problem

Pedestrian safety is a public health concern in Athens-Clarke County, Georgia. As a mid-size city, Athens has a high rate of car ownership, a limited public transportation system, and a notable percentage of its population walks as a means of travel. Approximately 21% of the population relies on walking as a primary mode of transportation, while 11% rely on public transportation which requires walking for at least part of their journey (Athens Wellbeing Project and Community Mapping Lab). These percentages increase during large public events such as game days and arts festivals. Athens boasts a vibrant downtown and a busy university campus. All these individuals need a safe way to walk and commute around the city. In accordance with Vision Zero, an international strategy to improve traffic safety, our research aims to eliminate fatalities and serious injuries involving pedestrians in Athens-Clarke County (Kim et al., 2017). In addition, we explore the prevalence and causes of such injuries and deaths and identify solutions to make Athens a more pedestrian-friendly community. According to GDOT, about 1,353 fatalities and 2,230 serious injuries have occurred among pedestrians in Georgia from 2017 to 2021.

## Research Question

To understand the problem of pedestrian safety in Athens-Clarke County, we need to identify the prevalence of pedestrian fatalities and serious injuries in the county as well as describe the geographic distribution and trend of these fatalities and injuries. Thus, our research questions are as follows:

1. What is the prevalence of pedestrian fatalities and serious injuries in Athens-Clarke County?
2. What is the time and place distribution of pedestrian fatalities and injuries in Athens-Clarke County?



# Literature Review

*What evidence is already established on this subject?*

Studies suggest that a lack of pedestrian safety is a significant barrier to physical activity for many people (Bracy et al., 2014). In 2020, there were more than 6,516 pedestrian fatalities and 54,769 pedestrian injuries in the United States (Pedestrian Safety, 2022). Increasing research shows that local policy changes are adept at improving safety conditions. For instance, the town of Chapel Hill proved its dedication to making a better environment for pedestrians through the Pedestrian Safety Action Plans (*Town of Chapel Hill Pedestrian Safety Action Plan - Home*). This action plan incorporates pedestrian safety measures in town policies such as controlling right-turn-on-red at signals, annual reports of pedestrian crashes, and updating design policies to be consistent with industry standards.

Guided by the “Vision Zero” approach, Athens-Clarke County has adopted similar actions to minimize pedestrian injuries and death. Vision Zero is a safe system approach to traffic safety that shifts the focus from getting vehicles through a city efficiently to protecting the most vulnerable populations on the road and trying to eliminate fatalities and serious injuries, even when road users make mistakes (Fox, 2018). The vulnerability of pedestrians to serious or fatal injuries by a motor vehicle rises dramatically with increased speed. A safe system approach seeks to eliminate any opportunity for pedestrians to be hit by a car traveling more than 30 mph by reducing vehicle speeds to less than 30 mph where pedestrians are crossing the street or by physically separating crossing movements by time and space. Since Chattanooga is similar in population density to Athens, it can be a good example to look at for pedestrian safety measures.

# Literature Review

## *What evidence is already established on this subject?*

Constant research and published works are needed to measure our community's awareness and improvement actions to address pedestrian safety. For example, their Pedestrian Action Plan focuses on new sidewalks and areas of improvement based on mapping analysis. Additionally, it helps reduce barriers to transportation by expanding the pedestrian network, connecting key gaps, and ensuring existing sidewalks are accessible. From the data analysis conducted in this study, we found that driving at high speeds influenced a large number of pedestrian deaths and injuries. The Athens in Motion Plan highlights the need for well-maintained and connected sidewalks for those who cannot drive due to age, disability, or economic hardship; for children walking between home, schools, and parks; and for individuals who choose not to drive as part of their daily travel. Thus, a safe, accessible pedestrian transportation network is essential.

## *Challenges and Complications:*

In the case of pedestrian safety infrastructure, Athens faces some unique challenges. According to the news published in the Red and Black, Athens in Motion Commission chair Lauren Blais said, “We are urban at the core, and then suburban and then rural at the edges... we have some infrastructure in the center, around the city. However, as you get further out, it quickly becomes very rural. There are no sidewalks, of course... there is not even a shoulder sometimes to walk on.” The same article also mentioned that a critical road in Athens-Clarke County is Lexington Road, a part of Highway 78 that passes Athens-Ben Epps Airport and extends into Oglethorpe County, containing heavily-walked segments without sidewalks. Extensive collaboration and strategic planning are required to overcome these problems.

# Literature Review

*What evidence is already established on this subject?*

## *Disparities:*

The safety of pedestrians is an equal opportunity public health problem. However, certain groups of pedestrians were found to be more vulnerable than others. The article found socioeconomic and demographic factors associated with pedestrian crash frequency and severity (Chimba et al., 2018). Through data analysis and Geographic Information Systems (GIS) mapping, there was a correlation between commuting habits, specifically between low car ownership rates and pedestrian crash frequency. People with lower median household incomes were less likely to own cars and, therefore, needed to walk to work or bus stops (Chimba et al., 2018). This increased their exposure risk and, thus, the frequency of pedestrian crashes.

Athens-Clarke County has a higher rate of economically disadvantaged individuals than the surrounding areas of Barrow, Jackson, Madison, Oconee, and Oglethorpe counties and a high population density. These two factors combined create a dangerous pedestrian environment within this county.



# Data & Analysis

*This project entails research, surveys, and maps, of Athens-Clarke County.*

We used a mixed methods approach to understand the prevalence of fatalities and serious injuries among pedestrians in Athens-Clarke County. First, we extracted transportation data from the Social Mapping Atlas (part of the Athens Wellbeing project data); the observation period spanned from 2016 to 2020. We used the geographic unit of analysis of the elementary school attendance zone, hereafter referred to as the “neighborhood zone.” These data provided us with the proportion of commuters who rely on at least some public transportation and the proportion of pedestrians who walk to their destination. Second, we extracted crash data from the Georgia Department of Transportation; the observation period spanned from 2017 to 2021. The crash data provided the count and geographic distribution of crashes, including 1) the number of fatalities, 2) the number of serious injuries, and 3) the specific area the accidents occurred.

We conducted a qualitative data collection process with key informant interviews with community partners from the Athens-Clarke County Unified Government, in addition to the quantitative analysis conducted using AWP Social Mapping Atlas and Georgia Department of Transportation data. The qualitative interviews assisted our research team in developing a deeper understanding of the policy problem.

After the data was collected, we conducted a descriptive analysis using Microsoft Excel to determine the proportion of the population that relies on public transportation in Athens-Clarke County and the occurrence, geographic distribution, and time trends (e.g., seasonality) of the fatal crashes in the county.

# Data & Analysis

*Table 1: Variables for the Data Collection and Analysis*

Variable	Data Source	Observation Period (Year)
Fatalities	Georgia Crash Data, Georgia Department of Transportation	2017 - 2021
Serious Injuries	Georgia Crash Data, Georgia Department of Transportation	2017 - 2021
Individuals who rely on public transit	Social Mapping Atlas, Athens Wellbeing Project	2016 - 2020
Individuals who walk	Social Mapping Atlas, Athens Wellbeing Project	2016 - 2020

# Findings

## *Mode of Transportation:*

Findings from the Social Mapping Atlas showed that 21% of the population walks at least some of the time and 11% of the population relies on the bus at least some of the time. The neighborhood zone where the proportion of walkers was highest was the Gaines School Road zone, followed by Barrow and Chase Street zones.

Findings from the Social Mapping Atlas indicated that Howard B Stroud neighborhood zone had the highest proportion of population relying on public transit, followed by the Barrow and Barnett Shoals zone.

## *Fatalities and Serious Injuries Involving Pedestrians:*

Figure 2 shows the number of fatalities and serious injuries involving pedestrians from January 1, 2017, to December 31, 2021, in Athens-Clarke County. During this time, there were 17 pedestrian deaths, 40 serious injuries, and 292 crashes involving pedestrians. Fatalities involving pedestrians remained stable between 2018 to 2020 and increased slightly in 2021. The number of serious injuries decreased dramatically in 2021, after consecutive increases in the previous years. Most of the accidents were found to occur during the month of September and Saturday has the highest number of fatal crashes. The most frequent time of day for fatal crashes occurred was around 8 pm. From the descriptive analysis of GDOT crash data, we also found that the reasons contributing to fatal crashes and serious injuries involving pedestrians included but were not limited to distracted driving, aggressive driving, high speed, and improper occupation protection (e.g., misuse of seatbelts). In addition, many crashes resulting in fatalities or serious injuries involved young drivers (15-19 years old) or older drivers (65+ years old). Eleven fatalities and serious injuries resulted from a young driver in the seat, and 13 fatalities and serious injuries involved an old driver.

# Findings

Figure 1. School Zones of Athens-Clarke County.

Source: Athens Social Mapping Atlas, Athens Wellbeing Project.

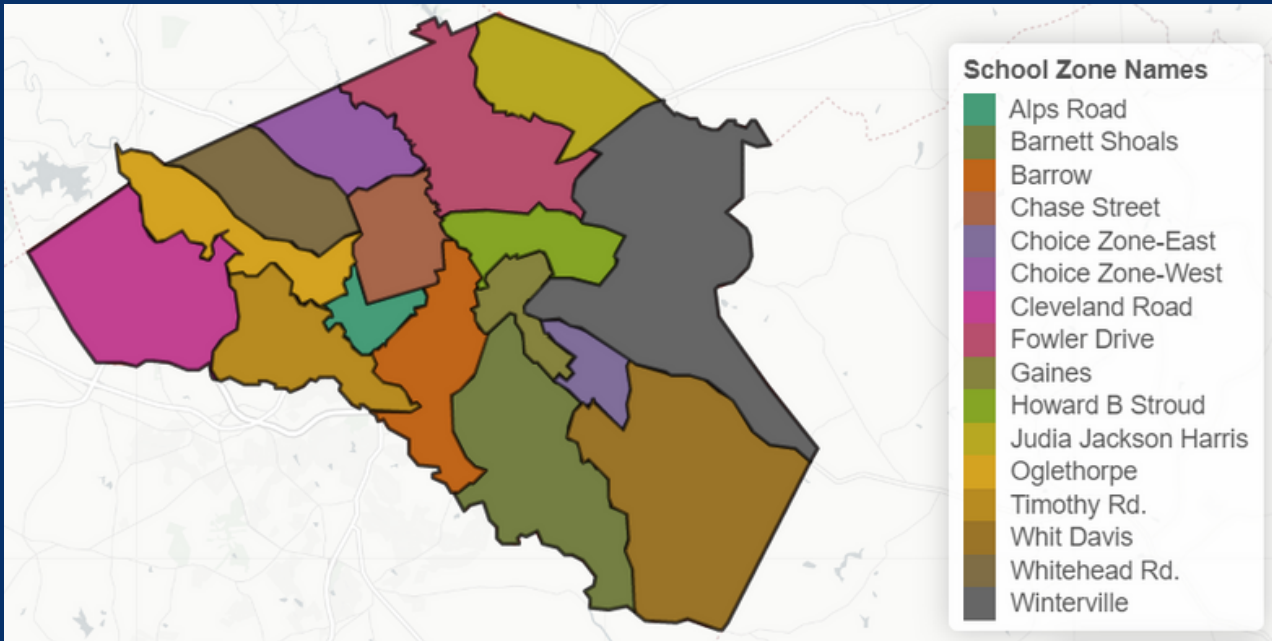
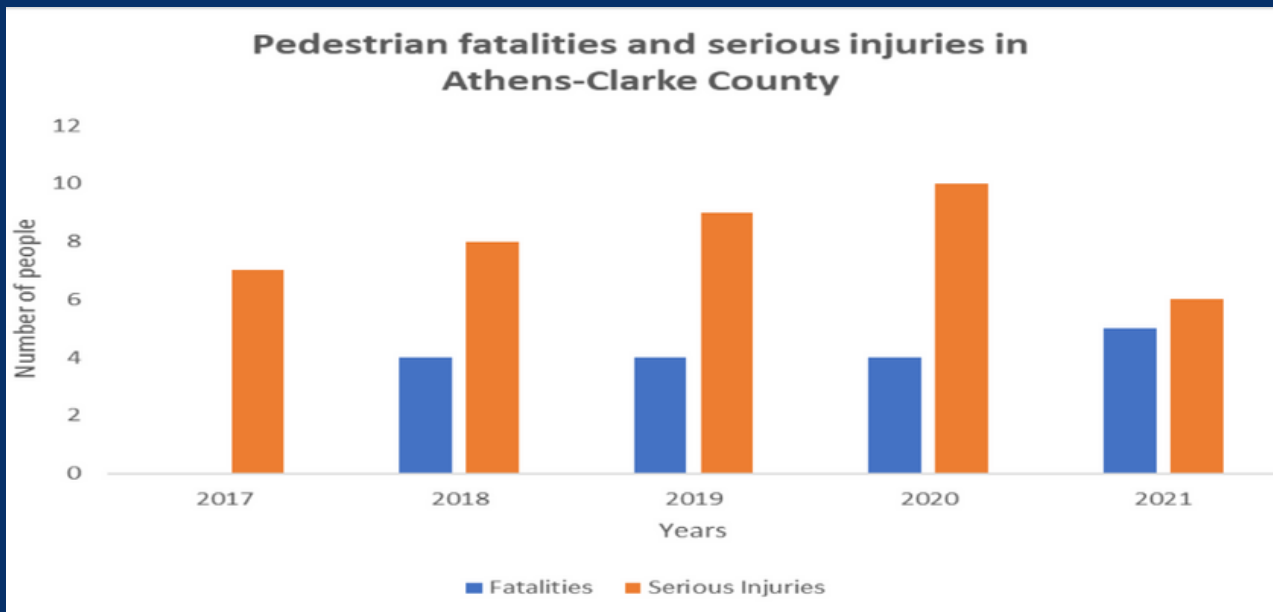


Figure 2. Pedestrian fatalities and serious injuries in Athens-Clarke County, 2017-2021. Source: Georgia Department of Transportation.

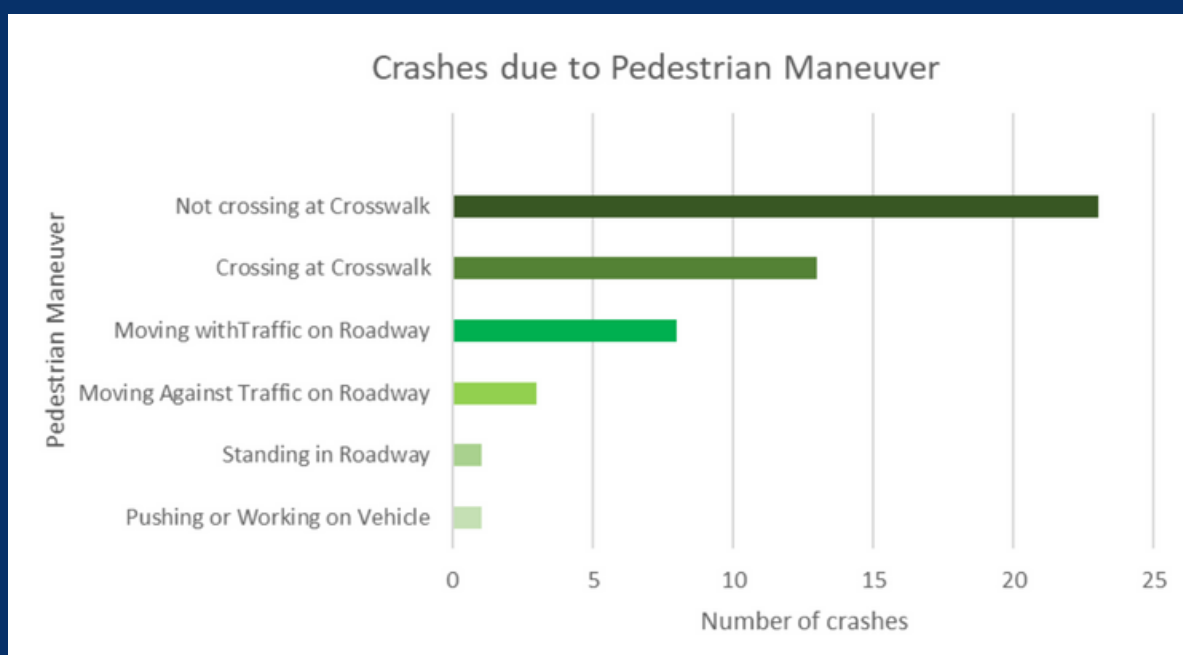


# Findings

The drivers or vehicles are not the sole cause of road accidents; pedestrian movement can also contribute to accidents. We explored pedestrian maneuver for fatalities and injuries from the crash data. Pedestrian maneuver refers to the predictable movements of pedestrians while they are walking or crossing the streets.

Figure 3 illustrates that the most frequent pedestrian movement leading to a crash was not crossing at the crosswalk. However, using the crosswalk was the second most frequent pedestrian movement associated with being in a crash. Moving with traffic on the roadway or against it were the 3rd and 4th most frequent pedestrian movement leading to a crash. While it is easy to blame these injuries on the pedestrians for not following traffic rules, pedestrians are likely to cross the roads without a crosswalk in areas with inadequate crosswalks instead of walking a long distance to one. Walking on the roadway may be the only way a pedestrian can travel in certain areas that lack sidewalks and pedestrian infrastructure. Finally, even following the rules does not ensure safety, as we can see from the numbers of pedestrians hit while using a crosswalk.

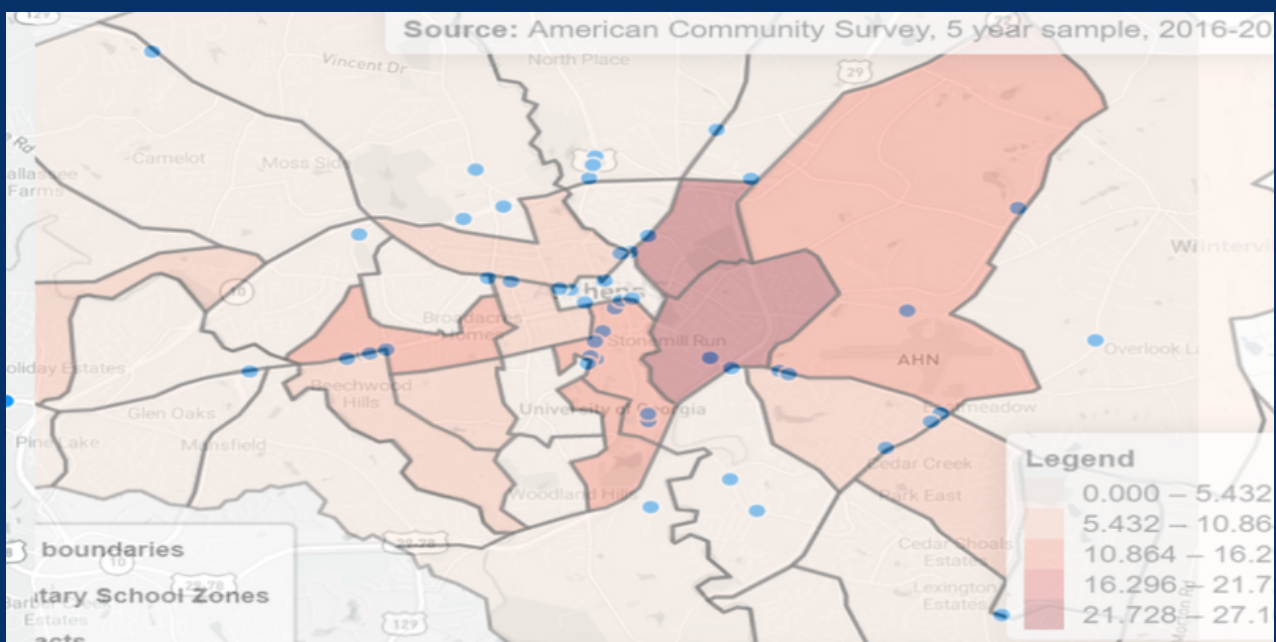
Figure 3: Bar graph of crashes due to pedestrian maneuver in Athens-Clarke County. Source: Georgia Department of Transportation.



# Findings

When analyzed using population, according to Athens Clarke County Crash Trends by Police Department Annual Report 2021, Athens-Clarke County fatal crash rates have exceeded the Georgia fatal crash rate by 23.7%. While the number of crashes has somewhat declined over the last five years, the likelihood of fatal crashes has increased by 200% from 2017 to 2021.

Figure 4: Distribution of pedestrian fatalities and injuries in Athens-Clarke County with overlay of school zones. Source: Athens Wellbeing Project



Overlaying the maps from Athens Wellbeing Project, which illustrate areas where a higher percentage of individuals do not own a personal vehicle, and the injury/ fatality data show a clear overlap (Figure 4b). The blue dots represent the pedestrian fatalities and injuries. The communities with lower car ownership rates and lower socioeconomic indicators are most affected by these pedestrian traffic fatalities.



# Recommendations

## *How will we know that our goals have been met?*

Given our findings and analysis, we put forth two recommendations for Athens-Clarke County in order to reduce pedestrian fatalities and serious injuries: slowing down traffic on large roads and focusing on safe pedestrian crossings.

### *Slowing Down Traffic on Large Roads:*

When looking at the pedestrian fatality and serious injury data, we can see that most crashes occur on large, fast-moving roads with speed limits of over 30 miles per hour. Pedestrians reported that vehicle speed is the top reason they felt unsafe while walking (Soto et al., 2022).

There are multiple ways to slow down traffic such as changing speed limits. The recently deployed Prince Avenue pilot project is an excellent example of slowing down traffic with road design (Project 16: Prince Avenue Corridor Improvements: Athens-Clarke County, GA - Official Website).

### *Pedestrian Safety:*

The Prince Avenue corridor has a lot of multimodal traffic, including pedestrians (Project 16: Prince Avenue Corridor Improvements: Athens-Clarke County, GA - Official Website). This project will test the feasibility of slowing down traffic and changing a roadway designed for cars into one designed for multimodal transportation.

There are multiple obstacles associated with slowing down traffic on main thoroughfares. The main issue is political feasibility, as the majority of people in Athens-Clarke County own personal vehicles and use them daily to commute. Proposals to decrease the number of lanes, lower speed limits, and set other restrictions on the movement of cars are generally highly unpopular. Additionally, such policies may create additional traffic and congestion in the short term. Finally, they may require infrastructure updates, as with Prince Avenue, which has to be adequately funded.

# Recommendations

*How will we know that our goals have been met?*

## *Safe Pedestrian Crossings:*

According to the crash data from the GDOT, 43% of pedestrian fatalities and serious injuries originate from intersections. This is further reinforced by our findings regarding pedestrian maneuvering leading to the crash. Crossing the road is a perilous time for pedestrians as they are most vulnerable and in close proximity to vehicles. Crossings create a conflict point between vehicles and pedestrians where crashes are likely to occur.

We propose looking at areas where major roads separate communities, or separate communities from commercial areas and amenities, that lack a safe crossing point for pedestrians. One such area can be seen clearly on the West Broad Street map, where an apartment complex is located across W. Broad Street from a commercial area. Another potential problem area is bus stops located across a busy street from a community with no safe crossing nearby. By identifying areas that lack safe crossings, we can focus on eliminating the most frequent contributor to crashes involving pedestrians.

As our frequency tables illustrate, simply having a crosswalk is not sufficient. Many pedestrians are injured while crossing at a designated crosswalk. This leads us to think about how to make crossings more visible to vehicles, and pedestrians safer while crossing. The Prince Avenue pilot project proposes one solution to this problem by creating several mid-block crossings. These crossings are for only pedestrians, thus avoiding conflict with cars and providing a way to cross between traffic lights. Identifying problematic intersections and adding pedestrian crossings will require additional research and data, funding, and community buy-in.

# Recommendations

## *How will we know that our goals have been met?*

Within these two recommendations, we propose to focus on safe pedestrian crossings. Looking at our findings, it seems that creating safe crossings will address the biggest issue in pedestrian safety. Additionally, when looking at the costs and political feasibility, pedestrian crossings seem more attainable. Slowing down traffic is bound to be politically unpopular. Reducing traffic by speed limits alone is not always effective, and changing road design can be very costly and time-consuming. In comparison, safe pedestrian crossings entail a lower cost than redesigning a full roadway. Safe pedestrian crossings are more politically feasible as they do not present a threat to drivers who like to get through the city quickly. The Athens-Clarke County Transportation and Public Works Department has the authority to make a final recommendation about the exact placement and extent of necessary crossings.

# Next Steps

*The following action steps are needed to get the project started:*

## *Identifying high-priority intersections and inadequate pedestrian crossings*

To begin with, all the highest-priority intersection areas, which include intersections with either a high volume of pedestrians or intersections where frequent crashes occur, need to be identified.

Next, we need to identify areas with inadequate safe pedestrian crosswalks. These areas include where a large road splits a community and where a large road divides a residential community from businesses or amenities. We can also look at the location of bus stops and how the bus riders are able to cross the road immediately next to the stop. Community surveys may also provide additional information to identify problem areas.

## *Priority setting*

Once these areas are identified, they will need to be prioritized for action based on the most significant impact. As we look at this from a public health perspective, the greatest impact intersections are those that will protect the most significant number of pedestrians from injury. Once prioritized, these findings will need to be shared with the local community for community buy-in. Our key stakeholders will be Athens-Clarke County Transportation and Public Works Department employees, Parks and Leisure Services employees, local schools, residents of the affected communities, and businesses in the area. With the shared responsibility among the stakeholders, an effective strategic work plan will need to be developed with rational utilization of resources and experts.

# Next Steps

*The following action steps are needed to get the project started:*

## *Implementation, Monitoring, and Evaluation*

After priority setting, the next step is implementing a safer pedestrian crosswalk initiative. The Athens-Clarke County Transportation and Public Works Department would lead the implementation. This would require adequate funds, the utilization of skilled resources, and a timeline with an effective strategic plan. The addition of safer pedestrian crosswalks in the areas where they are most required ensures pedestrian safety and creates a comfortable space for drivers to avoid preventable pedestrian injuries. This option is feasible based on its accessibility, affordability, and acceptability compared to the alternative if trade-offs are measured. Monitoring and evaluation of the intervention are equally essential to ensure that they have been implemented correctly and rules are being followed. Through this comprehensive process, pedestrian fatalities and serious injuries can be successfully eliminated in Athens-Clarke County.

# About AWP and the White Papers

## Athens Wellbeing Project

The Athens Wellbeing Project (AWP) is an unprecedented collaboration between institutional stakeholders and community partners with the mission is to empower the Athens community with meaningful data that will lead to more informed decision-making, improvements in service delivery, and greater quality of life for our citizens. The purpose of the Athens Wellbeing Project is to assist our community leaders and institutions by providing a comprehensive snapshot of our community's unique needs and assets in Athens-Clarke County. AWP uses a Social Determinants of Health framework to guide all data collection and reporting, providing information across five domains: civic vitality, community safety, health, housing, and lifelong learning.

## The White Paper Series

The Fall 2022 White Paper Series was produced as part of the academic requirements of the Fall 2022 Health Policy Analysis course (HPAM 7400) in the Department of Health Policy & Management, College of Public Health, University of Georgia. The course was taught by Dr. Grace Bagwell Adams with Rebecca Baskam serving as the teaching assistant. The student team drafted the white paper and conducted the analysis and recommendations seen here.





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