

ADDRESSING WALKABILITY TO IMPROVE THE
NEIGHBORHOOD AND BUILT ENVIRONMENT TO
BETTER QUALITY OF LIFE IN FAYETTEVILLE, NORTH
CAROLINA

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List of Abbreviations

ACC- Accountable Care Community

BMI- Body Mass Index

CATWOE- Customers, Actors, Transformation, Worldview, Owners, Environmental

CC- Cumberland County

CCHD- Cumberland County Health Department

CCDPH- County Department of Public Health

CDC- Centers for Disease Control and Prevention

CHNA- Community health needs assessment

FAMPO- Fayetteville Area Metropolitan Planning Organization

FDDP- Fayetteville Department of Development and Planning

HOA- Homeowners Association

LED- Light Emitting Diode

MOU- Memorandum of Understanding

NCBQL- Neighborhood Collective for a Better Quality of Life

PDSA- Plan-Do-Study-Act

PQR- What, How, Why

PWC- Fayetteville Public Works Commission

RASCI- Responsible, Accountable, Supportive, Consulted, Informed

SCHC- SmartCode for Healthy Communities

SDoH- Social Determinants of Health

SMART- Specific, Measurable, Achievable, Relevant, and Time Bound

SOTCH- State of the County Health Report

WBC- Women's Business Center

ABSTRACT

Research shows that approximately 80% of a person's overall health is driven by social and environmental factors and the behavior influenced by them, also known as the social determinants of health. Our work focuses on addressing walkability which falls under the scope of the neighborhood and built environment, which is the intersection of the places where people live, work, pray, and play and their health and well-being. Fayetteville North Carolina has a walkability score of 21 out of 100, which is among the lowest in the country. Walkability is defined by how easily residents can walk to and from places in the community such as from their home, work, and entertainment. There is not an adequate walking infrastructure to support the people who walk as a primary mode of transportation or exercise. The Cumberland County Community Health Needs Assessment documented that 40.1% of the community members do not engage in any physical activity or exercise during the week. Heart disease, diabetes, and other weight-related diseases are among the leading causes of death in the county. We will focus our efforts in Fayetteville, NC and within low-income areas of the city.

Fayetteville is the large city within Cumberland County and is an ideal location to create an accountable care community. We would like to build on existing infrastructure and systems in an equitable way to ensure low-income communities are experiencing the benefits of walkability. Our proposed policy is to switch to SmartCode Zoning which creates new guidelines for where types of buildings can be placed in the city limits while discouraging suburban sprawl. The goal of this policy is to bring the residents' daily needs closer to where they live so that they can either walk or bike to their destination over driving a car. We must include structures to ensure that we also keep the current residents from being pushed out of their communities due to these changes. Our intended impact from this policy is to reduce the negative health outcomes that are associated with walkability which are weight-related diseases.

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COMMON PROPOSAL

ACC Project Aims and Goals

The neighborhood and built environment is a social determinant of health (SDoH) that is defined as the intersection of the places where people live, work, pray, and play and their health and well-being (Healthy People 2030, n.d.). The neighborhood is made up of aspects of the resident population and social aspects of the neighborhoods, while the built environment is defined as the physical attributes of the surroundings that are man-made such as, amenities and structural conditions affecting opportunities to engage in physical activity (Gomez et al., 2015). Fayetteville has a walkability score of 21 out of 100, which is among the lowest in the country and is defined and determined by how easily residents can walk to and from their home, work, school, businesses, restaurants, and entertainment (Walk Score, n.d.). In 2015, Fayetteville had 1,202 miles of roads and only 283 miles of the sidewalk (Stantec Consulting Services Inc., 2018). There is not an adequate walking infrastructure to support the many people who walk as a primary mode of transportation due to financial and social circumstances. Countywide, 4.0% of residents walk to work, compared to the state value of 1.8% and the regional value of 2.4% (CCHD & Health ENC, 2019).

A survey disseminated county-wide for community health needs assessment (CHNA) in 2019 documented that 53% of residents are considered overweight or obese (Cumberland County (CC) 2019 CHNA, 2019). The same survey also reported that 40.1% of community members do not engage in any physical activity or exercise during the week (CC 2019 CHNA, 2019). Also, heart disease, diabetes, and other weight-related diseases are among the leading causes of death in Cumberland County (CC 2019 CHNA, 2019). To address their findings, North Carolina identified this issue as a priority and set a goal to increase access to exercise opportunities from 73% to 92% by 2030 (Healthy North Carolina 2030, 2020).

Recognizing the association between the neighborhood and built environment and its effects on health outcomes, our Accountable Care Community (ACC) is requesting \$500,000

from the City of Fayetteville to improve the overall health and quality of life of the population through initiatives, particularly pertaining to walkability. To transform the neighborhood and built environment, our ACC will collaborate with stakeholders from diverse sectors to utilize an approach that addresses upstream and downstream determinants including a policy recommendation that will act as a catalyst for infrastructure changes in the future.

The Neighborhood Collective for a Better Quality of Life (NCBQL) aims to create a more walkable, liveable, healthy, and sustainable city by accomplishing the following short-term goals: 1) improve the connections to various parts of the city by providing safe and usable pedestrian facilities, 2) increase in reported engagement in physical activity and exercise by 15%, and 3) increase neighborhood businesses by 8%. The long-term goals of this proposal include 1) decreasing the overall prevalence of chronic diseases related to lack of physical activity such as obesity and cardiovascular health and 2) increase property values in Fayetteville.

Proposed Innovation/Transformation

Our proposal to move towards a more walkable Fayetteville is the adoption of a policy to shift how new developments are created through changes to zoning laws. SmartCode for Healthy Communities (SCHC) will be a multi-step policy initiative that will allow the Department of Planning and Development to shift how city planning and development is conceptualized to make a safer, more walkable community. Currently, Fayetteville uses Euclidean zoning, which is where city lots can only be utilized for one type of use (Fayetteville, 2020). This can lead to uneven distribution and clustering of grocers and other essential retailers, making it difficult for community members to get their daily errands done by walking (Starkey, 2015).

To decrease the distance between residents and essential businesses, city zoning rules can be changed to allow for more diverse developments to be closer together to encourage walking and to increase urban density (Smith, 2018). The SmartCode, or Transect-based coding, promotes a pedestrian-oriented and mixed-use environment and includes a framework

for transit, pedestrian, and bicycle systems as well as compact urban development (Smith, 2018). After the successful development and implementation of the SCHC, our work will shift towards partnership between community members and the Departments of Public Works and Planning and Development to create new infrastructure that would aid in making Fayetteville more walkable. The program will focus on assessing and improving the structural elements that affect walkability by building and engaging community members and stakeholders and providing education and advocating for zoning policies that support the program (Deehr & Schumann, 2009).

This type of zoning reform has been successfully implemented in 50 cities throughout the United States, including in large cities (Smith, 2018). A successful example of this type of improvement can be seen in Fitchburg, Wisconsin, which adopted a SmartCode district in 2010 that promotes a pedestrian-oriented and mixed-use environment (Smith, 2018). This area includes infrastructure improvements for public transit, pedestrian, and bicycle systems alongside the compact urban development and has seen a 25% increase in walking for basic needs in targeted communities (Place Makers, 2013).

In comparison to similar interventions, SCHC is intended to lead to change across the entire city of Fayetteville as opposed to just a small section. Historically, cities have kept the SmartCode zoning to certain areas due to statutes that are already in place that prohibit full-scale adoption of the policy change all at once (Evans, 2009). In contrast, our ACC intends to take steps to remove such statutes to allow for the equitable implementation of SmartCode city-wide. Once Fayetteville has implemented this policy, then it can be an example for all of North Carolina to follow. Program evaluations and iterative PDSA cycles will allow this program to be scaled up for implementation in larger NC cities.

Potential Public Health Impact

SCHC has the potential to create numerous health impacts for the community of Fayetteville. Most importantly, it seeks to remove crucial barriers that many lower-class individuals may have to opportunities for physical activity, and increase available funds for health-related expenses. Low-income families spend a higher proportion of their income on transportation than those who are middle or upper class (Leadership Conference Education Fund, 2011). The bottom 20% of the income bracket spend about 42% of their income on transportation, compared to 22% for middle-income households. Such high spending on transportation can cut into funds available to seek medical care when needed (Leadership Conference Education Fund, 2011). Additionally, low-income families struggle with opportunities for physical activity as fitness facilities, sidewalks, bike trails, and safe outdoor spaces are more common in neighborhoods with higher-income families (Gordon Larsen, et al, 2006).

As businesses are built closer to residential communities, there will be more incentives to walk to those places instead of driving. SCHC will include investment in sidewalk infrastructure and will also increase people's ability to safely access different points in their community. Sidewalk infrastructure improvements can include walking signals, crosswalks, and handicap safety features. Such improvements can contribute to a decrease in pedestrian and bike related traffic accidents (CPSTF, 2017). These improvements in the community can lead to more physically active transportation, address health and resource disparities in low-income communities, and reduce the number of pedestrian crashes (CPSTF, 2017).

One of the potential areas for pushback is that shifting to this coding system is a serious undertaking that would take more than a year to implement. Additionally, as the built environment improves the community could go through a period of gentrification, which is the displacement of current community members due to rising property values (CPSTF, 2017). This is especially concerning due to a large number of renters in Fayetteville, indicating that displacement could happen quite quickly. To address this concern, resident protections such as

rent caps or stabilization vouchers would be suggested for use. In Cumberland County, 56.2% identify as Democrats, while 40.2% identify with the Republican party. Most of the elected representatives for the county are Democrats (Cumberland County Voter Statistics, 2021). To help ensure that the policy is pushed forward into action it needs to be created and endorsed by a bipartisan committee. If it receives heavy pushback and becomes a partisan issue, then it could be difficult to get the policy into action.

Outcomes, Milestones, and Deliverables

Monitoring and evaluating the impact after the policy's implementation is important to understand the outcomes, milestones, and deliverables established about the initiative. The success of the project is defined as the improvements to the overall quality of life in the community through increased walkability and enhancements of the neighborhood and the built environment. As the Cumberland County Public Health Department assists with the Cumberland County State of the County Health (SOTCH) report and Cumberland County CHNA, these will be utilized as tools to assess, measure, and evaluate the success of the policy. These two reports capture data about reported engagement in physical activity and exercise and health outcomes.

The outcomes of the proposal are marked by the short and long-term goals discussed in the first section. The key milestones of the project are listed in the logic model in Appendix A. By tracking and measuring these outcomes, the project can continually assess and improve the ACC's strategies and calculate the return on investment.

The ACC plans to create an iterative process of implementation and evaluation. PDSA cycles will be utilized throughout the process to ensure an effective and sustainable accountable care community. Our proposal includes qualitative, such as community feedback and satisfaction surveys, and quantitative measures, such as walkability scores and prevalence of

chronic diseases, such as obesity. These used in tandem can help us gain quality information on the success of the policy and inform how to move forward.

The Cumberland County Public Health Department serves as the backbone organization and will drive multi-sector collaboration by creating meaningful partnerships through quality engagement strategies to build trust, establish buy-in, and develop mutually beneficial activities. Creating strong alliances and building capacity can allow for the continuation and long-term sustainability of the program. The community served must be continuously engaged to continue the transformations after the implementation process to ensure the sustainability of the project. Through engagement and alignment of community partners, the stakeholders will work on the deliverables of conducting a community needs assessment, writing and implementing the SCHC policy, and educate community members about physical activity and alternative modes of active and public transportation. All milestones, outcomes, and deliverables are documented in the project's logic model in Appendix A.

Team

The proposed partners that are part of the ACC that will participate in this project are the Fayetteville City Planning Department, Fayetteville City Council, and the Cumberland County Public Health Department. This team will be responsible for securing grant funding and ensuring that the ACC's goals are accomplished.

APPENDIX A - COMMON PROPOSAL

Table 1. Logic Model

Resources/ Inputs	Activities	Short Term Goals (Outcomes) 1-3 years	Long Term Goals (Outcomes) 3-5 years	Impact (Milestones) 7-10 years
<p>Community members of Fayetteville, NC</p> <p>Cumberland County Public Health Department</p> <p>Local key elected officials (e.g. City Council, Representatives from District 2)</p> <p>SmartCode consultants</p> <p>Fayetteville City Planning Department</p>	<p>Establish MOUs with ACC partners</p> <p>Implement engagement strategies</p> <p>Community assessment</p> <ul style="list-style-type: none"> - Create and distribute community surveys - Identify need and interest - Assess state of walkability, prior to policy implementation <p>Write and implement SmartCode for Healthy Communities policy</p> <p>Assess walkability each year of policy's implementation</p> <p>Develop and maintain partnerships</p> <p>Educate community members and residents about physical activity and public and active modes of transportation</p>	<p>Maintain 80% attendance at stakeholder engagement events over the first year.</p> <p>Resident satisfaction scores related to policy transformation result in 85% satisfied or very satisfied by the second year of policy implementation.</p> <p>Increase reported engagement in physical activity and exercise by 15% in three years.</p> <p>Improve the connections to various parts of the city by 30% in three years of policy implementation.</p> <p>Increase access to safe and usable pedestrian facilities by 10% in three years.</p> <p>Increase neighborhood business by 8% in three years.</p> <p>Increase awareness of walkability issues after year 1</p>	<p>Decreasing overall prevalence of chronic diseases related to lack of physical activity by 20% by five years of policy implementation.</p> <p>Increase neighborhood Walkscore by 10% by the fifth year of policy implementation.</p> <p>Increase property values by 6%, without displacing low income residents by five years of policy implementation.</p> <p>Increase in the number of people who use active transportation</p> <p>Incorporate recommended daily amount of physical activity into lifestyle</p> <p>Increase and sustain ACC partnerships and support additional initiatives</p>	<p>Reduce negative health outcomes associated with walkability</p> <p>Increase in engagement of outdoor physical activity and exercise</p> <p>Increase in utilization of pedestrian, biking, and public transportation</p> <p>Increase in quality of life related to the neighborhood and built environment for community members</p> <p>Contribute to North Carolina's 2030 goal of increasing access to exercise and physical activity</p>

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APPENDIX B - GROUP DELIVERABLES

GROUP RICH PICTURE

Figure B1 Group Rich Picture



GROUP PROGRAM AND POLICY OPTIONS

Our organization's proposed policy and program are complementary to one another. As we work to engage community members to advocate for the zoning policy, we would also be able to identify their needs and what the program's focus should be for improving the infrastructure.

Program: Improving Infrastructure

To address and improve walkability in Fayetteville, North Carolina, the program will focus on assessing and improving the structural elements that affect walkability by 1) building and engaging community members and stakeholders and 2) providing education and advocating for zoning policies that support the program (Deehr & Schumann, 2009). This program may include improving or building sidewalks, adding greenery, and including walking signage (e.g. pedestrian crosswalks and stop signs) (Purnell et al., 2016). The specific project aims would be identified through stakeholder engagement, using strategies like photovoice and codesign to create a program that best fits the community.

Considering equity will be imperative to ensuring residents across Fayetteville have access to safe, adequate, and convenient connections to everyday destinations—whether they are drivers, transit users, pedestrians or bicyclists. Our program aims to support safety and access for all, specifically underserved and historically marginalized communities. We will conduct needs assessments, complete photovoice projects, and engage with community members and stakeholders through focus groups and key informant interviews (Purnell et al., 2016). The program would focus on improvements within lower income zip codes, support access to local schools, grocery stores, and healthcare offices, and build on already made paths, as described in the city's pedestrian plan (Purnell et al., 2016).

Other suggested programs include improving existing sidewalks and adding multi-use equipment to green spaces, like workout equipment or running paths (Global Designing Cities

Initiative, n.d.). While these would be positive additions to the community, the first step is sidewalks themselves (Global Designing Cities Initiative, n.d.). In Fayetteville recent improvements have occurred in more affluent neighborhoods (Stantec Consulting Services, 2018). Because of this, our organization will be focusing on providing resources and infrastructure to high need neighborhoods that have historically been disenfranchised and neglected.

The Fayetteville Pedestrian Plan shows current city infrastructure and needs. In the plan, there is evidence of a need for basic walking infrastructure, especially where worn paths have been made from citizens walking (Stantec Consulting Services, 2018; Deehr & Schumann, 2009). With 7.41% of residents in Fayetteville walking to work, there should be infrastructure to support it (DataUSA 2019). Versions of this program have been implemented all over the US. Some examples in Seattle, Atlanta, and Rural NC show that improved pedestrian infrastructure, increased use, physical activity, and access to community destinations (Deehr & Schumann, 2009; CDC, 2017). Many of these programs created coordinated approaches with a mixture of designs based on the community served (CPSTF, 2017). In Seattle, they saw a 24% increase in children who walked to school and over 50% of survey participants stated they walked to the grocery store after program improvements (Deehr & Schumann, 2009).

Improving walkability infrastructure can lead to a wide range of benefits for the community. For example, it creates safe and more usable walkways for citizens, which can lead to more active transportation and reduced number of pedestrian crashes (CPSTF, 2017). Additionally, focusing on low-income areas would potentially address health and resource disparities. It is important to note that the proposed program would not improve the proximity of retail and commercial establishments to neighborhoods (e.g. distance to walk to necessary destinations). Lastly, as the built environment improves, the community could go through a period of gentrification, which could potentially result in the displacement of residents (CPSTF,

2017). It would be critical to take this into account when planning and implementing this program.

Policy: Zoning Code Reforms

In order for the program to be successful, it would need to be supported with a zoning policy change. Currently, Fayetteville city planning utilizes single-use, or Euclidean zoning, where property located within the city is allocated to one of five different types of districts (King & Querishi, 2015). This traditional method of zoning, which was adopted after the 1926 supreme court case *Village of Euclid vs. Ambler Realty Co.*, has left a lasting footprint on how resources are distributed in urban and suburban communities across the nation (King & Qureshi, 2015). At face value, zoning laws reduce the proximity between residential communities and undesirable land uses such as factories or industrial plants (King & Qureshi, 2015). However, upon closer inspection, it is evident that zoning is a tool of segregation, as many African American communities were zoned for uses that were deemed unsafe or inappropriate for predominantly white communities, causing property values to drop and a deepening of the racial wealth gap (Schneider, 2019).

Currently, A vast amount of dead space, or undeveloped space, exists between developed areas of Fayetteville, and is the leading driver behind suburban sprawl, which is the low density expansion of cities into undeveloped land (Starkey, 2015). This can also lead to an uneven distribution and clustering of grocers and other essential retailers, making it difficult for community members to get their daily errands done by walking (Starkey, 2015). In order to make businesses more accessible by walking or biking, they need to be closer to where people live (Starkey, 2015). The solution is to change city zoning rules to allow for more diverse developments to be closer together to encourage walking and to increase urban density (Starkey, 2015). The SmartCode, or Transect-based coding, promotes a pedestrian-oriented and mixed-use environment and includes a framework for a transit, pedestrian, and bicycle

system as well as compact urban development (Smith, 2018). Currently, there are 50 cities in the United States that have adopted this zoning code and have created many communities that encourage walking more than driving (Smith, 2018). A city that has been successful is Sacramento County, CA which updated their zoning codes in 2015 to ensure that health is a primary component for development in the county (Smith, 2018).

Advantages of the SmartCode starts with solving the problems surrounding suburban sprawl (Smith, 2018). Suburban sprawl creates a lot of dead space in a community and does not allow for easily accessible places by foot (Smith, 2018). Suburban areas design also demand the need for a car in order to to live, work, eat, pray and play (Smith, 2018). Having a SmartCode design will eliminate dead spaces in cities and allow for smaller multi-use communities that people can access on foot or bikes (Publishing, 2021). Another advantage to this policy is that it can help reduce weight related health outcomes (Publishing, 2021). As community members shift towards walking or biking to do their daily activities, this will help people maintain a healthy weight (Publishing, 2021).

One of the potential areas for pushback is that shifting to this coding system is a serious fiscal undertaking and would take more than a year to implement (Smith, 2018). Additionally, financial support from multiple government entities would be needed, with the potential to seek further funding from grant programs (Smith, 2018). Additionally, careful consideration and intentional action would be needed to keep the new zoning from promoting gentrification in the communities it is attempting to help (Smith, 2018). As new businesses come into residential communities, property values can increase, leading to the displacement of long-term community residents (Smith, 2018). This is especially concerning due to the large number of renters in Fayetteville, indicating that displacement could happen quite quickly (Smith, 2018). To address this concern, resident protections such as rent caps or stabilization vouchers can be implemented.

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GROUP RASCI ANALYSIS

The program will focus on assessing and improving the structural elements that affect walkability by 1) building and engaging community members and stakeholders and 2) providing education and advocating for zoning policies that support the program (Deehr & Schumann, 2009). These improvements in the community can lead to more physically active transportation, address health and resource disparities in low-income communities and reduce the number of pedestrian crashes (CPSTF, 2017).

TABLE B2: RASCI ANALYSIS FOR THE PROGRAM

RASCI Levels		
Who is...	Program Transformation	Rationale for Partner Participation
Responsible =owns the problem / project	City Planners	Uses skills, resources, and guidance from policy and feedback to design a community that improves walkability.
	City Officials (Mayor & City Council)	Represent constituents and make decisions about moving forward on infrastructure projects. Allocates funding and sets a budget for the program under the policy.
Accountable =ultimately answerable for the correct and thorough completion of the deliverable or task, and delegates the work to those responsible	Community Development Department	Department is responsible for implementation of changes. They would lead construction tasks, timeline, contractors, etc.
Supportive =can provide resources or can play a supporting role in implementation	CCHD	Access and connections to resources.
	Fayetteville Public Works Commission	Gives resources and support directly to new infrastructure developments
	Consultants	Expertise and background in urban design to inform decisions.
Consulted =has information and/or capability necessary to complete the work	Community members in low SES zip codes and neighborhoods	Insight into the community's needs and assets.
	Construction Companies	Provide insights into the costs and practical creation of project items.
	Property Owners	Have power to either allow or decline changes on their property
Informed =must be notified of results, process, and methods, but need not be consulted	Community members in low SES zip codes and neighborhoods	Community members will be continuously engaged and informed throughout the program. Their perspectives, ideas, and feedback will be incorporated and considered for all the decisions.

TABLE B3: RASCI ANALYSIS FOR THE POLICY

RASCI Levels		
Who is...	Policy Transformation	Rationale for Partner Participation
Responsible =owns the problem / project	City Legislature	<p>Represent and advocate for the community's needs and can push policy changes forward. Ultimately responsible to ensure policy is voted on in proper channels</p> <p>Allocates funding and sets a budget for the program.</p>
Accountable =ultimately answerable for the correct and thorough completion of the deliverable or task, and the one who delegates the work to those responsible	City Planning Office	This office will be integral in use and execution of the Transect Based Zoning Code.
	City Legislature	The legislature will likely also be integral in writing the bill/law that puts the policy transformation in place.
Supportive =can provide resources or can play a supporting role in implementation	SMARTcode Consultant	Can help design new policy based on previous experiences.
Consulted =has information and/or capability necessary to complete the work	Property Owners	<p>Properties may be impacted by having construction, property value increase, or space move to public property to allow for sidewalk construction.</p> <p>They are the city legislature's constituents and would drive the conversation and policy forward.</p>
	Community members in low SES zip codes and neighborhoods	<p>Provide input and recommendations as to what improvements are necessary in their neighborhoods to increase walkability.</p> <p>They are the city legislature's constituents and would drive the conversation and policy forward.</p>
Informed =must be notified of results, process, and methods, but need not be consulted	Community members in low SES zip codes and neighborhoods	These are the people who live, work, eat, pray and play in the impacted community.

GROUP STAKEHOLDER PROFILE

Table B4

Stakeholder	Role in Designing	Role in Implementing
<u>City Legislature</u> - <i>Includes Mayor, city council, and any other deciding bodies within the city office.</i>	The lead entities in designing and responsible for gathering and communicating with constituents. They are ultimately responsible for the policy and that is voted on.	Oversee implementation follows policy and ensure communication with constituents.
<u>City Planning Office</u> - <i>Includes the city planner and all other entities that carry out city infrastructure plans and policies.</i>	Assist the legislature in designing by utilize expertise in city planning and current policies/procedures.	Lead entity in implementation of policy transformation. Responsible for execution of project and delegation of tasks.
<u>SmartCode Consultant</u> - <i>External expert in Transect Based Coding.</i>	Assist in design utilizing expertise in Transect Based Coding.	Support process as needed based on previous experience and expertise.
<u>Community Members from Low SES Zip Codes and Neighborhoods</u> - <i>Includes members from diverse backgrounds and experiences within community.</i>	Provide input on what are needed improvements to their neighborhood and voice any concerns about the change.	Kept informed on implementation process and consulted with any major changes to policy.
<u>Property Owners</u> - <i>House or business property owners within affected areas.</i>	Provide input on what are needed improvements to their neighborhood and voice any concerns about the change.	Kept informed on implementation process and consulted with any major changes to policy.

GROUP PRESENTATION

Addressing Walkability to Improve the Neighborhood and Built Environment to Better Quality of Life in Fayetteville, North Carolina

Kelly Clay, Joy Holland, Michelle Lam, and Miranda Lanning



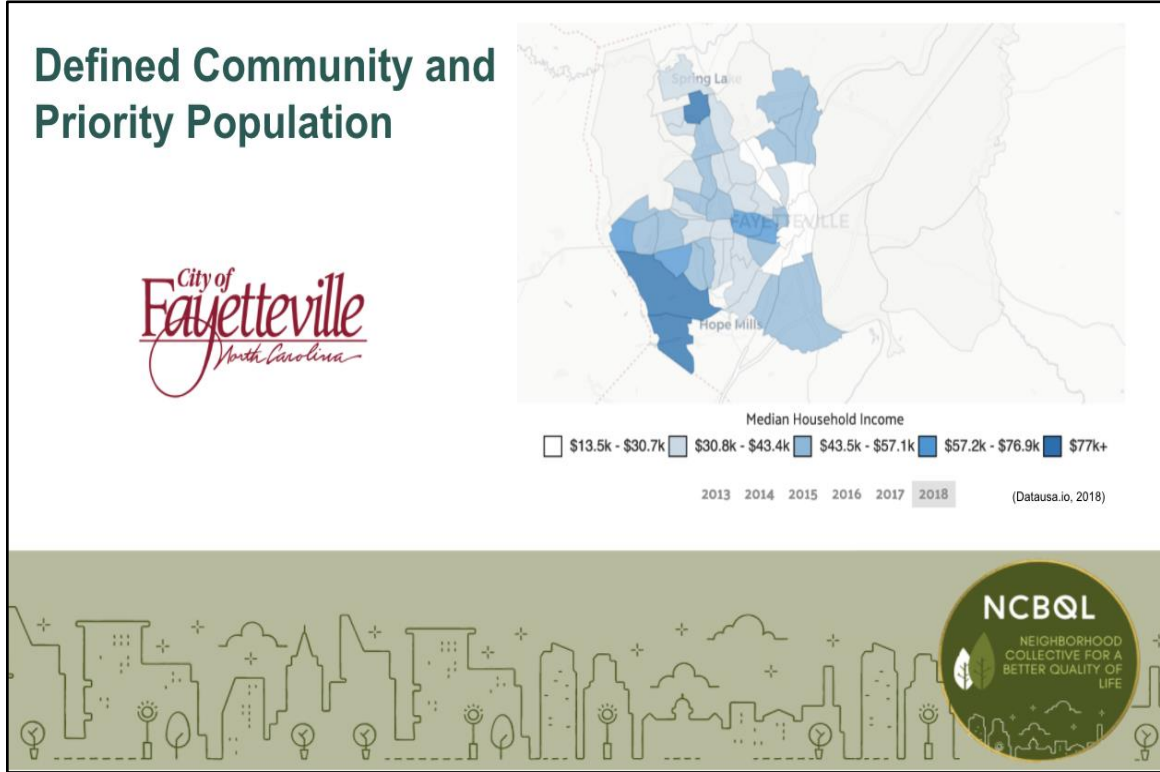
Michelle Lam: Hi everyone, we are the Neighborhood Collective for a Better Quality of Life. My name is Michelle Lam, and I am joined by my colleagues, Kelly Clay, Joy Holland, and Miranda Lanning to speak about our proposal to create an accountable care community to improve walkability in Fayetteville, NC. We're grateful for your consideration.



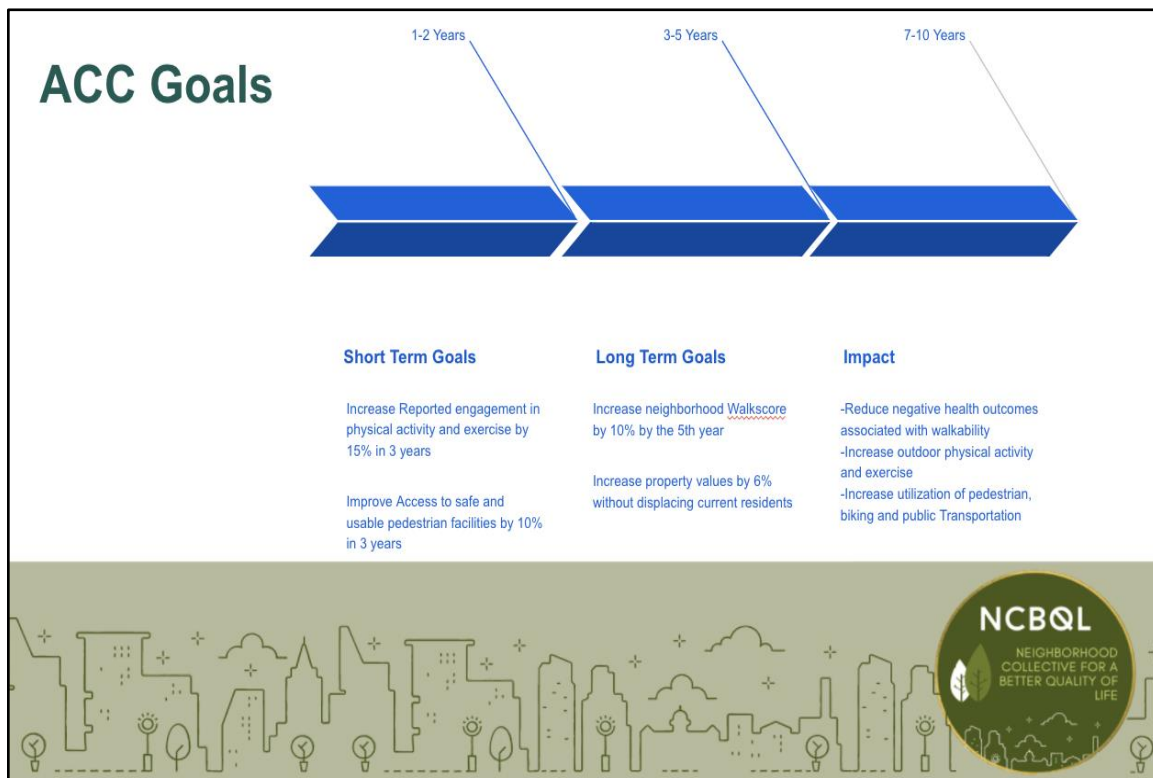
Michelle Lam: Research shows that approximately 80% of a person's overall health is driven by social and environmental factors and the behavior influenced by them, also known as the social determinants of health. Our work focuses on addressing walkability which falls under the scope of the neighborhood and built environment. It is defined as the intersection of the places where people live, work, pray, and play and their health and well-being.



Michelle Lam: Fayetteville has a walkability score of 21 out of 100, which is among the lowest in the country. Walkability is defined by how easily residents can walk to and from places in the community such as from their home, work, and entertainment. There is not an adequate walking infrastructure to support the many people who walk as a primary mode of transportation. The Cumberland County Community Health Needs Assessment documented that 40.1% of the community members do not engage in any physical activity or exercise during the week. Heart disease, diabetes, and other weight-related diseases are among the leading causes of death in the county.



Kelly Clay: We will focus our efforts in Fayetteville, NC and within low-income areas of the city. Fayetteville is the large city within Cumberland County and is an ideal location to begin this type of accountable care community initiative. As seen on the map, our focus will be those low income areas on the east side of the city. The most adverse effects of inadequate neighborhoods or built environments will likely occur among residents experiencing poverty or within lower socioeconomic groups. This population is also more likely to lack the resources to move or improve the environment themselves. We would like to build on existing infrastructure and systems in an equitable way to ensure low-income communities are experiencing the benefits of walkability.



Miranda Lanning: The overarching theme of our goals is to contribute to North Carolina's 2030 goal of increasing access to exercise and physical activity. Our proposed policy is to switch to SmartCode Zoning which allows for a simpler way to allow diverse business construction in the city limits while discouraging suburban sprawl. The goal of this policy is to bring the residents needs closer to where they live so that they can either walk or bike to their destination over driving a car. When we invest in walking infrastructure and change the zoning policies this can increase the local property values. We must include structures to ensure that we also keep the current residents from being pushed out of their communities because of these changes. Our overall intended impact is to reduce the negative health outcomes that are associated with walkability which include weight-related diseases. We are also aiming to increase outdoor physical activity and exercise and to increase the use of pedestrian, bike, and public transportation over single-owner cars. Through these goals, we aim to make significant health impacts on the Fayetteville community.

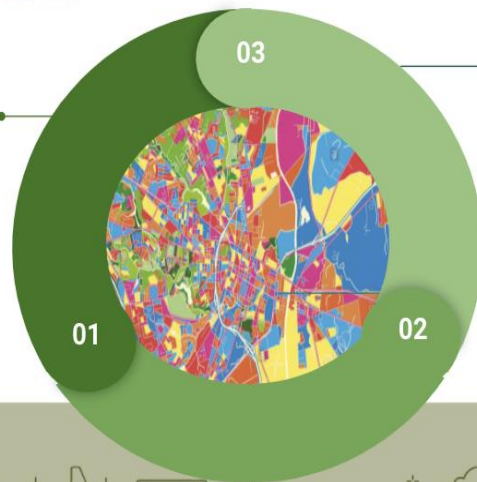


Joy Holland: In order to achieve the goals we have outlined for this accountable care community, we are seeking to enlist the help of four pivotal organizations/ agencies in Fayetteville. We are asking you, members of the the Fayetteville Planning and Zoning Division, Fayetteville Urban Ministry, Women’s business center of Fayetteville, and the Fayetteville City Council, to consider joining the Neighborhood collective for a better quality of life alongside the Cumberland County department of health as founding partners. We will elaborate on the reasons why you all have been selected in the coming slides. We appreciate, in advance, your attentiveness, and willingness to engage with our organization with the hopes of creating a more walkable fayetteville, and improving health outcomes for all citizens.

City of Fayetteville Planning & Zoning Division

Your Importance to the Project

- Backbone organization alongside the Department of Health



The Impact

- More efficient planning
- Reduction of resource disparity

What you can Gain

- Funded support and resources to switch to smart code
- Dedicated ways to engage with the community



Joy Holland: Mr. Taurus Freeman and other members of the Fayetteville Planning and Zoning Division, thank you for joining us. While the Cumberland County Department of Health is the Formal Backbone Agency for the ACC, the involvement of the Fayetteville Planning & Zoning Division is just as important. Your office is tasked with defining and conceptualizing the vision of Fayetteville. In order to meet the short term goals for our ACC, our organization is proposing Policy 101.1, SmartCode for Healthy Communities (SCHC), which will be a multi-step policy initiative that will allow the Planning and Zoning Division to shift how zoning is conceptualized to make a safer, more walkable community. The SmartCode, or Transect-based coding, promotes a pedestrian-oriented and mixed-use environment, and includes a framework for transit, pedestrian, and bicycle systems as well as compact urban development.

Similar models of reform have been successfully implemented in over 50 cities nationwide, and have lead to infrastructure improvements and a 25% increase in walking for

basic needs in targeted communities.

We understand that this is a large scale undertaking to your office, as the 2040 Comprehensive Plan and Future Land Use Map have already created and adopted. However, we plan to provide support in the form of consultants, staff and forged partnership, through the entire process, from policy conceptualization to creation and implementation of a revised development plan for Fayetteville going forward.

The infographic is titled "Community Outreach: Fayetteville Urban Ministry" and features the Fayetteville Urban Ministry logo in the top right corner. It is divided into three main sections: "Your Importance" (blue background), "How to be Involved" (green background), and "What We Can Accomplish" (dark grey background). The "Your Importance" section states: "Your organization has a unique understanding and relationship with the community." The "How to be Involved" section states: "Help us engage with the community to keep community centered in our work." The "What We Can Accomplish" section lists three bullet points: "Improve walkability for low-income community members", "Community empowerment", and "Equitable, transformative change". The infographic also includes a decorative bottom border with a city skyline and a circular logo for "NCBQL NEIGHBORHOOD COLLECTIVE FOR A BETTER QUALITY OF LIFE".

Kelly Clay: Welcome Mr. Jonny Wilson and other Fayetteville Urban Ministry members.

We are so happy to have you here with us today as we endeavor to create the Neighborhood Collective for a Better Quality of Life. To make this project successful, we need aligned partners, like you, working in tandem toward our shared goals. Fayetteville Urban Ministry is a pillar in the Fayetteville community and would be an integral partner in this ACC. We need your help to engage the community and find members willing to share their ideas and knowledge. Your role may include educating the public, identifying key stakeholders, and participating in various

engagement opportunities. The work of the ACC cannot be done without community members at the center.

Through Fayetteville Urban Ministry's Nehemiah Project, you have already seen the importance of the neighborhood and built environment to the communities we serve. Our ACC would further that project's mission and improve the walkability of the neighborhoods where those homeowners live. As stated earlier, Fayetteville has one of the lowest walkscores in the country, which is only exacerbated by poverty or other social or economic factors. Increasing walkability can improve access to businesses, improve health, and improve the general well-being of a neighborhood. By joining the ACC, you will gain new partnerships and strengthen existing ones across Fayetteville. This will benefit not only the Nehemiah Project but will also increase awareness of your community work. With your participation, the ACC would gain an important voice of the community and help us keep the community centered in our work. Together we can improve walkability for low-income residents, empower the community, and create equitable, transformative change. We need your help to create an accountable care community that makes a difference, and like your mission states "build our community together." Thank you for your time, and please let me know if you have any questions.



Michelle Lam: Good evening, Mayor Mitch Colvin and honorable city councilmembers of Fayetteville. My name is Michelle and I am a representative from the Neighborhood Collective for a Better Quality of Life. I want to first thank you for allowing this dialogue. Our agency is here to ask you to support the adoption of the SmartCode policy that will serve as the driver to our proposal to create an ACC to improve walkability. Your support and partnership will help improve the infrastructure in low-income neighborhoods and zip codes as this policy promotes a pedestrian-oriented and mixed-use environment and includes a framework for transit, pedestrian, and bicycle systems as well as compact urban development.

As Fayetteville has among the lowest walkability scores in the country, we can work together to remove crucial barriers that many lower-class individuals may have to opportunities for physical activity and increase available funds for health-related expenses. This type of zoning reform has been successfully implemented in 50 cities throughout the United States, which have seen up to a 25% increase in walking for basic needs. With your support, we have

the potential to transform the health and quality of life of residents and reduce health disparities among low-income residents. Thank you for the opportunity to testify here today. I would be happy to answer any questions.

Thank you!



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APPENDIX C: KELLY CLAY INDIVIDUAL DELIVERABLES

KELLY CLAY'S PROBLEM STATEMENT

Social Determinant of Health:

Neighborhoods and built environments are the places we live, work and play. They allow us to get from one place to another safely; they provide access to the communities we live in (Healthy People 2030, n.d.). The social determinant of health (SDoH), *Neighborhood and Built Environment*, is the intersection of these spaces and people's health and well-being (Healthy People 2030, n.d.). Developing and maintaining this SDoH can provide necessities like safe drinking water and adequate housing. It can also provide places to bike, walk or exercise, as well as access to work, grocery stores, and healthcare offices (Healthy People 2030, n.d.). We will focus on walkability as part of this SDoH. Walkability is the ability to safely walk within one's neighborhood to get to a variety of places within the community (Suarez-Balcazar et al, 2020). Increasing walkability can promote physical activity and help people maintain healthy weights. This can lead to better health outcomes and the decrease of associated diseases like diabetes or heart disease (João Paulo dos Anjos et al, 2019). Walkability can also increase neighborhood safety and help people access healthy foods, jobs, and healthcare through improved infrastructure (Calise et al., 2019; Healthy People 2030, n.d.). A zip code is a significant predictor of health (Ducharme & Wolfson, 2019). Through *Neighborhood and Built Environment* a zip code can be improved, and thus the health of that community.

Geographic and Historical Context:

Cumberland County, NC is a semi-urban county with one major metropolitan area, Fayetteville. The population of the county is 335,509, according to the most recent census. The population of Fayetteville is nearly 3/4ths of this county population (US Census Bureau, 2019).

The county demographics are 51% white, 39% black, and 12% Hispanic. The median household income is \$45,716, and in Fayetteville it is \$43,630 (US Census Bureau, 2019). Fort Bragg, one of the US Army's largest installations, is located outside Fayetteville in Cumberland County (CCHD & Health ENC, 2019). Fayetteville is home to three universities, and students make up a large proportion of the population. The high school graduation rates in Cumberland County are higher than the state at large, despite the county being indicated in the census tract as "highest disparity" in all three SDoH domains (CCHD, 2020; CCHD & Health ENC, 2019).

Priority Population:

Our focus will be within Fayetteville, particularly in low income neighborhoods. As an example, zip code 28301 in Fayetteville, has an index value of 96.8, which indicates they have the highest level of socioeconomic need within Cumberland County (CCHD & Health ENC, 2019). The most adverse effects of inadequate neighborhoods or built environments will likely occur among residents experiencing poverty or within other lower socioeconomic groups. This population is also more likely to lack the resources to move or improve the environment themselves. Since a person's zip code can be a strong predictor of their health, we are prioritizing low-income zip codes to facilitate an equitable approach (Ducharme & Wolfson, 2019).

Measures of Problem/Scope

In Cumberland County in 2015, the incidence of motor vehicle crashes involving a pedestrian were 339.4 per 100,000, as compared to the 210.7 per 100,000 in North Carolina (CCHD, 2020). In Fayetteville, 6% of those crashes resulted in a fatal injury (Stantec Consulting Services Inc., 2018). Morbidity and mortality are a clear concern when addressing walkability.

These crash rates could be influenced by poor walking infrastructure. In 2015, Fayetteville had 1,202 miles of roads and only 283 miles of sidewalk (Stantec Consulting Services Inc., 2018). Countywide, 4.0% of residents walk to work, compared to the state value of 1.8% and the regional value of 2.4% (CCHD & Health ENC, 2019). The walkability score in Fayetteville is amongst the lowest in the country with a score of 21 out of 100 for the City (Walk Score, n.d.). In their 2019 health report, Cumberland County listed their top five priorities as: access to care; economy; exercise, nutrition and weight; public safety; and substance misuse (CCHD, 2020). NC Healthy People 2030 goal is to increase access to exercise opportunities from 73% to 92% (CCHD, 2020). To achieve this, creating walkable, safe, neighborhoods could provide free spaces for exercise and physical activity. Heart disease is the leading cause of mortality in Cumberland County, which could decrease with better access to exercise and increased access to healthy foods (CCHD & Health ENC, 2019).

Rationale/Importance

Walkability can have wide reaching impacts, from health to economics. It has impacts in at least three of the five health priorities of the Cumberland County Community Health Assessment (CCHD & Health ENC, 2019). Improving walkability can increase access to community places and healthy foods, it can improve physical health through exercise, and improve safety of those activities or active transport (Calise et al., 2019; Healthy People 2030, n.d.). By addressing low income communities, we can have more equitable impacts and directly improve those community's neighborhood and built environment. Fayetteville's poor walkability reflected in their walk score of 21, makes it an ideal area of improvement.

Disciplinary critique

Our priority population was selected in an effort to improve health equity, as these are not only the communities with less walkable infrastructure, but are also the communities that will likely be walking because they do not have other means of transportation. *Neighborhood and*

Built Environment is where we live, play, work, and walk and people from low income and minority populations are more likely to experience barriers to this SdoH. Access to adequate infrastructure is necessary for all populations and addressing it with an equity lens can create better communities for all. In this process, public health leaders should ensure a diverse group of community members are at the table. Public health leaders should look to multi-disciplinary approaches that integrate systems thinking to create lasting changes. Decisions and changes should be made with the community to ensure effective and sustainable impacts.

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KELLY CLAY'S SYSTEM, STAKEHOLDER, AND TRANSFORMATION ANALYSIS

Introduction

Neighborhoods and built environments are the places we live, work and play. They allow us to get from one place to another safely and provide access to the communities we live in. The social determinant of health (SDoH), *Neighborhood and Built Environment*, is the intersection of these spaces and people's health and well-being (Healthy People 2030, n.d.). Walkability exists within this SDoH. Walkability is the ability to safely walk within one's neighborhood to get to a variety of places within the community (Suarez-Balcazar et al, 2020). Our organization intends to improve walkability in Fayetteville, North Carolina. The walk score in Fayetteville is one of the lowest in the country with 21 out of 100 (Walkscore, n.d). Our organization proposed a complementary program and policy to address this issue. The program will engage with community stakeholders to identify and improve walking infrastructure and the policy will work to reconstruct zoning laws. In tandem, these two initiatives would improve the walkability system and lead to sustainable change.

Program

To address and improve walkability in Fayetteville, North Carolina, the program will focus on assessing and improving the structural elements that affect walkability in low-income neighborhoods (Deehr and Schumann, 2009). This program may include improving or building sidewalks, adding greenery, and including walking signage (e.g. pedestrian crosswalks and stop signs) (Purnell et al., 2016). The program would identify and improve basic infrastructure that is needed to make a neighborhood walkable. One of the first steps to promote active transportation and lifestyle is creating the infrastructure for people to use (Purness et al., 2016). The specific project aims would be identified through stakeholder engagement, using strategies like photovoice and codesign to create a program that best fits the community.

Considering equity will be imperative to ensure residents across Fayetteville have access to safe, adequate, and convenient connections to everyday destinations. The program would support safety and access for all, specifically underserved and historically marginalized communities, through improving the infrastructure surrounding active transportation (Purnell et al., 2016). However, this program would be a large-scale project with a lot of variability depending on what the community sees as a priority. The program would need a robust community engagement plan and a strategy to make the changes sustainable (Purnell et al., 2016). If done successfully, the program could create equitable improvements, support access to local schools, grocery stores, and healthcare offices, and build on already made paths, as described in the city's pedestrian plan (Purnell et al., 2016).

Policy

The policy option would work to create sustainable impact and ultimately support the proposed program. The policy would utilize SmartCode and change city zoning laws to allow for more diverse developments (Chriqui et al., 2016). SmartCode is urbanist zoning that was developed by an architecture and town planning firm in Florida and has been used successfully all over the US (Chriqui et al., 2016). The diversifying of developments would allow different types of locations to be closer together, which can encourage walking and increase urban density (Chriqui et al., 2016). Currently, Fayetteville utilizes single-use, or Euclidean zoning, where property located within the city is allotted to one of five different types of districts (King and Querishi, 2015). The SmartCode promotes a pedestrian-oriented and mixed-use environment and includes a framework for a transit, pedestrian, and bicycle system as well as compact urban development (Chriqui et al., 2016).

SmartCode solves some problems surrounding suburban sprawl (Publishing, 2021). Suburban sprawl creates a lot of dead space in a community, which makes commutes further and necessitates a vehicle (Publishing, 2021). This policy would create the framework for

building multi-use spaces that promote walkability and can incentivize active transport and lifestyles (Chriqui et al., 2016). However, zoning laws can be complicated and have been historically used as a tool of segregation. Communities of color and low-income communities were zoned for uses that were deemed unsafe or inappropriate for predominantly white communities, causing property values to drop and a deepening of the racial wealth gap (Schneider, 2019). When implementing this policy, we would need to ensure equitable changes and communication with the community.

Stakeholder Analysis

Five primary stakeholders were selected and CATWOE analysis was used to understand their worldview (Table C1.1). An Impact-Interest Matrix was also used to better identify stakeholder's leverage points (Figure C1.2). The five stakeholders are the Community Development Department, Fayetteville City Council and Mayor, Cumberland County Department of Public Health, community members from low income zip codes, and Stantec Consulting Services Inc. The community members from low income zip codes are not a monolith, so it would be important to include a variety of people with different backgrounds and living situations. This would include people of different ages, different races, single parent households vs. multi-family households, renters, property owners, etc. The variety of people would give a better, more holistic perspective of the neighborhood and program.

The stakeholders represented in the analysis are the primary stakeholders, but they are not the only people that will be engaged throughout the process. Other stakeholders may include: construction companies, local business owners, school district officials, representatives from local colleges, and members of local organizations.

Summary/Rationale

A wide range of people will be engaged from planning to implementation of the program. The top five were based on their involvement, importance, and impact in the selected program.

They all bring different worldviews and expertise to the table and will be valuable assets to a successful program and policy.

The city planner and Community Development Department have expertise in the area of the built city environment, and they will be the primary entity implementing the program change. Their voices will be important to create effective and realistic changes.

The city council, in particular Shakeyla Ingram from district 2, and the mayor will be important particularly for the policy piece. The mayor and city council will have to approve both parts of the initiative, thus we will need their buy-in to move forward with the program and policy. Cumberland County Department of Public Health will be a great asset to the stakeholder team because they can ensure a SDoH lens to the issue. Their assistance with identifying community needs and assets through the community health needs assessment and leveraging public health assets would be valuable.

The community members are one of the most important stakeholders as they are directly affected by the changes. Although they do not have direct impact, their opinions should affect elected official's actions and their interest and input are incredibly important. Finally, Stantec Consulting Services Inc.'s existing interest and work on the issue of walkability and potential impact will provide expertise in the field and could also be a beneficial asset for financial and logistical reasons. For effective transformative change, perspectives from different expertise, backgrounds, and worldviews must be utilized.

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APPENDIX C1

Table C1.1: CATWOE Analysis

City Planner/Community Development Dept.

CATWOE Step	
C	<i>Residents of Fayetteville, commuters in Fayetteville, and city businesses/organizations</i>
A	<i>City planners and those who work in the community development department</i>
T	<i>To create functional city systems and developments</i>
W	<i>City Developments are important to city life and growth</i>
O	<i>City government and city officials</i>
E	<i>Funding, existing infrastructure/barriers, zoning laws and knowledge, public opinion</i>

Mayor and City Council Members

CATWOE Step	
C	<i>Residents of Fayetteville, commuters in Fayetteville, city businesses/organizations, and city employees</i>
A	<i>City Council members, city staff, their constituents, and the mayor</i>
T	<i>To positively impact the city and create sustainable city growth</i>
W	<i>A city's environment and infrastructure is important to city growth and citizen satisfaction</i>
O	<i>City government and their constituents</i>
E	<i>Funding, existing infrastructure/barriers, zoning laws and knowledge, public opinion</i>

Cumberland County Department of Public Health

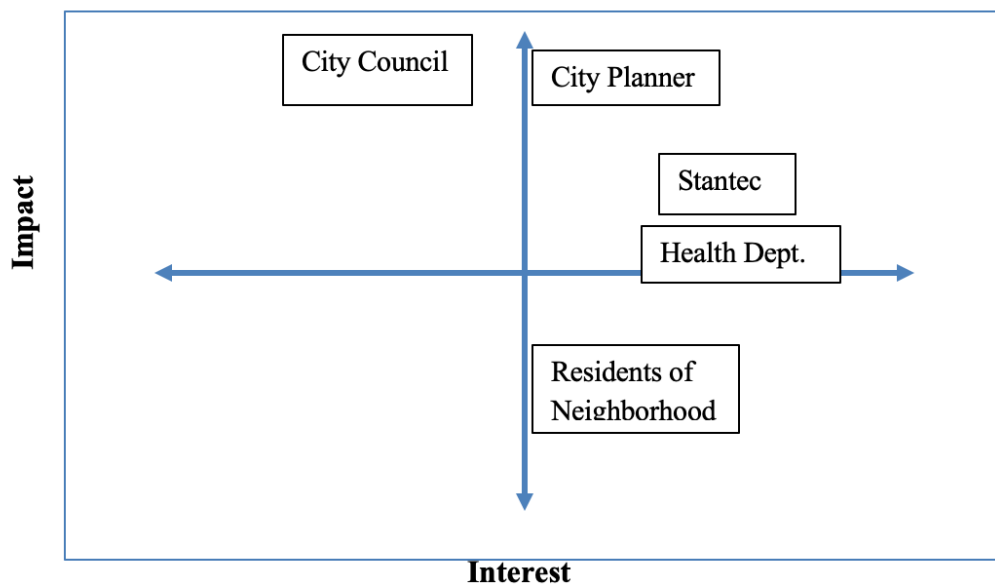
CATWOE Step	
C	<i>Residents of Fayetteville, healthcare workers, and city employees</i>
A	<i>Key public officials</i>
T	<i>To create a healthier Cumberland County through walkability</i>
W	<i>Walkability can be a way to promote active transport and physical activity. Addressing SDoH can have lasting positive impacts on the population.</i>
O	<i>Public health department and city officials</i>
E	<i>Funding, existing infrastructure/barriers, zoning laws, health literacy, existing health behaviors (or lack thereof).</i>

Community Members from Low-income Zip Codes- Single Mother POV

CATWOE Step	
C	<i>Residents of Fayetteville, kids who walk to school or want to play outside, neighbors, and people who walk to work.</i>
A	<i>City Council members, the city government, and the mayor</i>
T	<i>To live in a neighborhood where my children can play, I can get to necessary places, and we feel safe.</i>
W	<i>My community is important to me and I want what is best for the people in my neighborhood. We have poor sidewalks and streets where it is hard for me to get to local businesses and I don't feel like it is safe for my child to play outside.</i>
O	<i>City government and the public works department</i>
E	<i>Local community groups, public opinion, and awareness</i>

CATWOE Step	
C	<i>Residents of Fayetteville, city government, local businesses</i>
A	<i>City Council members, Stantec Consulting Services, programmers, engineers, public works, and construction companies</i>
T	<i>To positively impact city development through building walkable infrastructure</i>
W	<i>A city's walkability is important and Fayetteville needs improved sidewalks, streets, etc.</i>
O	<i>City government and public works</i>
E	<i>Funding, staffing, zoning laws and building codes, public official buy-in</i>

Figure C1.2: Impact-Interest Matrix



KELLY CLAY'S ENGAGEMENT AND ACCOUNTABILITY PLAN

Overview

Neighborhood and built environment is a social determinant of health that affects an entire community and can have wide ranging impacts (Healthy People 2030, n.d.). Our policy transformation addressing walkability will need a multi-sector approach and input from the community to be successful. Our engagement plan aims to include, educate, and motivate a variety of community stakeholders.

Stakeholder engagement is critical to this process because the zoning change can drastically transform different neighborhoods' environments. Citizens must be kept abreast of changes and have input as to how and what is done. Having their input both improves the policy, through multiple perspectives, and gains buy-in from those stakeholders involved. In addition, representatives from various partners and organizations must be included to obtain the best expertise on the subject.

The primary stakeholders discussed are the Cumberland County Health Department, city legislature, city planning office, SmartCode consultant, community members from low SES zip codes and neighborhoods, and property owners. Each plays an important role throughout the policy design and implementation process. Stakeholders such as community members and property owners should always be consulted before changes are made. For a more in-depth description of each stakeholder's role (Tables B2 and B4). This engagement plan will focus on community member and resident stakeholder engagement. Through engaging with these stakeholders, we will be able to create a better SmartCode policy that fits the city of Fayetteville and its low-income residents. The three primary methods of engagement used will be focus group discussions, town hall-style meetings/listening sessions, and community questionnaires.

Focus Group Discussions

Focus groups will be held with the key stakeholders listed in Table C2.1. These stakeholders will assist in design and dissemination of policy information. In setting up this group, we will conduct a stakeholder power analysis to better understand each stakeholder's interest and power within the context of this policy initiative. It will help us have better discussions when understanding each member's interest and the effect of the policy change on them, but also the stakeholders with the most influence within the group. If there is a large power disparity, it would be crucial to be aware of that dynamic and utilize leadership strategies to minimize its influence. We will also use a give-get-grid to better understand each stakeholder's goals and expectations. This engagement method can be effective in identifying diverse perspectives and contributions (Southerland, Behringer, and Slawson, 2013). This group will meet monthly during the planning phase of the policy, and bi-monthly during the implementation phase. Some examples of preliminary focus group questions are included in C2.3.

Town Hall-style Meetings/Listening Sessions

These listening sessions will be open to the community and would be an engagement method primarily to directly communicate with community members. These would provide a space for the city officials and policy leads to update community stakeholders and for community stakeholders to voice opinions and concerns. Using an engagement method that broadly includes community members can help with education of policy and buy-in of city residents. These meetings will also serve as community teach-ins so community members understand the history and current context of zoning laws. These listening sessions will occur monthly as a way to maintain an open discussion about the policy transformation. Suggestions will be brought to the planning committee.

Community Questionnaire

A community questionnaire will be given out throughout neighborhoods affected by this policy transformation. The Delphi technique will be used to structure the first and second rounds of questionnaires and how to develop a consensus (McMillan, 2016). These can gauge community member's support and understanding of the policy and allow for community members to remain anonymous. The questionnaires will contain both Likert scale questions and short answer questions (McMillan, 2016). Administration would continue through the policy implementation phase to help identify additional structural changes such as sidewalk fixes and signage that may be needed to improve neighborhood walkability. We will also be collaborating with the Fayetteville Technical Community College Computer Information Technology program to develop an interactive digital platform for community members to give feedback. The same surveys will exist on that platform along with maps where community members can mark specific locations that need change, asset locations, and upload photos from photovoice feedback. Paper surveys will still be available for those who have internet access barriers.

Accountability Plan

We aim to create an Accountable Care Community to advocate for and further the goal of creating a walkable Fayetteville. We will focus our efforts to design and implement an effective and equitable transect zoning policy and ensure successful communication with the community. Each partner will have a designated role, but policy planning and design will happen collaboratively. For a more in-depth description of each stakeholder role, see RASCI analysis in Appendix B Tables B2 and B3.

Memorandum of Understanding
between
Cumberland County Health Department
and
Fayetteville Urban Ministry

Purpose

The purpose of this Memorandum of Understanding (MOU) is to address walkability in Fayetteville through community cooperation and equity. The MOU aims to promote sustainable partnerships and mutually reinforcing activities between Cumberland County Health Department (hereinafter referred to as Health Department) and Fayetteville Urban Ministry. The goals of this partnership shall be to effectively engage community members in improving walkability in Fayetteville, NC.

Partnership Principles

The work of the Health Department and Fayetteville Urban Ministry shall adhere to the following principles:

1. Promote co-learning about community walkability and improvement needs, and their association with community health.
2. Respect the unique nature of each partner and community member, and their contributions.
3. Establish and support open communication by striving to understand each other's needs and interests.

Activity Agreements

The activities implemented under this MOU shall adhere to the following principles:

1. Mutual contribution of time and effort will improve neighborhood change

2. Both the Health Department and Fayetteville Urban Ministry understand the importance of open and respectful communication to promote equity through walkability
3. Execution of SmartCode policy will rely on city officials and public departments

Scope of Activities

The following activities agreed upon by the Health Department and Fayetteville Urban Ministry:

1. The Health Department agrees to include Fayetteville Urban Ministry in discussion of community-led improvement and neighborhood initiatives.
2. Both entities will support and facilitate communication and educational activities with the community
3. Fayetteville Urban Ministry will help identify and refer individuals to participate in stakeholder engagement activities.
4. The Health Department and Fayetteville Urban Ministry will collaborate to distribute questionnaires to community members.
5. The Health Department shall reciprocate information on progress and changes of policy or programs and provide educational materials to Fayetteville Urban Ministry to give feedback and disseminate to the community.
6. If an entity decides that they no longer align with the common goals and expectations, an amendment will be discussed and voted on. The agreement will be re-evaluated every year and can be renewed or terminated at that time.

Measurable Goals

1. Increase in the Walkscore of affected neighborhoods by 20% over 5 years.
2. Increase in active transport and other health behaviors like walking, biking, or running by 10% over 3 years.
3. Community satisfaction and understanding scored 90% positively based on community questionnaires and feedback tools.

In witness thereof, the parties have offered their signatures hereto:

Cumberland County Health Dept, Date

Fayetteville Urban Ministry Date

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APPENDIX C2

Table C2.1: Key Stakeholders

Members	Organization
[Name]	Cumberland County Health Dept.
Shakeyla Ingram	City Council (district 2)
City Planner	City Planning Office
[Name] Business property owner	Property Owner
[Name] Older adult	Community Member
[Name] Renter	Community Member
[Name] Community Advocate	Community Member/Fayetteville Urban Ministry

Table C2.2: Engagement Methods

Method	Stakeholders	Function
Focus Group Discussions	Key community members, Cumberland County Health Department, City Council members, City planning office (Table C2.1)	<ul style="list-style-type: none"> • Identify and plan ACC initiative • Gain deep understanding of community needs/priorities • Monitor implementation process
Town Hall-style Meetings/Listening Sessions	Community at large, city council members, health department	<ul style="list-style-type: none"> • Listen and understand needs and concerns of the community • Inform/communicate with community about initiative • Educate community • Build community support and involvement
Community Questionnaire	Community at large, Cumberland County Health Department	<ul style="list-style-type: none"> • Gauge community opinions • Gather consensus • Communicate with the community • Build community support and involvement

Appendix C2.3: Sample Focus Group Questions

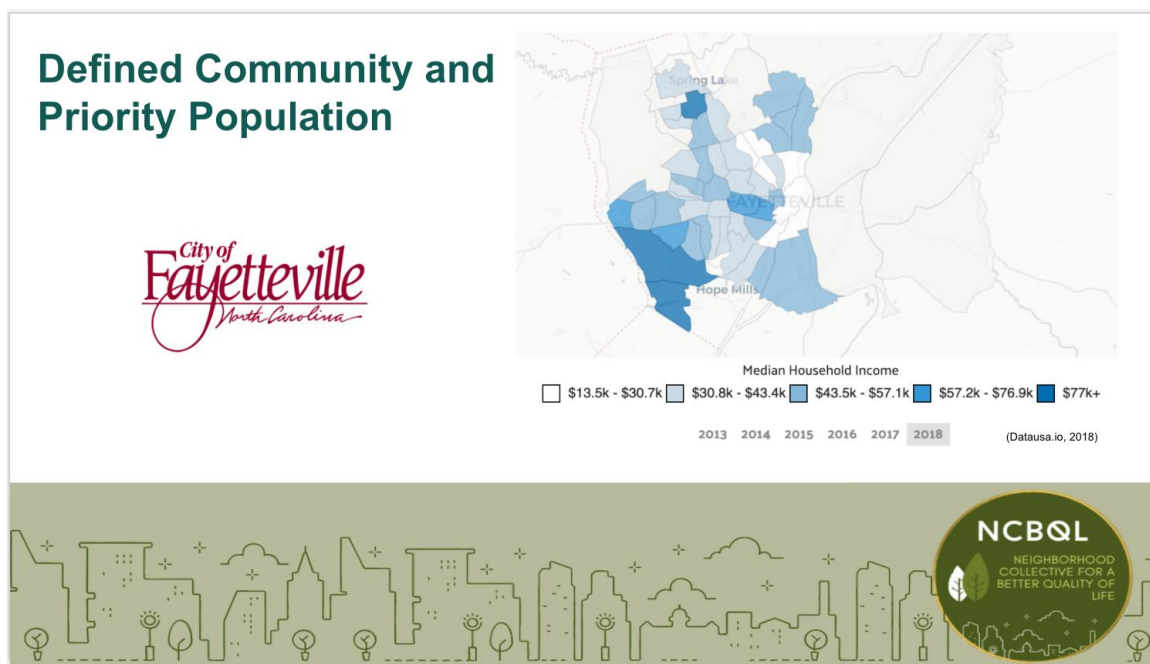
-What are the biggest barriers to walking in Fayetteville?

-Where do you usually purchase necessities (e.g.- groceries, pharmacy, clothing, etc.)?

-What do you know about current zoning policies?

-How can we best communicate to the community about Transect Zoning?

KELLY CLAY'S PERSUASIVE PITCH PRESENTATION



We will focus our efforts in Fayetteville, NC and within low-income areas of the city. Fayetteville is the large city within Cumberland County and is an ideal location to begin this type of accountable care community initiative. As seen on the map, our focus will be those low-income areas on the east side of the city. The most adverse effects of inadequate neighborhoods or built environments will likely occur among residents experiencing poverty or within lower socioeconomic groups. This population is also more likely to lack the resources to move or improve the environment themselves. We would like to build on existing infrastructure and systems in an equitable way to ensure low-income communities are experiencing the benefits of walkability.

Community Outreach: Fayetteville Urban Ministry



Your Importance

Your organization has a unique understanding and relationship with the community.



How to be Involved

Help us engage with the community to keep community centered in our work.



What We Can Accomplish

- Improve walkability for low-income community members
- Community empowerment
- Equitable, transformative change



Welcome Mr. Jonny Wilson and other Fayetteville Urban Ministry members. We are so happy to have you here with us today as we endeavor to create the Neighborhood Collective for a Better Quality of Life. To make this project successful, we need aligned partners, like you, working in tandem toward our shared goals. Fayetteville Urban Ministry is a pillar in the Fayetteville community and would be an integral partner in this ACC. We need your help to engage the community and find members willing to share their ideas and knowledge. Your role may include educating the public, identifying key stakeholders, and participating in various engagement opportunities. The work of the ACC cannot be done without community members at the center.

Through Fayetteville Urban Ministry's Nehemiah Project, you have already seen the importance of the neighborhood and built environment to the communities we serve. Our ACC would further that project's mission and improve the walkability of the neighborhoods where those homeowners live. As stated earlier, Fayetteville has one of the lowest walkscores in the

country, which is only exacerbated by poverty or other social or economic factors. Increasing walkability can improve access to businesses, improve health, and improve the general well-being of a neighborhood. By joining the ACC, you will gain new partnerships and strengthen existing ones across Fayetteville. This will benefit not only the Nehemiah Project but will also increase awareness of your community work. With your participation, the ACC would gain an important voice of the community and help us keep the community centered in our work. Together we can improve walkability for low-income residents, empower the community, and create equitable, transformative change. We need your help to create an accountable care community that makes a difference, and like your mission states “build our community together.” Thank you for your time, and please let me know if you have any questions.

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APPENDIX D - JOY HOLLAND'S INDIVIDUAL DELIVERABLES

JOY HOLLAND'S PROBLEM STATEMENT

Social Determinants of Health

To assess health outcomes and care, it is important to examine the context in which people live their lives. Research indicates that up to 80 percent of an individual's health is determined by the social and environmental factors and the behaviors that emerge as a result (Healthy Opportunities, NCDHHS, n.d.). The factors that influence this context are called Social Determinants of Health. The World Health Organization (WHO) defines Social Determinants of Health (SDOHs) as "the non-medical factors that influence health outcomes (WHO, n.d.)." Such factors are grouped into five categories, one of which is Neighborhood and Physical Environment. The conditions in which people live and work can influence their ability to have positive health outcomes and achieve an equitable quality of life. Built environment can have short term impacts on physical access to care and healthy foods, air and water quality, exposure to crime and violence, access to physical activity, and means of transport. Long-term exposure to the aforementioned factors can impact prevalence of chronic diseases such as obesity and hypertension, environment-induced diseases such as asthma, socioeconomic mobility, and life expectancy (Gordon-Larsen, et al, 2006).

A community's walkability is a measure of its Neighborhood and Physical Environment. Walkability can be defined as a measure of the features that make a community traversable on foot, and the potential impacts on transportation, physical activity, and quality of life (Forsyth 2015). Walkability can be measured using the Neighborhood Environment Walkability Scale (NEWS) (Cerin et al., 2006). This instrument measures the perceived attributes of the community regarding walking for transport and walking for recreation (Cerin et al., 2006).

Increasing a neighborhood's walkability provides safety, health, social equity, economic, and transportation benefits (America walks, n.d.). Communities that have higher walkability scores are healthier, safer, and provide a better quality of life for residents. Additionally, as walkability increases, so does property value and a community's economic standing (Charron, 2019).

Geographic and Historical Context

Cumberland County is located in the coastal plain region of North Carolina (Vocci, 2006). It spans 652.32 square miles, with 489.7 people per square mile (Census.gov, n.d.), falling into nine municipalities (Cumberland county.nc.us, n.d.). As of 2019, there were approximately 335,509 residents of Cumberland County, with 51 percent of the county identifying as white, 39.1 percent Black, and 10 percent falling into other race/ethnic origin categories. The median household income is \$45,024, with \$24,823 as the per capita income. There are approximately 125,427 households within Cumberland County, with 2.53 persons per household. Additionally, Cumberland County has about 147,313 housing units, about half (50.7%) of which are occupied by the owner of the property (census.gov, n.d.). Additionally, the mean travel time for Cumberland county workers 16 years of age and over is 21.4 minutes (census.gov, n.d.). This value includes elapsed time waiting for public transit, picking up passengers in carpools, and other activities that may relate to getting to work, such as dropping children off to childcare (census.gov, n.d.).

Fayetteville is the major metropolitan area in Cumberland county and will be the geographic region of focus. It is home to 211,657 residents, with 1,375.2 residents per square mile. The percentage of people living in poverty in Fayetteville is 19.3%, which is 1.7% above the countywide poverty level, and 5.7% above the statewide poverty level. Fayetteville's demographic breakdown is also different than that of Cumberland county, with 41.2 percent of the population identifying as black and 38.2% identifying as White (Non-Hispanic) (DataUSA,

2018). The Fayetteville Area System of Transit (FAST) provides mass transit, and paratransit services for Fayetteville, parts of Cumberland county, and Ft. Bragg. FAST has a myriad of barriers that make it difficult for Fayetteville residents to have reliable and safe public transit options. According to FAST Officials, the options. According to FAST Officials, the rigidity of bus schedule, lack of service to many neighborhoods, lack of bus shelters and benches, and reduced weekend service are some of the chief complaints of city residents. Thus, it is evident that there is an increasing need for alternative forms of transportation, such as walking (Growth Factors Analysis, nd). However, the average walkability score for Fayetteville is 21 out of 100, making the city one of the least walkable urban areas in the nation, and indicating that walkability needs to be addressed citywide.

Priority Population

While all populations can benefit from increased neighborhood walkability, working, lower-class individuals can benefit from increased walking infrastructure, especially in traditionally low-income neighborhoods. Low-income families spend a higher proportion of their income on transportation than those who are middle or upper class (Leadership Conference Education Fund, 2011). The bottom 20% of the income bracket spend about 42% of their income on transportation, compared to 22% for middle-income households. Such high spending on transportation can cut into funds available to seek medical care when needed (Leadership Conference Education Fund, 2011). Additionally, low income families struggle with opportunities for physical activity, as physical activity facilities, sidewalks, bike trails and safe outdoor spaces are more common in neighborhoods with higher-income families (Gordon Larsen et al., 2006).

Fayetteville's low-income population is located primarily in North Fayetteville in zip code 23801. In this area, the median household income is drastically lower than the rest of Fayetteville (\$26,667, vs \$45,024) (USA.com, n.d.), indicating extreme economic disparity. This

zip code is also 71.2% Black, indicating that racial disparities may need to be addressed as well. In this context, this population is considered to be “low income” because they fall well below the 2019 Annual living Standard of Living of 40,461, as defined by the NC Justice Center (Kennedy, 2019).

Measures of Problem Scope

Walking is the 3rd most common form of transportation for Fayetteville residents, 7.4% of Fayetteville residents walk to work, which is significantly higher than the county wide average of 4.0%, and the statewide average of 1.8%. While commute times are slightly lower than the countywide average (18.5 minutes vs 21.4), this could be attributed to car ownership and the need for automotive transit due to the existing poor infrastructure for walking. Adult obesity is also very prevalent in North Carolina, and Cumberland County, with 33.4% of Cumberland county adults are Obese (DataUSA, 2018). Moreover, obesity is more prevalent amongst NC residents who fall within the lowest income bracket, with 41% of individuals who make 25K or less year having a Body Mass Index (BMI) above 30 (America’s Health Rankings, 2019). This value has increased by 20 percent statewide since 1990, indicating a need to integrate movement and physical activity into daily life (Gentry, 2019). Currently, 25% of Cumberland County adults are physically inactive (State of the County Health Report, 2019)

Rationale/Importance

Citizens of Fayetteville are slowly embracing walking and active transportation, as the number of citizens who walk to work has increased 2.98 percent since 2014 (DataUSA, 2018). Thus, it is evident that the city residents are shifting how they travel and need more walkable, safer communities. Public Health interventions are needed to support this shift, as well as promote walkability for all residents, not just those who are higher income. Pedestrian improvement efforts are already underway in parts of downtown Fayetteville, where

socioeconomic standing and walkability scores are slightly higher as it is, so efforts are still needed in other parts of the city.

One of the goals of Healthy People 2030 is to increase physical activity, with one of the objectives aiming to increase the proportion of adults who walk or use a bicycle to get to and from places. By increasing walkability, community members can partake in active transportation as a means to meet their daily needs as well as increase physical activity (Healthy People 2030, 2020). This national goal coincides with a regional objective of NC healthy people 2030, which is to increase physical exercise opportunities from 73 to 92 percent (State of the County Health Report, 2019).

Disciplinary critique

Walkability is a physical safety issue, as well as one that can improve physical health outcomes. Public health leaders can uplift the voices and needs of Fayetteville residents, and use their expertise to support national and statewide health goals. By focusing on walkability from a multi-stakeholder, systems level approach, safe, walkable communities will be accessible for all Fayetteville residents, removing barriers to barriers to transportation and physical activity.

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JOY HOLLAND'S SYSTEM, STAKEHOLDER, AND TRANSFORMATION ANALYSIS

Soft Systems Analysis

Walkability is a measure of the features that make a community traversable on foot, and the potential impacts on transportation, physical activity, and quality of life (Forsyth, 2015). A community's walkability is a direct representation of its built environment, which is a social determinant of health (SDOH) (Boyce, 2010). Walking can serve as a form of active transportation and provides equitable forms of physical activity. The Cumberland County Community Health Needs Assessment indicated that 40.1% of community members do not have any form of physical activity or exercise during the week, and that weight related diseases such as diabetes and heart disease are among the leading causes of death in the county (Cumberland County 2019 CHNA, 2019).

Understanding Fayetteville and the coexisting systems that have created barriers to walkability is the first step in working towards achieving equitable health outcomes for city residents. By using Soft Systems Analytical Tools, such as the Rich Picture in Appendix B, Figure B1, the Actor Map in Appendix D1, Figure D1.1, and Root Definitions in Appendix D1, Figure D1.2, public health leaders can get gain a deeper understanding of the important actors and factors that make walkability such a complex problem (Augustsson, Churrucá & Braithwaite, 2019). The system of Walkability in Fayetteville, North Carolina relies on existing and antiquated zoning laws and policies that limit residential access to vital retail establishments and safe opportunities for movement and physical activity.

Policy Summary

Through a great deal of internal discernment, research, and discussion, our organization has developed a policy to be implemented as to address the foundational elements that affect walkability in Fayetteville. In 2017, Fayetteville was ranked the least walkable city in America, and given a walkability score of 21 out of 100 by Walk Score, a company that provides

walkability and transit solutions (Venituoli, 2017). Additionally, city residents are shifting towards active transportation, as walking is the 3rd most common form of transportation, with 7.41 percent of residents walking to work every day (DataUSA, 2018). The Fayetteville Pedestrian Plan shows evidence supporting the need for improvements to existing walking infrastructure, and expresses the need for sidewalks at the sites where worn paths have been made from repeated citizen use (Stantec Consulting Services, 2018; Deehr & Schumann, 2009). Such paths have been created out of sheer necessity, as only one mile of sidewalk exists for every five miles of roads (DeVane, 2018).

Currently, Fayetteville Division of Planning and Zoning utilizes single-use, or Euclidean zoning, where property located within the city is allocated to one of five different types of districts (King & Querishi, 2015). Historically, this type of zoning has been covertly used as a tool of segregation, as land in African American communities was zoned for uses that were deemed unsafe or inappropriate for predominantly white communities (Schneider, 2019). This resulted in lower property values in African American neighborhoods and a deepening of the racial wealth gap (Schneider, 2019). Many parts of Fayetteville have a great deal of dead space, or undeveloped land, between communities. This is one of the leading drivers behind suburban sprawl, which is the low-density expansion of cities into undeveloped land (Starkey, 2015). This is a symptom of single-use zoning.

One way to address this is to utilize zoning code that will allow for multipurpose space use. SmartCode, or Transect-based coding, replaces conventional zoning systems and provides the basis for diverse neighborhood structure, including design for improved transit, pedestrian, and bicycle systems (Center for Applied Transect Studies, n.d.). We are proposing policy 101.1: SmartCode for Healthy Families to mandate and support a shift from single use zoning to SmartCode zoning code to reduce urban sprawl and allow for smaller multi-use communities in Fayetteville that people can access on foot or bikes, in the context of larger cities.

The promotion of active transport will address weight related health outcomes, as well as encourage a shift towards the use of bikes or walking to perform daily activities. Such a shift will help Fayetteville residents maintain a healthy weight (Harvard Health Publishing, 2021). One drawback of this policy is that the zoning shift would be a long-term project, and would not immediately address walkability for residents.

Stakeholder Analysis

Utilizing the actor map in Appendix D1, Figure D1.1 and a CATWOE analysis found in Appendix D1, Figure D1.2, key and support level stakeholders for the proposed policy were identified. Actor Maps are utilized to show how individuals and/or organizations are connected. A CATWOE analysis was used to identify the system customers (C), actors (A), who is part of the system transformation (T), the stakeholder worldview (W), owners of the change (O), and environmental constraints (E) (Shneck, 2020). These tools were extremely helpful in identifying necessary parties for policy implementation, ascertaining their values and their roles in building the accountable care community, potential challenges they may have, and what stakeholder interactions may look like.

One of the essential stakeholders will be the City of Fayetteville Development Services Office, specifically the Division of Planning and Zoning. Their involvement is crucial because they will have to do the most internal transformation in shifting from utilizing Euclidean zoning to SmartCode zoning. This is a high impact, high interest stakeholder because the success of the policy is dependent on this office's involvement. Additionally, the adoption of SmartCode will influence all other planning and development initiatives within this office, specifically the 2040 comprehensive plan and future land use map they have developed.

Support for this office to make the necessary changes will be given through the second key stakeholder, Marina Khoury, a representative of the Transect Codes Council. This council's sole purpose is to serve as an advisory board to the Center for Applied Transect Studies and

aid in the expansion of transect code usage across the United States (Center for Transect Studies, n.d.). This would be a high impact, high interest stakeholder, as this policy change directly supports their mission and would result in the adoption of their coding strategy in a well-known city in the southeast region of the United States. One potential challenge for this stakeholder would be that they are unfamiliar with the Fayetteville metropolitan area and will heavily rely on information gained through community engagement to identify specific needs that would be addressed by the utilization of transect coding. Additionally, procurement of such a resource may prove to be a financial constraint for our organization.

Another key stakeholder group would be Fayetteville City Officials. Shakeyla Ingram is the city councilman who represents District 2 of Fayetteville. She was born and raised in Fayetteville in the district that she represents and comes from a family of small business owners within the community (fayettevillenc.gov, n.d.). Not only is this stakeholder invested in this policy because of her job, but she would also be personally invested because it would directly influence the community that made her who she is.

We would also heavily rely on community resident engagement to inform policy development. We would seek partnership with various local faith-based organizations such as Holy Hill of Zion ministries to engage with Fayetteville residents, specifically those who live in the zip code 28301, where there is a high need for walkability reform. Within these congregations, we would hope to engage with older, long-term residents of Fayetteville who would directly benefit from better sidewalk infrastructure.

In addition to our key stakeholders, our organization will seek to involve several groups of supporting stakeholders. One example is the Fayetteville Public Works Commission (PWC), which is responsible for utility supply for the City of Fayetteville and surrounding parts of Cumberland County. Additionally, the commission often works on supplementary projects that help to improve the infrastructure of Fayetteville and enhance the quality of life for its residents.

The commission is currently working to replace all city street lights with LED lights. This department's experience with this project would help to inform the policy development and could lend resources as well.

The public works commission would work closely with the organization chosen to lead the structural development of sidewalks and supplementary structures following policy implementation. Our organization has identified Stantec as a high impact, high interest, key stakeholder. This organization has assisted in the development of walkable urban communities worldwide. This supporting stakeholder would also work closely with the City Planning Office and Transect code consultant to create the project plan, as well as engage with community members to get an idea of the community needs within the build.

The identification and analysis of key and supporting stakeholders is paramount to understand the system of walkability in Fayetteville, North Carolina. Their thoughts, values and worldview will continue to inform our organization's perception of the problem and the potential solutions we have proposed. Their continuous engagement in our policy development is essential in order to create sustainable, evidence-based change within the community.

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APPENDIX D1

Figure D1.1: Actor Map

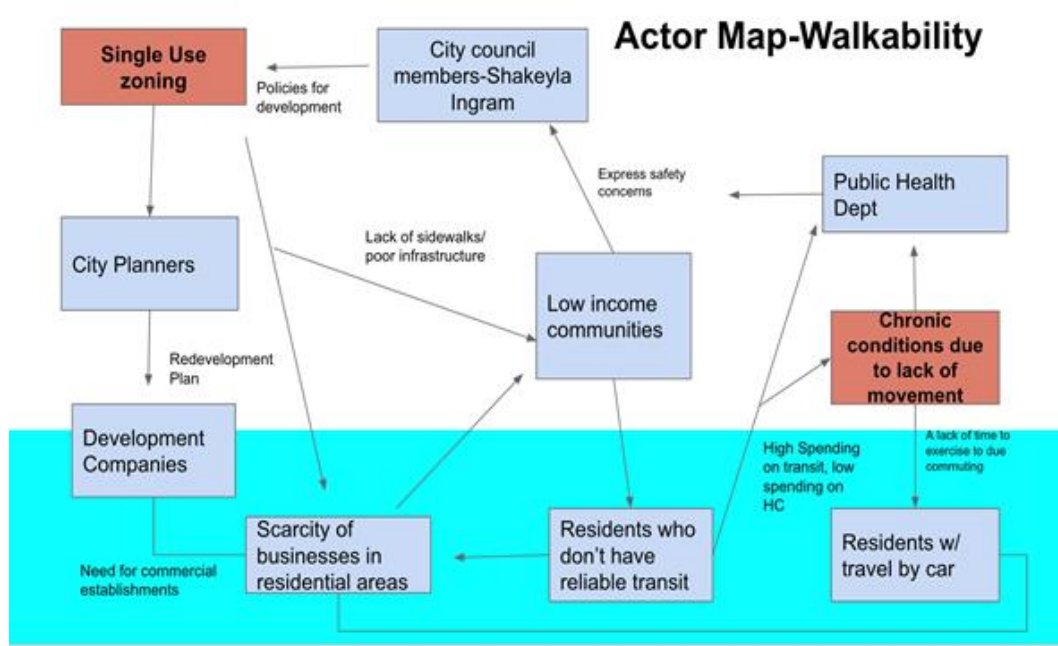



Figure D1.2: CATWOE/ Root Definitions by Stakeholder

Walkability: Transect Code consultant Worldview

CATWOE Step	Root Definition
C	Cities who seek to convert zoning codes from single use to multiuse
A	Consultants and city planners
T	To make change the landscape of fayetteville to make it more traversable for ALL residents using multiuse zoning codes for redevelopment
W	Single use zoning code leads to urban sprawl and doesn't allow for resource allocation to resident communities.
O	Smartcode consultants, city planners, developers(stantec
E	Funding, development company, user(resident/ commerial business needs)



The walkability system in Fayetteville is a system:

- P:** that requires a coding shift to address systemic and outdated zoning laws
- Q:** by building multipurpose communities
- R:** to reduce urban sprawl and close race and income gaps in urban areas

Walkability: Older resident Worldview



CATWOE Step	
C	<i>Older residents like myself, people who go to work every day, transit workers(since i won't need them as much, they're schedules won't be as strained</i>
A	<i>City residents, city planning, people who work in the city</i>
T	<i>To have sidewalks and streets that are safe and structurally sound so that I can get to the places i need to go for my essentials, and can go outside for exercise</i>
W	<i>My neighborhood in fayetteville doesn't have safe sidewalks, or streetlights, nor is the bus line reliable. I can no longer drive, so i need to find other ways to get around</i>
O	<i>City council rep, FAST, department of public works</i>
E	<i>community pillars(churches, grocers, health clinics)</i>

The walkability system in Fayetteville is a system:

P: That relies on existing inequity and inequality to cut residents off from resources

Q: by utilizing existing zoning laws

R: to negatively impact health outcomes and lead to a poor quality of life for city residents

Walkability: City Planning Worldview



CATWOE Step	
C	<i>City planners and those who work in the planning and development office</i>
A	<i>City residents, development companies, people who commute into fayetteville, FAST</i>
T	<i>To create new, functional development projects that city residents and commercial businesses can utilize</i>
W	<i>Utilizing well developed tools and zoning codes allows for communities to be safe and functional. This is what makes them walkable and easy to traverse</i>
O	<i>City council members, members of city government</i>
E	<i>Funding, zoning code knowledge and expertise, ft. bragg reps</i>

The walkability system in Fayetteville is a system:

P: to provide traversability to residents

Q: by creating safe, stable, and law abiding infrastructure

R: to guarantee that both residents and businesses can meet their daily needs

Appendix D1.3: Program Alternative Summary

The program will seek to improve infrastructure by engaging stakeholders to identify the community needs from their perspective, and provide education about surrounding zoning laws so they may advocate for change. Stakeholder engagement will utilize tools such as a community needs assessment, focus groups, and empathy interviews as means to inform codesign strategies that can be used to decide what specific infrastructure modifications will be made as part of program implementation. Examples of such modifications include new sidewalks and multi-use green spaces. Improvements to walkability infrastructure can yield benefits such as the existence of safer and more usable walkways for citizens, which can lead to more active transportation and reduced number of pedestrian crashes (CPSTF, 2017). However, one disadvantage to note would be that these improvements could encourage gentrification and lead to the displacement of low income and/or longstanding residents of Fayetteville (CPSTF, 2017). Partnership with the housing authority would be beneficial in order to safeguard against such concerns, and develop a mitigation strategy, such as stabilization vouchers for long term residents (Price, 2014).

JOY HOLLAND'S ENGAGEMENT AND ACCOUNTABILITY PLAN

Social determinants of health (SDoH) are the non-medical factors that influence health outcomes (WHO, nd). The Built Environment is a social determinant of health that refers to the man-made attributes of the community that can affect health. These include structural features such as walkability, availability of health promoting resources such as grocery stores and recreational space, safety, and quality housing (Gomez et al, 2015).

Our organization seeks to address walkability in Fayetteville using a comprehensive policy change that will change how new and upcoming infrastructure is created. This engagement plan will have a focus on stakeholders involved with the planning and development necessary for policy development and implementation. The primary purpose of the policy will be to officially shift the Department of Development's way of zoning from Euclidean, or Single-use Zoning, to multi-use zoning, or SmartCode. After meeting with our six key stakeholders, we determined that engaging with stakeholders surrounding policy development will help create meaningful impact. The engagement plan can be seen in appendix D2, and will be explained in detail below.

Steering committee/ policy workgroup

Our policy effort will feature a steering committee/policy workgroup that will oversee the development and implementation of SmartCode zoning within the Department of Planning and Development. Utilizing data gathered from listening sessions, the steering committee will define the scope of the policy initiative and create a policy implementation plan. They will also be responsible for performing pre- and post-policy assessments using tools such as PDSA cycles and SMART goals. Plan-Do-Study-Act (PDSA) is a four-stage, problem solving model used for process implementation and carrying out change (Minnesota Department of Health, nd). Within this model, stakeholders and system users will work together to answer the questions "*What are we trying to accomplish? How will we know when a change is an improvement? What can we*

make that will result in improvement?” This model will be extremely beneficial during the policy implementation stage. The scope of the PDSA cycles will be defined using SMART goals. Specific, Measurable, Achievable, Relevant, and Time Bound (SMART), is an objective based, goal setting strategy that is effective in providing clear and focused goals (Mindtools, nd). Within this strategy, we seek to engage with the Department of Development and Planning, city council representatives, representatives from the Transect Codes Council. These stakeholders were identified for this method of engagement based on Appendix D2, Table D2.2, Stakeholder power analysis. The approximate commitment for this group will be four years, with monthly meetings leading up to policy implementation, and quarterly meetings thereafter. Meetings will be organized by a member of our organization.

Public Works and Development Group

In addition to the policy workgroup, we will engage stakeholders regarding the physical implications of the zoning policy. By engaging with the Fayetteville Department of Development and Public works commission, we hope to utilize the knowledge of our key stakeholder from Stantec Consultants to support these local departments as they plan upcoming development and infrastructure projects in accordance with Transect Based Zoning Code, as well as to reconceptualize planned efforts and works in progress. This group will meet weekly starting 6 months prior to policy implementation. Meetings will decrease to monthly upon production of the new development plan.

Listening sessions/ Community Town Halls

The last part of our engagement plan focuses on the engagement of Fayetteville city residents as it pertains to development and planning. Over the course of 6 to 8 weeks, members of our organization will host listening sessions/ focus groups to gain insight regarding experiences and adverse outcomes residents may have had because of single-use zoning. Members of the Division of Planning and Zoning will host these listening sessions to ensure

appropriate development initiatives are created with this context in mind. Additional resident concerns surrounding zoning and walkability will be gathered as well. Their expectations of the Accountable Care Community and Policy implementation will be encompassed in the Give-Get Grid seen in Appendix D2 Table D2.3. Information regarding such expectations will be gathered over the course of all 8 sessions and will be revised every week until the final week.

MEMORANDUM OF UNDERSTANDING
BETWEEN
CUMBERLAND COUNTY DEPARTMENT OF PUBLIC HEALTH
AND
FAYETTEVILLE DEPARTMENT OF DEVELOPMENT

1.0 PURPOSE

The purpose of this Memorandum of Understanding (hereinafter referred to as “MOU”) is to develop and established a partnership between the County Department of Public Health (hereinafter referred to as “CCDPH”) and Fayetteville Department of Development and Planning (hereinafter referred to as “FDDP”) to create an Accountable Care Community. The goal of this partnership is to enforce and implement the use of Transect Based Zoning to influence future infrastructure development to improve the walkability of Fayetteville, NC. CCDPH and FDDP will remain separate entities but will combine their efforts as part of their participation in this MOU to improve the built environment in Fayetteville.

2.0 PARTNERSHIP PRINCIPLES

The work of the CCDPH and FDDP shall adhere to the following principles throughout their partnership:

- 2.1. Collaboration and collective decision making.
- 2.2. Fostering an environment for mutual growth and innovation.
- 2.3. Gaining an understanding of the community’s needs pertaining to walkability and building trust.
- 2.4. Promotion of an iterative process to promote continuous quality improvement.

3.0 ACTIVITY AGREEMENTS

Before Activities within the partnership are completed, the following items must be agreed upon by CCDPH and FDDP:

3.1. The parties shall develop a mutually agreed upon contract, or CHARTER, to detail common goals, decision-making tools, organizational assets/ strengths, and meeting expectations.

3.2. Decisions will be made using the nominal process as an effort to remain objective and focus on the community needs.

3.3. Funding procurement and operational costs will be agreed upon in an Addendum to the MOU.

3.4. The MOU will be reviewed and revised annually until the completion of all project activities.

4.0 SCOPE OF ACTIVITIES

CCDPH and FDDP will work collaboratively to produce the following outputs as it pertains to improving walkability in Fayetteville:

4.1 CCDPH will be responsible for performing baseline and community needs assessments prior to implementation.

4.2 FDDP will work closely with key stakeholders and the city legislature to develop a new policy regarding city zoning as it pertains to walkability in Fayetteville.

4.3 CCDPH will and FDDP will work in tandem to develop measures of evaluation for the intervention.

4.4. CCDPH will be responsible for providing community education regarding walkability and its associated health outcomes.

5.0 MEASURABLE GOALS

5.1 Work with community partners to establish a policy that results in the full implementation of multi-use zoning codes on all new development projects within 1.5 years of policy implementation, leading to an increase in Fayetteville's walkability score by 25 percent.

5.3 Increase the number of Fayetteville residents who walk to work by 25 percent over 5 years per the agreed upon measure of evaluation.

5.4 Increase self-reported outdoor physical activity by 25 percent over 5 years.

5.5 Progress on said measures will be assessed quarterly in a comprehensive evaluation until the goal is met, or 5 years after policy implementation, whichever occurs first.

In witness thereof, the parties have offered their signatures here to:

CCDPH

DATE

FDDP

DATE

APPENDIX D2

Table D2.1: Stakeholder Engagement Plan

Method of Engagement	Stakeholders/ Target of Engagement	Function	Involvement
(1) Steering Committee/ Policy workgroup	Internal Staff Partners, Department of Development and Planning, City Council Representatives, Transect Codes Representative,	<ul style="list-style-type: none"> - Define Scope of policy - Provides oversight to working groups - Interim and post-policy implementation assessment - Agenda Setting and Policy Formation - Involvement determined by collective stakeholder power analysis 	Approximately 4 Years(1 year of policy development, 2 years of the roll-out, 1 year of policy evaluation), Monthly meetings with potential for Ad Hoc meetings
(2) Public Works and Development Working group	Internal staff partners, Department of Development and Zoning, Public Works Commission, Stanec Consultants	<ul style="list-style-type: none"> - Reconceptualize Planned development efforts to fall in line with the pending zoning shift 	Weekly meetings, set to start 6 Months before policy implementation, meetings will decrease to monthly upon production of the new development plan
(3) Listening sessions/ Community Town halls	Community Members	<ul style="list-style-type: none"> - Resident experiences adverse outcomes due to single-use zoning - Other concerns surrounding zoning and walkability that may be outside of the expertise of key stakeholders 	Approximately 1.5 Months, sessions occurring once a week for six weeks

Figure D2.2: Stakeholder Power Analysis

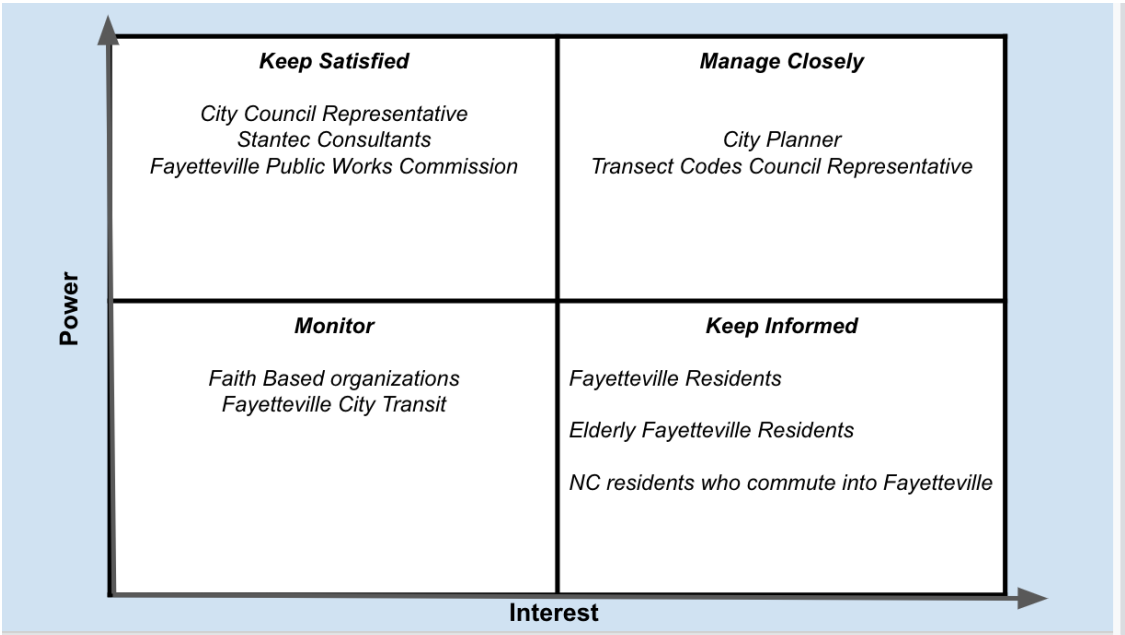


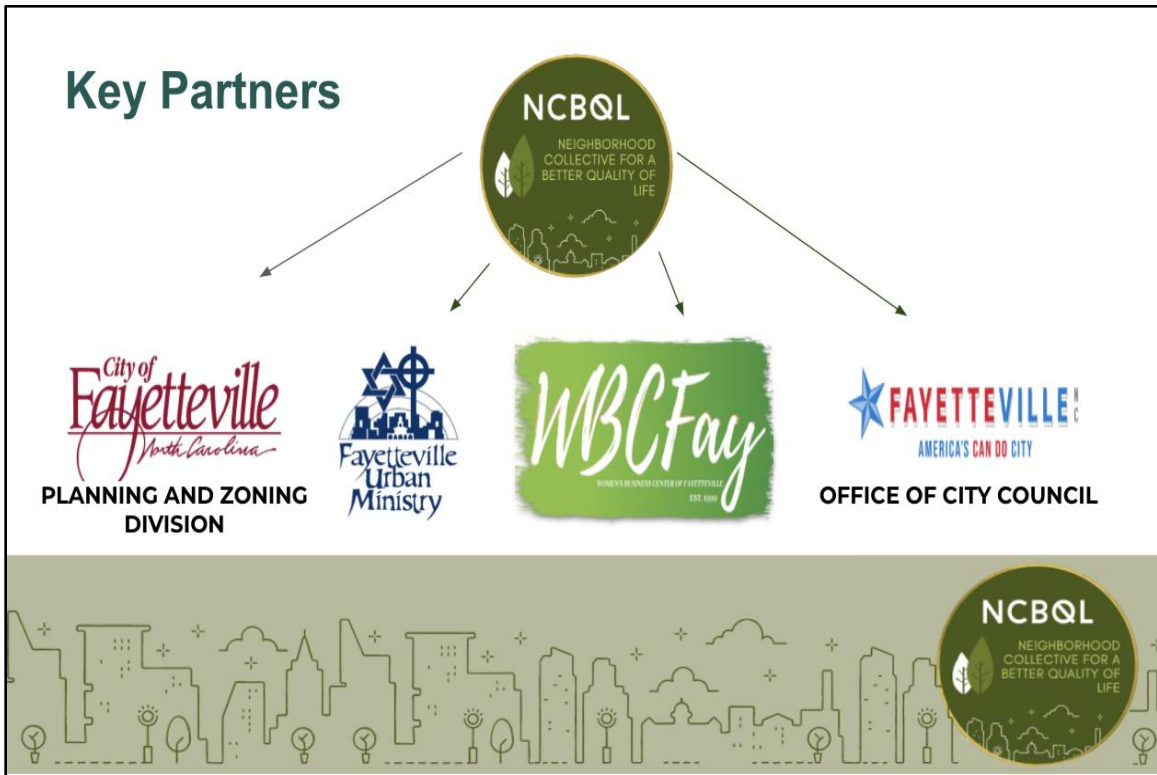
Table D2.3: Give-Get Grid

Contributions to increasing walkability in Fayetteville, NC	Benefits to increasing walkability in Fayetteville, NC
<p>What do community members, community partners, and organizations expect to contribute to the effort to increase walkability in Fayetteville NC?</p> <ul style="list-style-type: none"> ● Provide insight on the actual impacts of walkability on daily life in Fayetteville ● Expertise in policy development (community organizations including city government) ● Creating partnerships within their own spheres of influence ● Execution of new zoning policy(city planners) 	<p>How do community members, community partners, and organizations expect to benefit from the effort to increase walkability in Fayetteville NC?</p> <ul style="list-style-type: none"> ● Improved health outcomes related to physical activity ● Safer sidewalks and communities ● Increased access to critical establishments such as grocery stores and healthcare ● Framework for infrastructure to support the community's shifting trends regarding walking to work
<p>What does the Planning department expect to contribute to the effort to make Fayetteville more walkable?</p> <ul style="list-style-type: none"> ● Education regarding zoning, the importance of walkable communities, and their related health outcomes ● Support to community partners ● Coalition Building ● Advocacy ● Collaboration/Support ● Guidance ● Feedback ● Community Advocacy 	<p>How does our organization expect to benefit from the effort to make Fayetteville more walkable?</p> <ul style="list-style-type: none"> ● Data Collection ● Improved health outcomes ● Successful implementation and execution of new zoning policy ● Framework for the physical implementation of new infrastructure

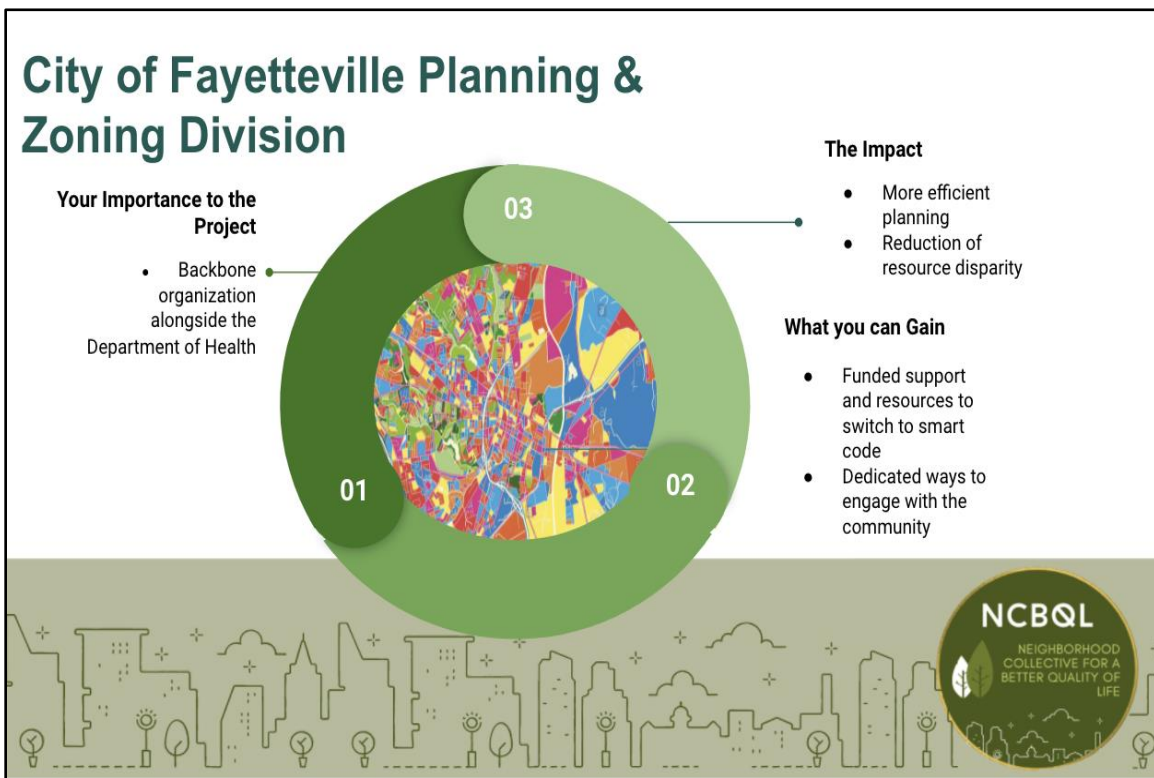
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JOY HOLLAND'S PERSUASIVE PITCH PRESENTATION



In order to achieve the goals we have outlined for this accountable care community, we are seeking to enlist the help of four pivotal organizations/ agencies in Fayetteville. We are asking you, members of the Fayetteville Planning and Zoning Division, Fayetteville Urban Ministry, Women's business center of Fayetteville, and the Fayetteville City Council, to consider joining the Neighborhood collective for a better quality of life alongside the Cumberland County department of health as founding partners. We will elaborate on the reasons why you all have been selected in the coming slides. We appreciate, in advance, your attentiveness, and willingness to engage with our organization with the hopes of creating a more walkable Fayetteville, and improving health outcomes for all citizens.



Mr. Taurus Freeman and other members of the Fayetteville Planning and Zoning Division, thank you for joining us. While the Cumberland County Department of Health is the Formal Backbone Agency for the ACC, the involvement of the Fayetteville Planning & Zoning Division is just as important. Your office is tasked with defining, conceptualizing the vision of Fayetteville. In order to meet the short-term goals for our ACC, our organization is proposing Policy 101.1, SmartCode for Healthy Communities (SCHC), which will be a multi-step policy initiative that will allow the Department of Planning and Development to shift how city planning and development is conceptualized to make a safer, more walkable community. The SmartCode, or Transect-based coding, promotes a pedestrian-oriented and mixed-use environment and includes a framework for transit, pedestrian, and bicycle systems as well as compact urban development.

Similar models of reform have been successfully implemented in over 50 cities nationwide, and have led to infrastructure improvements to public transit, pedestrian, and bicycle systems alongside the compact urban development, leading to a 25% increase in walking for basic needs in targeted communities.

We understand that this is a large-scale undertaking to your office, as the 2040 Comprehensive Plan and Future Land Use Map has already been created and adopted. However, we plan to provide support in the form of consultants, staff and forged partnership, through the entire process, from policy conceptualization and implementation to creation and implementation of a revised development plan for Fayetteville going forward.

APPENDIX E - MICHELLE LAM INDIVIDUAL DELIVERABLES

MICHELLE LAM'S PROBLEM STATEMENT

Social Determinants of Health

Health and quality of life are affected by the “contextual factors where individuals live, work, play, and pray” (CDC, 2020). Focusing on issues that impact these conditions, also known as the social determinants of health (SDOH), can contribute to reducing disparities and improving health outcomes (CDC, 2020). There are five domains, which are healthcare access and quality, education access and quality, social and community context, economic stability, and neighborhood and built environment (U.S. HHS, n.d.). The area that this program focuses on is the neighborhood and built environment, which links where a person lives to their health and wellbeing (CDC, 2020). Research has shown that the characteristics that are defined under this SDOH impact opportunities for promoting health (Gomez et al., 2015). The neighborhood or social environment is made up of aspects of the resident population and social aspects of the neighborhoods, including crime, social capital, and community support (Gomez et al., 2015). The built environment is defined as the physical attributes of the surroundings that are man-made such as amenities, structural conditions affecting opportunities to engage in physical activity, and availability of resources that can promote health (Gomez et al., 2015).

Overweight and obesity have become major public health issues as prevalence increased dramatically over the last several years (Paulo dos Anjos Souza Barbosa et al., 2019). Obesity is a contributory factor to lowering life expectancy and increasing rates of chronic diseases, such as cardiovascular disease and diabetes (Berry et al., 2010; Paulo dos Anjos Souza Barbosa et al., 2019). It is a multi-faceted issue that is affected by health policies, the built environment, and is closely tied to behavioral issues, including physical activity (Paulo dos

Anjos Souza Barbosa et al., 2019). Having unwalkable environments promotes sedentary behaviors and decreased energy expenditure as it limits opportunities for walking (Duncan et al., 2018). Poverty, abandoned buildings, and lack of adequate street lighting are examples of land-use, social, and infrastructure issues that contribute to less walkable communities (Whitefield et al., 2019). Perceptions of high crime rates and poor sidewalks also have been found to be associated with higher rates of obesity and risk factors for cardiovascular disease, such as hypertension (Berry et al., 2010; Howell, et al., 2019).

Geographic and Historical Context

Fayetteville is a city located in the southeast part of North Carolina in Cumberland County (Fayetteville, NC, n.d.). In 2016, the city of Fayetteville had a population of 203,787 (Stantec Consulting Services Inc., 2018). In 2010, the land area was 145.85 square miles (Census, 2019). Fayetteville is located about 65 miles from Raleigh, the state's capital, and 200 miles from Charlotte, a major commercial center (Fayetteville, NC, n.d.). The city is located next to Interstate Highway 95, which links the city to Washington D.C., Baltimore, New York, Charleston, Orlando, and Miami (Fayetteville, NC, n.d.). Portions of Fort Bragg are a part of Fayetteville and it is also near Pop Army Airfield, which benefit the economy and add culture (Fayetteville, NC, n.d.). Recently, there have been unprecedented development and changes, such as the revitalization of the downtown area and a baseball stadium that is home to the Houston Astros Minor League Baseball team, which will attract visitors (Fayetteville, NC, n.d.). There is a one to five ratio of roads to sidewalk throughout the city and as the city intends to grow, there will be a need for improved infrastructure to support walkability (Stantec Consulting Services Inc., 2018).

As heart disease, diabetes, and other weight-related diseases are among the leading causes of death in Cumberland County, the state identified increasing access to exercise opportunities as one of their NC Healthy People Goal 2030 priorities (Cumberland County

Department of Public Health, 2019). Neighborhoods with more access to opportunities to engage in physical activity are healthier and have decreased risks for chronic conditions that lead to poorer quality of life and lower life expectancies (Cumberland County Department of Public Health, 2019). The primary goals of the project aim to improve safety, walkability, and transportation throughout the city (Stantec Consulting Services Inc., 2018).

Priority Population

In considering the issue of walkability in this area, it is important to focus specifically on low-income neighborhoods and zip codes as the improvements to transportation, public spaces, safety, and neighborhood aspects will have greater impacts to these areas and communities (Cerin et al., 2016). Approximately 18% of the city lives below the federal poverty level and do not have access to reliable, private automobiles (Stantec Consulting Services Inc., 2018). The highest percent of residents who live under the federal poverty level are clustered in the center of the city (Stantec Consulting Services Inc., 2018). Appendix E1, Figure E1.1 shows the map of the percent of residents in Fayetteville who live below the federal poverty level and will be areas where the program will concentrate its work (Stantec Consulting Services Inc., 2018). Research has shown that low socioeconomic residents are more likely to use public transportation, bike, and walk (Stantec Consulting Services Inc., 2018). Lack of access to an automobile, commuting patterns, and socioeconomic status are signals that a community needs to be prioritized (Stantec Consulting Services Inc., 2018).

Measures of Problem Scope

In a May 2017 survey that was conducted through the Pedestrian Plan, 78% of participants living in Fayetteville reported that they walked along streets or greenways and 88% of respondents decided not to walk because the lack of sidewalks, had concerns about safety, or there was high traffic congestion (Stantec Consulting Services Inc., 2018).

The 2019 Cumberland County Community Health Needs Assessment (CHNA) surveyed residents, which revealed that 40.1% of community members do not engage in any physical activity or exercise during the week (Cumberland County Department of Public Health, 2019). Among the same group of residents surveyed, 53% indicated that a health care professional told them that they were overweight or obese (Cumberland County CHNA, 2019). With high reports of sedentary behaviors and increasing incidence of preventable chronic diseases and comorbidities, North Carolina is prioritizing exercise, nutrition, and weight by increasing exercise opportunities 73% to 92% (Cumberland County Department of Public Health, 2019).

Rationale/Importance

After reviewing the 2019 State of the County Health Report, CHNA, and other data from Fayetteville, the decision to focus on the walkability of the city was deemed a public health priority as it will enhance the neighborhood and built environment, which will ultimately improve health outcomes and promote healthy behaviors (Whitfield et al., 2019). Additionally, other benefits include savings in transportation, increasing housing values, and attracting more tourism, which would improve economic growth (Whitfield et al., 2019).

Disciplinary Critique

The SDOH provides resources that improve health outcomes and quality of life, such as access to safe and reliable modes of transportation and opportunities to engage in physical activity (CDC, 2020). Most health disparities affect marginalized groups because of their socioeconomic status, race/ethnicity, sexual orientation, gender, disability status, and zip code (Brennan Ramirez et al., 2008). This program targets low socioeconomic status neighborhoods as these individuals have worse health and tend to experience inequitable distribution and access to the conditions and factors that significantly contribute to persistent and pervasive health disparities (Brennan Ramirez et al., 2008). While addressing the neighborhood and built environment, public health leaders need to consider creating a multidisciplinary intervention that

includes a combination of individual, community, policy, and system level strategies in order to achieve health equity (Brennan Ramirez et al., 2008). With a background in leadership in practice, critical, design, and systems thinking will be applied to address walkability, while avoiding unintended consequences, such as gentrification, which is defined as displacing residents and businesses while transforming neighborhoods to higher values (CDC, 2009). Utilizing these principles and strategies will eliminate inequities, improve conditions, and foster change as it will provide new opportunities to understand, continuously test, and revise our understanding on how things are connected.

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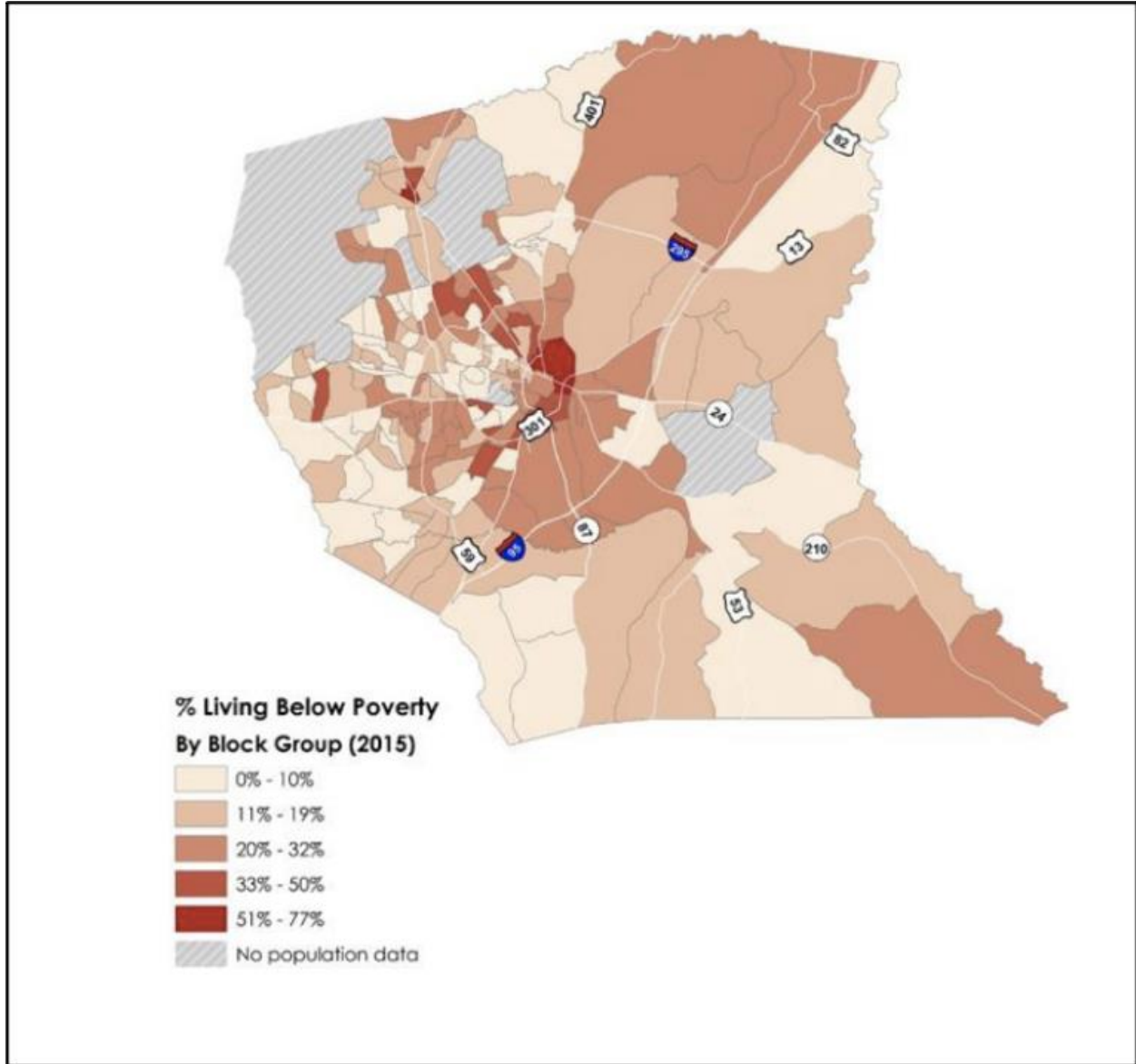
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APPENDIX E1

Figure E1.1: Percent Living Below Poverty Level (Stantec Consulting Services Inc, 2018)



MICHELLE LAM'S SYSTEM, STAKEHOLDER, AND TRANSFORMATION ANALYSIS

Introduction

The neighborhood and built environment in Fayetteville, NC predisposes low-income residents to worse health outcomes as it limits opportunities to engage in physical activity (Kowaleski-Jones et al., 2017). Those who live in neighborhoods with high population or housing density, street connections, and infrastructure that promote walking engage in more outdoor physical activities and have lower rates of obesity, cardiovascular disease, high blood pressure, and diabetes (Howell et al., 2019).

Understanding Fayetteville, NC is the first step to making an impact on the health outcomes of the community. The city has a walkability score of 21 out of 100, which is among the lowest in the country and is defined and determined by the number of errands that can be done without a car (Speck, 2018). Appendix B, Figure B1 shows a rich picture that outlines the connections and relationships among agencies and other factors that need to be considered in trying to address the issue of walkability. As expressed in the picture, the system that impacts walkability is not one that provides safe and accessible options that are conducive to walking or using other alternative modes of transportation. The issue contributes to poorer health outcomes and higher incidence of chronic diseases and comorbidities (Howell et al., 2019).

Policy Transformation

Fayetteville, NC currently uses the traditional Euclidean zoning, which is characterized by its division of sections of the community into areas in which only specific uses of land are permitted (Boston University, 2018). This form of zoning creates a city that is dependent on cars, unsustainable, and encourages urban sprawl (Boston University, 2018). It promotes an environment where residents cannot get to the most basic goods and services without access to a car (Boston University, 2018). In response to these issues and the low walkability scores, the policy transformation that our program proposes is the adoption of the SmartCode. This is a

Transect-based coding that reforms sprawling patterns of separated-use zoning by encouraging pedestrian-oriented and mixed-use developments (Evans, 2009). Over 50 cities in the U.S. have adopted the SmartCode, which aims to build more walkable neighborhoods by allowing for more diverse developments to be closer in proximity (Evans, 2009; Smith, 2018).

Stakeholder Analysis

Identifying and engaging stakeholders throughout the planning, development, implementation, and evaluation phases will ensure the success of policy as it reflects real needs and priorities, promotes transparency, increases ownership and accountability, and develops an environment of trust (SPHG 721, Lecture 4, Dr. Dana Rice). A Customer, Actor, Transformation, Worldview, Owner, and Environmental Constraints (CATWOE) analysis (see Appendix E2, Table E2.1) was conducted on five key stakeholders who would be involved throughout the entire program to better understand their perspectives (PUBH 718, Lecture 3, Dr. Rohit Ramaswamy). Additional stakeholders that are relevant to addressing the issue of walkability are included in the Stakeholder Power Interest Matrix in Appendix E2, Table E2.2. This tool will be used to guide our engagement plan as it will determine the approaches we need to take for each stakeholder (SPHG 721, Lecture 4, Dr. Dana Rice).

Low socioeconomic status residents and community members in Fayetteville, NC are key stakeholders in addressing walkability as their neighborhoods have been identified as being the least walkable and most economically disadvantaged, which are associated with less overall physical activity and greater risk for poor health outcomes (Howell et al., 2019). Low socioeconomic status residents and community members have low power and high interest and will be involved from the inception of the program and will assist in identifying the needs and assets of the community. As they are the constituents to key elected officials, they would be able to drive the conversation and advocate for the policy changes and assist in developing and implementing the program.

Planners and consultants from various organizations and agencies such as the Fayetteville Area Metropolitan Planning Organization (FAMPO), Stantec Consulting Services, and SmartCode have low power and high interest in addressing walkability. They will be involved to work collaboratively with residents, key-elected officials, and their staff to design and develop dynamic urban spaces that will connect people and places. Their focus will be on working on buildings, neighborhoods, streets, plazas, parks, or other infrastructure that the community decides needs improvement. Involving external contractors such as Stantec will allow us to be able to work with designers, program managers, engineers, and scientists who have extensive background and experience on creating and modifying spaces for a variety of uses and users (Stantec Consulting Services Inc, 2018). Many of these organizations have worked on prior projects throughout North Carolina, such as the Fayetteville Pedestrian Plan, to improve the built environment and neighborhoods so their familiarity and expertise is necessary for success (Stantec Consulting Services Inc, 2018).

The term key elected officials will be used to encompass Fayetteville City Council, the City of Fayetteville, and their staff. Their work focuses mainly on representing the interests of their constituents, which include proposing and passing laws and ordinances and managing the city's budgets, thus making their power and interest in the issue high (National League of Cities, n.d.). Our proposal aims to work with their constituents to advocate for policy changes that aim to improve the existing infrastructure. This will allow them to see the importance of addressing this issue as their constituents see it as a priority.

The Cumberland County Department of Public Health will play a vital role in the success of the program and enacting the zoning code. They have low power and high interest as they are limited in what they can do but prioritize the health of the community. Their strengths include knowledge of the community, understanding the social determinants of health, their expertise of implementing programs, their background in policy work, and their experience in working with

diverse stakeholders and on interdisciplinary teams. The Cumberland County Department of Public Health would also be able to provide data and research on this issue and its importance to the community as they collaborated on the Cumberland County Community Health Needs Assessment (CHNA) and the State of the County Health Report (SOTCH).

The participation and involvement of property and business owners will lead to empowerment and joint ownership of the project that can have major impacts to their careers and investments. They have high power and low interest in the issue but involving them is important to ensure that the project takes into account their perspectives and worldview. Bringing up their concerns about gentrification and rising property values that could push them out of business to key elected officials will ensure that they take this potential consequence into consideration when drafting out the policy.

As mentioned previously, these five stakeholders are only a few of the many stakeholders that we plan to engage throughout the program and policy. Working with a variety of stakeholders will create buy-in and will create a neighborhood and environment that meets the needs of the community. The formation of new partnerships will allow the project to hear from different perspectives and consider a variety of ideas that could be implemented. All stakeholders will work towards a common goal of increasing the walkability in Fayetteville, NC and improving health outcomes.

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APPENDIX E2

Table E2.1: Customers, Actors, Transformation Process, Worldview, Owners, and Environmental (CATWOE) Analysis of Walkability in Fayetteville, North Carolina

Low-Socioeconomic Status Residents/Community Members in Fayetteville, North Carolina (e.g., pedestrians, drivers, transit users, and bicyclists)

CATWOE Term	Definition
Transformation	Access to a variety of convenient transportation methods, green spaces, and trails that are easily accessible and safe, without feeling their neighborhoods are undergoing gentrification
Worldview	I need other ways to get to work or to perform daily activities, but don't have the access or don't feel safe to do so.
Customer	Residents of Fayetteville
Actor	Key elected officials Consultants and planners
Owner	Key elected officials City and state transportation departments and organizations FAMPO
Environment	Competing priorities from key elected officials Availability of resources

Planners and Consultants

CATWOE Term	Definition
Transformation	Utilizing urban design to make connections between the people of Fayetteville and places more user friendly.
Worldview	Value social life in public spaces Design spaces that are inviting, safe, accessible, and convenient
Customer	<ul style="list-style-type: none"> • Residents of Fayetteville, NC • Funders • Key elected officials and their staff • All residents of Fayetteville, NC
Actor	<ul style="list-style-type: none"> • Consultants • Planners • Engineers • Program managers • Scientists • Key elected officials and their staff
Owner	<ul style="list-style-type: none"> • Consultants • Planners • Engineers • Program Managers • Scientists
Environment	Funding

Key Elected Officials

CATWOE Term	Definition
Transformation	Improvements to existing infrastructure will make the city safer, more accessible to all, and bring the city more revenue.
Worldview	Responsibility to achieve the best outcomes for the local community through decision making
Customer	Constituents/Residents of Fayetteville, NC
Actor	<ul style="list-style-type: none"> • Fayetteville City Council • The City of Fayetteville • Fayetteville city staff
Owner	<ul style="list-style-type: none"> • Constituents/Residents of Fayetteville, NC • Key elected officials
Environment	<ul style="list-style-type: none"> • Funding/Budget • Available resources • Regulations and laws

Cumberland County Department of Public Health

CATWOE Term	Definition
Transformation	To improve neighborhoods and the built environment to reduce health and safety risks and promote healthy behaviors among community members and residents
Worldview	The neighborhoods and built environment have a major impact on their health and wellbeing.
Customer	Residents and visitors of Fayetteville, NC
Actor	<ul style="list-style-type: none"> • Voters/Constituents • Key elected officials
Owner	<ul style="list-style-type: none"> • Key elected officials • Residents of Fayetteville, NC
Environment	<ul style="list-style-type: none"> • Residents' priorities • Policy agendas

Property and Business Owners

CATWOE Term	Definition
Transformation	To ensure that existing local businesses are prioritized and not pushed out through increased rent and property value
Worldview	Modifications and beautification of the city and community will bring in revenue and support local businesses.
Customer	Residents of Fayetteville, NC
Actor	<ul style="list-style-type: none"> • Business and property owners • Renters • Landowners
Owner	Key elected officials
Environment	<ul style="list-style-type: none"> • Regulations and laws • Hot spot (e.g. popular activity centers that bring in many people) to bring in revenue

Table E2.2: Stakeholder Power Matrix

		Interest	
		High	Low
Power	High	Key elected officials (e.g. City Councilmembers, city staff, the City of Fayetteville) Funders City and state transportation organizations and departments Low socioeconomic status residents/community members of Fayetteville, NC	Fayetteville/Cumberland Parks and Recreation Property and business owners
	Low	Cumberland County Public Health Department Consultants and planners (e.g. Stantec Consulting Services Inc.) Construction companies Fort Bragg representatives	Schools and colleges

MICHELLE LAM'S ENGAGEMENT AND ACCOUNTABILITY PLAN

Part I. Engagement Plan

Overview

The neighborhood and built environment include all physical aspects of where we live, work, play, and pray (CDC, 2020). Research has shown that the neighborhood and built environment is associated to health outcomes and behaviors. Our engagement plan outlines strategies to involve stakeholders to improve walkability in Fayetteville, North Carolina. After conducting a Responsible, Accountable, Supportive, Consulted, Informed (RASCI) analysis (see Appendix B Tables B1 and B2), our organization will focus on advocating for policy change.

Various stakeholder engagement plans will be utilized for the policy decision making and development process. Each of the methods of engagement are intended to provide context and opportunities for examining, obtaining, and integrating the stakeholders' feedback, ideas, and perspectives into the policy-making process. Many organizations and partners have an interest in improving walkability and the neighborhood and built environment to improve overall health. Stakeholders and their role are outlined in Table E3.1 in Appendix E3. Although we plan on involving all stakeholders identified in the Stakeholder and Transformation Analysis in the previous section, this particular engagement plan emphasizes strategies to engage key elected officials. We outline three different strategies and describe the purpose and frequency of their engagement during the policy development process. Involving stakeholders throughout the process will better ensure that the policy addresses feedback and concerns and garners support from everyone involved. It is also important that we can build relationships and establish trust with stakeholders to develop a comprehensive policy to address this pressing issue in Fayetteville, NC. The methods of engagement that will be utilized are community meetings, advisory group, and community questionnaires (summarized in Appendix E3, Table E3.2).

Community Meetings

The community meetings will provide an opportunity for all stakeholders to have an open discussion about priorities and strategies. These meetings will specifically focus on engaging community members and will be a forum to provide feedback and their perspectives on what the policy should address and include. These meetings will help show the values the broader community has about the issue of walkability and how to improve the neighborhood and built environment. Their insight is valuable as they live in the neighborhoods that will be affected and would be an asset in knowing and understanding what the community needs. Having monthly community meetings throughout the entire policy development, implementation, and evaluation will promote transparency in regard to updates and will build trust.

Although the purpose of these meetings is to engage community members, having key elected officials, planners, and SmartCode consultants present at the community meetings will assist with aligning the community's needs and expectations to what is feasible and realistic with existing resources. This will also provide a space for key elected officials to hear from their constituents and prioritize this policy. It would also improve overall understanding of all stakeholders' perspectives.

Advisory Group

The Advisory Group provides input on planning, implementation, and evaluation of the policy. The purpose of the Advisory Group will be to share their perspectives, research, study the data and information collected through the questionnaires and community meetings, and develop recommendations in a smaller group setting. The Advisory Group will have representatives from City Council (e.g., staff members), Cumberland County Department of Public Health, community members, SmartCode consultants, and planners from Stantec Consulting. The Advisory Group serves as consultants and assists with planning and implementing activities to get the policy passed. Since the Advisory Board makes up many key stakeholders who have high power (see Table E2.2 in Appendix E2 for the Stakeholder Power

Matrix), they would be able to direct the Steering Committee with their knowledge of the available resources and feasibility of what has been presented through the data.

Community Questionnaires

The last strategy is to mail and e-mail self-completion questionnaires to a targeted group of community members who live in the area that the policy affects. This is suitable to collect more data and information from a wider group of the community who may not be able to attend the community meetings. It also preserves anonymity for individuals who want to share their perspectives but do not want to speak in a public forum (McMillan et al., 2016). It is a relatively inexpensive approach to gather information from this stakeholder (McMillan et al., 2016). There will be two questionnaires that will be distributed and will use the Delphi techniques to develop questions. The first questionnaire will be distributed during the planning phase and will present a series of statements that respondents are asked to rate on a 5-point Likert scale. The content of the statements will come from the literature and what other stakeholders have discussed are important information to know to guide the decision-making process. Some statements will ask respondents to rate the intensity of their attitude and write free-text responses to elaborate on their answer choice (McMillan et al., 2016). The answers to the first questionnaire will be utilized to develop the second questionnaire (McMillan et al., 2016). Sample questions are shown in Appendix E3.3. The second questionnaire will use the same statements and display the results from the initial questionnaire. The purpose of the second questionnaire is to see whether there is a consensus with how the other community members feel (McMillan et al., 2016).

Though these community questionnaires are geared to engage residents, the other purpose it serves is to involve the Mayor and councilmembers of Fayetteville. As the councilmembers are informed about what their constituents want and need, they can prioritize improving walkability in the city. The results of both of the questionnaires will be shared during the advisory group meetings.

Part II. Accountability Plan

The Cumberland County Department of Public Health and Fayetteville City Council will develop a Memorandum of Understanding to increase the opportunities to work collaboratively and increase the communication between public health officials and key elected officials and their staff. The Cumberland County Department of Public Health serves as the backbone agency and champion for improving walkability in Fayetteville, NC.

MEMORANDUM OF UNDERSTANDING

Between

The Cumberland County Department of Public Health

And

Fayetteville City Council

July 1, 2021 – June 30, 2022

1. Purpose

The purpose of the Memorandum of Understanding (MOU) is to address walkability in Fayetteville, North Carolina through establishing an Accountable Care Community (ACC). The MOU will establish an understanding of responsibilities and take a collaborative approach to improve the neighborhood and built environment for low-income residents. The MOU aims to foster sustainable partnerships and establish a mutual agreement by and between the Cumberland County Department of Public Health (herein referred to as HEALTH DEPARTMENT) and Fayetteville City Council (herein referred to as CITY COUNCIL). The partnership between these two entities is to enhance the neighborhoods and built environments that are associated in bettering health outcomes related to the improvements of having a more walkable community.

The MOU aims to outline the goals, responsibilities, deliverables, and agreements established between the responsible and accountable partners in the ACC. The HEALTH DEPARTMENT will serve as the backbone organization.

2. Partnership Expectations, Goals, Values, and Vision

The HEALTH DEPARTMENT and CITY COUNCIL will adhere to the following expectations and goals:

- 2.1 Respect the other partner's interests and contributions.
- 2.2 Establish transparency through open communication to understand each other's perspectives.
- 2.3 Be willing to receive feedback from stakeholders to work efficiently and effectively towards a common goal.
- 2.4 Co-learn about walkability and its effects on the overall health of residents.
- 2.5 Foster collaboration and build trust.
- 2.6 Prioritize the community's needs, leverage resources and assets, and prioritize health equity.
- 2.7 Both parties will identify any resources that can be leveraged or shared.
- 2.8 The HEALTH DEPARTMENT will serve as the backbone agency for the ACC.

3. Activity Agreements

The activities implemented under this MOU shall adhere to the following:

- 3.1 The partnership will focus on improving walkability in Fayetteville, NC to promote overall health among the community members by focusing on the neighborhood and built environment.
- 3.2 Decisions will be made collaboratively between the HEALTH DEPARTMENT and CITY COUNCIL.
- 3.3 Assure that health equity is at the forefront of the project's goals.

4. Scope of Activities

The HEALTH DEPARTMENT and CITY COUNCIL aim to collaborate in the deliverables that may include, but are not restricted to, the following:

4.1 Both entities will create a team charter that establishes guidelines, shared values, and creates accountability.

4.2 The HEALTH DEPARTMENT will be accountable for creating, developing, and collecting and analyzing data for the questionnaires.

4.3 The HEALTH DEPARTMENT and CITY COUNCIL will assess what strategies and ideas are feasible to adopt in the policy.

4.4 The HEALTH DEPARTMENT will educate community members and key elected officials about the association between walkability and health outcomes.

5. Measurable Goals

In witness thereof, the parties have offered their signatures here to:

5.0 Establish a comprehensive policy that improves the neighborhood and built environment that increases Fayetteville, NC's walkability score by 35%.

5.1 Increase in self-reported physical activity among community members by 15%.

5.2 Increase in easy access to other modes of transportation (e.g. walking, biking, public transportation).

5.3 The HEALTH DEPARTMENT and CITY COUNCIL will complete an evaluation of the policy every six months after the policy is implemented, ending after four evaluations are completed. The two entities will be committed to making quality improvements projects based off of the evaluation data.

6. Terms and Conditions

6.1 The MOU may be extended by the written consent of both parties.

6.2 The MOU may be terminated by either party by providing written notice at least 90 days in advance of the stated termination date.

6.3 Amendments to the MOU are allowed with written consent of both parties and will be included as an addendum.

7. Signatures

IN WITNESS WHEREOF, the HEALTH DEPARTMENT and the authorized representative(s) of CITY COUNCIL have executed this MOU on this ____ day of _____, 2021, the effective date of this MOU. This MOU will expire one year from the date of signing.

HEALTH DEPARTMENT

DATE

CITY COUNCIL

DATE

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APPENDIX E3

Table E3.1: Stakeholder Profile

Stakeholder	Role in Designing	Role in Implementing
Community Members – includes members from low socioeconomic status zip codes and neighborhoods	Provide their input on what improvements are needed and desired for their neighborhoods.	Kept informed throughout the process through updates at community meetings.
Key Elected Officials – includes city council and their staff	Drive the discussion and process for the policy. Listen to their constituents, allocate resources, and vote on policy.	Oversee the implementation and planning of the policy.
Cumberland Department of Public Health	Serves as the backbone agency of the ACC. Acts as the liaison for all stakeholders and assists in the planning and implementation.	Provides expertise in the implementation phase to all stakeholders. Leverages resources.
Consultants – SmartCode consultant who will serve as an expert for the policy	Provides expertise in designing Transect Based Coding	Acts as a consultant through the implementation process of the Transect Based Coding to ensure the process goes smoothly. Acts as technical assistance.
Planners – includes the city’s planning office and other agencies that assist with city plans and policies	Provide their input on what improvements are needed and desired for their neighborhoods.	Kept informed throughout the process through updates at community meetings.

Table E3.2: Methods of Engagement

Method of Engagement	Stakeholders	Function	Involvement
1. Community meetings	Community members, consultants, key elected officials, planners (e.g. Stantec), Cumberland Public Health Department	To understand the perspectives of different community members and what they would like to see from the policy Discuss concerns and provide opportunities to provide open-ended feedback and input	Monthly, then shift to quarterly
2. Advisory Group	Representative from key elected officials, Cumberland Department of Public Health, community members, consultants (e.g. SmartCode consultant), planners (e.g. Stantec)	To involve key stakeholders and provide increased opportunities for collaboration To provide opportunities to provide feedback To assist with the decision-making process	Follow-up meetings after participant feedback and listening sessions
3. Community Questionnaires	Community members Key elected officials	To provide individual level opportunities for all community members to participate To document needs, wants, and feelings about the policy and its intended effects on the neighborhood and built environment	Two questionnaires will be distributed

APPENDIX E3.3 Questions for Community Questionnaire

1. Are there aspects of your neighborhood that you think would make it more walkable (assets) or much less walkable (barriers)?

[free text response]

2. On a scale of 1-5, would you say in general your health is:

- 5 Excellent
- 4 Very good
- 3 Good
- 2 Fair
- 1 Poor

3. Do you have a physical condition that affects your ability to walk?

- Yes
- No

4. If yes, please elaborate:

[free text response]

5. When you walk in your neighborhood, what are the reasons you walk? Examples include walking your dog, going to the bus stop, going to work, and exercise.

[free text response]

6. On a scale of 1-5, how often do you walk in your neighborhood (for any reason)?

- 5 Every day or nearly every day
- 4 A few times a week
- 3 A few times a month
- 2 Rarely
- 1 Never

7. On a scale of 1-5 (with 5 feeling very safe), how safe do you feel to walk alone in your neighborhood (at night and during the day)?

8. Are there marked crosswalks at major intersections in your neighborhood?

- Yes

No

9. Are there functional crossing signals at major intersections in your neighborhood?

Yes

No

10. What destinations that are within a ten-minute walk from your home are connected to your home by sidewalks or paved paths? Check all that apply.

Grocery store

Place of worship

Community Center

School or childcare facility

Park or recreational facility

Restaurants

Retail stores

Post office

Bank

Health care services

Workplaces

Bus stops

Other: _____

11. Does your neighborhood have sidewalks and/or paved multi-use paths?

Always or usually

About half the time

Seldom

Never

Does not apply

12. Are there sidewalks/paths along minor/major streets?

Always or usually

About half the time

Seldom

Never

Does not apply

13. Are the sidewalks/paths lighted for use at night?

Always or usually

About half the time
Seldom
Never
Does not apply

14. Could someone use the sidewalk/paths using a wheelchair, walker, stroller, or other mobility aide without difficulty?

Always or usually
About half the time
Seldom
Never
Does not apply

MICHELLE LAM'S PERSUASIVE PITCH PRESENTATION



Hi everyone, we are the Neighborhood Collective for a Better Quality of Life. My name is Michelle Lam, and I am joined by my colleagues, Kelly Clay, Joy Holland, and Miranda Lanning to speak about our proposal to create an accountable care community to improve walkability in Fayetteville, NC. We're grateful for your consideration.

Research shows that approximately 80% of a person's overall health is driven by social and environmental factors and the behavior influenced by them, also known as the social determinants of health (CDC, 2020). Our work focuses on addressing walkability which falls under the scope of the neighborhood and built environment. It is defined as the intersection of the places where people live, work, pray, and play and their health and well-being (Healthy People 2030, n.d.).



Fayetteville has a walkability score of 21 out of 100, which is among the lowest in the country (WalkScore, n.d.). Walkability is defined by how easily residents can walk to and from places in the community such as from their home, work, and entertainment (WalkScore, n.d.). There is not an adequate walking infrastructure to support the many people who walk as a primary mode of transportation (Cumberland County Department of Public Health, 2019). The Cumberland County Community Health Needs Assessment documented that 40.1% of the community members do not engage in any physical activity or exercise during the week (Cumberland County Department of Public Health, 2019). Heart disease, diabetes, and other weight-related diseases are among the leading causes of death in the county (Cumberland County Department of Public Health, 2019).



Good evening, Mayor Mitch Colvin and honorable city councilmembers of Fayetteville. My name is Michelle, and I am a representative from the Neighborhood Collective for a Better Quality of Life. I want to first thank you for allowing this dialogue. Our agency is here to ask you to support the adoption of the SmartCode policy that will serve as the driver to our proposal to create an ACC to improve walkability. Your support and partnership will help improve the infrastructure in low-income neighborhoods and zip codes as this policy promotes a pedestrian-oriented and mixed-use environment and includes a framework for transit, pedestrian, and bicycle systems as well as compact urban development (Smith, 2018).

As Fayetteville has among the lowest walkability scores in the country, we can work together to remove crucial barriers that many lower-class individuals may have to opportunities for physical activity and increase available funds for health-related expenses (WalkScore, n.d.; Leadership Conference Education Fund, 2011). This type of zoning reform has been successfully implemented in 50 cities throughout the United States, which have seen up to a 25% increase in walking for basic needs (Smith, 2018). With your support, we have the potential to transform the health and quality of life of residents and reduce health disparities among low-income residents (Smith, 2018). Thank you for the opportunity to testify here today. I would be happy to answer any questions.

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APPENDIX F - MIRANDA LANNING'S INDIVIDUAL DELIVERABLES

MIRANDA LANNING'S PROBLEM STATEMENT

Social Determinant of Health

The social determinant of health; Neighborhood and Built Environment is the intersection of neighborhood, housing, and environment with people's health and wellbeing (Speck 2018). A built environment is the man-made structures and features that work together to make the space where people live. The built environment has impacts on both short- and long-term health outcomes in a community. How a city is built determines if it is walkable which directly impacts the health and wellbeing of the people who live there. A "walkable" or people-oriented street is welcoming, safe and accessible for people in all forms of transportation but especially on foot (Speck 2018). Fayetteville has a high percentage of their population that is considered overweight or obese 53% (Cumberland County 2019 Community Health Needs Assessment). There is also a high occurrence of pedestrian and bike involved car crashes in the city (Fayetteville Comprehensive Plan 2018).

The walkability of a city is scored, per Walk Score, by how many errands can be done without a car (scale of 1-100 with 100 being the best score) (Speck, 2018). As cities increase their walk scores it also increases the property values and boosts store front businesses(Speck 2018). Having a more walkable city also increases the mobility for the elderly who lose the ability to drive and can provide a safe way to commute for people who are in low to mid income brackets. While the most walkable cities in the country do have the highest property values it does not mean that as every city in the country will have a significant bump in property value to see the effects of gentrification which is pushing out current residents due to finances or city changes (Speck, 2018). This is because most cities have such a long way to go to improve their

walkability to reach a satisfactory level of safety and comfort (Speck, 2018). Currently Fayetteville North Carolina has a walkability score on Walk Score of 21 out of 100 and has a lot of work to do to increase this score. This means that this city is not designed for its citizens to either walk to work or to use its outdoor areas for exercise. Some benefits of walking include; health benefits relevant to maintaining a healthy weight, better air quality from the reduction of vehicle use, improved attention for schoolchildren, and an increased sense of community which impacts mental health (Fayetteville Comprehensive Plan, 2018).

Geographic and Historical Context

Cumberland County is home to a diverse and vibrant community in North Carolina. The largest city in the county is Fayetteville which is the 6th largest city in the state and was established in 1762 (About Fayetteville, 2019). Due to its location as an inland port, it has grown as a center of commerce and governance for the state. The city has always had a strong military presence and encompasses portions of Fort Bragg and the Pope Army Airfield which greatly impacts the economy and culture of the city (About Fayetteville, 2019). A more recent development was the construction of a baseball stadium for the Fayetteville Woodpeckers which has sparked development investment in the adjacent communities.

In the city of Fayetteville walking to work is the third most common form of transportation at 7.41% (Data USA 2018) walking to work as compared to the county of 4.0% residents who walk to work (Cumberland County 2019 Community Health Needs Assessment). Cumberland county also reports 94.5 per 100,000 number of motor vehicle crashes involving a bicyclist in 2015 and 339.4 per 100,000 number of motor vehicle crashes involving a pedestrian in 2015. (State of the County Health Report, 2019). In Fayetteville between 2007 and 2014 there were 957 pedestrian-involved crashes within the city (Fayetteville Comprehensive Plan, 2018). This information shows that the built environment in this area is not creating a safe way for people to walk or bike for their commute.

Priority Population

The population that will be focused on are the low socio-economic status people residing in Fayetteville North Carolina. In Fayetteville the zip code with the lowest median household income is 28301 at \$24,409 and the city median household income of \$44,057 (Data USA, 2019). The largest ethnic groups in this city are Black or African American 41.2%, White (Non-Hispanic) 38.1%, White (Hispanic) 6.95% (Data USA, 2019). Black or African American people make up 50.9% of the population living below the federal poverty level. Among this group white (non-Hispanic) people compose 26.6%.

Another contributing factor to this is that low-income working-class people spend a higher percentage of their income on transportation services than people from higher socioeconomic groups which can lead to them walking and biking more than other income groups (Pamel, 2010). This can put these groups of people at more of a risk to be involved in a pedestrian or bike related accident.

Measures of Problem Scope

According to the CDC Cumberland county has a life expectancy of 76.4 years as compared to the state at 79.5 Years (Robert Wood Foundation, 2019). There are numerous Zip Codes in Cumberland County that have a life expectancy for 56.9-75.1 years which include large portions of the city of Fayetteville (Tejada-Vera B, 2020). "Recent data have focused on disparities through another lens, particularly the correlation between where people live (i.e., ZIP code) and their quality-and length-of life" (Graham, 2016). In Cumberland County the zip codes with the lowest life expectancies are located in areas where the highest poverty rates are along with the highest rates of diversity (Robert Wood Foundation, 2019).

While the built environment is not the only contributing factor to the lower life expectancy it does play a major role in how people live, work and play. Among the leading causes of death in Cumberland County includes heart disease, diabetes and other unhealthy weight related

diseases (Cumberland County 2019 Community Health Needs Assessment). In survey data done by the county collected in 2019, 53% of respondents reported being told by a health professional that they were overweight and/or obese. This same survey also reported that 40.1% of community members do not engage in any physical activity or exercise during the week (Cumberland County 2019 Community Health Needs Assessment). To address these recorded health issues North Carolina as a state is attempting to make this issue a priority by increasing access to exercise opportunities from 73% to 92% by 2030 (Healthy North Carolina, 2030). The strategies they are pushing are to promote active transportation through walkability assessments, educational and/or media campaigns, way-finding signage, or jurisdiction-wide plans.

There is a "lack of sidewalks in Fayetteville in comparison to other North Carolina cities. For every five miles of roadway, there is only one mile of sidewalk in Fayetteville" (Vendituoli, 2017). To compare other North Carolina Cities like Winston-Salem has 3 miles of roadway for every one mile of sidewalk. Fayetteville has a Comprehensive Pedestrian Plan that was created in 2018. In this report, during a tour of the city it revealed that many intersections lacked pedestrian signals and crosswalks. The tour also revealed that many high traffic corridors did not have sidewalks at all. Since the plan was put in place there has been a completed construction of 2.67 miles of sidewalk with plans to complete many more by 2027 (Fayetteville Comprehensive Plan, 2018). Most of these plans are in the areas surrounding the mall and downtown areas which are not areas where the most low to mid income people live.

Rationale Importance

Currently the walk score for Fayetteville is 21 out of 100 which makes it one of the least walkable major cities in the United States (Vendituoli, 2017). As people walk to work more, then the environment around them needs to be built to protect them. With people who live in a low socio-economic class having a cheap way to commute to work can significantly impact their

financial status and provide long term health benefits (Vendituoli, 2017). Due to the health, economic and climate impacts; the investment in designing a more walkable city makes this an opportunity to greatly impact the lives of the citizens.

Disciplinary Critique

A public health leader needs to address the social determinant of health through a health equity lens because marginalized groups experience worse health outcomes due to the inequitable distributions of resources. This has led to communities in Fayetteville to have varying health indicators across the city due to the built environment. Having this in mind while developing an understanding of a problem can help create a multidisciplinary response to this complex problem. While addressing the issue of the built environment there can be other unanticipated impacts on the community that must be thought through prior to any program can be proposed. The concerns regarding gentrification when improving the neighborhoods must be strongly considered as to not push the people of the community out as it would defeat the purpose of trying to impact those people's lives.

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MIRANDA LANNING'S SYSTEM, STAKEHOLDER, AND TRANSFORMATION ANALYSIS

The city of Fayetteville has the opportunity to create meaningful change in their communities by increasing the access people have to exercise through investing in safe and accessible walking areas. The social determinant of health; Neighborhood and Built Environment is the intersection of neighborhood, housing, and environment with people's health and wellbeing (Speck, 2018). A built environment is the man-made structures and features that work together to make the space where people live. The built environment has impacts on both short- and long-term health outcomes in a community. How a city is built determines if it is walkable which directly impacts the health and wellbeing of the people who live there. A "walkable" or people-oriented street is welcoming, safe and accessible for people in all forms of transportation but especially on foot (Speck, 2018). Investing in infrastructure changes can help address the communities need to exercise while also feeling safe doing so. As people walk to work more often, the environment around them needs to be designed to protect them. For people who live in lower socioeconomic areas, having an inexpensive way to commute to work can significantly benefit their financial status and provide long-term health benefits. Due to the health, economic, and climate impacts, the investment in designing a more walkable city makes this an opportunity to greatly impact the lives of the citizens. Using soft system analysis strategies, such as those referenced in the appendix, helps identify who needs to be included in decision-making processes and the relationships that they have to potential solutions.

Our organization's proposed policy and program are complementary to one another. As we work to engage community members to advocate for the zoning policy, we would also be able to identify their needs and what the program's focus should be for improving the infrastructure. The program will focus on assessing and improving the structural elements that affect walkability by 1) building and engaging community members and stakeholders and 2) providing education and advocating for zoning policies that support the program (Deehr &

Schumann, 2009). These improvements in the community can lead to more physically active transportation, address health and resource disparities in low-income communities and reduce the number of pedestrian crashes (CPSTF, 2017). A successful example of this type of improvement can be seen in Fitchburg, Wisconsin which adopted a SmartCode district in 2010 that promotes a pedestrian-oriented and mixed-use environment (Place Makers, 2013). This area includes infrastructure improvements for public transit, pedestrian and bicycle systems alongside the compact urban development and has seen a 25% increase in walking for basic needs in targeted communities (Place Makers, 2013). As the built environment improves the community could go through a period of gentrification, which is the displacement of current community members due to rising property values (CPSTF, 2017). Taking this into consideration will be critical when planning and implementing this program to help ensure the community members are not pushed out of the area.

For the program to be successful, it would need to be supported with city zoning policy changes. Currently, the city of Fayetteville uses Euclidean zoning which is where city lots can only be used for one type of use (King, 2015). This is the most common form of zoning and has been identified as one of the causes of suburban sprawl, which is the low-density expansion of cities into undeveloped land with vast numbers of undeveloped spaces (Starkey, 2015). This can also lead to uneven distribution and clustering of grocers and other essential retailers, making it difficult for community members to get their daily errands done by walking. To make businesses more accessible by walking or biking, they need to be closer to where people live. A solution is to change city zoning rules to allow for more diverse developments to be closer together to encourage walking and to increase urban density (Smith, 2018). The SmartCode, or Transect-based coding, promotes a pedestrian-oriented and mixed-use environment and includes a framework for transit, pedestrian, and bicycle systems as well as compact urban development. This form of zoning reform has been successfully used in 50 cities throughout the

United States including large cities like Miami, Florida, and Sacramento, California (Smith, 2018).

Stakeholder Analysis

Using different soft system analysis tools helps guide where attention needs to be focused to include key stakeholders in the decision-making processes to help ensure that changes are serving the community correctly. The Rich Picture in Appendix B, Figure B1 illustrates the interconnected nature of different aspects of the Walkability system in Fayetteville. Thus, it helps conceptualize who are the key players included in this system. Additionally, creating the Comprehensive List of Stakeholders seen in Appendix F1.1 was beneficial, as it aided in the system analysis, and clarified who is directly impacted by the system, and what type of relationship they could have with the zoning policy changes. The primary viewpoint of the list stakeholders are in the context of property owners and business owners who could be most impacted by city zoning policy changes.

The list of stakeholders guides the process for creating the Interest/Power Matrix in Appendix F Table F1.2. The different quadrants of this matrix help inform the different levels of interest and power that a stakeholder has in relation to the zoning reform policy (Ramaswamy, 2020). The stakeholders who are in the “Key Players” quadrant have a high level of interest in the outcomes and have a lot of power to control the outcome in how the policy can work. These people must be invited to be involved with the policy decisions because they can either be great assets or create blocks in the initiative's progress. The stakeholders who are in the “Keep Satisfied” quadrant are people that have a lot of power but don't have as much interest and also should be invited to participate in the decision-making processes. The “Minimal Effort” quadrant contains people who have a high amount of interest, but low power. They are beneficial to include because of their interest and investment in policy outcomes. The final quadrant holds the “Keep Informed” stakeholders, who have little interest and a low amount of power to the

city's zoning codes. Even with their limited power in the decision-making process, they are still impacted by the outcomes and should also be invited to decision making.

The CATWOE analysis in Appendix F, Table F1.3 identifies the system's customers, actors, parts of the system's transformation, the stakeholder's worldview, the owner of change, and environmental constraints from the perspective of each stakeholder. The CATWOE analysis is done for the key stakeholders that would be included in decisions making processes. Along with the analysis, a root definition was created based on the PQR formula which states, do P(what) by a Q(how) to achieve R(why) (Ramaswamy, 2020).

The first identified stakeholder is the Associate Superintendent for Cumberland County Schools. The school district owns a significant amount of property in Fayetteville and interacts with a large portion of the city population. The Associate Superintendent oversees the school district's finances and manages the district owned properties. Due to this position of power they have a lot of control and influence in the community at large. This stakeholder can have a heavy impact on what types of policies can be accepted by the community. The school district properties can also be heavily impacted by zoning changes and sidewalk infrastructure improvements. These changes can aid people commuting to school property through walking or biking safer than they currently are.

Another stakeholder to include is a representative from the Women's Business center who would have some power to help push SmartCode policy changes forwards in the city's agenda. This person has a moderate amount of interest due to their interest in aiding women entrepreneurs seeking out new financial opportunities. If SmartCode policy changes occur then there can be new areas where businesses can be created. They can also help educate business owners on how to promote business incentives for walking or biking to work to increase health outcomes.

Closely related in power is the Southeastern Home Owners Association Group who also would have a lot of interest in SmartCode policies. This person works directly with current home owners and represents their interests and needs. This representative would be difficult to work with if they are not invested and committed to shifting how Fayetteville approaches zoning and development.

The final stakeholder is a business owner. This person may have a deep investment in what types of changes occur in and around their community and they also hold a lot of power. If there are changes that need to occur on a person's property, they can either approve or decline the project plans. Another key aspect they may bring forward is the impacts of gentrification as the property values increase with the improved infrastructure designs. They care about their community and do want it to improve, but they also want their financial needs to be considered as well.

Taking the time and attention to identify key stakeholders is essential to any system changes to the walkability in Fayetteville. Their involvement can either guide the policy changes towards success or can create challenging barriers to their demise. It must always be a priority that any changes that are done for a community are done with the community as well.

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APPENDIX F1

Appendix F1.1: Comprehensive List of Stakeholders from Business/Property Owners

Point of View

- City Planners- Have a say in the approval of construction projects.
- Community members- These are the people who live, work, eat, pray and play in the community
- Fayetteville/Cumberland Parks and Rec- Would benefit from more people walking so that more people can access the spaces they manage.
- Fayetteville State University, Methodist University, Fayetteville Technical College- Serve a large portion of the community and walking can help their students get to and from school
- Fort Bragg Representatives- Have service members that live and commute in this community. May have insights on community needs.
- Southeastern HOA Management group- to ensure that the values and needs of the homeowners they represent are included in discussion regarding zoning code policy changes.
- The Associate Superintendent for Cumberland County Schools- Work with a large portion of the population and may have needs for their students to get to school. Their role with the school district is to oversee school finances and management of district owned properties.
- Property owners in target development areas- Properties may be impacted by having construction, property value increase, or space move to public property to allow for sidewalk construction.

- Public Health Department- Can measure the impacts of city changes on community health
- Women’s Business Center- works with local women business owners to help them access properties and make smart business decisions

Table F1.2: Interest/Power Matrix

Power High

<p>Keep Satisfied (High Power/Low Interest)</p> <ul style="list-style-type: none"> o Fayetteville/Cumberland Parks and Rec o Associate Superintendent for Cumberland County Schools 	<p>Key Players (high power/ interest)</p> <ul style="list-style-type: none"> o City Planners Representative o Property Owners o Women’s Business Center o Public Health Department
<p>Keep Informed (Low Power/Low Interest)</p> <ul style="list-style-type: none"> o Fayetteville State University o Fort Bragg Representative 	<p>Minimal Effort (Low Power High Interest)</p> <ul style="list-style-type: none"> o Community Members o Southeastern HOA Management Group

Low

Interest

High

Table F1.3. CATWOE Analyses and PQR statements

CATWOE Analysis/ PQR #1

	Associate Superintendent for Cumberland County Schools
Customers	Students, Families, Employees of Cumberland County Schools
Actors	School Board, City Government
Transformation	To encourage safe and healthy choices that impact the community that we serve.
Worldview	Our school system owns a large amount of property that would be impacted by zoning changes and we are hopeful for sidewalk infrastructure improvements to increase the safety of students and faculty who walk or bike to school.
Owner	City government, School Board.
Environment	City Zoning Policies, Infrastructure

P: Voice how changes impact the properties that the district owns and the community members who access them.

Q: Through engagement in zoning policy changes and promoting sidewalk infrastructure enhancements.

R: In order to ensure commutes to schools and property are safe and accessible for everyone.

CATWOE Analysis/ PQR # 2

	Southeastern HOA Management Group
Customers	Homeowners that are part of the HOA (largest group in Fayetteville)
Actors	HOA board members
Transformation	To ensure changes create the types of changes that address the needs and wants of the homeowners they represent.
Worldview	Our HOA represents the largest group of homeowners in the Fayetteville area and want to help ensure that policy changes do not negatively impact the property's that we represent.
Owner	City Planning
Environment	Property Values, City Zoning Policies

P: To promote the values and interest of property owners that we represent

Q: Through advocating or pushing against for policy changes

R: that would impact the safety and property values of homeowners.

CATWOE Analysis/ PQR #3

	Women's Business Center POV
Customers	Women entrepreneurs in the Fayetteville area
Actors	WBC's staff
Transformation	Educate and inform business owners on how to support policy changes that may lead to new business opportunities.
Worldview	To educate and empower women business owners on how city zoning policies can impact financial opportunities.
Owner	Business Owners
Environment	Zoning policies, finances, community businesses

P: To increase community business owner opportunities

Q: Through education and support of zoning policy changes

R: In order to increase women entrepreneur opportunities

CATWOE Analysis/ PQR #4

	Business Owners POV
Customers	People who own business are the areas that will be considered for rezoning and construction efforts.
Actors	Business owners
Transformation	To ensure that all community changes will positively impact the community, support financial growth and not push existing businesses/owners out of the area through increased property value.
Worldview	I want more people to access my business but I do not want the value of my property to rise beyond what I can afford.
Owner	City government, legislators, city planners
Environment	Zoning rules, finances, number of people able to access business

P: To improve business opportunities

Q: Through approving zoning laws and agreeing to reasonable property changes

R: In order to increase access people have to our businesses.

MIRANDA LANNING'S ENGAGEMENT AND ACCOUNTABILITY PLAN

To effectively and equitably engage the essential and community stakeholders, we must utilize a variety of strategic and collaborative engagement activities that will help ensure the needs of as many people as possible are heard to address the Social Determinant of Health (SDoH) of the built environment through the sidewalk infrastructure in Fayetteville, North Carolina. The social determinant of health; Neighborhood and Built Environment is the intersection of neighborhood, housing, and environment with people's health and wellbeing (Speck, 2018). A built environment is the man-made structures and features that work together to make the space where people live. The built environment has impacts on both short- and long-term health outcomes in a community. How a city is built determines if it is walkable which directly impacts the health and wellbeing of the people who live there. A "walkable" or people-oriented street is welcoming, safe and accessible for people in all forms of transportation but especially on foot (Speck, 2018). The policy reform that will be discussed and deliberated is to change city zoning rules to allow for more diverse developments to be closer together to encourage walking and increase urban density (Smith, 2018). The SmartCode, or transect-based coding, promotes a pedestrian-oriented and mixed-use environment and includes a framework for transit, pedestrian, and bicycle systems as well as compact urban development (Smith, 2018). This form of zoning reform has been successfully used in 50 cities throughout the United States, including large cities like Miami, Florida and Sacramento, California (Smith, 2018).

The group of stakeholders that we are focused on engaging are property owners and business owners in Fayetteville North Carolina. This group of people are essential to the success of the policy development and implementation because they are the largest group that need to buy into the changes that will come from the policy. This group of people will be impacted by changing property values, increased community access, increased sidewalk

infrastructure, and a change in business location opportunities due to changes in property rules. A representative from the Southeastern Home Owners Association (HOA) Management group will be present to ensure that the values and needs of the homeowners they represent are included in discussion regarding zoning code policy changes. The Associate Superintendent for Cumberland County School will be present because of their expertise in school finances and the management of the properties for the school district. The school district owns property in the city and serves a large portion of the community that would be impacted by the zoning code changes. Their input can be invaluable in helping ensure their needs are addressed. A business owner who will make sure that their perspective is included in the decision-making process. They have the power to allow changes to be made on their property or can halt projects that they do not want on their property. Another stakeholder that will be present is a staff representative from the Women's Business Center. This group works with local women business owners to help them access properties and make smart business decisions. They have a powerful voice in the business community and have access to a significant portion of the business owners in the community. We will also include a local business owner because of the direct impacts that the zoning policy can have on their business.

The primary engagement strategy is the creation of an advisory board that will consist of the business and property owners. The role of this advisory board is to engage with the business and property owners in the community (MRSC, 2008). The engagement will be focused on education and receiving feedback from the community in relation to the SmartCode policy development. The points of view that will be included are a local business owner, a representative from the Southeastern HOA Management, the Associate Superintendent for Cumberland County Schools, a business owner, and a staff representative from the Women's Business Center. The reasons why these people are included are highlighted in the Give-Get Grid in the Appendix F-2, Table F2.2. The Give-Get Grid is an important tool to create with the

stakeholders so that the contributions each stakeholder can give to the policy creation are understood. To create this grid, we will discuss with each stakeholder that outline what they can contribute and what they hope to gain out of the policy is necessary. This tool must also be shared with all of the stakeholders so that they each know who the other people are and what they are there for. The advisory board will be the main group bringing together the business and property owners to the Accountable Care Community (ACC). This group can also help draft messaging that will be communicated to the community with the main target being property owners.

A major function that the advisory board can do is to hold feedback/listening sessions with different property owners to hear what their concerns and thoughts are in relation to the changes to the SmartCode zoning policy. These sessions can help guide the different activities that the advisory committee takes on during the course of the first term (one year) of its function.

A survey at the individual level will be conducted in the community prior to the start of activities involved with community education or outreach to gain a baseline understanding of the population's perceptions and opinions on local zoning ordinances and the city's walkability. Each year the same survey will be conducted to measure the goals of this group of business owners and property owners and also after the policy is implemented in Fayetteville.

The power analysis in Appendix F-2, Table F2.3 outlines the different power and interests the included stakeholders have in relation to the advisory committee. Power is defined as who has the better ability to engage in activities and interest is defined as the perceived investment in the outcomes of the policy. The stakeholders who are in the "Key Players" quadrant have a high level of interest in the outcomes and have a lot of power to control the outcome in how the policy can work. The stakeholders who are in the "Keep Satisfied" quadrant are people that have a lot of power but don't have as much interest. The "Minimal Effort" quadrant contains people who have a high amount of interest, but low power. The final quadrant

holds the “Keep Informed” stakeholders, who have little interest and a low amount of power to the city’s zoning codes.

Accountability Plan

We are aiming to create a mutually beneficial ACC to advocate for the development and implementation of SmartCode zoning policy to increase the walkability in Fayetteville, NC. Each stakeholder will have a role to play to achieve the ACC’s goal which is outlined in the RASCI analysis in Appendix B, Tables B1 and B2.

Memorandum of Understanding

Between

Women's Business Center of Fayetteville, North Carolina

And

The Cumberland County Health Department

1. Purpose

The purpose of the Memorandum of Understanding (MOU) is to develop a mutual agreement of responsibilities and values to work towards improving the walkability in Fayetteville, North Carolina. This will promote a sustainable partnership between the Women's Business Center (herein referred to as WBC) of Fayetteville, North Carolina with the Cumberland County Health Department (herein referred to as CCHD). The goals of this partnership are to promote the health of the community by shifting to SmartCode zoning, which have shown to increase the walkability of the city.

2. Partnership Expectations, Goals, Values

The work of the WBC and CCHD shall adhere to the following principles through their partnership:

2.1 Promote co-learning about SmartCode Zoning Policies.

2.2 Respect unique contributions of those involved and be open to learning from one another.

2.3 Value transparency in decision making processes.

2.4 Prioritize community health and wellbeing while addressing issues surrounding equity and access.

2.5 Respect the community that is being served and take steps to listen and work with the community.

3. Activity Agreements

The following outline agreements by the WBC and CCHD prior to starting any activities:

3.1 The CCHD will contribute appropriate resources that can be beneficial to policy development goals.

3.2 The WBC and CCHD will communicate monthly about individual tasks through meetings, email, or other agreed upon communication methods.

3.3 Efforts will focus on city zoning reform to promote community infrastructure that encourages healthier living.

3.4 The CCHD will be responsible for supporting (marketing, advising, or financing/funding) all appropriate efforts that make gains toward the common goal.

3.5 Both the CCHD and WBC shall retain the exclusive rights to appoint their respective staff.

3.6 The WBC will be responsible for engaging their customers in promotional activities that increase the use of sidewalks in the community.

4. Scope of Activities

The CCHD and WBS will work to produce the following outputs:

4.1 The CCHD shall support the creation of the SmartCode policy making.

4.2 The CCHD will establish documentation for all meetings and create support systems to be accessible to all businesses and property owners.

4.3 This MOU will remain in effect for one term (one year) and may be extended by the written consent of all partners.

4.4 This MOU may be terminated by either party by giving a written notice 90 days in advance of the termination date.

4.5 Prior to the completion of the initial term of this MOU, the parties will assess the impact and effectiveness of its partners and report any changes that they recommend prior to the extension of the MOU.

4.6 The WBC and CCHD may agree to expand the Scope of Activities through discussion with authorized representatives from each stakeholder and may enter addendums to the MOU.

5. Measurable Goals

The goals of this partnership between the WBC and CCHD are the following:

5.1 In the first term of this MOU, the WBC and CCHD will take the outlined steps to engage in the policy creation process. Each partner will report their contributions to the activities in this agreement monthly.

5.2 Increase business participation in encouraging walking by 5% in the first term according to survey results.

5.3 Increase property owner awareness of zoning code policies by 10% in the first term as compared by pre and post-survey data.

In witness thereof, the parties have offered their signatures hereto:

Women's Business Center

DATE

Cumberland County Health Department

DATE

REFERENCES

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APPENDIX F2

Table F2.1: Methods of Engagement

Method of Engagement	Stakeholders	Function	Involvement
Feedback/Listening Sessions	Women's Business Center, Business Owner, Owners of rental properties, Resident who owns property	Provide a space for the community to be engaged with the policy creation to help ensure multiple viewpoints	Multiple open session meetings, as needed
Advisory board	Women's Business Center, Associate Superintendent for Cumberland County Schools, Southeastern HOA Management	Focused board to drive efforts towards the policy creation and implementation. Oversees the policy development team	30-30 model- at least 30 minutes of communication per month to set small goals and direct efforts forward.
Give-Get Grid	Local Business Owner, Women's Business Center, Resident who owns property, Associate Superintendent for Cumberland County Schools, Southeastern HOA Management	Communicate and outline contributions of each stakeholder. Also communicate what each person is hoping to gain by participating in the policy construction	One time conversation to create. Then needs to be communicated to all stakeholders. Can be updated as needed
Community Survey (Individuals)	Community Members	To provide information about communities knowledge and opinions related to walkability in their areas	one initial survey then yearly surveys done to compare ACC's progress towards goals.

Table F2.2: Give-Get Grid

Stakeholder Name	Give	Get
Southeastern HOA Management	Education to the homeowners that they represent, approval for changes to the properties they represent.	Assurance that the values and interest of the homeowners they represent are voiced in decision making processes.
Associate Superintendent for Cumberland County Schools	Powerful voice in policy opinions due to the volume of properties that they own.	Voice in how changes would impact the properties that the district owns and increased walkability for the communities they work with.
Business Owners	Interest and perspective of a person whose property may be impacted by zoning changes or community improvement efforts.	Voice in the process that impacts their community and their own property value.
Women's Business Center	Resources and Outreach to local business owners that they have relationships with	Opportunities for women owned businesses to push their needs in relation to walkability and community access
Local Business Owner	Perspective on the wants and needs of people who have a financial claim on the properties that can be impacted by smartcode zoning changes. Can also approve or decline physical changes to the properties they own.	Property values can increase when community's improvement plans begin. Can increase the access that people have to businesses by creating more walking infrastructure. Can also place property values higher than they are able to afford and can push these people out.

Table F2.3. Power Analysis

Power High

<p>Keep Satisfied (High Power/Low Interest) Cumberland County Schools</p>	<p>Key Players (high power/ interest) Women's Business Center Local Business Owner</p>
<p>Keep Informed (Low Power/Low Interest) Southeastern HOA Management</p>	<p>Minimal Effort (Low Power High Interest) Resident Who Owns Property</p>

Low

Interest

High

MIRANDA LANNING'S PERSUASIVE PITCH PRESENTATION



The overarching theme of our goals is to contribute to North Carolina's 2030 goal of increasing access to exercise and physical activity. Our proposed policy is to switch to SmartCode Zoning which allows for a simpler way to allow diverse business construction in the city limits while discouraging suburban sprawl. The goal of this policy is to bring the residents needs closer to where they live so that they can either walk or bike to their destination over driving a car. When we invest in walking infrastructure and change the zoning policies this can increase the local property values. We must include structures to ensure that we also keep the current residents from being pushed out of their communities because of these changes. Our overall intended impact is to reduce the negative health outcomes that are associated with walkability which include weight-related diseases. We are also aiming to increase outdoor physical activity and exercise and to increase the use of pedestrian, bike, and public transportation over single-owner cars. Through these goals, we aim to make significant health impacts on the Fayetteville community.



The Women’s Business Center has the power to help push SmartCode for Healthy Communities policy forward in the city’s policy agenda. With your center helping this ACC we can help create more business opportunities for women entrepreneurs. The new zoning changes will allow businesses to function in new areas of their communities which is an excellent opportunity for businesses to expand or for new ones the opportunity to reach new markets. The goal of having businesses closer to where people live is so that people can walk to the places they want to go. With the zoning changes, there will also be sidewalk infrastructure that will be built to help guide people to the places they are trying to get to safety. This will create an increase in foot traffic which is shown to have an increase in new customers walking into a building. Another opportunity for your organization to be involved is to help educate business owners on how and why to create incentives for walking or biking to work. These incentives can increase employee health and workplace satisfaction. We also hope to consult with your organization to help get business owners buy in and feedback for the zoning policy changes. We appreciate your time and we look forward to partnering with you.