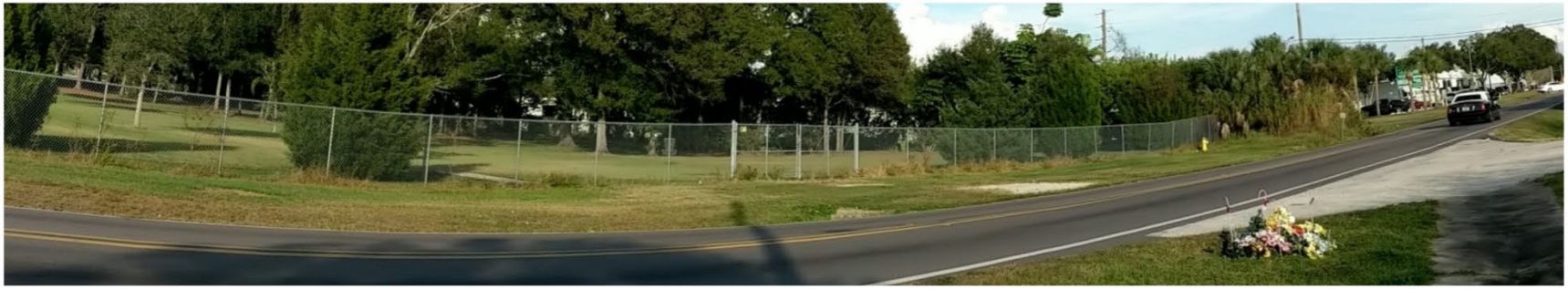

HEALTH IMPACT ASSESSMENT OF 62ND AVENUE NORTH ROADWAY IMPROVEMENTS

December 2019

HiAP Health in All Policies
PINELLAS COUNTY COLLABORATIVE

Pinellas County

Foundation for a Healthy St. Petersburg

Florida HEALTH
Pinellas County

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This health impact assessment relied on the commitment, input, and expertise of many groups and individuals. The HIA Team included:

- Caitlin Murphy, MPH MS; Health Planner, Health in All Policies Coordinator, Pinellas County Planning
- Caroline Lanford, AICP CTP; Principal Planner, Pinellas County Planning
- Sandra Whitehead, PhD; Assistant Professor & Sustainable Urban Planning Program Director, George Washington University

Many others contributed input, feedback, data, resources, and technical expertise throughout the process:

Pinellas County Administration

- Christopher Moore, CFM; Assistant to the County Administrator, Lealman Community
- Nancy McKibben, MPA, CPM; Assistant to the County Administrator, North County

Pinellas County Planning

- Alan Shellhorn, GIS Applications Specialist
- Corey Gray, Planner I
- Evan Johnson, AICP, LEED AP; Capital Projects and Policy Manager
- Rachel Booth, CNU-A; Planning Manager
- Rebecca Stonefield, Principal Planner
- Renea Vincent, AICP, CPM; Director
- Scott Swearengen, AICP; Long Range Planning Manager
- Tanya Kurtin, Administrative Support Specialist

Pinellas County Public Works

- Brent Hall, CPM; Capital Planning and ROW Section Manager
- Gregory Cutrone, PE; Manager, Transportation Engineering Section
- Jessica Jones, CPM; Senior Manager, Technical Services
- John Carpenter, PE; Professional Engineer II

Kimley-Horn

- Andrea Papandrew
- Jared Schneider, AICP, CNU-A
- William E. Roll, Jr., AICP, CNU-A

Health in All Policies Action Team

- Cassidy Mutnansky, MPH MS; Health Planner, City of St. Petersburg
- Daphne Green, MS; Health Planner, City of Pinellas Park
- Heath Kirby, Health Services Manager, Florida Department of Health-Pinellas County

Other Contributors

- Colleen Mangan, Community Benefit Analyst, BayCare Health System
- Deborah Shaffer, Program Manager, Florida Department of Health-Pinellas County
- Rachelle Webb, SRTS Community Educator, Johns Hopkins All Children's Hospital
- Shannon Mills, Strategic Performance Management Analyst, Pinellas County Office of Management & Budget
- Stephanie Sambatakos, Community Health Improvement, Johns Hopkins All Children's Hospital
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Background and Summary of Existing Conditions

Transportation policy and planning dramatically affects a community's health. Roadway design and construction decisions impact health behaviors and outcomes of the residents that live nearby or use the roads, affecting their physical activity levels, injury rates, access to jobs and resources, air quality, and social connectedness. The design of a roadway corridor can result in adverse, involuntary, but otherwise avoidable effects on a community's health. These effects can take years, or even decades, to reverse. Conversely, design that is tailored to fit the environment and community for which it is built can improve safety, encourage healthy behaviors, and contribute to positive socioeconomic outcomes.

Health Impact Assessment (HIA) is an evaluative methodology used to incorporate health considerations into the decision-making processes used by non-health agencies. HIA is a data-driven approach to assessing the potential health effects of a project, program, policy, or plan. This HIA evaluates the proposed roadway improvements under consideration for 62nd Avenue North, between 49th Street North and 34th Street North, in Pinellas County, Florida. This corridor is a 1.2-mile long two-lane, undivided roadway that serves as a northern border to the Lealman Community Redevelopment Area and a southern border to the City of Pinellas Park. Currently, there are no bicycle lanes, and sidewalks are limited and sporadic. The corridor provides access to mostly industrial and warehousing land uses, and the roadway does not facilitate pedestrian or bicycle mobility, making these user types particularly vulnerable.

Pinellas County plans to undertake roadway improvements to improve safety and mobility along the project corridor. Three proposed alternatives (labeled Options 0, 2, and 4) are under consideration. The Options vary in significant ways that can affect not only corridor use, but also the health of the communities surrounding the corridor. Table 1 shows an overview of the 62nd Avenue North alternatives. See the full project matrix (Table 3) on page 9 for more detail on each Option.

Table 1. 62nd Avenue North Alternatives

	EXISTING CONDITION	OPTION 0 (2010 KCI Design)	OPTION 2	OPTION 4
Description	2 Travel Lanes	4 Travel Lanes + TWLTL + 2 Bicycle Lanes	3 Travel Lanes + TWLTL + 2 Bicycle Lanes	2 Travel Lanes + TWLTL + 2 Bicycle Lanes
Pavement Width	22'	64'	64'	52'
Thru Lane Width	11' x 2 = 22'	11' x 4 = 44'	12' x 3 = 36'	12' x 2 = 24'
Two-way left turn lane (TWLTL) Width	Some left turn lanes	12'	14'	14'
Bike Lane Width (North / South Side)	None	4' / 4'	7' / 7'	7' / 7'
Sidewalk Width (North / South Side)	Few sidewalks	6' / 6'	8' / 6'	8' / 8'
Pedestrian Refuges	0	1	2	2

According to the American Public Health Association, half of the leading causes of death and illness in the U.S. – including traffic injuries, heart disease, cancer, type 2 diabetes, and respiratory illness – are preventable. Transportation and land use policies can mitigate or worsen the risk factors for these leading causes of death and disease.[1] Of the top three causes of death in Pinellas County[2] – both cancer and heart disease can be improved by the incorporation of active transportation infrastructure and facilities which can help to promote physical activity; while unintentional injury (especially traffic crashes) can be reduced through improved design. The existing conditions and each alternative have the potential to positively and negatively affect health.

To identify the healthiest design for the 62nd Avenue North corridor, three primary health impacts were evaluated: physical safety (including traffic crash injuries and fatalities), access to economic opportunities, and equitable access to resources and services for vulnerable populations, such as those who walk, bike, or ride a motorcycle / scooter / electric bicycle. Also taken into consideration is the potential impact on the community's physical activity, air quality, and social connectedness.

This HIA focuses on the communities that border the 62nd Avenue North corridor, specifically the Lealman and Pinellas Park areas, with special focus to groups that are generally at increased risk for negative health outcomes due to their demographic and socioeconomic status. The Lealman and Pinellas Park communities are expected to experience the greatest health and equity effects from the proposed changes to the 62nd Avenue North corridor.

In the Lealman community, a significant portion of households (11%) do not own a vehicle, and more people rely on walking, biking, and public transit as a primary mode of transportation in comparison to Pinellas County. People who walk, bike, and ride mopeds or motorcycles are at greater risk of injury or death due to a lack of protection. Older adults, people of color, and those who walk in low-income communities account for a disproportionate share of fatal crashes involving people walking.[3] Census tracts in Lealman have higher rates of death caused by unintentional injury overall, and a higher rate of death due to injuries sustained in motor vehicle crashes than other areas of Pinellas County. Some Pinellas Park census tracts also have higher rates of motor vehicle death.[4] Lealman has higher rates of unemployment and poverty, which may affect risk of injury and the ability to access goods and services. More Lealman (17.4%) and Pinellas Park (17.5%) residents have a disability in comparison to the County (15.1%) and state (13.4%), and this affects how individuals move around the community.[1]

Summary of Findings

Table 2 shows a summary of the assessment findings for each 62nd Avenue North design alternative. All design alternatives provide health and safety benefits when compared to the existing condition of the 62nd Avenue North corridor. However, there are health distinctions between the three alternatives. The health impacts detailed in this table are supported by the literature review conducted for this HIA. Based on the health impacts considered as part of the HIA, Option 4 is expected to have the higher positive potential for community health, especially for nearby residents and vulnerable populations.

[1] Data Source: U.S. Census Bureau, 2013-2017 American Community Survey 5-Year Estimates

✓ indicates the design feature is present in an alternative
+ indicates an overall positive effect on health
– indicates an overall negative effect on health

Table 2. Potential Health Impacts of 62nd Avenue North Roadway Improvements

Roadway Feature	Potential Positive Health Impacts	Potential Negative Health Impacts	Existing Condition	Option 0	Option 2	Option 4
↑ availability of bike facilities	• Separation of bicyclist from travel lanes increases safety • Increased buffer between motor vehicles and pedestrians increases vehicular reaction time • Increased physical activity • Increased connectivity which provides better access to jobs, services, and resources • Increased access to Youth Park	• Increase in users results in increased potential for vehicle-bicycle exposure • Increased crossing distance at non-intersections for pedestrians resulting in higher exposure • Bicycle lanes without vertical elements of separation may effectively widen travel lanes potentially resulting in higher vehicle speeds	**None (–)**	**4' bicycle lanes** **✓**	**7' bicycle lanes** **✓++**	**7' bicycle lanes** **✓++**
↑ availability of sidewalks	• Provides a safe place to walk • Increased physical activity • Increased connectivity which provides better access to jobs, services, and resources • Increased access to Youth Park		**Few (–)**	**6' sidewalks** **✓+**	**8' / 6' sidewalks** **✓+**	**8' sidewalks** **✓++**
Two-way left turn lane	• Rear-end crash reduction • Reduced vehicle emissions due to fewer stopped cars • Provides unprotected refuge area for midblock crossings	• Increased crossing distance for pedestrians resulting in higher exposure	**Few (–)**	**✓+**	**✓+**	**✓+**

Roadway Feature	Potential Positive Health Impacts	Potential Negative Health Impacts	Existing Condition	Option 0	Option 2	Option 4
Pedestrian refuges with rectangular rapid flashing beacons	• Reduced mid-block pedestrian crashes • Provides space to install amenities, such as landscaping • Reduced delays for pedestrians and motorists		**None (–)**	**1 refuge** **✓+**	**2 refuges** **✓++**	**2 refuges** **✓++**
40 mph speed limit		• Increased risk of severe injury or fatality for pedestrian and bicycle crashes	**40 mph (–)**	**✓–**	**✓–**	**✓–**
More pavement / extra motor vehicle travel lane	• Increased vehicle mobility • Reduced outside lane volumes improve bicycle quality of service	• Increased vehicle emissions, which may increase risk of breathing problems, especially among children and vulnerable populations • Increased crossing distance at non-intersections for pedestrians resulting in higher exposure • Reduced space for bicycle lanes and sidewalks • Wider lanes may result in higher motor vehicle speeds	**Total Pavement Width: 22'** **NA**	**4 through lanes** **Total Pavement Width: 64'** **✓–**	**3 through lanes** **Total Pavement Width: 64'** **✓+**	**2 through lanes** **Total Pavement Width: 52'** **✓++**
Overall Health Impact			○○○	◐○○	●●◐	●●●

Legend: ●○○ - POOR ●●○ - MODERATE ●●● - GOOD

RECOMMENDATIONS

The HIA Team developed a series of recommendations to enhance positive health outcomes and mitigate negative health outcomes for residents and vulnerable populations. Recommendations are divided into two sections: those for the 62nd Avenue North roadway improvements project and those for future transportation projects. See the **Recommendations** section for more detail.

For the 62nd Avenue North Roadway Improvements Project

Use the HIA findings to inform decisions about the 62nd Avenue North roadway improvements project.

To reduce the risk of motor vehicle injuries and fatalities and to increase physical activity (especially for vulnerable populations):

- As part of the future engineering, design, and implementation of 62nd Avenue North, consider the following:
  - Provide street lighting along the corridor, including in the vicinity of the crosswalks and midblock crossings.
    - Street lighting provides significant safety benefits, such as dramatic reductions in nighttime crashes and fatalities.[5] Studies show that street lighting may reduce pedestrian crashes by as much as 50%.[6] Lighting also improves perceptions of safety and reduces fear of crime,[7] which may incentivize greater participation in active transportation and physical activity.
    - Continue County efforts to evaluate roadway lighting policies for best practices.
  - Reduce the design speed to 35 mph or less, consistent with a desired speed appropriate for a corridor with pedestrian and cyclist activity.
    - Communities should lower or limit traffic speeds to levels that are less likely to cause severe injury or death, especially on roadways with traffic volume greater than 3,000-10,000 average daily traffic (ADT) and a mix of uses, including driving, walking, biking, and public transit. On higher speed roads (greater than 25-30 mph), communities should physically separate vehicles from pedestrians and cyclists.[8]
    - The allowable speed range for an Urban General Arterial, such as 62nd Avenue North, is 30-45 mph according to the FDOT Design Manual. NACTO's *Urban Street Design Guide* recommends designing for the target speed – the speed that you would like people to drive – rather than the operating speed. In the case of an urban arterial, the maximum target speed is 35 mph. Design measures that can align the design speed with the target speed include: narrower lane widths, roadside landscaping, speed tables, and curb extensions.[9]
  - Use crossing enhancements, such as curb extensions, high-visibility markings, pedestrian scale lighting, advance stop or yield signs, in-street signs, etc., to improve safety at intersection crosswalks, midblock crossings, and driveways.
  - Work with adjacent property owners to consolidate driveways where possible.
  - Conduct a trade-off analysis of on-street bicycle lanes versus separated, multiuse paths on both sides of the street.
    - Bicycle lanes provide a variety of safety benefits, such as separating bicyclists from motor vehicle traffic and providing buffers between pedestrians and motor vehicles. However, unprotected bicycle lanes may not be the most appropriate bicycle facility for the 62nd Avenue North corridor. On roads with speeds greater than 25-30 mph and traffic volumes greater than 3,000-10,000 ADT, research recommends physically separating bicyclists from motor vehicles. 62nd Avenue North has both high speed (40 mph) and high traffic volume (15,500). In addition to motor vehicle speed and volume, the volume of bicyclists and pedestrians is also relevant to the determination of bicycle facility type. A trade-off analysis will explore these varied factors.[10] [11]

    - Further evaluate the two major intersections of the 62nd Avenue North corridor – 49th Street North and 34th Street North – for additional safety improvements.
        - 62nd Avenue North is one of four crash hot-spot corridors in the Lealman community (see Figure 15, map of top crash areas). The highest concentrations of crashes along the 62nd Avenue North corridor occur at the intersections with 34th Street and 49th Street.
    - Reduce proximity of pedestrians and bicyclists to motor vehicles. Physically separate bicyclists from motor vehicles if possible.
    - Consider narrower lanes, which can reduce pedestrian crossing distance and motor vehicle speed.
- Reduce pedestrian crossing distance.
- Increase or improve tree canopy along the corridor to provide shade and an aesthetically pleasing environment. Street trees can also be used as a traffic calming instrument.
- After construction of 62nd Avenue North roadway improvements, monitor crash frequency and type to determine if additional alterations to the roadway are needed.
- Work with local businesses to provide bicycle racks along the corridor at key locations.

For Future Pinellas County Transportation Projects

Consider implementing design alternatives that do not promote a volume in excess of 25,000 cars per day near sensitive populations in order to reduce the risk for childhood asthma, breathing issues in the general population, and heart disease.

Review and revise the Pinellas County Transportation Design Manual and incorporate health- and equity-related guiding principles and/or project scoring criteria to evaluate transportation projects. Work with the Health in All Policies initiative to develop a health evaluation tool, such as a project checklist, for transportation decisions.

Measure the success of arterials by using metrics that account for pedestrians, cyclists, transits riders, and nearby residents, in addition to traditional motor vehicle metrics.[12] Consider how roadway changes affect the health outcomes of vulnerable or sensitive populations who live nearby.

- Prioritize projects or designs that will benefit those who bear a greater burden of transportation-related injury, illness, and death, such as older adults, people of color, and people who walk or bike in low-income communities.[13]

WHAT IS HEALTH IMPACT ASSESSMENT (HIA)?

Health Impact Assessment (HIA) is "a systematic process that uses an array of data sources and analytic methods and considers input from stakeholders to determine the potential effects of a proposed policy, plan, program, or project on the health of a population and the distribution of those effects within the population. HIA provides recommendations on monitoring and managing those effects."[14] There are typically six HIA phases.[15]

PHASES OF HIA

1. **Screening**: identify plan, project, or policy decisions for which an HIA would be useful
2. **Scoping**: plan the HIA and identifying what health risks and benefits to consider
3. **Assessment**: identify affected populations and quantify health impacts of the identified decision
4. **Recommendations**: suggest practical actions to promote positive health effects and minimize negative health effects
5. **Reporting**: present results to decision makers, affected communities, and other stakeholders
6. **Monitoring and evaluation**: determine the HIA's impact on the decision and health status

The use of HIA in Pinellas County is part of a larger effort to incorporate health and equity considerations into all County projects, plans, policies, and programs through the Health in All Policies (HiAP) initiative. HiAP is a collaborative approach to improve the health of all people by incorporating health and equity into decision-making across sectors and policy areas.

HiAP
Health in All Policies
PINELLAS COUNTY COLLABORATIVE

PROJECT OVERVIEW

62ND AVENUE NORTH CORRIDOR (FROM 49TH STREET NORTH TO 34TH STREET NORTH)

62nd Avenue North, from 49th Street North to 34th Street North, is a two-lane rural typical section that serves as a northern border to the Lealman Community Redevelopment Area (CRA) and a southern border to the City of Pinellas Park. The corridor is approximately 1.2 miles long, which is a 6-minute bike ride, 24-minute walk, or 3-minute drive. Currently, there are no bicycle lanes, and sidewalks are limited and sporadic.[2] The corridor provides access to mostly industrial and warehousing land uses, and the roadway does not facilitate pedestrian or bicycle mobility, making these user types particularly vulnerable. The context classification of 62nd Avenue North is Urban General based on the 2019 FDOT Design Manual (FDM Table 200.4.1) and future land use plans. According to the FDM, Urban General contains a mix of uses, small block size, and a well-connected roadway network, which typically connects to residential neighborhoods, either directly along the corridor or directly behind the uses bordering the road. The allowable speed range on the state highway system for an Urban General Arterial is 30-45 mph. A design speed of 40 mph was selected for the corridor, which is also the current posted speed limit along the corridor as of December 2019.

Figure 1. Location of the 62nd Avenue North Study Corridor; Map created by Pinellas County Planning Department

In 2010, Pinellas County developed plans to widen this section of 62nd Avenue North to a five-lane undivided urban typical section. Budgetary constraints halted these plans in 2012, but the corridor remains a priority in the County's Long Range Transportation Plan (LRTP). Improvement plans have resumed with new alternatives under consideration – see **Table 3**, Evaluation Matrix of 62nd Avenue North Alternatives.[16] The matrix

[2] Google Maps estimate of travel times

details the existing conditions on 62nd Avenue North, the original 2010 design produced by consultant KCI (Option 0), and two alternatives (Options 2 and 4) that Pinellas County selected from a longer list of potential designs. For consistency, this report uses the alternative labels from the *Conceptual Corridor Report for 62nd Avenue North from 49th Street North to 34th Street North* produced by Kimley-Horn.[3]

The existing conditions and each alternative have the potential to positively and negatively affect health. Major design differences between the alternatives include the number of lanes, total pavement width, through lane width, bike lane and sidewalk width, and pedestrian refuges. These design differences result in different levels of mobility, safety, access, and risk for people driving, walking, and biking.

Figure 2. Existing Conditions on 62nd Avenue North

[3] Before this HIA report was completed, the County eliminated Option 0 from consideration for 62nd Avenue North. This report still details the health impacts of Option 0 in comparison to the other 62nd Avenue North alternatives.

*Table 3. 62nd Avenue North Evaluation Matrix: Summary of 62nd Avenue North Alternatives from Kimley-Horn's Conceptual Corridor Report for 62nd Avenue North from 49th Street North to 34th Street North**

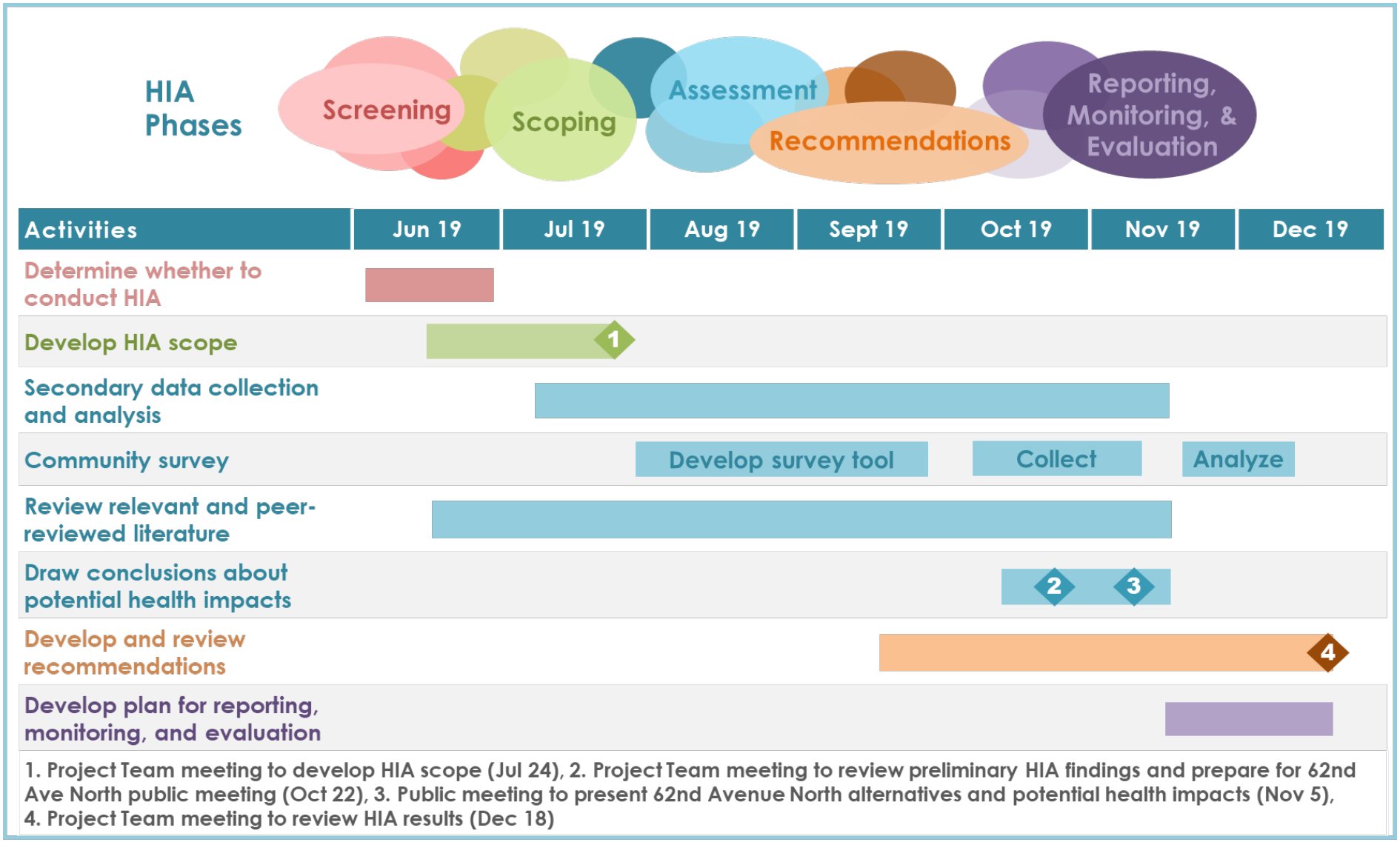
	EXISTING CONDITION	OPTION 0 (2010 KCI Design)	OPTION 2	OPTION 4
Description	2 Travel Lanes	4 Travel Lanes + Two-way left turn lane (TWLTL) + 2 Bicycle Lanes	3 Travel Lanes + TWLTL + 2 Bicycle Lanes	2 Travel Lanes + TWLTL + 2 Bicycle Lanes
Pavement Width (EOP to EOP)	22'	64'	64'	52'
Thru Lane Width	11' x 2 = 22'	11' x 4 = 44'	12' x 3 = 36'	12' x 2 = 24'
TWLTL Width	Some left turn lanes	12'	14'	14'
Bike Lane Width (North / South Side)	None	4' / 4'	7' / 7'	7' / 7'
Sidewalk Width (North / South Side)	None	6' / 6'	8' / 6'	8' / 8'
Pedestrian Refuges	0	1	2	2
Pros	• Existing – no build	• Already designed • Adds pedestrian and bicycle facilities	• Two WB thru lanes • Wider bicycle lanes • Wider sidewalk on north side of road • Salvages some elements of KCI's design	• Wider bicycle lanes • Wider sidewalk on both sides of road • Reduces amount of pavement pedestrian has to cross • Creates more room behind curb to accommodate drainage
Cons	• No bicycle facilities • No pedestrian facilities	• Significant design issues • 4' bicycle lanes • 6' sidewalk on both sides of road • Requires a significant amount of R/W acquisition	• Significant redesign required • WB thru lane doesn't improve level of service • Requires a significant amount of R/W acquisition	• Full project redesign
Cost (See Engineer's OPC)	No Build	$13.472 million	$14.253 million	$13.177 million
Constructability	No Build	●○○	●○○	●●●
Amount of R/W Acquisition	None	High	High	Low
Vehicle Mobility	●○○	●●●	●●◐	●●○
Bicycle Mobility	None	●○○	●●●	●●●
Pedestrian Mobility	None	●●○	●●○	●●●

Legend: ●○○ - POOR ●●○ - MODERATE ●●● - GOOD

*Adapted from Kimley-Horn (KH). Pinellas County selected Options 0, 2, and 4 from a longer list to undergo further analysis by KH. Scoring of Poor, Moderate, and Good is based on analysis conducted by KH in the *Conceptual Corridor Report for 62nd Avenue North*. Before this HIA report was completed, the County eliminated Option 0 from consideration; this report still details the health impacts of Option 0 in comparison to the other alternatives.

The HIA process began in June 2019 and concluded in December 2019. Figure 3 shows the HIA project timeline, color-coded by HIA phase. There were three major HIA / Project Team meetings and one community meeting.

Figure 3. 62nd Avenue North HIA Project Timeline



SCREENING

During the screening phase, the HIA Team identified the design alternatives under consideration and used a list of screening questions to determine whether an HIA would be feasible and add value to the decision-making process.[17] The full list of screening questions and answers is available in *Appendix A. HIA Screening & Scoping* Tools.

FEASIBILITY

The feasibility of conducting an HIA depends on time, resources, political will, and available data; the HIA Team determined that an HIA was feasible on this project. Resources are available in the form of feedback and the Health in All Policies Collaborative, an expert consultant to provide feedback and guidance on the HIA process, and commitment from other County staff and partners to provide input, feedback, and technical assistance, and staff time. The County's full-time health planner, funded by a grant from the Foundation for a Healthy St. Petersburg and Florida Department of Health, led the HIA. Screening and scoping for the HIA of the 62nd Avenue North roadway improvements project began in June 2019, with a public input meeting in November 2019. The Project Team will meet in December 2019 to make a decision on the project. After the Project Team meeting, Pinellas County Public Works will make a recommendation on the project to the Pinellas County Board of County Commissioners. This timeline allowed for a rapid HIA.

The County has demonstrated a commitment to health and equity through the adoption of the *Linking Lealman: Complete Streets Action Plan*, the passage of a Health in All Policies resolution, as well as the existing Complete Streets Policy for County facilities and its proposed expansion as part of the Comprehensive Plan update. *Linking Lealman* outlines an actionable plan to enhance mobility and safety for people of all ages, abilities, and user types (driving, walking, biking, etc.) in the Lealman community. The existing Pinellas County Complete Streets Policy states that the County "shall take a complete streets approach towards mobility and incorporate livable community requirements" and provides for the inclusion of bicycle facilities, buffered sidewalks, and trails in transportation planning and design. Forward Pinellas, in its role as the Metropolitan Planning Organization for Pinellas County, is proposing the inclusion of a Complete Streets Policy in the Long Range Transportation Plan currently under development.

HEALTH CONSIDERATIONS & UNEQUALLY DISTRIBUTED IMPACTS

Health is directly affected by transportation and roadway design and construction. Transportation decisions affect health behaviors and outcomes, such as physical activity, injuries and fatalities from traffic crashes, air quality, and social connectedness. Corridor design can have long-lasting consequences that may result in avoidable, involuntary, or adverse effects on health that would not be reversible for a decade or more.

Health has not yet been considered to its full extent as part of the 62nd Avenue North roadway improvements project. The County developed a conceptual corridor report and a corridor study for 62nd Avenue North from 49th Street North to 34th Street North. These studies specifically focused on the development of recommendations based on traffic safety and mobility considerations appropriate to the existing and anticipated land uses and populations in the area. While these studies did address safety and mobility, they were not intended to apply a broader mix of

public health criteria. An HIA adds value to the project by allowing the County to explore additional health considerations and by identifying opportunities to further promote health through the 62nd Avenue North corridor design.

Roadway changes that affect mobility choices may have a disproportionate impact on nearby Lealman and Pinellas Park residents. The 62nd Avenue North project corridor is located near populations generally at increased risk for poor health outcomes. Age, ability, vehicle ownership status, income, race/ethnicity, education, as well as the method of travel one uses can influence health risks and outcomes. In the Lealman community, a large portion of households (11%) do not own a vehicle, and more people rely on walking, biking, and public transit as a primary mode of transportation in comparison to Pinellas County. People who walk, bike, and ride mopeds or motorcycles are at greater risk of injury or death due to a lack of protection. Lealman has higher rates of unemployment and poverty, which affect the ability to access goods and services. More Lealman (17.4%) and Pinellas Park (17.5%) residents have a disability in comparison to the County (15.1%) and state (13.4%), and this affects how individuals move around the community.[4] Additionally, located on or near the project corridor are Lealman Elementary, Youth Park, senior and low-income housing, and the Magnolia Assisted Living Facility, representing those who may be reliant on alternative modes of transportation.

This section of 62nd Avenue North – between 49th Street North and 34th Street North – is also a border between two Community Redevelopment Areas (CRAs), the Pinellas Park CRA and the Lealman CRA. Cities and counties establish CRAs to encourage redevelopment in areas where there is low economic investment due to inadequate building structures, infrastructure (i.e. roads, drainage), and parking. These areas face unique challenges but also offer significant opportunity. Both the Lealman and Pinellas Park CRAs have community redevelopment plans that aim to foster redevelopment, address blight, and improve quality of life.[18] [19]

GOALS

The goals of the HIA are to:

- **Provide a fair opportunity for the residents of Lealman and Pinellas County to achieve good health and well-being.**
- **Ensure public health, safety, and welfare of Lealman and Pinellas County residents in alignment with Pinellas County's Strategic Plan, and specifically address the following Plan goals:**
  - **2.1 Provide planning, coordination, prevention, and protective services to ensure a safe and secure community.**
  - **2.5 Enhance pedestrian and bicycle safety.**
  - **4.2 Invest in communities that need the most.**
  - **4.5 Provide safe and effective transportation systems.**
  - **5.2 Be responsible stewards of the public's resources.**
- **Assess the health consequences of four design alternatives for 62nd Avenue North roadway improvements. Make recommendations to enhance positive health outcomes and mitigate negative health outcomes.**

[4] Data Source: U.S. Census Bureau, 2013-2017 American Community Survey 5-Year Estimates

SCOPING

Scoping is the planning and design phase of the HIA that involves defining the parameters of the assessment. Scoping tasks include: [20]

- Decide the scale of the HIA
- Identify participants and their roles
- Define potential health impacts and priority issues; develop a logic model that illustrates the pathways between the project and health outcomes
- Determine research questions, data sources, and analysis methods (e.g., literature review, analysis of existing data, forecasting or predictive methods, collection of new quantitative or qualitative data)

For this project, an HIA work session was held on July 24, 2019. There were approximately 12 participants who represented the Florida Department of Health-Pinellas County and the following Pinellas County government departments: County Administration, Office of Management & Budget, Planning, and Public Works. Work session participants refined the scope of the assessment including goals, research questions and health impact focus areas, geography and time boundaries, and community engagement and analysis methods.

DETERMINE THE HIA SCALE

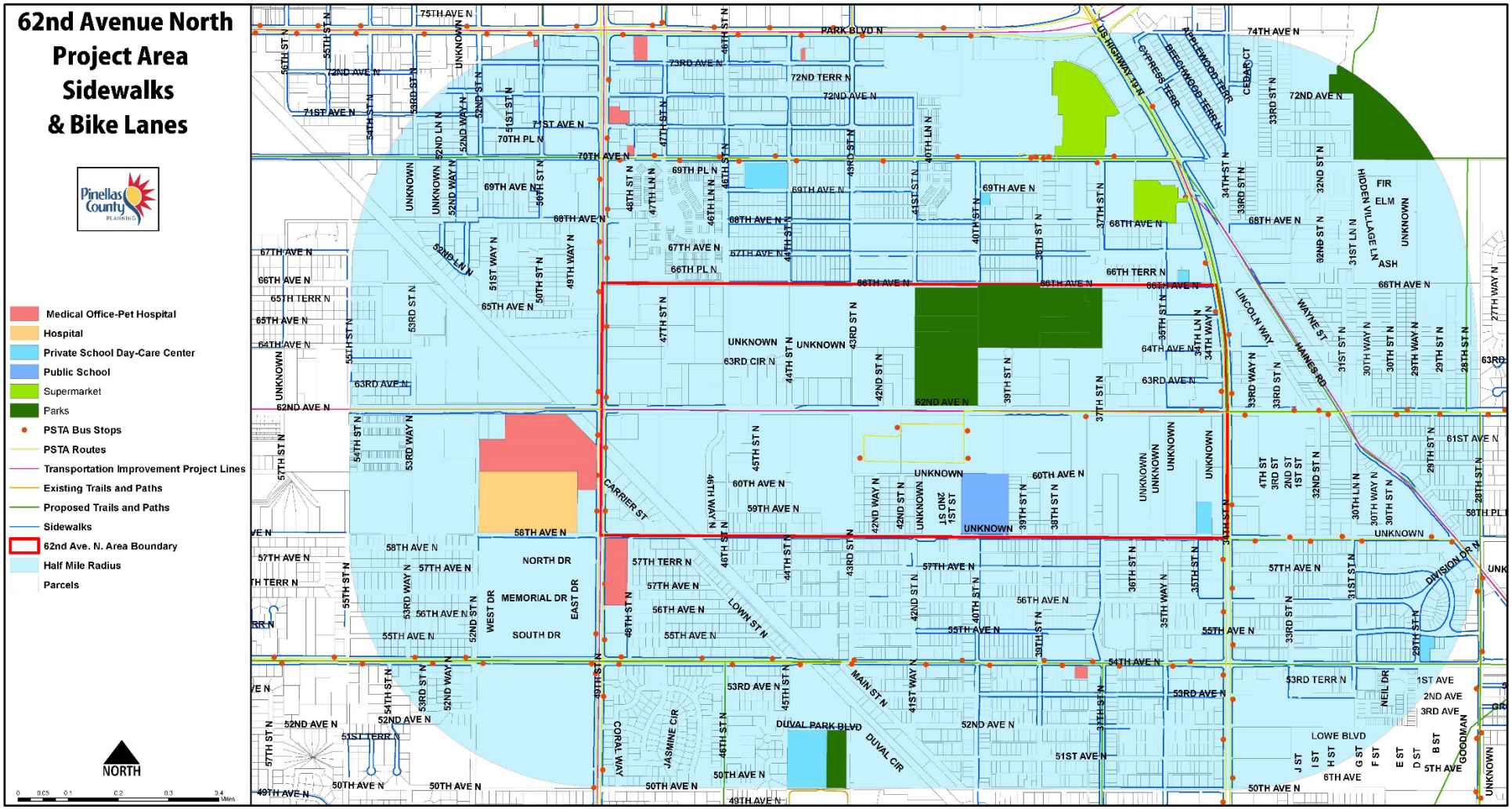
HIAs are generally grouped into four levels of increasingly robust analysis, based on scope, timeframe, and size: desk-top, rapid, intermediate, or comprehensive. A desk-top HIA uses information that can be collected "off the shelf" from existing, easily accessible sources. A comprehensive HIA attempts to look at all possible health impacts of a decision, collecting data from many sources and requiring significant time and resources.[21]

Due to time constraints, the HIA team chose to conduct a rapid HIA, which means the HIA considers a limited number of health impacts (typically no more than three). A rapid HIA relies primarily on existing data with limited input from experts and stakeholders. HIA screening and scoping began in June 2019. A decision on the 62nd Avenue North project will likely be made in late 2019, allowing 5-6 months to assess the project and make recommendations.

GEOGRAPHY & TIME BOUNDARIES

The HIA will consider short- and long-term health and safety impacts. Short-term impacts include immediate health and safety risks, such as traffic crashes, associated with each alternative. Long-term health impacts include changes to residents' health behaviors, such as physical activity, and health outcomes, such as chronic disease. The HIA will focus on the communities (Lealman and Pinellas Park), zip codes (33714 and 33781), and census tracts that will be most affected by the roadway changes due to their proximity to the corridor. Figure 4 shows the study area's current sidewalk and bike lane infrastructure, as well as the location of key resources like medical facilities, parks, bus stops, schools, and grocery stores. Neighborhoods in the study area have significant gaps in sidewalk and bike infrastructure. However, there are plans to address these deficiencies, such as Pinellas County's *Linking Lealman Complete Streets Action Plan*.

Figure 4. Map of the 62nd Avenue North Project Area



Health Impacts & Research Questions

Stakeholders convened at an HIA work session in July 2019 and provided feedback on HIA goals, research questions, and health impacts. As a rapid assessment, this HIA does not consider all possible health impacts in detail; instead work session participants considered a list of potential health impacts and selected the three which are the focus of the HIA.

Primary Impacts	*Other Potential Impacts to Consider*
• Physical safety, including traffic crash injuries and fatalities • Access to economic opportunities • Equitable access to resources and services for vulnerable populations (e.g., children, older adults, those with disabilities, racial or ethnic minorities, those with no vehicle, those with low income) and vulnerable road users	• Physical activity due to active transportation • Social interaction and connection • Air quality

Based on community input gathered while developing the *Linking Lealman: Complete Streets Action Plan*, the Lealman community expressed concern about: sidewalks, lighting, public transit, bicycle lanes, landscaping, vehicle scale, and overall safety. This aligns with the health impacts that are the focus of the HIA. See **Figure 5** for a logic model that provides more detail on how design features may affect long-term health outcomes.

Research Questions

At the July work session, the research questions were refined as follows:

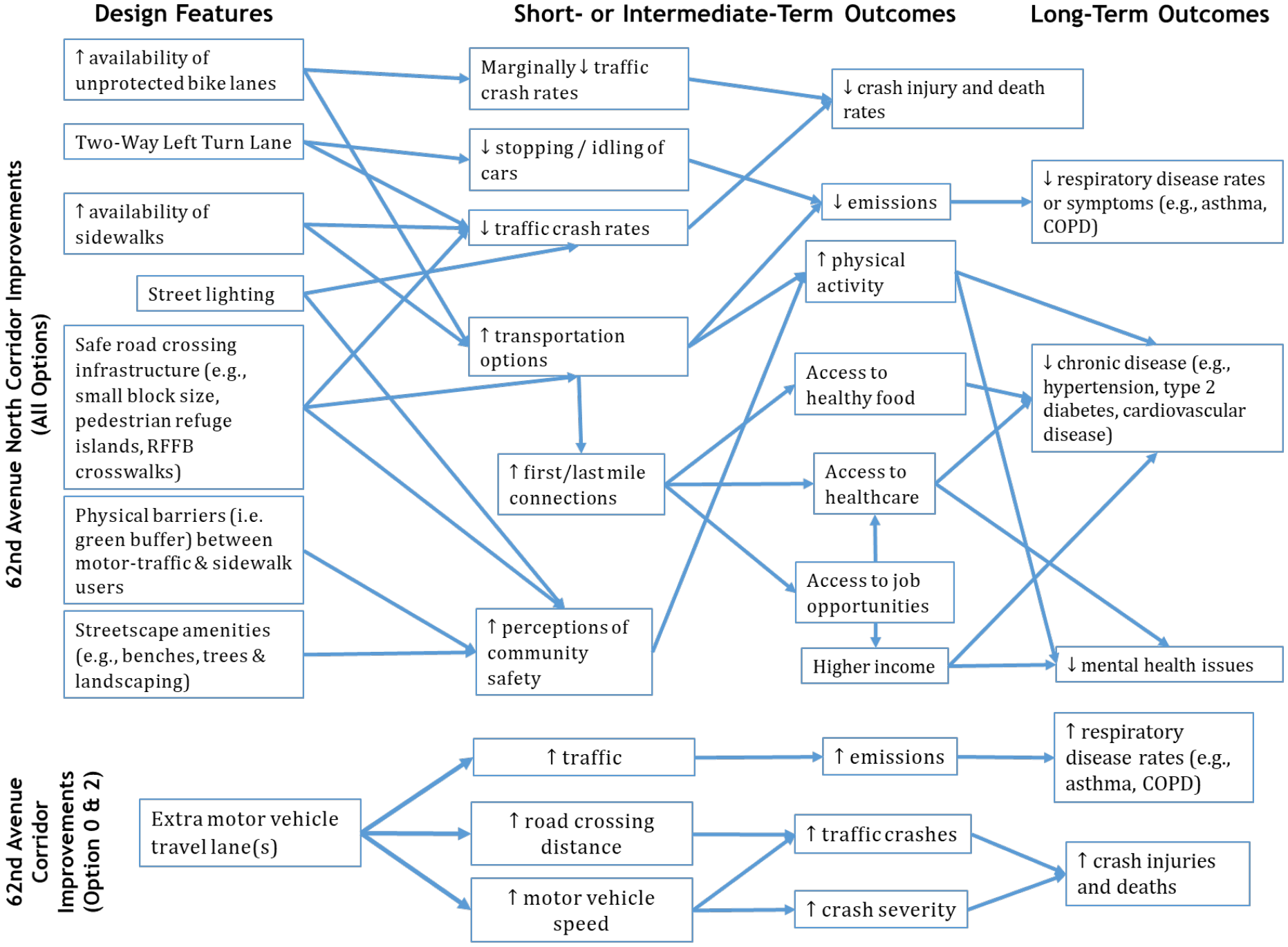
- Which 62nd Avenue design alternative best promotes community health and well-being?
- How does each design alternative affect equitable access for vulnerable populations?
    - This HIA looks at vulnerable or at-risk populations as 1) those who are generally more susceptible to health issues (e.g., children, older adults, those with disabilities, racial/ethnic minorities, those with no vehicle, those with low income) and 2) road users – such as people who walk, bike, and ride mopeds or motorcycles – who are at greater risk of injury or death due to a lack of protection.
- How does each design alternative affect the likelihood and severity of traffic crashes, injuries, and fatalities?
- How does each design alternative affect economic opportunity in Lealman and Pinellas Park?

Community Engagement

On November 5, 2019, Pinellas County Public Works presented the 62nd Avenue North alternatives to the public at a community meeting in Lealman. During this meeting, the County communicated the alternatives under consideration for 62nd Avenue North, presented information about the health impacts of the project, and provided residents an opportunity to offer feedback.

The HIA Team conducted a 62nd Avenue North HIA Community Survey to understand residents' concerns and desires in relation to 62nd Avenue North, community mobility, health, and safety. Surveys were collected at community meetings held in October and November 2019 using a convenience sample method. The survey was completed by 49 residents. Some respondents chose not to complete every question, thus both percent response and the 'n' values – the number of respondents who completed a question – are displayed in the charts included in the survey analysis. Although it does not provide a representative sample of Lealman or Pinellas Park residents, the survey provides important understanding of residents' physical activity, active transportation habits, safety concerns (e.g., crime, lack of streetlighting, safe places to walk and bike, etc.), and mobility needs. See the survey tool in Appendix B. Survey responses are included throughout this report, and a full summary of the survey is available in Appendix D.

Figure 5. 62nd Avenue North Logic Model



ASSESSMENT

This HIA focuses on the communities that border the section of 62nd Avenue North (from 34th Street North to 49th Street North) scheduled to undergo roadway improvements. Data in this profile are shown for the communities (Lealman and Pinellas Park), zip codes (33714 and 33781), and census tracts that will be most affected by the roadway changes due to their proximity to the corridor. The assessment will give special focus to populations in the nearby communities who may be at higher risk for poor health outcomes, such as children, older adults, those with disabilities, people of color, those with no vehicle, those with low income, and vulnerable road users, such as people who walk or ride a bicycle.

ASSESSMENT PROCESS

The assessment phase identifies affected populations and determines health impacts of the identified decision. Assessment methods were defined at an HIA work session held on July 24, 2019. Because this is a rapid HIA, the assessment relies primarily on existing data with limited input from experts and stakeholders. Assessment methods included analysis of existing demographic, socioeconomic, health determinant, health outcome, environmental health, and community survey data; a convenience sampling survey of residents; a review of existing reports about the corridor and the affected communities; and a review of literature about the potential health impacts. The 62nd Avenue North HIA Community Survey seeks to understand residents' concerns and desires in relation to 62nd Avenue, community mobility, health, and safety. Survey data are integrated throughout the report, and a full summary of survey responses is available in Appendix D. Additional Data.

COMMUNITY CHARACTERISTICS

The demographic and socioeconomic characteristics of a community affect its health outcomes including injuries, disease, and death. Certain groups of people, such as children, those with disabilities, older adults, those with low income, and those with no vehicle, are at greater risk for poor health outcomes due to a variety of physical, social, and economic characteristics.

PEOPLE

Pinellas County has 949,842 people, which represents about 4.7% of Florida's total population. The County's population is older and slightly more female than the state. Lealman, a Census Designated Place (CDP),[5] and Pinellas Park represent 2.2% and 5.5% of Pinellas County's population, respectively. Approximately 9-10% of the population in Lealman and Pinellas Park are veterans. More Lealman (17.4%) and Pinellas Park (17.5%) residents have a disability in comparison to the county and state.[6]

TABLE 4. POPULATION FEATURES	Florida	Pinellas County	Lealman CDP	Pinellas Park
Total population	20,278,447	949,842	20,755	51,788
Median age (years)	41.8	47.6	43.9	44.6
Sex ratio (males per 100 females)	95.7	92.3	98.6	90.3
Age dependency ratio*	65.7	67.4	58	66.4
Civilian veterans	9.0%	11.0%	9.4%	9.9%
Population with a disability	13.4%	15.1%	17.4%	17.5%

Source: 2013-2017 American Community Survey Estimates

** A high dependency ratio means those of working age (age 18-64) face a greater burden in supporting the "dependent population" (under 18 and 65+).*

[5] Census Designated Places (CDPs) are populated areas that are not incorporated and do not have their own government or elected officials.
[6] U.S. Census Bureau, 2013-2017 American Community Survey 5-Year Estimates

Pinellas County's population skews older than Florida. However, Lealman and Pinellas Park have a larger percentage of children than Pinellas County as a whole. Lealman also has a larger "working age" (18-64 years) population (Figure 6).

Figure 6. Age Distribution

2013-17 American Community Survey (ACS) 5-Year Estimates

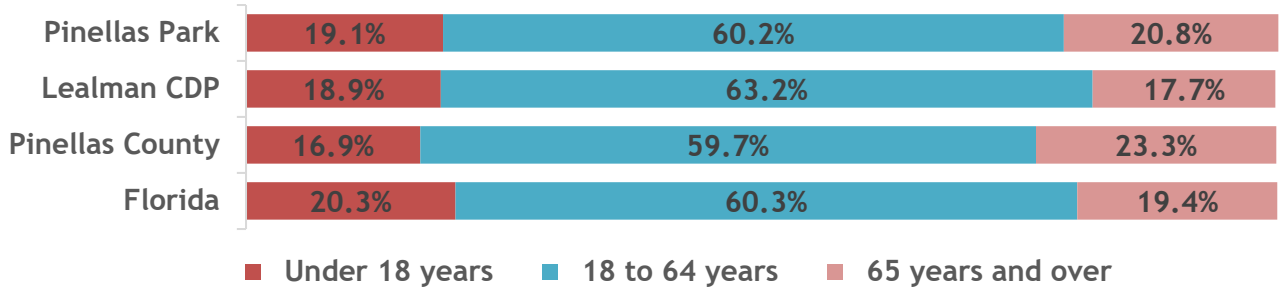
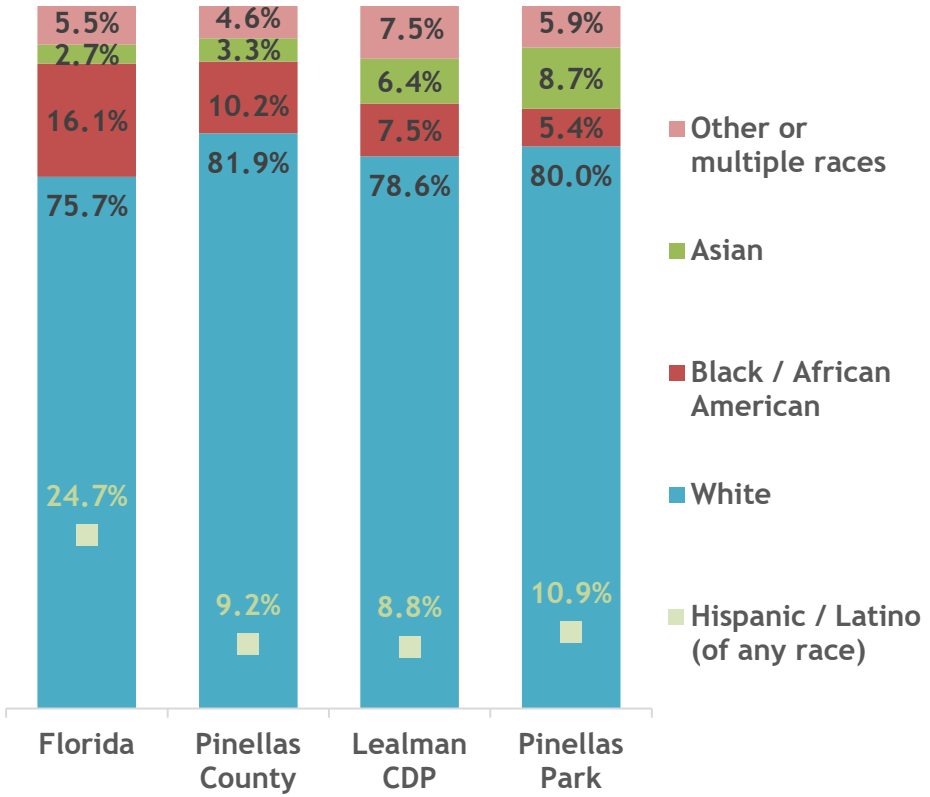


Figure 7. Race and Ethnicity

2013-17 American Community Survey 5-Year Estimates

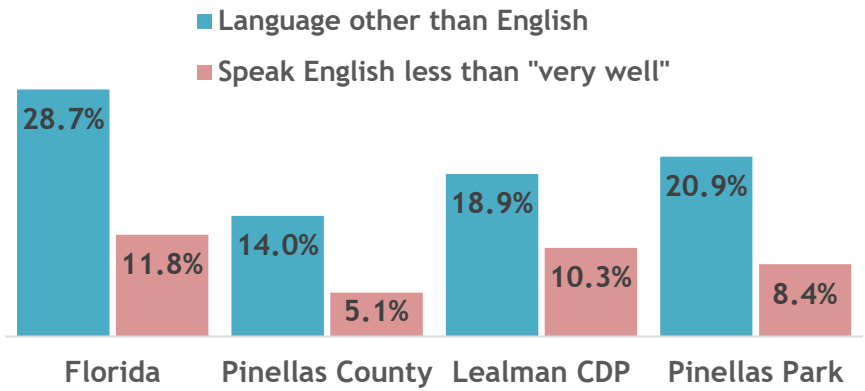


Pinellas County, Pinellas Park, and Lealman have a higher percentage of White residents and a lower percentage of Black and Hispanic/ Latino residents in comparison to Florida. Lealman and Pinellas Park have significant Asian populations, a large portion of which are of Vietnamese descent (Figure 7).

Approximately 17% of Lealman residents and almost 15% of Pinellas Park residents are foreign born, and 19-21% speak a language other than English at home. These rates are lower than the state but higher than the County average (Figure 8).

Figure 8. Language Spoken at Home

2013-17 ACS 5-Year Estimates



Education is a strong predictor of health. People with higher levels of education experience greater job stability, higher wages, better access to health care, and are more likely to live in neighborhoods with easy access to resources like parks, good schools, and healthy food.[22] A greater portion of Pinellas County residents (age 25+) are high school graduates or have a bachelor's degree in comparison to Florida, but Lealman falls below the state average in both categories.

Unemployment rates vary from a low of 5.8% in Pinellas Park to a high of 8.6% in Lealman. Median household income and poverty rates differ across geographies. Lealman and Pinellas Park have lower median incomes than Pinellas County and Florida. Poverty rates in Lealman are significantly higher than the County, state, or Pinellas Park, with 28% of Lealman's total population and 45% of children living below poverty level. Children experience high rates of poverty in comparison to the total population across Florida and in Pinellas County communities.

TABLE 5. EMPLOYMENT, INCOME, & POVERTY	Florida	Pinellas County	Lealman CDP	Pinellas Park
High school graduate or higher (age 25+)	87.6%	90.7%	78.1%	88.3%
Bachelor's degree or higher (age 25+)	28.5%	30.1%	12.7%	20.1%
Unemployment rate	7.2%	6.4%	8.6%	5.8%
Median household income (dollars)	$50,883	$48,968	$31,771	$42,106
% of ALL PEOPLE with income below poverty level in past 12 months	15.5%	13.7%	28.2%	15.2%
% of CHILDREN under 18 with income below poverty level in past 12 months	22.3%	20.2%	44.5%	17.9%

Data Source: 2013-2017 American Community Survey 5-Year Estimates

HOUSEHOLDS

Households in Lealman are more likely to be renter-occupied, have low vehicle access, and lack access to a computer or the internet in comparison to the County average.

TABLE 6. HOUSING CHARACTERISTICS		Florida	Pinellas County	Lealman CDP	Pinellas Park
Tenure, Value, & Size	Owner-occupied	64.8%	65.3%	61.5%	65.3%
	Renter-occupied	35.2%	34.7%	38.5%	34.7%
	Median value of owner-occupied units	$178,700	$167,100	$76,400	$128,600
	Average household size	2.6	2.3	2.4	2.4
Vehicle Access	No vehicles available	6.7%	8.2%	11.0%	6.9%
	1 vehicle available	40.6%	46.2%	50.6%	47.2%
	2 or more vehicles available	52.7%	45.5%	38.4%	45.9%
Technology	Households w/ a computer	88.1%	86.4%	80.0%	85.6%
	Households w/ a broadband Internet subscription	78.6%	78.7%	69.4%	76.8%

Data Source: 2013-2017 American Community Survey 5-Year Estimates

MOVING AROUND THE COMMUNITY

HEALTHY WEIGHT & OPPORTUNITIES FOR PHYSICAL ACTIVITY

Obesity, which is highly influenced by diet and physical activity, is one of the nation's most serious public health problems. Obesity and physical inactivity lead to chronic diseases like cancer, type 2 diabetes, heart disease, high blood pressure, and stroke.[23] Opportunities for physical activity are influenced by the environment and the policy and design decisions that create that environment. Communities that are designed primarily to move cars, are spread out, and lack safe places to walk and bike are directly linked to lack of physical activity.[24] Active transportation (e.g., walking and biking) is an opportunity to incorporate physical activity into an individual's routine on a regular basis. The physical activity associated with active transportation has similar health benefits to regular exercise – reduction in mortality, cardiovascular issues, and obesity – and is considered more sustainable in the long-term.[25]

Most (64%) Pinellas County adults are overweight or obese.[26] In Pinellas County, 28.6% of middle and high school students are overweight or obese compared to 30.4% of Florida middle and high schoolers.[7]

On average, 31.4% of 1st graders in the target zip codes were overweight or obese compared to 30.2% of Pinellas County 1st graders. The percentage of students who were at an unhealthy weight increased significantly from 1st to 3rd grade, with 43.1% of 3rd graders in the target zip codes and 38.8% of all Pinellas 3rd graders being overweight or obese.

At Pinellas Park Middle, 42.8% of 6th graders were overweight or obese compared to a County average of 41.7% – or about 4 in 10 students.

Table 7. Percentage of Elementary and Middle School Students who are Overweight or Obese in the Target Zip Codes and Pinellas County, By Grade Level, 7/1/2018-6/30/2019

	Zip Code	Grade 1	Grade 3	Grade 6
Lealman Avenue Elementary	33714	30.6%	39.0%	X
New Heights Elementary	33714	32.4%	42.3%	X
Sexton Elementary	33714	33.8%	42.4%	X
Pinellas Park Elementary	33781	27.5%	44.1%	X
Marjorie Rawlings Elementary	33781	33.0%	47.7%	X
33714 & 33781 ELEMENTARY TOTAL	—	31.4%	43.1%	X
Pinellas Park Middle	33781	X	X	42.8%
PINELLAS COUNTY TOTAL	—	30.2%	38.8%	41.7%

Data Source: Florida Department of Health-Pinellas County, School Health

[7] Florida Department of Health, Division of Community Health Promotion, 2018 Florida Youth Tobacco Survey (FYTS)

Children's School Commute

Means of Transportation and Commute Flow

Johns Hopkins Hospital's Safe Routes to School program conducted teacher tallies at Lealman and Sexton Elementary schools during the 2018-2019 school year to determine how many students walk, bike, take the bus, or ride in a car to school. In the 2018-19 school year, 451 students were enrolled at Lealman Elementary and 570 at John M Sexton Elementary; 450 Lealman and 543 Sexton students participated in the tallies.

At Lealman Elementary, 28.9% of students walk or bike to school – a significantly larger portion than Sexton Elementary, where 15.1% walk to school. Another 33% of Lealman students and 8% of Sexton students take the school bus, which may involve walking between home and the bus stop.

Based on school attendance zone maps, it is unlikely that many elementary school students travel across 62nd Avenue North to get to school. Most elementary-aged children who live in Lealman are zoned for Lealman Elementary, meaning they live and go to school south of 62nd Avenue North. The same is true for Pinellas Park; most elementary-aged children live and go to school north of 62nd Avenue North. Although elementary students may not cross 62nd Avenue North, they may be walking along 62nd Avenue North to get to school. Additionally, middle and high school students who live in the area are likely to need to cross 62nd Avenue North to get to school.

Table 8. Children's School Commute

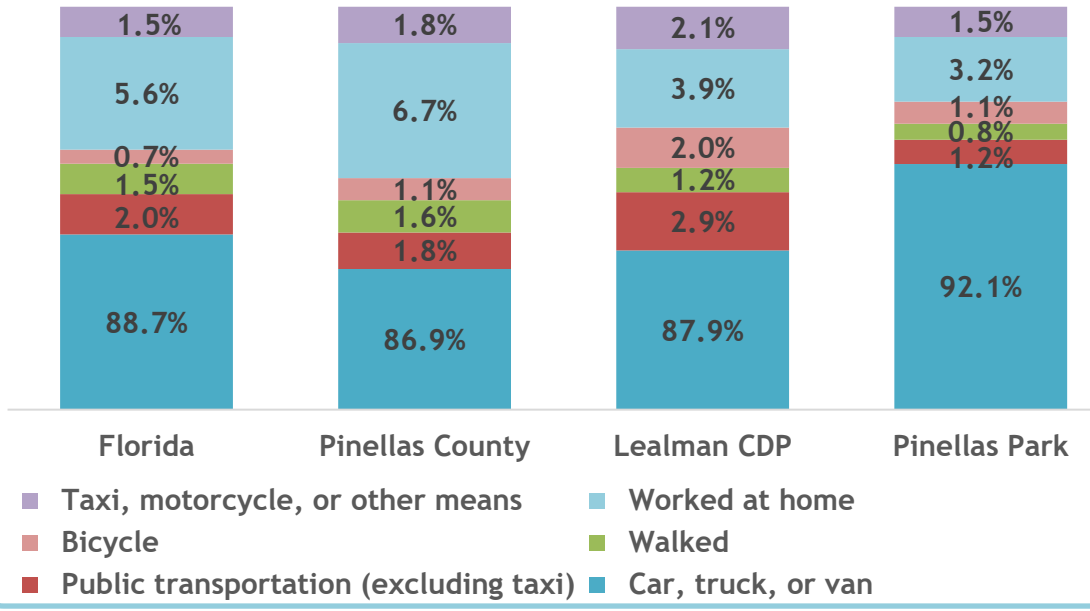
School		Students in Class when Count Made	Walk	Bike	School Bus	Car	YMCA/ Roberts
Lealman Elementary	Count	450	100	30	150	170	-
	%	99.8%	22.2%	6.7%	33.3%	37.8%	-
John Sexton Elementary	Count	543	82	-	44	280	137
	%	95.3%	15.1%	-	8.1%	51.6%	25.2%

Work Commute

A greater portion (8.2%) of Lealman residents commute to work via more "vulnerable" means of transportation such as biking; walking; public transportation; and taxi, motorcycle, or other means in comparison to Florida (5.7%), Pinellas County (6.3%), and Pinellas Park (4.6%). More Pinellas Park residents commute via motor vehicle (92.1%) than Lealman, Pinellas County, or Florida (**Figure 9**).

Figure 9. Means of Transportation to Work

2013-17 American Community Survey 5-Year Estimates

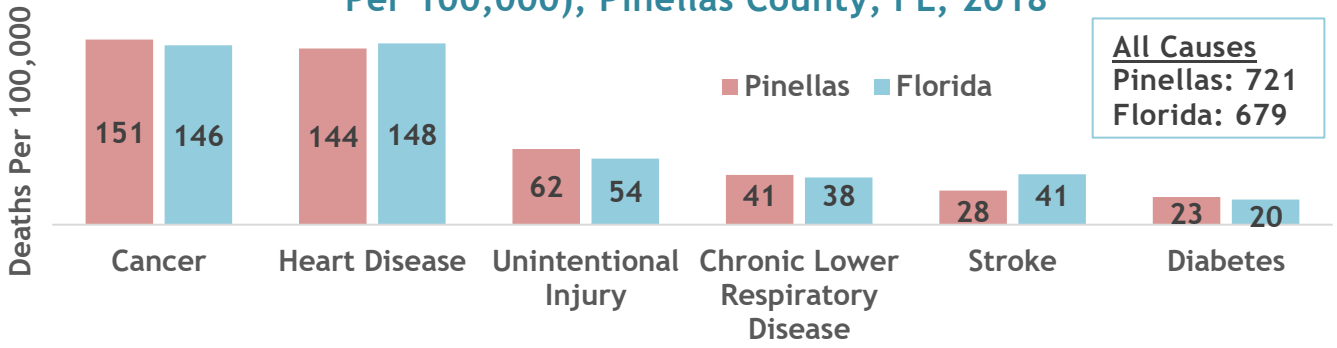


HEALTH STATUS

Leading Causes of Death

The leading causes of death in Pinellas County (see Figure 10) can be linked to transportation systems and mitigated through transportation policy.[27] Cancer, heart disease, stroke, and diabetes (specifically type 2) are highly correlated with physical activity, which is hindered or promoted by the transportation environment in a community. Air pollution from vehicle emissions is associated with heart disease, cancer, and respiratory illness.[28] Motor vehicle crashes account for a large share of unintentional injury death, which is the third leading cause of death in Pinellas County.[29]

Figure 10. Leading Causes of Death (Age-Adjusted Death Rate Per 100,000), Pinellas County, FL, 2018

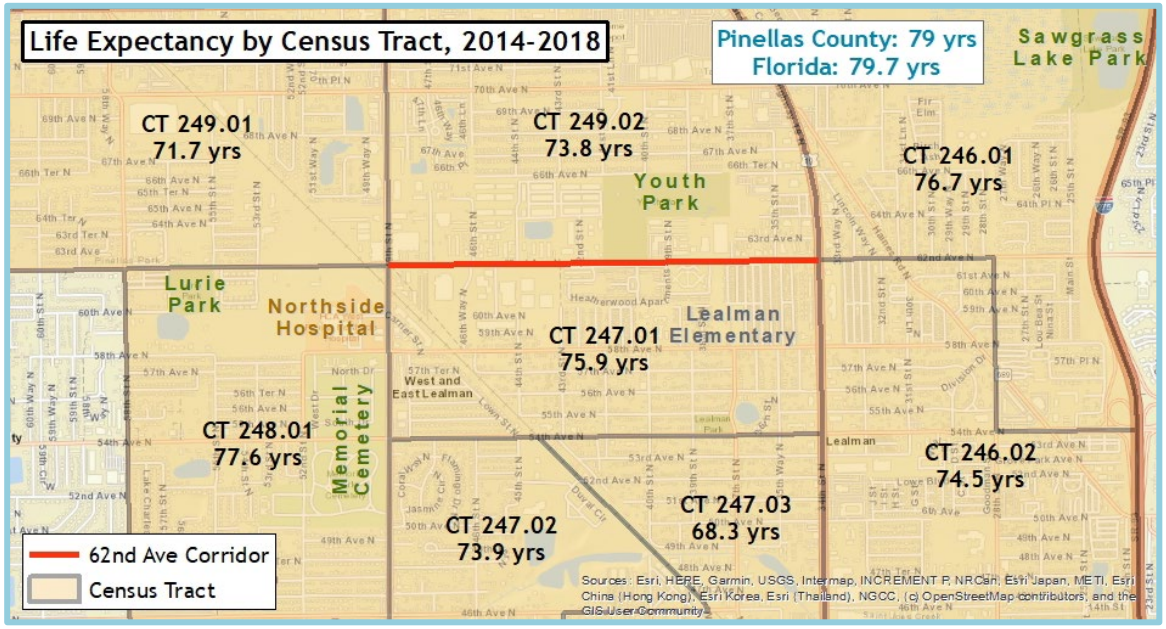


Data Source: Florida Department of Health (FDOH), Division of Public Health Statistics & Performance Management, www.flhealthcharts.com

Life Expectancy

Life expectancy ranges from a low of 68.3 years (CT 247.03) to a high of 77.6 years (CT 248.01) in the census tracts surrounding the 62nd Avenue North Corridor. All census tracts near the corridor have lower life expectancy than the county (79 years) and state (79.7 years) averages.[30]

Figure 11. Life Expectancy Near the 62nd Avenue North Corridor by Census Tract



Map Data Source: FDOH, Florida Environmental Public Health Tracking at www.floridatracking.com; Map created by Pinellas County Planning Department

Community Health

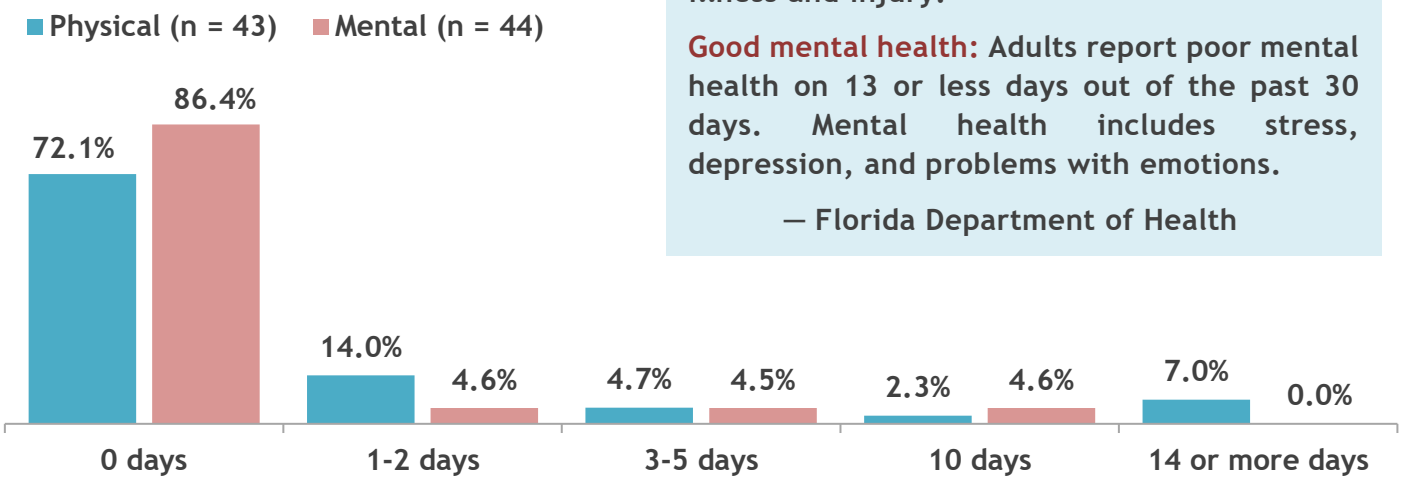
62nd Avenue North HIA Community Survey respondents rated their own health on a scale from "Excellent" to "Poor". Approximately 96% of respondents said their health was "Good" to "Excellent". No respondents rated their health as poor (**Figure 12**). In comparison, 79% of Pinellas County residents and 81% of Florida residents said their health was "Good" to "Excellent" in 2016.[8]

Figure 12. Overall Health (n = 48)

Respondents were asked to recall how many days during the past 30 days their physical or mental health was not good. Most respondents reported good physical (93%) and mental (100%) health. In comparison, 87% of Pinellas and Florida residents had good physical health in 2016. Approximately 88% of Pinellas residents and 87% of Florida residents had good mental health in 2016.[9]

62nd Avenue North survey respondents were more likely to report experiencing poor physical health than poor mental health. Approximately 9.3% of respondents reported poor physical health and 4.6% reported poor mental health on 10 or more of the past 30 days (**Figure 13**).

Figure 13. Number of Days in the Past 30 Days with Poor Physical or Mental Health



Good physical health: Adults report poor physical health on 13 or less days out of the past 30 days. Physical health includes physical illness and injury.

Good mental health: Adults report poor mental health on 13 or less days out of the past 30 days. Mental health includes stress, depression, and problems with emotions.

— Florida Department of Health

[8] 2016 Florida Behavioral Risk Factor Surveillance System Data Report
[9] 2016 Florida Behavioral Risk Factor Surveillance System Data Report

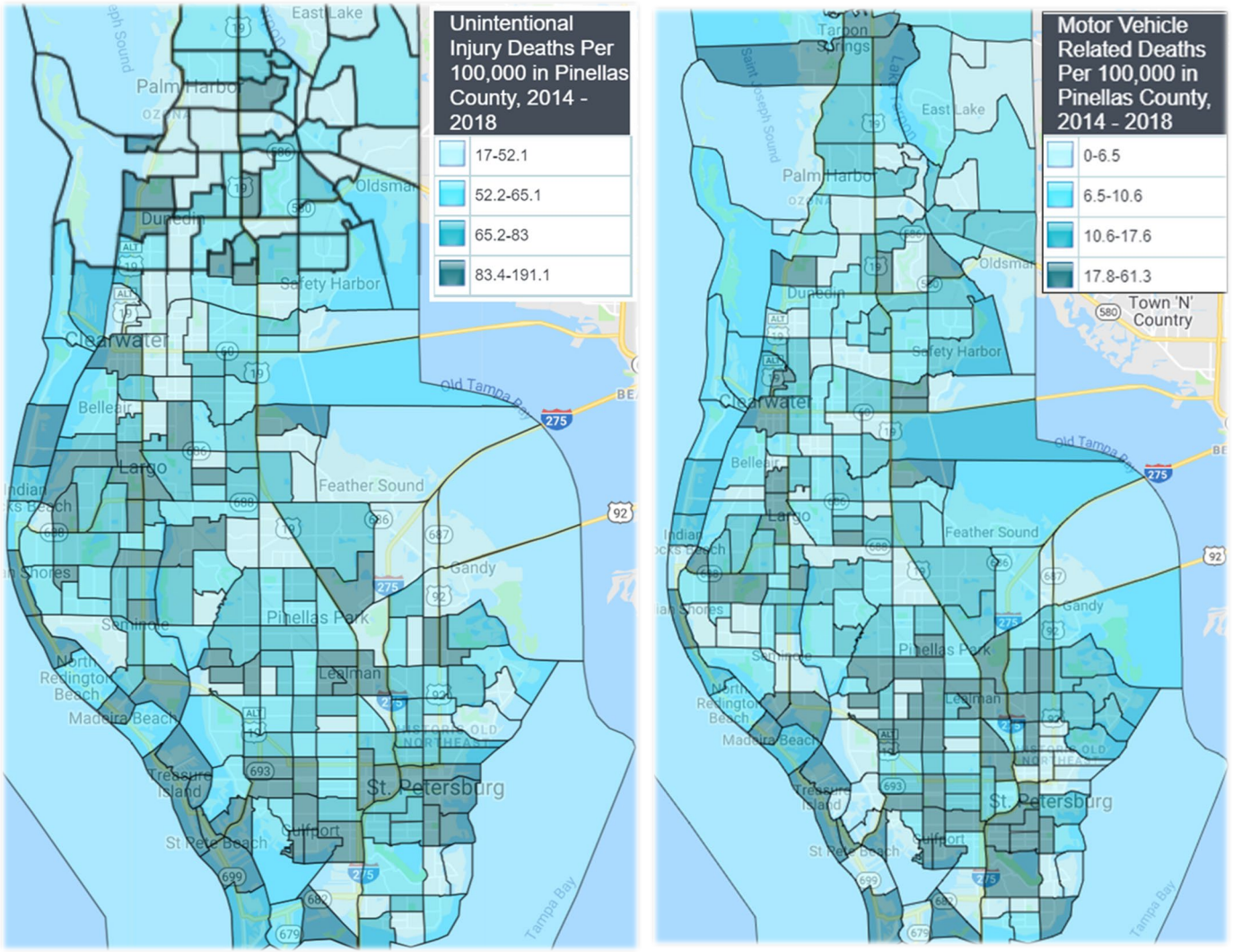
Injuries

Injuries – such as those caused by motor vehicle crashes, falls, or homicides – are the leading cause of death among children and adults ages 1-44 in the United States. They are the 3rd leading cause of death for all people in Pinellas County and Florida when using age-adjusted death rates. Injuries have great personal and societal costs. For every person that dies by injury, 13 are hospitalized and 129 are treated in an emergency room.[31] Those that survive injuries often suffer from lasting physical, mental, and financial issues.

People who walk, bike, and ride mopeds or motorcycles are considered vulnerable road users because they have less protection than motor vehicles and greater risk for injury or death due to collisions. Across the U.S., older adults, people of color, and people who walk in low-income communities have a higher risk of dying while walking. Though all communities are affected by traffic crashes, those groups account for a disproportionate share of fatal crashes involving people walking.[32] Children and people with disabilities are also vulnerable road users.

Census tracts in Lealman have higher rates of unintentional injury death and motor vehicle crash death than other areas of Pinellas County. Some Pinellas Park census tracts also have higher rates of motor vehicle crash deaths (**Figure 14**).

Figure 14. Deaths Due to Unintentional Injury and Motor Vehicle Traffic Crashes by Census Tract



Map Source: Florida Department of Health, Division of Public Health Statistics & Performance Management, www.flhealthcharts.com

Crash Data

According to the *Linking Lealman Complete Streets Action Plan*, 62nd Avenue North is one of four crash hot-spot corridors in the Lealman community (see **Figure 15**). The highest concentrations of crashes along the 62nd Avenue North corridor occur at the intersections with 34th Street North and 49th Street North.

- From 2012-2017 in Lealman, there were **3,436 total crashes**
  - **19 fatalities** and 206 incapacitating injuries
  - **215 crashes involved a bicycle or pedestrian**
- In 2016 alone, there were 880 total crashes and **10 pedestrian fatalities** in Lealman
- **Top crash types** are rear end (1,327 crashes), angle & hit fixed object (1,097), and sideswipe (295) from 2012-2017

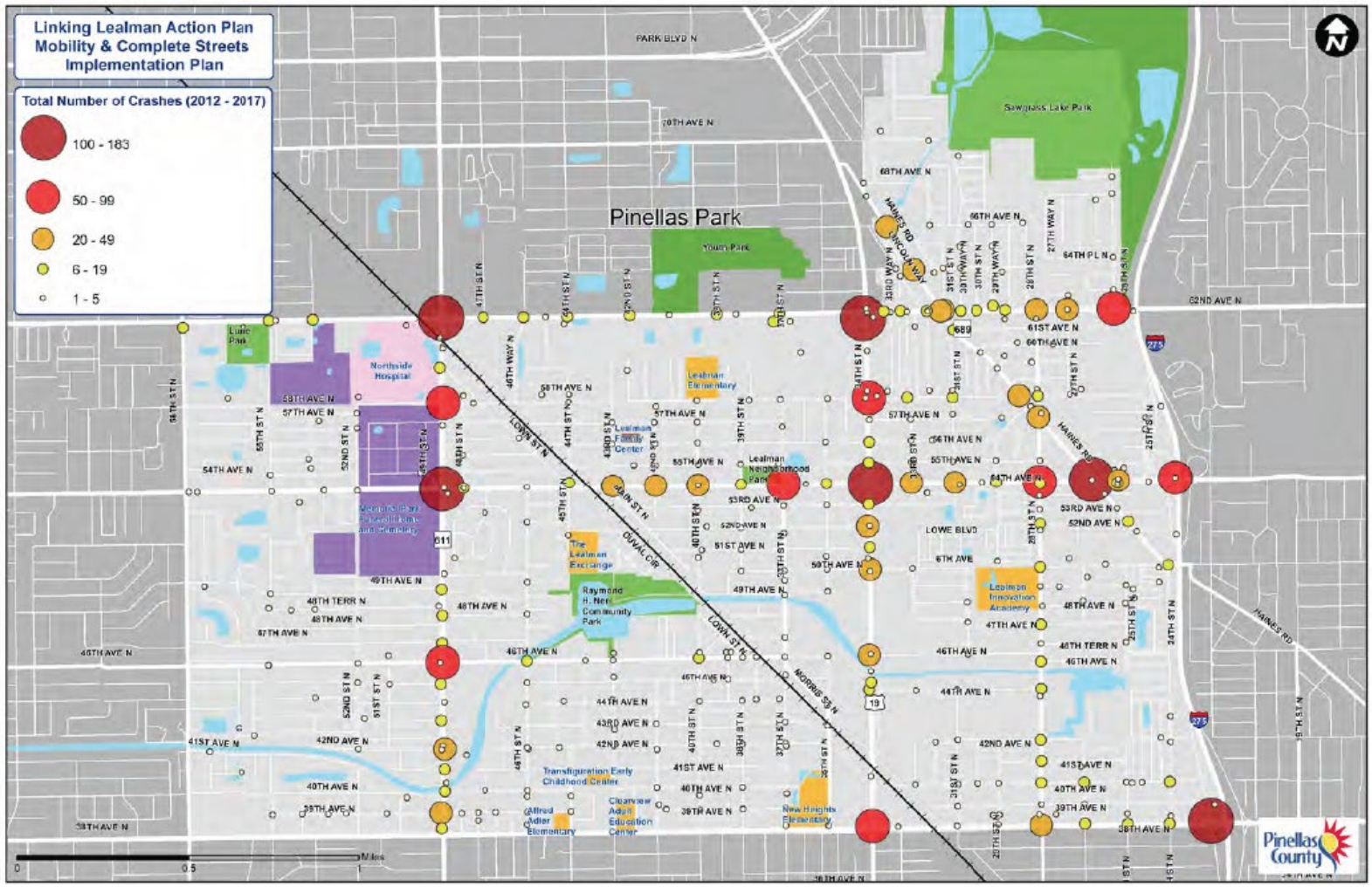


Figure 15. Top Crash Areas, 2012-2017. Source: Linking Lealman Complete Streets Action Plan

Hospital Injury Data

Using police reports as the sole data source for crashes and transportation-related injuries is likely to lead to under-reporting of injuries, especially for bicyclists and pedestrians who are less likely to file police reports when in a crash. In a study by the San Francisco Department of Health, 20% of pedestrian injuries and 25% of bicyclist injuries treated at the local hospital were not captured by police records.[33] Additionally, a National Highway Traffic Safety Administration (NHTSA) study of crash reporting showed that 1 in 6 injury crashes (15%) go unreported. Certain groups of people may be less likely to report a crash including younger people, those who identify as Hispanic, and those with high school or less education. Injured people lost a median of four weeks from work and/or school, regardless of whether a crash was reported or unreported.[34]

Hospital Visits by Residents of the Target Zip Codes for Transport-Related Reasons

Table 9 shows hospital visits by residents of zip codes 33714 (Lealman) and 33781 (Pinellas Park) (i.e. the target zip codes) for transport-related reasons in 2018. Visits include those to emergency departments and inpatient hospital admissions; they do not include people who sought care at a doctor's office, clinic, or urgent care center.

Hospital data do not typically include the location where an injury occurred. **Table 9** shows visits by residents of the target zip codes, not necessarily injuries that occurred in the target zip codes. Although we do not know the location of injury for the visits shown, we do know that most injuries occur close to home, and bicyclists and pedestrians are likely to be very close to home (around 1 mile) when injured.[35] Visits are sorted by type of person injured (pedestrian, motor vehicle occupant, etc.). See Appendix D for a more detailed breakdown of hospital visits.

There were 986 transport-related hospital visits by residents of the target zip codes totaling $23,424,232 in charges. Government insurance covered 20.5% of these visits, while 25.5% were non-payment, self-pay, or another payment type. Transportation-related injuries and deaths are preventable, and tax burden could be reduced by increasing safety measures and reducing injuries and fatalities. People ages 18-64 accounted for a disproportionate share of visits in comparison to their share of the total population. The 18-64 age group accounts for 64-65% of the population in the target zip codes, but accounts for 79% of transportation-related visits.

Table 9. Hospital Visits for Transport-Related Reasons

Type of Person Injured	Age			Payment Type			Total Visits	Total Charges
	0-17	18-64	65+	Gov. Ins.	Com. Ins.	Non-Pay/Other		
Bicyclist	32	100	7	52	24	63	139	$2,484,542
Pedestrian	10	42	6	26	19	13	58	$2,298,962
Bus occupant	2	4	0	2	3	1	6	$29,824
Motorcycle rider	4	79	2	29	25	31	85	$4,492,932
Motor vehicle (car, truck, van) occupant	58	430	52	61	368	111	540	$9,492,685
Dirt bike or other off-road vehicle rider	1	6	0	4	2	1	7	$171,422
Heavy transport vehicle occupant	0	3	0	0	1	2	3	$106,201
Unspecified	9	117	22	28	91	29	148	$4,347,664
Grand Total	116	781	89	202	533	251	986	$23,424,232

Data Source: Florida Agency for Health Care Administration, Hospital Discharge and Emergency Department Data Files

HOW DOES TRANSPORTATION AFFECT OUR HEALTH?

The conditions in which we live, work, play, and age (also known as the social determinants of health) affect our risk for injury, illness, and death. The transportation system, which includes highways, neighborhood roads, sidewalks, bicycle lanes, trails and paths, personal vehicles, public buses, and more, is a major health determinant. According to the American Public Health Association (APHA), 50% of the leading causes of death and illness in the U.S. – including traffic injuries, heart disease, cancer, type 2 diabetes, and respiratory illness – are preventable. Transportation and land use policies can mitigate or worsen the risk factors for these leading causes of death and disease.[36]

Most people need to travel somewhere almost every day, whether to get to work or school, buy groceries, visit friends, or go to the doctor. However, large portions of the American population do not have the ability to drive including all children under age 16, some adults over age 65, those who cannot afford a vehicle, and those who have a disability that prevents them from operating a vehicle. Because transportation is a part of our daily life, it influences health in many ways and has a large societal cost (**Figure 16**).

The National Health Costs of…	$$ (Billions)	Estimate Includes
Obesity and overweight	$142	• Healthcare costs • Lost wages due to illness & disability • Future earnings lost by premature death
Air pollution from traffic	$50-80	• Health care costs • Premature death
Traffic crashes	$180	• Healthcare costs • Lost wages • Property damage • Travel delay • Legal/administrative costs • Pain & suffering • Lost quality of life

Figure 16. Cost of Transportation-Related Health Outcomes, Source: APHA, "The Hidden Costs of Transportation"

Health-Promoting Design	Unhealthy Design
Neighborhood asset for access and commerce	Physical barrier that divides neighborhoods
Supports neighborhood social and cultural connections	Exhibits neglect and physical decay
Safe travel speeds for all users	Traffic speeds too high to be safe for all users
Comfortable for all users to cross	Difficult to cross because of design and traffic
Link within pedestrian and bicycle networks	Barrier within pedestrian and bicycle networks
Designed to mitigate air pollution	Near-roadway air pollution
Designed to mitigate noise	Source of noise
Accessible to users of all abilities	Inaccessible to users with disabilities
Supports green infrastructure systems	Impervious paving materials, lack of shade
Contributes to revitalization without displacement	Location of residential and business gentrification

Figure 17. Arterial Design Characteristics & Health, Source: Christopher & McAndrews (2018). "Improving Arterial Roads to Support Public Health."

Arterial roads like 62nd Avenue North carry a large volume of motor vehicles because they are connectors between local roads and large freeways. Unlike other high capacity roads, such as freeways and interstates, arterials allow for a mix of travel modes including driving, walking, biking, and public transit. The heavy use of arterial roads and the mix of travel modes means that arterials have an important influence on health and health equity. To measure the success of arterials, communities should use metrics that account for pedestrians, bicyclists, transits riders, and nearby residents, in additional to traditional motor vehicle metrics.[37] **Figure 17** shows arterial design characteristics that potentially promote or hinder health.

HEALTH IMPACTS: 62ND AVE N CORRIDOR PROJECT

Major features and differences between the 62nd Avenue North design alternatives that are evaluated by consulting relevant and peer-reviewed academic literature include: number of lanes, total pavement width of roadway, through lane width, bike lane and sidewalk width, number of pedestrian refuges, and speed. These design differences influence factors like mobility and transportation options, traffic volume and speed, potential for collisions, opportunities for physical activity and social connectedness, health equity, and access to resources and economic opportunities.

PHYSICAL SAFETY: CRASH RISK, INJURIES, AND FATALITIES

The Tampa-St. Petersburg-Clearwater, FL metro area is among the most dangerous places in the nation for walking.[38] Safety laws – such as seat belt requirements, prohibition of drinking and driving, and speed limits – have made a large difference in the number of traffic fatalities over the past several decades. While motor vehicle safety has improved, traffic injuries and fatalities are still the leading cause of death for children and young adults across the country. U.S. roads and highways are designed to move cars quickly and easily, often lacking accommodations for people to walk and bike. Studies show a "safety in numbers" effect for active transportation. As the number of people walking and biking increases, injury and fatality rates for active transportation modes decrease.[39]

Bike & Pedestrian Infrastructure

Bike Infrastructure

Bike-friendly cities are safer for bicyclists and all road users. Bike infrastructure – such as protected and separated bike facilities and high intersection density – improves safety outcomes for all users, potentially due to traffic calming effects and lower speed environments.[40]

Risk of injury to cyclists correlates with the type of bicycle facility provided. Cycle tracks (i.e. paved path along a major street, separated from traffic by physical barriers) had the lowest injury risk of 14 route types examined in one study. Sidewalks and multiuse paths (paved path used by pedestrians, cyclists, and others) are associated with higher risk for cyclists than bike-only paths (i.e. paved path in a park away from traffic) and cycle tracks.

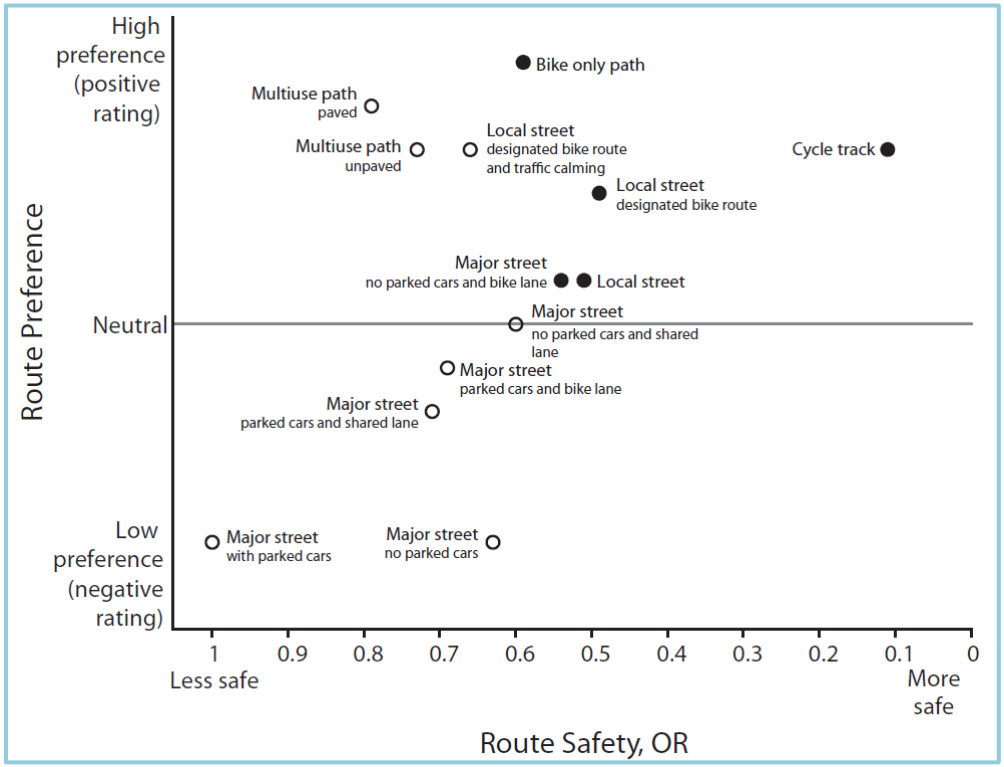


Figure 18. Route Preference vs. Route Safety of 13 Route Types, Source: Teschke et al. (2012). Route Infrastructure and the Risk of Injuries to Bicyclists.

Bicycle lanes on major streets with no parked cars had half the risk of major streets with parked cars and no bike infrastructure. Local streets with bike infrastructure and less intense traffic have lower risk than major streets.[41]

Routes that perform well in safety and preference are more likely to incentivize cycling. **Figure 18** shows route preference vs. route safety based on research from two Canadian studies. Most major streets, regardless of infrastructure and design, rank low in route preference. Major streets with a bike lane and no parked cars are an exception, ranking slightly higher than neutral in the preference rating.[42] The 62nd Avenue North corridor falls in this category; all three 62nd Avenue North design alternatives (Options 0, 2, and 4) include on-street bicycle lanes with no parked cars. The current 62nd Avenue North designs fall in the mid-range for route safety and slightly above neutral for route preference. However, the narrower bicycle lanes and additional travel lanes in Option 0 are likely to reduce route preference and may reduce route safety in comparison to Options 2 and 4.

EXISTING CONDITION	OPTION 0 (2010 KCI Design)	OPTION 2	OPTION 4
No Bicycle Lanes	4' Bicycle Lanes	7' Bicycle Lanes	7' Bicycle Lanes

Bicycle lanes separate the bicyclist from motor vehicle traffic, which increases safety for cyclists. Bicycle lanes also provide a buffer between motor vehicles and pedestrians which increases vehicular reaction time. When a sidewalk is directly against the roadway, a pedestrian steps from the sidewalk immediately into the motor vehicle travel lane giving little time for a driver to react. A 7-foot buffered bike lane – as included in Options 2 and 4 – provides drivers with additional reaction time of about 1.75-2.3 seconds with a typical pedestrian walking speed of 3-4 feet per second.[43] [44] [45] Option 0 incorporates 4-foot bicycle lanes which do not provide as much space for reaction time. The smaller bicycle lanes in Option 0 may also reduce bicyclists' perception of safety.

Among people who own bikes but do not ride frequently, safety is a top concern, even in cities like San Francisco and Portland that have some of the best bike infrastructure and largest groups of cyclists in the nation. Many Portlanders (60%) are interested in biking more, but are concerned about safety, such as collisions with a motor vehicle. To address perception issues that prevent people from biking, communities should add design features that make people feel safer, such as protected bicycle lanes that are separated from motor vehicle traffic. Physically separated bicycle lanes appeal even to those who do not bike, potentially because of the order and safety they can provide to all road users.[46]

Bicycle lanes provide a variety of safety benefits, such as separating bicyclists from motor vehicle traffic and providing buffers between pedestrians and motor vehicles, as detailed above. However, bicycle lanes may not be the most appropriate bicycle facility for the 62nd Avenue North corridor. On roads with higher speeds (greater than 25-30 mph) and higher traffic volumes (greater than 3,000-10,000 average daily traffic, depending on vehicle speed), research recommends physically separating bicyclists from motor vehicles.[47] [48] 62nd Avenue North has both high speed (40 mph) and high traffic volume (15,500). In addition to motor vehicle speed and volume, the volume of bicyclists and pedestrians is also relevant to the determination of bicycle facility type.[49] On an arterial road like 62nd Avenue North, there is a high volume of motor vehicles and a mix of travel modes including driving, walking, biking, and public transit. A trade-off analysis would help the County explore these varied factors in determining the most appropriate bicycle facility for the corridor.

Pedestrians Facilities: Sidewalks, Refuges, and Rectangular Rapid Flashing Beacons (RRFB)

Pedestrians are extremely vulnerable road users due to their lack of a protective shield (i.e. the steel frame of a vehicle). Pedestrian facilities provide safety, mobility, and health benefits. Sidewalks reduce crashes along roadways and provide a comfortable environment for people to

walk. They can also improve vehicle mobility by moving pedestrians off the roadway. In combination with public transit access, sidewalks can increase transportation options for those who may not own or be able to operate a car.[50] Wider separation between pedestrians and motor vehicles results in a more comfortable pedestrian facility.[51] Separation may take the form of a wider sidewalk and barriers (e.g., green buffer strips, bicycle lanes, parked cars) between the sidewalk and the motor vehicle.

Crossing a road is a particularly vulnerable time for pedestrians, as they increase their exposure to collisions with motor vehicles when entering the roadway. Pedestrian crash risk can be more than six times higher when crossing an arterial road without a median. Pedestrian refuge islands and raised medians can decrease crash numbers, preventing injuries and deaths.[52]

The pedestrian refuges planned for 62nd Avenue North will include raised medians and Rectangular Rapid Flashing Beacons (RRFB), which are roadside poles that flash when pedestrians push a button to alert motor vehicles to their presence. RRFBs have been shown to increase the number of motorists who yield to pedestrians and to reduce vehicle/pedestrian conflicts.[53]

Pedestrian refuge islands provide a variety of benefits: [54]

- Allow pedestrians to cross one side of a roadway at a time, which decreases the complexity of crossing (e.g., estimating vehicle speeds and gaps for two directions of traffic at once)
- Ensure adequate lighting of crossings, which has been shown to reduce fatalities significantly. Crossing at night is difficult as visibility for the pedestrian and the motor vehicle driver is reduced.
- Reduce risk taking by pedestrians. Islands reduce the wait time for pedestrians, causing fewer pedestrians to dart through gaps in traffic.
- Reduce delays for motorists.
- Provide space for additional landscaping.
- Reduce vehicle speeds, when the approach to the refuge is designed to affect driver behavior.[55]

Figure 19. Pedestrian Refuge 1 in Option 4, looking east. Image Source: Kimley-Horn 62nd Avenue North Conceptual Corridor Report.

The number of pedestrian refuge islands varies between design options for 62nd Avenue North. Option 0 includes only one refuge, whereas Options 2 & 4 include two refuges. The additional pedestrian refuge provided in Options 2 and 4 will increase safe crossing opportunities and reduce the chance for pedestrian-motor vehicle conflicts. **Figure 19** illustrates the potential design of a pedestrian refuge on the 62nd Avenue North Corridor.

Community Opinions About Bike and Pedestrian Improvements

As part of the HIA process, 49 Pinellas County residents participated in a survey regarding their health, transportation habits, community safety, and opinions about walking and biking. Respondents were asked what improvements would help them walk or bike more often. They could select all answer choices that applied (**Figure 20**).

The top answer choices for **walking** are:

1. More or better sidewalks; Better lighting at night (tied)
2. Safer street crossings; Fewer speeding cars (tied)
3. More protected paths or trails

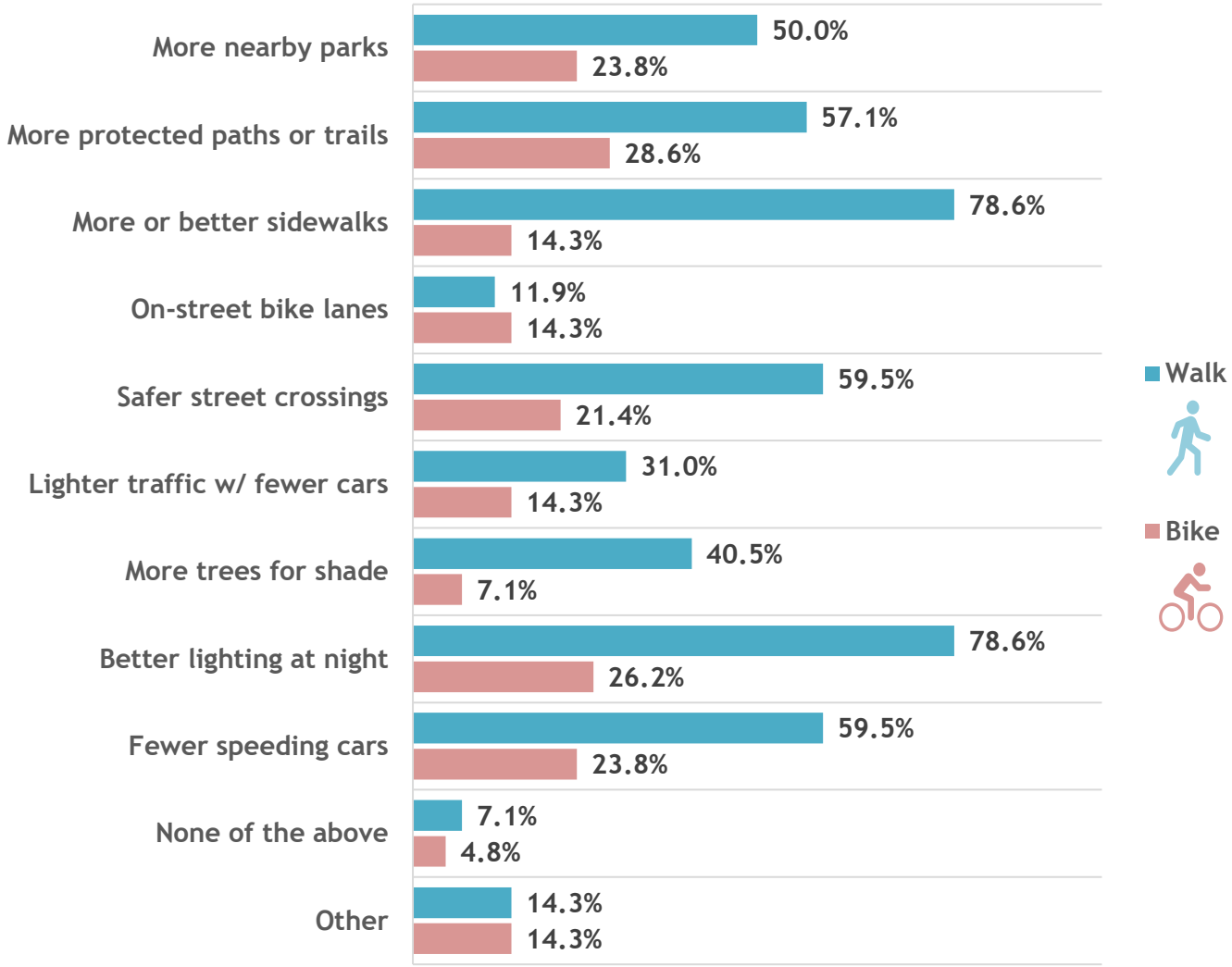
The top answer choices for **biking** are:

1. More protected paths or trails
2. Better lighting at night
3. More nearby parks; Fewer speeding cars (tied)

Responses under "Other" include: speed tables; suspend more driver's licenses; industrial area, not for biking or walking (2); I live in West Lealman; and a pool for Lealman. Two respondents wrote in "No" next to on-street bicycle lanes.

Figure 20. What improvements would help you walk or bike more often? (n = 42)

Source: 62nd Avenue North HIA Community Survey



Two-Way Left Turn Lane (TWLTL)

TWLTLs remove left-turning vehicles from the through lanes, which improves traffic flow. The installation of a TWLTL on undivided roadways has been shown to reduce the crash rate in various circumstances, such as when installing a TWLTL as part of a road diet (e.g., convert a 4-lane road into a 3-lane road with two travel lanes and a TWLTL) or when converting a two-lane road into a three-lane road with a TWLTL. Due to the high incidence of rear-end and angle crashes on 62nd Avenue North, it is anticipated that providing space for left turns will reduce these types of conflicts.

Traffic volume and driveway density are important factors to consider when deciding to install a TWLTL.[56] [57] Rural installations of TWLTLs were shown to be more effective than urban installations, and more research is needed on the circumstances under which TWLTLs are beneficial for urban installations.[58] Providing dedicated left-turn lanes, as opposed to a lane with shared turning and through movements, has been shown to reduce rear-end crashes and vehicle emissions due to fewer stopped cars. There are mixed health outcomes of TWLTLs for pedestrians. One potential negative health effect of adding a separate turn lane is an increase in roadway crossing distance for pedestrians; however, a TWLTL can also provide an unprotected refuge for a pedestrian crossing the street.[59]

All three 62nd Avenue North design alternatives include a two-way left turn lane (TWLTL), which is expected to reduce crashes and vehicle emissions along the project corridor.

Road and Lane Width

Wider lanes increase the speed of cars traveling on the roadway[60] and the distance that pedestrians must walk to cross the street. Increased speed and crossing distance compound the risk of severe injury or fatality for pedestrians. Narrower lanes may provide a variety of benefits for vulnerable road users, while exhibiting no significant decrease in safety for motor vehicles except in limited cases.[61] Benefits of narrower lanes include: [62] [63]

- Shorter crossing distance for pedestrians and less exposure to motor vehicles at intersections and midblock crossings
- Serve as a traffic calming measure, slowing vehicles and reducing the risk of severe injury in collisions
- Additional space for pedestrian and bicycle infrastructure like sidewalks, bicycle lanes, buffers between motor vehicles and pedestrians
- Reduce stormwater and the construction material required to build a roadway.

Lane width varies in the 62nd Avenue North alternatives (see **Table 10)**. The through lane width in Option 0 is 11 feet, while Options 2 and 4 have a through lane width of 12 feet. Lane widths of 10 feet are appropriate in urban areas and can improve street safety without negatively affecting traffic operations. For designated freight or transit routes, one 11-foot travel lane may be used in each direction.[64] Reduced distance between pedestrians and motor vehicles is one potential disadvantage to narrower lanes; however, this can be mitigated through buffers between the road and sidewalk, as well as wider sidewalks.

Road diet is a term used to describe the removal of travel lanes from a roadway and the reuse of the travel lane space for other purposes, such as turn lanes, bicycle lanes, parking, pedestrian refuge islands, or transit. Road diets often convert a 4-lane undivided roadway into a road with two through lanes and a center TWLTL because 4-lane undivided highways have a variety of crash and safety issues, such as: [65]

- Rear-end and sideswipe crashes caused by speed differential between vehicles
- Sideswipe crashes caused by frequent and sudden lane changing between two through lanes
- Angle crashes caused by side street traffic crossing four lanes to make a through movement across an intersection, or turning left across two lanes

	EXISTING CONDITION	OPTION 0 (2010 KCI Design)	OPTION 2	OPTION 4
Description	2 Travel Lanes	4 Travel Lanes + TWLTL + 2 Bicycle Lanes	3 Travel Lanes + TWLTL + 2 Bicycle Lanes	2 Travel Lanes + TWLTL + 2 Bicycle Lanes
Pavement Width	22’	64’	64’	52’
Thru Lane Width	11’ x 2 = 22’	11’ x 4 = 44’	12’ x 3 = 36’	12’ x 2 = 24’
TWLTL Width	Few	12’	14’	14’
Bike Lane Width (North/South Side)	None	4’ / 4’	7’ / 7’	7’ / 7’

Table 10. Roadway & Lane Differences Across Alternatives

62nd Avenue North is an undivided 2-lane road that experiences some of the safety concerns mentioned above. These safety concerns tend to worsen as traffic volume increases. All 62nd Avenue North design alternatives include a TWLTL and bicycle lanes which will increase the width of the roadway. The increased roadway width increases crossing distance for pedestrians which results in higher exposure to motor vehicles and the potential for pedestrian injury or fatality. However, the TWLTL and bicycle lanes provide various safety benefits as previously described.

The number and width of through lanes and the total roadway width varies across alternatives (**Table 10**). Because Options 0 and 2 have a greater number of through lanes, they increase crossing distance for pedestrians. Options 0 and 2 have a crossing width that is 12 feet wider than Option 4. At an average pedestrian crossing speed of 3 feet per second, this creates an additional 4 seconds of exposure.

Options 0 and 2 require pedestrians to cross an additional through lane, which presents potential “multiple threat” situations. A “multiple threat” occurs when a vehicle in the outside lane yields to the pedestrian, but a vehicle in the inside lane fails to yield and strikes the pedestrian. The stopped vehicle in the outside lane may block the view between the pedestrian and the striking vehicle. **Figure 21** illustrates a multiple threat scenario.

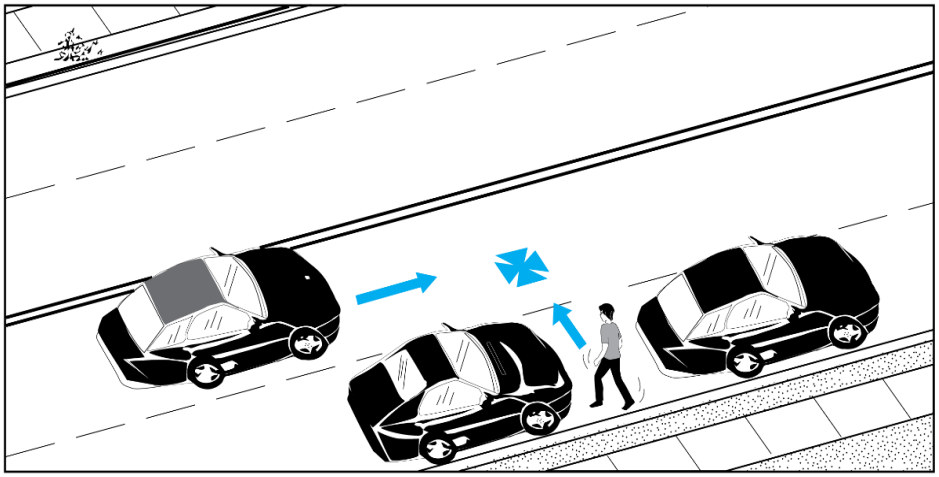


Figure 21. Illustration of a "Multiple Threat" Crash Scenario. Source: Pedestrian and Bicycle Information Center.

Speed

Motor vehicle speed affects the rate of drivers yielding to pedestrians and the severity of crash outcomes. Lower speeds are associated with increased yielding to pedestrians.[66] Small changes in motor vehicle speed significantly affect the risk of fatal injuries for pedestrians. Above speeds of 30 mph, risk increases rapidly.[67] Additionally, risk varies significantly by age, with lower speeds being more catastrophic for older adults. An older adult struck by a vehicle going 25 mph has the same risk as a young adult struck at 35 mph.[68] **Table 11** shows the average risk of severe injury and death for a pedestrian struck by a vehicle at various impact speeds.

62nd Avenue North has a design speed of 40 mph, which gives an approximate risk of 75% for severe injury and 50% for death for pedestrians struck by a vehicle. The 40 mph design speed applies across all three design alternatives.

According to the National Association of City Transportation Officials' (NACTO) *Urban Street Design Guide*, streets should be designed using the target speed – the speed that you would like people to drive – rather than the operating speed. The maximum target speed for an urban arterial is 35 mph. Design measures that can align the design speed with the target speed include: narrower lane widths, roadside landscaping, speed tables, and curb extensions.[69]

Impact Speed	Average Risk of Severe Injury	Impact Speed	Average Risk of Death
16 mph	10%	23 mph	10%
23 mph	25%	32 mph	25%
31 mph	50%	42 mph	50%
39 mph	75%	50 mph	75%
46 mph	90%	58 mph	90%

Table 11. Speed and Risk of Injury or Fatality; Data Source: Tefft, B. (2011). Impact Speed and a Pedestrian's Risk of Severe Injury or Death.

Figure 22. Bicyclist on 62nd Avenue North near 49th Street North. Source: Pinellas County.

Communities should lower or limit traffic speeds to levels that are less likely to cause severe injury or death, especially on roadways with higher interactions between pedestrians and vehicles. On higher speed roads, communities should physically separate vehicles from pedestrians and cyclists.[70] In addition to lowering the posted speed limit, traffic calming measures reduce traffic speed or volume through a variety of engineering and design measures, such as narrower driving lanes, raised crosswalks or speed humps, chokers or curb bulbs, and traffic circles or roundabouts. Benefits of traffic calming measures include a more pedestrian-friendly environment, reduced traffic conflicts, and reductions in traffic noise.[71]

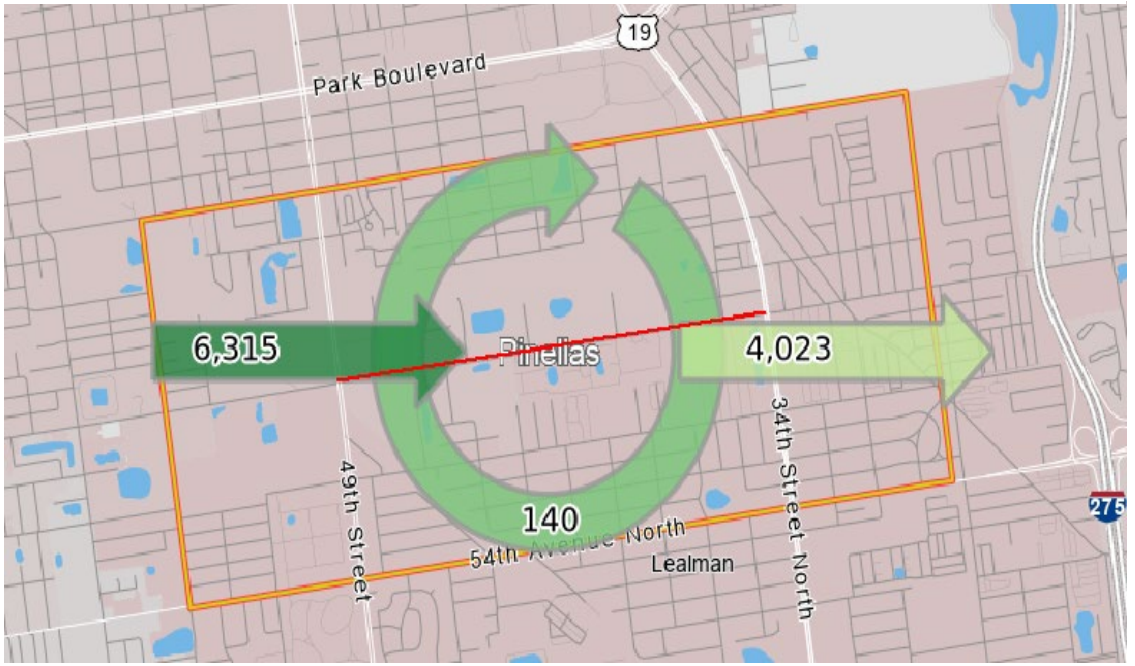
Access to Economic Opportunities

Jobs

Employment can have a wide range of health benefits. Jobs that pay well provide access to necessary resources like healthy housing and neighborhoods, nutritious food, and quality education and child care services. Jobs also provide access to benefits like health insurance and paid sick leave. Those who have health insurance have better access to medical care and are more capable of financially surviving sudden, large healthcare costs. People who are unemployed are more likely to deal with both physical and mental health issues.[72] [73] A larger portion of Lealman residents (17.9%) do not have health insurance in comparison to Pinellas Park (13.7%), Pinellas County (12.6%), and Florida (14.9%).[10]

The boundary, shown in orange, extends approximately 0.5 miles north and south of the corridor and from the intersections at each end of the corridor to cover a total 2.2 square miles. A significant number of people commute in (6,315) and out (4,023) of the area each day. Only 140 people live and work in the boundary (**Figure 23**).[11]

Figure 23. Commuting Patterns Surrounding the 62nd Avenue North Corridor



Map Source: On the Map from U.S. Census Bureau, Center for Economic Studies

Many people in the study area, the Lealman community, and the City of Pinellas Park do not live and work in the same neighborhood. This becomes an issue for those who do not own a vehicle (11% of Lealman residents) and do not have reliable, safe access to another form of transportation, such as a public bus or a safe bicycle route. First/last mile solutions are one way to improve access to economic opportunities for those who do not have access to a vehicle. The first/last mile is a term commonly used to describe the distance between a traveler's origin or destination (e.g., their home or workplace) and a transit stop or station. By increasing walking and biking opportunities, the 62nd Avenue North roadway improvements will increase access to transit stops for those who live nearby.

[10] 2013-2017 American Community Survey 5-Year Estimates
[11] On the Map from U.S. Census Bureau, Center for Economic Studies

Equitable Access for Vulnerable Populations: Resource Access & Risk Proximity

What is Equity?

In the context of this HIA, vulnerable populations are 1) those who are generally more susceptible to health issues (e.g., children, older adults, those with disabilities, racial or ethnic minorities, those with no vehicle, those with low income) and 2) road users – such as people who walk, bike, and ride mopeds or motorcycles – who are at greater risk of injury or death due to a lack of protection. In looking at equitable access for vulnerable populations, we try to answer the questions:

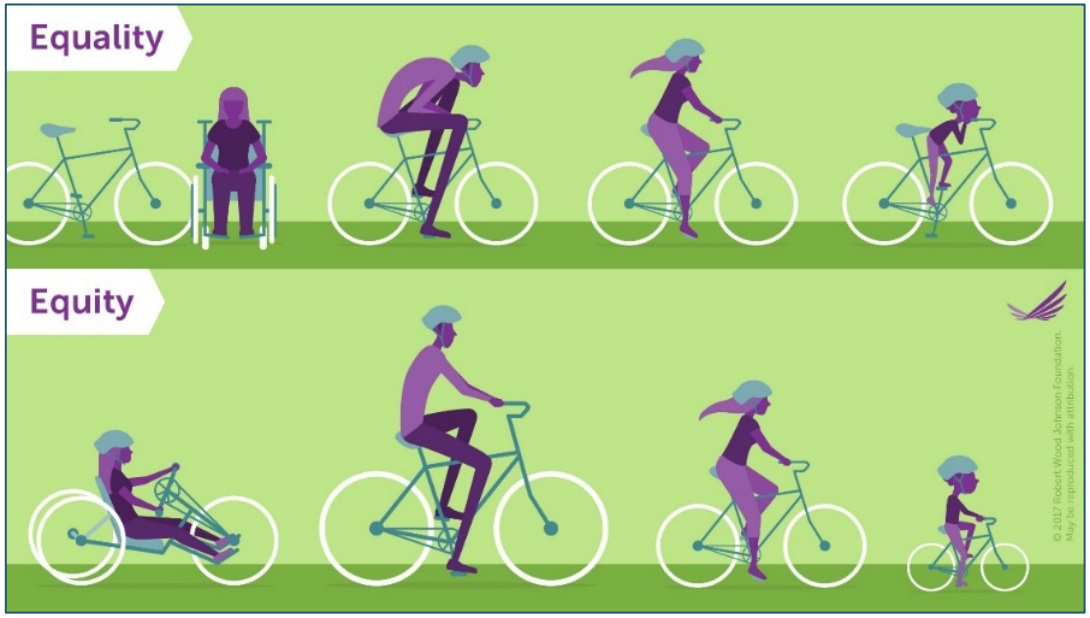
- Is everyone (but especially those with disabilities, children, older adults, those with no vehicle) able to access necessary resources and services (work, school, healthcare, nutritious food, recreation and social activities, social services) with the transportation methods available?
- Is everyone able to travel around the community regardless of age, ability, income, etc.?

Equity is "just and fair inclusion into a society in which all can participate, prosper, and reach their full potential."

– *PolicyLink*

Health equity is the "attainment of the highest level of health for all people."

– Healthy People 2020



Many Pinellas County residents cannot drive, for reasons such as age, ability, and income. Those who are unable to drive still need access to safe and efficient travel methods. In our current auto-oriented transportation system, those with low-income, those who do not drive cars, and people of color are less likely to benefit from road investments and are more likely to experience negative consequences.[74] "Biking is one of the most income-diverse activities in the United States, but it's most important to the lowest-income commuters who often have few other options."[75] Approximately 40% of regular bike commuters in the U.S. fall into the nation's poorest quartile.[76] Additionally, a study of 10,777 streets located in a nationally representative sample of 154 U.S. communities showed that lower income communities are less likely to have key factors, such as sidewalks, lighting, marked crosswalks, and curb extensions, that allow an individual to safely walk in their community.[77] In low-income communities, children are at greater risk of being injured or killed while walking or biking, and residents get less physical activity and are more likely to be overweight or obese.[78]

Opportunities to Access Healthy Food

Figure 24 shows food access for residents living in census tracts near the 62nd Avenue North corridor. On both sides of the corridor, a significant portion of residents live more than 1/2 mile from the nearest supermarket. In Lealman, access to healthy food is further complicated by the large portion (11%) of households that do not have access to a vehicle.

Orange: low-income census tracts where a significant number of residents is more than 1/2 mile from the nearest supermarket.

Yellow: low-income tracts where more than 100 housing units do not have a vehicle and are more than 1/2 mile from the nearest supermarket.

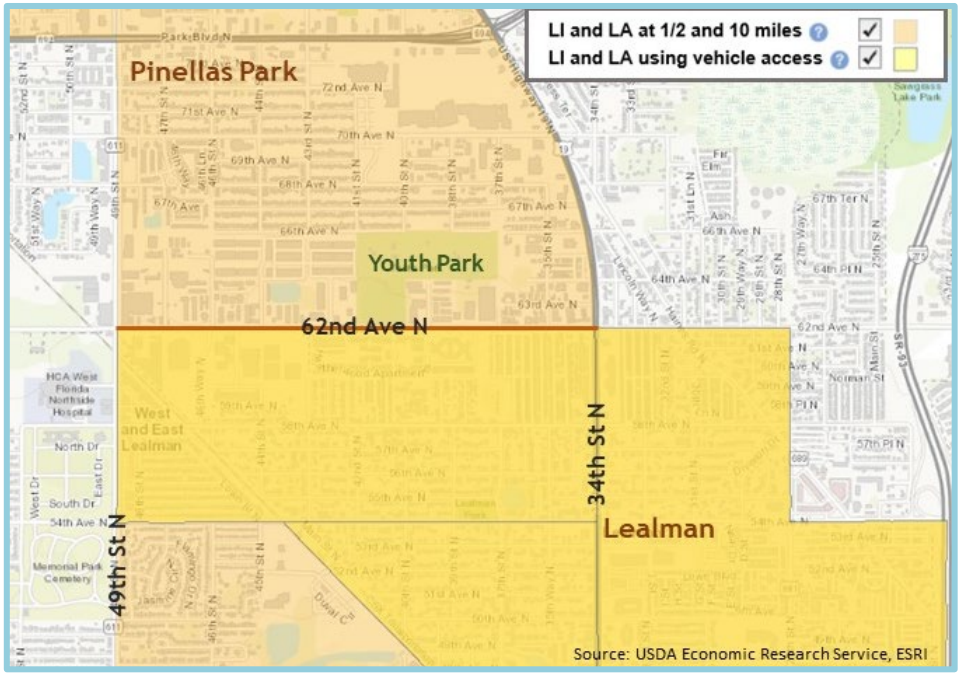


Figure 24. Food Access by Census Tract from the USDA Food Atlas

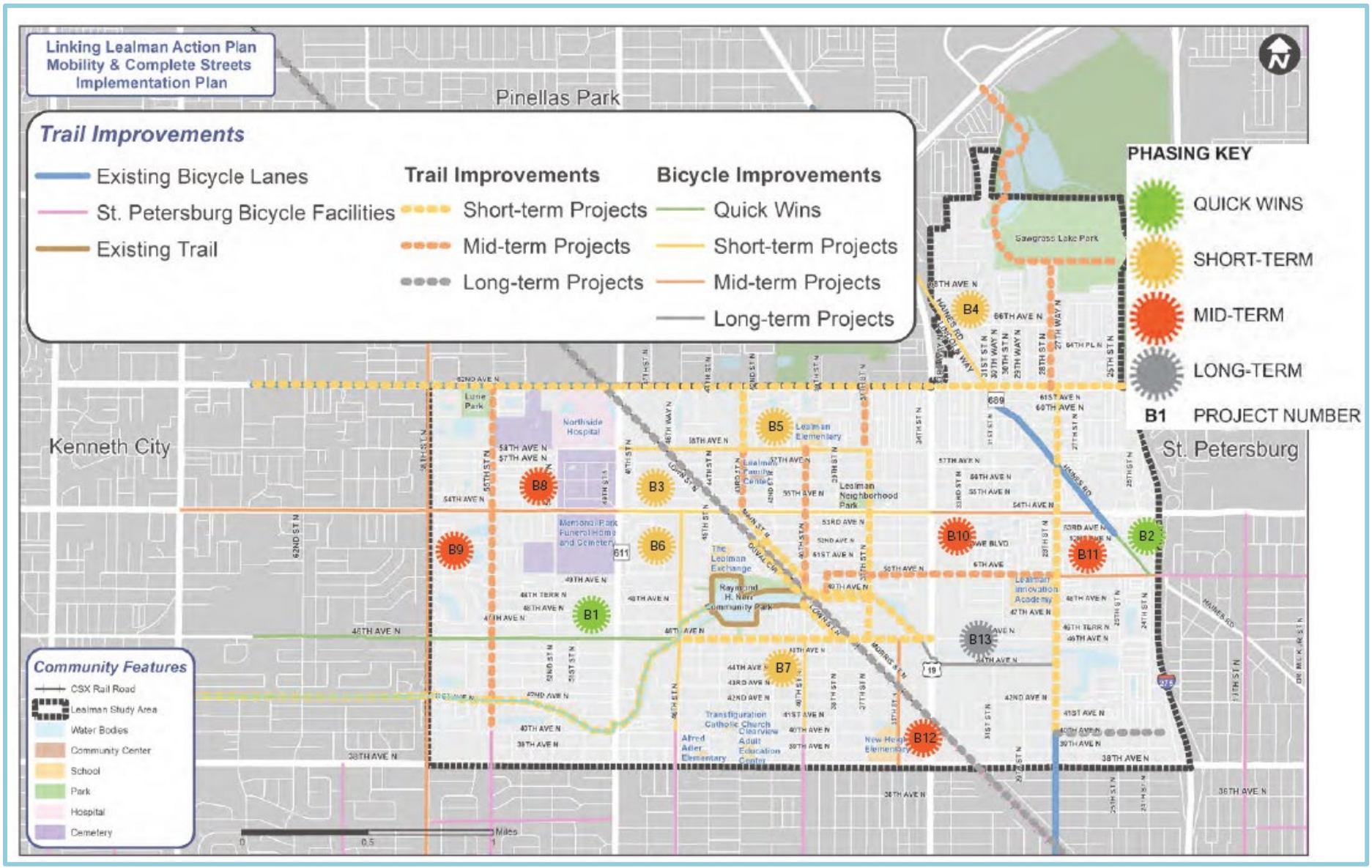
Park and Trail Access

There is one park, Youth Park, located directly on the study corridor. The park's entrance is on 66th Avenue North, but the park's southern end abuts 62nd Avenue North. There are plans to create access to Youth Park along 62nd Avenue North once sidewalks and bicycle lanes are available along the corridor. A new access point on 62nd Avenue North will make it easier for Lealman residents to access the park and may lead to increased 62nd Avenue North pedestrian crossings.

The City of St. Petersburg identified 62nd Avenue North, from I-275 to the existing Pinellas Trail, as a future trail corridor in their Complete Streets Implementation Plan. 62nd Avenue North has an existing trail, the Island Loop Trail, east of its connection with the existing Pinellas Trail in the City of St. Petersburg. West of 49th Street North to 71st Street North, 62nd Avenue North has existing shared use markings (sharrows). Pinellas County has identified a future trail network in the *Linking Lealman Action Plan* that connects to 62nd Avenue North as depicted in Figure 25.

Youth Park in Pinellas Park, FL
Photo Source: City of Pinellas Park website

Figure 25. Bicycle Phasing Map; Source: Linking Lealman Complete Streets Action Plan



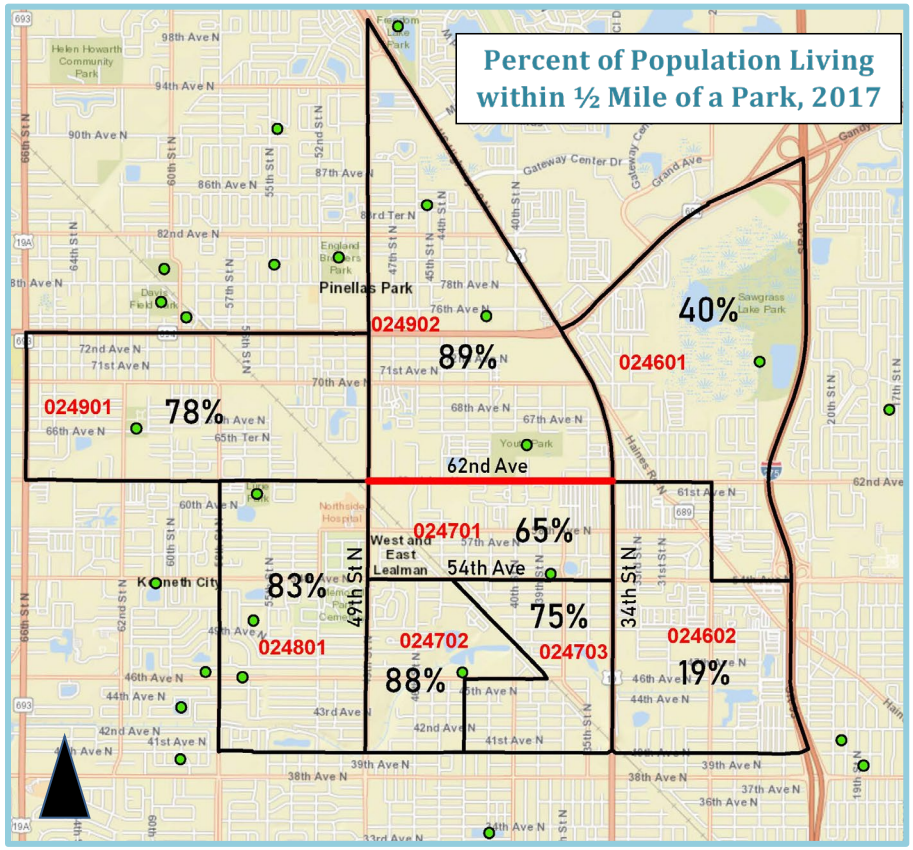
Currently, 59% of Pinellas County residents live within a 10-minute walk (1/2 mile) of a park and 23% live within a 10-minute walk of a trail, compared to 43% and 18% of Floridians, respectively.

Figure 26 shows the percentage of the population within walking distance (1/2 mile) of a park entrance for the census tracts near the 62nd Avenue North Corridor. Currently, tracts 246.01 and 246.02 to the east of the corridor and tract 247.01 to the south have the lowest access to parks. Improvements to 62nd Avenue North – especially those focused on walking and biking – combined with plans for a new park entrance on 62nd Avenue North will increase park access for those in CT 247.01 in Lealman.

Figure 27. Images Showing Lack of Access to Youth Park on 62nd Avenue North

Photos taken from Crystal Lakes Manor Apartments, located across the street

Figure 26. Population Living Near a Park



Data source: American Community Survey and Pinellas County Parks and Preserves; Map produced by Pinellas County Planning

Overall Connectivity

Currently, there is no way to safely walk or bike the full 62nd Avenue North segment from 49th Street North to 34th Street North because sidewalks are incomplete and bicycle lanes do not exist. **Figure 28** shows the distance you can walk from the center of the 62nd Avenue North corridor at 5, 10, and 20-minute intervals. With bike and pedestrian improvements, residents who live along 62nd Avenue – such as those in Crystal Lake Manor Apartments, Lakeside Terrace Apartments, or Highland Mobile Home Park – can safely walk or bike along the roadway. This increases access to various resources, like grocery stores and transit stops. Additionally, people who live in neighborhoods with dense, mixed use design and good street connectivity experience more social interaction and have a better opportunity to develop social capital.[79]

EXISTING CONDITION	OPTION 0 (2010 KCI Design)	OPTION 2	OPTION 4
2 through lanes	4 through lanes	3 through lanes	2 through lanes
Total pavement width: 22’	Total pavement width: 64’	Total pavement width: 64’	Total pavement width: 52’
Few sidewalks	6’ sidewalks	8’ / 6’ sidewalks	8’ sidewalks
No bicycle lanes	4’ bicycle lanes	7’ bicycle lanes	7’ bicycle lanes

Table 12. Connectivity Differences Between 62nd Ave North Alternatives

Figure 28. Walk Times from the 62nd Avenue North Corridor

All three 62nd Avenue North design alternatives include sidewalks and bicycle lanes; however, the width and comfort of these facilities varies across alternatives (**Table 12**). Wider separation between pedestrians and motor vehicles results in a more comfortable pedestrian facility.[80] The wider sidewalks and bicycle lanes and the narrower motor vehicle space in Option 4 are more likely to increase comfort and desire to walk or bike along 62nd Avenue North.

Air Quality

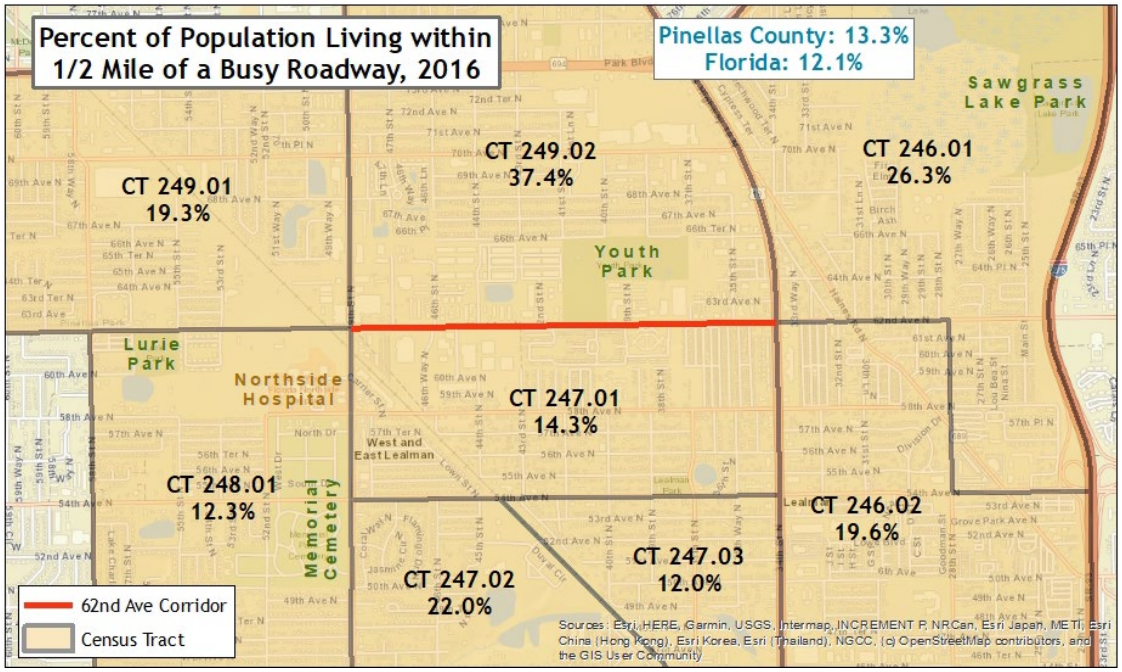
Air quality is associated with a variety of health issues. Some types of air pollution are worse near busy roads with more than 25,000 cars per day. Living, working, or going to school near busy roadways increases the risk of asthma, respiratory illness, cancer, and heart disease.[81] Exposure to traffic and air pollution may increase instances of low birth weight,[82] which is a risk factor for infant mortality.[83] The study area zip codes (33714 and 33781) have higher rates of low birth weight and infant mortality than other Pinellas County zip codes.[84]

Areas near busy roads present greater health risks for those more vulnerable to poor air quality, such as children, older adults, and people with existing breathing problems (asthma, lung disease, etc.) or heart disease. Children and those living below the federal poverty level are more likely to have asthma. [85] Studies show that exposure to traffic-related air pollution not only exacerbates asthma but causes the onset of asthma in children.[86] According to the 2018 Florida Youth Tobacco Survey, approximately 17% of Pinellas County middle and high school students have been diagnosed with asthma.

The area within about 0.3 miles of a busy road is most highly affected by traffic emissions.[87] Children living or going to school near 62nd Avenue North may be at increased risk for asthma development if traffic volume increases along the roadway.

Most census tracts near the 62nd Avenue North corridor have a larger percentage of their population living near a busy roadway compared to the county or state. Almost 40% of residents in tract 249.02, directly north of the corridor, live near a busy roadway (**Figure 29**).

Figure 29. Population Living Near a Busy Roadway



Data source: Florida Department of Health; Map created by Pinellas County

Based on current traffic volume, 62nd Avenue North does not classify as a busy roadway according to the Department of Health's definition of at least 25,000 cars per day. Options 2 and 4 are not expected to significantly increase traffic volumes. Option 0 is projected to increase traffic volume to "busy roadway" levels. Additionally, certain scenarios – such as widening 62nd Avenue North and making changes to other nearby roads (i.e. 54th Avenue North) – could increase future traffic volumes on 62nd Avenue North to "busy roadway" levels. Higher traffic volume increases the risk for asthma in children who live in the surrounding neighborhoods and those who attend Lealman Elementary. Additionally, other sensitive populations (older adults, those with existing health conditions) may be at increased risk for heart disease and breathing problems.

Asthma has significant societal costs, such as missed school and work days, costly ER visits, and asthma-related deaths.[88] According to the American Public Health Association, the health issues associated with poor air quality cost the U.S. $50-80 billion per year.[89]

Other Factors to Consider

In addition to the existing and proposed design features evaluated in this HIA, there are other important components to consider that contribute the desire to participate in active transportation and to improved health and safety. According to the Urban Land Institute, the creation of a "healthy corridor" includes improved lighting and streetscape amenities such as seating, trees for shade, and green buffers.[90]

Crime

Crime and perceptions of safety may prevent people from walking or biking in their neighborhood. Crime rates decreased significantly over the past decade in Pinellas County and Florida (**Figure 30**). Decreases occurred for both violent crime – murder, sexual offenses, robbery, and aggravated assault offenses – and non-violent or property crime, including burglary, larceny, and motor vehicle theft offenses. Despite the decline in crime, Pinellas County consistently has a statistically-significant higher crime rate than the state average.[12]

Figure 30. Index Crimes, Rate Per 100,000 Population

Data Source: Florida Department of Law Enforcement, UCR Crime Index

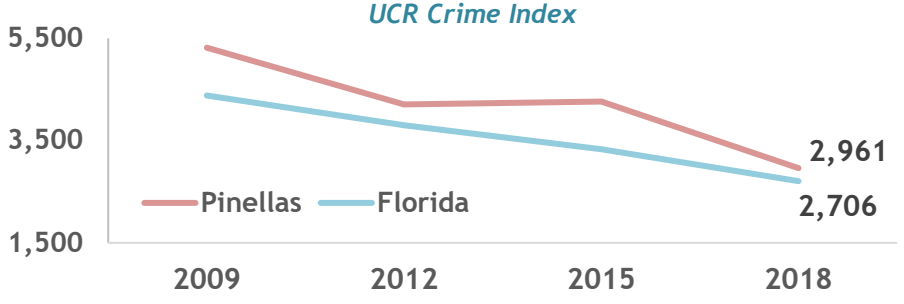
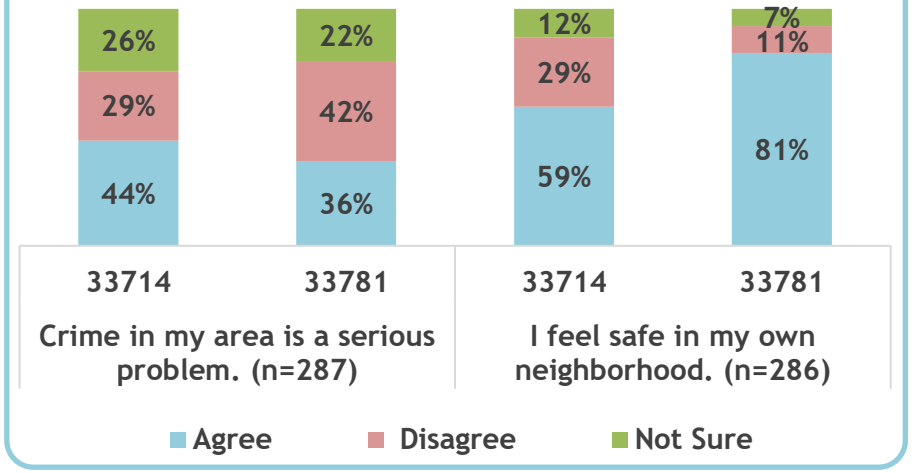


Figure 31. Perceptions of Crime & Safety

Data Source: Community Health Needs Survey, BayCare Health System



Perception of crime does not always align with crime rates. When asked how they feel about crime and safety in their community, 44% of surveyed 33714 (Lealman) residents and 36% of 33781 (Pinellas Park) residents said crime is a serious problem. Only 59% of 33714 (Lealman) residents said they feel safe in their own neighborhood (**Figure 31**).[13] Fear of crime and worry about personal safety can prevent students from walking or biking to school.[91] Designing environments where people feel safe is an important component of encouraging active transportation, such as walking and biking.

Lighting

Darkness and reduced visibility are associated with a disproportionate share of crashes and fatalities. Lighting can reduce nighttime crashes by providing drivers greater visibility, improving the sight distance for hazard detection, and making it easier for drivers to see roadside obstacles.

[12] Source for crime data: Florida Department of Law Enforcement, Uniform Crime Reporting (UCR) Program's Crime Index
[13] Community survey data were provided by BayCare Health System, Department of Government & Community Relations

According to the Federal Highway Administration's Signalized Intersection Informational Guide, lighting can reduce nighttime crashes by 50% and reduce fatal crashes by 43%. In dark environments, lighting improves personal security and comfort for people walking, biking, or participating in activities nearby.[92]

Pedestrians are 3-6.75 times more vulnerable during darkness and street lighting may reduce pedestrian crashes by 50%. All road users benefit from lighting; however, studies have shown that lighting has a greater positive effect in areas with more potential for pedestrian conflict, areas with greater roadway geometric complexity (e.g., curves; higher number of vehicle lanes, bicycle lanes, and sidewalks), and higher population density. Lighting reduces crime, improves perceptions of safety, and reduces residents' fear of crime.[93] Lighting characteristics, such as horizontal illuminance (i.e. how light spreads over a horizontal surface like the ground) and uniformity, have significant effects on nighttime crash risk. Greater horizontal illuminance decreases crash risk, and poorer uniformity increases crash risk.[94]

While lighting provides many benefits, there can be unintended consequences for people and wildlife if lighting is not designed thoughtfully. Lighting should be installed in a way that reduces glare, spill light (i.e. light that falls outside the intended area), and sky glow (i.e. light reflected up toward the sky).[95]

Streetscape Characteristics and Amenities

Corridor improvements should include bicyclist and pedestrian-friendly characteristics to encourage walking and biking. Physical separation between motor vehicles and pedestrians increases safety and comfort for pedestrians. Physical separation can include grassy strips, street trees, wider sidewalks, and/or bicycle lanes. On arterial streets, sidewalks should be a minimum of 5 ft wide with a minimum 2 ft wide planting strip. Separation between vehicles and pedestrians is especially important on roads with high speed (>35 mph) and a large volume of vehicles, such as 62nd Avenue North.[96]

Street trees provide roadway separation, as well as shade, which is essential in Florida's hot, subtropical environment. Shade can help to prevent heat-related illness for those walking or biking in Pinellas County. Trees also provide community benefits such as storm water management, enhanced property value, energy savings for nearby buildings, and air quality improvement. These benefits can produce significant community cost savings per tree each year (**Figure 32**).[97]

Sidewalk zones should also provide ample space for street furniture, bus stops, signage, lighting, and bicycle parking. It should be easy and comfortable for people of all ages and abilities to use sidewalks. People are more likely to walk and use sidewalks when sidewalks are designed with sufficient lighting, shade, and street-level activity.[98]

MyTree Benefits

Live oak, *(Quercus/live virginiana)*

Serving Size: 30.00 in. diameter
Condition: Good
Total benefits for this year: $75.14

Carbon Dioxide (CO_2) Sequestered	**$33.91**
Annual CO_2 equivalent of carbon[1]	< 0.10 lbs
Storm Water Runoff Avoided	**$10.29**
Runoff Avoided	1,151.96 gal
Rainfall Intercepted	3,670.31 gal
Air Pollution Removed Each Year	**$21.73**
Carbon Monoxide	0.51 oz
Ozone	35.57 oz
Nitrogen Dioxide	2.21 oz
Sulfur Dioxide	0.24 oz
$PM_{2.5}$	1.91 oz
CO_2 Stored To Date[3]	**$379.70**
Lifetime CO_2 equivalent of carbon[3]	4,452.67 lbs

I-Tree Notes:

Benefits are estimated based on USDA Forest Service Research and are meant for guidance only.

1) For large trees, sequestration is overtaken by CO_2 loss with decay / maintenance.

2) Positive energy values indicate savings or reduced emissions. Negative energy values indicate increased usage or emissions.

3) Not an annual amount or value.

Figure 32. Tree Benefits from i-Tree

ASSESSMENT CONCLUSIONS

Table 13 shows a summary of the assessment findings for each 62nd Avenue North design alternative. To identify the healthiest design for the 62nd Avenue North corridor, three primary health impacts were evaluated: physical safety (including traffic crash injuries and fatalities), access to economic opportunities, and equitable access to resources and services for vulnerable populations. Also taken into consideration is the potential impact on the community's physical activity, air quality, and social connectedness. All design alternatives provide health benefits when compared to the existing condition of the 62nd Avenue North corridor. However, there are health distinctions between the three alternatives. The health impacts detailed in this table are supported by the literature review conducted for this HIA. Options 2 and 4 have similar potential to increase access to economic opportunity and enhance equitable access to resources by increasing transportation options for residents. Option 4 is expected to perform slightly better in physical safety. Option 0 is expected to provide lesser health benefits in most categories considered. Overall, Option 4 is expected to have the higher positive potential for health, especially for nearby residents and vulnerable populations based on the health impacts considered as part of the HIA.

✓ indicates the design feature is present in an alternative
\+ indicates an overall positive effect on health
– indicates an overall negative effect on health

Table 13. Summary of Potential Health Impacts

Roadway Feature	Potential Positive Health Impacts	Potential Negative Health Impacts	Existing Condition	Option 0	Option 2	Option 4
↑ availability of bike facilities	• Separation of bicyclist from travel lanes increases safety • Increased buffer between motor vehicles and pedestrians increases vehicular reaction time • Increased physical activity • Increased connectivity which provides better access to jobs, services, and resources • Increased access to Youth Park	• Increase in users results in increased potential for vehicle-bicycle exposure • Increased crossing distance at non-intersections for pedestrians resulting in higher exposure • Bicycle lanes without vertical elements of separation may effectively widen travel lanes potentially resulting in higher vehicle speeds	**None (–)**	**4' bicycle lanes ✓**	**7' bicycle lanes ✓++**	**7' bicycle lanes ✓++**
↑ availability of sidewalks	• Provides a safe place to walk • Increased physical activity • Increased connectivity which provides better access to jobs, services, and resources • Increased access to Youth Park		**Few (–)**	**6' sidewalks ✓+**	**8' / 6' sidewalks ✓+**	**8' sidewalks ✓++**

Roadway Feature	Potential Positive Health Impacts	Potential Negative Health Impacts	Existing Condition	Option 0	Option 2	Option 4
Two-way left turn lane	• Rear-end crash reduction • Reduced vehicle emissions due to fewer stopped cars • Provides unprotected refuge area for midblock crossings	• Increased crossing distance for pedestrians resulting in higher exposure	**Few (–)**	**✓+**	**✓+**	**✓+**
Pedestrian refuges with rectangular rapid flashing beacons	• Reduced mid-block pedestrian crashes • Provides space to install amenities, such as landscaping • Reduced delays for pedestrians and motorists		**None (–)**	**1 refuge** **✓+**	**2 refuges** **✓++**	**2 refuges** **✓++**
40 mph speed limit		• Increased risk of severe injury or fatality for pedestrian and bicycle crashes	**40 mph (–)**	**✓–**	**✓–**	**✓–**
More pavement / extra motor vehicle travel lane	• Increased vehicle mobility • Reduced outside lane volumes improve bicycle quality of service	• Increased vehicle emissions, which may increase risk of breathing problems, especially among children and vulnerable populations • Increased crossing distance at non-intersections for pedestrians resulting in higher exposure • Reduced space for bicycle lanes and sidewalks • Wider lanes may result in higher motor vehicle speeds	**Total Pavement Width: 22'** **NA**	**4 through lanes** **Total Pavement Width: 64'** **✓–**	**3 through lanes** **Total Pavement Width: 64'** **✓+**	**2 through lanes** **Total Pavement Width: 52'** **✓++**
Overall Health Impact			●○○	●●○	●●◐	●●●
Other Scoring*	Cost		No Build	$13.472 million	$14.253 million	$13.177 million
	Vehicle Mobility		●○○	●●●	●●◐	●●○
	Bicycle Mobility		None	●○○	●●●	●●●
	Pedestrian Mobility		None	●●○	●●○	●●●

Legend: ●○○ - POOR ●●○ - MODERATE ●●● - GOOD

* From analysis conducted by Kimley-Horn for the *Conceptual Corridor Report for 62nd Avenue North from 49th Street North to 34th Street North*

RECOMMENDATIONS

This section provides recommendations to enhance positive health outcomes and mitigate negative health outcomes for residents and vulnerable populations. Recommendations are divided into two sections: those for the 62nd Avenue North roadway improvements project and those for future transportation projects.

FOR THE 62ND AVENUE NORTH ROADWAY IMPROVEMENTS PROJECT

Use the HIA findings to inform decisions about the 62nd Avenue North roadway improvements project.

To reduce the risk of motor vehicle injuries and fatalities and to increase physical activity (especially for vulnerable populations):

- As part of the future engineering, design, and implementation of 62nd Avenue North, consider the following:
  - Provide street lighting along the corridor, including in the vicinity of the crosswalks and midblock crossings.
    - Street lighting provides significant safety benefits, such as dramatic reductions in nighttime crashes and fatalities.[99] Studies show that street lighting may reduce pedestrian crashes by as much as 50%.[100] Lighting also improves perceptions of safety and reduces fear of crime,[101] which may incentivize greater participation in active transportation and physical activity.
    - Continue County efforts to evaluate roadway lighting policies for best practices.
  - Reduce the design speed to 35 mph or less, consistent with a desired speed appropriate for a corridor with pedestrian and cyclist activity.
    - Communities should lower or limit traffic speeds to levels that are less likely to cause severe injury or death, especially on roadways with traffic volume greater than 3,000-10,000 average daily traffic (ADT) and a mix of uses, including driving, walking, biking, and public transit. On higher speed roads (greater than 25-30 mph), communities should physically separate vehicles from pedestrians and cyclists.[102]
    - The allowable speed range for an Urban General Arterial, such as 62nd Avenue North, is 30-45 mph according to the FDOT Design Manual. NACTO's *Urban Street Design Guide* recommends designing for the target speed – the speed that you would like people to drive – rather than the operating speed. In the case of an urban arterial, the maximum target speed is 35 mph. Design measures that can align the design speed with the target speed include: narrower lane widths, roadside landscaping, speed tables, and curb extensions.[103]
  - Use crossing enhancements, such as curb extensions, high-visibility markings, pedestrian scale lighting, advance stop or yield signs, in-street signs, etc., to improve safety at intersection crosswalks, midblock crossings, and driveways.
  - Work with adjacent property owners to consolidate driveways where possible.
  - Conduct a trade-off analysis of on-street bicycle lanes versus separated, multiuse paths on both sides of the street.
    - Bicycle lanes provide a variety of safety benefits, such as separating bicyclists from motor vehicle traffic and providing buffers between pedestrians and motor vehicles. However, unprotected bicycle lanes may not be the most appropriate bicycle facility for the 62nd Avenue North corridor. On roads with speeds greater than 25-30 mph and traffic volumes

greater than 3,000-10,000 ADT, research recommends physically separating bicyclists from motor vehicles. 62nd Avenue North has both high speed (40 mph) and high traffic volume (15,500). In addition to motor vehicle speed and volume, the volume of bicyclists and pedestrians is also relevant to the determination of bicycle facility type. A trade-off analysis will explore these varied factors.[104] [105]

  - Further evaluate the two major intersections of the 62nd Avenue North corridor – 49th Street North and 34th Street North – for additional safety improvements.
    - 62nd Avenue North is one of four crash hot-spot corridors in the Lealman community (see Figure 15, map of top crash areas). The highest concentrations of crashes along the 62nd Avenue North corridor occur at the intersections with 34th Street and 49th Street.
  - Reduce proximity of pedestrians and bicyclists to motor vehicles. Physically separate bicyclists from motor vehicles if possible.
  - Consider narrower lanes, which can reduce pedestrian crossing distance and motor vehicle speed.
- Reduce pedestrian crossing distance.
- Increase or improve tree canopy along the corridor to provide shade and an aesthetically pleasing environment. Street trees can also be used as a traffic calming instrument.
- After construction of 62nd Avenue North roadway improvements, monitor crash frequency and type to determine if additional alterations to the roadway are needed.
- Work with local businesses to provide bicycle racks along the corridor at key locations.

For Future Pinellas County Transportation Projects

Consider implementing design alternatives that do not promote a volume in excess of 25,000 cars per day near sensitive populations in order to reduce the risk for childhood asthma, breathing issues in the general population, and heart disease.

- If Pinellas County implements changes along or around 62nd Avenue North that are expected to increase traffic volumes, then it is strongly recommended that additional efforts be made to mitigate the increased risk of air pollution-related health issues associated with increased traffic. Trees planted along the roadway, for instance, would both mitigate air-quality issues and act as traffic-calming devices to manage increased traffic flow. Consider special precautions near areas with sensitive populations, such as Lealman Elementary, Youth Park, housing areas for older adults or those with low-income, and the Magnolia Gardens Assisted Living facility.

Review and revise the Pinellas County Transportation Design Manual and incorporate health- and equity-related guiding principles and/or project scoring criteria to evaluate transportation projects. Work with the Health in All Policies initiative to develop a health evaluation tool, such as a project checklist, for transportation decisions.

- Evaluation of transportation projects varies widely by location, but rarely includes an evaluation of the health-related costs and benefits. The typical cost-benefit analysis, which may include costs of construction, right of way acquisition, roadway maintenance, and travel time savings, is likely to overestimate the societal value of roadway projects and underestimate the benefits of transit, bicycle, and pedestrian projects.[106]

Measure the success of arterials by using metrics that account for pedestrians, cyclists, transits riders, and nearby residents, in addition to traditional motor vehicle metrics.[107] Consider how roadway changes affect the health outcomes of vulnerable or sensitive populations who live nearby.

- This may include, but is not limited to: 1) Those who are generally more susceptible to health issues (e.g., children, older adults, those with disabilities, racial or ethnic minorities, those with no vehicle, those with low income), and 2) Road users – such as people who walk, bike, and ride mopeds or motorcycles – who are at greater risk of injury or death due to a lack of protection. Prioritize projects or designs that will benefit those who bear a greater burden of transportation-related injury, illness, and death, such as older adults, people of color, and people who walk or bike in low-income communities.[108]

REPORTING, MONITORING, AND EVALUATION

REPORTING

The Reporting phase of HIA involves communicating the findings and recommendations to decision-makers, stakeholders, and the public. This may include written materials, presentations, or public meetings.[109] The findings and recommendations of this HIA will be distributed to various Pinellas County departments, the Florida Department of Health, the Foundation for a Healthy St. Petersburg, and the public. The HIA report will be available on the websites of the Pinellas County government and the Florida Department of Health in Pinellas County.

MONITORING AND EVALUATION

Health impact assessments can be evaluated based on process, impact, and outcomes. Process evaluation examines how the HIA was conducted, including resources and evidence used; involvement of decision-makers, stakeholders, and the public; and formulation and delivery of recommendations. Impact evaluation looks at changes that occurred because of the HIA, such as whether the HIA findings and recommendations were included in the project proposal and implementation. Outcome evaluation looks at the long-term health outcomes that result from the project, such as disease, injury, or death numbers or rates. Outcome evaluation is challenging because it is difficult to link health outcomes, which may have many causes, to a specific HIA recommendation. Additionally, a large amount of time and resources are required to monitor health outcomes.[110]

In the short-term, the County's Health in All Policies Planner will monitor the effects of the HIA on the decision-making process. This will involve tracking:

- The number of recommendations implemented by the County
- The use of HIA or other health planning tools to evaluate the health effects of future transportation projects

The 62nd Avenue North roadway improvements are not expected to be constructed for several years; therefore, the County will not be able to monitor or evaluate health outcomes for several years. Once the roadway improvements are implemented, the County should monitor:

- Crash rates
- Rates of injuries and fatalities due to traffic crashes
- Traffic volume and bike/pedestrian counts
- Vehicle speeds
- Pinellas Suncoast Transit Authority (PSTA) ride share service trips (covers first/last mile)
- PSTA ridership at nearby stops
- Community perceptions of walkability, safety, and accessibility – the County can monitor these indicators by surveying residents using questions from the 62nd Avenue North survey conducted as part of this HIA

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APPENDIX A. HIA SCREENING & SCOPING TOOLS

SCREENING CHECKLIST[14]

To Your Knowledge	Favors HIA	Against HIA
Health Impacts		
Does the project affect health directly?	**Yes**	
Does the project affect health indirectly?	**Yes**	
Are there any potentially serious negative health impacts that you currently know of?	**Yes**	
Is further investigation necessary because more information is required on the potential health impacts?	**Yes**	
Are the potential health impacts well known? Is it straightforward to suggest effective ways to maximize beneficial effects and minimize harmful effects?	**No**	
Are the potential health impacts identified judged to be minor?	**No**	
Community		
Is the population affected by the project at large?	**Yes**	
Are there any socially excluded, vulnerable, disadvantaged groups likely to be affected?	**Yes**	
Are there any community concerns about any potential health impacts?	**Yes**	
Project & Organization		
Is the size of the project large?	**Yes**	
Is the cost of the project high?	**Yes**	
Is the project a high priority/important for the organization/partnership?	**Yes**	
Is there potential to change the proposal?	**Yes**	
Total Score	**14**	**0**

Answers to the screening questionnaire favor a rapid HIA, rather than intermediate or comprehensive.

Type of HIA: Rapid, Intermediate, or Comprehensive?	
Is there only limited time in which to conduct the HIA?	**Yes**
Is there only limited opportunity to influence the decision?	**Yes**
Is the time frame for the decision-making process set by external factors beyond your control?	**Yes**

[14] Harris, P., Harris-Roxas, B., Harris, E., & Kemp, L. Health Impact Assessment: A Practical Guide, Sydney: Centre for Health Equity Training, Research and Evaluation. Part of the UNSW Research Centre for Primary Health Care and Equity.

Are there only very limited resources available to conduct the HIA?	**No**
Do personnel in the organization or partnership have the necessary skills and expertise to conduct the HIA?	**Yes**
Do personnel in the organization or partnership have the time to conduct the HIA?	**Yes**

Question	Response	Impact Description
Is the magnitude of the proposed construction project significant?	Yes	
Are there significant potential health impacts of the project?	Yes	
What is the level of political interest in this project? (High, medium, low)	High	
What is the level of public interest? (High, medium, low)	High	
How urgent is the completion of the HIA to influence decisions?	High Urgency	The HIA timeframe is approximately 3-6 months.
What funds are available for the HIA?	Grant funds	The Foundation for a Healthy St. Pete provided funds for a health planner to carry out a Health in All Policies approach and conduct health assessments in Pinellas County.
What data associated with the proposal is available and accessible? What is the health evidence base associated with the proposal?	• Primary data • Secondary data • Scientific evidence	

Source: Harris et. al., 2007

Detailed Screening Questions

Is there enough time between the HIA launch and the decision being made for the recommendations to be used in the implementation of the decision? Yes, screening and scoping of the 62nd Avenue project began in June 2019. Public input meetings will occur in November 2019, and a decision on the project will be made in late 2019. It is possible to conduct a rapid HIA in this timeframe.

Is health inherent in the decision? Is health already being considered? Health is directly affected by transportation and roadway design and construction. Transportation decisions affect health behaviors and outcomes, such as physical activity, traffic crashes injuries and fatalities, air quality, and social cohesion. Corridor design can have long-lasting consequences that may result in avoidable, involuntary, or adverse effects on health that would not be reversible for a decade or more.

Health has not yet been considered to the full extent as part of the 62nd Avenue project. The County hired Kimley-Horn to complete a conceptual corridor report for 62nd Avenue North and a corridor study for 62nd Avenue North from 49th Street North to 34th Street North. These studies

consider traffic safety and mobility, but do not address other health and equity concerns, such as active transportation and physical activity, social cohesion, equitable access for vulnerable populations (e.g., children, older adults, those with disabilities, racial or ethnic minorities, those with no vehicle, those with low income), Safe Routes to School, and air quality.

In spring 2019, Pinellas County adopted the "Linking Lealman: Complete Streets Action Plan." The plan identifies and prioritizes complete street and mobility improvements for Lealman, Florida. Plan development involved several community meetings where residents provided feedback on their values and concerns. Based on these meetings, we know that the Lealman community is generally concerned about: sidewalks, lighting, public transit, bicycle lanes, landscaping, vehicle scale, and overall safety.

Is there potential for unequally distributed impacts? Yes. Roadway changes that affect mobility choices may have a disproportionate impact on nearby Lealman and Pinellas Park residents. The 62nd Avenue North project corridor is located near populations generally at increased risk for poor health outcomes. Age, ability, vehicle ownership status, income, race/ethnicity, education, as well as the method of travel one uses can influence health risks and outcomes. In the Lealman community, a large portion of households (11%) do not own a vehicle, and more people rely on walking, biking, and public transit as a primary mode of transportation in comparison to Pinellas County. People who walk, bike, and ride mopeds or motorcycles are at greater risk of injury or death due to a lack of protection. Lealman has higher rates of unemployment and poverty, which affect the ability to access goods and services. More Lealman (17.4%) and Pinellas Park (17.5%) residents have a disability in comparison to the County (15.1%) and state (13.4%), and this affects how individuals move around the community. Additionally, located on or near the project corridor are Lealman Elementary, Youth Park, senior and low-income housing, and the Magnolia Assisted Living Facility.

This section of 62nd Avenue North – between 49th Street North and 34th Street North – is also a border between two Community Redevelopment Areas (CRAs), the Pinellas Park CRA and the Lealman CRA. Cities and counties establish CRAs to encourage redevelopment in areas where there is low economic investment due to inadequate building structures, infrastructure (i.e. roads, drainage), and parking. These areas face unique challenges but also offer significant opportunity. Both the Lealman and Pinellas Park CRAs have community redevelopment plans that aim to foster redevelopment, address blight, and improve quality of life.

Is it feasible to complete an HIA?

- **Are the correct resources available to complete the HIA?** Yes, we have staff time of the County's health planner to lead the HIA, an expert consultant to provide feedback and guidance on the HIA process, and commitment from other county staff and partners to provide data, input, feedback, and technical assistance.
- **Is it politically feasible?** Yes, the County has demonstrated a commitment to health and equity through the adoption of the *Linking Lealman: Complete Streets Action Plan*, as well as the desire to adopt countywide complete streets policy. This HIA will help identify the healthiest design alternative for the 62nd Avenue Corridor project.
- **Is the decision sufficiently defined to allow you to proceed?** Yes, there are four clear alternatives (3 designs and 1 no-action alternative) to evaluate.
- **Does the data exist to support the HIA?** Yes, we have access to relevant data from a variety of sources, including some prior community input from the development of the *Linking Lealman: Complete Streets Action Plan.*

What are the goals of the HIA?

- Provide a fair opportunity for the residents of Lealman and Pinellas County to achieve good health and well-being.
- Ensure public health, safety, and welfare of Lealman and Pinellas County residents in alignment with Pinellas County's Strategic Plan, and specifically address the following Plan goals:
    - 2.1 Provide planning, coordination, prevention, and protective services to ensure a safe and secure community.
    - 2.5 Enhance pedestrian and bicycle safety.
    - 4.2 Invest in communities that need the most.
    - 4.5 Provide safe and effective transportation systems.
    - 5.2 Be responsible stewards of the public's resources.
- Assess the health consequences of four design alternatives for 62nd Avenue North roadway improvements. Make recommendations to enhance positive health outcomes and mitigate negative health outcomes.

What is the decision to be informed (i.e. research questions)? Of the three existing design alternatives for 62nd Avenue, which has the greatest potential benefit for health?

Who is making the decision? Pinellas County Public Works will make a project recommendation to the Pinellas County Board of County Commissioners.

APPENDIX B. COMMUNITY SURVEY TOOL

62nd Avenue North Survey

Pinellas County is making roadway improvements on 62nd Avenue N. from 49th Street N. to 34th Street N. These improvements will address concerns about safety, capacity, and transportation options. This survey will only take a few minutes to complete. Your responses are confidential and will help us create a safe and healthy community. Thank you for your participation.

Health

1. Would you say that in general your health is—
   ☐ Excellent ☐ Very good ☐ Good ☐ Fair ☐ Poor

2. Now thinking about your physical health, which includes physical illness and injury, for how many days during the past 30 days was your **physical health** not good? _____

3. Now thinking about your mental health, which includes stress, depression, and problems with emotions, for how many days during the past 30 days was your **mental health** not good? _____

Travel & Safety

4. How many vehicles does your household own, lease, or have available for regular use? _____

5. During the **last week**, how did you usually get to work? If you used more than one mode of transportation, please select the one used for most of the distance.
   ☐ Walk ☐ Car, SUV, Van, Pickup truck ☐ Rental car (such as Zipcar / Car2Go)
   ☐ Bicycle ☐ Motorcycle / Scooter ☐ Other, please specify:
   ☐ Bus ☐ Taxi / Limo (including Uber / Lyft) _____

6. In the past **30 days**, about how many days have you used public buses? _____

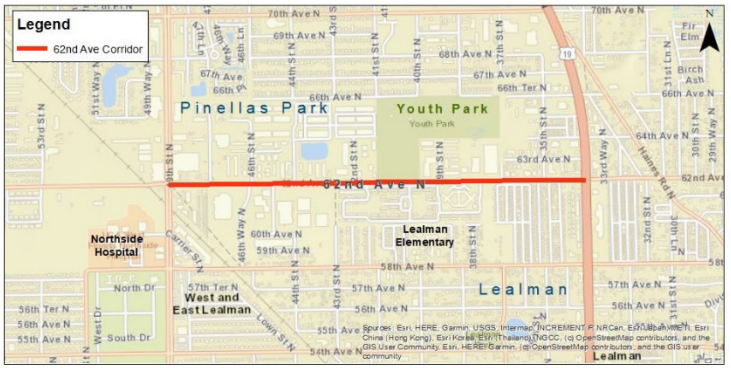
7. In the past **7 days**, how many times did you take a walk outside including walks to exercise or to go somewhere (e.g., walk the dog, walk around the neighborhood, walk to a friend's house or the store, etc.)? _____

8. In the past **7 days**, how many times did you ride a bicycle outside including bicycling to exercise or to go somewhere (e.g., bike around the neighborhood, bike to a friend's house or the store, etc.)? _____

9. What improvements would help you walk or bike more often? Please **SELECT ALL** that apply.

	Walk	Bike
More protected paths or trails		
More nearby parks		
More or better sidewalks		
On-street bike lanes		
Safer street crossings		
Lighter traffic with fewer cars		
More trees for shade		
Better lighting at night		
Fewer speeding cars		
None of the above		
Other, please specify: _____		

10. The map below highlights 62nd Avenue North between 49th Street N and 34th Street N in red. Do you ever ***walk or bike*** on 62nd Ave N between 49th St N and 34th St N?
    ☐ Yes ☐ No



11. Which **best** describes how you use 62nd Avenue North from 49th Street N to 34th Street N?
    ☐ Local travel within the surrounding area
    ☐ Regularly for travel through Lealman / Pinellas Park to somewhere else as part of my daily life (such as commuting, going to school, etc.)
    ☐ Occasionally for travel through Lealman / Pinellas Park to somewhere else (recreational travel, visiting family, vacation travel, etc.)
    ☐ As part of my job or for my business (commercial driver or local business owner)
    ☐ I ride a bus that uses 62nd Ave N in Lealman / Pinellas Park
    ☐ I don't use 62nd Ave N much, but do live in Lealman / Pinellas Park
    ☐ I don't use 62nd Ave N or live in Lealman / Pinellas Park

12. **Please choose the answer that most closely identifies how you feel about each statement.**	**Strongly disagree**	**Somewhat disagree**	**Somewhat agree**	**Strongly agree**
There is a lot of violent crime in my neighborhood.				
The crime rate in my neighborhood makes it unsafe to ride a bike or walk during the day.				
The crime rate in my neighborhood makes it unsafe to ride a bike or walk at night.				

Demographics

13. What is your age?
    ☐ Under 18 ☐ 18-34 ☐ 35-64 ☐ 65 and older

14. How many children less than 18 years of age live in your household? _____

15. What zip code do you live in? _____

16. Are you currently...? Please select the category which best describes you.
    ☐ Employed full-time ☐ Unemployed ☐ A Student ☐ Unable to work
    ☐ Employed part-time ☐ A Homemaker ☐ Retired ☐ Other, please specify: _____

APPENDIX C. HIA PARTICIPANTS & STAKEHOLDERS

Stakeholder	Role
Pinellas County Planning	HIA lead and facilitator. Convene stakeholders, obtain data, review relevant literature, and write HIA report.
Lealman residents	Provide input and feedback on the project alternatives, community values and concerns, and potential health impacts.
Lealman Community District Services	Provide input and feedback on the project alternatives, community values and concerns, and potential health impacts.
Lealman CRA; Advisory Committee	Provide input and feedback on the project alternatives, community values and concerns, and potential health impacts.
Forward Pinellas	Provide input, feedback, technical expertise, and data.
Pinellas County Public Works	Provide input, feedback, and technical expertise. Make final recommendation on 62nd Avenue North to the Board of County Commissioners.
Pinellas County Office of Management and Budget	Assist with conducting a survey of Lealman and Pinellas Park residents. Provide input and technical expertise on performance measures and HIA monitoring / evaluation.
Pinellas Park residents	Provide input and feedback on the project alternatives, community values and concerns, and potential health impacts.
Pinellas Park CRA, Planning, & Public Works	Provide input and feedback on the project alternatives, community values and concerns, and potential health impacts. Help advertise community meetings to Pinellas Park residents. Provide technical expertise.
Florida Department of Health in Pinellas County	Aid with data collection / analysis and connecting with community partners. Review and provide feedback during each phase of the HIA.

APPENDIX D. ADDITIONAL DATA

Hospital Utilization for Transport-Related Reasons

The table below shows **hospital visits** by residents of zip codes 33714 and 33781 (the target zip codes) for transport-related reasons in 2018. This does not include people who sought care at a doctor's office, clinic, or urgent care center.

Hospital data do not typically include the location where an injury occurred. The table shows visits by residents of the target zip codes, not necessarily injuries that occurred in the target zip codes. While we do not know the location of injury for the visits shown, we do know that most injuries occur close to home, and bicyclists and pedestrians are likely to be very close to home (around 1 mile) when injured.[15] Visits include those to emergency departments and inpatient hospital admissions. Visits are sorted by type of person injured (pedestrian, bicyclist, motor vehicle occupant, etc.) and type of accident (nontraffic, traffic, or unspecified whether traffic or nontraffic).

> *"A **traffic accident** is any vehicle accident occurring on the public highway [i.e. originating on, terminating on, or involving a vehicle partially on the highway]. A vehicle accident is assumed to have occurred on the public highway unless another place is specified, except in the case of accidents involving only off-road motor vehicles, which are classified as nontraffic accidents unless the contrary is stated. A **nontraffic accident** is any vehicle accident that occurs entirely in any place other than a public highway."*
>
> -World Health Organization, ICD 10 Classifications

	Age			Payment Type			Total Visits	Total Charges
	0-17	18-64	65+	Gov. Ins.	Com. Ins.	Non- Self-Pay / Other		
Bicyclist	**32**	**100**	**7**	**52**	**24**	**63**	**139**	**$2,484,542**
Nontraffic Accidents	10	23	1	14	6	14	34	$512,837
Traffic Accidents	20	76	6	37	17	48	102	$1,962,020
Unspecified	2	1	0	1	1	1	3	$9,685
Pedestrian	**10**	**42**	**6**	**26**	**19**	**13**	**58**	**$2,298,962**
Fall	0	2	1	2	1	0	3	$237,934
Nontraffic Accidents	3	9	0	7	2	3	12	$277,170

[15] Haas, B., Doumouras, A., Gomez, D., De Mestral, C., Boyes, D., Morrison, L., & Nathens, A. (2015). Close to home: An analysis of the relationship between location of residence and location of injury. *Journal of Trauma and Acute Care Surgery*.

Traffic Accidents	4	11	1	6	6	4	16	$1,357,331
Unspecified	3	20	4	11	10	6	27	$426,527
Bus occupant	**2**	**4**	**0**	**2**	**3**	**1**	**6**	**$29,824**
Nontraffic Accidents	0	1	0	1	0	0	1	$14,219
Traffic Accidents	0	3	0	0	2	1	3	$8,171
Unspecified	2	0	0	1	1	0	2	$7,434
Motorcycle rider	**4**	**79**	**2**	**29**	**25**	**31**	**85**	**$4,492,932**
Nontraffic Accidents	1	6	0	4	1	2	7	$115,071
Traffic Accidents	2	71	2	22	24	29	75	$4,237,254
Unspecified	1	2	0	3	0	0	3	$140,607
Motor vehicle (car, truck, van) occupant	**58**	**430**	**52**	**61**	**368**	**111**	**540**	**$9,492,685**
Nontraffic Accidents	1	7	1	1	5	3	9	$764,099
Traffic Accidents	56	418	49	57	359	107	523	$8,056,227
Unspecified	1	5	2	3	4	1	8	$672,359
Dirt bike or other off-road vehicle rider	**1**	**6**	**0**	**4**	**2**	**1**	**7**	**$171,422**
Nontraffic Accidents	1	6	0	4	2	1	7	$171,422
Heavy transport vehicle occupant	**0**	**3**	**0**	**0**	**1**	**2**	**3**	**$106,201**
Traffic Accidents	0	3	0	0	1	2	3	$106,201
Unspecified	**9**	**117**	**22**	**28**	**91**	**29**	**148**	**$4,347,664**
Fall on/from sidewalk curb	1	3	8	10	1	1	12	$102,837
Nontraffic Accidents	0	1	0	1	0	0	1	$1,092,550
Traffic Accidents	7	111	12	15	88	27	130	$3,009,300
Unspecified	1	2	2	2	2	1	5	$142,977
Grand Total	**116**	**781**	**89**	**202**	**533**	**251**	**986**	**$23,424,232**

Data Source: Florida Agency for Health Care Administration, Hospital Discharge and Emergency Department Data Files

Summary of the 62nd Avenue North Community Survey

A total of 49 Pinellas County residents participated in a survey regarding their health, transportation habits, community safety, and opinions about walking and biking. Surveys were collected at community meetings held at the Lealman Exchange in October and November 2019 using a convenience sample survey method. Some respondents chose not to complete every question, thus both percent response and the 'n' values are displayed in the charts included in this analysis. 'N' represents the number of respondents who completed a question.

Most respondents were employed full-time (44%) or retired (38%). About 8% were employed part-time (**Figure 31**). Approximately 54% of respondents were age 65 or older. Only 4% were 34 or under (**Figure 32**). Few respondents had children living in their household (**Figure 33**). The majority of respondents (53%) lived in zip code 33714. The second most common zip code was 33709 (**Figure 34**). See **Figure 35** for zip code boundaries.

Figure 33. Employment Status (n =

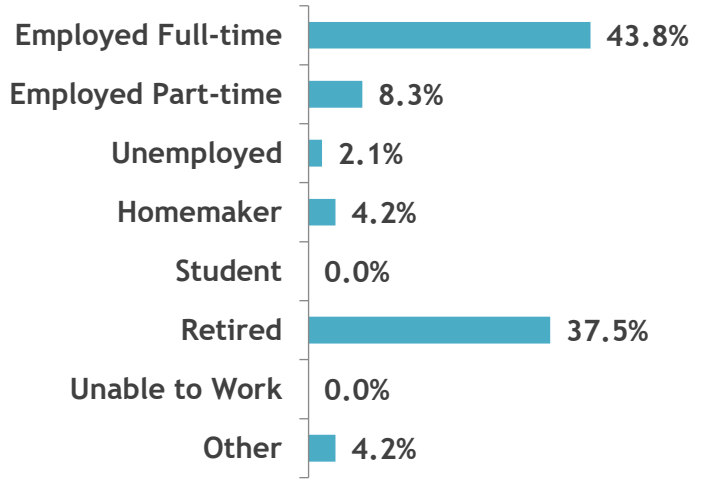


Figure 34. Respondent Age (n = 48)

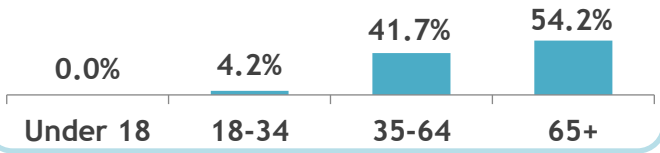


Figure 35. Number of Children in Household (n = 46)

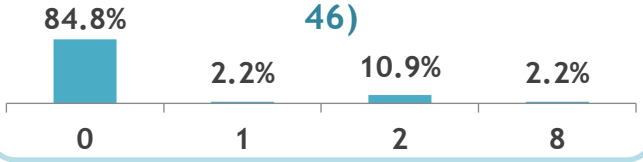


Figure 36. Respondent Zip Code (n = 47)

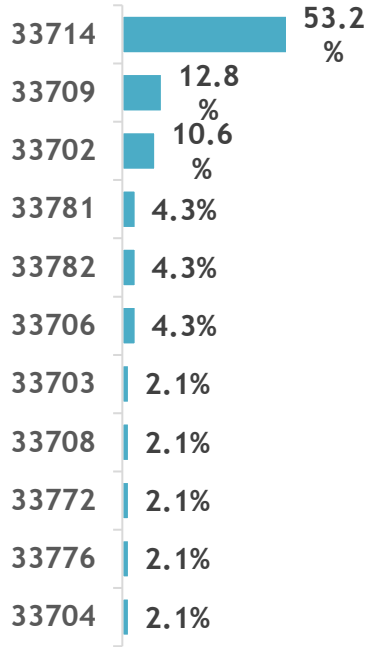
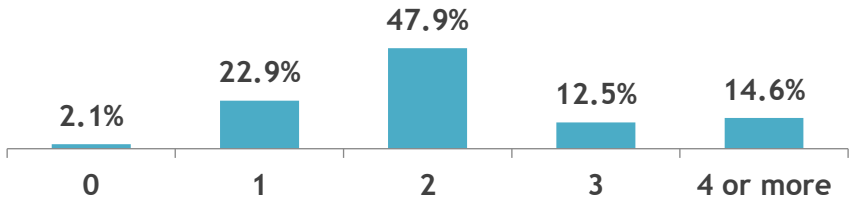


Figure 37. Map of Zip Code Boundaries

Figure 39. Number of Vehicles Your Household Owns, Leases, or Has Available for Regular Use (n = 48)

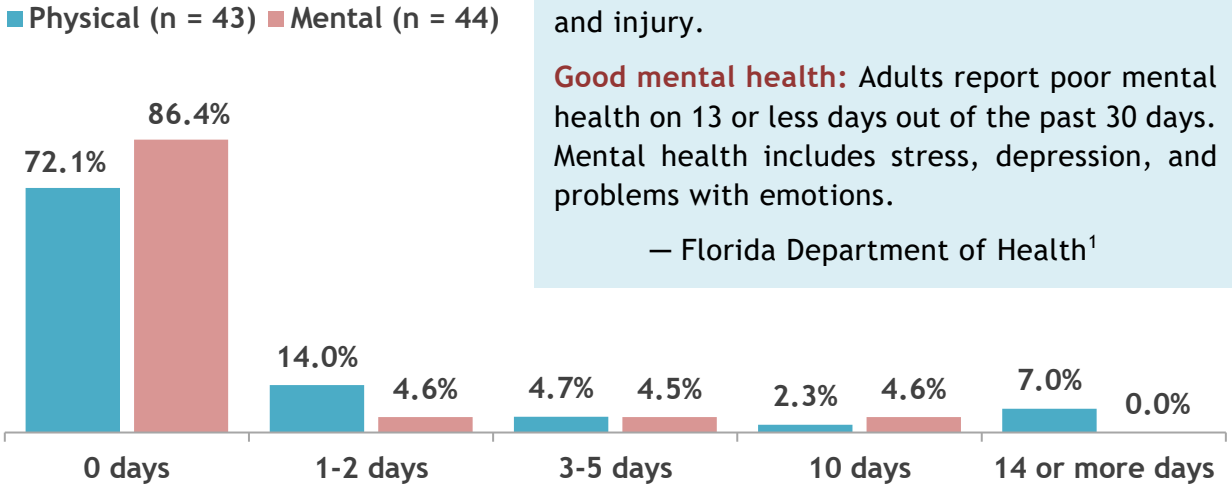


Most respondents (75%) reported that their household had two or more vehicles available for regular use. Only 2% reported zero vehicles available for regular use, and 23% reported only one vehicle available for regular use (**Figure 37**). One respondent reported using a public bus in the past 30 days.

Figure 38. Overall Health (n = 48)

Respondents rated their own health on a scale from "Excellent" to "Poor". Approximately 96% of respondents said their health was "Good" to "Excellent". No respondents rated their health as poor (**Figure 36**). In comparison, 79% of Pinellas County residents and 81% of Florida residents said their health was "Good" to "Excellent" in 2016.[16]

Figure 40. Number of Days in the Past 30 Days with Poor Physical or Mental Health



Good physical health: Adults report poor physical health on 13 or less days out of the past 30 days. Physical health includes physical illness and injury.

Good mental health: Adults report poor mental health on 13 or less days out of the past 30 days. Mental health includes stress, depression, and problems with emotions.

— Florida Department of Health[1]

Respondents were asked to recall how many days during the past 30 days their physical or mental health was not good. Most respondents reported good physical (93%) and mental (100%) health. In comparison, 87% of Pinellas and Florida residents had good physical health in 2016. Approximately 88% of Pinellas residents and 87% of Florida residents had good mental health in 2016.[17]

62nd Avenue North survey respondents were more likely to report experiencing poor physical health than poor mental health. Approximately 9.3% of respondents reported poor physical health and 4.6% reported poor mental health on 10 or more of the past 30 days (**Figure 38**).

[16] 2016 Florida Behavioral Risk Factor Surveillance System Data Report
[17] 2016 Florida Behavioral Risk Factor Surveillance System Data Report

Figure 39 and 40 show how survey respondents typically commuted to work. Respondents were asked to select the method of travel they used most; however, several (4) respondents selected more than one travel mode. **Figure 39** shows answers for all respondents, including those who provided multiple responses, and **Figure 40** shows responses for those who selected only one response. About 85% of respondents commuted to work in a motor vehicle (i.e. car, truck, motorcycle) (**Figure 39**). For respondents who selected only one mode, there are more people who drive (86%) and fewer who walk or bike as their primary means of transportation to work (**Figure 40**). Responses under "Other" include: retired (3), none or N/A (2), and run (1).

Figure 41 shows how often respondents walked or biked outside in the past 7 days. More respondents walked than biked – 74% of respondents went for at least one walk in the past 7 days, and 26% had gone for a bike ride in the past week.

Figure 41. Typical Mode of Transportation to Work

(n = 53 responses from 48 individuals; some respondents selected more than one response)

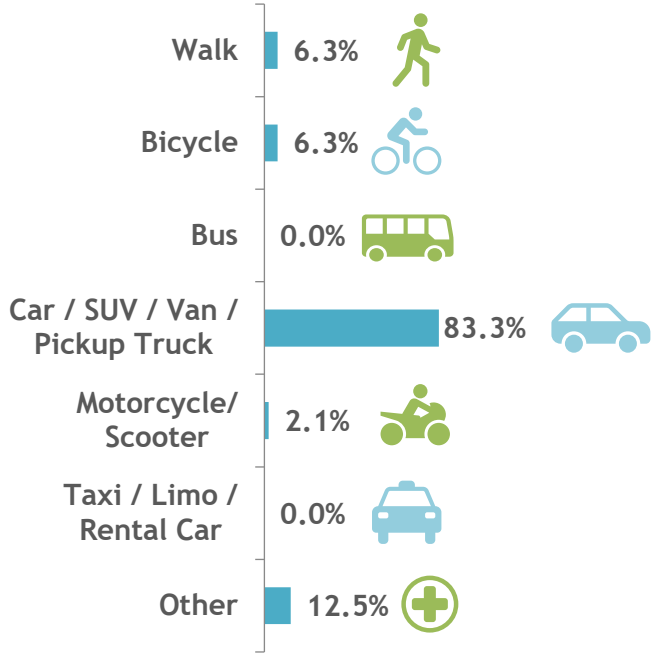


Figure 42. Typical Mode of Transportation to Work

(n = 44; responses shown for those who selected one response only)

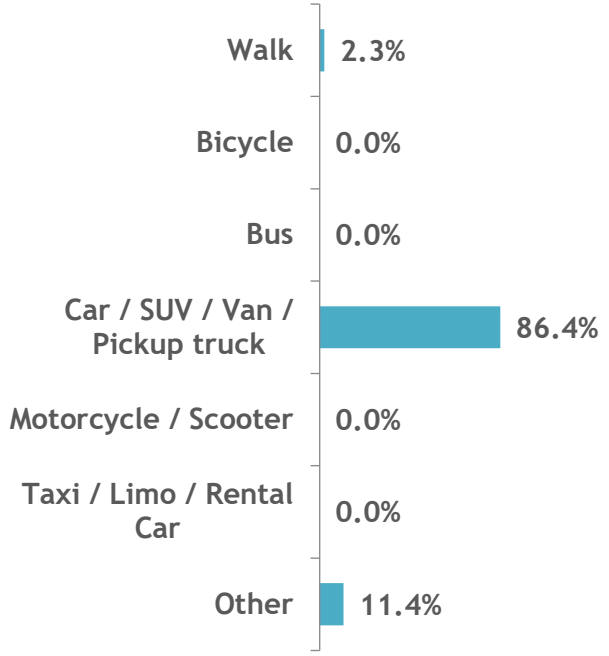
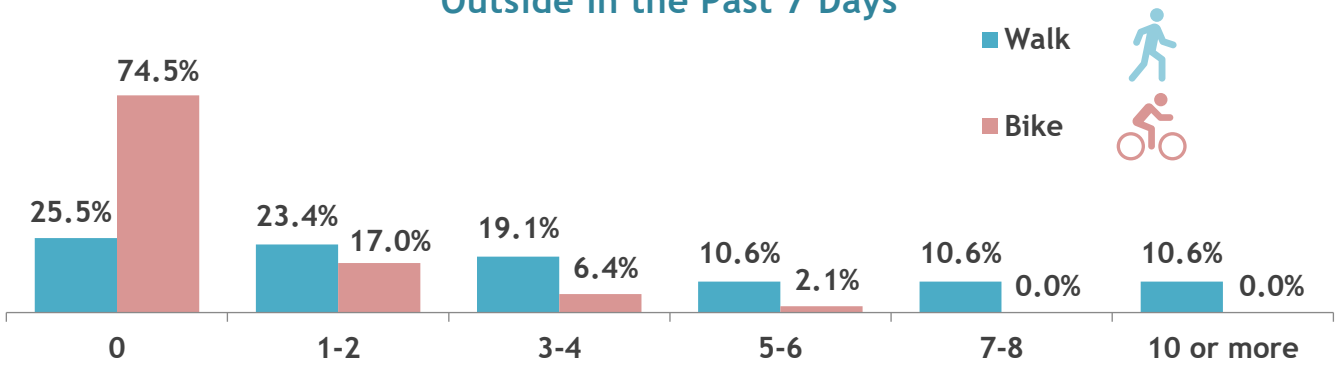


Figure 43. Number of Times Respondents Walked or Rode a Bike Outside in the Past 7 Days



Respondents were asked what improvements would help them walk or bike more often. They could select all answer choices that applied (**Figure 42**).

The top answer choices for **walking** are:

1. More or better sidewalks; Better lighting at night (tied)
2. Safer street crossings; Fewer speeding cars (tied)
3. More protected paths or trail

The top answer choices for **biking** are:

1. More protected paths or trails
2. Better lighting at night
3. More nearby parks; Fewer speeding cars (tied)

Responses under "Other" include: speed tables; suspend more driver's licenses; industrial area, not for biking or walking (2); I live in West Lealman; and a pool for Lealman. Two respondents wrote in "No" next to on-street bicycle lanes.

Most respondents do not feel there is a lot of violent crime in their neighborhood. Crime makes 31% of respondents feel it is unsafe to walk or ride a bike during the day. A greater portion (47%) of respondents are worried about riding a bike or walking at night (**Figure 43**).

Figure 44. What improvements would help you walk or bike more often? (n = 42)

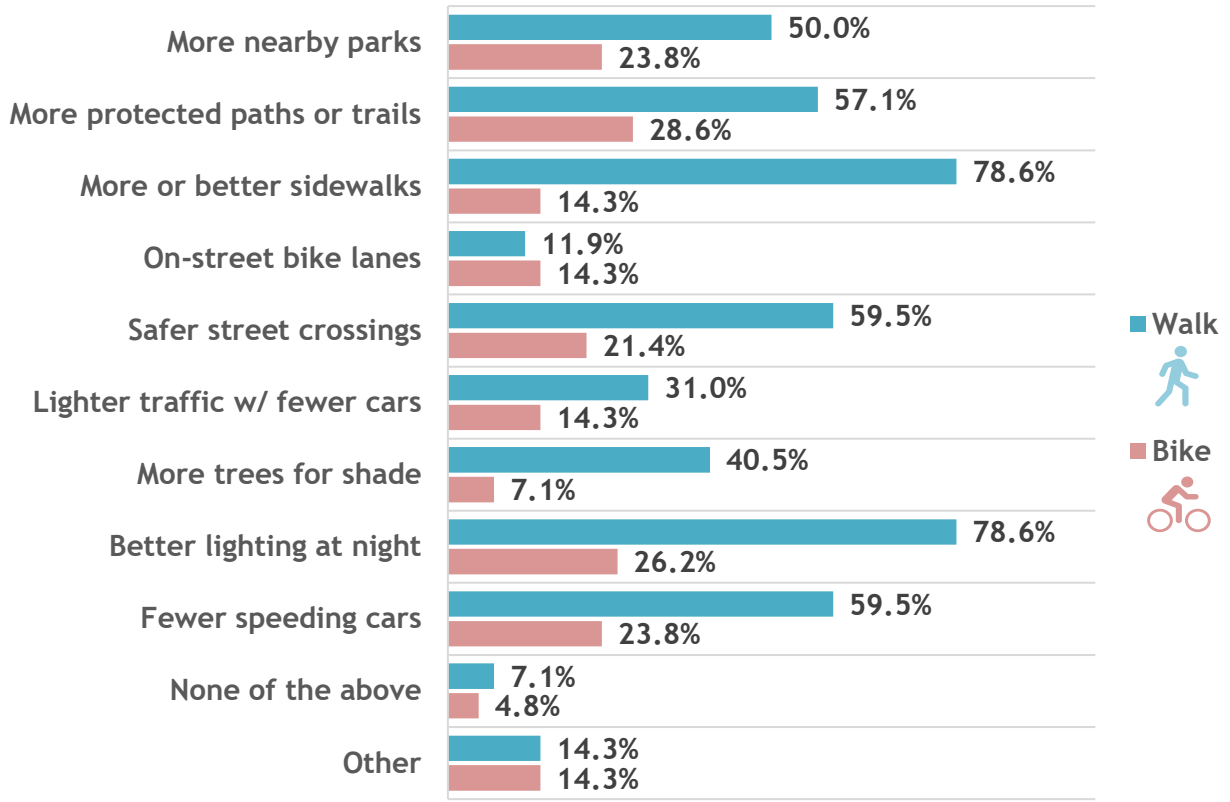
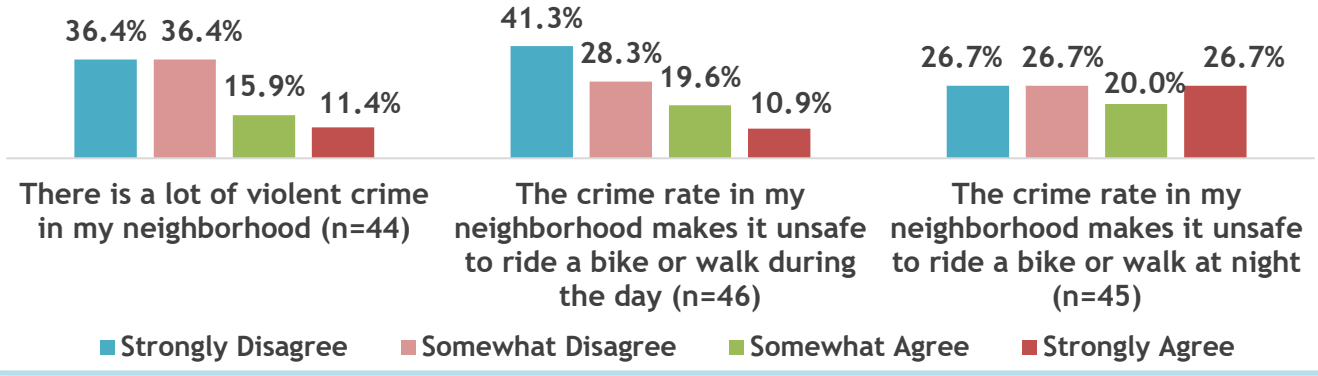


Figure 45. Respondents' Beliefs about Crime in Their Neighborhood (n = 46)



Most respondents (85%) do not ever walk or bike on 62nd Avenue North between 49th Street North and 34th Street North (**Figure 44**). Several respondents wrote in the reason why they do not walk or bike along the corridor: too dangerous or not safe (4 respondents), not safe – cars end up in that ditch every time there is a downpour (1), and can't (1).

Figure 45 shows how respondents use 62nd Avenue North from 49th Street North to 34th Street North. Respondents were asked to pick one response that best described the way they use the corridor; however, 13 respondents selected multiple answer choices. Almost half (46%) of respondents use the corridor for local travel within the surrounding area. The next largest uses are for regular travel through Lealman / Pinellas Park as part of daily life (29%), as part of a job or for business (27%), and for occasional travel through Lealman / Pinellas Park (23%).

Figure 46. Do you ever walk or bike on 62nd Ave N between 49th St N and 34th St N?

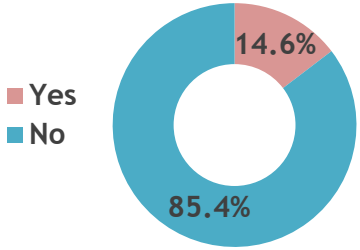


Figure 47. Which best describes how you use 62nd Avenue North from 49th St N to 34th St N?

(n = 66 responses from 48 respondents)