COMMUNITY HEALTH ASSESSMENT Hanover County, Virginia, 2017

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IN COOPERATION WITH THE STATE DEPARTMENT OF HEALTH

Chickahominy Health District

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Dear Reader,

On behalf of the Chickahominy Health District and the Healthy Hanover Coalition, I am excited to share the results of the 2017 Hanover County Community Health Assessment. We are confident that this report not only presents a comprehensive health assessment of Hanover County, but also represents the views of the people who call it home. The purpose of this endeavor was to identify the top health-related priorities within our community and to provide a tool that will enable key partners to strategically address the community's most important health needs. Ultimately, the goal is to improve the health of the people in our community.

This endeavor would not have been accomplished without the tremendous support from our community volunteers, dedicated partners, and the Community Health Assessment Steering Committee members, who met monthly to collaborate on this project. In particular, I want to acknowledge the dedicated work of Caitlin Hodge, Health Educator Sr. at Chickahominy Health District, who served as Chairperson of the Healthy Hanover Coalition, facilitator of the Community Health Assessment Steering Committee, and chief composer of this report.

The Community Health Assessment is the initial phase of an ongoing process to evaluate and improve the health of Hanover County community members. Our hope is that this report sparks dialogue and ultimately informs coordinated and systematic action that promotes health for all. We ask that, after reading this report, you consider joining us in addressing the identified health priority issues as we begin the Community Health Improvement Plan in 2018.

Sincerely,

Thomas G. Franck, MD, MPH Director, Chickahominy Health District





Executive Summary

The Community Health Assessment (CHA) for Hanover County is the initial phase of a process to evaluate and improve the health status, outcomes, behaviors, and health-promoting opportunities of all community members. This document is intended to serve as a guide to those seeking to improve community health and make impactful change in Hanover County. The CHA involved collecting and analyzing quantitative data to better understand the issues influencing the County's health. In addition to quantitative data, multiple concurrent and follow-up activities took place in order to add context, perspectives, and real-life examples of health determinants from the community. These activities included: community input sessions to learn the importance of health-related topics from at-risk populations; a PhotoVoice project with local students to uncover the environmental aspects they believe influence their health; a root cause tree analysis with the CHA Steering Committee to explore conditions that may contribute to local health disparities; a series of walking audits to uncover where improvements beneficial to pedestrians and people of all ability levels could be implemented; and a survey, in partnership with the Hanover County Planning Department, designed to uncover common barriers to walking/biking as well as gauge the community's readiness for/support of infrastructure improvements.

The assessment identified Hanover County's strengths, including ways County policies promote resident health and quality of life: Hanover ranked in the top 20 healthiest counties in Virginia in terms of overall health outcomes calculated by County Health Rankings & Roadmaps. Additional strengths include the following: families report living in the County because of its excellent public school system; the County is viewed as a safe community with few crimes committed; Hanover's central location makes it convenient to drive to nearby activities, events, jobs, and resources within 15-30 minutes; the County has a mix of rural and suburban areas that appeal to people of diverse interests (with farms, parks, restaurants, a small college, trains, and shops); and there is strong civic engagement with volunteers willing to donate their time and energy, as well as an active faith community.

The assessment also uncovered areas that would benefit from focused action in order to improve the County's health equity. Health equity means that everyone in the community has the opportunity to attain their highest level of health; inequities are created when barriers prevent individuals or subpopulations from reaching their full potential (Health Equity, 2017). The following themes arose from the CHA data collection: expand/develop alternative modes of transportation – specifically related to walkability and bikeability to promote physical activity, improve pedestrian safety, and make it easier for people of all income levels and abilities to access community resources; improve access

to mental health care – specifically, increase the number of mental health care providers locally who are affordable and can treat/address substance abuse disorders; and increase the availability/ visibility of resources for those with financial instability and address the underlying issues/associated challenges. Developing strategies for breaking down barriers to health equity will be the focus during the Community Health Improvement Plan, and will require involvement by diverse community members and leaders.

Purpose

Improving population health through collaborative efforts is an essential part of improving the overall health of Virginians. According to the National Association of County & City Health Officials, a community health assessment (CHA) is a process that uses quantitative and qualitative methods to systematically collect and analyze data to understand health within a specific community. A CHA report informs decision-making, prioritizes health problems, and lays the ground work for developing, implementing, and evaluating a community health improvement plan (CHIP) (Definitions of Community Health Assessments, 2017). Communities continuously change and require improved strategies to meet new challenges; Figure 1 illustrates the cyclical nature of the CHA/CHIP process.



Figure 1: CHA/CHIP Process

Broad and diverse community engagement and multi-sector collaborations are key elements of an effective CHA/CHIP process. For this reason, a CHA Steering Committee comprised of community members and leaders, provided insights and guidance based on their experiences in Hanover County. Committee members reviewed data, identifying community assets and health issues, and determined ways to engage the public during the process. Please see in Appendix A, the CHA/CHIP Action Plan for Hanover County.

The CHA process identified health disparities and associated barriers to good health, while also bringing to light the unified goals of the CHA Steering Committee members for making the County a health-promoting community. This led to the development of the CHA Steering Committee's vision statement:

Improving community health is about making life better for real people: our children and families, co-workers, neighbors, and ourselves. Preventing and postponing disease increases the odds that every child and adult has the opportunity to reach their full potential and best quality of life (NQF, 016).

A truly successful CHA/CHIP process would result in systematic changes in Hanover County that would lead to improved opportunities for all community members to achieve their highest level of health, with health being defined as "a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity" ("Constitution of the World Health Organization", 1946).

Background

Population health is the distribution of health outcomes and disparities in a group (NQF, 2016). For this CHA, the population is defined as Hanover County community members. Subpopulations are groups of individuals who are smaller parts of the population, and can be grouped by age. occupations, interests, zip codes, race/ethnicity, etc. (NQF, 2016). The term community health is often used interchangeably with population health, and can be given many meanings. However, for the purposes of this CHA, community health relates to the power of relationships and the interconnectedness of people, organizations, and systems within Hanover County. The Census Bureau's Population Estimates Program estimated that, for 2016, Hanover County's population was just over 100,000 people, with about 22% of the population under the age of 18 years and roughly 17% of the population being 65 years and older. Approximately 84% of the Hanover County population identifies as White, with the next largest racial/ethnic group identifying as African Americans (9%). Females make up 51% of the population and about 39% of residents live in rural areas ("U.S. Census Bureau QuickFacts", n.d.). To promote community health and wellness, the Healthy Hanover Coalition was formed in 2014 as part of Hanover County's Human Services Strategic Plan. One objective of the coalition was to develop a coordinated health assessment and improvement plan to address the root causes of poor health in the community. The coalition organized its efforts around four main focus areas: 1) access to health care, 2) promotion of nutritious foods, 3) improve physical activity, and 4) increase awareness of behavioral health/substance abuse.

Addressing health issues at the root cause often has a greater impact on the community by preventing or postponing poor health for more people (NQF, 2016) when compared to medical interventions. The example below demonstrates how working on health improvements at the root of the problem may be more effective than waiting to address health issues later on, which is often when people need medical care. Within a population of 100,000 people ages 30 to 84, it is estimated that far more deaths could be prevented or postponed in the U.S. if everyone followed basic guidelines for good health (i.e., eating 5 fruits and vegetables per day, not smoking or being exposed to second hand smoke, and getting 150 minutes of physical activity per week) when compared to the impact of using key "heart-related medical interventions" (AED, angioplasty, and implantable defibrillator) (Kottke & Pronk, 2013). Figure 2 shows an estimate for the number of lives saved per year for these interventions and guidelines.

Figure 2: Medical Intervention vs. Healthy Guidelines

VS.

AED: 2 Angioplasty: 15 Implantable Defibrillator: 63

Eat five fruits and vegetables per day: 158 No smoking or exposure to second hand smoke: 159 150 minutes of physical activity per week: 334

Policies, programs, and resources that provide all community members the opportunities and support to achieve these guidelines for good health could result in a healthier county, where more residents have a better quality of life and there are fewer health disparities. Health is not simply determined by individual choices – there are many additional determinants of health, including: access to social and economic opportunities; availability of resources/supports in homes, neighborhoods, and communities; quality of schooling; safety of the workplace/neighborhoods; cleanliness of water, food, and air; and the nature of social interactions and relationships ("Social Determinants of Health", n.d.).

In 2016, at the same time the Healthy Hanover Coalition was growing in membership, the Virginia Department of Health released *Virginia's Plan for Well-Being*, which is an action plan for the creation and sustainability of conditions that support health of Virginians. It serves as a road map for community health improvement for the state by the year 2020. The plan focuses on four aims: Healthy Connected Communities, Strong Start for Children, Preventative Action, and System of Health Care ("Virginia's Plan For Well-Being", 2016).

Additionally, under the U.S. Department of Health and Human Services' Office of Disease Prevention and Health Promotion, *Healthy People 2020* was developed as a national resource to promote health and prevent disease, with baseline health information from 2010. *Healthy People 2020* established objectives and goals for improving the health of Americans, namely to: 1) increase public awareness and understanding of the determinants of health, disease and disability and the opportunities for progress in these categories, 2) provide measurable goals that are applicable nationally, state-wide, and locally, 3) engage several sectors to take actions in strengthening policies and improving evidence and knowledge based practices, and 4) identify the critical needs for research, evaluation and data collection in the U.S. Every ten years, Healthy People releases new objectives for improving the health of Americans ("Healthy People 2020", n.d.).

With the intersection of benchmarks and goals for the nation's health (*Healthy People 2020*), the action plan for improving the state's health (*Virginia's Plan for Well-Being*), and the support of the Healthy Hanover Coalition, the time was right to begin the assessment and improvement process at the local level in Hanover County to make a meaningful impact through the community's connections and partnerships. The Chickahominy Health District's Health Educator, Sr., Caitlin Hodge, acted as

the planner and facilitator of the CHA process. A CHA Steering Committee was formed to navigate the process. The CHA Steering Committee members represented governmental agencies, the local hospital system, local not-for-profit organizations, a place of worship, the public schools, and the local college, among others. Members of the committee included several Healthy Hanover Coalition members as well as new partners. A list of the CHA Steering Committee members is included below. This list includes those who attended and contributed to at least one of the six official meetings. Additionally, Amanda Turner and Jillian Ferree with the Virginia Department of Health, provided assistance with editing and formatting the CHA report.

Adam Russo Hanover County Public Schools

Agathe Hoffer-Schaefer Chickahominy Health District

Ann Vargo Virginia Cooperative Extension

Carole Pryor Starcher First Union Baptist Church

Caroline Kistler The Arc of Hanover

Corey Beazley Hanover County Fire & EMS

Dave Cooper Circles Ashland

Deanne Hamilton Atlee Station Family YMCA

Elisa Allen Hanover Employee & Student Wellness Francine Hunter First Union Baptist Church

Jasmin Johnson Medical Reserve Corps

Kelsie Burton Randolph Macon College

Lisa Adkins Hanover County Community Resources

Martha Lambert Hanover Community Services Board

Maureen Earley Hanover Community Services Board

Melanie Gubbles Bupp Randolph Macon College

Michele Winters-Callender Chickahominy Health District Nicholas Setliff Bon Secours Richmond Health System

Octavia Marsh Hanover Cares

Patty Hall Hanover Safe Place

Raven Sullivan Chickahominy Health District

Sheila Crossen-Powell Hanover County Dept. of Social Services

Tom Franck Chickahominy Health District

The tools used to facilitate the CHA process were drawn from the National Quality Forum's Improving Population Health by Working with Communities: Action Guide 3.0 and the National Association of County & City Health Officials' Mobilizing for Action through Planning and Partnerships. The Steering Committee began meeting monthly in April 2017 and held its last meeting in September 2017. Committee members completed an evaluation of the meeting's facilitation and activities at every other meeting. The larger Healthy Hanover Coalition met in June and October of 2017 and were informed of the activities and outcomes of the CHA process. The activities for each CHA Steering Committee meeting are describe in Appendix A1.

Health Rankings and Scores

County Health Rankings & Roadmaps, a Robert Wood Johnson Foundation Program, ranks Hanover County at 19th out of 133 jurisdictions in Virginia based on its overall health outcomes (with 1 being the best overall health outcomes). This ranking is considered a snapshot of the community's health and a starting point for investigating and determining ways to improve the community's health. Hanover County is just below Rappahannock County (18th) and just above Frederick County (20th). This ranking indicates that overall, Hanover County residents have good health outcomes and Hanover is in the top 15% of all counties in Virginia, but opportunities for improvements exist. This ranking accounts for factors including length of life (Hanover ranks 32nd) and quality of life (Hanover ranks 18th). In terms of health factors, Hanover County ranks 7th out of 133 jurisdictions based on health behaviors (Hanover ranks 7th), clinical care (Hanover ranks 6th), social and economic factors (Hanover ranks 8th), and the physical environment (Hanover ranks 55th) ("Health Rankings", 2017).

The areas of strength for Hanover that contribute to the rank of 7th for health factors include, but are not limited to, high school graduation (91% of the ninth-grade cohort graduate in four years; compared to 86% overall in Virginia), uninsured County members (9% of the population under age 65 are without health insurance; compared to 12% overall in Virginia), teen births (13 births per 1,000 in the female population ages 15-19; compared to 25 overall in Virginia), and the food environment index (9.1 out of 10, with 10 being the best/most factors that contribute to a healthy food environment; compared to 8.2 overall in Virginia) ("Health Rankings", 2017). Areas that need improvement include, but are not limited to, adult obesity (27% of adults that report a body mass index of 30 or more, with this percentage increasing in the County since 2011; the overall reported adult obesity percentage in Virginia is also 27%), driving alone to work (84% of the workforce drives alone to their job, which can have an impact on active living, air quality, and the number of traffic crashes; compared to 78% overall in Virginia), and mental health providers (the ratio of the population to mental health providers is 850:1 in the County; compared to 730:1 overall in Virginia) ("Health Rankings", 2017).

Additionally, the Virginia Department of Health created an index called, The Health Opportunities Index (HOI), to allow counties to explore their local landscape based on social determinants of health. Hanover County's HOI score is a 26 out of 134 (see Appendix B for a diagram illustrating Hanover's scores for each profile). The index score is based on over 30 variables that are combined into indicators and then grouped into profiles. A lower score (closer to 1) means there is a greater opportunity to be healthy in the community ("Counties – Virginia Health Opportunity Index", n.d.). Hanover's score of 26 is considered good, as the HOI score for all local health districts overall is 67, with the county of Arlington ranked as the best County in terms of HOI indices with a score of 1, while Buchanan County had the least favorable HOI score of 134. The HOI shows that Hanover County can make the greatest improvements related to the community environmental profile. Below are Hanover's scores for the four profiles (in order by greatest opportunity to lowest opportunity score):

• Economic Opportunity Profile = 17

Measure of economic opportunities available within a community and accounts for employment accessibility, income inequality, and job participation

• Wellness Disparity Profile = 17

Measure of the disparate access to health services within a community and accounts for access to care and the segregation index

Consumer Opportunity Profile = 21

Measure of consumer resources available within a community and accounts for affordability, education, food accessibility, and the Towsend Material Deprivation Index

Community Environmental Profile = 81

Measure of the natural, built, and social environment and accounts for air quality, population churning, population-weighted density, and walkability

The American Association of Retired Persons (AARP) has developed an additional tool that has been used to rank Hanover County's health. This tool is called the Livability Index, and it ranks counties based on features that satisfy the needs of people of all ages, incomes, and abilities ("AARP Livability Index", 2015). Hanover County scored a 52 out of 100, with 100 being the best score and 0 being the worst score. Hanover's score is one point higher than Virginia's overall score of 51 ("AARP Livability Index", 2015). The overall score of 52 was based on rankings in the follow areas of livability, which are in order by highest to lowest score that Hanover County received: 75 for opportunity (inclusion and possibilities), 59 for environment (clean air and water), 55 for health (prevention, access, and quality of care), 52 for engagement (civic and social involvement), 48 for neighborhood (access to life, work, and play), 38 for housing (affordability and access), and 36 for transportation (safe and convenient options) ("AARP Livability Index", 2015). Please see Appendix B1 for the full description of each livability area and AARP's justification of each score.

These rankings depict Hanover County as a good place to live in terms of education, health behaviors, and the economy. To receive a better score/ranking, Hanover County could make improvements related to transportation and the environment. Details on the resources and assets available in the County that contribute to good health are included in the Community Assets section that follows. Further details on areas for improvement are examined in the quantitative and qualitative data sections.

Community Assets

The first activity of the CHA Steering Committee was to identify the strengths and resources in Hanover County. This was accomplished by splitting into groups to brainstorm and list all the organizations, resources, people, and places that contribute to making Hanover County a healthy place to live, work, and play. The asset lists were then categorized by six dimensions of wellness: social/spiritual, mental/emotional, physical, environmental/neighborhood, education/occupation, and economic. To review each dimension's definition, please see the Community Assets Presentation in Appendix C. The committee members identified 50 assets; each asset could be placed in multiple dimensions of wellness. Placement in the dimensions of wellness was based on the asset's mission, programs, and/or perceived current impact on the community. For example, Senior Connections and the Hanover County Public Schools involved all six dimensions of wellness. To see a full listing of the assets and how they were categorized, please refer to Appendix C.





Figure 3, Number of Assets for Each Dimension of Wellness, illustrates that the dimensions of physical wellness (25) and education/occupation wellness (23) have the greatest number of assets; followed closely by environmental/neighborhood (21) and social/spiritual (20) wellness. The dimensions of mental/emotion (10) and economic (12) wellness have the fewest assets in Hanover

County. CHA Steering Committee members provided the following insights based on the asset outcomes:

• Organizations may touch on economic stability, but economic advancement is not the sole focus of most services or programs in the County.

• Assets that encompass many dimensions of wellness may not be able to "do them all well" and involving many dimensions does not necessarily mean that the asset provides a better service/ program compared to another asset.

• There is a stigma associated with those who require mental health care and/or have low incomes, so taking advantage of available services may not be culturally/socially acceptable or encouraged.

- The lack of affordable housing in the county is related to economic stability/wellness.
- "Segregation by transportation" was a phrase used to describe the transportation barriers and how they relate to economic challenges/wellness.

• Mental and emotional well-being are interrelated with all the dimensions of wellness and should be prioritized when developing new programs or policies.

Identifying community assets allowed the Steering Committee to determine which types of resources are currently prioritized in the community and which types may need to be expanded on due to potential gaps/needs in the County. The community assets list and presentation are living documents that can be updated regularly. Following the identification of community assets, the Steering Committee reviewed quantitative data related to a number of factors impacting community health in Hanover County. These data are reviewed in the sections that follow.

Quantitative Data Review

Demographics

Population Size & Race and Hispanic Origin Identity

As of 2016, there were estimated to be 104,392 people residing in the 468.6 square mile area of Hanover County, which is a 4.5% increase in population size since 2010 ("U.S. Census Bureau QuickFacts", n.d.). The majority of people living in Hanover County identified as White alone, not Hispanic or Latino (84.4%). Residents who identified as Black or African American alone represented 9.3% of the county. Those who identified as Hispanic or Latino accounted for 2.9%; those who identified as having two or more races represent 1.8% of the County; and even fewer residents identified as being Asian alone (1.6%) ("U.S. Census Bureau QuickFacts", n.d.). When Hanover County is compared to Virginia, the County's population is less diverse by race and Hispanic origin.

Age & Gender Identity

As of 2016, 5% of Hanover County's population was made up of persons under the age of 5 years old. Persons between 5 and 18 years of age made up 22.3% and persons 65 years and older accounted for 16.7% of the County's population. Those who identified as a female made up 51% of the population and the County's population of older adults (65 years and above) is slightly higher than what is seen in greater Virginia, with 16.7% identifying as 65 years or older in Hanover County compared to 14.6% across Virginia ("U.S. Census Bureau QuickFacts", n.d.).

Housing

There were 40,907 housing units in Hanover County as of 2016. In 2015, the median value of an owner-occupied housing unit was \$255,400, and 81% of the housing units were occupied by the owner. The monthly housing costs expenses for renters (median gross rent) was \$1,044. The percent of owner-occupied housing units in Hanover County is much larger than the overall Virginia percentage (81% vs. 66.2%) ("U.S. Census Bureau QuickFacts", n.d.).

Social Economic Factors

Disabilities

Ten percent of Hanover County's population that is noninstitutionalized has a disability. For those ages 65 and over, 31% have a disability. It is estimated that over 6,500 residents of Hanover County, ages 5 years and older, who are noninstitutionalized, have ambulatory difficulty ("American FactFinder", n.d.).

An ambulatory difficulty relates to challenges with mobility and/or walking ("American FactFinder", n.d.). There were almost 22,000 students in the Hanover County Public School System (pre-K to 12th grade) for the 2015-2016 school year ("Student Enrollment", n.d.). The Virginia Department of Education reported in the "Child Count Data" that 2,156 Hanover County students in 2015 had a disability and receive special education services while in school (Virginia Dept. of Education, 2017). Of those 2,156 students, 690 did not have an official or clear diagnosis status; the child's specific disability was not identified. Among students with a diagnosis, the most commonly reported disability was "speech or language impairment" (n= 397 with 105 female, 128 male, 164 sex not assigned). "Other health impairment" was the second most commonly reported condition (n= 374 with 86 female, 32 male, 156 sex not assigned). Autism was the third most commonly reported condition (n=230 with 12 female, 104 male, 164 sex not assigned) (Virginia Dept. of Education, 2017). The total number of students in the "Child Count Data" only captures those utilizing services and does not represent all students who may have a disability.

Autism Spectrum Disorder

It is estimated that 1 in 68 U.S. children have an autism spectrum disorder (ASD) according to the Centers for Disease Control and Prevention's Autism and Developmental Disabilities Monitoring Network. Autism Spectrum Disorder is more commonly diagnosed among males than females ("CDC | Data and Statistics", 2017); reasoning for this is under scientific speculation. Understanding the implications of intellectual and physical disabilities alike is important for learning the needs of the community and building communities that allow all individuals the opportunity to learn, live, work, and play. Related to ASD are significant economic burdens to families due to direct and indirect costs, including medical care, special education, and lost parental productivity ("CDC | Data and Statistics", 2017), as well as the emotional toll, anxiety, and stigmatization many families feel when their children have ASD diagnoses. According to Jessica Philips, the Executive Vice President & Chief Operating Officer of Commonwealth Autism, at this time, autism is not a reportable health condition in Virginia and the yearly "Child Count Data" provided by the Virginia Dept. of Education shows a consistent increase in the number of students eligible for special education services under the category of autism. "However, these data are likely underreported [and it's] difficult to understand the true impact of autism in Virginia without this information," Jessica Philips stated in July 2017, when asked to comment on the impact of autism in the community and the availability of data.

Income - Gini Index

The Gini Index is used to measure income inequality. Gini Index values range between 0 and 1. A value of 1 indicates perfect inequality (where only one household has any income). A value of 0 indicates perfect equality (where all households have equal income). Index values are acquired from the U.S. Census Bureau, American Community Survey, 2010-2014. Hanover County's Gini

Index value (0.39) is closer to zero than Virginia's value (0.46) and the U.S.'s value (0.48), showing that households in Hanover County are slightly closer to having equal income than compared to households in the state and nationally ("Community Commons", 2016). Figure 4, Gini Index Value Meter, shows how Hanover compares to Virginia and the U.S. Figure 5, Income Inequality (Gini) Index Value Map, shows the census tracts in Hanover County where there is the greatest income inequality. The census tracts with income inequality above 0.401 include the zip codes of 23005, 23059, 23111, and 23146. Overall, Hanover County has a low income inequality score, but there are communities (as shown in the map) where the Gini Index is over 0.46, which is the score for Virginia overall.

Figure 4: Gini Index Value Meter

	Hanover County	Virginia	United States	
Total Households	37,041	3,041,710	116,211,088	
Gini Index Value	0.39	0.46	0.48	
				0

Figure 5: Income Inequality (Gini) Index Value



Median Family Income

The term family household means any housing unit in which the householder is living with one or more individuals related to him or her by birth, marriage, or adoption. Family income includes the incomes of all family members age 15 years and older. Median family income data is based on findings from the U.S. Census Bureau, American Community Survey, 2010-2014. As shown in Figure 6, Median Family Income Meter, the median family income for Hanover County (\$90,812) is greater than Virginia (\$77,939) and the U.S. (\$65,443), but there are communities, as shown in Figure 7, Median Family Income Map, that report lower incomes – including incomes below \$45,001

("Community Commons", 2016). Census tracts with median family incomes below \$55,001 include zip codes 23005 and 23111. Figure 8, Median Family Income by Household Composition, shows that single females with children make less income than any other family composition type. Single females with children in Hanover County make almost \$30,000 less per year than single males with children. This disparity is similar to what is seen in Virginia and nationally. As shown in Figure 9, Family Income by Race/Ethnicity of Householder, households who identify as American Indian/ Alaskan Native (there are estimated to be only 250 people who identify as this Race/Ethnicity in the County), on average, make much less income (\$37,303) than any of the other Race/Ethnic group. Households who identify as "other race" have the next lowest average income of \$51,008, followed by households who identify as Black or African American, with an average income of \$65,746. The group who makes the greatest average income is Non-Hispanic White (\$94,000).

Total Family Households 28,193 2,047,106 76,958,064 Average Family Income \$103,677 \$102,254 \$86,963		Hanover County	Virginia	United States
Average Family \$103,677 \$102,254 \$86,963 Income \$103,677 \$102,254 \$86,963	Total Family Households	28,193	2,047,106	76,958,064
	Average Family Income	\$103,677	\$102,254	\$86,963
Median Family \$90,812 \$77,939 \$65,443 Income \$90,812 \$77,939 \$65,443	Median Family Income	\$90,812	\$77,939	\$65,443

Figure 6: Median Family Income

Figure 7: Median Family Income





Figure 8: Median Family Income by Family Composition

	Hanover County	Virginia	United States
Married Couple Families without Children	\$90,011	\$88,088	\$75,434
Married Couple Families with Children	\$112,744	\$100,096	\$84,541
Single Males without Children	\$82,644	\$58,769	\$51,768
Single Males with Children	\$70,250	\$43,747	\$37,640
Single Females without Children	\$53,255	\$48,354	\$43,046
Single Females with Children	\$40,640	\$28,620	\$24,403



Figure 9: Hanover County Median Family Income by Race/Ethnicity of Householder

Poverty - Population Below 100% of the Federal Poverty Level

Poverty is considered a key driver of health status. In Hanover County, according to the U.S. Census Bureau, American Community Survey, 2010-2014, 5.5% are living in households with income below the Federal Poverty Level (FPL) ("Community Commons", 2016). This indicator is relevant because poverty creates barriers to accessing health services, healthy food, and other resources that can contribute to health status. Figure 10, Percent Population in Poverty Meter,

shows that the percent of the population living in poverty in Hanover is low (5.5%) compared to Virginia (11.5%) and the U.S. (15.6%), but there are communities, as displayed in Figure 11, Population Below the Poverty Level Map, with greater numbers of people reported as living in poverty (including census tracts with 15.1-20.0% and 20%+ below the FPL). Census tracts with 10.1% or more of the population below the federal poverty line include zip codes 23005, 23047, 23059, and 23015. A higher percentage of females than males are living in poverty, which is similar to what is seen in Virginia and the U.S. (see Figure 12, Population in Poverty by Male/Female). Figure 13, Population in Poverty by Race, shows that Hanover County community members who identify as Black or African American represent 18.4% of those living in poverty (999 people).

Figure 10: Percent of Population in Poverty

	Hanover County	Virginia	United States	
Total Population	98,562	7,939,332	306,226,400	
Population in Poverty	5,418	914,237	47,755,608	
Percent of Population in Poverty	5.5%	11.5%	15.6%	0 25%

Figure 11: Population Below the Poverty Level



Figure 12: Population in Poverty by Male/Female

	Hanover County	Virginia	United States
Total Male	2,173	2,173	21,461,752
Total Female	3,245	517,171	26,293,856
Percent Male	4.51%	10.27%	14.33%
Percent Female	6.44%	12.7%	16.81%

Figure 13: Population in Poverty by Race

	Hanover County	Virginia	United States
White	3,932	505,667	28,912,690
Black or African American	999	301,972	10,351,976
Native American/Alaskan Native	9	3,094	714,053
Asian	109	38,712	1,957,794
Native Hawaiian/Pacific Islander	15	544	107,874
Some Other Race	96	30,181	3,914,622
Multiple Race	258	34,067	1,796,597

Education - Population with No High School Diploma

Based on the U.S. Census Bureau, American Community Survey, 2010-14, there are 5,148 persons aged 25 years and older without a high school diploma (equivalency) or higher in Hanover County. This represents 7.6% of the total population in this age group. This indicator is relevant because educational attainment is linked to positive health outcomes (Freudenberg & Ruglis, 2007). As shown in Figure 14, Percent Population Age 25+ with No High School Diploma Meter, the population without a high school diploma in Hanover County is lower than what is seen in Virginia (12.1%) and the U.S. (13.7%) ("Community Commons", 2016). The map in Figure 15, Population with No High School Diploma Map, illustrates which census tracts in Hanover County have the highest percentage of the population without a high school diploma. Areas with 11.1% of the population and above

reported as not having a high school diploma include zip codes 23005, 23069, and 23116. Figure 16, Population with No High School Diploma by Race, shows that most people without a high school diploma identify as White (3,781, which is 6.4%). The next highest number is 1,075 people, who identify as Black or African American (16.9%).

Figure	14: Percent	of Population	Age 25+	with No High	School Diploma
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	Hanover County	Virginia	United States		
Total Population Age 25+	67,945	5,501,125	209,056,128		
Population Age 25+ with No High School Diploma	5,148	666,397	28,587,748		
Percent of Population Age 25+ with No High School Diploma	7.6%	12.1%	13.7%	0	50

Figure 15: Population with No High School Diploma



	Hanover County	Virginia	United States
White	3,781	410,534	18,623,964
Black or African American	1,075	171,467	4,089,870
Native American/Alaskan Native	68	33,455	1,535,940
Asian	42	2,586	328,479
Native Hawaiian/Pacific Islander	0	262	44,296
Some Other Race	86	36,670	3,421,304
Multiple Race	96	11,423	543,894

Figure 16: Population with No High School Diploma by Race

Crime

In 2016, the Hanover County Sherriff's Office was presented the International Association of Chiefs of Police Cisco Community Policing Award due to their community policing and partnerships, deeming Hanover County one of the safest places in the world. The Hanover County Sheriff's Office provided a document describing a snapshot of crime occurring in Hanover County for the years 2015 and 2016. There was an increase from 2,773 total offenses in 2015 to 3,001 total offenses in 2016. The offenses occurring most commonly AND increasing in the number of occurrences (from 2015 to 2016) were:

- Drug and narcotic violations: 430 to 632 counts (+ 47.0%)
- Simple assault: 451 to 519 counts (+ 15.1%)
- Larceny shoplifting: 179 to 246 counts (+ 37.4%)
- Motor vehicle larceny: 119 to 147 counts (+ 23.5%)

From 2015 to 2016 Hanover experienced a decrease in occurrences in several crime categories, including:

- Drug equipment violations: 27 counts to 16 (- 40.7%)
- Embezzlement: 30 counts to 22 (- 26.7%)
- Larceny of vehicle parts and accessories: 28 counts to 17 (- 39.3%)

Hanover also experienced a decrease in the number of sexually violent crimes reported and/or investigated. According to a National Crime Victimization Survey by the Department of Justice, from

2010 to 2014, only 344 out of every 1,000 sexual assaults are reported to police nationwide, which means about 2 out of 3 go unreported ("The Criminal Justice System: Statistics", n.d.). From 2015 to 2016 the following sexually violent crime categories decreased in Hanover County:

- Forcible fondling: 30 counts to 29 (- 3.3%)
- Sexual assault: 3 counts to 2 (- 33.3%)
- Forcible rape: 10 counts to 5 (- 50.0%)
- Statutory rape : 3 counts to 1 (- 66.7%)
- Forcible sodomy: 7 counts to 1 (- 85.7%)

Hanover Safe Place

Because most sexually violent crimes are not reported to law enforcement, additional information was provided by Hanover Safe Place, which is a non-profit organization that works to provide sexual and domestic violence prevention, awareness, support, resources, and services. Hanover Safe Place collects data from their direct client services as well as from their hotline. According to Hanover Safe Place, from FY 2013-2017, the number of Hanover County clients that accessed direct services and called the hotline increased. Below is a brief description of the types of violence and client demographics based on data collection for FY 2017:

Direct Client Services, Total number of clients served = 316

- 242 adult victims of domestic violence
- 43 adult victims of sexual violence
- 51 youth victims exposed to domestic violence
- Most frequently (210), the violence survivor/victim identified as co-habituating with the abuser and/ or being the partners/spouse (including ex-partners and spouses) of the abuser
- 128 cases involved destruction of property or a threat to destroy property

Hotline, Total number of clients served = 2,268

- 1,652 adult victims of domestic violence
- 27 teen dating violence cases
- 50 youth victims of sexual violence/abuse
- Most frequently (1,405), the violence survivor/victim identified as co-habituating with the abuser and/or being the partners/spouse (including ex-partners and spouses) of the abuser
- 224 cases of stalking
- 114 cases of choking/strangulation
- · 269 cases of property destruction or threats to destroy property
- 176 cases that needed medical attention

Physical Environment

Nutrition – Food Insecurity

Based on data from 2014, 8% of Hanover County residents experienced food insecurity in the past year (i.e. percentage of the population who lack adequate access to or a reliable source of food) ("Health Rankings", 2017). Lacking constant access to food is related to negative health outcomes (including premature mortality) and can make it more challenging for families or individuals to provide balanced meals. The range of food insecurity percentages of the population seen in the counties of Virginia are from 4% to 28% with the overall percentage in Virginia being 12 ("Health Rankings", 2017).

Food Access

Food Access

Percent of Population

with Low Food Access

According to the U.S. Department of Agriculture, Economic Research Service, Food Access Research Atlas (2010), 21.1% of the Hanover County population live in an area with low food access (also known as a food desert). A food desert is defined as a low-income census tract where a large number of residents have limited access to a supermarket or large grocery store that offers a variety of food items. As shown in Figure 17, Percent Population with Low Food Access Meter, the percentage of Hanover County residents in a low food access area is slightly higher than that seen in Virginia (20.4%), but lower than the U.S. (23.6%) percentage. This indicator is relevant because it highlights subpopulations and geographies that are potentially facing food insecurity ("Community Commons", 2016). The census tracts that are considered to have the highest percentage of the community living in a food desert is illustrated in Figure 18, Population with Limited Food Access Map. Census tracts with over 50% of the population with limited food access include the zip codes 23111 and 23116. It is important to note that the data available for this indicator are from 2010; since then, new grocery stores and food markets may have been built in the area.

20.4%

	Hanover County	Virginia	United States		
Total Population	99,863	8,001,024	308,745,538		
Population with Low	21,081	1,631,024	72,905,540		

21.1%

Figure 17: Percent of Population with Low Food Access

0	•	30%

23.6%





Housing - Substandard Housing

Owner and renter-occupied housing units with at least one of the following conditions is considered substandard housing: 1) lacking complete plumbing facilities, 2) lacking complete kitchen facilities, 3) selected monthly owner costs as a percentage of household income greater than 30%, and/or 4) gross rent as a percentage of household income greater than 30% ("Community Commons", 2016). These data are used to identify homes where the quality of living could be considered substandard due to low-quality housing and the lack of basic necessities. Figure 19, Percent Occupied Housing Units with One or More Substandard Conditions Meter, uses data from the U.S. Census Bureau American Community Survey, 2010-2014, to compare Hanover County with Virginia and the U.S. In the County, there were 26.3% of housing units with one or more substandard conditions, which is lower than the percentage in Virginia (32.5%) and the U.S. (35.6%). The map in Figure 20 Substandard Housing Units Map, shows census tracts with 28.1% and above substandard housing units, which include the zip codes 23005, 23192, 23146, 23111, and 23116.

Figure 19: Percent Occupied Housing Units with One or More Substandard Conditions

	Hanover County	Virginia	United States	
Total Occupied Housing Units	37,041	3,041,710	116,211,088	
Occupied Housing Units with One or More Substandard Conditions	9,724	988,998	41,333,888	
Percent Occupied Housing Units with One or More Substandard Conditions	26.3%	32.5%	35.6%	0 509

Figure 20: Substandard Housing Units



Walking or Biking to Work

This indicator reports the percentage of the population that commutes to work by either walking or riding a bicycle. Active transportation, like walking and biking to work, can increase physical activity levels. Figure 21, Percentage Walking or Biking to Work Meter, shows that only 1.7% of the county population report walking or biking to work, which is less than Virginia (2.8%) and the U.S. (3.4%) according to the U.S. Census Bureau's American Community Survey, 2010-2014 ("Community Commons", 2016). Figure 22, Workers Traveling to Work by Walking/Biking Map, shows that there are communities in Hanover County where more than 4% of residents reported traveling to work by walking or biking. These areas include zip codes 23005, 23069, and 23116. Less active transportation may be related to safety concerns due to a lack of infrastructure for walking/biking as well as to the presence of rural areas in Hanover County.

Figure 21: Percentage Walking or Biking to Work

	Hanover County	Virginia	United States		
Population Age 16+	50,553	3,964,601	141,337,152		
Population Walking or Biking to Work	834	109,681	4,764,868		
Percentage Walking or Biking to Work	1.7%	2.8%	3.4%	0	10%

Figure 22: Workers Traveling to Work by Walking/Biking



Recreation

This indicator reports the number of recreation and fitness facilities per 100,000 population as defined by North American Industry Classification System Code 713940. Access to recreation and fitness facilities encourages physical activity, which can impact the activity levels of community members. Based on the 2014 data from the U.S. Census Bureau, County Business Patterns, Analysis by CARES, 13 fitness/recreation facilities per 100,000 population existed in Hanover County, which was greater than the number in Virginia (11.9) and the U.S. (10.1) ("Community Commons", 2016).

Air and Water Quality

Air quality is based on air pollution (i.e. particulate matter). The average daily density of fine particulate matter in Hanover County was 9.3 micrograms per cubic meter according to the CDC's National Environmental Public Health Tracking Network, 2012. This was lower than Virginia's

overall average (9.7) during 2012 ("Health Rankings", 2017). Water quality is measured by the number/presence of drinking water violations, which are self-reported ("Health Rankings", 2017). According to the Safe Drinking Water Information System, 2013-2014, Hanover County had zero violations in any community drinking water system ("Health Rankings", 2017). A drinking water violation based on health concerns occurs when a water system exceeds a maximum containment level or maximum residual disinfectant level or does not meet correct treatment technique requirements ("Health Rankings," 2017).

Hanover County Health Department's Environmental Health Services

The Hanover County Health Department has an Environmental Health team of specialists who address issues and questions related to improving public health. Specifically, the team works to prevent illnesses and outbreaks by: siting, inspecting, and issuing permits for private septic systems and wells; reviewing plans, performing safety inspections, and issuing permits to food establishments, temporary food vendors, hotels/motels, campgrounds, summer camps, pools, and migrant labor camps (as well as other general facilities); working with County animal control officers to investigate incidents related to the possible exposure of humans or animals to rabies; and, responding to numerous other public health concerns. Data is tracked annually for inspection and permitting requirements and possible rabies exposure incidents. During FY 2017 in Hanover County, 363 applications were received for private sewage systems, 309 applications for private wells, and 106 applications for private septic system repairs. During this same time period, over 2,000 inspections were conducted for food establishments, 129 inspections were conducted for all other facilities listed, and 273 possible rabies exposure incidents were investigated.

Health Behaviors

Tobacco - Current Smokers & Quit Attempts

In Hanover County, an estimated 12,661, or 17% of adults age 18 years and older self-report smoking cigarettes some days or every day, according to CDC's Behavioral Risk Factor Surveillance System accessed via the Health Indicators Warehouse, 2006-2012 ("Community Commons", 2016). Tobacco use is linked to cancer and cardiovascular disease, which are leading causes of death among Americans ("Community Commons", 2016). The percentage of current smokers in the County is similar to what is seen in Virginia and the U.S. (See Figure 23, Percent Population Smoking Cigarettes Meter). An estimated 57.9% of adult smokers in Hanover County attempted to quit smoking for at least 1 day in the past year, which is also similar to the percent who attempted quitting in Virginia and the U.S. (See Figure 24, Percent Smokers with Quit Attempt in Past 12 Months Meter).

	Hanover County	Virginia	United States		
Total Population Age 18	74,474	6,082,265	232,556,016		
Total Adults Regularly Smoking Cigarettes	12,661	1,064,396	41,491,223		
Percent Population Smoking Cigarettes (Crude)	17%	17.5%	17.8%		
Percent	17.1%	17.6%	18.1%	0	30%

Figure 23: Percent Population Smoking Cigarettes (Age-Adjusted)

Figure 24: Percent Smokers with Quit Attempt in Past 12 Months

	Hanover County	Virginia	United States	
Survey Population (Smokers Age 18)	17,574	1,195,484	45,526,654	
Total Smokers with Quit Attempt in Past 12 Months	10,178	698,174	27,323,073	
Percent Smokers with Quit Attempt in Past 12 Months	57.9%	58.4%	60.0%	0 80%

Physical Inactivity

According to the CDC's National Center for Chronic Disease Prevention and Health Promotion, 2013, within Hanover County, 17.4% of adults aged 20 years and older self-reported no leisure time physical activity, based on the question: "During the past month, other than your regular job, did you participate in any physical activities or exercises such as running, calisthenics, golf, gardening, or walking for exercise?" Physical inactivity can contribute to many health issues including obesity and poor cardiovascular health. As illustrated in Figure 25, Percent Population with No Leisure Time Physical Activity Meter, Hanover County has a lower percentage of the population who report no leisure time physical activity than compared to Virginia (21%) and the U.S. (21.8%) ("Community Commons", 2016).

	Hanover County	Virginia	United States	
Total Population Age 20	74,799	6,172,952	234,207,619	
Population with No Leisure Time Physical Activity	13,763	1,318,349	52,147,893	
Percent Population with No Leisure Time Physical Activity	17.4%	21.0%	21.8%	

Figure 25: Percent Population with No Leisure Time Physical Activity

Alcohol Consumption

Based on the CDC's Behavioral Risk Factor Surveillance System Health Indicators Warehouse, 2006-2012, 17.3% of adults ages 18 years and older self-reported drinking excessively in Hanover County. This is slightly above what is seen in Virginia (16.3%) and the U.S. (16.9%). Excessive drinking (also known as heavy alcohol consumption) is defined as more than two drinks per day on average for men and more than one drink per day on average for women. This indicator is relevant because heavy alcohol consumption is associated with health issues like cirrhosis, some cancers, and untreated mental health issues ("Community Commons", 2016).

Substance Abuse

According to the Hanover Community Services Needs Assessment (Part of the Substance Abuse Block Grant for 2016), alcohol and marijuana use, particularly among those ages 12-17, are the primary substances of concern ("Hanover County Needs Assessment Executive Summary", 2017). The main source of alcohol, marijuana, and prescription drugs for Hanover County youth is from within their own homes (i.e. sibling, parent, and/or found in the house). For example, the 2016 Hanover Youth Survey results showed that 42% of 12th graders reported that their parents provided alcohol for them to drink in their home. Marijuana and alcohol emerged as the top two drugs involved in substance use referrals made by school staff (2013-2014 and 2014-2015 school years) ("Hanover County Needs Assessment Executive Summary", 2017). Additionally, alcohol was the most common substance identified in Department of Behavioral Health & Developmental Services intakes for Hanover County. The needs assessment found that there has been an increase in the use of opioids and heroin in the 26-35 age group in Hanover County, which is a concerning trend that is being observed on a national level. According to VDH's Opioid Addiction Indicators for Hanover County, in 2015, overdose deaths were most common for those ages 25-34 for both Fentanyl/Heroin and prescription opioids. Hanover County residents, ages 25-34, were most frequently seen in the Emergency Department for overdoses due to Heroin or opioids (followed by those ages 15-24). Emergency Medical Services personnel administrated Narcan, a drug designed to revive individuals who have overdosed on heroin or opioids, most often to people ages 25-34 (followed by people ages 15-24 and then ages 35-44) in the County ("Opioid Addiction – Data", 2016).

Breastfeeding - Supplemental Nutrition Program for Women, Infants, and Children (WIC) WIC is a federally-funded health and nutrition program for women, infants, and children. WIC provides nutrition education, healthy supplemental foods, and makes referrals to other community services. WIC offers services for pregnant women, breastfeeding and postpartum women, infants, or children under age five. Eligibility for the program is based on household size and income. Breastfeeding is a key strategy for improving health in communities ("Breastfeeding Report Card", 2014). Nationally, breastfeeding rates are on the rise according to the CDC's Breastfeeding Report Card. In 2011, 79% of all newborn infants started to breastfeed, but breastfeeding did not continue for as long as recommended, which is 6 months ("Breastfeeding Report Card", 2014). Of infants born in 2011, 49% were breastfeeding at 6 months old, and this decreased to 27% at 12 months old ("Breastfeeding Report Card", 2014).

According to the Virginia Department of Health's WIC Program, in Hanover County, from October 2015 to November of 2016, the average number of participants per month was 672. During this time period, there was a decrease in breastfeeding women (from 43% in October 2015 to 35% in November of 2016). The lowest percent of breastfeeding occurred in July of 2016 (28%) and the highest percentage of breastfeeding occurred in October of 2015 (43%). The average percent of breastfeeding women per month for Hanover's WIC program was 34%. Nationally, in the fiscal year of 2015, over 1.93 million infants participated in the WIC program, and of those infants, approximately 31% were breastfeeding percentages in Hanover's WIC program are similar to those observed in the WIC program nationally.

Sexually Transmitted Infections

Sexually transmitted infections (STIs) in Hanover County are reported to the Hanover County Health Department. When lab tests come back positive for infections including Chlamydia, Gonorrhea, Syphilis and HIV, care providers are required to report them to the local health department. If a patient's address is in Hanover County, the infection report is submitted to the local health department, even if the patient seeks care outside of the County. Chlamydia (Genital Chlamydia trachomatis) was the most common STI reported in Hanover County in 2015 and 2016. In 2015, the median age of the person diagnosed with a STI was 22, and in 2016, the median age was 23. In 2015 there were 107 STI cases and in 2016 there were 105 STI cases reported to the Hanover

County Health Department. See Figure 26, STI Cases in Hanover County, which shows the number and type of cases for 2015 and 2016. According to the Virginia Department of Health's Sexually Transmitted Disease Surveillance System, when comparing the 2015 Chlamydia rate in Hanover County to the overall rate in Virginia, Hanover County's rate (259 cases per 100,000) was much lower than Virginia's (436 cases per 100,000). Genital Chlamydia trachomatis (C. trachomatis) is a sexually transmissible bacterial infection that is asymptomatic in the majority of infected individuals and is associated with significant short-term and long-term morbidity (Shaw, K., Coleman,D., O'Sullivan, M., and Stephens N., 2011). The population prevalence of the infection appears to be increasing. C. trachomatis is of public health significance because of the potential impacts on reproductive outcomes if untreated, transmission of other sexually acquired infections, and the costs to health systems. At the individual level, C. trachomatis infection is readily treatable with antibiotics, although antibiotic resistance appears to be increasing (Shaw, K., Coleman,D., O'Sullivan, M., and Stephens N., 2011).



Figure 26: STI Cases in Hanover County, 2015-2016

Immunization Survey

The Virginia Department of Health's Division of Immunization requires each Health District to conduct a survey of local immunization records. This survey includes randomly sampling records from kindergartens, middle schools, and day cares (including public and private entities). For 2016-2017, the Chickahominy Health District was given nine sites to survey and seven of those sites were located in Hanover County. According to the Centers for Disease Control and Prevention, immunizations are an important aspect of public health because they keep children healthy, prevent the spread of illness and disease, decrease the viability of a disease, and are a safe way to protect the community.

It is important to note that many factors can influence the immunization survey results for Hanover County, including, but not limited to: lack of updated records provided to the school/day care by the parent or guardian; some children may have been born in a country where they did not receive these immunizations or they use a different immunization schedule; the immunization records could be misplaced (by the parent or guardian); a smaller school/day care has few records to sample from, which makes the percentage of immunizations appear more dramatic; and HPV and meningococcal vaccines are not required for school admission in Virginia. It is also important to note that, due to the small sample size in Hanover County, the immunization data discussed in this section is not statistically significant or representative of the County as a whole, and should not be compared to state or national benchmarks/goals.

The survey completed in Hanover County showed that 88% of children ages 19-35 months whose records were sampled received the recommended doses of DTap, Polio, MMR, Hib, HepB, Var and PCV. The survey of records also found that 100% of adolescents ages 13-15 years old had received one dose of Tdap, and 98% of this same age group had received 2 doses of Var. Based on the Hanover County survey, it appeared that only 30% of adolescents ages 13-15 years old, whose records were sampled, had received 3 doses of the HPV vaccine (males and females) and 70% of this same age group had received conjugate vaccine.

Health Status and Outcomes

Cancer

Cancer Incidence – Breast

This indicator reports the age-adjusted incidence rate (cases per 100,000 population per year) of females with breast cancer adjusted to the U.S. standard population age groups. Cancer is a leading cause of death in the U.S. According to the State Cancer Profiles, 2009-2013, Hanover County had a higher incidence rate of breast cancer annually (148.3) than Virginia (125.5) and the U.S. (123.41) ("Community Commons", 2016), as shown in Figure 27, Annual Breast Cancer Incidence Rate Meter. The chart in Figure 28, based on data from the State Cancer Profiles, 2009-2013, shows breast cancer rate by Race/Ethnicity. White and Black are the only categories included in this chart because not enough data were available for the other Race/Ethnicity categories. Despite representing a small percentage of the county population (9.3%), those who identify as black have the highest incidence rate of breast cancer in Hanover county (284 per 100,000 female population).

Figure 27: Annual Breast Cancer Incidence Rate (Per 100,000 Pop.)

	Hanover County	Virginia	United States	
Estimated Total Population (Female)	6,405	468,207	18,056,679	
New Cases (Annual Average)	95	5,876	222,845	
Cancer Incidence Rate (Per 100,000 Pop.)	148.3	125.5	123.4	0 150

Figure 28: Breast Cancer Incidence Rate (Per 100,000 Pop.) by Race/Ethnicity

	White	Black
Hanover County	133.6	284
Virginia	126.1	130.4
United States	124.3	122.3

Cancer Incidence - Colon and Rectum

This indicator reports the age-adjusted incidence rate (cases per 100,000 population per year) of colon and rectum cancer adjusted to the U.S. standard population age groups. Based on data from the State Cancer Profiles, 2009-2013, Hanover County's 55.3 cancer incidence rate per 100,000 population for colon/rectum cancer is above the rate in Virginia (37.5) and the U.S. (40.6) ("Community Commons", 2016), as shown in Figure 29, Annual Colon and Rectum Cancer Incidence Rate Meter. As with breast cancer, despite representing a small percentage of the county population, those who identify as black have a much higher rate of colon/rectum cancer incidence in the County (101.9) compared to those who identify as white (50.7) (see Figure 30 Colon and Rectum Cancer Incidence Incidence Rate by Race / Ethnicity).

Figure 29: Annual Colon and Rectum Cancer Incidence Rate (Per 100,000 Pop.)

	Hanover County	Virginia	United States	
Estimated Total Population	11,392	857,600	33,989,067	
New Cases (Annual Average)	63	3,216	137,973	
Cancer Incidence Rate (Per 100,000 Pop.)	55.3	37.5	40.6	0 100

Figure 30: Colon and Rectum Cancer Incidence Rate (Per 100,000 Pop.) by Race/Ethnicity

	White	Black
Hanover County	50.7	101.9
Virginia	35.9	45.3
United States	39.7	48.1

Cancer Incidence - Lung

Even though the percentage of adults in Hanover County who report smoking cigarettes (17%) is similar to the percentage seen nationally, lung cancer incidence rates in the County (80.7 per 100,000 population) are greater than what is seen in Virginia (62.1) and the U.S. (62.6) based on data from the State Cancer Profiles, 2009-2013 ("Community Commons", 2016) (see Figure 31 Annual Lung Cancer Incidence Rate Meter). Smoking, radon, and secondhand smoke are the leading causes of lung cancer in the U.S. ("Health Risk of Radon", n.d.). Radon is the number one cause of lung cancer among non- smokers and overall, radon is the second leading cause of lung cancer nationally ("Health Risk of Radon", n.d.). Despite representing a small percentage of the County population, those who identify as black have the highest rate of lung cancer incidence (90) in Hanover County compared to those who identify as white (80.5) (see Figure 32, Lung Cancer Incidence Rate by Race / Ethnicity).
Figure 31: Annual Lung Cancer Incidence Rate (Per 100,000 Pop.)

	Hanover County	Virginia	United States	
Estimated Total Population	11,648	855,877	33,999,704	
New Cases (Annual Average)	94	5,315	212,905	
Cancer Incidence Rate (Per 100,000 Pop.)	80.7	62.1	62.6	0 100

Figure 32: Lung Cancer Incidence Rate (Per 100,000 Pop.) by Race / Ethnicity

	White	Black
Hanover County	80.5	90
Virginia	62.8	65.9
United States	63.2	65.4

Diabetes

According to the Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, 2013, the percentage of adults ages 20 years and older, who have ever been told by a doctor that they have diabetes, is 7.9% in Hanover County ("Community Commons", 2016). Based on these data, Hanover County has fewer adults diagnosed with diabetes than Virginia (8.9%) and the U.S. (9.2%) (See Figure 33, Percent Adults with Diagnosed Diabetes Meter). This indicator is relevant because diabetes is a growing chronic disease concern nationally. In Virginia, about 1 out of every 11 people have diabetes and more than 1 out of 3 adults have prediabetes ("Data – Diabetes and Prediabetes", n.d.). As illustrated in Figure 34, Percent Adults with Diagnosed Diabetes by Year, 2004 – 2011, diabetes diagnosis has been increasing since 2004. Figure 33: Percent Adults with Diagnosed Diabetes (Age-Adjusted)

	Hanover County	Virginia	United States	
Estimated Total Population Age 20+	74,447	6,176,997	236,919,508	
Population with Diagnosed Diabetes	6,998	587,180	23,685,417	
Population with Diagnosed Diabetes, Crude Rate	9.4	9.51	10	
Population with Diagnosed Diabetes, Age-Adjusted Rate	7.9%	8.9%	9.2%	0 15%

Figure 34: Percent Adults with Diagnosed Diabetes by Year, 2004 – 2011



Heart Disease

In Hanover County, 3.3% of adults ages 18 years and older have ever been told by a doctor that they have coronary heart disease or angina, according to the CDC's Behavioral Risk Factor Surveillance System Analysis by CARES, 2011-2012 ("Community Commons", 2016). Coronary heart disease is a leading cause of death in the U.S. and is associated with high blood pressure, high cholesterol, and heart attacks. As shown in Figure 35, Percent Adults with Heart Disease Meter, Hanover has a lower percentage of adults with heart disease than Virginia (4.2%) and the U.S. (4.4%).

	Hanover County	Virginia	United States		
Survey Population (Adults Age 18+)	77,287	6,116,822	236,406,904		
Total Adults with Heart Disease	2,524	254,688	10,407,185		
Percent Adults with Heart Disease	3.3%	4.2%	4.4%	0	15%

Figure 35: Percent Adults with Heart Disease

High Blood Pressure/Hypertension

According to the Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System Analysis by CARES, 2006-2012, in Hanover County, 32% of adults ages 18 years and older have ever been told by a doctor that they have high blood pressure or hypertension. This is greater than the percentage in Virginia (27.7%) and the U.S. (28.2%) ("Community Commons", 2016) (See Figure 36, Percent Adults with High Blood Pressure Meter). High blood pressure can damage people's bodies before symptoms develop, and when high blood pressure is uncontrolled, it can lead to a poor quality of life or even a fatal heart attack ("High blood pressure dangers: Hypertension's effects on your body", 2016). It is estimated that nationally, half of the people with untreated high blood pressure die of heart disease related to poor blood flow and another third of people die of stroke ("High blood pressure dangers: Hypertension's effects on your body", 2016).

Figure 36: Percent Adults with High Blood Pressure

	Hanover County	Virginia	United States	
Total Population (Age 18+)	74,474	6,082,265	232,556,016	
Total Adults with High Blood Pressure	23,832	1,684,787	65,476,522	
Percent Adults with High Blood Pressure	32.0%	27.7%	28.2%	0 409

Stroke - Mortality

In Hanover County, there are an estimated 41 deaths due to cerebrovascular disease (stroke) per 100,000 population. This is greater than the Healthy People 2020 target of less than or equal to 33.8, and above the rates seen in Virginia (39.4) and the U.S. (37.3) according to data from the CDC's National Vital Statistics System, CDC WONDER, 2010-2014. (See Figure 37, Stroke Mortality, Age-Adjusted Death Rate Meter). This indicator is relevant because stroke is a leading cause of death in the U.S. More females (42.1) than males (37.6) in Hanover County died from a stroke according to the age-adjusted stroke mortality rate ("Community Commons", 2016). This is different than what is observed in Virginia and the U.S., where more males died from stroke than females (See Figure 38, Stroke Mortality, Age-Adjusted Rate by Male/Female). Also, those who identify as black have a higher rate of stroke mortality (42.3) as compared to those who identify as white (39.6) in Hanover County. This is consistent with what is observed in Virginia and the U.S. (See Figure 39, Stroke Mortality, Age-Adjusted Rate by Race / Ethnicity).

_	Hanover County	Virginia	United States	
Total Population	100,821	8,174,036	313,836,267	
Average Annual Deaths, 2010-2014	46	3,262	129,754	
Crude Death Rate (Per 100,000 Pop.)	45.63	39.91	41.34	
Age-Adjusted Death Rate (Per 100,000 Pop.)	41.0	39.4	37.3	0 10

Figure 37: Stroke Mortality, Age-Adjusted Death Rate (Per 100,000 Pop.)

Figure 38: Stroke Mortality, Age-Adjusted Rate (Per 100,000 Pop.) by Male/Female

	Male	Female
Hanover County	37.6	42.1
Virginia	39.6	38.6
United States	37.5	36.5

Figure 39: Stroke Mortality, Age-Adjusted Rate (Per 100,000 Pop.) by Race / Ethnicity

	White	Black
Hanover County	39.6	42.3
Virginia	36.9	53.5
United States	36.1	51.6

Suicide

This indicator reports the rate of death due to intentional self-harm (suicide) per 100,000 population. This indicator is relevant because suicide is an indicator of poor mental health. According to the Centers for Disease Control and Prevention, National Vital Statistics System, 2010-2014, the suicide death rate for Hanover County (16.3) is higher than Virginia (12.3) and the U.S. (12.5), and is above the Healthy People 2020 target of 10.2 ("Community Commons", 2016) (See Figure 40, Suicide Age-Adjusted Death Rate Meter). Similar to what is seen in Virginia and the U.S., more males than females commit suicide in Hanover County. See Figure 41, Suicide Mortality, Age-Adjusted Rate by Male/Female, for details.

Figure 40: Suicide, Age-Adjusted Death Rate (Per 100,000 Pop.)

-	Hanover County	Virginia	United States	
Total Population	100,821	8,174,036	313,836,267	
Average Annual Deaths, 2010-2014	17	1,043	40,466	
Crude Death Rate (Per 100,000 Pop.)	16.86	12.76	12.89	
Age-Adjusted Death Rate (Per 100,000 Pop.)	16.3	12.3	12.5	0 50

Figure 41: Suicide Mortality, Age-Adjusted Rate (Per 100,000 Pop.) by Male/Female

	Male	Female
Hanover County	26.7	6
Virginia	20.1	5.3
United States	20.2	5.3

Obesity

According to the Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, 2013, in Hanover County, 26.9% of adults ages 20 years and older self-reported that they have a Body Mass Index (BMI) greater than 30.0, which is considered obese. This is similar to what is seen in Virginia (27%) and the U.S. (27.5%) ("Community Commons", 2016). (See Figure 42, Percent Adults with BMI > 30.0 Meter). Slightly more males than females are classified as obese in Hanover County, which is similar to trends in Virginia and the U.S. (See Figure 43, Adults Obese by Male/Female).

Figure 42: Percent Adults with BMI > 30.0 (Obese)

	Hanover County	Virginia	United States		
Total Population Age 20	74,770	6,174,416	234,188,203		
Adults with BMI > 30.0 (Obese)	20,487	1,680,393	64,884,915		
Percent Adults with BMI > 30.0 (Obese)	26.9%	27.0%	27.5%	0	50%

Figure 43: Adults Obese by Male/Female

	Total Males	Percent Males	Total Females	Percent Females
	Obese	Obese	Obese	Obese
Hanover County	10,151	27.9%	10,336	25.9%
Virginia	815,564	27.01%	864,840	26.95%
United States	32,051,606	27.92%	32,833,321	27.06%

Overweight

In Hanover County, 40.6% of adults ages 18 years and older self-reported that they have a Body Mass Index (BMI) between 25 and 30, which is considered overweight according to the CDC's Behavioral Risk Factor Surveillance System Analysis by CARES, 2011-2012. Even though adult obesity in Hanover County is similar to that seen in Virginia and the U.S., the percent of adults who are considered overweight in the County is higher than Virginia (35.2%) and the U.S. (35.8%) ("Community Commons", 2016), as shown in Figure 44, Percent Adults Overweight Meter. Adults who are overweight may be at risk of becoming obese in the future, which increases their risks for many associated health issues, including: hypertension, type 2 diabetes, stroke, osteoarthritis, and sleep apnea ("The Health Effects of Overweight and Obesity", n.d.).

Figure 44: Percent Adults Overweight

	Hanover County	Virginia	United States	
Survey Population (Adults Age 18+)	73,321	5,767,897	224,991,207	
Total Adults Overweight	29,776	2,028,730	80,499,532	
Percent Adults Overweight	40.6%	35.2%	35.8%	0 50%

Premature Death

This indicator reports Years of Potential Life Lost (YPLL) before age 75 per 100,000 population for all causes of death, age-adjusted. YPLL measures premature death and is calculated by subtracting the age of death from the 75-year benchmark. YPLL provides insight on the overall health status of a community. As shown in Figure 45, Years of Potential Life Lost Meter, Hanover County's YPLL rate per 100,000 population is low (5,619) compared to Virginia (6,295) and the U.S. (6,588), which shows that the overall health status of the County is good. The source of this data is the University of Wisconsin Population Health Institute, County Health Rankings ("Community Commons", 2016).

Figure 45: Years of Potential Life Lost, Rate per 100,000 Population

	Hanover County	Virginia	United States		
Total Population, Census 2010	99,863	8,001,024	312,732,537		
Total Premature Deaths, 2011-2013 Average	349	27,731	1,119,700		
Total Years of Potential Life Lost, 2011-2013 Average	5,611	502,966	20,584,925		
Years of Potential Life Lost, Rate per 100,000 Population	5,619	6,295	6,588	5000	100

Preventable Hospitalizations

Preventable Hospitalizations, also known as "ambulatory care-sensitive conditions," are characterized by being related to chronic health conditions that could have been avoided had appropriate outpatient care and disease management been provided. Rates of preventable hospitalizations are used by public health officials to measure accessibility and effectiveness of primary health care services and to determine where/how to control health costs (Lui & Wallace, 2011). The Agency for Healthcare Research and Quality uses a specific set of conditions called "Prevention Quality Indicators" (PQI) in order to define a hospitalization that could have been avoided with proper outpatient care. High rates of hospitalizations for these conditions may indicate a gap in services. PQI data also helps estimate the prevalence of chronic disease in a population. The Bon Secours Richmond Health System reported the top five PQIs for Hanover County in 2013, which include heart failure, pneumonia, diabetes, urinary infection, and asthma. They are displayed as the number of discharges and rate of discharges per 1000 diagnoses below ("Community Health Needs Assessment", 2016):

- 1. 237 discharges for heart failure (2.3 per 1000 diagnoses)
- 2. 170 discharges for pneumonia (1.6 per 1000 diagnoses)
- 3. 142 discharges for diabetes (1.4 per 1000 diagnoses)
- 4. 116 discharges for urinary infection (1.1 per 1000 diagnoses)
- 5. 62 discharges for asthma (0.6 per 1000 diagnoses)

Motor Vehicle Crashes

According to the Centers for Disease Control and Prevention, National Vital Statistics System, CDC WONDER, 2010-2014, the rate of motor vehicle crash deaths is higher in Hanover County (11.6) than Virginia (8.9) and the U.S. (10.6), as shown in Figure 46, Motor Vehicle Crash Death, Age-Adjusted Death Rate Meter. This indicator reports the rate of death due to motor vehicle crashes per 100,000 population, which include collisions with another motor vehicle, a non-motorist, a fixed object, and a non-fixed object, an overturn, and any other non-collision. Motor vehicle crash deaths are preventable and they are a cause of premature death. Figure 47, Motor Vehicle Crash Mortality, Age-Adjusted Rate by Male/Female, shows that the majority of motor vehicle crash deaths involve males. Hanover County's rate for males involved in crashes (37.6) is similar to the U.S. rate of 37.5, but above the Virginia rate of 13.1 ("Community Commons", 2016). As a note, data is not available for females in Hanover County due to the number of motor vehicle crashes involving females being low. Additionally, according to the U.S. Department of Transportation's National Highway Traffic Safety Administration, 2011-2015, the pedestrian-motor vehicle mortality rate (crude death rate per 100,000 population) is slightly higher for Hanover County (4) than Virginia (2) and the U.S. (3.1) ("Community Commons", 2016).

Figure 46: Motor Vehicle Crash Death, Age- Adjusted Death Rate (Per 100,000 Pop.)

	Hanover County	Virginia	United States		
Total Population	100,821	8,174,036	313,836,267		
Average Annual Deaths, 2010-2014	12	746	33,977		
Crude Death Rate (Per 100,000 Pop.)	11.51	9.13	10.83		
Age-Adjusted Death Rate (Per 100,000 Pop.)	11.6	8.9	10.6	0	50

Figure 47: Motor Vehicle Crash Mortality, Age-Adjusted Rate (Per 100,000 Pop.) by Male/Female

	Male	Female
Hanover County	37.6	No data
Virginia	13.1	4.9
United States	37.5	6.1

Health Care and Community Resources

Insurance Coverage

Health insurance is considered a primary indicator of health, and the lack of insurance is a major barrier to achieving positive health outcomes. The U.S. Census Bureau, Small Area Health Insurance Estimates found that from 2010 to 2014, 10.14% of individuals ages 18-64 years old in Hanover County did not have medical insurance. Although Hanover County fares better compared to Virginia (14.82%) and U.S. (16.37%) for this indicator, more than 6,000 people were uninsured. In 2014, of those under the age of 19 in Hanover County, 1,158 were without medical insurance (4.8%), which is less than the percentage seen in Virginia (6%) and the U.S. (6.3%) ("Community Commons", 2016).

Access to Providers

Access to Primary Care

This indicator reports the number of primary care physicians per 100,000 population. A shortage of health professionals can contribute to issues with access to care and health status. Rates of

morbidity and mortality can be reduced if residents can easily access health screenings, routine tests, and vaccinations. According to the U.S. Department of Health and Human Services' Health Resources and Services Administration, Area Health Resource File, 2013, there were 72 primary care physicians per 100,000 population in Hanover County, which is slightly less than the rate in Virginia (75.3) and the U.S. (75.8) ("Community Commons", 2016) (see Figure 48, Primary Care Physicians Meter). Virginia remained consistent in regards to the access to primary care rate over 10 years (84.02 in 2003 and then 84.47 in 2013), whereas Hanover County has made a small improvement during that same timeframe (69.09 in 2003 and 72.04 in 2013) (see Figure 49, Access to Primary Care Rate by Year).

United States Hanover County Virginia **Total Population**, 2013 101,330 8,260,405 316,128,839 **Primary Care** 73 6,216 239,500 Physicians, 2013 **Primary Care** Physicians, Rate per 72.0 75.3 75.8 100,000 Pop. 300

Figure 48: Primary Care Physicians, Rate per 100,000 Pop.

Figure 49: Access to Primary Care Rate by Year



Access to Dentists

This indicator reports the number of dentists per 100,000 population, and it includes all dentists (qualified as having a doctorate in dental surgery or dental medicine), who are licensed by the state to practice dentistry and who are practicing within the scope of that license. According to the U.S. Department of Health and Human Services' Health Resources and Services Administration, Area Health Resource File, 2013, Hanover County had 55.3 dentists per 100,000 population in 2013 ("Community Commons", 2016). This is less than the rate in Virginia (62.1) and the U.S. (63.2), as shown in Figure 50, Dentists Meter. Having fewer dentists conveniently located in the County could pose a barrier because residents may have to travel to nearby cities/towns to receive care.

Figure 50: Dentists, Rate per 100,000 Pop.

	Hanover County	Virginia	United States	_
Total Population, 2013	101,330	8,260,405	316,128,839	
Dentists, 2013	56	5,127	199,743	
Dentists, Rate per 100,000 Pop.	55.3	62.1	63.2	0 300

Access to Mental Health Providers

This indicator reports the rate of mental health providers per 100,000 population. Mental health care providers include: psychiatrists, psychologists, clinical social workers, and counsellors that specialize in mental health care. The University of Wisconsin Population Health Institute, County Health Rankings for 2016 found that there were only 131.4 mental health care providers per 100,000 population in Hanover County ("Community Commons", 2016). This is fewer providers than in Virginia (147) and the U.S. (202.8), as shown in Figure 51, Mental Health Care Provider Meter. Factors that affect access to mental health care exist at different points in the system, including long waiting times for outpatient appointments. The allocation of resources, as well as the quality of these mental health services, may be unevenly distributed across different geographical areas, and inequalities in the provision of services may occur. This can have consequences for certain groups, including people living in rural areas (National Collaborating Centre for Mental Health, 2011).

	Hanover County	Virginia	United States
Estimated Population	101,917	8,270,641	317,105,555
Number of Mental Health Providers	134	12,162	643,219
Ratio of Mental Health Providers to Population (1 Provider per x Persons)	760.6	680	493
Mental Health Care Provider Rate (Per 100,000 Population)	131.4	147.0	202.8

Figure 51: Mental Health Care Provider Rate (Per 100,000 Population)

HIV Screenings

This indicator shows the percentage of adults (ages 18-70) who self-report that they have never been screened for Human Immunodeficiency Virus (HIV), which can lead to Acquired Immunodeficiency Syndrome (AIDS). This indicator is relevant because screenings allow for early detection and treatment. Testing, which results in the knowledge of HIV status, can help reduce transmission of the virus. This indicator can highlight a lack of access to preventive care, lack of health knowledge, insufficient provider outreach, and/or social barriers preventing utilization of screening services. According to the Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System Analysis by CARES, 2011- 2012, 63.3% of Hanover County adults have never been screened for HIV, which is greater than the percentage in Virginia (57.6%) and the U.S. (62.8%) ("Community Commons", 2016), as shown in Figure 52, Percent Adults Never Screened for HIV Meter.

	Hanover County	Virginia	United States	
Survey Population, Age 18+	73,389	5,566,223	214,984,421	
Total Adults Never Screened for HIV / AIDS	46,464	3,205,323	134,999,025	
Percent Adults Never Screened for HIV / AIDS	63.3%	57.6%	62.8%	0 100%

Blood Pressure Management

In Hanover County, 20.1% of adults (ages 18 years and older), or 14,817, self-reported that they are not taking medication for their high blood pressure even though they have been diagnosed with hypertension, according to Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System Analysis by CARES, 2006-2010 ("Community Commons", 2016). As illustrated in Figure 53, Percent Adults with High Blood Pressure Not Taking Medication Meter, this percentage is similar to that observed in Virginia (19.7%) and the U.S. (21.7%). This indicator is relevant because medication adherence decreases the likelihood of developing complicated health problems.

	Hanover County	Virginia	United States		
Total Population (Age 18)	73,710	6,082,265	235,375,690		
Total Adults Not Taking Blood Pressure Medication (When Needed)	14,817	1,196,692	51,175,402		
Percent Adults Not Taking Medication	20.1%	19.7%	21.7%	0	50%

Figure 53: Percent Adults with High Blood Pressure Not Taking Medication

Hanover County Health Department Clinical Services

In Virginia, the local health department's clinical services are viewed as part of the safety net care system for those in the community without health insurance and/or those without a Primary Care Physician or Obstetrics/Gynecology. Local health departments are able to provide services to all community members and offer a sliding-scale payment option for health services based on income. The Hanover County Health Department offers services for child health, family planning, HIV, immunization, maternity care, communicable diseases, pre-nursing home screening, sexually transmitted infections, Tuberculosis, as well as other health services. According to the Virginia Department of Health, during the 5-year period from 2012 to 2016, the Hanover County Health Department averaged over 2,200 client visits per year. The most utilized services during each year are listed below; family planning services had the highest number of visits each year.

• 2012: Total visits = 2,123 and the most utilized services were family planning (719 visits) and immunization (624 visits)

• 2013: Total visits = 2,229 and the most utilized services were family planning (704 visits), immunization (448 visits), and maternity (326 visits)

• 2014: Total visits = 2,297 total visits and the most utilized services were family planning (796 visits), maternity (377 visits), and immunization (374 visits)

• 2015: Total visits = 2,222 and the most utilized services were family planning (746 visits),

immunization (388 visits), and sexually transmitted infections (345 visits)

• 2016: Total visits = 2,170 and the most utilized services were family planning (616 visits),

Tuberculosis (418 visits), and sexually transmitted infections (384 visits)

Qualitative Data Review

Following review of quantitative data, the CHA Steering Committee reviewed qualitative data on relevant health issues.

PhotoVoice Project

Students from Randolph-Macon College and local high schools were asked to participate in a PhotoVoice project in which "health promoters" and "health hinderers" in their community were captured in photos. This project included the collection of qualitative data, and a major goal was to increase awareness of young people's attitudes about environmental conditions that contribute to health in Hanover County. After students attended a training that outlined the project guidelines and safety tips, they used their own cameras to take photos in the County that showed places and activities that are part of their everyday lives. Students then submitted their photos with a write-up that answered these questions: 1) What is the story behind this picture? 2) How are you and your community affected? 3) Does this image promote or hinder health? Over 18 students were trained as PhotoVoice photographers, and six of these students participated in the project. There were 15 photos submitted prior to the CHA Steering Committee's July meeting.

Promoters of health included parks, sports, murals, and livestock. Health hinderers included litter, roads without sidewalks, and construction zones. One photo submission by Kelsie Burton, a Randolph-Macon College student, included pictures of Poor Farm Park and was titled, "Poor Farm Park – An Outdoor Oasis." The write up below describes the park as a health promoter:

Throughout Hanover, the Parks and Recreational services have given a lot of thought in creating spaces that allow anyone to come and enjoy the outdoors. Poor Farm Park is just one of the eleven parks that Hanover County has to offer. Poor Farm also has easy accessibility throughout some sections for those who might have difficulty getting around. From the outdoor playground for the youngsters to the bike/foot trails for an experienced hiker, Poor Farm is a place where healthy life-style habits like exercise can be created.

The CHA Steering Committee reviewed the presentation that included 15 photos and writeups (see Appendix D, PhotoVoice Project) and provided three main takeaways: 1) Continue the PhotoVoice project in different areas of the community over the next several years, while involving diverse groups to show more perspectives; 2) Include a third category that shows areas of the community that represent "potential" for improving health; 3) There was an overwhelming theme of the need to take care of the environment and enjoying the outdoor resources in Hanover County.

Bike Walk Hanover

The Hanover County Citizen's Engagement Committee (a.k.a. Bike Walk Committee) was created by the Hanover County Planning Department to gather input from community members related to walking and biking infrastructure changes/potential improvements in Hanover County. The Hanover Health Department was asked to advise the Bike Walk Committee (from February 2017 to August 2017) on potential health outcomes associated with improved access to infrastructure that allows residents to walk and bike safely on connected streets and sidewalks.

A survey was designed by the Bike Walk Committee and disseminated to Hanover residents in order to gauge their readiness to accept/support walking and biking infrastructure. There were over 1,170 survey participants. Survey respondents answered questions concerning the existing pedestrian and bicycle facilities within the County and provided suggestions for improving these facilities. Eighty-three percent of survey participants reported that they would like to walk, run, and/or bike more than they do currently. The most frequently reported barriers to walking, running, and biking in Hanover were: unsafe roads; lack of bike lanes, signage, bike racks, etc.; volume of traffic; and lack of connected routes. The committee recommended, in a presentation to Hanover County Board of Supervisors, that a section on "Active and Healthy Living" be added to the Comprehensive Plan. A majority of survey participants (82%) agreed that Hanover County's Comprehensive Plan should include more recommendations for walking/biking accommodations. The Bike Walk Hanover Survey Results Presentation can be viewed in Appendix E (this is the presentation given to the CHA Steering Committee), and the Bike Walk Hanover Survey Tool can be viewed in Appendix E1.

Designing for Inclusive Health

America Walks awarded funds to the Hanover Health Department for a project that focused on improving transportation options for those living with disabilities. For the project, the Hanover Health Department partnered with The Arc of Hanover, which is a leading advocacy, service and awareness organization for citizens with intellectual and developmental disabilities in Hanover County. Together, these organizations held a focus group and then conducted walking audits in Ashland and Mechanicsville based on the focus group's recommendations. Seven Arc of Hanover members (including family members) helped to identify walking and biking challenges, destinations they travel by foot or bike, and pedestrian-friendly infrastructure needs in their community.

The health department then worked with planners from Hanover County and the Town of Ashland to determine segments of road to audit based on the needs/requests of focus group participants. These segments of road have the potential to better connect existing activity centers, good, and services in Mechanicsville and Ashland.

A total of seven walking audits were conducted during the month of September, 2017. Volunteers for the project included: participants from the focus group, members of Healthy Hanover Coalition, staff from the local YMCAs, community members, and County/Town employees. Volunteers attended voluntary Walking Audit Training sessions in order to learn how to use the International Council on Active Aging (ICAA) Walking Audit Tool (see Appendix F, ICAA Walking Audit Tool). The walking auditors then met at the selected road segments and walked together to assess the conditions of the roads and paths. Seven volunteers attended the walking audit training and 13 volunteers conducted walking audits (those who did not attend the trainings received a brief on-site review of the auditing tool). Once all the audits were completed, results of the walking audits were summarized and the scores for each segment were averaged.

Four segments were audited in the Town of Ashland and three segments were audited in Mechanicsville. Both locations were chosen by the focus group because they reported living in the areas and wanting to more easily accessing goods and services by walking or biking. Road segments were graded based on a 9-item auditing tool assessing all aspects of walkability from walking surface to available shade on the path. The grade scale was out of 100 points, with 100 being the best possible score (i.e. most walkable). Scores were assigned one of three colors: green, yellow, or red. Three out of the four segments in Ashland scored 40-69 points making them "yellow" segments ("medium-risk and average" segments). One segment in Ashland scored "red" which means it is considered "high-risk and unattractive." This red segment lacked sidewalks, crosswalks, connectivity, had high potential for pedestrian conflicts due to high traffic flow, and lacked shade.

All three segments audited in Mechanicsville scored 39 points or below, meaning these segments are considered "red" and "high-risk and unattractive" for walking. Although there were many goods, services, and homes located on the segments, these areas lacked walking infrastructure such as sidewalks and crosswalks. Additionally, a high traffic flow in many areas resulted in conflicts for pedestrians and there were huge barriers related to travel due to bridges with no pedestrian space and a large intersection with no pedestrian crossing signals. Details for each of the walking audit results can be found in Appendix F1, Walking Audit Summary. The results of the audits were shared with the volunteers and focus group participants. A goal of the project is to use results to inform recommendations for walkability projects in Hanover County and the Town of Ashland, and to lead to walking audits in other areas of the community using the "designing for inclusive health" lens, so that

people of all ability levels are considered when making improvements to infrastructure.

Bon Secours Richmond Health System's CHNA Online Survey

A Community Health Needs Assessment (CHNA) was prepared for the Bon Secours Richmond Health System in 2016 and included data collected from Chesterfield, Henrico, Richmond City, and Hanover. Part of the CHNA involved an online survey to assess health needs of community members living in the four areas. The survey was completed by 759 individuals and was offered in Spanish (65 completed) and English (694 completed) ("Community Health Needs Assessment", 2016). Survey participants were asked to choose the top five priorities "you think should be addressed in your community from a list of 34 health concerns" ("Community Health Needs Assessment", 2016). Six hundred forty-eight (648) individuals (English and Spanish surveys combined) completed this question and the top ten health priorities selected were: 1) mental health, 2) transportation, 3) jobs with fair wages, 4) access to health services, 5) education, 6) adult obesity, 7) homelessness, 8) childhood obesity, 9) senior heath, and 10) housing ("Community Health Needs Assessment", 2016). As this survey involved multiple counties, the CHA Steering Committee for Hanover County recommended connecting directly with Hanover County community members – especially those who may be at a higher risk for poor health outcomes and less likely to participate in an online survey -to find out how they would score/rank local health issues. This was completed through the use of Community Input Sessions, which are detailed in the Health Priorities section of this report.

Root Cause Tree Analysis

Root Cause Tree Diagrams were created by members of the CHA Steering Committee following the May 2017 meeting and were shared with the committee members as the diagrams were completed between June and August 2017. The diagrams allowed the committee members to examine possible contributing factors to health issues in Hanover County. There were six health issues selected by the committee members after reviewing quantitative data in small groups (most of the data was gathered using tools provided by County Health Rankings & Roadmaps, Community Commons, and the Virginia Department of Health). The issues selected were: suicide rates, income inequality, transportation barriers, access to healthy foods, access to mental health care, and breast cancer incidence. CHA Steering Committee members then discussed one of these issue within their groups to think of possible factors impacting the local community and subpopulations who experience the burden of the issue. The root cause trees that were created depict health determinants that may be at the root of the problem.

It's important to note that the diagrams do not represent all health issues or disparities in Hanover County. Instead, the diagrams represent the health outcomes that were striking to the CHA Steering Committee members. The diagrams were used as a starting point for discussing the different factors that lead to poor health outcomes, which involve examining health equity and health disparities. To view all the Root Cause Tree Diagrams, please see Appendix G. Examples of possible root causes based on the six issues included: limited access to resources for coping with stress/trauma; lack of affordable housing; insufficient pay to overcome costs of childcare and transportation; lack of walking and biking infrastructure; perceived high costs of healthy foods; little to no mental health care insurance coverage; and low rates of breastfeeding.

Health Priorities

Multi-Voting

After reviewing Hanover County specific quantitative and qualitative data, the CHA Steering Committee used the multi-voting method to select the top three health priority issues. These three issues would then be brought to community members to rank during Community Input Sessions and be key focus areas of the Community Health Improvement Plan phase. The first round of voting narrowed down the focus areas from 15 health categories to 10. To do this, each committee member was provided a list of the 15 categories with the related health issues underneath each category. Steering Committee members then circled the top 10 categories based on experiences, personal/ professional insights, and information that has been presented during the CHA meetings. Facilitators collected the sheets and counted the votes. Then, facilitators developed new voting sheets that listed 11 health categories (due to a tie). From this list, Steering Committee members were asked to circle the top five health priorities.

Based on results from the second round of voting, an online survey was created to complete the third round of voting. A link to the survey was sent out to all CHA Steering Committee members (including those who were unable to attend the in-person meeting) as part of the meeting notes. For the third round of voting, a data summary and additional information was provided for each of the five health issues to assist with decision-making. The five health issues in the survey were: health care, food/nutrition, poverty, mental health, and transportation. Steering Committee members were asked to vote on the top three health priorities. Figure 54, Voting Outcomes, shows the voting results from the third round, which identified transportation (26.19%), mental health (23.81%) and poverty (21.43%) as the health priorities with the highest percentage of votes. An additional question was added to the survey: "For each of your three health priorities, please state a specific reason for choosing them." The responses to this question were used by the CHA Steering Committee to develop health issue statements and provide examples of those issues as part of Problem Importance Worksheets.

Figure 54: Voting Outcomes

Prioritizing Health Needs in Hanover County

Out of the five options below, please choose the top three most important health priorities for the County:

	Answer	Percent
1	Transportation	26.19%
2	Mental Health	23.81%
3	Poverty	21.43%
4	Health Care	16.67%
5	Food/Nutrition	11.90%
	Total	100%

Community Input Sessions

Based on the outcomes from the multi-voting process, Problem Importance Worksheets (PIWs) were developed for each of the top three priorities. The PIWs were used during Community Input Sessions, which were conducted in various locations in Mechanicsville and Ashland. To review the full summary of the Community Input Sessions, please see Appendix H. Session locations included: Shady Grove United Methodist Church Free Clinic, Mechanicville Elementary School Head Start Orientation, Henry Clay Elementary School Head Start Orientation, and Circles Ashland. The purpose of the Community Input Sessions was to hear from diverse community members of Hanover County regarding transportation, mental health, and poverty. Participants in the sessions were encouraged to provide comments and first-hand experiences related to these issues. They were also encouraged to write comments regarding health issues in their community that were not covered on the PIWs. The locations were chosen by the CHA Steering Committee to supplement the online survey conducted as part of the Bon Secours Richmond Health System's CHNA and to hear directly from those who may be facing barriers to good health. During the Community Input Sessions, participants completed PIWs, which included a section for scoring each topic based on its importance (impact, seriousness, and likelihood of fixing). To view the PIWs, please see appendix H1. Below are the problem statements that were developed by the CHA Steering Committee for the worksheets:

- Transportation barriers due to the lack of a public system & safety concerns for walking/biking
- Mental health care barriers due to the lack of awareness, access/affordability of services and feelings of embarrassment because of the social stigma.
- Poverty & associated challenges are often ignored/invisible.

There were five Community Input Sessions that were held in Hanover County between August and September 2017. At the Shady Grove United Methodist Church, two sessions were held with a total of 39 PIWs completed. The two Head Start Orientations had a combined total of 71 completed PIWs. The session at Circles Ashland had 60 PIWs completed. The average score was calculated for each topic per location and overall. The highest possible score for each topic was 30 (most important) and the lowest possible score was 3 (least important). Overall, the average scores were: 23.77 for mental health, 22.90 for transportation, and 22.82 for poverty. Mental health had the highest average score, though all the issues were given a high score (less than a 1-point difference between them), demonstrating that each issue was viewed as a priority area by the participants in the Community Input Sessions.

The participants' comments were analyzed using the qualitative data analysis software tool, NVivo. In order to analyze the comments, "Nodes" were created for the major topics (transportation, poverty, mental health) and then "Child Nodes" were created as subtopics under each Node. The subtopics included: access to care, depression and stress, education and awareness, violence and substance abuse, benefits and resources, funding allocation, health care, housing, jobs, school, biking, cars, environment, infrastructure, public transportation, and walking. The number of comments related to the Child Nodes were counted. The majority of comments touched on these six subtopics most frequently: jobs (18 comments), access to care (17 comments), benefits and resources (17 comments), cars (15 comments), walking (15 comments) and biking (13 comments). The Community Input Sessions held in Ashland most frequently had references to: jobs (14), access to care (10), depression and stress (10), and benefits and resources (10). The majority of references during Community Input Sessions in Mechanicsville related to: education and awareness (8), biking (7), cars (7), access to care (7), and benefits and resources (7). To see a full list of the participants' comments, please view Appendix H2.

Limitations

The Hanover County Community Health Assessment faced several limitations which affected the assessment process and the generalizability of its outcomes. First, this project was not supported by designated funds; as a result, the project management, meeting facilitation, planning, and drafting of the report were completed by the Chickahominy Health District with support from VDH's Division of Population Health and volunteers from the CHA Steering Committee. Second, county-level data for all health-related issues of potential interest was not consistently available. The amount of detailed information available on each health topic was therefore limited, thus impacting the indicators included in the assessment.

Further, quantitative data can become quickly outdated as populations fluctuate and data collection mechanisms change. Much of the quantitative data used for the CHA was pulled from the Community Common's Health Indicators Report tool in October 2016, and the CHA Steering Committee concluded its meeting in September of 2017. During the year between compiling the data and presentation of the data to the committee, the report tool's output visualizations and the original data sources to which it links may have changed. This delay, and the potential availability of more current quantitative sources, may impact the generalizability of some sections of the report to future community health improvement efforts. Demographic information was not collected during the Bike Walk Hanover Survey or during the Community Input Sessions— since these data were not collected, the report cannot include conclusions about the demographic composition or overall representativeness of the groups of community members who participated in those activities. Finally, some participatory CHA Steering Committee activities (including the Root Cause Tree Analysis and Multi-Voting) were completed during individual meetings or over short multi-week timeframes. As a result, participants relied on personal experiences and subjective knowledge of the subject matter to inform their contributions.

The generalizability and robustness of future Community Health Assessments would benefit from some methodological changes. First, the number of Community Input Sessions held should be increased and held in more areas of the County (not limited to Mechanicsville and Ashland). This methodology is also applicable to future Walking Audit Projects. Involving more community members who represent diverse age groups, racial/ethnic identities, educational attainment, and occupations would expand the reach of the project and broaden the array of insights and perspectives obtained during community-based assessment activities. Including more members of the private sector or local businesses on the CHA Steering Committee would also diversify the perspectives included in the assessment. Finally, ensuring the availability of translated materials (such as the Problem Importance Worksheets) in languages other than English would facilitate the recognition and characterization of health issues impacting or important to community members who speak languages other than English.

Conclusion

Three "Barriers to Good Health" were identified in Hanover County based on the CHA process: **1**) **Transportation** – specifically related to safety for walking and biking, in efforts to not only promote physical activity, but improve pedestrian safety and make it easier for people of all income levels and abilities to access community resources, **2**) **Access to mental health care** – specifically, the number of mental health care providers locally who are affordable and can treat/address substance abuse disorders and **3**) **Financial instability** - specifically, address the underlying issues/associated challenges (including unaffordable child care, difficulty finding full-time employment, expensive housing options, and stigmatization) and increasing the availability/visibility of resources for those in need. The Barriers to Good Health infographic in Figure 55 depicts these three priorities and provides related statistics and quotes from participants in Community Input Sessions.

As the landscape of the Hanover County changes, so will the health of its community members. The Community Health Improvement Plan (CHIP) is the next phase and it will use the outcomes of the CHA to take action. The CHIP will involve designing and implementing programs, policies, and activities that provide resources/tools to positively impact the County; specifically, taking actions to improve the County's health equity, so that everyone has the opportunity to attain their highest level of health. The Chickahominy Health District, in partnership with the Healthy Hanover Coalition, will facilitate this effort. Breaking down barriers to good health will require involvement from diverse community partners and leaders.

To learn more about this report or to inquire about being part of the CHIP process, please email Caitlin Hodge with the Chickahominy Health District: Caitlin.Hodge@vdh.virginia.gov

Figure 55: Barriers to Good Health



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Appendix

Appendix A: CHA/CHIP Action Plan

Community Health Assessment <u>**District:**</u> Chickahominy Health District

Action Steps	Estimated Timeline					
Phase 2A: Complete Community Health Assessment for	Phase 2A: Complete Community Health Assessment for Hanover County					
Research/data gathering; Steering Committee recruitment; CHA process planning	Oct. 2016 – April 2017					
CHA Vision; Asset Listing; PhotoVoice; Bike/Walk Survey; Root Cause Tree Analysis; Priority Voting	April 2017 – July 2017					
Complete Community Input Sessions; Livable Communities Workshop w/ AARP; Walking Audits; Infographic; Drafting of CHA report	Aug. 2017 – Oct. 2017					
CHA Report roll out to Hanover County community	Nov. 2017 – Jan. 2018					
Phase 2B: Complete Community Health Improve	ment Plan					
Recruit members for the CHIP Steering Committee (some will continue from CHA; others will be new); Discuss identified priority issues & determine overarching goal of CHIP; Select evidence-based program/policies/projects (literature review); Develop objectives & strategies; Determine metrics to capture	Jan. 2018 – June 2018					
Phase 3: Sustain Collaborative Community Health Improvement						
Implement Community Health Improvement Plan	June 2018 – on (length depends on project scope, partnerships, and funding)					
Monitor & evaluate results, write final community health	TBD					

Appendix A1: Steering Committee Meeting Activities

Community Health Assessment Steering Committee Meeting Activities (2017)

April 14th

- 1) Orient committee to project, roles and assessment process
- 2) Asset mapping to identify strengths in the community

*Meeting evaluation

May 16th

- 1) Review community asset outcomes
- 2) In small groups, review quantitative data for each health category
 - a) Identify topics/issues that require more information and/or are an important area of need

June 14th

- 1) In small groups, create a Root Cause Tree for one identified health issue
- 2) Review additional quantitative data
- 3) Determine qualitative data to present for next meeting

*Meeting evaluation

July 13th

1) Presentation and analysis of qualitative data to identify themes (PhotoVoice and Bike Walk Hanover

Survey Results)

- 2) Q&A with Chickahominy's Environmental Health Manger
- 3) Begin setting priorities for the County (multi-voting technique to select top 3 health barriers)
 - a) Form a subcommittee for planning Community Input Sessions

August 14th

- 1) Review the outcomes from the setting priorities activity
- 2) Discussion the Community Input Sessions plan and create the 'health issue statements and

examples' for the Problem Importance Worksheets

- 3) Present additional data/health information
- 4) Form a Subcommittee for the CHA report
- *Meeting evaluation

September 15th

1) Present CHA report Table of Contents for committee feedback & discuss infographic depicting

barriers to good health

- a) Brainstorm how to share the final report with community members and decision-makers
- 2) Overview of CHIP process and next steps

Appendix B: Health Opportunities Index



Appendix B1: AARP Livability Index



Third 0 - 33 This community does not score below average in any of the seven Livability categories.

Learn how you can make your community more livable and raise your score, visit **www.aarp.org/livabilityindex**. For policy research and analysis on livable communities, visit **www.aarp.org/livablepolicy**. For general resources on livable communities, including AARP's Network of Age-Friendly Communities, visit **www.aarp.org/livable**.



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They say home is where the heart is—and the same holds true for the Livability Index. Housing is a central component of livability. Deciding where to live influences many of the topics the Index covers. We spend more time in our homes than anywhere else, so housing costs, choices, and accessibility are critical. Great communities provide housing opportunities for people of all ages, incomes, and abilities, allowing everyone to live in a quality neighborhood regardless of their circumstances.

Attri Mea	bute Isure		Median US Neighborhood	Value
	Housing accessibility Basic passage	Percentage of housing units with extra- wide doors or hallways, floors with no steps between rooms, and an entry-level bedroom and bathroom: measured at the metro area scale, higher values are better.	2.6%	2.6%
	Housing options Availability of multi- family housing	Percentage of housing units that are not single-family, detached homes: measured at the neighborhood scale, higher values are better.	18.8%	9.9%
•	Housing affordability Housing costs	Monthly housing costs: measured at the neighborhood scale, lower values are better. Monthly costs are capped at \$4,000.	\$999	\$1,418
•	Housing affordability Housing cost burden	Percentage of income devoted to monthly housing costs: measured at the neighborhood scale, lower values are better.	18.4%	22.8%
•	Housing affordability Availability of subsidized housing	Number of subsidized housing units per 10,000 people in a county: measured at the county scale, higher values are better.	124	78
Poli	cies			
Hou Stat	sing accessibility and local inclusive des	ign laws	No Policy	\bigcirc
Hou Stat	sing affordability a and local housing trust	funds	No Policy	\bigcirc
Hou	sing options		No Policy	\bigcirc

Housing options **State manufactured housing protections** Housing affordability

State foreclosure prevention and protection Commitment to livability State and local plans to create age-friendly communities



No Policy

No Policy
48 (NEIGHBORHOOD ACCESS TO LIFE, WORK, AND PLAY

What makes a neighborhood truly livable? Two important qualities are access and convenience. Compact neighborhoods make it easier for residents to reach the things they need most, from jobs to grocery stores to libraries. Nearby parks and places to buy healthy food help people make smart choices, and diverse, walkable neighborhoods with shops, restaurants, and movie theatres make local life interesting. Additionally, neighborhoods served by good access to more distant destinations via transit or automobile help residents connect to jobs, health care, and services throughout the greater community.

Attribute Measure		Median US Neighborhood	Value	
	Proximity to destinations Access to grocery stores and farmers' markets	Number of grocery stores and farmers' markets within a half-mile: measured at the neighborhood scale, higher values are better.	0.0	0.3
	Proximity to destinations Access to parks	Number of parks within a half-mile: measured at the neighborhood scale, higher values are better.	0.0	0.1
	Proximity to destinations Access to libraries	Number of libraries located within a half- mile: measured at the neighborhood scale, higher values are better.	0.0	0.0
•	Proximity to destinations Access to jobs by transit	Number of jobs accessible within a 45- minute transit commute: measured at the neighborhood scale, higher values are better.	0	0
	Proximity to destinations Access to jobs by auto	Number of jobs accessible within a 45- minute automobile commute: measured at the neighborhood scale, higher values are better.	55,312	56,867
•	Mixed-use neighborhoods Diversity of destinations	Mix of jobs within a mile: measured at the neighborhood scale, higher values are better.	0.81	0.54
	Compact neighborhoods Activity density	Combined number of jobs and people per square mile: measured at the neighborhood scale, higher values are better.	3,567	1,387
	Personal safety Crime rate	Combined violent and property crimes per 10,000 people: measured at the county scale, lower values are better.	304	122
	Neighborhood quality Vacancy rate	Percentage of vacant housing units: measured at the neighborhood scale, lower values are better.	8.8%	4.0%
Poli	cies			
Mixe Stat	ed-use neighborhoods are and local TOD program	IS	No Policy	\bigcirc

Commitment to livability State and local plans to create age-friendly communities



No Policy

36 E TRANSPORTATION SAFE AND CONVENIENT OPTIONS

How easily and safely we're able to get from one place to another has a major effect on our quality of life. Livable communities provide their residents with transportation options that connect people to social activities, economic opportunities, and medical care, and offer convenient, healthy, accessible, and low-cost alternatives to driving.

Attril Mea	oute sure		Median US Neighborhood	Value
	Convenient transportation options Frequency of local transit service	Total number of buses and trains per hour in both directions for all stops within a quarter-mile: measured at the neighborhood scale, higher values are better.	0	0
	Convenient transportation options Walk trips	Estimated walk trips per household per day: measured at the neighborhood scale, higher values are better.	0.73	0.61
	Convenient transportation options Congestion	Estimated total hours that the average commuter spends in traffic each year: measured at the metro area scale, lower values are better.	17.4	12.4
	Transportation costs Household transportation costs	Estimated household transportation costs: measured at the neighborhood scale, lower values are better.	\$10,791	\$12,148
•	Safe streets Speed limits	Average speed limit (MPH) on streets and highways: measured at the neighborhood scale, lower values are better.	28.0	33.4
•	Safe streets Crash rate	Annual average number of fatal crashes per 100,000 people: measured at the neighborhood scale, lower values are better.	7.6	11.7
•	Accessible system design ADA-accessible stations and vehicles	Percentage of transit stations and vehicles that are ADA-accessible: measured at the metro area scale, higher values are better.	81.7%	75.1%

Policies

Safe streets State and local Complete Streets policies	Policy in Place	
Convenient transportation options State human services transportation coordination	No Policy	\bigcirc
Convenient transportation options State volunteer driver policies	No Policy	\bigcirc
Commitment to livability State and local plans to create age-friendly communities	No Policy	\bigcirc



55 A HEALTH PREVENTION, ACCESS, AND QUALITY

Community conditions influence health behaviors. Healthy communities have comprehensive smokefree air laws, offer easy access to exercise opportunities, and have high-quality health care available. Because health is so deeply related to quality of life, many other categories of livability in this Index include metrics related to health. For example, access to healthy foods, jobs and education, number of walk trips, lower speed limits, social engagement measures, and air and water pollution are all related to health. Where you live matters.

Attri Mea	Attribute Measure		Median US Neighborhood	Value
	Healthy behaviors Smoking prevalence	Estimated smoking rate: measured at the county scale, lower values are better.	20.3%	19.6%
	Healthy behaviors Obesity prevalence	Estimated obesity rate: measured at the county scale, lower values are better.	27.8%	24.1%
•	Healthy behaviors Access to exercise opportunities	Percentage of people who live within a half-mile of parks and within 1 mile of recreational facilities (3 miles for rural areas): measured at the county scale, higher values are better.	83.2%	56.1%
•	Access to health care Health care professional shortage areas	Severity of clinician shortage: measured at the health professional shortage area scale from 0 to 25, lower values are better. Read more about Health.	0	0
	Quality of health care Preventable hospitalization rate	Number of hospital admissions for conditions that could be effectively treated through outpatient care per 1,000 patients: measured at the hospital service area scale, lower values are better.	62.1	46.8
•	Quality of health care Patient satisfaction	Percentage of patients who give area hospitals a rating of 9 or 10, with 10 indicating the highest level of satisfaction: measured at the hospital service area scale, higher values are better.	67.3%	61.9%
Poli	cies			
Hea Stat	Ithy behaviors	IWS	No Policy	\bigcirc
Con	nmitment to livability		No Policy	\bigcirc

Commitment to livability State and local plans to create age-friendly communities



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A livable community fosters interaction among residents. From social engagement to civic action to Internet access, residents' individual opportunities to connect and feel welcomed help lessen social isolation and strengthen the greater community. The Index explores and examines the different ways in which residents engage with and support their communities, and how they impact livability as a whole.

Attribute Measure		Median US Neighborhood	Value	
	Internet access Broadband cost and speed	Percentage of residents who have access to three or more wireline Internet service providers, and two or more providers that offer advertised maximum download speeds of 50 megabits per second: measured at the neighborhood scale, higher values are better.	0.0%	3.2%
	Civic engagement Opportunity for civic involvement	Number of civic, social, religious, political, and business organizations per 10,000 people: measured at the county scale, higher values are better.	7.3	11.6
	Civic engagement Voting rate	Percentage of people ages 18 years or older who voted in the last presidential election: measured at the county scale, higher values are better. Voting rates are bounded at 30% and 85%.	55.6%	78.9%
	Social engagement Social involvement index	Extent to which residents eat dinner with household members, see or hear from friends and family, talk with neighbors, and do favors for neighbors: measured at the metro area scale from 0 to 2, higher values are better.	0.98	0.80
•	Social engagement Cultural, arts, and entertainment institutions	Number of performing arts companies, museums, concert venues, sports stadiums, and movie theaters per 10,000 people: measured at the county scale, higher values are better.	0.6	0.6

Policies

Internet Access State barriers to community broadband	No Policy	\bigcirc
Civic engagement Early, absentee, or mail-in state voting laws	No Policy	\bigcirc
Equal rights Local human rights commissions	No Policy	\bigcirc
Equal rights Local LGBT anti-discrimination laws	No Policy	\bigcirc
Commitment to livability State and local plans to create age-friendly communities	No Policy	\bigcirc





America was built on opportunity—and our nation's many thriving communities are no different. The degree to which a community embraces diversity and offers opportunities to residents of all ages and backgrounds is important to overall livability. Backed by a strong regional economy and fiscally healthy local governments, welcoming communities provide residents an equal chance to earn a living wage and improve their well-being, from jobs to education.

Attri Mea	bute sure		Median US Neighborhood	Value
•	Equal opportunity Income inequality	Gini coefficient (the gap between rich and poor): measured at the county scale from 0 to 1, lower values are better.	0.46	0.39
	Economic opportunity Jobs per worker	Number of jobs per person in the workforce: measured at the metro area scale, higher values are better. Jobs are capped at 1.0 job per person.	0.75	0.78
	Education High school graduation rate	Adjusted 4-year high school cohort graduation rate: measured at the school district scale, higher values are better.	81.3%	90.7%
•	Multi-generational communities Age diversity	Age-group diversity of local population compared to the national population: measured at the neighborhood scale from 0 to 1, higher values are better.	0.87	0.88

Policies

Local fiscal health Local government creditworthiness	No Policy	\bigcirc
Economic opportunity State minimum wage increase	No Policy	\bigcirc
Equal opportunity State expansion of the Family and Medical Leave Act	No Policy	\bigcirc
Commitment to livability State and local plans to create age-friendly communities	No Policy	\bigcirc



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Appendix C: Community Assets Presentation





	Social, Spiritual	Mental, Emotional	Physical	Environmental, Neighborhood	Education, Occupation	Economic
Interfaith Free Clinics (medical/dental)			х			
Libraries	х				х	
Local Hospital Systems (Bon Secours)		х	х		x	
Local Stores (donations)					x	
Medical Reserve Corps/Cert.	х		х	х		
Park & Ride				х		
Parks and Recreation	х		х	х		х
Police and Sherriff			х	х	х	
Raft House (mental health facility)		х				
Randolph-Macon College					х	
American Red Cross			х			
Rural Areas/Open Spaces (trails, walking/biking paths)			х	x		
Schools (nurses, guidance counselors, teachers, etc.)	x	x	x	x	x	x
Senior Connections	х	х	х	х	х	х

	Social, Spiritual	Mental, Emotional	Physical	Environmental, Neighborhood	Education, Occupation	Economic
Sports Backers			х	x		
The Supply Room					x	
The VA System			х			
TRIAD	х			х		
Virginia Medical Assistance			х			
Volunteers	х					х
YMCA	х		х		x	
Youth Recreation (teams)	х		х		x	
Youth Services (leadership programs)	х				x	
Services t Senior Co Services t Youth Re Parks & F Resource	hat involve onnections a hat involve creation Tea Rec, MRC/Ce s, EMS/Fire	all 6 dimens and Schools 3-5 dimensio ams, YMCA, ert., Hanove , Circles Ash	ions: ons: Social Serv r Safe Place land, Arc of	ices, Police & , Hanover Co Hanover, Bo	Sheriff, mmunity n Secours,	



This is a living document that should be updated annually to reflect the changing or expanding resources and assets available in Hanover County.

Appendix D: PhotoVoice Project





Goals of the PhotoVoice Project • Gain insights into the youth perspective • Students were asked to participate in a photographer safety/guidelines training • For each photo, students answered these questions: • What is the story behind this picture? • How are you and your community affected? • Does this image promote or hinder health?



Locally Produced Cuteness By: Mary Ellis Age: 21 **PROMOTE** or HINDER

Many people in Hanover county own livestock, ranging in size. This helps to provide local milk, eggs, and meat resources for those in the community. In many cases, you can even visit the farm yourself to see exactly where your food is coming from. This helps to form a closer connection between farmers and consumers, and allows consumers to know what they are eating

Ongoing Construction By: Alyssa Rice Age: 15 PROMOTE or **HINDER**

This construction promotes poor health because the construction has been going on for more than a year and is affecting how people get to some of the most popular stores in Mechanicsville, leading to stress and frustration.





Fire By: Michael Lenzi Jr. Age: 17 PROMOTE or **HINDER** This image reflects the dangers presented to our beautiful Hanover County when fires are not properly put out. If citizens build fires, they should be responsible enough to see that they are completely and properly extinguished.



Biking Downtown By: Taylor Intermill Age: 22 PROMOTE or HINDER Richmond and its surrounding areas are heavily involved in biking. What I love about Ashland is the promotion of biking a healthy habit. Almost every storefront in Ashland has one or more bikes. I think the bikes create a positive influence and an atmosphere that promotes biking/being active. Buy Fresh Buy Local By: Taylor Intermill Age: 22 PROMOTE or HINDER

Every Saturday morning there is a farmer's market located in downtown Ashland. The market has multiple local vendors who bring vegetables, fruit, soaps, lotions and homemade items. I love the friendly environment. I believe this is a huge health promoter.





Hanover is recognized for its beautiful countryside, with fields often picturesque in appearance. Often, however, this image is ruined by litter strewn on the sides of roads. Plastic, cardboard, cans, bottles, many different objects lay abandoned. Not only is this unsightly, it's harmful to the environment, certainly a hindrance to health.

<u>Litterbug</u> By: Mary Ellis Age: 21 PROMOTE or **HINDER**



Poor Farm Park – An Outdoor Oasis By: Kelsie Burton Age: 20 **PROMOTE** or HINDER

Throughout Hanover, the Parks and Recreational services have given a lot of thought into creating spaces that allow anyone to come and enjoy the outdoors. Poor Farm Park is just one of the 11 parks that Hanover County has to offer. Poor Farm also has easy accessibility throughout some sections for those who might have difficulty getting around. From the outdoor playground for the youngsters to the bike/foot trails for an experienced hiker, Poor Farm is a place where healthy lifestyle habits like exercise can be created.





What do you think this picture is trying to show?

A Treacherous Walk to School By: Jamie Langbein Age: 21 PROMOTE or HINDER

Every day I walk to school, but there is no sidewalk for me to safely walk on. The road I live on is one that a lot of cars drive on. The police even often post an officer a few houses down from me because so many people speed along this road. It is healthier for me (and the planet) to walk to school, but without a sidewalk, it can also be more dangerous - as I walk in the road and risk being hit by a car that is going too fast or the driver is not paying attention.







What do you think this picture is showing?

<u>Train Crosswalk</u> By: Kelsie Burton Age: 20 **PROMOTE** or HINDER

The train system is iconic to the town of Ashland. This rail system promotes tourism, access to travel, and most importantly community amongst those who live here. Although iconic, trains are dangerous, since this train cuts right through town, the need for safety precautions are essential. These walkways are interspersed throughout the town in order for patrons in the community to walk across the tracks safely. Without these walkways, patrons would either cross the tracks illegally or cross along the paths where cars can cross which can increase the danger for those pedestrians.



This picture shows the history of Ashland in a mural that incorporates numerous aspects of how this town came to be. It shows the train station which created economic wealth, fresh farm food which sustained life in Ashland, the opening of a college and other historic buildings that were created along the way. Without a strong sense of community and understanding past struggles, it is hard for a town to overcome obstacles. When a town has people who all care and love each other, the chances of people taking care of

Looking Through History By: Taylor Intermill Age: 22

PROMOTE or HINDER

each other increases.



Appendix E: Bike Walk Hanover Survey Results Presentation



A Project of the Hanover County's Planning Commission: Walking and Biking Citizen's Engagement Committee

What is Walkability? What is Bike-ability?

Why are these important aspects of a community? How does it make a community healthier, safer, more profitable?

"

Improving walkability means that communities are created or enhanced to make it safe and easy to walk and that pedestrian activity is encouraged for all people

Federal Highway Administration. A Resident's Guide for Creating Safe and Walkable Communities. Washington, DC: Federal Highway Administration, U.S. Department of Transportation; 2008. FHWA-SA-07-016.

Increased walking and biking impact on chronic disease

- on socioeconomic status
- on small businesses
- on community awareness and safety

Here's a look at the Richmond neighborhoods with the highest Walk Scores:

- Virginia Commonwealth University (VCU) Walk Score 93.
- Monroe Ward Walk Score 93.
- Carytown Walk Score 92.
- Jackson Ward Walk Score 91.



Top Ten Most Walkable Neighborhoods in Richmond - Walk Score Blog blog.walkscore.com/2015/11/top-ten-most-walkable-neighborhoods-in-richmond/

About this result III Feedback







	Walkability audit tool		Walkability audit tool
NVhat is the most diagence location along this segment? NVhat is the most diverse in the segment of this segment? NVhat is the most segment more segment more segment more segment in the segment of this segment? NVhat is the segment of this segment? NVhat is the set of the segment more segment mo	B. B. W. W. W. W. K. K. S. MARKEN, K. W. K.	 What is the mean dragerous location and grids requires of this segment? What is the mean of this segment? What is the mean of this segment? What is the mean of this segment? What is the construction is proportion for operations and connect the work of this segment? Wat it is be constructed on the segment? Wat it is be constructed appropriate and connect the work of this segment? Wat it is be constructed on the segment? Wat it is be constructed on the segment? Wat it is be constructed appropriate and connect the work of this segment? 	<form></form>
Seg	gment 1: Combs Road	Segm	ent 2: Atlee Station Road (side walk at Chickahominy Oaks, etc.)

Goal: gain community feedback in regards to walking and biking infrastructure currently present or missing from Hanover County.

A total of **1,172** survey responses were analyzed in the compilation of this report.



29.6% of survey participants reported being "35 to 44" age range (n=347)





Participants most reported currently participating in walking, running, and/or biking for their "general health" (n=1021).

2nd most reported: "leisure activity" (n=861).



82.9% of participants reported they would like to walk, run, and/or bike <u>more</u> than they do currently.

Participants also reported that they would like to walk, run, and/or bike "much more frequently" than they do currently (n=545, 46.8%), 420 (36%) reported "yes, a little more"



919 participants reported "unsafe roads" make it difficult to walk/run/bike in Hanover County.

701 participants reported that "bike lanes would make it easier and safer to bike in Hanover."





A "shared use path next to the road" was most reported by participants as a way to make it "safer and easier to walk and/or run in Hanover" (n=749).





I am usually on the rural roads north of Ashland, or must drive into town to bike or run.

Our family (mom dad and two young kids) live in Madison Springs. We cross Atlee Station Road into King's charter to visit friends, enjoy a ride, or take a long route to Food Lion or a restaurant in that shopping center. We also use the sidewalk in front of summer duck farms and grassy side of Atlee Station road and Cross Atlee Station to get to Cool Spring Elementary School to play on the playground or use the fields. We would love to have sidewalks all the way to the community pool across from the school and a safer crossing of Atlee Station to the schools.

Forest Lake Hills, New Ashcake Road, Sliding Hill Road, Atlee Station Road, Kings Charter, Ashcreek, Milestone,

I currently run in the 301/Atlee Road area. The lack of shoulder/sidewalk on Atlee Road is very frustrating and makes it difficult to run between neighborhoods. The lack of a crosswalk at 301/atlee also makes crossing over into the Rutland subdivision difficult. I would love to bike to the Rutland retail shops/library/etc. but there is no safe way to travel down atlee and no safe way to cross 301.

l go to the gym because I don't feel safe (from traffic) in my neighborhood. I am not a biker, just a walker but the speed limit on the road is 45 mph with no shoulder on the road.

Capital trail, back roads in Glen Allen and Hanover (organized rides from Deep Run High School and Crump Park on Tuesday, Thursday, and weekends - RABA)

dangerous for a biker or jogger. Not a risk I'm willing to take especially on a bike clipped in.

Capital Trail

Neighborhoods but these are very limited in distance. The road/path improvements presented in this survey would make a huge improvement in safety and county resident health/ wellbeing. We would feel prouder of our community to know the county cares enough to invest in our health and we'll being.

I walk on my own street, <u>Studley</u> Farms Drive. I can do an out and back on my road, but we are disconnected from anything else. I used to cross over <u>Studley</u> Road and go down Summer Hill and and back up Summer Plains-Godins <u>Hill-Williamsville and back to</u> <u>Studley Farms but walking on most of those roads is taking my life in my hands</u>. I was

Themes & Proposed Areas and Locations to walk/run/bike <u>go</u>

- Trails that connect Hanover to Mechanicsville, Richmond, Rails to Trails Conservancy, trails connecting parks and neighborhoods. Etc.
- Biking routes from Mechanicsville and Hanover through Ashland to Williamsburg, Tappahannock, downtown Richmond, etc.
- Building walking/running/and biking connections to Rutland shopping Center

What's Next?

- A presentation of the findings will be given by the Citizen's Engagement Committee to the Hanover County Board of Supervisors & the survey findings will be included in the Hanover Community Health Assessment (CHA) report
- A section on *health* will be added to the draft of Hanover County's Comprehensive Plan
- The Hanover Health Dept. will train community members to become walking auditors in partnership with the Arc of Hanover; auditors will score road segments in Ashland and Mechanicsville
- Walking audit findings will be presented to the community and incorporated into the CHA report

Appendix E1: Bike Walk Hanover Survey Tool

Welcome! This survey is brought to you by Bike Walk Hanover (Hanover County Biking & Pedestrian Citizens Engagement Committee). This survey will serve as a tool to gauge citizens' interest in walking, running, and biking in Hanover and inform the committee of overall awareness and current levels of access to safe walking, running, and biking. This survey will remain anonymous. Bike Walk Hanover thanks you for your participation.

- 1. Please choose your age group:
- ^C 17 and younger
- C 18 to 24
- ° 25 to 34
- ° 35 to 44
- ^O 45 to 54
- ° 55 to 64
- ° 65+

2. Please choose the zip code in which you live:

Ŧ

- 3. If you are not a county resident, please list the locality you live in:
- 4. If you currently participate in walking/running/biking, what are the reasons you currently participate in these activities? You may choose more than one.
- □ health
- □ leisure activity
- □ competitive/recreational sport
- □ commuting/active transportation
- □ I do not currently participate in these activities
 - other (please indicate other reason if applicable):

A
T

5. If you currently walk/run/bike, how often do you currently walk/run/bike on average?

- ° daily
- ^C few times a week
- ^C few times a month
- ^C almost never
- ^O I do not currently walk/run/bike
- 6. Would you like to walk/run/bike more frequently than you do now?
- yes, much more
- yes, a little more
- ^C I am happy with the amount I walk/run/bike now
- o no, I do not want to walk/run/bike more than I do now
- ^C I do not currently walk/run/bike
- 7. What makes it difficult for you to walk/run/bike in Hanover? You may select more than one answer.
- unsafe roads
- □ volume of traffic
- □ lack of equipment to participate in activities (i.e. bicycle, tennis shoes, etc.)
- □ lack of bike lanes, signage, bike racks, etc.
- \Box lack of places to go
- \square lack of connected routes
- □ transporting my kids
- □ carrying belongings
- \square lack of shower/locker rooms at work/destination
- impaired physical abilities
- time constraints
- □ other
- 8. Which of these improvements do you think would make it easier and safer to bike in Hanover? You may select more than one answer or all of the above.



 \square All of the above

9. Which of these improvements would make it easier and safe for you to walk/run in Hanover? You may choose more than one or "all of the above."

"wayfinding" signs to private/public destinations



shared use path next to the road

 \square



shared use path away from the road



trails/dirt paths



crosswalks



paved shoulder





pedestrian signals and crosswalks

All of the above

- 10. Do you agree with the following statement: Hanover County's comprehensive plan (<u>http://hanovercounty.gov/Property/Comprehensive-Plan/</u>) should include more recommendations for walking, running, and biking.
- ° agree

- somewhat agree
- disagree
- somewhat disagree
- not sure
- 11. If you currently walk/run/bike, where do you usually do these activities (what routes do you take, where do you go)?
- Explain:



12. What areas or locations would you like to walk/run/bike to? Why?



13. If you have other suggestions, comments, or questions regarding walking/running/biking in Hanover, please enter them below.





*This tool was designed using Qualtrics Survey Software

Appendix F: ICAA Walking Audit Tool



Fieldwork

Walkability audit tool

This tool was prepared as part of the Healthier Worksite Initiative of the Centers for Disease Control and Prevention. While initially developed for employers, the concepts and tool are equally valuable for surveying the campus of a retirement community or the area surrounding a community center or wellness center.

Physical activity programs in active aging are directed to older adults. However, an increasing number of ICAA members are making the wellness program available to staff members because wellness programs can lower absenteeism and increase employee satisfaction. When using the walkability audit tool, consider both the client and the staff members.

You may also wish to adapt the tool and scoring system. For example, by adding restroom locations to the aesthetics rating or raising shade from low to medium importance because of the specific interests of older adults.

-Editor

Walkability is the idea of quantifying the safety and desirability of the walking routes. These can be streets and sidewalks in between buildings on your campus, city blocks if you work in a downtown area, or even walking or nature trails. Many people work or live on campuses that have more than one building, and they might work or live in one building and have meetings/activities in another.

Do employees and clients walk to those meetings, or drive? Do they walk for exercise or recreation at lunch or during



breaks? Do they walk to restaurants or parks? Sometimes people don't walk because they don't feel that the walking routes are safe or convenient.

There is scientific evidence that providing access to places for physical activity increases the level of physical activity in a community (1). The Task Force on Community Preventive Services strongly recommends creating or enhancing access to places for physical activity, in conjunction with a well-run communication and marketing campaign. A typical study of an intervention to create or enhance access to places for physical activity reports a 25% increase in physical activity levels (2).

What is a walkability audit?

A walkability audit tool is designed to broadly assess pedestrian facilities, destinations and surroundings along and near a walking route and identify specific improvements that would make the route more attractive and useful to pedestrians. Using CDC's Walkability Audit can help you assess the safety or attractiveness of the walking routes at your worksite (3).

The audit helps you map out the most commonly used walking routes, and helps you identify the most common safety hazards and inconveniences that can keep people from walking.

Continued on page 17


Continued from page 16

The language of walkability

Accessibility. Walking routes should be compliant with the Americans with Disabilities Act, and should take into account the needs of the disabled, such as curb cuts for easier wheelchair access to sidewalks.

Aesthetics. Walking routes that are visually attractive may be more appealing to walkers. Hardscaping, such as walls and walkways, and landscaping, such as trees and flowers, should be well maintained. Trees can help provide shade and improve the appearance of the property.

Connectivity. Connectivity means the extent to which the sidewalks and paths in an area connect to each other and to desirable destinations such as buildings, stores, parks, trails, etc. at convenient distances and without encountering major hazards (such as a busy street with no crosswalk). Typically streets with short block lengths connected in a grid pattern have higher connectivity than areas with cul-de-sacs and long block lengths.

Recreational potential. Walking routes at work can be used for more than just moving in between buildings. Walking for recreation or exercise is possible at many work sites, and even small improvements may encourage employees to view the walking routes as a way to increase their physical activity level.

Safety. In thinking about walkability, safety is of utmost concern. Generally, this involves assessing the facilities that separate cars and pedestrians, such as sidewalks, crosswalks, and signs and signals, and that walking surfaces are of high-quality and well maintained, to minimize the risk of injury to walkers.

Segments. It is often easier to identify and describe discrete portions of the area

under study, rather than discuss the walkability of the whole campus, or city block. Identifying segments, or the most likely or useful pedestrian route between each location, can help gain a better understanding of which locations are sufficient and which need improvement.

Sample audit

Following is an example of what a completed worksite walkability audit might look like. This report contains the location of the site, a site summary, including issues related specifically to safety, accessibility and aesthetics, and identifies suggested improvements. Finally, a map is attached so that readers can easily see how each segment was rated.



Site summary

Company X's facilities consist of several buildings on a five-acre site. Parking for employees and visitors is available in nearby parking decks located within walking distance. The campus is located in a transition zone between commercial retail properties and a low-density residential

Continued on page 21



High score = good walkability

Low score = poor walkability

Walkability audit tool

Directions

1. Obtain (or create, if necessary) a map of the campus or area that you wish to audit, including likely pedestrian destinations, such as parking lots, nearby restaurants, shops, parks, etc.

2. Decide, either by observation or inference, the most useful or likely pedestrian route between each location of interest on your map, eventually assembling a network of walking segments that make up the most common walking routes. Label these segments 'A', 'B', 'C' or 1, 2, 3 to identify one from the other. See the sample map on page 17

3. Take the attached audit tool to the location under study. Take as many copies as you have identified segments on your map—for example, if you have 10 segments on your map, take 10 copies. You will use a copy of the audit tool to assess each segment individually. The tool assesses factors related to safety, aesthetics and recreational potential, with safety being the most important.

4. Begin with your first segment and rank each feature, using the description provided on the audit. There are no right or wrong answers, just pick the number that most accurately represents your understanding of the segment. Also answer the questions at the end of the audit tool, noting potential dangers and improvements.

5. Repeat step 4 for each segment of your map. Some segments may be very different from each other, and some may be very similar.

6. Once you have completed the audit form for all the segments on your map, use the formula in the box to create a numerical score for each segment. This score makes safety considerations the most important, followed by things like accessibility and aesthetics (medium importance) and finally shade (least important), and should range from 0-100. Calculate scores for all segments of your map.

7. Now input the scores from each segment on your map, and generate a report. If you like, you can follow the format of our sample report. We designated segments with scores of 0-39 points as high-risk and unattractive (red), scores of 40-69 as medium-risk and average or nondescript looking (yellow) and 70 and above as low-risk and pleasant. The questions you answer at the end of the audit tool can help prioritize needs and wants for improving the walking routes.

				Tra	il Se	egm	ent			
	Α	в	С	D	Е	F	G	н	Т	J
Total'	86	98	98	88	36	69	54	67	70	70
Facilities	5	5	5	5	2	4	2	3	4	4
Conflicts	4	5	5	4	2	4	4	3	3	4
Crosswalks	4	5	5	5	1	3	2	4	4	3
Maintenance	5	5	5	5	3	4	4	4	3	4
Size	5	5	5	5	1	4	2	3	4	4
Buffer	5	5	5	3	1	4	Т	3	4	3
Access	3	5	5	3	2	2	3	2	3	3
Aesthetics	4	4	4	5	2	3	3	4	3	3
Shade	3	5	5	4	3	2	4	5	3	3

Trail segment E is hazardous for walking.

Walkability audit tool
Location: Date:
A. Pedestrian Facilities (High importance): presence of a suitable walking surface, such a a sidewalk or path.
l No permanent facilities; pedestrians walk in roadway or on dirt path 2
3 Continuous sidewalk on both sides of road, or completely away from roads 4
5 Sidewalk on one side of road; minor discontinuities that present no real obstacle to passage
B. Pedestrian Conflicts (High importance): potential for conflict with motor vehicle traf due to driveway and loading dock crossings, speed and volume of traffic, large intersection low pedestrian visibility.
l High conflict potential
3
4 5 Low conflict potential
C. Crosswalks (High importance): presence and visibility of crosswalks on roads intersecti the segment. Traffic signals meet pedestrian needs with separate 'walk' lights that provi sufficient crossing time.
I Crosswalks not present despite major intersections
2 3
4
5 No intersections on segment; or crosswalks are clearly marked
D. Maintenance (Medium importance): cracking, buckling, overgrown vegetation, standir water, etc. on or near walking path. Does not include temporary deficiencies likely to so be resolved (e.g. tall grass).
I Major or frequent problems
2
3 4
5 No problems
E. Path Size (Medium importance): measure of useful path width, accounting for barrier
I No permanent facilities 2 < 3 feet wide significant barriers
3
5 > 5 feet wide, barrier free

Intern Coune Active

International Council on Active Aging	Walkability audit tool
	F. Buffer (Medium importance): space separating path from adjacent roadway.
 What is the most dangerous location along this segment? What is the most unpleasant element of this segment? What improvements would make this segment more appropriate for pedestrian use? Would it be possible to design a more direct route to connect the ends of this segment? Are the conditions of this segment appropriate and attractive for exercise or recreational use? 	 No buffer from roadway 3 4 > 4 feet from roadway 5 Not adjacent to roadway 6. Universal Accessibility (Medium importance): ease of access for the mobility impaired. Look for ramps and handrails accompanying steps, curb cuts, etc. 1 Completely impassible for wheelchairs, or no permanent facilities 2 Difficult or dangerous for wheelchairs (e.g. no curb cuts) 3 4 Wheelchair accessible route available but inconvenient 5 Designed to facilitate wheelchair access H.Aesthetics (Medium importance): includes proximity of construction zones, fences, buildings, noise pollution, quality of landscaping, and pedestrian-oriented features, such as benches and water fountains. 1 Uninviting 3 4 Pleasant 1. Shade (Low importance): amount of shade, accounting for different times of day. No shade 3 4 Full shade
	Sum of High importance (A-C):



Continued from page 17

neighborhood. Surrounding streets are paved, and most have sidewalks and crosswalks. A small commercial district with several restaurants is located within walking distance, but is difficult to reach because the area lacks crosswalks.

- Hazards: because of low traffic volume and good facilities, the average hazard level to pedestrians is low. One segment does border a busy highway, but is separated from the road by a wide (>10 ft.) buffer. Sidewalks are lacking within the parking lots, presenting a hazard to pedestrians returning to their cars.
- Connectivity: generally good, with the exception of missing sidewalks mentioned above.
- Accessibility: Most of the campus reflects reasonable attempts to comply with ADA requirements. Hilly terrain may limit outdoor access to some parts of the campus.
- Aesthetics: varies widely. Some routes are pleasant and well-landscaped, while others border buildings and roads with little shade.
- Recreational Potential: several walking and running routes currently exist along established sidewalks and are regularly used by employees.

Suggested improvements

Potential improvements in walkability:

- Creating a pedestrian corridor through the parking lot (segment E) to protect employees who must park in that area.
- Creating a pedestrian corridor through the parking lot (segment G).

[end of sample report]

The Centers for Disease Control and Prevention (CDC) developed the Healthier Worksite Initiative (HWI) for its own employees with the vision of making CDC a worksite where "healthy choices are easy choices," and sharing the lessons learned with other federal agencies. Since its inception, HWI has worked on a number of demonstration projects, policies and environmental changes. HWI's activities are guided by an advisory committee made up of representatives from many CDC centers, institutes, offices and locations. The website is www.cdc.gov/nccdphp/dnpao/hwi/index.htm

Adapted from Worksite Walkability, Centers for Disease Control and Prevention, www.cdc.gov/nccdphp/dnpao/hwi/toolkits/w alkability/index.htm

References

- I. Creating or Improving Access to Places for Physical Activity is Strongly Recommended to Increase Physical Activity. The Task Force on Community Preventive Services. Available at www.thecommunityguide.org/pa/default.htm
- 2. Ibid
- Dannenberg, A.L., Cramer, T.W., & Gibson, C.J. (2005). Assessing the Walkability of the Workplace: A New Audit Tool. American Journal of Health Promotion, 20 (1): 39–44.

Resources

Assessing Walking Conditions With Audits Links to many audit tools Walkinginfo.org

Canada Walks Walkability toolkits, ratings www.canadawalks.ca

Creating—And Using—A Rating System For Neighborhood Walkability by Chris Bradshaw www.cooperativeindividualism.org/brad shaw-chris walkable-communities.html

Jane's Walk Walkability, checklist and slide show http://janeswalk.net/walkability/



Continued from page 17

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Appendix F1: Walking Audit Summary

Designing for Inclusive Health: Hanover County Walking Audit Summary

Segment1: Ashcake Road to Maple Street (south) to Walder Road (Town of Ashland)

• ICAA Walking Audit Score: 62.2/100= Medium Risk (yellow)

Ashcake Road to Maple Street segment started at the Patrick Henry Family YMCA and ended where Maple Street intersected Walder Street. This segment was identified as a critical piece of road in the community that could add connectivity and increase walkability due to its proximity to the head of the Trolley Line Trail, neighborhoods, and YMCA. This walking segment started at the Patrick Henry YMCA, leading up to Ashcake Road, where it takes a left towards Maple Street. From this intersection, the walking segment takes a left onto Maple Street until the beginning of Walder Lane. The speed limit on this road is listed at 35 miles per hour. Adjacent to the YMCA and on both sides of Ashcake Road is a residential area of mostly single-family homes.

There is currently no infrastructure in place to cross Ashcake Road at the YMCA. There is a paved path on the opposite side of the road from the YMCA, accompanied by a privacy fence, which leads to a crosswalk at the intersection of Maple Street and Ashcake Road. This crosswalk is probably one of the most developed and evident in the Town of Ashland; featuring white painted lines and a small reflective pedestrian sign standing up about four feet high off the pavement. The crosswalk feeds into a paved, 10-feet wide, multi-use path that stretched the length of Maple Street down towards Walder Lane. This path leads up to the trailhead for the future addition to the Trolley Line Trail. This paved path is useful, as it is connected to a neighborhood on Maple Street and easily accessible by those going to the daycare center on this segment as well. The path is set back off the road about 15 feet, but there is a large ditch between the road and the path which may be concerning for young children and could potentially hold deep runoff water from rain.

While pedestrian facilities were present on this segment, there is a problem of continuity throughout the route that would make it hard for persons with disabilities or wheelchairs to pass or use regularly. Grassy areas with no sidewalks are frequent on the segment; particularly on the route leading back to the YMCA. There are also no bike lanes. In terms of aesthetics, this segment is pleasing but could use some grooming, particularly for the overgrown grass on the sidewalks.

On the International Council on Active Aging Walkability Audit Tool, the Ashcake Road and Maple Street segment scored a 62.2 out of 100 possible points. A score of 62.2 categorizes this segment as "medium risk and average," meaning that this segment has definite strengths, but could benefit from considerable infrastructure-building and improvement.

Segment 2: Ashcake to Route 1 intersection to Health Human Services Complex (Town of Ashland)

• ICAA Walking Audit Score: 35.2/100= High Risk/Unattractive for walking (red)

Ashcake road to Route 1 intersection is a highly traveled segment of road in Ashland by not only vehicles and large trucks, but also by pedestrians and cyclists. This segment connects the residential area of Ashland, links to Route 76, which is a national bike route, and to interstate 95, as well as highway 64. Ashcake Road to Route 1 has the potential to create a critical link to many businesses and services. Starting from the Patrick Henry Family YMCA and walking towards Route 1, there is little to no infrastructure for pedestrians or cyclists.

There is infrastructure for sewage lines that lay about 10 feet from the road that would have to be taken into consideration if a new design or infrastructure improvements were made. A sidewalk starts at Swanee Road and leads to Route 1 across the street from a Sheetz Gas Station on the corner of the intersection. There is a buffer of about four feet of grass on a short stretch of the segment, passing an automobile garage where an old and faded crosswalk is painted on asphalt. This leads up to the Luck Chevrolet Dealership directly across from the Sheetz, on the corner of Ashcake Road and Route 1. The speed limit on Ashcake is 35 miles per hour and increases to 45 miles per hour on Route 1. Cars tend to travel much faster than this and standing on the sidewalk as a pedestrian on Route 1 and Ashcake road was not only unsafe, but also intimidating. This segment is critical to connecting residents to the Hanover Health Department, Community Resources, Community Services Board, and Social Services buildings (Hanover County Health and Human Services Building Complex). All of these services lay along Route 1 across the road from Sheetz gas station. There is no infrastructure for crossing at the intersection of Route 1 and Ashcake road; there is no infrastructure leading to the Health and Human Services parking lot. Often times, locals are seen walking to the Health and Human Services resources while pushing a stroller or walking with children in hand. This segment would be difficult and almost impassible for those in wheelchairs. The aesthetics are not tailored for pedestrians; the short segment of sidewalk on the route is overgrown and narrow from grass and weeds, and there is an extremely high conflict potential for pedestrians and/or cyclists on this segment.

The Town of Ashland has identified this area in their Comprehensive Plan update as an area to connect to the national bike route of 76 and redesign the large intersection of Route 1 and Ashcake Road to model a similar intersection (England Street and Main Street going into the old downtown area of Ashland).

On the International Council on Active Aging Walkability Audit Tool, this segment scored a 35.2 out of 100 possible points, making this segment "unattractive and hazardous for walking." In order for this segment to become walkable, considerable infrastructure would need to be added from the YMCA to the corner of the intersection of Ashcake and Route 1 that also leads to the Health and Human Services buildings. This section has great potential to connect the Town to Route 1, many businesses, goods, and services that would not require a personal vehicle or public transit in order to get there.

Segment 3: Randolph Street to Arlington Street (Town of Ashland)

• ICAA Walking Audit Score: 52/100= Medium Risk (yellow)

This segment Includes the intersection of Randolph Street and Arlington Street in Ashland. This segment was chosen based on information provided by the Arc of Hanover participants and the Ashland Town Planner due to its potential to add walkability to a highly populated part of Ashland, and due to proximity to the Habitat for Humanity Neighborhood Revitalization project. This area includes single-family homes (older and newer construction), apartments and townhomes.

The segment is approximately 0.6 miles long and is located near Pufferbelly Park, the Ashland Police Department, and a main road that intersects the Town of Ashland, Randolph Macon College, and train tracks. Some sidewalks were present along the segment in front of homes; they are mostly disconnected and run along both sides of the road promoting crossing without protection. There is little buffer between the roadway and path; in most areas less than three feet of grass from the sidewalk to the street.

Accommodations for those living with disabilities do not exist on this segment. Some sidewalks did feature curb cuts, which are helpful for those traveling with wheels. There were crosswalks located on this segment (at Randolph Street crossing to Myrtle Street and at Taylor Street) but new paint is needed in order to better see the crosswalk. This segment appeared to be well maintained by residents with little overgrown vegetation. The area had moderate amounts of trees and shade and is close to the downtown area and two public parks. The posted speed limit was 25 miles per hour. There were few cars on the route compared to the many pedestrians and one cyclist on the route during the audit. It appeared that walking was common for residents in the area.

There are no crosswalks at the Arlington Street and Randolph Street intersection.. There are no sidewalks to Misty Pine Apartments or across from Arlington Square. At the Maple Street and Arlington Street intersection, there is also no crosswalk.

On the International Council on Active Aging Walkability Audit Tool, this segment scored 52 out of 100. A score of 52 is categorized as "moderately walkable." This segment offers some desirable traits for walking, but has considerable room for improvement.

Segment 4: Snead Street at Henry Clay Elementary School to Thompson Street (Town of Ashland)

• ICAA Walking Audit Score: 63.3/100= Medium Risk (yellow)

This segment began at Henry Clay Elementary School near the intersection of Hanover Avenue and South Snead Street. The segment went down Snead Street, passing St. Ann's Catholic Church, continuing to the intersection of Snead and Thompson. There is one painted crosswalk from the backside of Henry Clay Elementary School crossing Hanover Avenue going toward Snead Street. There are no crosswalks going across Snead Street or at the Thompson Street and Snead Street Intersection. This area is residential, featuring single-family homes and a recreational ball field.

There are sidewalks on Hanover Avenue between Henry Clay Elementary and Snead Street. The sidewalks have cracks and are uneven in some areas, which may make it difficult for wheelchairs, scooters, and strollers to pass. There are curb cuts at some of the sidewalk ends, which make it safer for those traveling with any type of wheel. The sidewalks are about three to four feet wide with little to no barriers. This area is aesthetically pleasing with a great deal of shade.

There is no crosswalk at the Snead and Hanover intersection, which leads to a high potential for pedestrian conflict, especially if young children walk or bike to/from home and school. Although Snead Street is residential and has a low traffic flow, accommodations for crossing are still necessary and would increase safety for pedestrians (which could lead to more parents allowing their children walk or bike to school). There is a sidewalk on one side of Hanover Avenue leading up to Snead Street but there are sidewalks on both sides of Snead Street for majority of the segment. There is no buffer between traffic and pedestrians on this segment.

The segment ends at the Sneed Street and Thompson intersection. Thompson has a higher volume of traffic creating a greater potential for pedestrian and cyclist conflicts. There is no four-way stop or pedestrian signs at the Thompson Street intersection. Pedestrians and residents could potentially use this intersection to cross and walk towards the nearby food markets, restaurants, shops, library, ball field, and school.

On the International Council on Active Aging Walkability Audit Tool the Snead Street segment scored a 62.3 out of 100. A score of 62.3 categorizes the Snead Street to Thompson segment as "moderately walkable," meaning that this segment is medium-risk and average for pedestrians.

Segment 5: Hanover Green Dr. to Signal Hill Apartments (Mechanicsville)

• ICAA Walking Audit Score: 35.2/100 = High Risk/ Unattractive for walking (red)

This segment started at the Mechanicsville Post Office (the parking lot is adjacent to the Mechanicsville Turnpike) and takes a right onto Hanover Green Drive (directly intersects with the Turnpike). From this point to Signal Hill Apartments, the route runs 0.3 miles, with a left off of Hanover Green Drive onto Signal Hill Road.

This route has high traffic, with no sidewalks on either side, except in front of a businesses with only small, cut-off segments of sidewalk. Various businesses line each side of the street and were decorated nicely with greens, shrubbery, and flowers. These included medical and veterinary services, a driving school, and an insurance firm, but there was not easy access for pedestrians to these services. Pedestrians would need to walk in the roadway or on grass on the side of the road. There is no buffer from the roadway or any pedestrian-friendly facilities or signs. In addition, there is minimal shade on the segment. There were no facilities for mobility-impaired individuals or those with disabilities, so the road would be impassible for wheelchairs, walkers, strollers, etc. The posted speed limit on Hanover Green Drive is 25 mph. There were cars parked on this street due to lack of private parking for residents of the town homes located on the segment. There were no crosswalks at the end of Hanover Green Drive turning to go to Signal Hill Road and Signal Hill Apartments, which were noted as a high priority area by the members of the Arc of Hanover focus group. No bike lanes are present on either Hanover Green Drive to signal Hill Road. For those living in Signal Hill Apartments or nearby, it would be difficult and dangerous to access the post office, the bank, pharmacy, and local businesses by foot or bicycle.

Hanover Green Drive intersects Mechanicsville Turnpike. There is no infrastructure, such as a crosswalk, located at this intersection that protects pedestrians or cyclists. The traffic flow at this intersection is tremendous, and the intersection is also a critical crossing point for pedestrians coming from the residential area located in close proximity to this segment. Businesses exist on the far side of the Turnpike, but there are no safe pedestrian access points by which to cross the road.

On the International Council on Active Aging Walkability Audit Tool, the Hanover Green Drive segment scored a 35.2 out of 100 available points. This score categorizes the segment as "hazardous for walking" meaning that this segment needs significant improvement in order to safely serve pedestrians and cyclists alike.

Segment 6: Mechanicsville Turnpike from Hanover Green Drive to Cold Harbor Road (Mechanicsville)

• ICAA Walking Audit Score: 24/100 = High Risk/Unattractive for walking (red)

Mechanicsville Turnpike, overall, has little to know infrastructure that supports safe and connected walking or biking. The segment audited, from Hanover Green Drive Intersection to the Cold Harbor Road intersection, is about 0.5 miles long, but includes a gas station, pharmacy, insurance providers, a post office, dealerships, and restaurants. There is no buffer built in for pedestrians to walk on the side of the road and little to no space for walking in the grass available due to cement retainer walls and brick walls. This road segment is two lanes wide but appears narrow. The road experiences a large traffic flow from vehicles exiting interstate 95, and the speed limit is 45 miles per hour for majority of the segment. This segment was so dangerous to walk on that walking audit volunteers were asked not to assist in the auditing process. Potential for pedestrian conflicts is high due to the lack of permanent facilities for pedestrians, the speed and volume of traffic, and two large intersections. This segment is uninviting for pedestrians and cyclists alike, but could offer increased connectivity if infrastructure was added.

On the International Council on Active Aging Walkability Audit Tool, the Mechanicsville Turnpike segment (from Hanover Green Drive to Cold Harbor Road) scored a 24 out of 100 available points. This segment is categorized as high risk and unattractive for walking. This segment is crucial to adding connectivity and walkability in the Mechanicsville area, as it would increase safe pedestrian access to several goods and services.

Segment 7: Beaverdam Creek Apartments to Bell Creek Shopping Center (Mechanicsville)

• ICAA Walking Audit Score: 26.7/ 100= High Risk/Unattractive for walking (red)

This segment began at the Beaverdam Creek Apartments and ended at the Bell Creek Shopping Center on Bell Creek Road in Mechanicsville. This segment was especially hazardous due to the fact that traveling to Bell Creek Road requires walking on Cold Harbor Road and over a bridge that crosses Route 295 in order to arrive at the shopping center. More importantly, this is the only way for residents on the side of the bridge closest to Beaverdam Creek Apartments to get to those goods and services without circumnavigating the entire area, which would not be feasible for walking. The speed limit posted at 45 MPH, but cars appeared to be going faster. The auditors were unable to complete the audit by foot and had to cross the bridge by car due to safety concerns.

Beaverdam Creek Apartments are located at the intersection of Harbor Hill Drive and Old Harbor Road prior to crossing the bridge over Route 295. Across from the apartment complex is another residential area called Mill Trace Apartments. The local school bus drops students off at Harbor Hill Road and Beaverdam Creek Apartments. Although there is a pathway developed and grassy space around the Beaverdam Creek Apartment area, there are no other permanent pedestrian walkways or sidewalks on the roadway. There are no crosswalks or crosswalk lights for pedestrians at the bus stop. The addition of crossing infrastructure at this point would increase safety for students. Due to the high volume and speed of traffic, there is high potential for pedestrian conflict. Pedestrians are able to approach and cross the bridge using unofficial walkways, however, this would not be ideal or accessible for those with disabilities or traveling on wheels. The barrier wall is only hip height and does not protect pedestrians and cyclists from falling over the edge. There is zero buffer between the bridge wall and traffic.

On the shopping center side of the bridge, Cold Harbor Road has a wide buffer area, which would easily provide space for sidewalks. The area is moderately pleasing aesthetically, but has no intentional landscaping. The development has removed green space, which removes the potential for shade. There are several businesses that could be utilized by nearby residents, such as The Home Depot, Target, BJ's, several restaurants, and retail stores. The parking lots within the shopping center also have the potential for pathway development for pedestrians crossing over the parking lot to get to the stores.

The segment ends at the intersection of Bell Creek and Cold Harbor Road. This is the major intersection of the segment as it has the highest potential traffic for both vehicles and pedestrian and no pedestrian infrastructure. The best feature of this segment is the potential it has to be walkable; it appears that this segment has a lot of space that would allow for redesign and the addition of adequate pedestrian and cycling facilities.

On the International Council on Active Aging Walkability Audit Tool this segment scored a 26.7 out of 100 available points. A score of 26.7 categorizes the segment as "hazardous for walking" meaning that this segment is high-risk and unattractive for walking and biking alike.

Appendix G: Root Cause Tree Diagrams













Appendix H: Community Input Sessions Summary

When changes are made that will impact the community, either in a positive or negative manner, diverse community members' voices may not always be heard. The purpose of the community input sessions are to hear from community members of Hanover County and encourage them to provide their comments and first hand experiences about what goes on in the community and how it influences their health and well-being. The process of gathering insights from community members is an important part of a Community Health Assessment (CHA). There are several issues impacting Hanover County related to population health; however, three main issues were identified as high priority by the CHA Steering Committee.

The main issues were chosen based on qualitative and quantitative data presented to the CHA Steering Committee. These are: Poverty, Mental Health, and Transportation. Poverty and the associated challenges are often ignored or invisible. This issue is important to address because any community member can experience financial hardships. For mental health, there are barriers due to the lack of awareness, access and affordability of services, and feelings of embarrassment because of the social stigma. Lastly, transportation barriers are due to the lack of a public transit system and safety concerns for walking and biking. Many localities in Virginia experience similar issues.

The Community Input Sessions (CIS) involve traveling to locations throughout Hanover County to survey members of the community using the Problem Importance Worksheet (PIW) for each of the three health issues. The National Association of County and City Health Officials (NACCHO) designed the worksheets as a way to rank health issues, while sticking to its core values that are equity, excellence, participation, respect, integrity, leadership, science, and innovation ("NACCHO", 2017). The PIW provides three boxes with three subtopics: Magnitude/Impact, Seriousness of the Consequences, and Feasibility of Correcting. For each of the health issues identified, there is a grading scale for those three subtopics from 10 to 1, with 10 representing the highest and one representing the lowest importance. At the end of the worksheets is a box for the Problem Importance Index, which is simply the sum of the totals identified. The highest Problem Importance Index score possible is 30 and the lowest score possible is 3.

In order to simplify the PIW for the target population, some of the words were changed. For Magnitude/ Impact, the word Magnitude was removed; instead of Seriousness of the Consequences, only the word Seriousness was chosen; lastly, Feasibility of Correcting was changed to Likelihood of Fixing. In addition to those changes, a comment section was added so that the members of the community were able to provide additional information, as well as any comments about health issues in the County that may have not been captured by the worksheets. The changes were made to ensure that the participants could easily understand the tool and to prevent frustrations related to the PIWs being too long/taking too much time. The CHA Steering Committee worked together to reword the PIWs and create problem statements and examples for the health issues. Questions listed under NACCHO's PIWs subtopics are designed to assist in understanding how to rank the term and these were also modified for simplicity. The questions listed under Impact were: How many people does the problem effect? and What is the cost to society? For Seriousness the question was: What happens if we do not address this problem? For Likelihood of Fixing, the questions were, Is the problem preventable? and Can we affect this problem at the local level? The questions were not there for a definitive answer, but to provide additional information to get the Community Input Session participants thinking about how important the issues are based on their perspectives, experiences, and attitudes, so there is no right or wrong answer. PIWs provided a way to collect qualitative data for the CHA from vulnerable populations in Hanover County.

The first issue discussed was Poverty. Poverty is considered a key driver of health status. The evidence and examples of poverty include: many people living in Hanover County have relatively high incomes, which can make the needs of those who are experiencing financial barriers or instability seem as if they are not important. Associated challenges related to financial instability include housing, transportation, low-paying jobs, and feelings of stress/anxiety. There are census tracts in the County (Hanover) where 15-20% of residents are living below the federal poverty line ("American FactFinder - Results", 2017).

The next issue is Mental Health. The evidence and examples that are associated with this issue are: mental health issues are rarely discussed in schools or in the community, so as a result, people are reluctant to get help and/or do not know how to find help. Also, resources for mental health care are often difficult to afford and/or not located close to home. It is estimated that 16 deaths per 100,000 population are due to suicide (in Hanover County) compared to the Virginia average of 12 deaths per 100,000 population ("Community Commons", 2017).

Transportation is the last issue that was discussed. The evidence and examples that are associated are: there is a lack of safe, easily accessible infrastructure (sidewalks, bike lanes, cross walks) in the County. Also, transportation issues are a major reason why people are unable to access health care and other services. The majority (78%) of Bike Walk Hanover Survey participants reported that "unsafe roads made it difficult to walk/bike/run" ("Bicycle and Pedestrian Citizen Engagement Committee Final Report", 2017).

Five Community Input Sessions were held in Hanover County between August 2017 and September 2017. The locations where the sessions were held were recommended by the CHA Steering Committee members, as they believed the five locations serve the population that may experience issues with poverty, mental health, and transportation first hand. Out of the five sessions, there were a total of four locations. The first location was the Shady Grove United Methodist Church Free Clinic (two visits total). The second and third locations were held at two Hanover County Elementary Schools as part of Head Start Orientation for parents. The last session was held at Circles Ashland with their Big View program. The Free Clinic is held at the Shady Grove United Methodist Church in Mechanicsville, Virginia. This facility provides medical care for free to those without insurance who meet certain income requirements and all of the staff members are volunteers. August 22, 2017 was the first Community Input Session (5:30 pm-8:00 pm) where the Hanover Health Department's Health Educator, Senior and the Community Health Promoter visited. The second visit was held on September 26, 2017 (5:30pm-7:30pm), and the Community Health Promoter and the Health Department Intern held the Community Input Sessions.

During the two Community Input Sessions at the Free Clinic, the Health Department staff explained the purpose of the CHA and the sessions to individuals one-on-one in the waiting room and asked if they would be willing to provide their insights and complete the PIWs for the three topics. Some patients were willing to complete all worksheets, some did not have enough time to complete them all, and some had particular topics to which they could relate and were most interested in doing worksheets on just those issues. During the sessions held in August, a total of 39 PIWs were completed. These included 12 for poverty, 12 for mental health, and 15 for transportation. For the Community Input Session in September, only 5 problem importance worksheets were completed (due to the volume of patients coming to the clinic being low). These were 3 for poverty, 1 for mental health, and 1 for transportation.

Hanover Health Department staff visited two elementary schools in the county. The sessions were both completed on August 30, 2017. The first was held at the Mechanicsville Elementary School and the second was held at the Henry Clay Elementary School (located in Ashland, VA). Health Educator, Senior, Community Health Promoter, and the Health Department Intern led the Community Input Sessions. At the elementary schools, the parents who attended Head Start orientation for their children were asked to participate in the sessions. Head Start is a federal program that promotes school readiness for low-income families ("Virginia Head Start | Benefits.gov", 2017).

The parents were separated into to three groups where each of the health department staff members were responsible for one of the three problem importance worksheets. The groups were based on where the parents were sitting during orientation (therefore, the parents did not get to choose their topic). There were 15 minutes scheduled into the orientation agenda for the PIW discussion and completion. At Mechanicsville Elementary (8:30am-8:45am), a total of 34 problem importance worksheets were completed: 11 for poverty, 14 for mental health, and 9 for transportation. At Henry Clay Elementary (12:45pm-1pm), there were a total of 37 problem importance worksheets completed: 15 for poverty, 12 for mental health, and 10 for transportation.

The last Community Input Session was held at Circles Ashland, which holds its meetings in the Duncan Memorial Church on Randolph Macon College's campus in Ashland, Virginia. This session was facilitated by the Health Department Intern and the Health Educator, Senior. A presentation was given to the members of Circles Ashland and the members were asked to complete a PIW for each topic throughout the presentation. Twenty worksheets were completed for each of the three topics (60 worksheets total). This was the most engaged session with extra time for discussion and questions with participants (6:00pm-7:45pm). Additional time was taken to discuss the positive aspects of living in Hanover County during this session. Members of Circles Ashland are called Circle Leaders and include residents of Hanover County who earn below 200% of the federal poverty level and are committed to improving their quality of life through employment and self-sufficiency ("Circles Leader - Circles Ashland", 2017).

For every PIW topic that was completed in a Community Input Session, the average score was calculated; the visits to the Free Clinic were averaged together, both elementary school visits were averaged together, and Circles Ashland was scored by itself. The Free Clinic's averages were 23.50 for poverty, 24.25 for mental health, and 21.45 for transportation. The two elementary schools' averages were 20.87 for poverty, 22.95 for mental health, and 22.37 for transportation. Lastly, for Circles Ashland, the averages were 24.10 for poverty, 24.10 for mental health, and 24.89 for transportation.

Issues that rank closer to 30 are topics that need to be addressed immediately. The averages for all of the Community Input Sessions combined are: 23.77 for mental health, 22.90 for transportation, and 22.82 for poverty. Averages being so close together suggests the majority of the participants agrees that all the issues are important; however, mental health had the highest average score. This means that the health concerns associated with mental health are perceived to impact many people and needs to be addressed in order to help improve the community's health in Hanover County.

The scores for each topic are not the only portion of the PIW that is important; the comments are equally important. At each Community Input Session, the Health Department staff emphasized the importance of the comments as a chance to give real life examples that would be included/summarized in the final CHA report. The comments were analyzed using a software tool called NVivo. The software is used for qualitative and mixed methods research. "It's designed to help you organize, analyze and find insights in unstructured, or qualitative data like: interviews, open-ended survey responses, articles, social media and web content" ("What is NVivo? | QSR International", 2017).

In order to analyze the comments, "Nodes" were created for the major topics (transportation, poverty, mental health) and then "Child Nodes" were made as subtopics under each Node. The subtopics included: access to care, depression and stress, education and awareness, violence and substance abuse, benefits and resources, funding allocation, health care, housing, jobs, school, biking, cars, environment, infrastructure, public transportation, and walking. The number of comments related to the Child Nodes were counted. The majority of comments touched on these six subtopics most frequently: jobs (18 comments), access to care (17 comments), benefits and resources (17 comments), cars (15 comments), walking (15 comments) and biking (13 comments).

A chart titled Nodes-Coding by Organization: Location, was created using the subtopics that were developed based on the comments. Each Community Input Session was coded and assigned attributes (values) such as the number of worksheets collected, organization name, and the location (Ashland or Mechanicsville). Each node has "Child Nodes" (subtopics) that were created after identifying trends or common themes throughout the comments. The chart depicts the number of times those Child Nodes were referenced in a comment as well as the locations where the comments were made. As the chart depicts, Ashland had the most references to the six common Child Nodes, such as Jobs and Access to Care. The Mechanicsville participants had more comments referring to Education and Awareness and Biking. See the chart below.



Some words were used frequently in the comments related to the health issues. A list of the top 42 words was generated because they were mentioned 10 or more times in the comments. For example, words such as: help, affordable, jobs, resources, and school were frequently used by participants. Some of the frequently used words, such as stress and abuse, were eye-opening because they were not as predictable but describe associated issues related to the three health priorities. Included below is the word frequency query (called a Word Cloud).



Below are examples of comments related to the top six Child Nodes:

• Mental Health – Access to Care: "More providers are needed locally. Need affordable insurance." – Free Clinic Patient

- Poverty Benefits and Resources: "There are individuals in the county who do not have high incomes and we are not able to receive the same resources to help provide for our children. The programs offered are helpful but are limited." Head Start Orientation Parent (Mechanicsville)
- Poverty Jobs: "[Need to] find better jobs to buy a house. Daycare is too much, so [I'm] unable to work [full-time]. Social services said no [to benefits] because both parents work part-time." Free Clinic Patient
- Transportation Biking: "Long term planning needs to seriously tackle this issue and not cut transportation improvements. Bike lanes should be added anytime road improvements are funded." Circles Ashland Participant
- Transportation Cars: "Would like to walk kids to school from [our] neighborhood. [I] like riding bikes with my kids but it's not safe. Mechanicsville is packed with cars." Free Clinic Patient
- Transportation Walking: "Some people can't drive and have to walk to work. They then can only accept a job close to home which may be only low paying jobs." Circles Ashland Participant

The total number of worksheets collected were used to calculate average ranking scores for each health issue. However, a few PIWs that were completed were not used because more than one box was checked in one scoring section. All comments provided on the worksheets were analyzed using NVivo, and some of the comments included specific information that was removed or reworded to de-identify the participants. In order to provide a visual summary of the three topics, health department staff developed the "Barriers to Good Health CHA 2017 Hanover County" infographic to share with the CHA Steering Committee.. This infographic was made to depict the three health priorities and provide community member comments along with statistics.

The PIWs were in English, which is a limitation because only those who could read/write proficiently in English were able to participate in the sessions. In the future, asking the location staff for a list of the languages spoken by their participants, prior to holding a Community Input Session, would allow for the development of PIWs in multiple languages. This would also allow for the sessions to gather more information from diverse community members. Ideally, having health department staff members who are bilingual attend the session to answer questions/explain the PIWs would decrease participant confusion and assist with the completion of more PIWs. There was not a lot of time allotted for the sessions with Head Start (15 minutes during each session). Additionally, three different administration approaches for the PIWs were used: Free Clinic used one-on-one administration; Circles Ashland used a large group presentation and discussion; Head Start broke into smaller groups), which makes it hard to compare sessions since the participants understanding of the PIWs may have varied.

Demographic information was not collected from participants, which restricts the analysis. There was not a goal sample size for these sessions, so the information collected and resulting scores are not representative of the entire county. The Community Input Session that was held at Circles Ashland during the Big View Team meeting had the largest number of participants, with a longer period of time for the session, and each participant was able to complete a PIW for each topic. This format contributed to why the majority of the comments were from those in Ashland.

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Appendix H1: Problem Importance Worksheets

Problem Importance Worksheet

Complete a separate form for each health issue identified by the CHA Team

Health Issue: Transportation barriers due to the lack of a public system & safety concerns for walking/biking

Evidence or examples of this issues:

- There is a lack of safe, easily accessible infrastructure (sidewalks, bike lanes, cross walks) in the county
- Transportation issues are a major reason why people are unable to access health care and other needed services

Check the Appropriate Box for each item and record the score under subtotal

	10 High	9	8	7	6	5	4	3	2	1 Low
Impact How many people does the problem affect? What is the cost to society?										
Seriousness What happens if we do not address this problem?										
Likelihood of Fixing Is the problem preventable? Can we affect this problem at the local level?										
Problem Importance Index (Impact + Seriousness + Likelihood) =										

Please describe another issue that is influencing the health of the people in Hanover County:

Problem Importance Worksheet

Complete a separate form for each health issue identified by the CHA Team

Health Issue: <u>Mental health care barriers due to the lack of awareness, access/affordability of services and feelings of embarrassment because of the social stigma</u>

Evidence or examples of this issues:

- Mental health issues are rarely discussed in schools or the community, so as a results, people are reluctant to get help and/or do not know how to find help
- Resources for mental health care are often difficult to afford and/or not located close to home

	10 High	9	8	7	6	5	4	3	2	1 Low
Impact How many people does the problem affect? What is the cost to society?										
Seriousness What happens if we do not address this problem?										
Likelihood of Fixing Is the problem preventable? Can we affect this problem at the local level?										
Problem Importance Index (Impact + Seriousness + Likelihood) =										

Check the Appropriate Box for each item and record the score under subtotal

Please describe another issue that is influencing the health of the people in Hanover County:

Problem Importance Worksheet

Complete a separate form for each health issue identified by the CHA Team

Health Issue: Poverty & associated challenges are often ignored/invisible_

Evidence or examples of this issues:

- Because many people who live in the county have relatively high incomes, it makes the needs of those who are experiencing financial instability seem less important
- Associated challenges include (but are not limited to) problems with transportation, housing, low-paying jobs, child care, fewer opportunities for higher education, inadequate nutrition, and feelings of anxiety/stress

	10 High	9	8	7	6	5	4	3	2	1 Low
Impact How many people does the problem affect? What is the cost to society?										
Seriousness What happens if we do not address this problem?										
Likelihood of Fixing Is the problem preventable? Can we affect this problem at the local level?										
Problem Importance Index (Impact + Seriousness + Likelihood) =										

Check the Appropriate Box for each item and record the score under subtotal

Please describe another issue that is influencing the health of the people in Hanover County:

Appendix H2: Participant Comments

Community Input Session Comments

Note: Comments were edited to assure personal privacy and improve readability of the comments. These comments represent individual beliefs, perspectives, and experiences from those who participated in Community Input Session, and are not representative of all Hanover County community members' opinions or experiences.

POVERTY

Shady Grove United Methodist Church Free Clinic, 8/22/17

- [I] have not been living in poverty my whole life. [One] health event caused a trickle down. [Hanover] needs more help outside of medical care. Time spent waiting for help is too long.
- Resources aren't communicated, [some] don't know what's available. One life event that changed income, [and led to] no housing. [I] already have health issues but no insurance. A lot of large projects [are] focused on higher income but [those with a] lower income are overlooked.
- Cost of living is up (including food and gas increasing). 18-28 year olds are living with their parents.
- [Need] more access to transportation to get to jobs.
- [Poverty] increasing over the last few months. [There are] nutrition barriers. [I've been] going to the food pantry because the process to get SNAP is challenging and frustrating.
- Some areas are hard for folks to find relief.
- [Government is] not worrying about people on the outside of the county. [For example] Battlefield school.
- [Need to] find better jobs to buy a house. Daycare is too much, so [I'm] unable to work [full-time]. Social services said no [to benefits] because both parents work part-time.

Mechanicville Elementary School Head Start Orientation, 8/30/17

- There are individuals in the county who do not have high incomes and we are not able to receive the same resources to help provide for our children. The programs offered are helpful but are limited.
- Hanover County has been a great resource for my son and I.

Henry Clay Elementary School Head Start Orientation, 8/30/17

• [Need] more child care programs.

Shady Grove United Methodist Church Free Clinic, 9/27/17

- [I am a] new immigrant. [I] applied for Medicaid and was denied. [I] have an eleven-year-old son.
- Bon Secours helps. [A] local church paid [my] electricity bill. [My] husband is disabled.
- [Poverty] effects a lot of people in Hanover, especially if you don't have a job. [The] cost of living and housing [is expensive].

Circles Ashland, 9/28/17

- Why has Hanover County not addressed the lack of affordable wage jobs, lack of regional transportation options, lack of affordable housing? Affordable means those [with incomes] under \$40,000 a year. How can one afford the rent [or pay a] mortgage [that's over] 30% of their income?
- People [who are] struggling financially are invisible. The struggles they have, create negative impacts across the county (in the school systems, in the tax structure, in unhealthy housing) which creates health problems for everyone.
- Our community does not thrive and is not flexible when people can't get jobs that can provide a healthy living wage for them. We are underutilizing our community assets while our state funds are going into programs that don't always help as we would like. We have to have community, local, group organized, grassroots approaches to helping our fellow citizens thrive. Business owners need to invest back into the community. Hanover can incentivize this behavior we are looking for.
- [Need] access to affordable health care.
- Public transportation or lack thereof contributes to poverty. Most people who live in poverty don't have reliable transportation to better paying jobs within the county. Racism and inequity is also an issue because you are treated differently in the workplace (causing the employee to quit). Also, if your name is "Tyron Malik" versus "Susan Marie", your job applications get tossed to the side. [There is a] lack of medical facilities and specialist within the community that accept all insurances. People that live in poverty in the county feel invisible and hopeless. The county has the resources and ability to make a difference; but they use those funds to invest in new court buildings instead of better schools that aren't overcrowded, and quality affordable housing. Hanover County doesn't want poor people here; in fact, Ashland is labeled as the "ghetto" of Hanover because of poverty levels. It would be nice to have a system in place when receiving benefits that would allow one to keep their benefits for an allotted amount of time, instead of just snatching it all away when the recipient gets a small raise or promotion. More access to programs such as Boys & Girls Clubs and longer childcare hours that extend beyond 6pm, would help single parents that don't have support systems to be able to broaden job searches and opportunities. Raising the minimum wages county wide to at least \$15.00 an hour to reflect cost of living. Some business owners have done it locally on their own. Affordable housing that is segregated to one area which is causing modern day segregation in school systems. Police target low income areas as far as patrolling. I never see them camping out near higher income areas.
- Depression, 1 step forward, 2 steps back feeling.
- One person in poverty is one person too many!
- Poverty is more critical than [many] middle and upper class people [may] think. It affects more people and it is solvable, but the will is often not there; and funding from national, state, and local government is inadequate.
- Far more people are affected by poverty than those who are [living] in poverty. It hurts our local economy, income and property tax in general. It's extremely serious. Too much political and social biasness, too much greed on the backs of people in poverty. The systems are created to keep poverty in place.

- The state runs Medicare and SNAP, [so] the money comes from the state. So why would the different counties decide who gets what and how much your deductions should be? It's stupid. Hanover only gives a household \$150.00 in utilities. That's totally ridiculous.
- Crime impacts health.
- Racism is the elephant in the room. The mental, physical, emotional health of a Hanover County resident has everything to do with the color of one's skin.
- Access to affordable groceries is a need. A lot of times I travel into a different county for cheaper food, it's a waste of gas to do this.
- Better, affordable housing for low income families [is needed]. Financial help [is also] needed.
- Maybe the guidelines for who qualifies [for benefits needs to be evaluated]. There is an income gap that many people fall into where they don't make enough to afford the Affordable Healthcare Act and don't qualify for Medicaid (for themselves).

MENTAL HEALTH

Shady Grove United Methodist Church Free Clinic, 8/22/17

- More [mental health] providers [are] needed locally. [We] need affordable insurance.
- [The] cost of insurance is expensive. Depression and anxiety [are examples of mental health issues].
- Suicide, depression, and men not seeking help [are all issues associated with mental health].
- [Mental health] needs to be addressed in schools, church, neighborhoods. More hands on workshops [are needed]. [Mental health education is] definitely needed in schools. Kids [are] taking problems from home to school.
- Electing appropriate officials [is important]. [We are] working to address and eliminate stigma. Bullying among children [and] multimedia [are key factors].
- Watched [my] family's mental health get worse over last 15 years, hard to advocate for [my] brother. [He] didn't have [a] car, so [he was] missing appointments that were 45 minutes away.
- Increasing crime and suicide [in Hanover County].
- More access to psych in Hanover [is] needed locally. [I] take off work and school for appointments that are far away.
- Finding mental health care is hard and free clinics are limited in what they can provide.
- Locating help and the cost needs to be more accessible. [Mental health is] not regularly talked about.

Mechanicville Elementary School Head Start Orientation, 8/30/17

- My son is seeing a psychologist at the Children's Hospital right now and is currently on medication; but if there was something closer to home, it would really help because I live in Hanover.
- I think the stigma (negativity) around seeking help (therapy) or having a mental health issue at all keeps people from seeking help.
- More people go without help. [In order to] get people help, they need to make it affordable.
- The problem is preventable, but it doesn't seem like our community is doing anything about it.

Henry Clay Elementary School Head Start Orientation, 8/30/17

- Mental health access is a huge problem. Especially addiction treatment. I don't think it's likely to be fixed due to the cost and the severity of the issue.
- Homelessness.
- Stress [and] substance abuse.

Shady Grove United Methodist Church Free Clinic, 9/26/17

• More advertisements [are being shown]. More people [are] asking for help.

Circles Ashland, 9/28/17

- A sense of hopelessness and powerlessness [along with the] political and economic forces locally and nationally [contribute].
- Mental health needs more awareness and access to providers. I think an extensive psychological exam for children in school [along with referrals would help]. Better resources or access to [mental health care]. The racism that we had to deal with on my job [in this community] caused me major anxiety to the point [that I was ready] to quit my job. My doctor has approved me to take a leave of absence but I can't afford to because it's unpaid.
- Yes [mental health challenges can be fixed], if we get a better Community Service Board. I've seen firsthand Hanover spend money to green sheet someone, but the judge shows up they let the person go!
- If there are resources for mental health care/ help, the information isn't easily accessible or [we] just don't know where to find care that is affordable for the people. Especially when an underlying problem exists causing alcohol/ substance abuse.
- [The] resources needed to handle mental health issues seem stretched thin. Opioid crisis may be too much to add to the other problems being tackled.
- Mental health fitness will impact the way people relate to others and at times it becomes necessary for police, hospital staff, or possibly funeral homes to be the ones to intervene.
- Access to mental health services is limited. The hours that services are available are also the times people are generally at work [which causes them to miss work or their appointment]. Therapy includes medical (drugs) because the brain is an organ, just like a kidney or liver. Talk therapy combined with drugs has proven to be the most effective mix.
- Gender discrimination (women, [sexual orientation], transgender) is a cause of mental stress; racism, bigotry, intolerance.
- Mental health, including substance abuse, is more common than we imagine. It is important to address these issues for our citizens and the health of our community. Fixes are possible, [but] funding and will are lacking.
- The stress of our society is creating a huge increase in issue with our children, our elderly, and now with wages stagnant and so many issues stressing the middle class working parents. We are now stressed to the maximum and finding little ability to get the help we need. Then with the health care costs sky rocketing, we can't get the help we need. There needs to be open access to help all of us so violence, substance abuse, sexual abuse, and all those issue can be mitigated.

- Affects more than just those who have it. Families can't hold a full-time job and get my child to the therapies that are needed. Lots of violence and substance abuse can be traced back to unaddressed mental health issues. [Mental health is] difficult to address. [It is] complicated, even well-meaning people would find this difficult to solve.
- There are a lot of children in Hanover schools with mental health issues. We need additional resources so we can properly take care of them within the schools and at home.
- Crisis of illegal drugs and abuse of alcohol are undermining our society. This issue is related to poverty.
- [There is a] need for more affordable accessible mental health [care] and substance abuse services.
- [Hanover] needs to partner with local and federal resources/ policies. [Mental health] should be covered by all insurance policies. Preventative and therapeutic care is important.
- [Challenges include:] stress over high rent that's unaffordable, anxiety/substance abuse and alcohol abuse, trying to keep food on table, hard for single moms out here raising babies alone, [and being in situations where there is] no food, no electricity, no shelter.

TRANSPORTATION

Shady Grove United Methodist Church Free Clinic, 8/22/17

- [I have a] pregnant daughter-in-law [that is] missing maternity appointments. [We need] more sidewalks. Kids [are] not allowed to ride bikes on own road [for safety]. [Cars] drive over the speed limit.
- [Transportation is] very important.
- [For] biking, no paths [are located] around here and [there are] lots of riders. [For cars,] driving around bikers is dangerous.
- For the disabled, programs like "care" [are good, but] not accessible for everyone [like those who need help] door to door. [I'm] moving to Henrico/Richmond because of transportation barriers. Rideshares are difficult and I'm independent.
- More people are moving here [because] Hanover has best schools.
- [We] need more trails. [We also] need more sidewalks. Bicycles on [the] highway are hazardous and ride on edge of the road.
- Free clinic[s] [are] already present, transportation to these places would help.
- [People] need more help with transportation to get to work.
- [I am] afraid of seeing people ride a bike because they could get hit with by a car. A bus would help more people.
- Transportation to health care services is a major issue; [I have an] ex-friend who lost [their] legs.
- [There is a] lack of sidewalks and no safety for pedestrians. [The] Lee Davis and Mechanicsville Turnpike intersection is the worst. [Hanover's] focus [is] on business/commerce instead of the people when building roads. Transportation [is also] focused on cars.
- Would like to walk kids to school from [our] neighborhood. [We also] like riding bikes with kids but [it is] not safe. Mechanicsville is packed with cars.
- Elderly and other people who don't drive suffer from not being able to get to important appointments.

• Rural areas have new challenges - not like a city. I've been renting [a] car to grocery shop and [have to] depend on friends/neighbors.

Mechanicville Elementary School Head Start Orientation, 8/30/17

• [Impact] water and air quality.

Henry Clay Elementary School Head Start Orientation, 8/30/17

• Accident rates increase. Cost of medical [care] increases. Continue to accept liability. Inability to see medical professionals due to lack of financial/medical resources.

Shady Grove United Methodist Church Free Clinic, 9/26/17

• A lot of people are walking. [See a] woman who rides her bike with laundry.

Circles Ashland, 9/28/17

- [The] likelihood of fixing [the transportation issues] depends on how much it is considered a priority and availability of funding, resources, etc.
- [An] advantage of public transportation [is that it] allows people to travel between work and home and reduces carbon footprint. [What's] not needed is a multibillion dollar CSX Rail system paid for with our taxes.
- The fact that we have not improved our infrastructure and the public has been using Hanover as their recreation destination is a big sign that Hanover's current administration doesn't think this is important. We even had to congregate an ad hoc committee on this to show that it is important. When will Hanover make our county's infrastructure important and safe for bikers, walkers, and runners; also, create a link to Richmond via bus Transportation Hanover and Airpark? And be a better county to our neighboring counties.
- Walking to work is very hard. [Some have] health problems, [and there is the] risk of losing your job without transportation. Stressful family issues dealing with no transportation. Buses are needed for Hanover immediately.
- People, particularly those living in poverty, are very limited in what kinds of jobs they can get based on their lack of transportation. In Ashland, they can walk to retail outlets or fast food restaurants, which are the lowest paying jobs.
- Sidewalks with safe "cushion" space away from the roads for people [are needed]. Many more sidewalks and biking areas are important all over the county including in the more rural areas. Public transportation in the major towns (Ashland and Mechanicsville) can be crucial to the livelihood of so many people.
- Environment, congestion, and traffic are many reasons that we need to address transportation. Barriers are money and infrastructure issues with property acquisition for more train tracks. Busses are a NO brainer.
- Some people can't drive and have to walk to work. They then can only accept a job close to home which may be only low paying jobs. The expenses involved in owning a car such as gas can

be troubling for those who have low paying jobs. The emissions form automobiles effect everyone and everything. The fewer cars on the roads the better the air, people, and plants with be.

- Transportation to jobs is an issue for people in poverty in Ashland/Hanover County. There is a lack of infrastructure that limits the county. Much could be done. I am not confident of the will to address these needs among our community or state officials.
- A local transit bus would help a lot of people. It would need to be a reasonable price or it wouldn't be effective.
- [There] has to be a partnership between local and state (VDOT) and federal. Regional partnerships like RT 1 bus line from Chesterfield up through Ashland would be great.
- If you don't have Medicaid, you have to pay an Uber to go to the doctor. Most people do not want to carry you anywhere. They don't want to wait. Also poor people charge other poor people out the nose for a ride and gripe about how long it takes. Ubers are not cheap.
- Long term planning needs to seriously tackle this issue and not cut transportation improvements. Bike lanes should be added anytime road improvements are funded.
- Older adults who may not be able or desiring to drive need ways of getting around (little buses or vans) or more sidewalks.
- Cost and opposition of land owners prevent bike lanes and sidewalks from going in certain areas. Bike lanes are necessary in more rural areas, and sidewalks would help those without transportation to safely be able to commute to jobs.
- Why don't we have bike lanes yet?
- Without public transportation to connect the county with the rest of the Richmond Metropolitan area, the economy of the county is negatively affected. People cannot get to their jobs.


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