Performance Evaluation of Safe Mobility for Life Coalition's Outreach Activities to Benefit Aging Road Users

Final Report

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DISCLAIMER

The opinions, findings, and conclusions expressed in this publication are those of the authors and not necessarily those of the State of Florida Department of Transportation.

METRIC CONVERSION TABLE

U.S. UNITS TO SI* (MODERN METRIC) UNITS

LENGTH

SYMBOL	WHEN YOU KNOW	MULTIPLY BY	TO FIND	SYMBOL
in	inches	25.400	millimeters	mm
ft	feet	0.305	meters	m
yd	yards	0.914	meters	m
mi	miles	1.610	kilometers	km
mm	millimeters	0.039	inches	in
m	meters	3.280	feet	ft
m	meters	1.090	yards	yd
km	kilometers	0.621	miles	mi

AREA

SYMBOL	WHEN YOU KNOW	MULTIPLY BY	TO FIND	SYMBOL
in^2	square inches	645.200	square millimeters	mm^2
ft^2	square feet	0.093	square meters	m^2
yd^2	square yard	0.836	square meters	m^2
ac	acres	0.405	hectares	ha
mi^2	square miles	2.590	square kilometers	km^2
mm^2	square millimeters	0.0016	square inches	in^2
m^2	square meters	10.764	square feet	ft^2
m^2	square meters	1.195	square yards	yd^2
ha	hectares	2.470	acres	ac
km^2	square kilometers	0.386	square miles	mi^2

VOLUME

SYMBOL	WHEN YOU KNOW	MULTIPLY BY	TO FIND	SYMBOL
fl oz	fluid ounces	29.570	milliliters	mL
gal	gallons	3.785	liters	L
ft^3	cubic feet	0.028	cubic meters	m^3
yd^3	cubic yards	0.765	cubic meters	m^3
mL	milliliters	0.034	fluid ounces	fl oz
L	liters	0.264	gallons	gal
m^3	cubic meters	35.314	cubic feet	ft^3
m^3	cubic meters	1.307	cubic yards	yd^3

NOTE: volumes greater than 1,000 L shall be shown in m^3.

*SI is the symbol for the International System of Units. Appropriate rounding should be made to comply with Section 4 of ASTM E380.

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16. Abstract

As Florida's aging population increases, the demand to ensure safe mobility for older adults also increases, especially since aging road users are vulnerable to serious and fatal crashes. Over 20% of Florida residents are aged 65 or older, and this number is projected to increase by 2045. Age is linked with a decline in vision, cognition, and reaction time, which increases crash risks, particularly in vehicle-pedestrian crashes. Between 2012 and 2016, fatalities involving older drivers in Florida rose by 41%, underscoring the urgency for targeted safety measures.

The Florida Department of Transportation's Safe Mobility for Life Program and Coalition (SMFL) aims to address these challenges. The SMFL Strategic Action Plan (2022-2025) guides the implementation by focusing on six areas: Program Management and Evaluation, Community Outreach and Education, Licensing and Enforcement, Livable Communities, Mobility Independence, and Prevention and Assessment. Through these efforts, the SMFL's purpose is to improve the safety, access, and mobility of Florida's aging population. The objectives of this research included identifying qualitative and quantitative performance measures to evaluate the performance of the SMFL's outreach initiatives, quantifying the impact of outreach efforts, and examining best practices and lessons learned.

Target regions were identified through a GIS-based hot spot analysis of crash data for the years 2017 to 2021, socioeconomic variables, and roadway characteristics, with urban and rural counties analyzed separately. Census block groups (CBGs) were used as the primary unit of analysis. High-risk urban CBGs were observed in Broward, Duval, Miami-Dade, Palm Beach, and Collier counties, while rural hot spots were found in Flagler, Hardee, Highlands, and Putnam counties. These findings allow the SMFL to focus resources on the most impacted areas.

The SMFL outreach efforts include distributing educational materials, hosting workshops, and conducting social media and public service announcements (PSAs). A benefit-cost analysis revealed a significant reduction in crash rates in ZIP Codes that received educational materials, with a benefit-cost ratio (BCR) of 5.03, indicating that each dollar spent on educational materials distribution produces five dollars in crash-related cost savings. Also, insights from interviews highlighted the importance of inclusive messaging, community partnerships, and interactive outreach events.

The study's findings highlight the SMFL's positive impact on crash reduction and cost-effectiveness. Recommendations include increasing the distribution frequency of educational materials in target areas, enhancing PSA documentation, employing interactive tools to boost engagement in workshops, and using the local community champions to advocate outreach events. This approach will enable the SMFL to continue improving road safety for Florida's older adults above 65 years, supporting their mobility and independence through effective, cost-efficient strategies.

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EXECUTIVE SUMMARY

As Florida's aging population increases, the demand to ensure safe mobility for older adults also increases, especially since aging road users are vulnerable to serious and fatal crashes. In 2020, over 20% of Florida residents were aged 65 or older, and projected to increase by 2045. Advancing age is linked with a decline in vision, cognition, and reaction time. These factors increase crash risks, particularly in vehicle-pedestrian crashes. Between 2012 and 2016, fatalities involving older drivers in Florida rose by 41%, underscoring the urgency for targeted safety measures.

To address these challenges, the Florida Department of Transportation's (FDOT) Safe Mobility for Life Program and Coalition, herein after called "Safe Mobility for Life" (SMFL), has undertaken extensive outreach efforts aimed at improving safety and mobility for Florida's aging population[1]. Florida's Safe Mobility for Life Strategic Action Plan (2022-2025) provides guidance across six focus areas: Program Management and Evaluation, Community Outreach and Education, Licensing and Enforcement, Livable Communities, Mobility Independence, and Prevention and Assessment. Through these efforts, the purpose of Safe Mobility for Life is to improve the safety, access, and mobility of Florida's aging population by addressing areas critical to the needs and concerns of the targeted population.

The goal of this research was to quantify the impact of SMFL's outreach efforts on the safety and mobility of Florida's aging population. The study's specific objectives included identifying performance measures for evaluating the performance of outreach efforts, quantifying the impact of outreach efforts, and documenting the best practices and lessons learned in implementing the outreach efforts.

Identifying Target Regions

The methodology for identifying target regions utilized a Geographic Information System (GIS)-based hot spot analysis, focusing on census block groups (CBGs) across Florida to identify areas with higher crashes involving aging road users. The analysis included all 67 Florida counties, separating urban and rural counties to ensure targeted and effective outreach efforts based on crash data from 2017 to 2021, demographic characteristics, and roadway attributes. The findings enabled a clear focus on high-priority areas as follows:

- Urban Target Regions: Identified high-risk urban CBGs were concentrated in Broward, Duval, Miami-Dade, Palm Beach, and Collier counties. These regions showed elevated crash rates involving aging motorists and non-motorists, indicating the need for strategic outreach in urban areas where population density and roadway factors impact crash likelihood.

- Rural Target Regions: Hot spots were primarily found in Flagler, Hardee, Highlands, and Putnam counties. In these areas, crashes involving aging motorists and non-motorists were notably high, often in locations with lower infrastructure density, emphasizing the need for targeted interventions in rural settings.

[1] *Safe Mobility for Life Strategic Action Plan: 2022-2025.* www.safemobilityfl.com/pdfs/SMFL_StrtgcActnPln_APR22_FINAL.pdf

This targeted approach, separating urban and rural regions and including both motorist and non-motorist analyses, allows for the precise allocation of resources to the areas with the greatest need, enhancing safety and mobility outcomes for Florida's aging road users.

Overview of Existing Outreach Efforts

Safe Mobility for Life has implemented multiple outreach strategies to engage aging road users, including distributing educational materials, hosting community workshops, and conducting public service announcement (PSA) and social media campaigns. The key findings included:

- More than 200,000 educational materials were distributed, targeting both drivers and non-drivers across Florida.
- Outreach efforts were made accessible by offering materials in both English and Spanish, acknowledging Florida's diverse population.
- Social media and PSAs proved effective in extending SMFL's reach, especially among broader audiences who may not attend in-person events.

Quantifying the Outreach Efforts

This research quantified the safety impact of SMFL outreach efforts using Zone Improvement Plan (ZIP) Codes established by the United States Postal Service (USPS). The study compared treated ZIP Codes to untreated ZIP Codes to estimate changes in crash rates. Key findings included:

- Outreach efforts were linked to an overall reduction in crash rates in treated ZIP Codes.
- A benefit-cost ratio of 5.03 was obtained, which indicates that for every dollar spent on educational materials, approximately five dollars were saved through reduced crash-related costs.

Best Practices, Lessons Learned, and Recommendations

Interviews with key program implementers and quantitative findings from outreach data revealed best practices and areas for improvement. Key insights included:

- Best Practices: Emphasizing inclusive and relevant messaging for older adults, building community partnerships, and focusing on interactive conversational outreach formats.
- Challenges: Reaching a diverse audience with varying levels of familiarity with technology and overcoming resistance from individuals who may not identify as older adults.
- Recommendations: Increase the distribution frequency of educational materials in target regions, enhance PSA documentation, and employ interactive question and answer tools during workshops to improve engagement.

This research highlights the positive impact of SMFL's outreach efforts on crash reduction and cost-effectiveness. The results affirm the importance of structured, data-driven outreach strategies to improve safety and mobility for Florida's aging population. Recommendations from this study aim to guide FDOT in enhancing future outreach, ensuring that the needs of aging road users are effectively addressed and that safety outcomes continue to improve.

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LIST OF ACRONYMS/ABBREVIATIONS

AARP	American Association of Retired Persons
ARUSSP	Aging Road User Strategic Safety Plan
BCR	Benefit-cost Ratio
CBG	Census Block Group
FDOT	Florida Department of Transportation
FDR	False Discovery Rate
FGDL	Florida Geographic Data Library
FHWA	Federal Highway Administration
FLHSMV	Florida Department of Highway Safety and Motor Vehicles
FS	Fatal and Serious Injury
FSU	Florida State University
FTDE	Florida Transit Data Exchange
FTIS	Florida Transit Information System
GIS	Geographic Information System
NHTSA	National Highway Traffic Safety Administration
OHSA	Optimized Hot Spot Analysis
PSA	Public Service Announcement
SHS	State Highway System
SMFL	Safe Mobility for Life Program and Coalition
TNC	Transportation Network Company
USCB	United States Census Bureau
USPS	United States Postal Service
ZCTA	ZIP Code Tabulation Area
ZIP	Zone Improvement Plan

CHAPTER 1
INTRODUCTION

1.1 Background

Florida is experiencing a significant demographic shift as its population ages. By 2045, the percentage of Florida residents aged 65 and older is projected to increase from the current 20% (FDOT, 2022h). This change far exceeds the national average of 16%, emphasizing Florida's status as a preferred retirement destination (BEBR, 2019). With this demographic growth, the number of aging road users, including drivers, pedestrians, bicyclists, and transit riders, will increase, leading to greater demands on the state's transportation infrastructure and necessitating enhanced safety measures (FDOT, 2022i).

Older adults in Florida rely on driving not only for daily necessities but also for social, recreational, and community engagements (American Geriatrics Society & Pomidor, 2016). However, age-related declines in vision, cognitive processing, and reaction times can impair driving ability, raising the risk of traffic incidents involving older drivers. Between 2012 and 2016, Florida reported a 14% increase in licensed drivers aged 65 and older and a 41% rise in fatalities involving at least one older driver (TRIP, 2018). These statistics underscore the need for targeted safety interventions to mitigate the unique risks faced by older drivers and ensure their safe mobility on Florida's roadways (Brewer et al., 2014).

Pedestrian safety is also a critical concern, particularly for older adults. Age-related reductions in physical strength, sensory awareness, and cognitive abilities make older pedestrians especially vulnerable to severe injuries in vehicle-pedestrian crashes. This heightened vulnerability calls for infrastructure and policy adaptations to better protect older pedestrians, including improved crosswalks, pedestrian signals, and traffic calming measures in areas with high pedestrian activity. In 2017, 20% of pedestrian fatalities in the United States (U.S.) involved individuals aged 65 and older, with Florida alone accounting for 21% of these fatalities (NHTSA, 2019).

Florida and other states have implemented various safety measures to support the mobility needs of aging populations. The Federal Highway Administration (FHWA) has provided guidelines in the *Handbook for Designing Roadways for the Aging Population*, which suggests modifications to roadway design, signage, and signal timing to enhance safety for aging road users (Brewer et al., 2014). In addition, educational programs, such as CarFit, developed by organizations such as the American Association of Retired Persons (AARP) and the American Occupational Therapy Association (AOTA), offer older drivers personalized guidance on adjusting their vehicles for optimal comfort and control, promoting a safer driving experience tailored to age-related needs (CarFit, 2024).

Florida's proactive efforts include the Safe Mobility for Life Program, established by the Florida Department of Transportation (FDOT), to address the safety and mobility needs of the state's aging road users. Through the Program and its statewide Coalition, FDOT has developed methodologies to identify and prioritize urban and rural areas with high crash rates involving older adults. These priority regions receive focused interventions, such as infrastructure improvements, educational materials, and community events. By aligning with federal guidelines and creating Florida-specific

solutions, the SMFL aims to enhance the independence, safety, and well-being of the state's aging residents.

1.2 Safe Mobility for Life Efforts

Recognizing the unique safety and mobility needs of Florida's aging population, FDOT launched the Safe Mobility for Life Program in 2004. This initiative, housed within FDOT's State Traffic Engineering and Operations Office, aims to enhance safety for aging road users through a mix of infrastructure and educational interventions. Early on, FDOT partnered with the Department of Psychology at Florida State University (FSU) to investigate the human factors affecting aging drivers, allowing for the design of more age-appropriate infrastructure, such as advanced signage, pedestrian refuge islands, and slower pedestrian crossing speeds, which have since been adopted statewide.

In 2009, FDOT expanded its efforts to address the unique safety and mobility needs of the state's aging population by establishing a statewide Coalition in partnership with FSU's Pepper Institute on Aging and Public Policy (FDOT, 2017). It is the mission of Safe Mobility for Life to enhance the safety and mobility of Florida's aging road users through a collaborative, multifaceted approach that integrates engineering, education, and community outreach. SMFL's strategies are presented in a recently updated Strategic Action Plan (2022-2025), which organizes its efforts around six core focus areas: Program Management and Evaluation, Community Outreach and Education, Licensing and Enforcement, Livable Communities, Mobility Independence and Prevention and Assessment (SMFL, 2022).

Each focus area has dedicated leaders and SMFL members who volunteer to implement its specific strategies. These leaders collaborate to develop relevant program materials and resources, ensuring that each area addresses a clear goal, set objectives, and strategies tailored to improve safety and mobility outcomes. The Strategic Action Plan also includes measurable performance metrics for evaluating progress, with updates provided at two annual Coalition meetings and key accomplishments and metrics summarized annually. This structured, goal-oriented approach supports SMFL's mission to empower Florida's aging population with safe and sustainable mobility options, ultimately improving their quality of life and independence (SMFL, 2022).

SMFL's outreach efforts include community events, such as the "You Hold the Keys" workshops and CarFit programs, which educate older Floridians on driving safety and alternative mobility options. These efforts prioritize Florida's high-crash counties, identified through data analysis to ensure targeted interventions. SMFL's approach aligns with Florida's Strategic Highway Safety Plan (SHSP), utilizing the "4 Es" of traffic safety: Engineering, Education, Enforcement, and Emergency Response toward the proactive enhancement of safety and mobility for aging road users across the state. This coordinated effort emphasizes community engagement and the importance of customized solutions to meet the specific needs of Florida's older population.

1.3 Research Goal and Objectives

This research examined the impact of SMFL's education and outreach activities that are being conducted to improve the safety and mobility of the aging population. Specific objectives included:

- Identify the qualitative and quantitative performance measures to evaluate the performance of the outreach efforts.
- Quantify the impact of the specific outreach efforts.
- Document best practices and lessons learned in implementing the outreach efforts.

1.4 Report Organization

This report is organized as follows:

- Chapter 1 provides a brief introduction to this research effort.
- Chapter 2 presents the procedures adopted to identify target regions based on crash data from 2017-2021.
- Chapter 3 reviews the existing outreach efforts being conducted by SMFL.
- Chapter 4 discusses the impact of specific outreach efforts.
- Chapter 5 discusses best practices and lessons learned.
- Chapter 6 provides a summary of this research effort.

CHAPTER 2
IDENTIFY TARGET REGIONS

This chapter outlines the methodology for identifying target regions in Florida based on the most recent five years of crash data. The approach employed used census block groups (CBGs) as the primary unit of analysis. Through a combination of crash data, socioeconomic and demographic variables, and roadway geometric characteristics, the analysis aimed to identify areas with the highest risk for aging road users. A detailed process for hot spot analysis is presented, separating urban and rural counties to ensure effective targeting of outreach activities.

2.1 Study Area

The study area included all 67 Florida counties, containing both those where SMFL has conducted various outreach efforts and those where no such efforts were undertaken from 2017 to 2021. This comprehensive approach is designed to provide a thorough and inclusive assessment of SMFL's outreach activities across the state, enabling a comprehensive analysis of their impact on safe mobility for aging road users.

To facilitate a meaningful comparison of outreach efforts across the state, counties were distinguished between urban and rural counties. This differentiation acknowledges that urban and rural areas may exhibit varying transportation infrastructure, population densities, and mobility needs. Using this approach ensures that the research provides insights into the effectiveness of outreach programs in different geographic contexts.

Counties were identified as urban or rural in accordance with the criteria outlined in Section 288.0656 of the Florida Statutes (Florida Legislature, 2023). Based on the 2015 Florida Geographic Data Library (FGDL), these statutes show that the state of Florida contains 36 urban and 31 rural counties. A rural county is defined by Section 288.0656 of the Florida Statutes as:

- A county with a population of 75,000 or less.
- A county with a population of 125,000 or less which is contiguous to a county with a population of 75,000 or less.

Figure 2-1 delineates the rural and urban counties in Florida, per Florida Statutes.

Figure 2-1: Urban and Rural Counties in Florida

2.2 Data

This section discusses the unit of analysis and different data variables (i.e., response and explanatory data variables) used to identify target regions based on the most recent five years of crash data. The analysis was conducted at the macroscopic level, with the CBG used as the analysis unit. The following subsections discuss the data variables used in the analysis.

2.2.1 Crash Data

The analysis utilized crash data spanning five years (2017-2021) obtained from the Florida Department of Highway Safety and Motor Vehicles (FLHSMV). During this time, there were a total of 3.43 million traffic crashes in Florida, involving 8,548,091 persons of all age groups. Of the 3.43 million crashes, about 759,193 (22.13%) of crashes involved aging road users. In addition, 953,589 (11.2%) of the 8.55 million people were aging road users. For this research, a total of 674,258 crashes involving aging road users were analyzed. These crashes were specifically selected based on the availability of crash locations, represented by latitude and longitude coordinates, and accounted for 88.8% of the total crashes involving aging road users over the five years (2017-2021). It should be noted that the remaining 11.2% were not included in the analysis due to the absence of crash coordinates. The following specific crash-related attributes were included in the analysis:

- crash number,
- crash severity,
- crash location,
- crash type,
- time of the crash,
- date of the crash,
- age and gender of the people involved in the crash and
- type of aging road users involved in the crash (driver, passenger, or non-motorist).

Crash data was collected from the following two data sources:

- FLHSMV, and
- Signal Four Analytics database.

Crash data were obtained from the FLHSMV. However, it is important to note that the FLHSMV data lacks crash locations, specifically latitude and longitude coordinates. To address this limitation, the unique crash identification numbers provided by the FLHSMV were used to request crash location data from Signal Four Analytics. This supplementary data source provided the vital latitude and longitude information needed for the analysis.

2.2.1.1 Florida Department of Highway Safety and Motor Vehicles (FLHSMV)

The FLHSMV serves as the official repository for crash records in Florida. These records are compiled by completing Florida Traffic Crash Reports, which involve filling in essential information gathered during the incident investigation. Investigating officers must choose and input specific values into designated data fields (FLHSMV, 2023).

The database offers access to various crash attributes, including the type of individuals involved in the collision, the severity of the crash, lighting conditions, crash type, and particulars concerning the individuals engaged in the crash, such as their gender and age. This comprehensive FLHSMV crash database provides intricate details about all individuals and vehicles involved in the crash, encompassing crashes reported through both long and short forms. However, the FLHSMV database lacks crucial crash coordinates necessary for mapping purposes, meaning it does not include latitude and longitude information for crash locations.

2.2.1.2 Signal Four Analytics

Signal Four Analytics is a web-based system designed to support crash mapping and analysis for various entities in Florida, including law enforcement, traffic engineering, transportation planning agencies, and research institutions. It connects data, including over four million crash records from FLHSMV, four million citations, Florida Unified Geographic Information System (GIS) Streets, and traffic volumes. This collaborative platform streamlines the sharing of traffic information, promotes data exchange, and aids in informed decision-making through geospatial crash data analysis. Signal Four Analytics provides valuable information and visual tools, promoting evidence-based transportation planning for a diverse user base that includes law enforcement, civil

engineers, transportation planners, and academic institutions, all working together to enhance traffic safety and efficiency in the state (University of Florida, 2023).

An essential feature of the Signal Four Analytics database is its inclusion of geographic coordinates, specifically latitude and longitude information, which is crucial for mapping purposes.

2.2.2 Socioeconomic and Demographic Data

Socioeconomic and demographic features encompass a variety of factors such as age, gender, educational attainment, income, household size, vehicle count, and aging population. These specific variables were sourced from the 2015 Florida Geographic Data Library (FGDL), incorporating selected data fields from 2017 through 2021. The attributes of interest included:

- total population,
- aging population, and
- age distribution.

2.2.3 Roadway Geometric Characteristics

Roadway characteristics variables were extracted from the 2020 FDOT GIS shapefiles. These shapefiles included attributes such as roadway functional classification, number of lanes, posted speed limits, median types, access control, pavement conditions, shoulder widths, and traffic volumes. For this study, these characteristics were used to determine specific roadway metrics, including.

- Freeway roadway miles: Total freeway miles of the State Highway System (SHS).
- Non-freeway SHS roadway miles: Total non-freeway roadway miles of the SHS.

These metrics were used to calculate crash rates of total crashes and non-motorist crashes, respectively. Table 2-1 summarizes the variables used in identifying target regions and their data sources.

Table 2-1: List of Variables and Sources

Data Variables	Attributes	Data Sources
Crash Data	Crash severity Crash time and location Type of road users (drivers, passengers, and non-motorists)	FLHSMV Signal Four Analytics
Roadway Geometric Characteristics	Freeway roadway miles Non-freeway SHS roadway miles	FDOT's GIS Shapefile
Socioeconomic and Demographic Variables	Total population Aging population	2015 FGDL

Note: FDOT-Florida Department of Transportation; FGDL-Florida Geographic Data Library; FLHSMV-Florida Department of Highway Safety and Motor Vehicles; GIS-Geographic Information System: SHS-State Highway System.

2.2.4 Census Block Group

The CBG data from the year 2015 was used as the unit of analysis. It is the smallest geographical unit for which the United States Census Bureau (USCB) publishes sample data. The state of Florida consists of 11,442 CBGs. Of these, 93 CBGs had zero total population, and 140 CBGs had zero miles of roadway network. These CBGs were not included in the analysis. The final analysis included 11,209 CBGs. The response variables included:

- total crashes involving aging road users per year per mile of roadway network within the CBG, and
- crashes involving aging non-motorists per year per mile of roadway network within the CBG.

The following explanatory variables were aggregated for each of the 11,209 CBGs:

- total population density (i.e., the total population within the CBG per square mile of the CBG),
- the proportion of the aging population (i.e., the aging population within the CBG per total population within the CBG),
- non-freeway roadway density (i.e., total miles of non-freeway roadway network within the CBG per square miles of the CBG), and
- freeway roadway density (i.e., total miles of freeway roadway network within the CBG per square miles of the CBG).

2.2.4.1 Response Variable

The response variable included crashes involving aging road users per year per mile of roadway network within the CBG and crashes involving aging non-motorists per year per mile of roadway network within the CBG. As part of the analysis, crashes involving aging road users that occurred within 150 ft from the CBG boundary were identified and assigned to the CBG.

2.2.4.2 Explanatory Variables

The explanatory variables were divided into the following two categories:

- Socioeconomic and demographic variables
  - the density of the total population, and
  - the proportion of the aging population.

- Roadway geometric variables
  - the density of the non-freeway roadway network, and
  - the density of the freeway roadway network.

Table 2-2 lists the explanatory variables used in the analysis.

Table 2-2: List of Explanatory Variables

Category	Variable	Description
Socioeconomic and Demographic Variables	Total Population Density	Total population per square miles of CBG
	Aging Population Proportion	The proportion of the aging population within each CBG
Roadway Characteristics	Freeway Roadway Density	Total miles of freeway roadway network within the CBG per square miles of CBG
	Non-freeway Roadway Density	Total miles of non-freeway roadway network within the CBG per square miles of CBG

Note: CBG-Census Block Group.

2.3 Steps for Identifying Target Regions

Steps to follow to identify target regions include:

1. Obtain the number of crashes
2. Extract SHS roadway miles within CBG
3. Derive response variables
4. Identify Rural and Urban Counties
5. Create shapefiles for Rural and Urban Counties
6. Identify target regions

2.3.1 Obtain the Number of Crashes

This step requires the crash data recorded for the five-year period, which can be obtained from FLHSMV; however, crashes from FLHSMV do not include longitudes and latitudes. Signal Four Analytics database can be used to obtain the latitudes and longitudes of the crashes based on crash report numbers. Crash shapefiles are generated by importing aging road user crashes in ArcGIS and exporting them as shapefiles. Crashes are then *spatially joined* to Florida CBGs to assign crashes to each CBG. Figure 2-2 illustrates how to assign crashes to the CBGs.

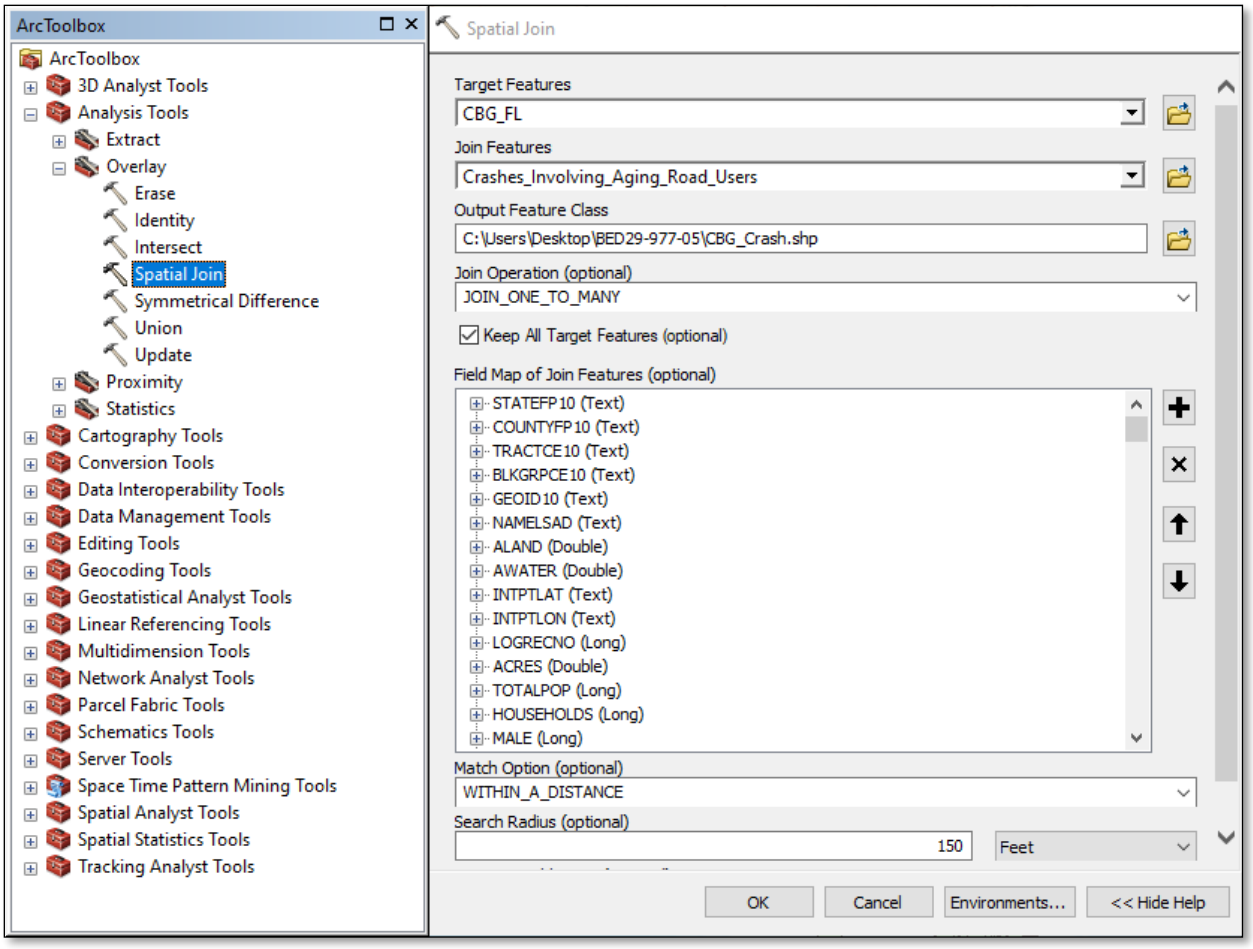

Figure 2-2: Assigning Crashes to CBGs

Once the results are obtained in the attribute table, they can be exported as a .dbf file and then changed to an Excel file (.xlsx). The number of crashes can be obtained using the Excel *Pivot Table* tool.

2.3.2 Extract SHS Roadway Miles within CBG

The extraction of SHS roadway miles within the CBG involves three additional sub-steps: generate individual shapefiles for each CBG, extract the roadway miles within the CBG, and determine the total SHS roadway miles.

2.8.2.1 Generate Individual Shapefiles

The Florida Census Block shapefile from the FGDL contains data for the 11,442 CBGs in Florida. Figure 2-3 illustrates the splitting process for separating the CBGs. The *Split* function in ArcGIS is used to split the 11,442 CBGs into 11,442 shapefiles.

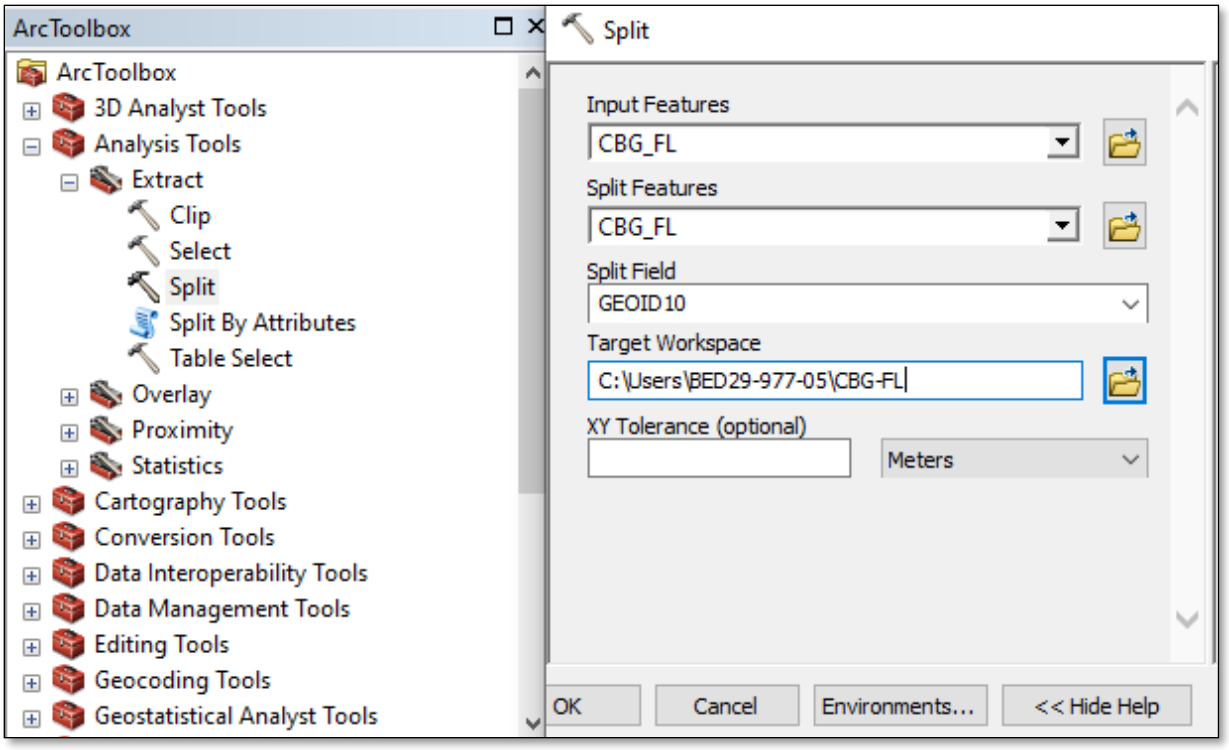

Figure 2-3: Generate Individual Shapefiles

2.8.2.2 Extract Roadway Miles within CBGs

Model Builder is used to build a model to create a graphic buffer, clip roadways in the CBGs, and measure roadway miles within each CBG. Figure 2-4 illustrates the model to extract roadway miles within the CBGs.

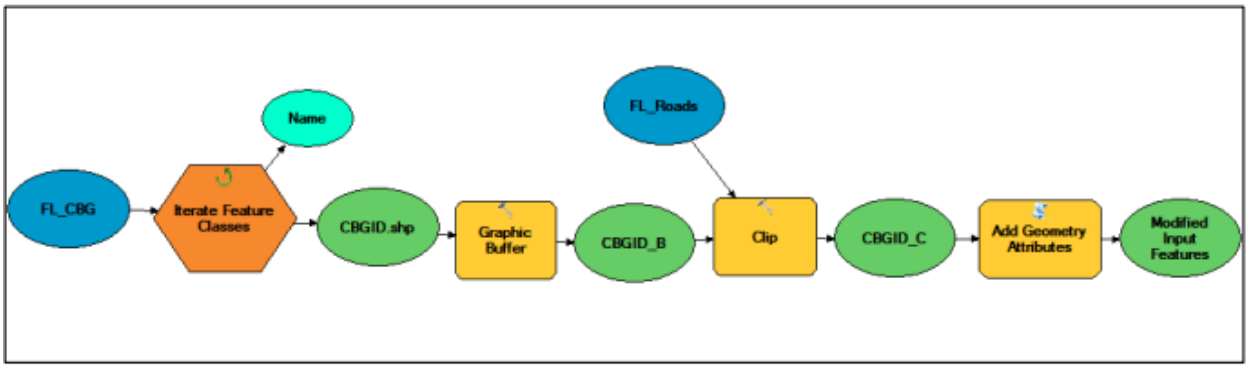

Figure 2-4: Model to Extract Roadway Miles

Table 2-3 lists the input and output features for the graphic buffer, the clip, and add geometry attributes. Important elements to consider for each feature are also listed.

Table 2-3: Input and Output Features

GIS Feature	Input	Output	Important Elements
Graphic Buffer	Split Output	Clip	Check linear and specify 150 ft
Clip	Roads	Add Geometry Attributes	Clip features use Graphic Buffer output
Add Geometry Attributes	Clip	Roadway miles	Check the length and use Miles-US as the unit

Florida is divided into seven FDOT districts that cater to the unique transportation needs of different regions, as shown in Figure 2-5. Extraction of roadway miles within the CBGs is conducted for each FDOT district separately.

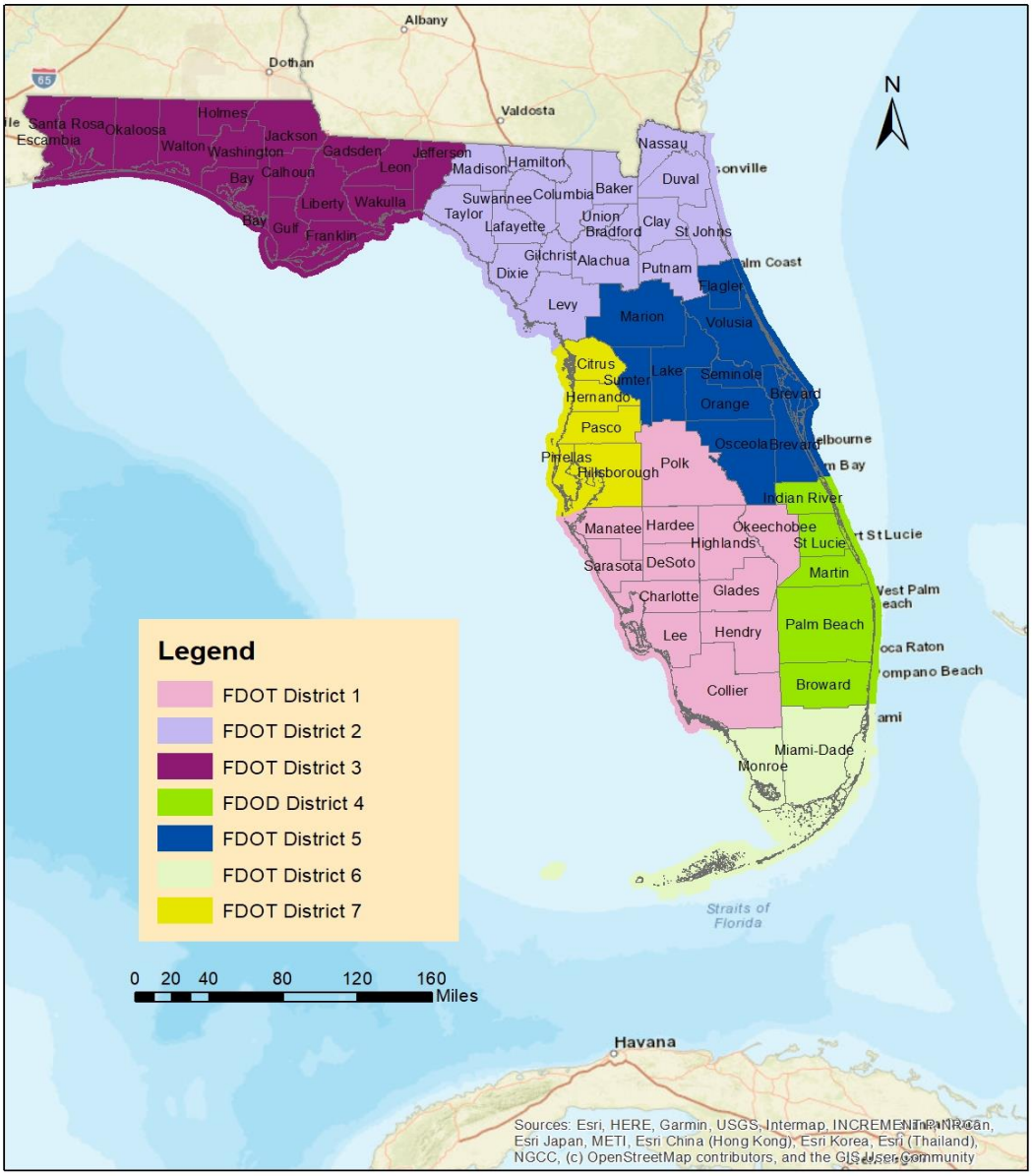

Figure 2-5: FDOT Districts

2.8.2.3 Determine Freeway and Non-Freeway SHS Miles

Use the functional classification column from the obtained results to extract freeway and non-freeway miles. Codes 1, 2, 11, and 12 represent freeways, while the remaining codes, 4, 6, 7, 8, 9, 14, 16, 17, 18, and 19 represent non-freeways, as defined in the FDOT Roadway Characteristics Inventory (RCI) Handbook (FDOT, 2022e).

2.3.3 Derive Response Variables

The two response variables include:

- Total crashes involving aging road users per year per mile of the SHS roadway network within the CBG. This included total miles for freeway and non-freeway miles.
- Crashes involving aging non-motorists per year per mile of the non-freeway SHS roadway network within the CBG.

Total crashes involving aging road users per year per mile of the SHS roadway network within a CBG is the ratio of the total number of crashes involving aging road users within the CBG to the total number of miles of the SHS roadway network within the CBG. Crashes involving aging non-motorists per year per mile of the non-freeway SHS roadway network within a CBG is the ratio of the total number of crashes involving aging non-motorists within the CBG to the total non-freeway miles within the CBG.

2.3.4 Identify Rural and Urban Counties

Use the definition in Section 288.0656 of the Florida Statutes to identify rural counties. A rural county is defined as a county with a population of 75,000 or less or a county with a population of 125,000 or less which is contiguous to a county with a population of 75,000 or less. Based on these criteria, 10,495 CBGs are located in 36 urban counties, and 714 CBGs are located in 31 rural counties in Florida.

2.3.5 Create Shapefiles for Rural and Urban Counties

Import the rural CBGs into ArcGIS, then export them to a shapefile format. Use the *Spatial Join* under *Overlay* in the *Analysis Tools* to create polygons for rural CBGs. This process can be repeated to create the polygon shapefiles for urban CBGs.

2.3.6 Identify Target Regions

Two essential steps are required to identify target regions: conduct an optimized hot spot analysis and identify target regions.

2.3.6.1 Optimized Hot Spot Analysis

The Optimized Hot Spot Analysis tool is listed under *Mapping Clusters* in the *Spatial Statistics Tools*. For optimized hot spot analysis of total urban crashes involving aging road users, use urban

polygons created in the previous step as the input features and use crash per mile (CRASHPERMILE) as the analysis file. The results are presented in tabular and graphical forms, showing the hot and cold spots with 90%, 95%, and 99% confidence levels. Figure 2-6 shows the optimized hot spot analysis for total crashes involving aging road users in urban counties.

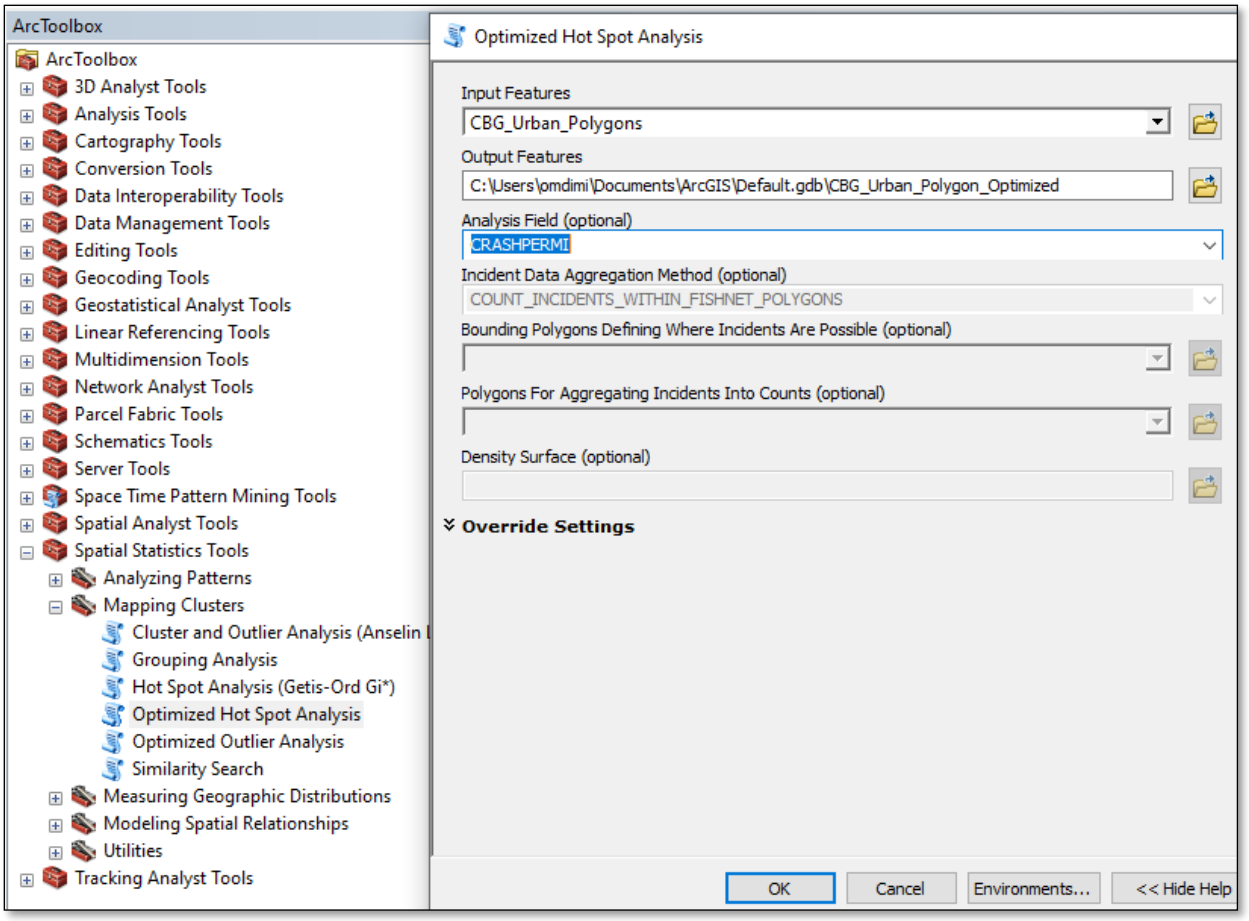

Figure 2-6: Optimized Hot Spot Analysis for Total Crashes Involving Aging Road Users

For crashes involving aging non-motorists, use the same procedure, except in the analysis field, use non-motorist per mile (NONMOTOPERMILE), as shown in Figure 2-7. Repeat this procedure to obtain hot spot and cold spot areas for rural counties.

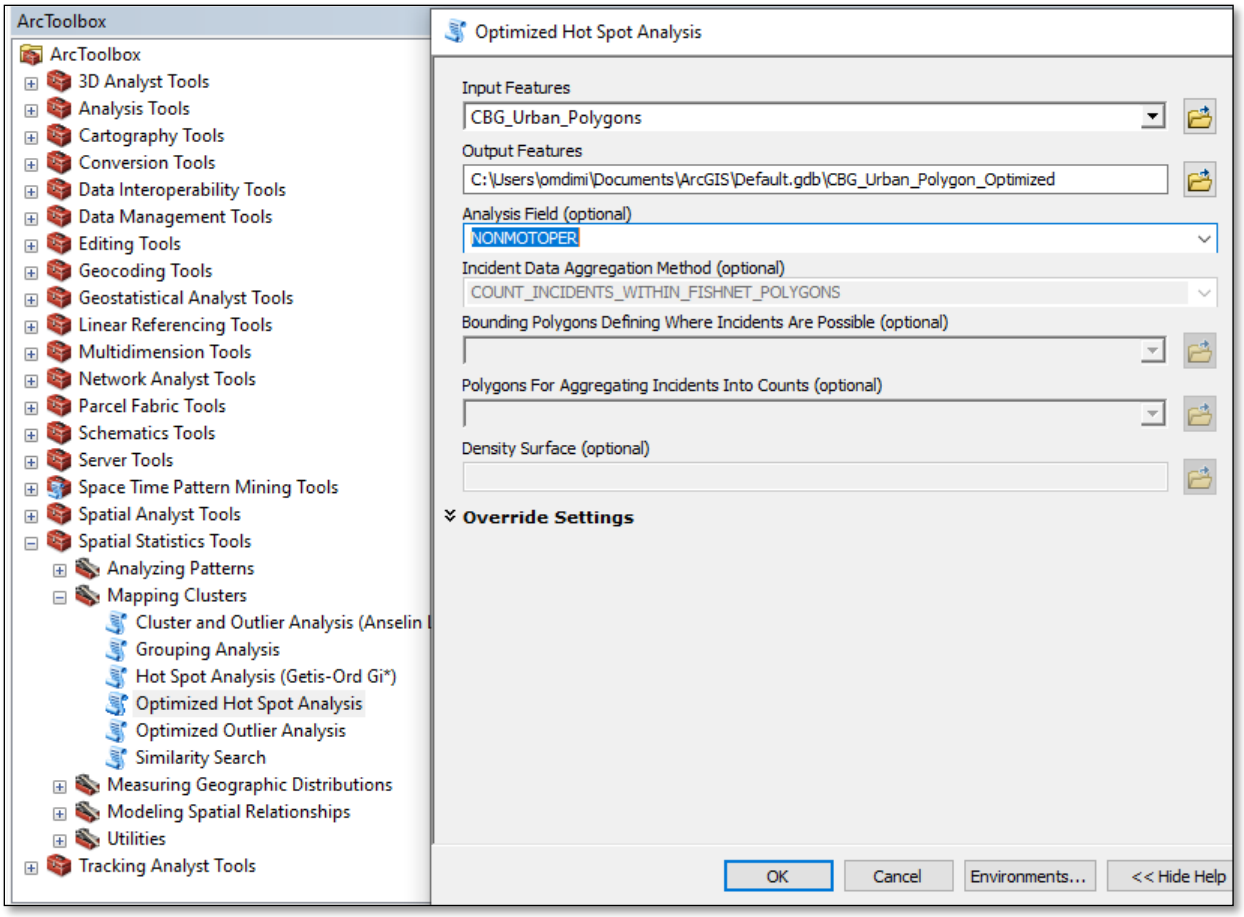

Figure 2-7: Optimized Hot Spot Analysis for Crashes Involving Aging Non-motorists

2.3.6.2 Identify Target Regions

From the Optimized Hot Spot Analysis (OHSA) results, use the *Select by Attribute Tool* to specify Gi-Bin =3, as indicated in Figure 2-8, to select all hot spots at 99% confidence level as target regions based on total crashes involving aging road users.

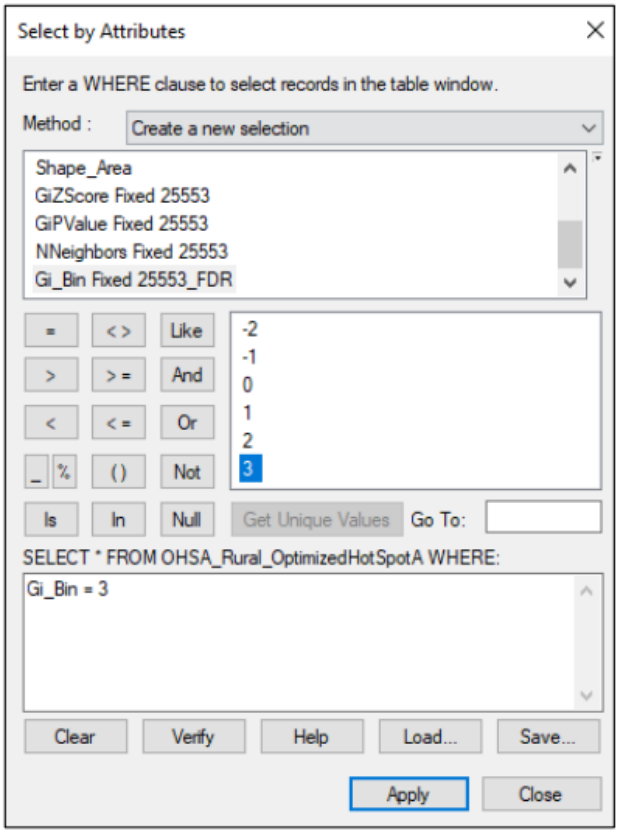

Figure 2-8: Selection of Target Regions

The selected results with *Gi-Bin=3* are exported, and the spatial data is joined to the CBG to obtain the results. Figure 2-9 provides a summary of the procedures to follow when identifying target regions.

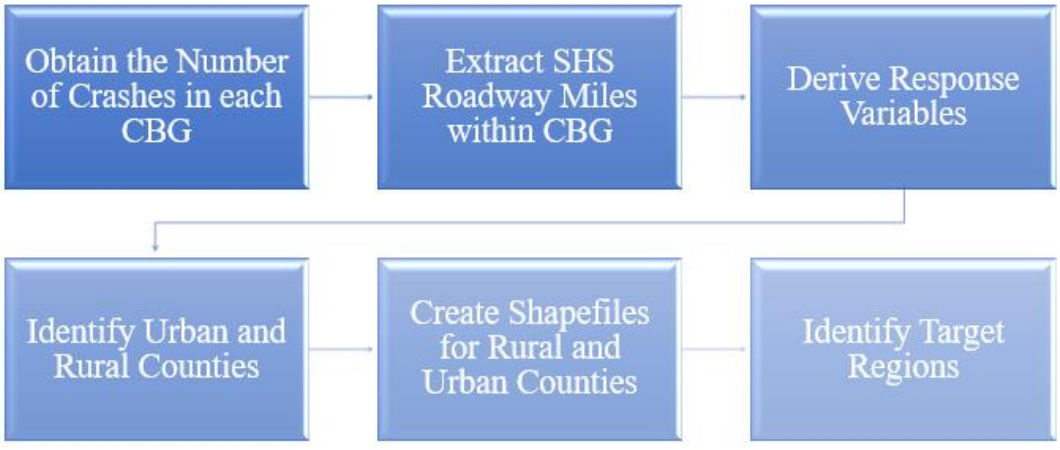

Figure 2-9: Procedure for Identifying Target Regions

2.4 Hot Spot Analysis for Urban and Rural Counties

An optimized hot spot analysis tool in ArcGIS was used to identify and prioritize target regions for conducting public outreach activities to improve the safety and mobility of aging road users. Separate analyses were performed for urban and rural counties.

Optimized Hot Spot Analysis (OHSA) executes the Hot Spot Analysis (Getis-Ord Gi*) tool using parameters derived from characteristics of the input data (ESRI, 2023a). The OHSA tool analyzes data to obtain the settings that yield optimal hot spot results. The point data, as inputs, are aggregated into weighed features. Using the distribution of weighted features, the OHSA tool identifies an appropriate scale of analysis. This tool identifies statistically significant spatial clusters of high values (i.e., hot spots) and low values (i.e., cold spots) (ESRI, 2023b). The OHSA was conducted using the spatial statistics tools in ArcGIS v10.6, and the following fields were specified during the analysis: input features, output features, and the analysis field.

2.4.1 Input Features

The input features included the input dataset, a point or polygon feature class used to perform the hot spot analysis. This research used a polygon feature with 11,209 CBGs as the input feature. These polygons consist of the response variables (total crashes involving aging road users per year per mile of roadway network within the CBG and crashes involving aging non-motorists per year per mile of roadway network within the CBG) and explanatory variables (total population density, the proportion of the aging population, non-freeway roadway density and freeway roadway density).

2.4.2 Analysis Field

Using polygons as input features requires an analysis field. The analysis field is the numeric field to be evaluated to determine the hot spots. With an analysis field, the OHSA tool is appropriate for all data (points or polygons), including sampled data, where the tool still computes accurate and reliable results (ESRI, 2023b). The analysis field helps to identify locations with high and low clusters. This research used the rate of crashes involving aging road users as the analysis field to determine the hot spots.

2.4.3 Output Features

The last component of the OHSA tool is creating the output features. The output features, consisting of Gi Bin, GiPvalue, GiZscore, and the number of neighbors, are created automatically by the OHSA tool. The Gi-Bin field identifies statistically significant hot and cold spots, corrected for multiple testing and spatial dependence using the False Discovery Rate (FDR) correction method. Features in the +/-3 bins (i.e., features with a Gi-Bin value of either +3 or -3) are statistically significant at the 99% confidence level. Features in the +/-2 bins reflect a 95 percent confidence level, and features in the +/-1 bins reflect a 90%confidence level. The clustering for features with a ‘0’ for the Gi-Bin field is not statistically significant.

2.5 Results of the Hot Spot Analysis for Urban Counties

The hot spot analysis was conducted separately for crashes involving aging road users and those involving aging non-motorists for urban counties. The analysis results were used to identify urban target regions for conducting public outreach activities to improve the safety and mobility of the aging population.

2.5.1 Hot Spots and Cold Spots Based on Total Crashes Involving Aging Road Users

A total of 4,729 output features were statistically significant at 90%, 95%, and 99% confidence levels. Of the 4,729 CBGs, 1,638 were cold spots, and 3,091 were hot spots. Hot spots were mainly clustered in Collier, Sarasota, Clay, Duval, Lake, Marion, Sumter, Miami-Dade, Pasco, Pinellas, and Manatee counties. Counties that have clustered cold spots include Bay, Brevard, Escambia, Indiana River, Leon, Pasco, Pinellas, St. Lucie, and Volusia. Four counties had cold and hot spot clusters: Broward, Lee, Palm Beach, and Hillsborough. Figure 2-10 presents statistically significant hot and cold spots at 99%, 95%, and 90% confidence levels for crashes involving aging road users.

Figure 2-10: Urban Hot Spots and Cold Spots for Total Crashes Involving Aging Road Users

2.5.2 Hot Spots and Cold Spots Based on Crashes Involving Aging Non-motorists

The hot spot analysis for crashes involving aging non-motorists was performed based on the number of crashes involving aging non-motorists per year per mile of the non-freeway SHS roadway network within the CBG. Figure 2-11 shows the 1,416 CBGs that were statistically significant. Of these, 78 were cold spots, and 1,338 were hot spots. Counties with the highest number of clustered hot spots include Broward, Collier, Duval, Lee, Miami-Dade, Palm Beach, Pasco, Pinellas, and Sarasota.

Figure 2-11: Urban Hot Spots and Cold Spots for Crashes Involving Aging Non-motorists

2.6 Urban Target Regions

Urban target regions are areas that experience a significant number of crashes involving aging road users in urban counties. Hot spots statistically significant at a 99% confidence level for total crashes involving aging road users and crashes involving aging non-motorists were identified as the urban target regions for conducting outreach activities.

2.6.1 Urban Target Regions Based on Total Crashes Involving Aging Road Users

Figure 2-12 presents the urban target regions based on total crashes involving aging road users. Of the 3,091 urban CBGs identified as hot spots, 2,592 CBGs, equivalent to 83.9%, were statistically significant at a 99% confidence level. The urban target regions include Collier, Lee, Sarasota, Clay, Duval, Broward, Palm Beach, Lake, Marion, Sumter, Miami-Dade, Pasco, and Pinellas counties. Table 2-4 summarizes the urban target regions for total crashes involving aging road users by county.

Figure 2-12: Urban Target Regions Based on Total Crashes Involving Aging Road Users

Table 2-4: Urban Target Regions for Total Crashes Involving Aging Road Users

District	County	CBG Total	CBG Target Regions	CBG Proportion	Total Area (sq. mi.)	Target Regions (sq. mi.)	Area Proportion
1	Collier	193	115	59.59	2,304.960	135.85	5.89
1	Lee	514	57	11.90	1,212.366	44.82	3.70
1	Sarasota	252	69	27.38	725.281	37.38	5.15
2	Clay	81	26	32.10	643.547	20.46	3.18
2	Duval	490	12	2.45	918.457	20.92	2.28
4	Broward	940	538	57.23	1,322.805	184.27	13.93
4	Palm Beach	886	400	45.15	2,383.182	198.49	8.33
5	Lake	148	6	4.05	1,156.961	6.02	0.52
5	Marion	175	4	2.29	1,662.652	31.46	1.89
5	Sumter	41	5	12.20	579.824	3.44	0.59
6	Miami-Dade	1,594	1295	81.24	2,431.163	346.73	14.26
7	Pasco	308	8	2.60	868.463	4.60	0.53
7	Pinellas	721	57	7.91	608.125	21.99	3.62
TOTAL	13	6,343	2,592	40.82	16,816.786	1,056.43	6.28

Note: CBG Proportion-Percentage of CBGs within target regions relative to the county's total CBGs; Area Proportion-Percentage of the county's land area covered by target regions.

2.6.2 Urban Target Regions Based on Crashes Involving Aging Non-motorists

Out of the 1,338 urban CBGs identified as hot spots for crashes involving aging non-motorists, 1,053 CBGs, equivalent to 78.7%, were statistically significant at a 99% confidence level. The urban target regions were located in Collier, Sarasota, Duval, Leon, Broward, Miami-Dade, and Pinellas counties. Figure 2-13 presents the urban target regions based on crashes involving aging non-motorists. Table 2-5 summarizes the urban target regions for crashes involving aging non-motorists by county.

Figure 2-13: Urban Target Regions Based on Crashes Involving Aging Non-motorists

Table 2-5: Urban Target Regions for Crashes Involving Aging Non-motorists

District	County	CBG Total	CBG Target Regions	CBG Proportion	Total Area (sq. mi.)	Target Regions (sq. mi.)	Area Proportion
1	Collier	193	64	33.16	2,304.96	82.10	3.56
1	Sarasota	252	11	4.37	725.28	7.52	1.04
2	Duval	490	36	7.35	918.46	43.98	4.79
3	Leon	177	6	3.39	701.79	56.35	8.03
4	Broward	940	34	3.62	1,322.81	8.18	0.62
6	Miami-Dade	1,594	761	47.74	2,431.16	155.39	6.39
7	Pinellas	721	141	19.56	608.13	45.60	7.50
TOTAL	7	4,367	1,053	24.11	9,012.59	399.12	4.43

Note: CBG Proportion-Percentage of CBGs within target regions relative to the county's total CBGs; Area Proportion-Percentage of the county's land area covered by target regions.

2.7 Results of the Hot Spot Analysis for Rural Counties

The optimized hot spot analysis tool in ArcGIS was used to identify and prioritize rural target regions for conducting public outreach activities. The analysis was conducted separately for crashes involving aging road users and those involving aging non-motorists.

2.7.1 Hot Spots and Cold Spots Based on Total Crashes Involving Aging Road Users

A total of 289 output features were statistically significant at 90%, 95%, and 99% confidence levels. Of the 289 CBGs, 75 were cold spots, and 214 were hot spots. Hot spots were mainly clustered in Columbia, Flagler, Grades, Hardee, Highlands, Okeechobee, Putman, Walton, Hamilton, and Suwannee counties. Counties with clustered cold spots include Calhoun, Liberty, Jackson, Gadsden, Holmes, and Washington. Figure 2-14 presents the statistically significant hot and cold spots at 90%, 95%, and 99% confidence levels for total crashes involving aging road users in rural counties.

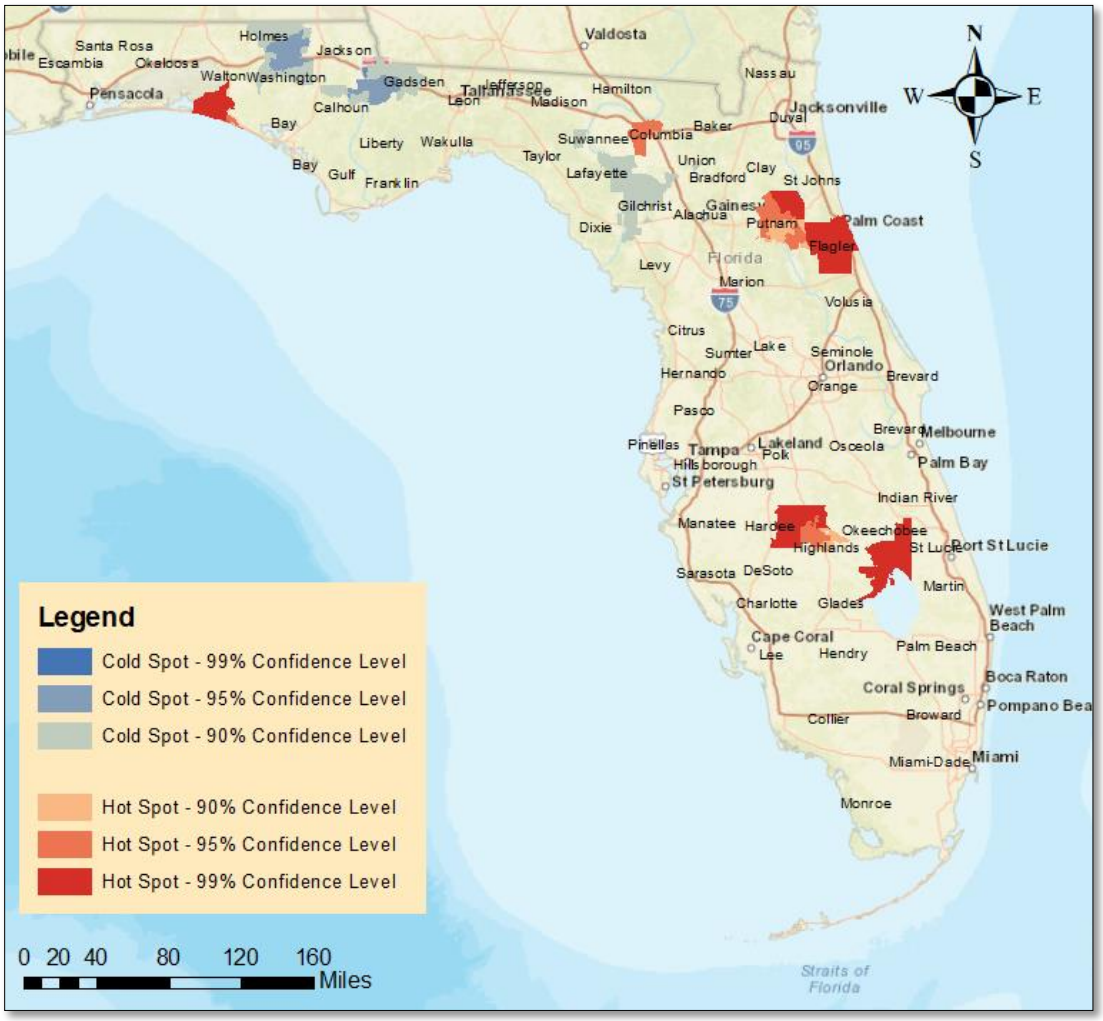

Figure 2-14: Rural Hot Spots and Cold Spots for Total Crashes Involving Aging Road Users

2.7.2 Hot Spots and Cold Spots Based on Crashes Involving Aging Non-motorists

Hot spot analysis for crashes involving aging non-motorists was performed based on the number of crashes involving aging non-motorists per year per mile of the non-freeway SHS roadway network within the CBG. Figure 2-15 shows that 140 CBGs were statistically significant at 90%, 95%, and 99% confidence levels. Out of the 140 CBGs, 70 were cold spots, and 70 were hot spots. Counties with the most clustered cold spots include Dixie, Levy, Gilchrist, Holmes, Lafayette, Suwannee, Walton, and Washington. The highest number of clustered hot spots were found in Flagler, Hardee, Putman, and Highlands counties.

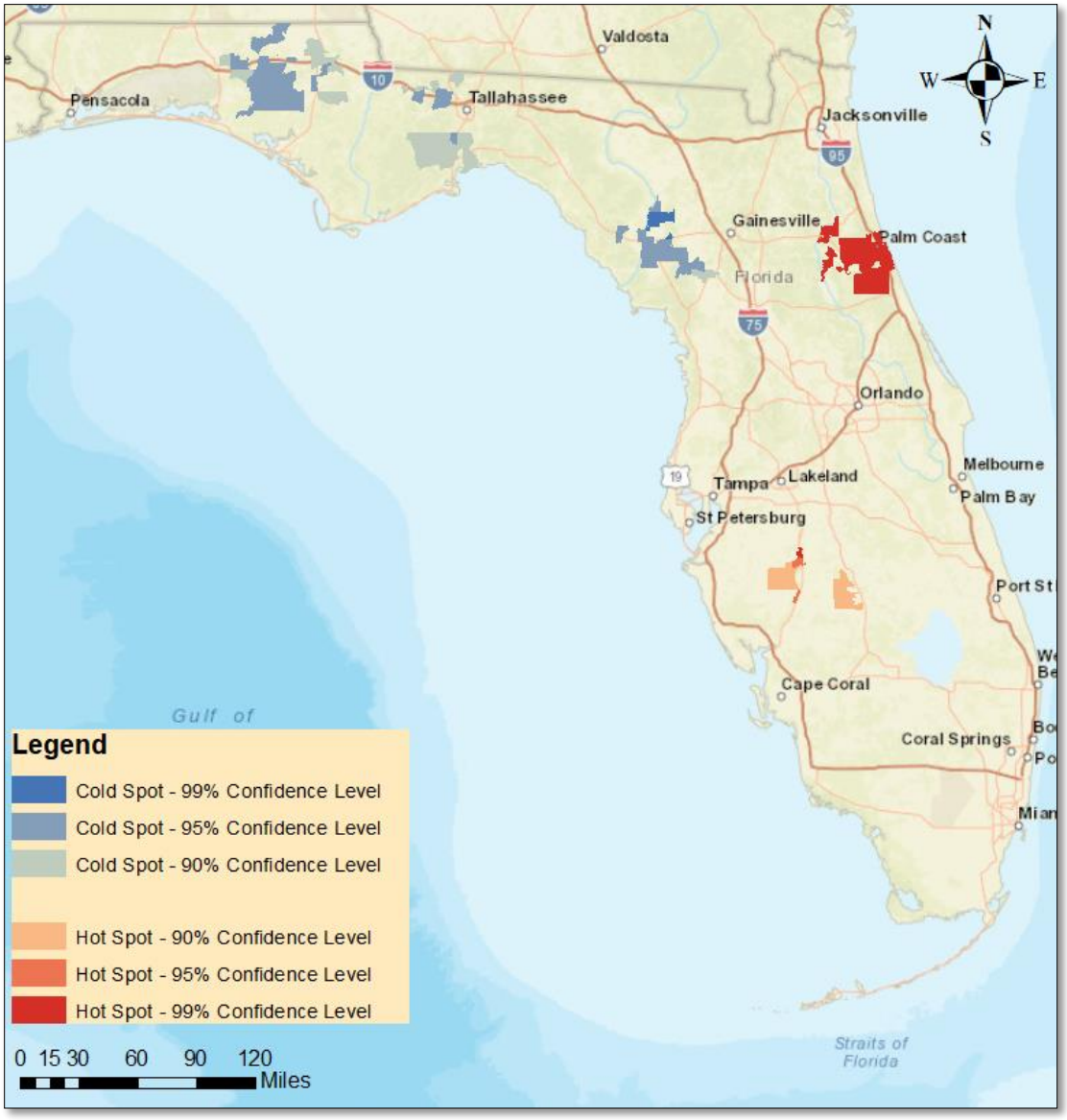

Figure 2-15: Rural Hot Spots and Cold Spots for Crashes Involving Aging Non-motorists

2.8 Rural Target Regions

Rural target regions are areas that experience a higher number of crashes involving aging road users in rural counties. A hot spot analysis was used to identify these target regions. The identified hot spots that were statistically significant at a 99% confidence level for total crashes involving aging road users and those crashes involving aging non-motorists were identified as the target regions in rural counties.

2.8.1 Rural Target Regions Based on Total Crashes Involving Aging Road Users

Out of the 214 rural CBGs identified as hot spots, 132 CBGs, equivalent to 61.7%, were statistically significant at a 99% confidence level. Rural target regions include Flagler, Grades, Hardee, Highlands, Okeechobee, Putman, and Walton counties. Figure 2-16 presents the rural target regions based on total crashes involving aging road users. Table 2-6 summarizes the rural target regions for total crashes involving aging road users by county.

Figure 2-16: Rural Target Regions Based on Total Crashes Involving Aging Road Users

Table 2-6: Rural Target Regions for Total Crashes Involving Aging Road Users

District	County	CBG Total	CBG Target Regions	CBG Proportion	Total Area (sq. mi.)	Target Regions (sq. mi.)	Area Proportion
1	Hardee	20	2	10.00	638.34	149.10	23.36
1	Highlands	79	27	34.18	1,106.02	277.52	25.09
1	Okeechobee	28	25	89.29	891.90	491.13	55.07
1	Glades	11	1	9.09	986.88	10.17	1.03
2	Putman	61	12	19.67	826.92	263.11	31.82
3	Walton	45	14	31.11	1,239.60	134.55	10.85
5	Flagler	52	51	98.08	570.82	511.55	89.62
TOTAL	7	296	132	44.59	6,260.48	1,837.13	29.34

Note: CBG Proportion-Percentage of CBGs within target regions relative to the county's total CBGs; Area Proportion-Percentage of the county's land area covered by target regions.

2.8.2 Rural Target Regions Based on Crashes Involving Aging Non-motorists

Out of the 70 rural CBGs identified as hot spots, 59 CBGs, equivalent to 84.3%, were statistically significant at a 99% confidence level. The rural target regions include Flagler, Hardee, and Putman counties. Figure 2-17 presents the rural target regions based on crashes involving aging non-motorists. Table 2-7 summarizes the rural target regions for crashes involving aging non-motorists by county.

Table 2-7: Rural Target Regions for Crashes Involving Aging Non-motorists

District	County	CBG Total	CBG Target Regions	CBG Proportion	Total Area (sq. mi.)	Target Regions (sq. mi.)	Area Proportion
1	Hardee	20	6	30.00	638.34	18.29	2.87
2	Putnam	61	13	21.31	826.92	104.50	12.64
5	Flagler	52	40	76.92	570.82	468.69	82.11
TOTAL	3	133	59	44.36	2,036.08	591.48	29.05

Note: CBG Proportion-Percentage of CBGs within target regions relative to the county's total CBGs; Area Proportion-Percentage of the county's land area covered by target regions.

Figure 2-17: Rural Target Regions Based on Crashes Involving Aging Non-motorists

2.9 Summary

This chapter describes the methodology for identifying target regions in Florida to address the safety and mobility challenges of aging road users. By using census block groups as the primary unit of analysis, data used to identify target regions included crash data, demographic data, and roadway characteristics. The analyses were performed separately for urban and rural counties to account for distinct geographic and demographic variations. An optimized hot spot analysis using ArcGIS identified statistically significant clusters of crashes involving aging road users and non-motorists, forming the basis for targeting outreach efforts.

Crash data from 2017 to 2021 were sourced from the FLHSMV and Signal Four Analytics to ensure comprehensive spatial accuracy. The analysis examined 674,258 crashes involving aging road users, incorporating attributes such as crash severity, type, time, location, and demographic

details. Socioeconomic and roadway variables, including population density, aging population proportions, and roadway network densities, were aggregated for 11,209 CBGs across Florida. Urban and rural counties were identified based on definitions stipulated in the Florida Statutes to ensure tailored analyses for different regions.

Hot spots with high crash rates involving aging road users and non-motorists were identified through an optimized hot spot analysis. Urban hot spot areas appeared in counties such as Miami-Dade, Broward, and Collier, while rural hot spots were concentrated in Flagler, Putnam, and Highlands counties. Statistically significant hot spots at the 99% confidence level were designated as target regions for public outreach and intervention. Detailed procedures for spatial analysis, crash assignment, and roadway mile extraction were outlined, offering a replicable framework for future studies focused on improving aging road user safety.

CHAPTER 3
REVIEW OF EXISTING OUTREACH EFFORTS

This chapter provides a detailed review of Safe Mobility for Life's (SMFL) existing outreach efforts across Florida. Discussed are SMFL's strategic initiatives, educational materials, community engagement, and social media efforts aimed at enhancing safety, mobility, and awareness among aging road users. In addition, outreach trends, stakeholder partnerships, and survey data were examined to assess the impact of SMFL's activities from 2017 to 2021.

3.1 Overview of Safe Mobility for Life Outreach Activities

Florida ranks second in the U.S. with the highest number of older adults aged 65 and over, accounting for one in every five Floridians (FDOT, 2022h). Natural age-related changes (e.g., vision, memory, strength, flexibility, reaction time) or medically induced changes can impact safe driving skills and increase the risk of severe injury or death after a crash event. Figure 3-1 provides a visual representation of the demographic changes in the population of individuals aged 65 and older in Florida from 1960 to 2045.

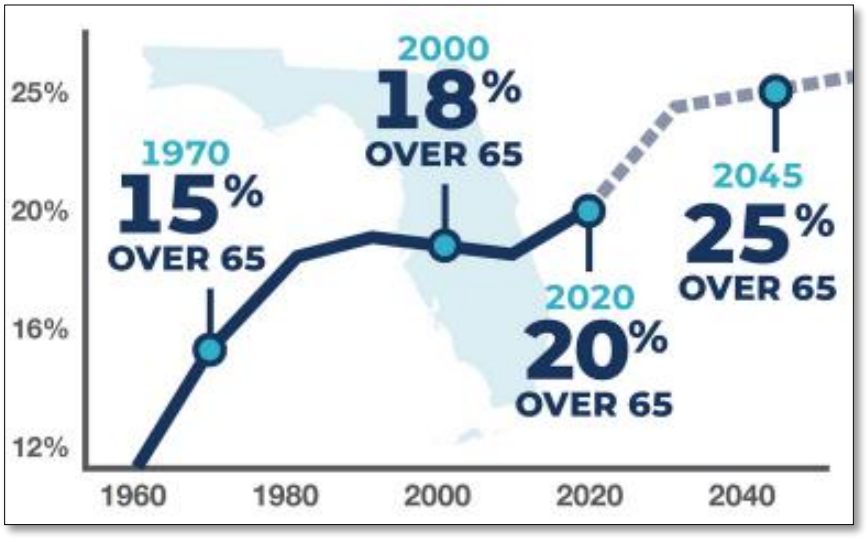

Figure 3-1: Population Aged 65 Years and Above (FDOT, 2022h)

As Florida's aging population continues to grow, FDOT strives to improve the safety of aging road users by establishing the SMFL Program in the State Traffic Engineering and Operations Office. The office manages aging driver issues, traffic studies, intersection operations, signage, pavement markings, signals, and traffic engineering standards for the SHS. FDOT's early implementation of roadway and pedestrian improvements on state roads, designed to address age-related driver changes, has become common practice and is adopted by many local governments (FDOT, 2022a). Countermeasures that are implemented to address natural age-related changes include:

Increased Visibility

- Increased pavement marking widths
- Reduced spacing of reflective pavement markers

- Larger lettering on guide signs, based on the posted speed limit

Advance Notification

- Advance street name signs
- Warning signs (e.g., signal ahead sign)

Improved Pedestrian Features at Intersections

- Countdown pedestrian signals
- Refuge islands
- Longer walk times
- High-emphasis crosswalks

In 2009, FDOT partnered with the FSU Pepper Institute on Aging and Public Policy to create a statewide coalition to address the specific needs of Florida's aging road users (FDOT, 2022g).

The goal of SMFL is to improve mobility for aging road users in Florida by reducing the number of aging road user fatalities, severe injuries and crashes while maintaining their safe connection to the community.

Apart from roadway and pedestrian improvement, SMFL is now focusing on outreach and advocacy by providing education and distributing educational materials to Floridians to improve the safety of aging road users.

3.1.1 Florida's Safe Mobility for Life Strategic Action Plan

SMFL introduced its latest Strategic Action Plan (2022-2025) in April 2022, aligning with the Florida SHSP, Florida Transportation Plan, State Plan on Aging, and other state initiatives. This forward-looking plan is a comprehensive, data-driven, and evaluation-centric framework that steers SMFL's efforts towards a vital mission: eliminating fatalities and reducing severe injuries among Florida's aging population.

SMFL has taken proactive steps by establishing baseline data on population demographics, driver statistics, and age-specific crash patterns. Currently, they are actively engaged in developing, implementing, and assessing resources and programs to facilitate progress within six identified focus areas and their associated goals and objectives. Table 3-1 highlights the goals of the six focus areas.

Table 3-1: Strategic Action Plan-Focus Areas and Goals

Focus Area	Goal
Program Management and Evaluation	Lead, implement, and evaluate SMFL resources and activities using a proactive data-driven approach.
Community Outreach and Education	Directly engage with Floridians to raise awareness of the materials and resources developed by the SMFL to support its goals and objectives.
Licensing and Enforcement	Educate and promote resources for law enforcement and licensing personnel.
Livable Communities	Create safer and more livable communities through context-based design and by providing access to features and services that meet the mobility needs of an aging population.
Mobility Independence	Educate Floridians on accessing and using transportation options to keep them safe, mobile, and independent in their communities.
Prevention and Assessment	Promote driver fitness, recognition of at-risk drivers, and aging road user mobility through prevention and intervention resources.

Source (FDOT, 2022c)

3.1.2 Safe Mobility for Life Accomplishments

The partnership between FDOT and FSU's Pepper Institute on Aging and Public Policy initiated in 2009, led to the key achievements illustrated in Table 3-2.

Table 3-2: Safe Mobility for Life Accomplishments (2009-2022)

Year	Accomplishment(s)
2009	Coalition establishment Launching of the website
2012	Created a Resource Center website. Released the First Edition of the Florida's Guide for Aging Drivers
2013	Piloted Safe Transit for Life Safety Event Conducted First Aging Road User Survey
2014	Distributed Public Service Announcements Hosted First Safety is Golden Mobility Fair
2015	Supported National 50K CarFit Event Conducted Florida's Health Care & Social Service Needs Assessment
2016	Hosted First Keys to Achieve Safe Mobility for Life Workshop
2017	Piloted Safe Bicycling for Life Workshop Piloted Safe Walking for Life Workshop Released Human Factor Checklist for Developing Educational Materials for Aging Road Users
2018	Developed and Distributed Law Enforcement Toolkit Rebranded and Launched SafeMobilityFL.Com Published First Safe Mobility for Life Insider e-newsletter

Year	Accomplishment(s)
2019	Launched FindaRideFlorida.org Developed and Released Florida's Guide to Safe Mobility for Life Adopted CarFit Florida Program into the Safe Mobility for Life Coalition
2020	Piloted CarFit Virtual Workshop Launched Community Partner Agreement and Training
2021	Released First Print Edition of the Safe Mobility for Life Insider Newsletter Piloted Working Together Webinar
2022	Approved the Safe Mobility for Life Strategic Action Plan (2022-2025) Launched Community Partner Training Video

Source: (FDOT, 2022f)

3.2 Outreach Activities

SMFL has undertaken various outreach activities at the state and local levels to advocate for their mission and educate stakeholders. These efforts include the distribution of educational materials, hosting outreach events and workshops, and broadcasting public service announcements (PSAs). By making these outreach activities accessible through its website, the Coalition aims to reach a wider audience and ensure that individuals and communities can access valuable resources and information on safe mobility. Through their dedicated efforts, SMFL actively engages with the community and works towards promoting a safer and more mobile environment for everyone involved.

3.2.1 Distribution of Educational Materials

SMFL distributes helpful educational materials and information to aging road users with the goal of improving their safety, accessibility, and mobility. Educational resource materials distributed include:

- Florida's Guide to Safe Mobility for Life
- Driver medical referral visor cards
- Families & Caregivers Brochure
- Transit Ready Kit guidance
- Roadway Safety Tip Cards
- Tips on How to Use Transportation Options in Florida
- You Hold the Keys to Your Transportation Future Tip Card
- How to Find a Ride in Florida
- Roadway Graphics
- Age-Friendly Florida's Transportation Checklist

3.2.1.1 Florida's Guide to Safe Mobility for Life

Florida's Guide to Safe Mobility for Life is a free handbook that helps people in Florida achieve mobility independence. The guide provides information on safe driving skills for aging drivers and how to create a transportation plan that does not involve driving. The guide focuses on the three keys to achieving safe mobility for life: 1) understanding the impact of aging on driving, 2) being

proactive as a driver, pedestrian, bicyclist, transit rider, motorist, and golf cart driver, and 3) planning for life beyond the driver's seat. Interactive worksheets are offered, as well as state and local resources, enabling Floridians to create a personalized transportation plan that suits their needs (FDOT, 2022b).

3.2.1.2 Driver Medical Referral Visor Card

The medical referral visor card is specific for law enforcement officers, with the intention of remaining in a patrol vehicle. The card provides recommendations on how to assist an aging driver at risk whose ability to safely operate a motor vehicle may be impaired.

3.2.1.3 Families & Caregivers Brochure

The brochure for families and caregivers provides tips for talking with aging drivers about safe driving concerns and areas where to find more resources related to safe driving. Family members or caregivers engaging in a conversation about driving safety is crucial to ensure that older adults continue to drive safely for as long as feasible. It is important to include older adults in planning for the future when they can no longer drive safely and recognize that it is not only the individual's safety at stake but also the safety of everyone on the road. The intended audience is older adults, families, caregivers, and heath care professionals.

3.2.1.4 Transit Ready Kit Guidance

Transit ready kit information provides guidance on essential items aging transit users need to bring when riding transit and why these items are important. Table 3-3 lists items that should be included in a transit ready kit and their functions.

Table 3-3: Essential Items in the Transit Ready Kit

Essential Items	Function
Backpack	Place for storage of things such as phone, flashlight, etc.
Medications	For older adults who take medications need to carry them in a small plastic bag, pill box, etc.
Transit/Fare Payment	Required for payment of transport costs.
Navigation	To know the route.
Entertainment	Helps to keep older adults active and have a non-boring trip. This may include reading a book, listening to a podcast, or watching a film.
Safety Items	During the half year, it gets dark early, older adults can use flashlights while walking from the bus stop to home.
Outdoor Items	Things like a hut, umbrella, and sunglasses are used during sunny days or rainy days when walking from or to the bus stop.
Personal Items	Identity cards, cell phones, and extra fares can be used during emergencies.

Source: (FDOT, 2022e)

3.2.1.5 Roadway Safety Tip Cards

Roadway safety tip cards are written and designed to specifically educate older adults and are based on research results from studies on human factors. The types and purposes of available tip cards are described in Table 3-4.

Table 3-4: Roadway Safety Tip Cards

Type of Tip Card	Purpose
Turning Right on Red	To inform drivers how and when they can legally and safely turn right on red.
Flashing Yellow Arrow	To educate drivers on what to do when encountering a flashing yellow arrow.
How to Safely Navigate a Roundabout	To teach drivers how to navigate a roundabout safely and confidently.
Wrong-Way Driving on the Interstate	To identify Wrong Way signs and what drivers should do if they accidentally enter a ramp going the wrong way or see a wrong-way driver.

Source: (SMFL, 2023)

3.2.1.6 Tips on How to Use Transportation Options in Florida

Tips on How to Use Transportation Options in Florida is a series of brochures and pamphlets developed to provide ideas and resource information to the aging population to safely get where they need to go without having to drive. This series focuses on mobility independence, empowering older adults to be able to get around their communities without a personal vehicle. Tips cover different transportation options, including walking, bicycling, public transit, Transportation Network Companies (TNCs), and golf carts. Table 3-5 lists the transportation option series and their intended booklet/brochure message.

Table 3-5: Types of Transportation Option Series with Their Key Message

Booklet/Brochure	Key Message
Walking Booklet	Shares the benefits of walking, as well as tips on how to walk safely and defensively.
Bicycling Booklet	Help cyclists achieve mobility independence by providing the information needed to be a safer cyclist while guiding them to use their bicycles as a transportation option to get around their community.
Public Transit	Helps older adults understand the benefits of riding transit and how to safely do so in Florida.
Transportation Network Companies (TNCs) Brochure	Helps older adults learn more about using TNCs is an option to get around in their community, along with some questions to ask and safety tips to consider.
Golf Cart Brochure	This brochure contains information on operating golf carts safely and legally in Florida.

Note: TNCs-Transportation Network Companies. Source: (SMFL, 2023)

3.2.1.7 You Hold the Keys to Your Transportation Future Tip Card

This tip card serves as a valuable resource, assisting road users in understanding the impact of aging on driving, encouraging proactive measures, and emphasizing the need to create a personalized transportation plan before the necessity arises.

3.2.1.8 How to Find a Ride in Florida

This tip card helps older adults learn how to use the FindaRideFlorida.org website, an online listing of transportation service providers across the 67 counties in Florida.

3.2.1.9 Roadway Graphics

Roadway graphics are designed to be shared on social media pages, webpages, and other digital channels with the aim of educating aging road users on the safe usage of roads. The graphics and their functions are summarized in Table 3-6.

Table 3-6: Roadway Graphics

Graphic	Graphic Purpose
Turning Right on Red	These graphics complement the turning right on the red tip card.
Flashing Yellow Arrow	This graphic indicates what drivers should do when coming across a flashing yellow arrow.
What is a Roundabout?	These graphic complements the roundabout tip card.
If you enter a ramp the wrong way	These graphics complement the wrong-way driving tip card.
Three Feet-it's the law	These graphic complements the bicycling booklet.
Midblock pedestrian crossing with a PHB	This graphic can be used to learn how to navigate midblock pedestrian crossing.
Using a Rectangular Rapid Flashing Beacon (RRFB)	This graphic educates road users on what to do when encountering an RRFB signal.

Note: PHP -Pedestrian Hybrid Beacon. Source: (SMFL, 2023)

3.2.1.10 Age-Friendly Florida's Transportation Checklist

SMFL, in partnership with AARP Florida, updated the Age-Friendly Florida's Transportation Checklist to help Floridians assess whether the community they live in has the features and services that are important to help them remain safe, mobile, and independent. The checklist helps people evaluate how well the community meets their safety and mobility needs in the categories of:

- Community Design: An age-friendly community has well-designed, shaded, well-lit buildings, streets, sidewalks, and bikeways. They invite a sense of equity, safety, and pride and offer affordable housing options where people live near shops and services.

- Street Safety and Security: An age-friendly community that provides design features that support safety, access, and mobility. They contain well-lit, hazard-free sidewalks and

paths, which are essential to encourage walking and biking, an active lifestyle, and minimizing the risk of slips and falls. It offers a high degree of connectivity to help boost social interaction and active transportation.

- Getting Around: An age-friendly community provides safe, easy, and equitable access to transportation, amenities, and support services. It offers various viable transportation options for people of all ages and with all physical and cognitive abilities to maintain their safe mobility and connection to the community beyond driving.

- Neighborhood Support Services: An age-friendly community encourages participation by providing access to affordable activities, employment, and lifelong learning. It also offers an adequate range of community, health, and home support services.

In the checklist, each category can be scored to better weigh the needs and preferences of the people and provide a list of resources to learn more about each category to promote livable communities (FDOT, 2022d).

3.2.2 Outreach Events

SMFL has been conducting outreach events at the state and local levels to advocate and educate all stakeholders on their mission and resources available, including the following outreach events:

- *Keys to Achieve Safe Mobility for Life Workshop:* SMFL developed the "Keys to Achieve Safe Mobility for Life" workshop, also known as the “You Hold the Keys” workshop, to help older adults learn how to understand the impact aging has on driving, be proactive about their safe driving skills, and plan for a safe transition.

- *Safe Walking for Life Workshop:* Walking is an essential part of people’s lives, regardless of the mode of transportation. This workshop helps aging road users to explore their community on foot safely.

- *Safe Mobility for Life Day Community Events and Training:* This outreach event is conducted in priority counties to educate and provide participants with available local transportation safety and mobility resources.

- *CarFit:* CarFit is an event designed to assist older drivers in improving their vehicles' *fit* to ensure safety and comfort. This event encourages discussions about safe driving practices and offers valuable insights into resources tailored to specific communities, enhancing safety and mobility for older drivers. The event uses a team of trained volunteers, including occupational therapists, to assist aging drivers with proper safety belt use and fit, a clear line of sight above the steering wheel, access to vehicle controls, a safe distance between you and your airbag, and mirror positioning to minimize blind spots (FDOT, 2022j).

3.2.3 Public Service Announcements (PSAs)

SMFL highlights the importance of transportation resources for one's quality of life. It encourages individuals to take responsibility for their future transportation quality rather than simply focusing on finances upon retirement. To disseminate this message, the SMFL focus group tests and distributes a positive and empowering safety message in a radio PSA that is broadcast in over 60% of the urban and rural priority counties. Table 3-7 summarizes the PSAs and their key messages to aging road users in Florida.

Table 3-7: Summary of the Public Service Announcements

PSA Type	Key Message
You Hold the Keys to Your Transportation Future	To emphasize the importance of understanding the key aspects of achieving safe mobility for life and to educate road users on specific transportation resources. These resources include safe driving tips, self-assessment tools, and alternative transportation options to maintain mobility independence.
How to Build a Transportation Plan	Explains how to use Florida's Guide to Safe Mobility for Life to build a personalized transportation plan in three easy steps.
Age-Friendly Community in Florida	To help to understand the age-friendly community. Older adults can assess their community if it offers a variety of housing at various levels of affordability, encourages activities to promote active lifestyles, and if their community contains various transportation options.

3.2.4 Monthly Social Media Campaigns

Monthly social media campaigns are conducted to educate and raise awareness among all stakeholders about the resources available through the SMFL. SMFL has official social media accounts on Instagram, *X* (formerly Twitter), Facebook, and YouTube under the handle @SafeMobilityFL. These platforms are used to share different events, address safety issues, and provide links to access additional resources. Figure 3-2 shows an example of the @SafeMobilityFL Twitter (*X)* page.

Figure 3-2: @SafeMobilityFLTwitter ("*X*") Page on Wrong-Way Driving
(FDOT, 2014)

3.3 Outreach Efforts Conducted from 2017-2021

This section discusses the outreach efforts conducted by SMFL from 2017 to 2021. These efforts involved various activities, including distributing educational materials, organizing outreach events, such as workshops, disseminating PSAs, and conducting monthly social media campaigns.

3.3.1 Distribution of Educational Materials

Distributing educational materials to aging road users across Florida is vital to SMFL's outreach efforts. This initiative, as documented in the data spanning from 2017 to 2021, includes the dissemination of 200,081 diverse materials, a substantial number. This commendable effort reached 91% of the counties statewide, translating to outreach in 61 of the 67 counties in Florida.

SMFL has distributed more than 30 different types of materials. Each of these materials serves a unique purpose and contributes to the broader objectives of SMFL's initiatives. For analysis purposes, the materials distributed by SMFL were grouped into seven categories, as shown in Table 3-8.

Table 3-8: Grouping of the Distributed Educational Materials

Material Group	List of Educational Materials
Transportation Option material series	Walking booklet, Bicycling booklet, Public Transit, Transportation Network Companies and Golf Carts
Roadway and Parking Safety materials	Turn Right on Red, Flashing Yellow Arrow, How to Safely Navigate a Roundabout, Wrong-Way Driving on the Interstate, Parking Lot, and Stop on Red
Family/Caregivers and AFFTC*	Families and Caregivers Brochure and Age-Friendly Florida's Transportation Checklist
Tip Cards	CarFit Tip Card, Countdown Pedestrian Tip Card, How to Find a Ride Florida, Website Card, Keys Tip Card, Lifelong Tip Card, ICE Card, Driver Medical Referral Visor Card, and Motorcycle Tip Card
Guides and Strategic Plan	Guide Spanish, Guide English, and Aging Road User Strategic Safety Plan
SMFL Promotional Items*	ID holders, Lanyards, Notepad, Pens, Pencils, Flash Drive, Folders, and Tote bags
Mailed materials	Mail in materials

Note: * AFFTC -Age-Friendly Florida's Transportation checklist; SMFL -Safe Mobility for Life.

The analysis of the distribution of educational materials and promotional items is presented in Figure 3-3, providing an overview of the total number of education materials distributed from 2017 to 2021. Notably, the highest distribution of materials occurred in 2019, with a remarkable total of 60,948 units disseminated during that period. Conversely, 2021 saw a significant drop in material distribution, with only 9,679 units distributed. These fluctuations suggest potential shifts in demand, outreach efforts, or other influencing factors that impact distribution patterns.

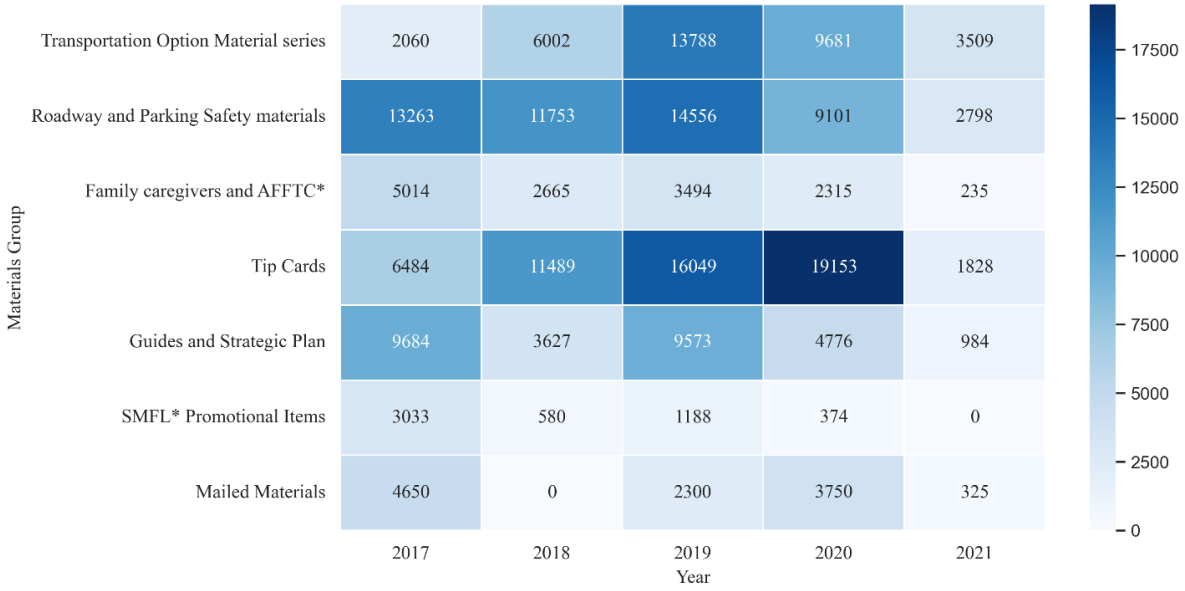

Figure 3-3: Heat Map Showing the Total Number of Education Materials Distributed

Note: * AFFTC -Age-Friendly Florida's Transportation checklist; SMFL -Safe Mobility for Life.

Regarding material type distribution, Tip Cards emerged as the most frequently distributed materials, with a substantial frequency of 11,001 units. The distribution of Roadway and Parking Safety materials followed closely, with a frequency of 10,294 units. In contrast, the SMFL Promotional Items distribution exhibited the lowest frequency, totaling 1,294 units.

The analysis of material distribution based on the county is presented in Appendix A. Counties such as Lafayette, Washington, Dixie, and Holmes exhibited the lowest distribution frequencies. On the other hand, the county with the most substantial material distribution frequency was Leon County, where 35,787 units were distributed. Orange County followed, with a frequency of 15,953 units.

In conclusion, Figure 3-3 underscores the dynamic nature of material distribution over the past five years. The differences in distribution frequencies by material type and county indicate potential areas for strategic adjustments. These insights can help to optimize material dissemination efforts and cater to varying demands across different contexts.

3.3.2 Outreach Events

Between 2017 and 2021, SMFL successfully organized workshops across various regions of Florida. These workshops can be categorized into four distinct types: CarFit Workshops, Keys to Achieve Safe Mobility for Life workshop, Transit Workshops, and Walking Workshops. The annual progression of SMFL workshop events over the five-year period (2017-2021) is outlined in Table 3-9.

Table 3-9: Workshop Events (2017-2021)

Year	Outreach Workshop Events				Yearly Total
	CarFit*	Keys to achieve Safe Mobility for Life	Transit	Walking	
2017		4	3	2	9
2018		5	1		6
2019	2	19	3	2	26
2020	3	2	1	1	7
2021		3		1	4
Total	5	33	8	6	52

Note: * CarFit Florida was incorporated into a Safe Mobility for Life Grant in 2019.

As shown in Table 3-9, more workshops were conducted in 2019, with a total of 26, followed by the year 2017, where nine workshops were conducted. A significant decrease in the number of workshops organized by the SMFL was observed in both 2020 and 2021, with a total of only 7 and 4 events, respectively. However, it should be noted that during this period, COVID-19 health concerns most likely reduced the number of workshop events, especially since older adults were at a higher risk.

Table 3-9 also highlights the distribution of workshop types over the five years. Among the four workshop types, the Keys to Achieve Safe Mobility for Life workshop stands out with the highest frequency, being conducted 33 times. Conversely, CarFit had the lowest occurrence, with only five events organized over the 5 years. This was primarily due to the CarFit events not being incorporated into SMFL's NHTSA 402 safety grant until the year 2019 (FDOT, 2021a). The workshops were conducted in 21 counties. Table 3-10 presents the frequency of workshop events by county over the 5 years (2017-2021).

Table 3-10: Outreach Workshops in Florida Counties (2017-2021)

County	Outreach Workshop Events				Total
	CarFit*	Keys to achieve Safe Mobility for Life	Transit	Walking	
Alachua			1		1
Bay		1			1
Brevard	1			1	2
Broward		2			2
Duval				1	1
Escambia		1			1
Hardee		1			1
Hernando	1				1
Hillsborough		4			4
Jefferson		1		1	2
Leon		4		2	6
Miami-Dade		2		1	3
Orange		4	5		9
Palm Beach	1	2			3
Pinellas			1		1
Polk		3			3
Sarasota	1	1	1		3
Seminole	1				1
St. Johns		2			2
St. Lucie		2			2
Sumter		1			1
Total	5	32	8	6	50

Note: * CarFit Florida was incorporated into the Safe Mobility for Life Grant in 2019.

As indicated in Table 3-10, the workshops were conducted in 21 of the 67 counties in Florida. The data indicates that SMFL successfully conducted four types of workshops across 21 counties in Florida. Among these counties, Orange County and Leon County hosted the most workshops, with 9 and 6 events, respectively.

3.3.3 Public Service Announcements (PSAs)

The analysis of the SMFL's events from 2017 to 2021 shows that PSA activities were conducted primarily in two years, 2017 and 2021. As indicated in Table 3-11, a total of 13 PSA events were conducted in 2017, while only one event took place in 2021.

Table 3-11: Public Service Announcement Events

Year	Type of PSA Event	Frequency
2017	SMFL Video PSA on Motor Vehicle Network	13
2021	Transportation Plan PSA @ Tax Collector Offices	1
Total		14

3.3.4 Social Media Campaigns

From 2017 to 2021, FDOT, through SMFL, conducted a total of 113 social media boosted posts, targeting 38 counties in Florida. The boosted social media posts consisted of six types: In-vehicle posts, Transit Brochures, CarFit, Golf Cart, Family/Caregivers, and Age-Friendly Florida Transportation. For Broward, Palm Beach, Pinellas, and Collier counties, SMFL promoted all six types of boosted posts. Only one boosted post was promoted by the SMFL for Leon, Volusia, St Lucie, Alachua, Seminole, Polk, Orange, Okaloosa, Levy, Indian River, Hendry, Gulf, and Citrus counties over the 5-year period (see Appendix B).

3.3.5 Stakeholders and Community Partners' Involvement

While implementing outreach activities, SMFL works with stakeholders and community partners to expand their access to society. Stakeholders and community partners help provide education through workshops and events, and they also help distribute educational materials to aging road users.

3.3.5.1 Stakeholders

SMFL works with stakeholders both in Florida and outside of Florida. During the 5-year period (2017-2021), SMFL worked with 1,092 stakeholders, of which 1,050 were in the state of Florida. However, 43 Florida stakeholders had no recorded address, city name, or county name and, therefore, were excluded from the analysis. Table 3-12 provides an overview of the Florida stakeholders involved in the activities of SMFL over the 5-year period.

Table 3-9: Primary Type and Number of Florida Stakeholders (2017-2022)

Type of Stakeholder	Year					Total
	2017	2018	2019	2020	2021	
Aging Service Provider	93	90	72	5	2	262
Engineer/Planner	6	2	7	3	2	20
Family/Caregiver	9	3				12
Healthcare Provider	16	47	25	1	2	91
Law Enforcement	1	6	10	1	4	22
Local Government	86	21	59	1	3	170
Older Adult	168	101	73	2		344
State/Federal Government	6	6	5	1		18
Transit Provider	7	2	7			16
University/Research	3	17	6		1	27
Other	5	14	5	1		25
Total	400	309	269	15	14	1,007

As shown in Table 3-12, older adults were the most predominant stakeholder group, with a total of 344 over the 5-year period. Aging Service Providers were the second highest group working with the SMFL, with a total of 262 stakeholders.

The analysis revealed that stakeholders have signed up in 63 different counties across Florida, covering 94% of all counties in the state. Leon, Miami-Dade, and Orange counties have the highest number of stakeholders signed up (see Appendix C).

3.3.5.2 Community Partners

In 2020, SMFL launched the Community Partner program (FDOT, 2021a). Since then, SMFL has successfully collaborated with 86 community partners across 33 Florida counties from 2020 to 2022. These partnerships have played a crucial role in disseminating information and distributing educational and promotional materials to promote SMFL's objectives. The central focus of this initiative is to enhance safety, accessibility, and mobility for aging road users statewide.

Figure 3-4 shows the distribution of SMFL community partners in Florida, highlighting the geographical diversity across the state. The collaboration with these partners signifies a concerted effort to address the specific needs and concerns of aging road users spanning a diverse range of counties. Through this engagement, SMFL is effectively extending its outreach, utilizing local expertise and connections to reach and positively impact the aging population of road users throughout Florida.

The commitment to involving community partners underscores the holistic approach of SMFL's initiative, emphasizing collaboration, education, and proactive measures to enhance road safety and quality of life for older individuals navigating Florida's roadways.

Figure 3-4: Location of SMFL Community Partners in Florida

Figure 3-5 indicates the growth in collaboration between SMFL and community partners from 2020 to 2022. Notably, a considerable increase occurred in the number of organizations partnering with SMFL during this period. The peak of this partnership expansion was observed in 2022, with the involvement of over 50 organizations.

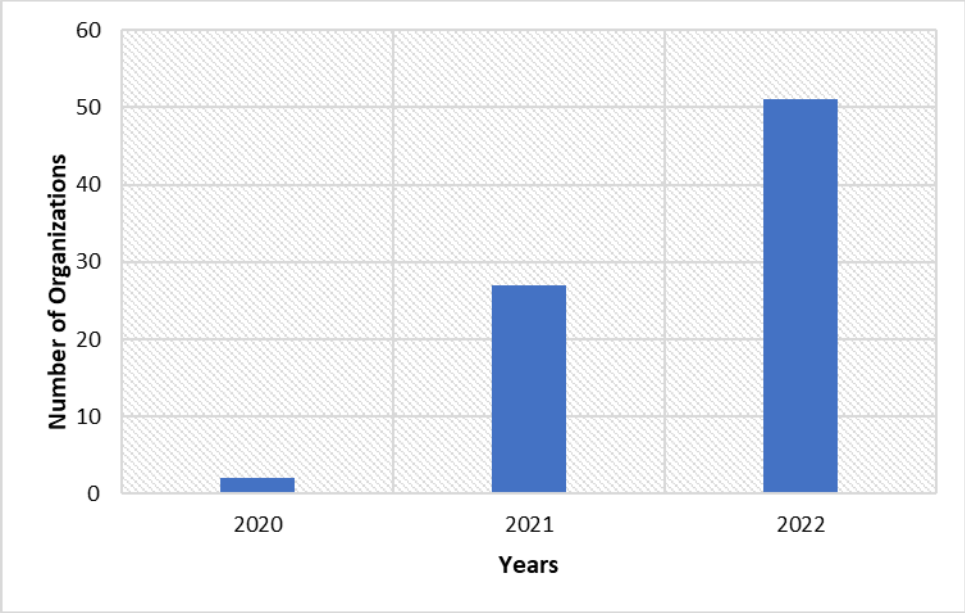

Figure 3-5: Community Partners from 2020 to 2022

3.4 Social Media Evaluation

In 2020 and 2021, SMFL undertook a comprehensive social media evaluation to gauge its online impact. This evaluation involved tracking various key metrics, including the number of individuals visiting the SMFL's website, interactions with diverse aging resources available at the resource center, engagement with posted videos, as well as interactions with posts on social media platforms, such as Facebook and X (formerly Twitter). The evaluation results under this section used the social media results that had three or more consecutive months showing similar activities.

3.4.1 Website Activities

The data presented in Figure 3-6 illustrates the website activities on SafeMobilityFL.com from January to May 2020, focusing on total pageviews. During this timeframe, January and March stood out with a remarkably high number of pageviews, followed by February. In contrast, April and May recorded relatively lower page view numbers than the preceding months.

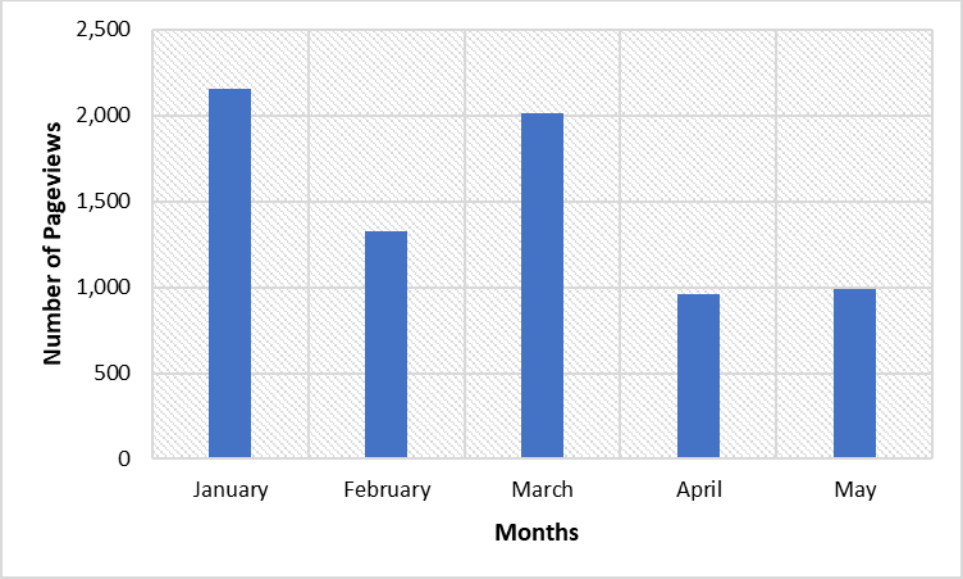

Figure 3-6: Website Pageviews from January to May 2020

3.4.2 Evaluation of Pageviews and Clicks on Florida's Guide to Safe Mobility For Life

Based on the data presented in Figure 3-7, a clear trend emerges regarding pageviews and clicks on Florida's Guide to Safe Mobility for Life from June to December 2020. Both pageviews and clicks increased with each successive month, surpassing the previous one. The increase in pageviews and clicks indicates the growth in the number of viewers exploring Florida's Guide. These metrics were derived from the data provided by the Safe Mobility for Life team.

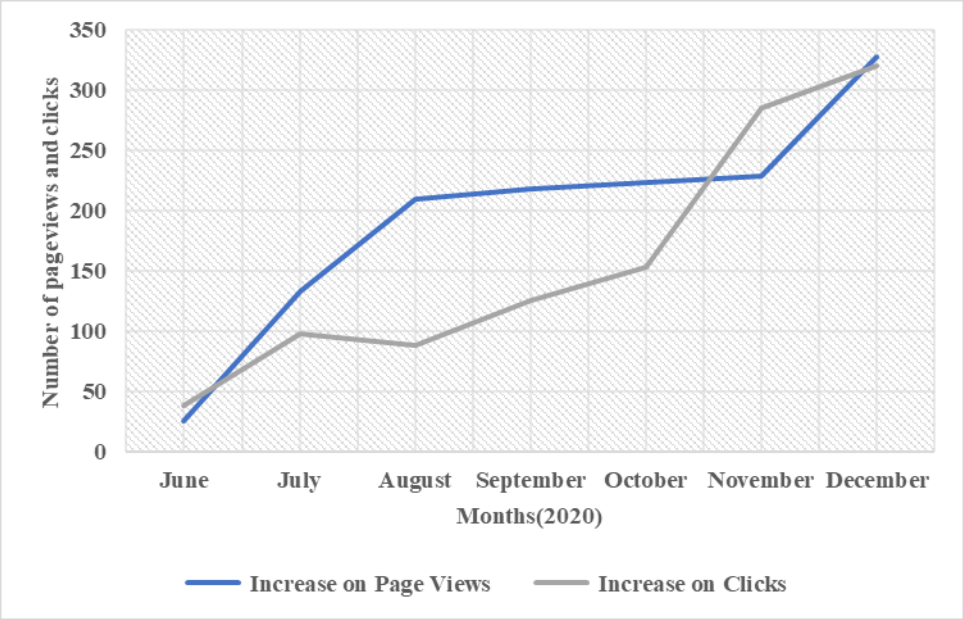

Figure 3-7: Pageviews and Clicks on Florida's Guide from June to December 2020

3.4.3 Evaluation of Website Traffic

Figure 3-8 illustrates the click and page view counts for the resource center page and Florida's Guide to SafeMobilityFL.com website from May to December 2021. The data indicates that the Resource Center page consistently garnered more pageviews than Florida's Guide to SafeMobilityFL.com website over the entire evaluation period. However, regarding clicks, the Guide page had a higher count than the resource center page. Overall, Figure 3-8 highlights a noteworthy trend, where both pages received more views than the number of clicks recorded.

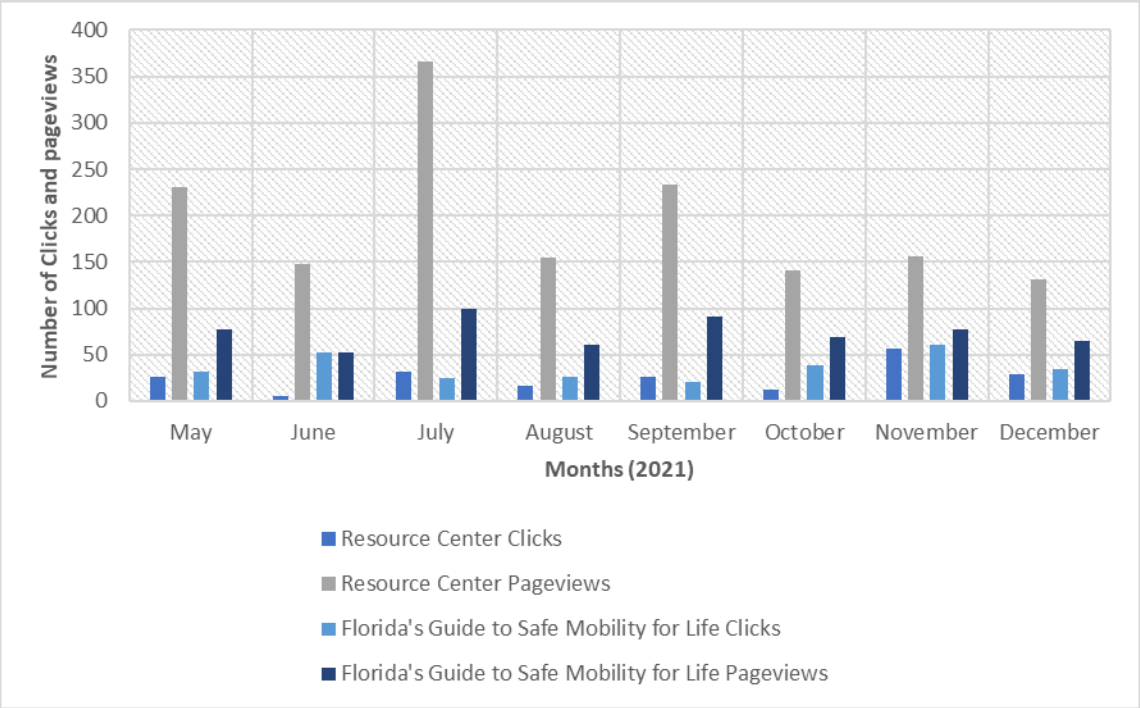

Figure 3-8: Clicks and Pageviews on SafeMobilityFL.com Website from May to December 2021

The evaluation of website traffic between January and March 2020, as shown in Figure 3-9, indicates that website users and new website visitors were higher in March 2020, with over 1,400 users observed. It was also observed that February 2020 had fewer website users and new visitors, with a number below 800, while January and March had many website users and new visitors above 1,200.

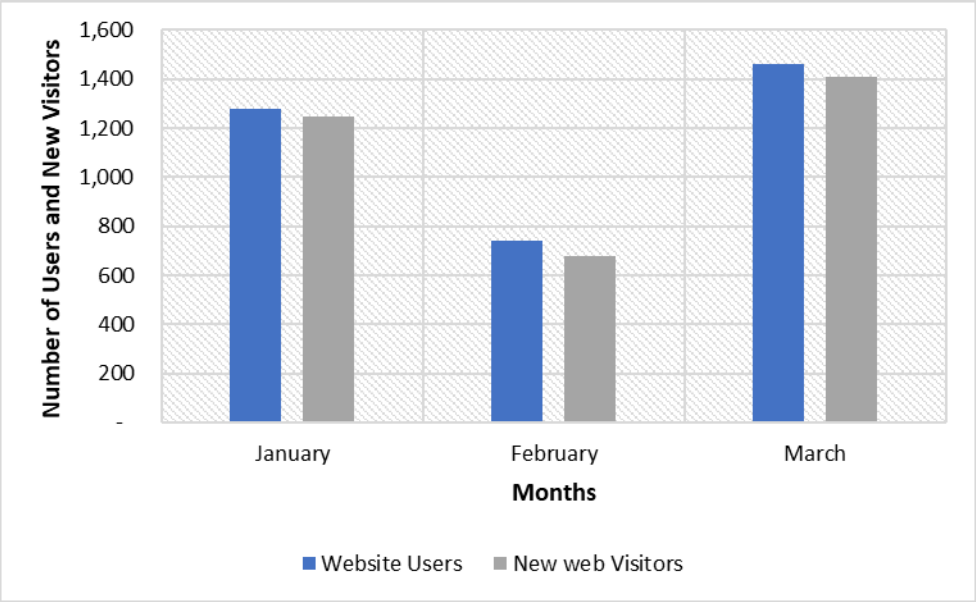

Figure 3-9: Safe Mobility for Life Website Traffic from January to March 2020

3.4.4 Evaluation of Direct Education and Engagement on Social Media

The evaluation of education and engagement on social media was conducted for the months of April 2021 to December 2021. As illustrated in Figure 3-10, retweets outnumbered Facebook shares. Remarkably, June 2021 exhibited a significant retweet number, while October 2021 experienced a higher number of Facebook shares. The visual representation highlights that education provided by SMFL through social media platforms was notably more widely shared through X (formerly Twitter) than Facebook.

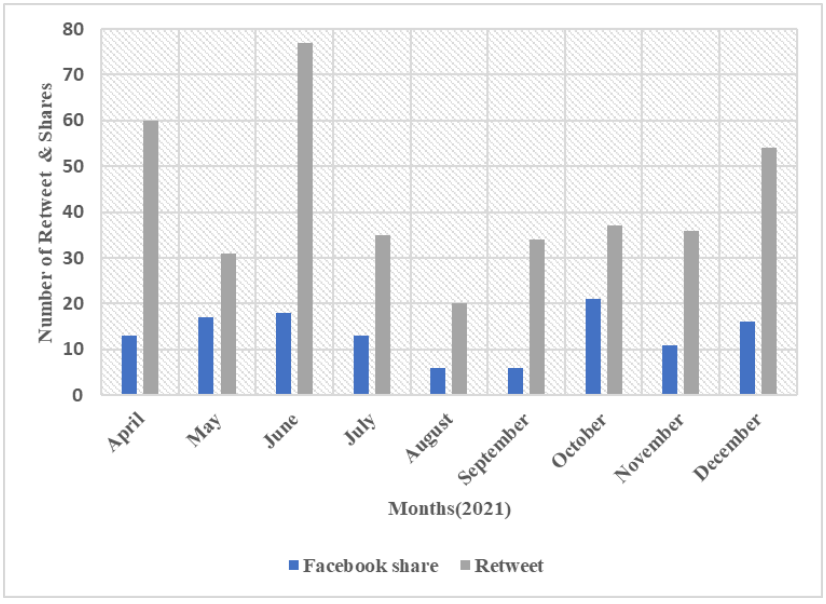

Figure 3-10: Facebook and Twitter ("X") Trends from April to December 2021

3.4.5 Evaluation of Social Media Following

The assessment of social media followership, depicted in Figure 3-11, reveals fluctuating trends over the analysis period from April 2021 to December 2021. The data indicates that the number of individuals following SMFL's social media platforms exhibited peaks and declines across the evaluated months. Notably, the follower count increased during April, June, October, and December while experiencing a drop in May, July, August, September, and November. These variations underscore the dynamic nature of SMFL's social media engagement.

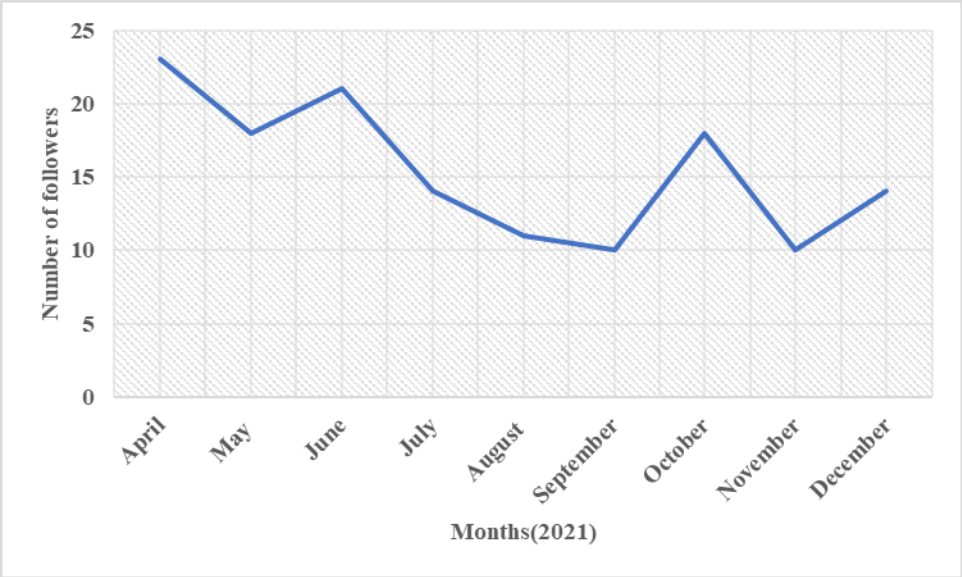

Figure 3-11: Social Media Followers from April to December 2021

3.4.6 Evaluation of Video Viewership

This evaluation of video viewership spanned four months, from July 2021 to October 2021. The analysis involved two distinct videos: the Law Enforcement video and the Lifelong Community video. The trends illustrated in Figure 3-12 underscore a consistent rise in the count of video viewers across these months. This escalation in viewership indicates a growing interest among individuals in watching SMFL videos.

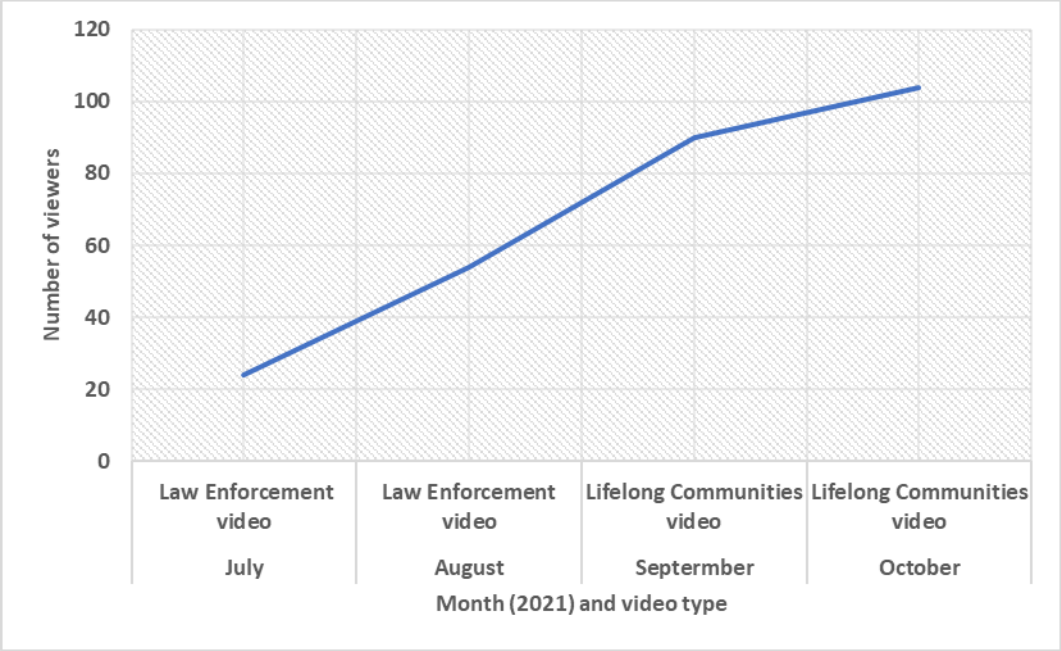

Figure 3-12: Video Viewership from July 2021 to October 2021

3.5 Aging Road User Surveys

From 2017 through 2021, SMFL conducted two aging road user surveys. The first survey was conducted in 2017 and aimed to understand and address the challenges faced by Floridians aged 50 and older in the context of road usage and transportation. The survey had 3,103 respondents, providing valuable insights into the needs, concerns, and preferences of aging road users (FDOT, 2017).

A follow-up survey was conducted in 2020 and served as an extension and refinement of the earlier effort. The survey had 4,275 respondents. This second survey aimed to reaffirm the insights gained in 2017 and capture any evolving trends or shifts in the perceptions and needs of aging road users over time. These two surveys formed a strong data foundation that empowered SMFL to advocate for outreach efforts for the safety and mobility of aging road users in Florida (Barrett et al., 2021).

A number of questions were asked in the two surveys. One question, included in both the 2017 and 2020 surveys, aimed to assess awareness of the SMFL and the materials distributed by the SMFL. Figure 3-13 illustrates the findings related to awareness of SMFL. The results demonstrate a slight 3-point percentage increase in awareness in 2020 compared to 2017. Furthermore, the number of respondents unaware of SMFL decreased from 90% in 2017 to 87% in 2020. These survey results reflect a positive trend, indicating improvements in SMFL's outreach efforts. Nevertheless, 87% of the interviewed aging road users remained unaware of SMFL's existence in 2020. This finding underscores the need for further efforts to enhance awareness among aging road users.

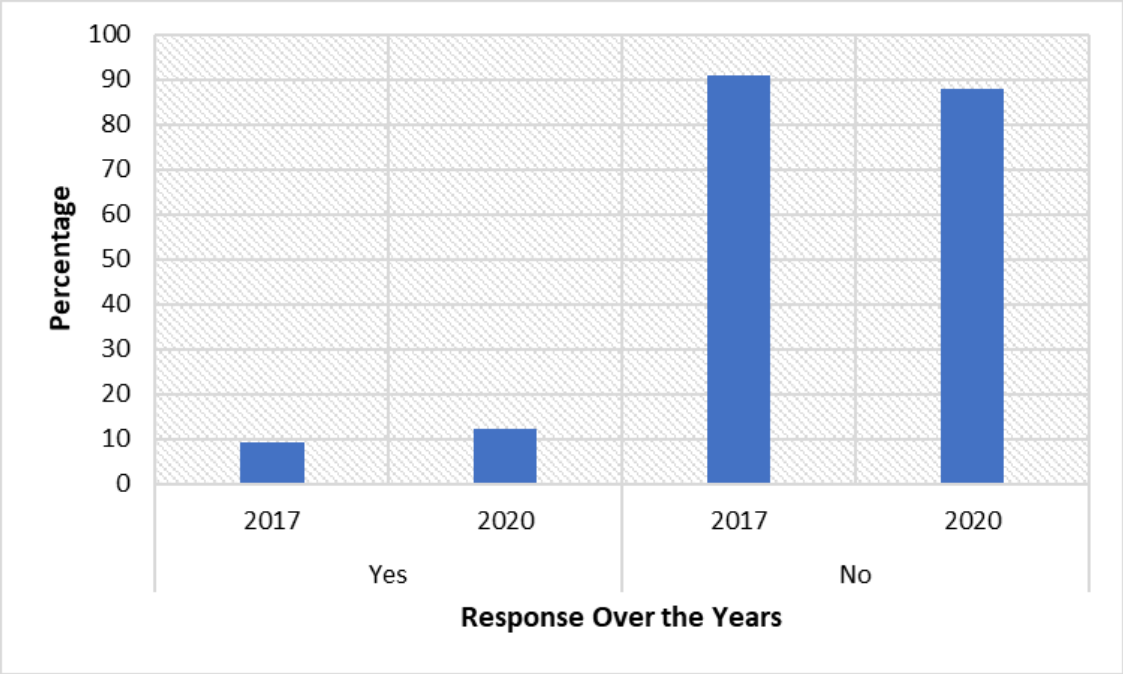

Figure 3-13: Awareness of Safe Mobility for Life Among Floridians Survey Results

Figure 3-14 shows the responses from the surveyed aging road users regarding their interaction with SMFL materials and websites over the past 12 months. The results imply that a relatively low percentage of road users, ranging from 0.4% to 3.7%, reported visiting or using SMFL materials during this period. The majority of respondents, between 96.3% and 99.6%, did not engage with SMFL materials in any way in both the 2017 and 2020 surveys.

This observation aligns with the findings presented in Figure 3-13, which highlighted the significant challenge of 87% of the respondents being completely unaware of SMFL. It underscores the need for enhanced outreach and engagement strategies to connect with a broader audience of aging road users.

Based on the findings from the two surveys, it is evident that Floridians' awareness of SMFL and the utilization of its materials remains relatively low. This presents the need for SMFL to engage in more outreach activities aimed at increasing awareness and outreach efforts.

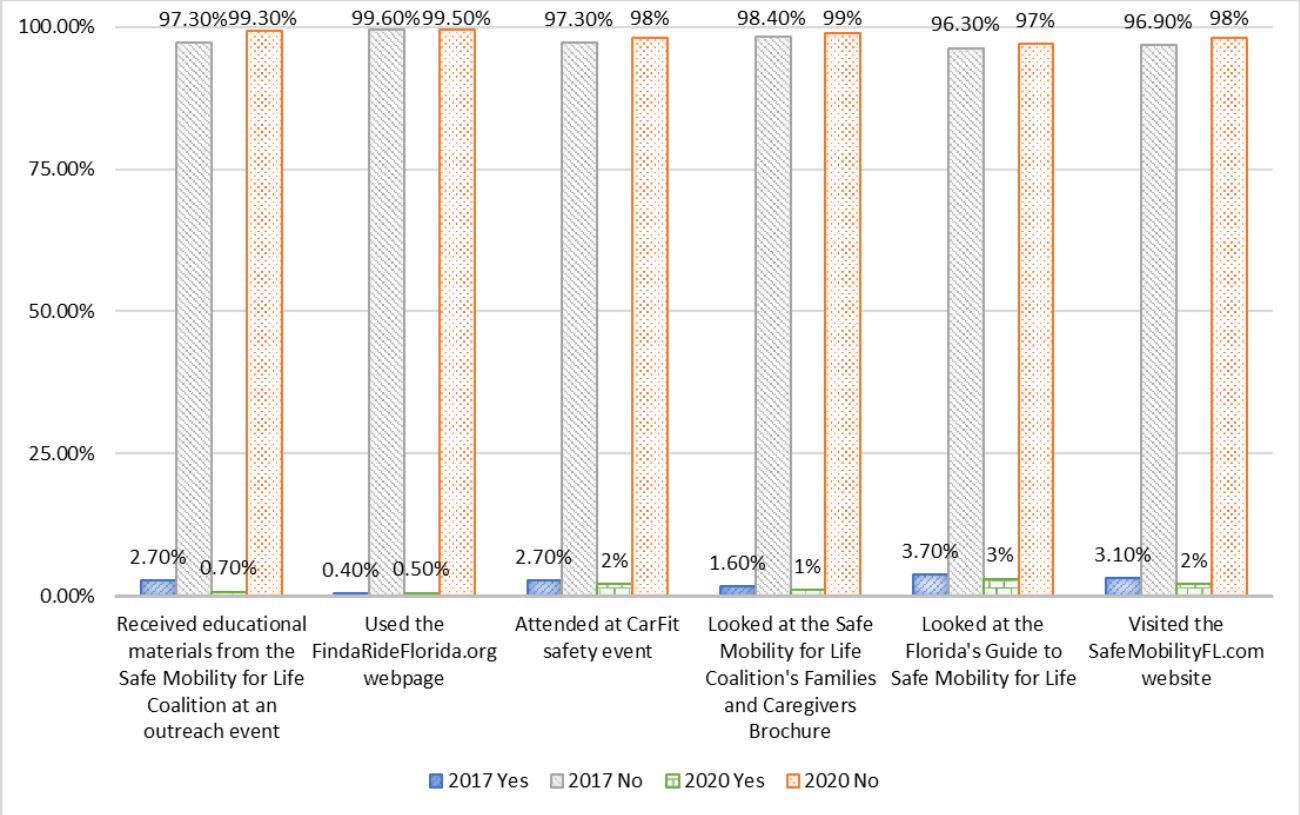

Figure 3-14: Interaction with Safe Mobility for Life Materials and Website

3.6 Summary

The review highlights SMFL's outreach efforts in Florida, targeting enhanced safety and mobility for aging road users. Over the 5-year period of 2017 to 2021, the SMFL distributed over 200,000 educational materials across 61 of the 67 counties in Florida, including tip cards, safety guides, brochures, and strategic plans. Over 50 workshops were conducted, containing initiatives such as Keys to Achieve Safe Mobility for Life, Safe Walking for Life, and CarFit, to address specific safety concerns and mobility needs. Additionally, 14 PSAs and 113 boosted social media posts were launched to disseminate key messages to engage a broader audience and promote statewide awareness.

Collaboration with over 1,000 stakeholders and 86 community partners was instrumental in expanding outreach and effectively disseminating resources. Social media evaluations revealed increased engagement, including website activity and video viewership, indicating a growing interest in SMFL's initiatives. However, findings from surveys conducted in 2017 and 2020 exposed remaining challenges, with 87% of aging road user respondents in 2020 remaining unaware of the SMFL and expressed a low interaction with distributed materials. These insights highlight the need for improved strategies to boost awareness and improve engagement to ensure SMFL's efforts reach all of Florida's aging population effectively.

CHAPTER 4
QUANTIFY THE IMPACT OF SPECIFIC OUTREACH EFFORTS

This chapter quantitatively assesses the effectiveness of outreach efforts led by SMFL to enhance the safety of aging road users in Florida. The analysis used crash data from Signal Four Analytics and the FLHSMV to estimate the impact of various outreach activities on the target aging road users.

The evaluation focused on two primary objectives. First, the extent to which the outreach efforts align with SMFL's goal of reducing total crashes involving aging road users was examined. Second, an economic analysis was conducted by calculating benefit-cost ratios (BCRs) to determine the cost-effectiveness of the outreach efforts. This enables an understanding of both the direct safety benefits and the economic efficiency of the resources allocated toward these initiatives.

From 2017 to 2021, SMFL implemented various outreach strategies, including distributing educational materials, conducting workshops, and social media and monthly educational campaigns. For the quantification of benefits, the research focused on educational material distribution because this outreach type utilized Zone Improvement Plan (ZIP) Codes established by the United States Postal Service (USPS), facilitating a more robust analysis.

4.1 Study Area

The State of Florida is comprised of 67 counties. Each year, SMFL identifies the top 20 priority counties (10 urban and 10 rural) where crashes involving aging road users may be over-represented relative to crashes involving all age groups. From 2017 to 2021, a total of 25 counties were identified as priority counties. These 25 counties constitute the study area for this research effort. Among the 25 counties, 13 are rural, while the remaining 12 are urban. Figure 4-1 illustrates the geographic distribution of these priority counties.

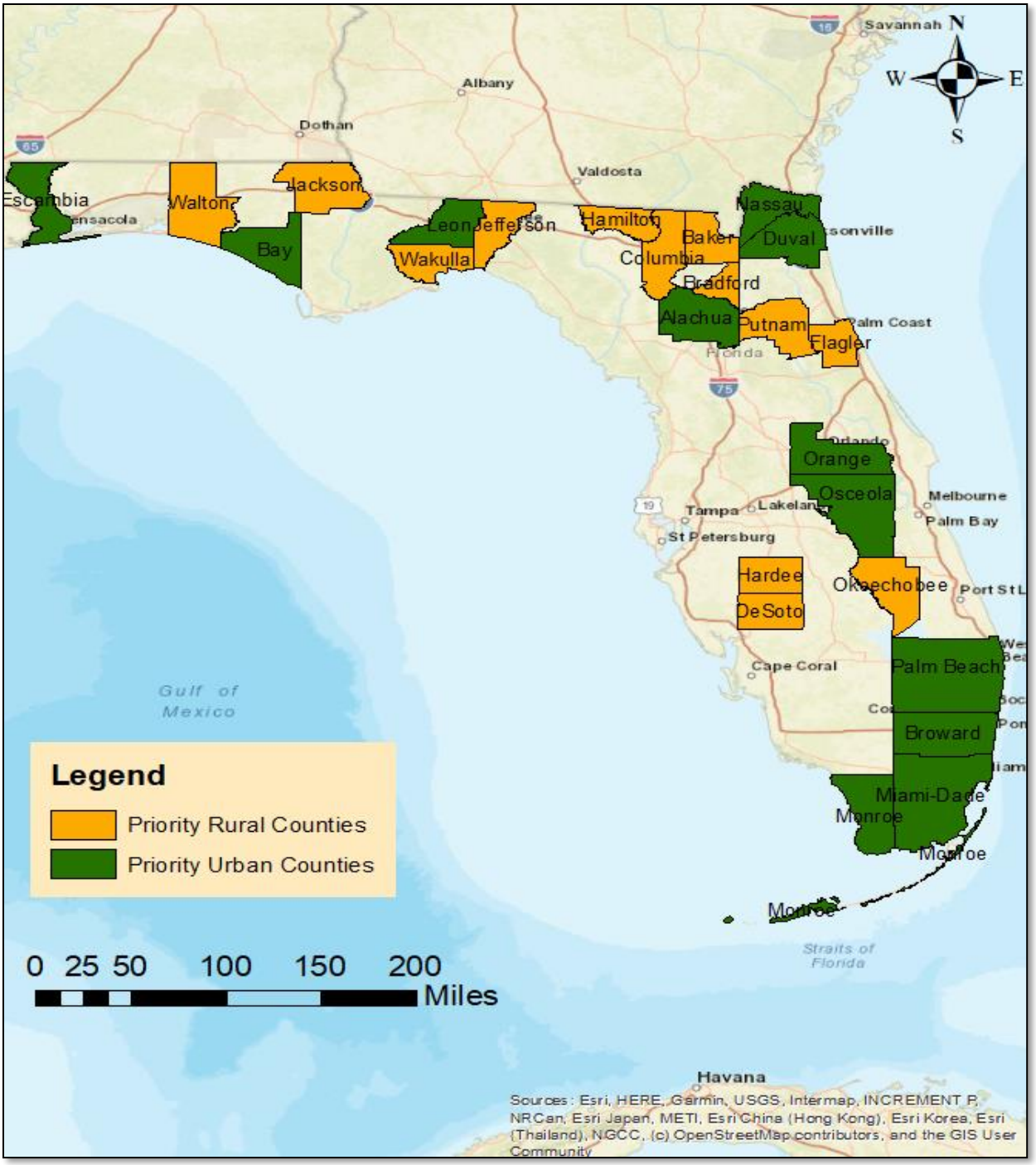

Figure 4-1: Study Area: Safe Mobility For Life Priority Counties (2017-2021)

In each of the 25 counties shown in Figure 4-1, the distribution of SMFL materials was categorized by ZIP Code. ZIP Codes that received the educational materials were designated as "treated," while ZIP Codes that did not receive any educational materials were designated as "untreated." The materials that were distributed consisted of tip cards, booklets, brochures, guides, etc. Even though the educational materials were distributed across 61 of the 67 counties, the analysis was limited to the 25 priority counties.

4.2 Data

Quantifying the impact of the outreach activities requires different data from different sources. The following data were used in the analysis: crash data, data pertaining to the outreach efforts, demographic data, and roadway characteristics data. Table 4-1 summarizes the type, variables, and sources of data used in the analysis.

4.2.1 Crash Data

The crash data analyzed in this analysis are described in detail in Chapter 2, Section 2.2.1. The dataset covers five years (2017-2021) and includes crashes involving aging road users, as derived from FLHSMV and Signal Four Analytics. A total of 674,258 crashes were analyzed and selected based on the availability of latitude and longitude coordinates (refer to Chapter 2 for additional information and data sources).

4.2.2 Data Pertaining to the Outreach Activities

The analysis presented in this report incorporates various datasets related to outreach efforts, including records of educational materials distributed (i.e., tip cards, booklets, brochures, guides, etc.) and the associated costs from 2017 to 2021. During this period, SMFL distributed over 200,000 pieces of educational material, hosted more than 110 outreach events, and conducted over 112 social media boosted post campaigns. To support these outreach activities, more than $600,000 was spent. The data pertaining to these outreach activities were directly sourced from SMFL.

4.2.3 Social and Demographic Data

The analysis also incorporated data on the total population, aging population, and size of each ZIP Code in Florida. These data were sourced from the USCB, which provides online shapefiles named ZIP Code Tabulation Areas (ZCTAs) containing demographic information about Floridians. The shapefile used for this analysis was from the year 2020.

4.2.4 Roadway Characteristics Data

Roadway characteristics data, including total SHS roadway miles, were extracted from the FDOT's 2020 GIS shapefiles. These shapefiles contain detailed information on the functional classification of roadways, which includes the SHS network.

Table 4-1: Summary of Data

Data Type	Data Variables	Data Source
Crash data	• Crash severity • Crash time and location • Crash type • Age of people involved in a crash • Type of aging road user involved in a crash (driver, non-motorist)	FLHSMV Signal Four Analytics
Data pertaining to outreach efforts	• Type of outreach conducted • Location and date • Key message or intention of the outreach effort • Cost of outreach efforts	FDOT-SMFL
Social and demographic data	• Total population • Aging population • ZIP Code size	United States Census Bureau
Roadway characteristics data	• Roadway miles	RCI shapefile

Note: FLHSMV-Florida Department of Highway Safety and Motor Vehicles; FDOT-Florida Department of Transportation; SMFL-Safe Mobility for Life; RCI-Roadway Characteristics Inventory.

4.3 Methodology

A cross-sectional study approach was adopted to quantify the safety benefits of SMFL's outreach efforts. The absence of longitudinal data necessitated a methodology that could still yield meaningful insights into the effectiveness of SMFL's outreach efforts. Therefore, a cross-sectional analysis was considered most appropriate, focusing on comparing *treated* ZIP Codes (i.e., the ZIP Codes that received educational materials) with *untreated* ZIP Codes (i.e., the ZIP Codes that did not receive educational materials).

The categorization of ZIP Codes within the priority counties into *treated* and *untreated* categories enabled the research team to assess the immediate impacts of the outreach efforts on the safety of Florida's aging population. *Treated* ZIP Codes, having been the recipients of educational materials, were directly contrasted with *untreated* ZIP Codes to evaluate the outreach efforts' effectiveness. This comparative analysis provided a framework for understanding the potential benefits and efficacy of SMFL's distinct outreach strategies, overcoming the limitations posed by the lack of pre- and post-intervention data.

4.3.1 Cross-Sectional Study

The initial step in performing a cross-sectional analysis involved identifying ZIP Codes in the priority counties that were supplied with educational materials and those that were not. This categorization was essential to distinguish between ZIP Codes exposed to interventions (i.e., treated) and those that were not (i.e., untreated).

The cross-sectional study was conducted based on the assumption that treated ZIP Codes received at least 50 educational materials in the analysis month, with the effect observed over the next three months. The untreated ZIP Codes were the ZIP Codes that did not receive any educational materials in the analysis month nor in the three months before or after. Note that the effect of the

distributed materials was assumed to show an impact within three months, an assumption adopted by several previous studies (Brakewood et al., 2014; Ek et al., 2020; Hagel et al., 2019).

The educational materials distributed encompassed a wide range of resources aimed at enhancing transportation safety for the aging population. These included booklets, such as Walking, Bicycling, Public Transit, Transportation Network Companies, and Golf Carts, as well as informational materials on traffic signals, such as Turn Right on Red, Flashing Yellow Arrow, How to Safely Navigate a Roundabout, and Wrong-Way Driving on the Interstate.

Additionally, the following materials were provided: Florida's Guide to Safe Mobility for Life, You Hold the Keys to your Transportation Future, Families and Caregivers Brochure, How to Find a Ride Florida, Age-Friendly Florida's Transportation Checklist, and the Driver Medical Referral Visor Card. These resources are also accessible through the SMFL Resource Center website in both English and Spanish. Table 4-2 summarizes the treated and untreated ZIP Codes.

Table 4-2: Summary of Treated and Untreated ZIP Codes

Year	Month	Treated ZIP Codes	Untreated ZIP Codes
2017	March	3	244
	November	36	204
2018	April	7	260
	November	23	243
2019	February	5	216
	May	4	214
	October	8	213
2020	January	2	275
	February	3	274
	September	2	263
	December	10	265
2021	March	2	192
	April	3	252

4.3.2 Data Cleaning and Processing

Prior to conducting the analysis, an extensive data cleaning process was conducted to ensure the accuracy and reliability of the final dataset. This process involved removing incorrect and incomplete entries and focusing on precise locations and times.

4.3.2.1 Data Pertaining to Outreach Efforts

The data pertaining to specific outreach efforts included a variety of initiatives, such as the distribution of educational materials, organizing workshop events, and conducting social media campaigns. Records of the distributed materials from the data files shared by SMFL were reviewed to determine the type of outreach effort, the period it covered, its goals or objectives, and the locations where the outreach activities were conducted. Data columns listing the county names were utilized to identify the counties where the efforts were conducted. In cases where the county

name was not recorded, the city name and address data columns were used to determine the county of the outreach effort. Through this meticulous process, the exact county, period, goal, and type of outreach effort conducted was ascertained for each ZIP Code included in the analysis.

Cost records provided by SMFL were also used to determine the actual expenses incurred. By accessing the claim detail tracking sheet, costs occurring during 5-year period (2017-2021) could be filtered and recorded for analysis. This calculation included summing up the total cost for personal services, contractual services, other expenses, and indirect costs. The sum of these categories was considered as the total cost incurred by SMFL to implement the outreach efforts.

4.3.2.2 Crash Data

The crash data file for the period from 2017 to 2021, provided by SMFL, was processed using R Studio statistical software. Utilizing R coding, the "Age" column was filtered to identify people involved in crashes who were age 65 and older at the time of the crash. Following this, the "report number" column for the newly identified crashes involving individuals aged 65 and older was used to request additional data from Signal Four Analytics. The aim was to obtain the latitudes and longitudes for each crash, as the FLHSMV did not have this information, which was crucial for analyzing data related to crashes at signalized intersections. In addition, the total crashes involving aging road users were categorized by specific crash type (e.g., roundabout crashes, intersection crashes, etc.) for further analysis.

4.3.3 Propensity Score Matching

Propensity score matching, developed by Rosenbaum and Rubin, is a statistical technique used in observational studies (Rosenbaum & Rubin, 1983). This technique is used to mitigate selection bias in observational studies where random assignment is not feasible (Bonifaz & Fasanando, 2022; Zhang et al., 2021). In this study, propensity scores were utilized to evaluate the effectiveness of the comparison site selection process and to reduce the potential for selection bias (Song & Noyce, 2019). This approach involves pairing the treated and untreated ZIP Codes that have similar propensity scores, which reflect the likelihood of receiving treatment based on observed covariates. The objective of the propensity score matching approach is to generate a balanced dataset where the covariate distributions are comparable between the treated and the untreated ZIP Codes, enabling a more accurate estimation of the treatment effect (Wood & Porter, 2013).

The propensity score is based on the balancing score of the covariates, where the balancing score $b(X)$ is a function of the observed covariates X such that the conditional distribution of X given $b(X)$ is computed using Equation 4.1 (Li & Li, 2021).

$$Z \perp X \mid b(X) \tag{4.1}$$

where, Z = binary indicator variable (1 if treated, 0 if untreated), and
X = vector of observed covariates.

The propensity score is defined as the conditional probability of treatment given background variables. Mathematically, it is defined as shown in Equation 4.2

$$e(x) \overset{\text{def}}{=} \Pr\,(Z = 1 \mid X = x) \tag{4.2}$$

where, Z = binary indicator variable (1 if treated, 0 if untreated), and
X = vector of observed covariates.

Propensity scores are typically estimated using logistic regression, where the log-odds of treatment are modeled as a linear combination of the covariates, as shown in Equation 4.3 (Li & Li, 2021).

$$\log\left(\frac{p(\mathrm{Z}=1|X)}{p(\mathrm{Z}=0|X)}\right) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \cdots + \beta_\mathrm{k} X_\mathrm{k} \tag{4.3}$$

where,

$\log\left(\frac{p(\mathrm{Z}=1 \mid X)}{p(\mathrm{Z}=0 \mid X)}\right) =$ represents the log-odds of receiving the treatment,
$\beta_0 =$ intercept, and
$\beta_1, \beta_2, \ldots, \beta_\mathrm{k} =$ coefficients for each covariate $X_1, X_2, \ldots, X_\mathrm{K}$.

After estimating the propensity scores and ensuring proper comparison, each treated ZIP Code was matched with five untreated ZIP Codes that had similar propensity scores (Alluri et al., 2020). This method was essential given the imbalance, i.e., only a few of all ZIP Codes within the priority counties were treated. Various matching methods can be employed, including nearest neighbor matching, caliper matching, and kernel matching. In this study, the nearest neighbor matching method was used. The matching process aims to balance the covariate distribution between treated and control (i.e., untreated) groups, ensuring that any observed differences in outcomes can be attributed to the treatment effect rather than confounding variables (Li & Li, 2021; Polsky & Baiocchi, 2014; Song & Noyce, 2019; Wood & Porter, 2013). The function "*matchit"* in the "*MatchIt"* package in R programming language was used to conduct propensity score matching for this study. The covariates used for the propensity score matching approach included:

- Aging population
- Total population
- Roadway miles
- Area of ZIP Codes
- Area location (i.e., urban/rural)

This approach helped create a balanced comparison group for a more accurate analysis of the treatment effects (Wood & Porter, 2013).

4.3.4 Descriptive Statistics

The descriptive statistics analysis considered the impact of treatments on crashes per 1,000 older adults aged 65 and older by examining the data for the three months following each treated month. For instance, if the outreach activities were conducted in March, the crash rates were evaluated for the subsequent three months (April, May, and June). This approach helps to understand the immediate effects of the interventions on road safety for aging road users. Table 4-3 provides the descriptive statistics of the variables.

Table 4-3: Descriptive Statistics

Year	Month	Variable	Untreated				Treated			
			Mean	Std	Min	Max	Mean	Std	Min	Max
2017	March	Aging population	8,447	2,405	4,566	12,112	8,828	3,921	5,400	13,104
		Total population	53,379	8,103	41,995	69,319	45,269	15,230	32,767	62,231
		Area sq. miles	24	20	5	83	21	15	7	37
		Roadway miles	51	23	22	102	45	25	16	62
		Total crash	82	31	39	142	68	7	62	75
		Crash per 1,000 aging population	10	4	5	17	9	3	6	11
	November	Aging population	4,122	3,359	5	18,544	5,539	4,426	934	15,735
		Total population	24,175	18,981	388	75,269	26,476	17,328	5,558	73,716
		Area sq. miles	58	130	1	1,538	145	230	1	1,104
		Roadway miles	39	28	4	143	79	68	6	237
		Total crash	49	47	-	336	46	29	7	113
		Crash per 1,000 aging population	12	9	-	60	10	5	2	20
2018	April	Aging population	4,512	2,259	845	10,907	4,760	1,986	2,537	7,860
		Total population	35,199	17,705	7,044	69,319	35,206	12,462	19,998	52,279
		Area sq. miles	19	19	3	86	31	25	10	78
		Roadway miles	37	15	10	78	45	17	28	74
		Total crash	56	32	8	150	54	27	21	92
		Crash per 1,000 aging population	14	9	3	33	12	5	6	19
	November	Aging population	5,016	2,790	621	13,431	5,616	2,500	1,824	11,568
		Total population	31,790	17,965	2,583	75,640	33,532	14,844	14,354	72,551
		Area sq. miles	34	52	3	281	37	49	4	170
		Roadway miles	45	28	5	155	44	24	12	108
		Total crash	67	41	2	193	65	37	11	150
		Crash per 1,000 aging population	15	9	1	66	12	5	5	23
2019	February	Aging population	6,843	3,115	1,759	13,517	6,614	1,524	4,185	8,049
		Total population	43,800	15,619	12,703	75,640	43,634	11,315	27,727	54,962
		Area sq. miles	30	39	4	186	37	30	9	84

Year	Month	Variable	Untreated				Treated			
			Mean	Std	Min	Max	Mean	Std	Min	Max
		Roadway miles	54	26	23	143	59	24	27	84
		Total crash	96	43	16	194	95	33	43	125
		Crash per 1,000 aging population	15	7	5	32	16	8	6	27
	May	Aging population	6,229	3,149	904	13,517	5,922	1,242	4,165	6,877
		Total population	34,866	14,040	4,033	54,497	34,706	5,222	30,100	42,214
		Area sq. miles	46	57	4	207	53	78	9	170
		Roadway miles	55	28	18	122	60	33	37	108
		Total crash	81	48	2	185	66	19	44	87
		Crash per 1,000 aging population	13	6	2	23	11	4	7	15
	October	Aging population	5,637	3,154	936	11,977	5,450	1,637	3,203	7,497
		Total population	34,287	17,380	4,311	75,269	34,643	13,042	21,102	54,962
		Area sq. miles	20	32	4	186	27	27	9	84
		Roadway miles	44	22	17	143	49	20	33	84
		Total crash	91	48	27	206	81	29	44	118
		Crash per 1,000 aging population	19	11	7	73	15	6	8	28
2020	January	Aging population	3,331	1,581	930	6,839	3,137	94	3,070	3,203
		Total population	19,602	5,168	12,597	27,843	20,313	8,427	14,354	26,271
		Area sq. miles	36	44	4	136	31	30	10	52
		Roadway miles	36	24	10	85	34	1	33	34
		Total crash	24	17	2	64	20	18	7	33
		Crash per 1,000 aging population	7	4	2	15	6	6	2	10
	February	Aging population	4,887	2,026	1,759	8,604	5,748	1,596	4,250	7,427
		Total population	37,809	18,902	12,703	74,329	44,652	21,727	21,102	63,916
		Area sq. miles	62	53	8	186	70	59	22	135
		Roadway miles	78	35	33	143	90	59	39	155
		Total crash	33	17	4	59	66	28	45	97
		Crash per 1,000 aging population	7	3	1	13	11	3	8	13

Year	Month	Variable	Untreated				Treated			
			Mean	Std	Min	Max	Mean	Std	Min	Max
	September	Aging population	3,893	2,570	1,245	10,252	3,727	740	3,203	4,250
		Total population	23,486	14,573	2,583	50,766	23,687	3,655	21,102	26,271
		Area sq. miles	13	12	3	36	16	8	10	22
		Roadway miles	33	17	5	54	36	5	33	39
		Total crash	46	39	1	130	47	24	30	64
		Crash per 1,000 aging population	11	7	1	26	12	4	9	15
	December	Aging population	4,509	3,404	297	18,544	4,925	3,378	668	11,004
		Total population	31,790	22,543	1,144	74,401	33,765	22,166	3,438	62,231
		Area sq. miles	72	93	2	356	57	74	4	250
		Roadway miles	60	48	6	195	56	43	21	167
		Total crash	41	39	2	216	57	34	12	99
		Crash per 1,000 aging population	9	5	2	30	15	10	4	39
2021	March	Aging population	5,178	2,613	1,845	9,060	5,766	1,571	4,655	6,877
		Total population	38,687	21,480	13,434	75,640	40,970	1,760	39,725	42,214
		Area sq. miles	11	8	4	31	11	3	9	13
		Roadway miles	43	15	30	81	44	9	37	50
		Total crash	82	39	36	162	87	25	69	104
		Crash per 1,000 aging population	16	4	11	22	16	9	10	22
	April	Aging population	4,898	4,623	621	16,462	4,398	2,658	1,900	7,192
		Total population	31,555	26,830	2,806	75,640	27,162	12,741	12,694	36,708
		Area sq. miles	71	87	4	281	34	44	3	84
		Roadway miles	60	33	10	141	44	37	11	84
		Total crash	48	45	1	129	38	14	22	48
		Crash per 1,000 aging population	12	17	2	69	12	10	5	23

In 2017, outreach efforts were conducted in March and November. In March, the mean total population across the treated ZIP Codes was 45,269, with the aging population at 8,828. The analysis of the subsequent three months showed that treated areas had slightly lower total crashes and crashes per 1,000 aging population compared to untreated areas, suggesting some level of effectiveness in crash reduction. In November 2017, the total population in the treated ZIP Codes

was 26,476, with the aging population at 5,539. The subsequent three months also showed fewer total crashes and crash rates in the treated regions, reinforcing the trend observed in March 2017.

In 2018, outreach efforts were conducted in April and November. The total population in the treated ZIP Codes was 35,206 in April and 33,532 in November. In April 2018, the treated ZIP Codes had a slightly higher aging population at 4,760, with lower aging crashes per 1,000 aging population in the subsequent three months compared to the untreated areas, indicating effective treatment measures. In November 2018, the treated areas again showed a higher aging population (5,616) and a lower crash rate per 1,000 aging population, confirming the success of interventions over the following three months.

In 2019, outreach efforts were conducted in February, May, and October. The total population in the treated ZIP Codes was 43,634, 34,706, and 34,643 in April, May, and October, respectively. The treated ZIP Codes in February 2019 showed a slightly lower aging population (6,614) but exhibited a higher crash rate per 1,000 aging population in the subsequent three months, indicating that the treatments might not have been as effective. In May 2019, the aging population was 5,922, with fewer total aging crashes and lower crash rates over the next three months, suggesting successful interventions. In October 2019, the aging population in the treated ZIP Code was 5,450. The treated ZIP Codes experienced a reduction in total aging crashes and lower crash rates over the subsequent three months compared to the untreated ZIP Codes, which indicates effective interventions.

In 2020, outreach efforts were conducted in January, February, September, and December. The total population in the treated ZIP Codes was 20,313 in January, 44,652 in February, 23,687 in September, and 33,765 in December. January 2020 showed fewer crashes in the following three months, indicating treatment effectiveness. Also, in February, September, and December 2020, fewer crashes per 1,000 aging population were observed over the subsequent three months in the treated ZIP Codes, suggesting continuous successful interventions.

Lastly, in 2021, outreach efforts were conducted in March and April. In March 2021, the treated ZIP Codes constituted a higher aging population (5,766) with marginally higher crash rates in the subsequent three months, indicating mixed results of interventions. In April 2021, the treated ZIP Codes had an aging population of 4,398, with significantly fewer crashes and lower crash rates over the next three months.

Over the years, the treated regions generally showed a trend towards fewer total crashes and lower crash rates per 1,000 aging population compared to the untreated regions. This suggests that the outreach efforts and interventions implemented in these months have been effective in improving safety for the aging population. However, the effectiveness varies, indicating a need for continued assessment and adjustment of safety measures to ensure consistent improvements.

4.4 Results and Discussion

This section presents the results and discusses the analysis of total crashes involving aging road users in the treated ZIP Codes. It further includes an estimation of the BCR regarding the outreach

initiatives undertaken by the SMFL. The objective of this assessment was to quantify the impact of SMFL's outreach efforts.

4.4.1 Safety Impact of Outreach Efforts in Treated ZIP Codes

To evaluate the safety impact of SMFL's outreach efforts, the reduction in mean crashes per 1,000 aging population in treated and untreated ZIP Codes was analyzed. The data was considered during the three months following the treatment month to assess the impact of interventions. The results, including mean crashes within the untreated and the treated areas, p-values, and number of materials distributed, are summarized in Table 4-4.

Table 4-4: Mean Crash Rate per 1,000 Aging Population in Treated and Untreated ZIP Codes

Year	Month	Mean Crash Rate Untreated ZIP Codes	Mean Crash Rate Treated ZIP Codes	P-Value	Number of Materials Distributed
2017	March	10.063	8.575	0.245	2,312
	November	**11.874**	**10.050**	**0.045**	**13,592**
2018	**April**	**14.477**	**11.877**	**0.158**	**3,603**
	November	**14.544**	**11.714**	**0.014**	**10,907**
2019	February	15.236	15.556	0.532	7,620
	May	13.162	11.393	0.231	6,441
	October	**18.958**	**15.445**	**0.109**	**1,841**
2020	January	7.425	6.291	0.413	1,321
	February	6.896	11.361	0.953	603
	September	11.319	12.213	0.588	7,480
	December	9.047	14.978	0.951	6,682
2021	March	16.481	16.188	0.485	1,168
	April	11.991	11.557	0.477	680

Note: Bold categories indicate significant reduction at an 80% confidence level.

In March 2017, the distribution of educational materials showed a reduction in mean crashes involving aging road users per 1,000 older adults aged 65 and older, from 10.063 to 8.575 in the treated ZIP Codes. However, this reduction was not statistically significant ($p = 0.245$). The mean crash rate in the untreated ZIP Codes remained relatively high, indicating that the treatment had some positive effects, even though they were not significant. Note that relatively fewer materials were distributed in March (2,312 materials), which might have influenced the results.

In November 2017, there was a significant reduction in mean crashes involving aging road users per 1,000 aging population, from 11.874 to 10.050 ($p = 0.045$). The untreated ZIP Codes showed higher mean crashes, underscoring the effectiveness of the outreach efforts. Note that over 10,000 materials were distributed in November 2017, and this might have resulted in a positive impact on reducing crashes, highlighting the importance of substantial educational efforts.

In April 2018, the treated ZIP Codes experienced a reduction in mean crashes involving aging road users per 1,000 aging population, from 14.477 to 11.877. The results were statistically significant at an 80% confidence interval ($p = 0.158$). The untreated ZIP Codes showed higher crash rates, indicating a potential positive effect of the treatment.

In November 2018, materials distribution showed a significant reduction in mean crashes involving aging road users per 1,000 aging population, from 14.544 to 11.714 ($p = 0.014$). The untreated ZIP Codes had higher crash rates, reinforcing the effectiveness of the outreach efforts. The higher distribution of educational materials (10,907 materials) likely played a key role in achieving this significant reduction.

Material distribution in February 2019 showed no significant change in mean crashes involving aging road users per 1,000 aging population, with an increase from 15.236 to 15.556 ($p = 0.532$). The untreated ZIP Codes remained steady, suggesting that the treatment was not effective despite the distribution of 7,620 educational materials in the treated ZIP Codes.

In May 2019, the treated ZIP Codes experienced a reduction in mean crashes involving aging road users per 1,000 aging population, from 13.162 to 11.393; however, this was not significant at an 80% confidence interval ($p = 0.231$). The untreated ZIP Codes had slightly higher crash rates, indicating a positive, but not significant, effect of the treatment. The distribution of materials was 6,441, suggesting a need for more substantial efforts.

October 2019 saw a reduction in mean crashes involving the aging population per 1,000 population aged 65 and older, from 18.958 to 15.445, which was significant at the 80% confidence interval ($p = 0.109$). The untreated ZIP Codes showed higher mean crashes, pointing to some positive effects of the treatment.

In 2020, the year of COVID-19, various factors might have influenced the outcomes of treatments aimed at reducing crashes among the aging population. January 2020 showed a reduction in mean crashes per 1,000 aging population, from 7.425 to 6.291, which was not significant ($p = 0.413$). The untreated ZIP Codes had higher mean crash rates, suggesting a potential positive effect of the treatment. In February 2020, there was an increase in the mean crash rate, from 6.896 to 11.361 ($p = 0.953$), with a very low distribution of materials (603 materials), and the untreated ZIP Codes had lower crash rates, indicating ineffective treatment.

September 2020 saw an increase in the mean crash rate involving aging road users, from 11.319 to 12.213 ($p = 0.588$). Untreated ZIP Codes showed lower mean crash rates, suggesting limited effectiveness. In December 2020, mean crash rates increased from 9.047 to 14.978 ($p = 0.951$), and the untreated ZIP Codes had lower mean crash rates, indicating a lack of effectiveness. The COVID-19 pandemic likely impacted traffic patterns and behaviors, which could have affected the crash reduction outcomes. Therefore, the year 2020 was considered an outlier. Caution should be exercised when considering year 2020 statistics in further analyses.

In March 2021, the reduction in mean crash rates per 1,000 aging population from 16.481 to 16.188 was not significant ($p = 0.485$). The untreated ZIP Codes had higher mean crash rates, suggesting some positive effects of the treatment. Similarly, April 2021 experienced a reduction in mean crash

rates per 1,000 aging population, from 11.991 to 11.557, which was also not significant (p = 0.477). The untreated ZIP Codes had higher crash rates, indicating a marginal positive effect of the treatment.

In summary, the year 2020 could be considered as an outlier. Nonetheless, there was a noticeable reduction in the target crash rate in the treated ZIP Codes during the remaining analysis years of 2017, 2018, 2019, and 2021. This reduction appeared to be linked to the number of educational materials distributed during the specific months. As expected, it could be inferred from the data that increased distribution of educational materials resulted in more significant reductions in crash rates among aging road users.

4.4.2 Benefit-cost Ratio (BCR)

The BCR is the ratio of the present value of project benefits to the present value of project costs (Carter et al., 2017) and is calculated using Equation 4.4 as follows:

$$\text{Benefit-Cost ratio} = \frac{\sum Present\ value\ of project\ \ benefits}{\sum Present\ value\ of\ project\ costs} \tag{4.4}$$

In the context of the results obtained from Equation 4.4, the BCR interpretation is as follows:

- BCR less than one: When the calculated benefit-cost ratio is less than one, it suggests that the outreach efforts did not yield benefits that outweighed the associated costs. In other words, the outreach efforts may not have been cost-effective, and there may have been a limited positive impact in terms of reduction in target crashes.

- BCR greater than one: When the calculated benefit-cost ratio is greater than one, it indicates that the outreach efforts resulted in benefits that exceeded the associated costs. This suggests that the outreach initiatives were cost-effective and positively impacted, providing a net benefit in terms of reduction in target crashes.

- BCR equal to one: When the calculated benefit-cost ratio is exactly equal to one, it signifies that the benefits generated by the outreach efforts were precisely balanced with the associated costs. There was neither a net gain nor a net loss in this scenario. The outreach initiatives covered their costs but may not have resulted in additional benefits in terms of a reduction in target crashes.

These interpretations provide a straightforward and practical way to assess the cost-effectiveness of outreach activities. They allow for a clear determination of whether the efforts resulted in benefits, losses, or covering their costs without generating additional value.

4.4.2.1 Number of Crashes Reduced (Benefits)

This section presents an analysis of the benefits of the outreach efforts in terms of crash reduction in the treated ZIP Codes. The analysis involved calculating the mean difference in crashes between untreated and treated ZIP Codes and using this difference to determine the overall crash reduction.

Since the mean was per 1,000 aging population, the average aging population in treated ZIP Codes was divided by 1,000. This value was then multiplied by the mean difference to obtain the number of crashes reduced. The results, including the untreated mean, treated mean, mean difference, average aging population, average aging population per 1,000 total population, and crash reduction, are summarized in Table 4-5.

Table 4-5: Benefits of Crash Reduction in the Treated ZIP Codes

Year	Month	Mean Crash Rate[1] in Untreated ZIP Codes	Mean Crash Rate[1] in Treated ZIP Codes [1]	Difference in Mean Crash Rate[1]	Average Aging Population (per 1,000s)	Crashes Reduced in Treated ZIP Codes
2017	March	10.063	8.575	1.488	6.62	9.85
	November	11.874	10.050	1.824	5.46	9.96
2018	April	14.477	11.877	2.600	4.73	12.31
	November	14.544	11.714	2.830	5.45	15.42
2019	February	15.236	15.556	-0.320	4.72	-1.51
	May	13.162	11.393	1.768	4.66	8.23
	October	18.958	15.445	3.513	4.84	17.02
2020	January	7.425	6.291	1.133	2.09	2.37
	February	6.896	11.361	-4.465	5.75	-25.66
	September	11.319	12.213	-0.893	2.48	-2.22
	December	9.047	14.978	-5.931	4.84	-28.68
2021	March	16.481	16.188	0.293	3.84	1.13
	April	11.991	11.557	0.434	4.40	1.91
Total Crashes Reduced						20.12

[1] Mean crash rate is in crashes per 1000 aging population.

In March 2017, the mean crash rate per 1,000 aging population in the untreated ZIP Codes was 10.063, while it was 8.575 in the treated ZIP Codes, resulting in a mean difference of 1.488. With an average aging population of 6.621, the average aging population per 1,000 population was 6.62, leading to a crash reduction of 9.85. Similarly, November 2017 showed a mean difference of 1.824, an average aging population of 5.46 per 1,000 population, and a crash reduction of 9.96.

In April 2018, the mean difference was 2.6, and with an average aging population of 4.73 per 1,000 population, the crash reduction was 12.31. November 2018 showed a mean difference of 2.83, resulting in a crash reduction of 15.42 for an average aging population of 5.45 per 1,000 population. February 2019 saw a negative mean difference of -0.32, indicating an increase in the mean crash rate, with a crash increase of 1.51 for an average aging population of 4.72 per 1,000 population. May 2019 had a mean difference of 1.768 and a crash reduction of 8.23, while October 2019 showed a mean difference of 3.513 and a crash reduction of 17.02.

January 2020 had a mean difference of 1.133, resulting in a crash reduction of 2.37, with an average aging population of 2.09 per 1,000 population. In February 2020, the mean difference was -4.465, indicating a significant increase in the crash rate, with a crash increase of 25.66. September 2020 had a mean difference of -0.893, resulting in a crash increase of 2.22, while December 2020

showed a mean difference of -5.931, resulting in a crash increase of 28.68. Notably, 2020 was an outlier year due to the COVID-19 pandemic, as discussed earlier, which impacted these fluctuations by altering traffic patterns and potentially affecting driver behaviors.

In March 2021, the mean difference was 0.293, leading to a crash reduction of 1.13 for an average aging population of 3.84 per 1,000 population. April 2021 showed a mean difference of 0.434, resulting in a crash reduction of 1.91 for an average aging population of 4.40 per 1,000 population. Note that the treatment months with negative mean differences indicated an increase in crashes, while the remaining months showed a reduction in crashes. Considering the overall effect over the 5-year period, the total number of crashes reduced was 20.12, which is considered an overall benefit.

4.4.2.2 Costs Associated with the Outreach Efforts

Cost data associated with implementing outreach efforts from 2017 to 2021 was used for the benefit-cost analysis. The incurred expenses considered were the outreach support costs. Table 4-6 summarizes the amounts spent annually.

Table 4-6: Annual Costs of Outreach Efforts (2017-2021)

Year	Outreach Support Cost
2017	$84,021
2018	$114,275
2019	$142,124
2020	$160,139
2021	$135,911
Total Cost	$636,470

The monetary safety benefit was determined by calculating the difference in the crashes that were expected to occur in the treated regions had they not been treated and the actual crashes observed in the treated ZIP Codes when the interventions were implemented. To assign a dollar amount to this reduction, the total difference in crashes was multiplied by the average cash cost. An average cash cost of $159,093, as provided by the FDOT Design Manual, was adopted for this calculation (FDOT, 2021b).

4.4.2.3 BCR Estimation

The BCR calculation assesses the economic impact of the outreach efforts to reduce crashes involving aging road users. By comparing the total safety benefits (reduction of 20.12 crashes in five years) to the total costs incurred in five years ($636,470), the overall financial impact of the educational material distribution was estimated using Equation 4.5, as follows:

$$\textit{Total Safety Benefits} = \$159{,}093 \times 20.12 = \$3{,}201{,}563.15 \quad (4.5)$$

Using Equation 4.4, the BCR was calculated as follows:

$$\text{Benefit-Cost ratio} = \$3{,}201{,}563.15 / \$636{,}470 = 5.03$$

where the total cost used for the outreach efforts = $636,470.

The benefit-cost analysis for distributing the educational materials in all the treated ZIP Codes estimated a BCR of 5.03, meaning that for every dollar spent on the educational materials distribution, 5.03 dollars were saved by reducing aging road user crashes in Florida. As discussed in Section 4.4.2, a BCR greater than 1.0 indicates that the benefits of a project outweigh its costs, making the project economically viable (FHWA, 2018).

However, it is well-recognized that the treated ZIP Codes are more critical in terms of crashes compared to the untreated ZIP Codes. This situation has led various FDOT districts, counties, and city governments to implement several countermeasures aimed at reducing crashes and fatal and serious injuries in these counties. While outreach efforts *Click or Tap Here to Enter Text* played a significant role in reducing crashes, the presence of additional countermeasures also contributed to the overall reduction in crashes (Boot et al., 2013).

4.5 Summary

This chapter discussed the quantitative evaluation of the effectiveness and economic viability of SMFL's outreach efforts aimed at improving safety for aging road users in Florida. By analyzing crash data from Signal Four Analytics and the FLHSMV, the study identified the impact of educational material distribution on crash rates involving aging road users. The analysis focused on 25 priority counties, categorized into treated and untreated ZIP Codes, with treated areas representing ZIP Codes that received educational materials in the period of 2017-2021.

Using a cross-sectional methodology, crashes per 1,000 older adults 65 years and older in treated and untreated ZIP Codes were compared for three months following outreach activities. Descriptive statistics revealed a general trend of reduced crashes per 1,000 aging population in treated areas, though the effectiveness varied across months and locations. Propensity score matching ensured balanced comparisons, isolating the outreach efforts' impact from other confounding factors. The analysis showed a cumulative reduction of 20.12 crashes over five years, with significant reductions in some months. However, data from the year 2020 indicated irregular trends likely influenced by the COVID-19 pandemic.

A benefit-cost analysis was conducted to assess the economic efficiency of the outreach efforts. With total safety benefits estimated at $3.2 million against an expenditure of $636,470, the BCR was calculated at 5.03, demonstrating that every dollar spent yielded five dollars in return in safety-related savings.

CHAPTER 5
BEST PRACTICES AND RECOMMENDATIONS

This chapter discusses the best practices and lessons learned in conducting Safe Mobility for Life's outreach efforts. It provides insights into conducting effective outreach efforts and offers recommendations for ensuring the successful and sustainable implementation of these initiatives.

5.1 Methodology

Two approaches were used to evaluate SMFL's outreach efforts: a quantitative approach and a qualitative approach through interviews with key implementers. Both approaches were aimed at identifying best practices, lessons learned, and recommendations to guide the implementation of future outreach efforts.

5.1.1 Quantitative Approach

The research team conducted a quantitative analysis to evaluate the effectiveness of the outreach efforts conducted between 2017 and 2021. Using SMFL data, the team assessed the costs associated with these outreach activities and their impact on crash reduction in specific ZIP Codes where the initiatives were implemented. This analysis aimed to quantify the benefits of the outreach in terms of reducing crashes among aging road users and to calculate a benefit-cost ratio to determine the financial efficiency of these programs.

In addition to the quantitative evaluation, the research team also reviewed the availability of data, examined the documentation processes, and assessed the records related to all outreach efforts conducted by SMFL during this period. This step ensured that the analysis was based on comprehensive and reliable data, which further strengthened the study's findings regarding the effectiveness and cost-efficiency of Safe Mobility for Life's outreach initiatives.

5.1.2 Interviews with Implementers

The second approach focused on gathering qualitative insights through interviews with key implementers of SMFL's outreach efforts. The research team interviewed Ms. Gail M. Holley and Ms. Stefanie K. Hartsfield. Ms. Holley serves as FDOT's Safe Mobility for Life Program Manager. Ms. Hartsfield serves as the Safe Mobility for Life Program Coordinator with the Pepper Institute on Aging and Public Policy at FSU. She also leads the Community Outreach and Education focus area team.

The interview questions were designed to cover various aspects of the outreach efforts, such as implementation experience, process effectiveness, challenges encountered, and stakeholder engagement. Questions that were asked were categorized into eight categories as provided below:

- Implementation Experience
- Process Effectiveness
- Challenges Encountered
- Best Practices

- Information Flow and Communication
- Feedback and Evaluation
- Stakeholder Engagement
- Lesson Learned

These sample questions illustrate the scope of the interviews, while the complete set of interview questions is provided in Appendix D.

5.2 Insights from the Interviews

This section presents qualitative findings gathered from key implementers of SMFL's outreach efforts. It captures their experiences, strategies, and lessons learned in planning and executing initiatives aimed at improving the safety and mobility of Florida's aging population. These insights provide a deeper understanding of SMFL's operational practices and areas for future improvement.

5.2.1 Implementation Experience

The interviewees were Safe Mobility for Life's Program Manager and the Program Coordinator. The program coordinator has been with SMFL for almost 13 years, leading the community outreach and education team, managing grant funding, and overseeing various outreach activities in collaboration with FDOT. The program manager has been with SMFL for almost 20 years, oversees the overall operations, and leads the Coalition, team members, and consultant team in implementing the Safe Mobility for Life Strategic Action Plan.

One example of a community outreach event was the *Safe Transit for Life* workshop piloted in 2013, which was aligned with the national *Dump the Pump* campaign. The event aimed to educate older adults on using public transit through a hands-on experience. In Partnering with the Florida Public Transportation Association and a local senior center, practical transit training was offered by taking participants on a ride, providing a comfortable and familiar group environment with incentives such as lunch and promotional items. This event set the precedent for future workshops, making it Safe Mobility for Life's first interactive and practical outreach initiative for older adults.

To ensure inclusivity, the outreach activities are made accessible to a diverse audience. Safe Mobility for Life's messaging is designed to be positive and inclusive, acknowledging that some aging road users may not want to stop driving or not drive. However, viable alternatives are provided when needed. Before planning workshops or trips, potential barriers such as mobility, hearing, or language challenges are assessed and addressed. This preparation often involves additional support staff and local partners, ensuring that participants receive the necessary assistance. SMFL's strategy emphasizes the importance of understanding local communities and involving local partners familiar with the area, which has been fundamental for effective engagement.

Over time, substantial improvements have been observed in SMFL's outreach messaging. Initially, terms such as "*aging road users*" were used directly, sometimes isolating the audience. SMFL has broadened its approach, removed age-specific language, and focused on individual needs, offering proactive and incremental solutions for safer mobility. This shift has led to a more positive

reception from the audience, transitioning from initial resistance to increased appreciation and engagement.

5.2.2 Process Effectiveness

The success of outreach activities is measured through immediate participant feedback and online engagement data. Immediate responses from participants, even at smaller events, provide valuable insights into how the message is received and its potential for broader impact through word-of-mouth sharing. For example, a participant in Gainesville confirmed that the message had an impact. Additionally, online tools such as Google Analytics are used to measure success by tracking spikes in visits to resources after events, indicating that people are engaging with the content beyond the in-person setting. Detailed event recaps, documenting attendee numbers, key observations, and materials distributed are also used to refine future outreach strategies.

Feedback directly influences how SMFL adapts its approach. An example cited involved focus groups for "*Florida's Guide to Safe Mobility for Life*," where its initial messaging was adjusted based on participant responses. Negative feedback on a proposed title led to a shift in focus towards safety and independence, aligning more closely with audience needs.

Additionally, the use of trusted publications such as the Florida Department of Elder Affairs newsletter "Elder Update" proves effective for outreach, generating significant responses when articles are featured. Social media, particularly boosted posts, reaches broader audiences, though funding remains a challenge. Partnerships with local organizations are leveraged to tailor messaging and boost event attendance, demonstrating the importance of collaborative efforts in expanding outreach effectiveness.

5.2.3 Challenges Encountered

Several challenges were highlighted during the implementation of outreach activities, particularly at tabling events. These events often attract a diverse audience, making it challenging to present a brief and relevant message when the program covers a wide range of topics, such as driving safety, transportation options, and licensing information. A variety of resources are brought to these events; however, adjusting conversations based on individual needs while avoiding overwhelming attendees is challenging. To address this, the pre-packaged gift bags with concise information and promotional items are used, providing attendees with a brief overview and directing them to SMFL's website SafeMobilityFL.com, for more details. However, ensuring that SMFL members and community partners are adequately prepared and comfortable with tabling remains an ongoing challenge due to the comprehensive knowledge required.

One significant example of an outreach event that did not go as planned occurred at a library in St. Pete Beach. Despite months of coordination and promotion, no attendees showed up. It was noted that the event's flyers were too small, and the absence of a strong community partner advocating for the event contributed to its lack of success. This experience underscored the need for clearer and more direct messaging in event titles and promotional materials. It was learned that aligning event content with the specific needs and interests of the target audience, such as emphasizing safe driving over general mobility, was important. As a result, SMFL now focuses on engaging local

partners to promote events more effectively, ensuring that messaging is clear and connects with the audience.

Another major challenge discussed was the resistance from the community, particularly when individuals do not identify themselves as part of Safe Mobility for Life's target audience. Many attendees often reject the materials, saying they are not yet at the stage where they need such resources. It was recognized that SMFL's branding and messaging needed to shift to emphasize proactive planning tools applicable to everyone, regardless of age. By reframing materials to appeal to a broader demographic and highlighting that everyone is aging, SMFL aims to break down this resistance and engage participants earlier, encouraging them to consider the benefits of planning for mobility and safety as a continuous process rather than an immediate need.

5.2.4 Information Flow and Communication

Basecamp, a project management software tool, is used as the primary platform for managing communications and activities between team members, consultants, and SMFL members. By organizing project-specific spaces, only relevant team members are involved, ensuring that updates remain focused and manageable. Basecamp training sessions are conducted to support effective usage, and templates are provided to streamline processes. To enhance this, follow-up emails with links to Basecamp updates are sent, integrating familiar tools with the platform to encourage team engagement.

Additionally, Notion is used as an online database to track outreach and work plan activities, which are updated weekly. This live view of events and project details, accessible through Basecamp, helps organize and summarize activities efficiently at the end of the year.

Challenges were identified with the past methods of disseminating information to stakeholders, such as using MailChimp, which faced firewall issues preventing some members from receiving updates. To address this, alternative approaches are being explored to create visually appealing and accessible updates for future monthly and quarterly communications. For feedback collection, a structured recap system is used, and templates are provided to document event details and lessons learned. This consistent approach, accompanied by quick calls to gather information directly when needed, ensures that experiences are recorded systematically, aiding in the continuous improvement of outreach strategies.

5.2.5 Feedback and Evaluation

Several innovative methods are being explored beyond surveys to gather feedback from aging road users. Plans were mentioned to implement a comment feature on their website, such as pop-up review boxes, to make it easier for users to provide immediate feedback. At events, feedback is recorded, and an iPad has been used to collect real-time comments or sign-ups, enhancing accessibility. Multimedia tools, such as short, recorded interviews during events, have proven effective in capturing valuable insights.

A structured process is used to analyze feedback and incorporate it into program development. Feedback is collected, reviewed, and presented to the SMFL team during biannual meetings, where

focus groups are formed to discuss suggestions and identify improvements. This collaborative method allows for detailed discussions and the generation of new ideas. The team often proposes incremental changes rather than making overhauls.

Moreover, new team members are encouraged to contribute their perspectives, ensuring that diverse insights are considered and that SMFL's processes remain adaptable. This strategic approach ensures that feedback is used effectively to guide program enhancements and development.

Regarding technology, it was noted that while online tools might not directly engage older adults effectively, other approaches, such as phone surveys, have been beneficial, although these are more resource intensive. Apart from phone surveys, existing mailing lists are used to distribute paper surveys, helping to reach a broad audience. Additionally, the potential is seen in AI-driven tools to automate data analysis and enhance feedback processes. Google Analytics is currently used to track online interactions, indicating the need for more mobile-friendly pages and strategies to increase engagement. Exploring technologies that streamline and automate these processes is a future goal, aiming to make their digital presence more responsive to their audience's needs.

5.2.6 Stakeholder Engagement

For stakeholder engagement, several effective practices were identified. MailChimp is used for email communications, typically sending quarterly updates or as needed to avoid overwhelming stakeholders. Sending brief, targeted emails directly to community partners has proven more effective than using mass mailing lists, leading to higher open rates. Interest was expressed in refining this approach further by tracking website visits alongside email opens.

Likewise, social media collaborations with other safety SMFLs, such as the Florida Teen Safe Driving SMFL, have doubled outreach efforts and expanded their audience. Attending recurring conferences, such as the Florida League of Cities, has been instrumental in initiating engagement. These events provide opportunities to connect with the audience.

AARP Florida was cited as a prime example of a successful collaboration due to its extensive resources and established audience, which aligned well with Safe Mobility for Life's outreach goals. AARP's ability to provide financial and promotional support in areas where SMFL had limitations was crucial for this partnership's success. Collaborations with police department outreach coordinators were also mentioned, utilizing their local connections and community knowledge to deliver effective programs such as CarFit.

These collaborations are successful because they offer complete packages, including training and materials, making it easy for partners to implement without additional effort. For instance, the 'Safe Walking for Life' workshop, developed in collaboration with Alert Today Florida, not only provides comprehensive resources but also has received positive feedback from local community leaders for its accessibility and immediate applicability. This ensures that both stakeholders and older adults benefit from valuable, easy-to-implement solutions.

5.2.7 Best Practices

Effective strategies were shared that are believed to be widely adopted across outreach efforts. One key emphasizes the importance of removing defenses when engaging with the audience, particularly older adults who may be frustrated. The strategy involves avoiding defensiveness and finding common ground by acknowledging their perspective. This approach provides a new perspective without contradicting the audience's view, encouraging them to feel heard and valued. It suggests asking questions such as, "*Have you thought of it this way*?" to engage without implying disagreement. Safe Mobility for Life has developed branding guidelines to standardize this respectful and effective communication approach, ensuring that all involved partners maintain clarity and consistency in their messaging.

The importance of building personal connections was also highlighted as a key strategy for outreach, particularly for those new to engaging with older adults. Drawing on their experience from training programs, it is recommended to relate to older adults as peers instead of as mentors. Sharing personal stories and transportation challenges helps build trust and shows that the outreach staff genuinely understands and cares about the audience's experiences. This method builds trust and credibility, making it more likely that participants will engage actively and feel comfortable asking questions or sharing their concerns. Encouraging these connections through storytelling and personal experience is a way to humanize the outreach effort, moving beyond information dissemination to creating meaningful, relatable dialogue that fosters trust and collaboration.

Additionally, the significance of interactive and engaging outreach sessions was emphasized to encourage active participation. Workshops are recommended to be conversational rather than lecture-based, encouraging participants to ask questions throughout rather than waiting until the end. This approach creates a dynamic environment where participants feel comfortable engaging and sharing their thoughts without fear.

Furthermore, utilizing interactive tools, such as Slido, in virtual settings further enhances engagement by allowing participants to ask questions anonymously. This can be especially effective for those hesitant to speak up in person. This method not only helps capture a broader range of feedback but also ensures that workshops are more responsive to the needs and concerns of the audience, adapting the content in real time based on their responses. This interactive approach, coupled with consistent communication, forms the foundation of Safe Mobility for Life's effective outreach strategies.

5.2.8 Lessons Learned

The importance of having active, engaged partners in outreach efforts for aging road users was emphasized. It was noted that local champions who are known in the community are essential for effective outreach, as many people may not be familiar with Safe Mobility for Life unless someone they trust promotes it. The lesson learned is that a committed partner who understands and supports Safe Mobility for Life can greatly enhance its visibility and success.

Moreover, a FDOT district-wide approach to CarFit training was successively applied, utilizing lessons from earlier initiatives. It was explained that investing the same level of effort into small

community sessions as district-wide ones allows a broader audience to be reached with minimal resources. By incorporating both virtual and in-person components, they maximized reach and ensured flexibility in delivery. This strategy, implemented across all districts, has led to consistent, positive feedback and engagement, proving that repeating the message across different groups fosters familiarity and trust.

5.3 Best Practices in Outreach Efforts

Best practice refers to a recognized set of procedures or guidelines that, when adhered to, consistently lead to positive results (Wright, 2023). After reviewing the activities of SMFL over a five-year period from 2017 to 2021, several best practices were observed in their approach to educational material distribution, outreach events, public service announcements (PSAs), and social media campaigns. The best practices for each outreach effort are discussed below.

5.3.1 Educational Material Distribution

Safe Mobility for Life demonstrated a strong commitment to reaching diverse communities across Florida by distributing over 200,000 educational materials from 2017 to 2021. One of the best practices exhibited by SMFL was its record-keeping. SMFL documented essential details such as the number, type, and location of educational distributed materials, including the county, city, ZIP Codes, and even the addresses of recipients. This systematic documentation makes it easier to assess and evaluate the impact of the distributed materials at the ZIP Code level, providing a foundation for analyzing outreach effectiveness.

A notable approach was the broad variety of materials distributed to serve multiple purposes. SMFL strategically distributed materials that catered to different aspects and addressed specific safety concerns. For instance, the How to Use Transportation Options educational series, Roadway and Parking Safety materials, Family Caregivers and Age-Friendly Florida's Transportation Checklist (AFFTC), and Tip Cards covered various topics relevant to both aging individuals and their caregivers. This diversity of materials ensured that the educational outreach was comprehensive, addressing a wide range of transportation safety issues for both drivers and non-motorists.

Additionally, SMFL showed great insight in making their materials available in both Spanish and English. Florida is known for its diverse population, and by providing bilingual materials, SMFL ensured that its outreach efforts could effectively engage a wider audience. This approach was crucial in increasing the accessibility of important transportation safety information, particularly in regions with significant Spanish-speaking populations, helping to bridge language barriers and extend the outreach's impact.

Lastly, SMFL's targeted distribution efforts are reflected in the frequency and focus of material dissemination by county. The SMFL recognized regions that required more attention, such as Leon and Orange counties, which were among the top 20 priority counties and had the highest distribution frequencies. Conversely, the data also revealed areas that received fewer materials, such as Lafayette, Washington, Dixie, and Holmes counties, that received fewer materials,

offering opportunities to strategically adjust future efforts to ensure that underserved areas are adequately reached.

5.3.2 Outreach Events

Safe Mobility for Life's workshops have been highly successful due to their interactive nature. Workshops such as "CarFit" provided opportunities for aging road users to adjust their vehicles for optimal comfort and safety and enhance their safe driving. Additionally, workshops are strategically held within communities, making the sessions accessible and contextually relevant. By offering varied topics, such as safe bicycling, walking, and public transit, SMFL ensured that workshops catered to both drivers and non-drivers, helping aging road users explore alternative transportation modes beyond personal vehicles.

5.3.3 Public Service Announcements (PSAs)

Safe Mobility for Life has implemented effective PSAs, particularly in 2017, with a high number of campaigns aimed at raising public awareness, demonstrating a strong commitment to public service and outreach. SMFL also acknowledges the importance of documenting PSAs; however, this practice has been applied with varying consistency, suggesting an area for further improvement.

5.3.4 Social Media Campaigns

Safe Mobility for Life effectively leveraged social media platforms such as Facebook, Instagram, and Twitter to expand the reach of its outreach efforts. Boosted posts were particularly successful in targeting different counties. Furthermore, the annual evaluation of social media performance from 2020 to 2021 provided valuable insights to SMFL to assess audience engagement and participation. Tracking the number of views and clicks on SMFL materials also helped gauge how many people accessed and benefited from these resources.

5.4 Lessons Learned

Upon reviewing the SMFL's activities over the five years from 2017 to 2021, several lessons were identified in their strategies for distributing educational materials, conducting outreach events, PSAs, and executing social media campaigns. The key insights and lessons from each outreach effort are discussed below.

5.4.1 Educational Material Distribution

A key insight from the study was the importance of distributing educational materials at scale. The analysis showed that ZIP Codes receiving a higher volume of materials experienced a greater reduction in crashes involving aging road users. This suggests that larger-scale distribution efforts are essential for maximizing the effectiveness of outreach initiatives and achieving meaningful safety improvements.

While Safe Mobility for Life's current tracking system provided valuable insights by recording ZIP Code-level data, the research team proposed that the Census Block Group (CBG)-GEOID for tracking could enhance the precision of the analysis (Alluri & Kodi, 2021). However, recognizing that identifying CBG-GEOIDs may be challenging for those distributing materials, a more feasible approach could involve dropping a pin on Google Earth or recording latitude and longitude coordinates. This method would allow for more precise tracking while remaining practical and manageable for field staff, providing a clearer understanding of which areas are benefiting most and where additional efforts may be needed.

The data from 2020 was identified as an outlier, which may be due to the impact of the COVID-19 pandemic, which significantly altered traffic patterns and may have influenced the results of outreach efforts. This highlights the importance of flexibility and adaptability in the design and implementation of outreach programs. Future efforts should account for potential disruptions and explore alternative strategies to maintain the effectiveness of interventions under changing conditions.

The distribution of materials in the treated ZIP Codes appeared to be demand-driven rather than following a consistent pattern. For 2017 and 2018, most of the materials were distributed in November, while in 2019, higher volumes were seen in February, May, and October. In 2020, the peak distribution occurred in December. The total number of materials distributed varied significantly each month, with some ZIP Codes receiving fewer than ten materials while others receiving over a hundred. This reflects an on-demand approach, where materials are sent based on community requests or needs. Establishing a more structured distribution framework could help optimize and standardize these efforts to ensure consistent outreach across ZIP Codes.

Finally, the study revealed that the distribution of educational materials has led to significant crash reduction among aging road users. The benefit-cost ratio (BCR) analysis demonstrated a BCR of 5.03, meaning that for every dollar spent on educational outreach, approximately five dollars were saved through crash reduction. This highlights the cost-effectiveness of Safe Mobility for Life's efforts and underscores the importance of continuing to invest in educational material distribution as a critical component of road safety strategies.

5.4.2 Outreach Events

A need for more detailed and comprehensive documentation of workshop events, such as CarFit and other outreach efforts, is highlighted. While the basic information such as the event name, year, and general location has been recorded, capturing the specific ZIP Codes, number of participants, and demographic information would provide valuable insights into the reach of these efforts.

In addition, implementing surveys before and after the workshop to assess participants' awareness of the subject taught, followed by follow-up, would further enhance the assessment of the program's effectiveness. Proper documentation of these results would serve as a powerful tool for evaluating the qualitative outcomes of the outreach and for improving future workshop effectiveness.

5.4.3 Public Service Announcements (PSAs)

Consistent documentation of PSA efforts is crucial. A review of record-keeping practices shows a gap, with 13 PSAs documented in 2017 but only one recorded in 2021. This inconsistency makes it difficult to accurately assess the impact and effectiveness of the PSAs. A reliable system for tracking PSA activities and outcomes is essential to ensure that efforts remain measurable and effective.

To ensure comprehensive and effective PSA documentation, key elements should include the date and location of each PSA, the specific audience targeted, and the platforms or channels used (e.g., radio, television, social media). Additionally, documenting the frequency, duration, and messaging content of each PSA campaign is essential.

5.4.4 Social Media

Maintaining consistent data collection and reporting is critically important for social media campaigns. Tracking engagement metrics such as likes, shares, views, and the impact of boosted posts is beneficial for obtaining insights into which outreach strategies are most effective. Regularly documenting these metrics allows for a more precise evaluation of campaign performance, helping identify successful tactics and refine future social media efforts for maximum effectiveness.

5.5 Recommendations for Future Outreach Efforts

The following recommendations for future outreach efforts are categorized by outreach type, beginning with educational materials, followed by PSAs for outreach events, and concluding with social media strategies. These recommendations are outlined below:

5.5.1 Recommendations for Educational Materials Distribution

i. Distribute materials more frequently and in higher volumes, especially in identified target regions, specifically the CBGs identified or at the ZIP Code level.

ii. Develop feedback systems, such as surveys or focus groups, to assess the effectiveness of the educational materials and improve future distribution strategies.

iii. Collect and track social-economic and demographic information of the recipients (age, gender, income, education level) to better understand the population receiving the materials.

iv. Develop a structured distribution framework that sets a monthly threshold for material distribution in target ZIP Codes. This threshold should consider factors such as crash rates, ZIP Code size, total population, and the aging population.

v. Document cost and resources for the distribution of education materials; this includes direct and indirect costs, as well as the resources required (e.g., man hours, workforce, etc.).

vi. Regularly review and adapt outreach materials based on participant feedback and evolving community needs. Integrate inclusive language that engages broader audiences beyond just aging road users.

5.5.2 Recommendations for Outreach Events

i. Collaborate with community organizations at the grassroots level to co-host workshops and identify champions at the local/community level to further support and promote outreach efforts that will enhance trust and participation within the communities served.

ii. Record participants' social-economic and demographic information and the location they are from. This includes ZIP Codes, which will be helpful in assessing the reach and impact of the workshops.

iii. Implement pre- and post-workshop surveys to evaluate participant understanding and behavior before and after the workshops.

iv. Record of costs for conducting the outreach events develops a more detailed breakdown of costs, including both direct and indirect expenses as well as the resources such as man-hours and resources.

v. Use interactive tools such as Slido during both virtual and in-person workshops to allow for anonymous questions and real-time feedback, enhancing engagement and collecting valuable insights.

vi. Engage local partners familiar with the region for events held outside Safe Mobility for Life's home base to increase attendance and relevance.

5.5.3 Recommendations for Public Service Announcements

i. Develop PSA implementation metrics (e.g., audience, frequency, engagement, etc.) to track their success through awareness surveys in the areas where PSAs were conducted. This can help refine PSA strategies for a more significant impact.

ii. Document PSA reach by tracking information on the location (county, city, ZIP Code, and duration of each PSA campaign to assess its geographic impact.

iii. Develop a more detailed breakdown of costs for conducting PSA activities, including both direct and indirect expenses, as well as the resources required, such as staff hours and resources.

5.5.4 Recommendations for Social Media

i. Develop a consistent format for reporting social media metrics, including likes, shares, views, clicks, and engagement with materials on the SMFL website.

ii. Use social media surveys to gather social-economic and demographic information on followers, helping SMFL better understand who is engaging with the content and tailor future campaigns accordingly.

iii. Develop a more detailed breakdown of costs for conducting social media activities, including both direct and indirect expenses, as well as the resources required, such as staff hours and resources.

5.5.5 Recommendations for Stakeholder Engagement

- Diversify engagement channels by expanding the use of trusted local publications to reach target audiences, especially older adults who prefer traditional media over digital platforms.

- Strengthen local partnerships by engaging community partners early in the planning process, identifying champions at the community level, and providing them with the necessary resources and training to effectively implement Safe Mobility for Life's initiatives.

5.6 Procedures for Quantifying the Impact of Outreach Efforts

This section outlines the recommended best practices for evaluating the impact of outreach efforts conducted by SMFL, as represented in Figure 5-1. It begins with identifying and targeting specific regions, followed by selecting the type of outreach. Next, it covers the proposed performance measures and data requirements, leading to the analysis and interpretation of results. The process continues with evaluating findings and providing recommendations for future outreach efforts, concluding with revising strategies based on the evaluation outcomes to ensure continuous improvement.

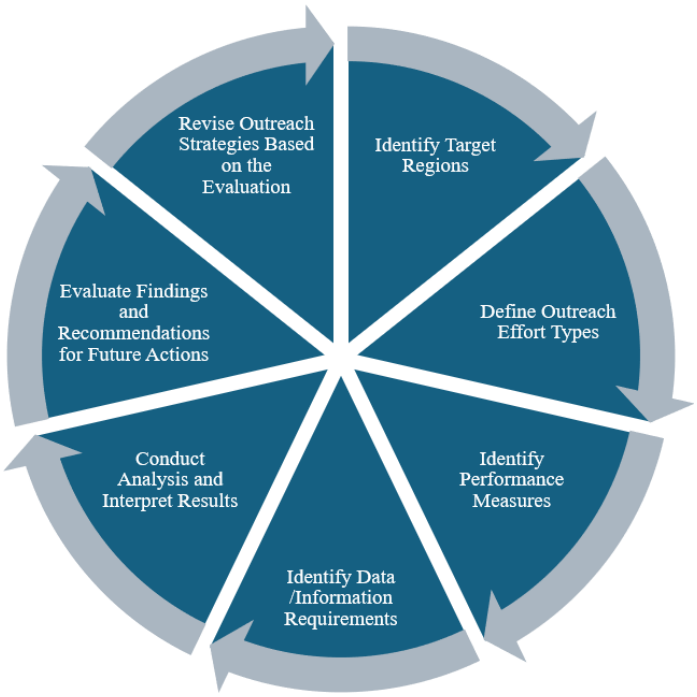

Figure 5-1: Continuous Process for Evaluating Outreach Efforts Conducted by Safe Mobility for Life

The continuous process for evaluating outreach efforts conducted by SMFL, illustrated in Figure 5-1, consists of the following seven components:

- Identify the Target Regions
- Define Outreach Effort Types
- Identify the Performance Measures
- Identify Data /Information Requirements
- Conduct Analysis and Interpret Results
- Evaluate Findings and Recommend Future Actions
- Revise Outreach Strategies based on the Evaluation

5.6.1 Identify the Target Regions

Target regions are identified based on the annual crash rate per mile for both rural and urban CBGs. For non-motorist crashes, the target regions are identified based on the number of non-motorist crashes per year per mile. Both analyses focus on CBGs with crash hot spots at the 99% confidence level, marking them as target regions for that particular year using five years of crash data (Alluri & Kodi, 2021).

5.6.2 Define Outreach Effort Types

Safe Mobility for Life implements four outreach activities: distribution of educational materials, outreach events, PSAs, and social media campaigns. SMFL selects the outreach effort based on

criteria established in research conducted by Alluri & Kodi (2021) and based on identified needs from the community requests or other relevant factors.

5.6.3 Identify the Performance Measures

The performance measures serve as critical indicators to assess the effectiveness of outreach efforts. Recommended measures include crash reductions, fatality and serious injury reduction, increased safety awareness, and changes in behavior. These performance metrics will allow SMFL to evaluate whether the outreach efforts are meeting targeted objectives and improving road safety for aging road users. The study by Alluri & Kodi (2021) listed the qualitative and quantitative performance measures to be assessed when quantifying the impact of SMFL outreach efforts.

5.6.4 Identify Data and Information Requirements

The required data includes crash records for areas affected by the outreach efforts, as well as data related to the outreach itself, such as the types of materials distributed, workshop types, duration, and geographical coverage. Social-economic and demographic information about the audience involved in the outreach is also essential. Additionally, roadway data, social demographic data (e.g., CBG or ZIP Code), and area types (rural/urban) should be collected. Surveys distributed to participants following the outreach implementation, along with a detailed breakdown of costs for each outreach effort, are also necessary.

5.6.5 Conduct Analysis and Interpret Results

The analysis can employ a cross-sectional study where treated ZIP Codes are compared to untreated areas with similar characteristics to ensure unbiased results. The analysis considers the effect of outreach efforts over three months. A before-and-after study can also be conducted, assessing the same treated areas by comparing crash and safety data from the months before outreach implementation with the three months following the outreach. The analysis will focus on crash reduction, fatality reduction, increased awareness, and behavioral changes.

5.6.6 Evaluate Findings and Recommend Future Actions

The evaluation of results involves determining whether the outreach efforts led to significant improvements in the tested performance measures. Based on the results, Safe Mobility for Life will develop recommendations for enhancing future outreach efforts.

5.6.7 Revise Outreach Strategies based on the Evaluation

Following the evaluation, outreach strategies should be revised to integrate the lessons learned and make necessary adjustments. This ensures that future efforts are more effective and responsive to the identified needs and results.

5.7 Summary

SMFL's outreach initiatives have established effective practices for engaging aging road users to enhance safety and mobility. Best practices include the detailed documentation of educational material distribution, providing bilingual resources, leveraging local partnerships for outreach events, and employing interactive methods for participant engagement. Challenges, such as resistance of materials from the targeted audience and varying PSA documentation, highlight the need for improved, streamlined tracking systems. Recommendations involve implementing structured frameworks for material distribution, conducting post-workshop evaluations, detailed cost tracking for outreach activities, and enhanced stakeholder collaboration.

CHAPTER 6
SUMMARY AND CONCLUSIONS

This chapter provides a comprehensive summary and conclusions from the analysis of Safe Mobility for Life's outreach efforts from 2017 to 2021. The findings emphasize the impact of these initiatives on enhancing the safety and mobility of aging road users in Florida and underscore key insights and recommendations for future improvements.

6.1 Summary of Findings

SMFL's outreach efforts aim to reduce crashes involving aging road users by employing different strategies, including educational material distribution, outreach events, PSAs, and social media campaigns. A quantitative analysis combined with interviews assessed the effectiveness of these outreach efforts. The quantitative analysis estimated a BCR of 5.03, illustrating the financial viability of the SMFL's efforts, with every dollar spent on outreach generating approximately five dollars in crash reduction benefits.

The distribution of over 200,000 materials had a substantial positive impact, particularly in key priority areas. Outreach events, PSAs, and social media campaigns extended SMFL's reach across Florida, utilizing targeted messaging to enhance public awareness.

Interviews with key implementers revealed valuable insights regarding process effectiveness, community engagement, and the challenges encountered in tailoring outreach to a diverse audience. Best practices included incorporating inclusive and relevant messaging, partnering with local champions, and refining feedback mechanisms to improve outreach impact constantly.

6.2 Conclusions

- Positive Impact on Crash Reduction: SMFL's outreach efforts have contributed to a measurable reduction in crashes involving aging road users. Higher distribution volumes of educational materials in target areas were particularly effective, underscoring the importance of the amount of outreach impact.

- Cost-effectiveness: The benefit-cost analysis confirmed the economic viability of SMFL initiatives, supporting the continued investment in educational and awareness programs to improve road safety for older adults.

- Recommendations for Extensive Documentation: Extensive and detailed record-keeping and performance tracking, especially for PSAs and outreach events, are essential to more accurately assess program effectiveness and optimize resource allocation.

- Challenges and Adaptability: The COVID-19 pandemic highlighted the need for flexible outreach strategies. SMFL's ability to adapt its approach demonstrates resilience and adaptability, which are critical for sustaining program success in changing conditions.

6.3 Recommendations for Future Efforts

- Enhanced Tracking and Documentation: Systematic documentation, including detailed participant demographics and tracking of distributed materials, will allow for a better assessment of outreach effectiveness.

- Structured Distribution Framework: A consistent framework for educational material distribution, based on the ZIP Code, will enhance coverage in priority areas.

- Community Partnerships: Expanding partnerships with local organizations and community champions will strengthen outreach effectiveness.

- Optimized Use of Technology: Leveraging digital tools to automate data collection and track online engagement will improve real-time insights into audience interactions with SMFL resources.

SMFL's outreach efforts have effectively contributed to the safety and mobility of Florida's aging population. By implementing these recommendations, Safe Mobility for Life can further strengthen its impact, ensuring sustainable improvements in road safety for aging road users across the state.

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APPENDIX A
DISTRIBUTION OF EDUCATIONAL MATERIALS IN EACH COUNTY

Table A-1: Educational Materials Distribution in Each County

County Name	Transportation Option material series	Roadway and Parking Safety materials	Family caregiver and AFFTC	Tip Cards	Guides and Strategic Plan	SMFL Promotional Items	Mailed Materials	Total
Alachua	991	790	231	1,221	702	240	1,250	5,425
Bay	150	270	100	180	76	40	100	916
Bradford	40	120	50	80	43	40	100	473
Brevard	1,194	1,160	240	2,313	1,198	174	625	6,904
Broward	1,306	3,554	1,129	4,029	1,652	310	700	12,680
Charlotte	2			202	10		200	414
Citrus	957	1,713	321	1,692	320		200	5,203
Clay	100		51	150	230		50	581
Collier	155	410	225	600	431	20	350	2,191
Columbia	40	120	50	180	49	40	200	679
DeSoto	40	120	50	80	43	40	100	473
Dixie					4			4
Duval	1,112	1,182	533	1,236	522	197	275	5,057
Escambia	362	965	212	645	427	120	200	2,931
Flagler	225	195	125	580	143	160	250	1,678
Franklin	45	80	20	100	21			266
Gadsden	306	406	2	204	108			1,026
Gulf	200	200	200					600
Hamilton	20	60	25	40	21	20	50	236

Table A-1: Educational Materials Distribution in Each County (continued)

County Name	Transportation Option material series	Roadway and Parking Safety materials	Family caregiver and AFFTC	Tip Cards	Guides and Strategic Plan	SMFL Promotional Items	Mailed Materials	Total
Hardee	20	60	25	90	22	20	50	287
Hendry				100			100	200
Hernando	774	726	102	503	254	80	300	2,739
Highlands	278	980	125	501	320	20	150	2,374
Hillsborough	2,441	2,277	1,124	2,709	1,646	140	500	10,837
Holmes					4			4
Indian River	302	401	25	276	108			1,112
Jackson	40	120	50	80	45	40	100	475
Jefferson	100	65		180	23	90	25	483
Lafayette					1			1
Lake	653	1,089	311	753	339		250	3,395
Lee	568	1,544	351	1,375	448	87	150	4,523
Leon	10,406	7,804	922	10,314	4791	1,100	450	35,787
Levy				100	1			101
Madison	45	80	20	60	22			227
Manatee	79			77	31			187
Marion	507	862	72	307	400		200	2,348
Martin	2	3	101	102	132		100	440
Miami-Dade	1,773	3,812	1,227	2,792	1,877	760	450	12,691

Table A-1: Educational Materials Distribution in Each County (continued)

County Name	Transportation Option material series	Roadway and Parking Safety materials	Family caregiver and AFFTC	Tip Cards	Guides and Strategic Plan	SMFL Promotional Items	Mailed Materials	Total
Monroe	86	184	351	202	69	40	100	1,032
Nassau					32			32
Okaloosa	24	68	26	242	181	20	300	861
Okeechobee	40	120	50	80	48	40	100	478
Orange	1,746	2,329	1,197	7,699	2,627	205	150	15,953
Osceola	328	404	5	219	229			1,185
Palm Beach	842	2,004	315	1,173	1,148	120	400	6,002
Pasco	419	2,159	87	848	633	60	450	4,656
Pinellas	588	2,134	818	2,011	1,761	80	200	7,592
Polk	1,286	3,351	765	1,660	810	150	250	8,272
Putnam	60	120	60	100	53	40	100	5,33
Santa Rosa	3		1	222	10		200	436
Sarasota	1,205	159	938	186	374		100	2,962
Seminole	775	1,040	520	2,042	597	400	350	5,724
St Johns	95	489	88	1,940	420	20	150	3,202
St Lucie	377	480	26	226	137	100		1,346
Sumter	1,351	1,683	25	602	692	20	150	4,523
Suwannee	100	100	101	50	57	50	100	558
Union				100	1		100	201

Table A-1: Educational Materials Distribution in Each County (continued)

County Name	Transportation Option material series	Roadway and Parking Safety materials	Family caregiver and AFFTC	Tip Cards	Guides and Strategic Plan	SMFL Promotional Items	Mailed Materials	Total
Volusia	11	907	114	343	419	52	100	1,946
Wakulla	304	400		202	103			1,009
Walton	42	122	52	180	324	40	200	960
Washington					3			3
Grand Total	**35,040**	**51,471**	**13,723**	**55,003**	**28,644**	**5,175**	**11,025**	**200,081**

APPENDIX B
BOOSTED POST COMPANIES

Table B-1: Boosted Post Companies

County	In-Vehicle	Transit Brochure	CarFit	Golf Cart	Family/ Caregiver	AFFLT	Total
Glades	1			1	1	1	4
Okeechobee	1		1		1	1	4
Putnam	1	1	1		1	1	5
Hardee	1					1	2
Walton	1	1	1		1	1	5
Broward	1	1	1	1	1	1	6
Alachua	1						1
Miami-Dade	1	1	1		1	1	5
Palm Beach	1	1	1	1	1	1	6
Marion	1			1		1	3
Flagler	1		1	1	1	1	5
Clay	1	1			1	1	4
Pinellas	1	1	1	1	1	1	6
Lee	1	1	1		1	1	5
Highland	1		1		1	1	4
Sarasota	1	1	1		1	1	5
Collier	1	1	1	1	1	1	6
Lake		1	1	1	1	X	5
Duval		1			1	1	3
Manatee		1	1		1	1	4
Pasco		1	1	1	1	1	5
Sumter			1		1	1	3
Brevard				1		1	2
Citrus				1			1
Gulf				1			1
Hendry				1			1
Hillsborough				1		1	2
Indian River				1			1
Levy				1			1

Table B-1: Boosted Post Companies (continued)

County	In-Vehicle	Transit Brochure	CarFit	Golf Cart	Family/ Caregiver	AFFLT	Total
Okaloosa				1			1
Orange				1			1
Polk				1			1
Santa Rosa				1			1
Seminole				1			1
St Lucie				1			1
Volusia				1			1
Leon						1	1
Total	**17**	**14**	**16**	**23**	**19**	**24**	**113**

APPENDIX C
TYPE OF STAKEHOLDERS IN DIFFERENT FLORIDA COUNTIES

Table C-1: Type of Stakeholders in Different Florida Counties

County Name	Aging Service Provider	Engineer/ Planner	Family/ Caregiver	Healthcare Provider	Law Enforcement	Local Government	Older Adult	State/Federal Government	Transit Provider	University/ Research	Other	Grand Total
Alachua	3	2		5		3	14	1	1	1	1	**31**
Baker	1											**1**
Bay	5					2						**7**
Bradford						1						**1**
Brevard	7	1		4		10	2		1		1	**26**
Broward	18			4	5	16	22	1	1	2		**69**
Calhoun	1											**1**
Charlotte	1										1	**2**
Citrus	6					2						**8**
Clay	4			1	1			1				**7**
Collier	2	1		4	1	2						**10**
Columbia	1							1				**2**
DeSoto	1					1	8					**10**
Duval	22	2	1	5		2	18		1	2	1	**54**
Escambia	5		2	4		2	20				1	**34**
Flagler	2					2						**4**
Franklin	1											**1**
Gadsden	1		1			2	6			1		**11**
Glades						1						**1**
Gulf	2											**2**
Hardee						2						**2**
Hernando	1											**1**
Highlands	4								1			**5**
Hillsborough	11	2		5		4	5	2	4	5	1	**39**
Holmes	1						4					**5**
Indian River	2				1	1						**4**
Jackson	1					1	1					**3**

Table C-1: Type of Stakeholders in Different Florida Counties (continued)

County Name	Aging Service Provider	Engineer/ Planner	Family/ Caregiver	Healthcare Provider	Law Enforcement	Local Government	Older Adult	State/Federal Government	Transit Provider	University/ Research	Other	Grand Total
Jefferson	2						1					**3**
Lafayette							1					**1**
Lake	1			2	1	5	1		1	1	1	**13**
Lee	8			2	3	2	7			4		**26**
Leon	24	4	2	7	1	1	44	6	1	3	7	**100**
Levy						2						**2**
Liberty	1											**1**
Madison	4					2						**6**
Manatee				1	1	4	1			1	1	**9**
Marion	3	1				2						**6**
Martin	3					1						**4**
Miami-Dade	14		1	7	3	13	43	2		2		**85**
Monroe	2			1								**3**
Nassau	3					1	1		1			**6**
Okaloosa	4				1	7	7					**19**
Okeechobee	1			1			6					**8**
Orange	16	2	1	19		4	20	1	1	2	5	**71**
Osceola	4						4					**8**
Palm Beach	5	1	1	10	1	20	1				2	**41**
Pasco	5					2			1			**8**
Pinellas	12			2	1	15	11				2	**43**
Polk	5	1		1	1	6	21	2	1		1	**39**
Putnam						1				1		**2**
Santa Rosa		1										**1**
Sarasota	7	2	1	4	1	5	9			1		**30**
Seminole	4					1	4					**9**
St. Johns	4			1		1	12			1		**19**

Table C-1: Type of Stakeholders in Different Florida Counties (continued)

County Name	Aging Service Provider	Engineer/ Planner	Family/ Caregiver	Healthcare Provider	Law Enforcement	Local Government	Older Adult	State/Federal Government	Transit Provider	University/ Research	Other	Grand Total
St. Lucie	4					3	21					**28**
Sumter	8			1		1	15					**25**
Suwannee	1					5	2					**8**
Taylor	2					1						**3**
Union						1						**1**
Volusia	9		2			8	1	1	1			**22**
Wakulla	1					2	1					**4**
Walton	1						9					**10**
Washington	1						1					**2**
Grand Total	**262**	**20**	**12**	**91**	**22**	**170**	**344**	**18**	**16**	**27**	**25**	**1,007**

APPENDIX D
INTERVIEW QUESTIONS

Research Project: Performance Evaluation of Safe Mobility for Life Coalition's Outreach Activities to Benefit Aging Road Users

1. Background and Objectives for the Interview

The Safe Mobility for Life (SMFL) Coalition is dedicated to enhancing the safety and mobility of Florida's aging population through outreach efforts. In alignment with the SMFL Strategic Action Plan (2022-2025), the research team aims to understand the efficacy of current strategies, discover areas of improvement, and integrate best practices into future initiatives. This questionnaire is designed to gather insights directly from those who have been hands-on in implementing these outreach efforts. By collecting their valuable feedback, the research team aims to provide best practices and recommendations to support the Coalition's mission effectively and sustainably.

2. Interview Questions

2.1 Implementation Experience

This section seeks to uncover the extent and depth of your engagement with the SMFL Coalition's outreach activities to measure experience levels and areas of expertise.

1. What is your role within the SMFL Coalition?
2. How many years have you been involved with the SMFL Coalition?
3. Describe a specific outreach event or activity you led or played a significant role in. What werethe objectives and outcomes?
4. How do you ensure that the outreach activities you are involved in are inclusive and address thediverse needs of Florida's aging road users?
5. Reflect on any changes or developments you have witnessed in the outreach efforts during yourtime with the Coalition. What has evolved or improved?

2.2 Process Effectiveness

This section aims to understand what is working well in the current outreach efforts,allowing the research team to build on these successes.

1. How do you measure the success of outreach activity, and how is this information fed back intothe planning process?
2. Could you share an instance where feedback from participants led to an immediate improvement in the outreach approach?
3. In your experience, which communication channels (e.g., social media, educational materials,workshops) have been most effective in reaching the target audience?
4. What tools or resources have you found essential for planning and executing outreach efforts?

2.3 Challenges Encountered

This section focuses on the obstacles faced during the outreach process to helpidentify resilience and adaptability in the implementation strategy.

1. Can you discuss a particular challenge you faced while implementing an outreach activity andhow you overcame it?
2. Describe a time when an outreach event did not go as planned. What were the lessonslearned, and how did they shape future events?

3. Have you encountered any resistance or barriers from the community regarding theoutreach activities, and how were these addressed?
4. In your role, what have been the most significant barriers to effectively disseminating information, and how have you tackled them?
5. How do you adapt your approach when faced with unforeseen challenges, such as changes invenue availability, weather conditions, or participant availability?

2.4 Best Practices

This set of questions aims to extract the proven practices that ensure the success ofoutreach efforts.

1. Can you share an example of a best practice that you believe should be adopted across alloutreach efforts?
2. What advice would you give to someone new to outreach efforts regarding engaging with andeducating the elderly community?
3. How do you ensure that the messaging in outreach materials remains relevant and effective overtime?
4. What strategies have you found to be most effective in encouraging active participation fromthe aging community during outreach events?

2.5 Information Flow and Communication

This section explores effective communication within the team and with stakeholdersthat are critical for the success of outreach efforts.

1. What process do you use to ensure all team members are informed and aligned with theoutreach goals and activities?
2. How do you manage the distribution of information to avoid overwhelming the target audience while ensuring they remain engaged?
3. What feedback mechanisms are in place for the team to share their experiences and learnings from each outreach activity?

2.6 Feedback and Evaluation

This section aims to assess the feedback mechanisms and evaluation processes toensure they are capturing valuable data.

1. Besides surveys, what other innovative methods do you suggest for gathering feedback fromaging road users about outreach efforts? (How often are the surveys done?)
2. Can you describe the process of how feedback is analyzed and used to modify existingprograms or develop new initiatives?
3. What role do you see technology playing in enhancing the feedback and evaluation processes of the outreach efforts, and are there specific tools you recommend?

2.7 Stakeholder Engagement

This section aims to find the strategies that have worked and those that could beimproved.

1. What practices have you found most effective in initiating and maintaining stakeholder engagement?
2. Describe a successful collaboration with a stakeholder. What made it successful, and

how canwe replicate that success with other stakeholders?

3. In instances of stakeholder disagreement or conflict, what strategies have proven effective inresolving the issue?
4. Are there any tools or technologies that you would recommend enhancing stakeholder engagement and communication

2.8 Lessons Learned

This section focuses on capturing past experiences.

1. What is the most significant lesson you have learned about planning and executing outreachefforts for aging road users?
2. Can you share an experience where a lesson learned from a previous project was successfullyapplied to a new one?
3. What strategies would you suggest for disseminating lessons learned across different departments or teams within the Coalition?