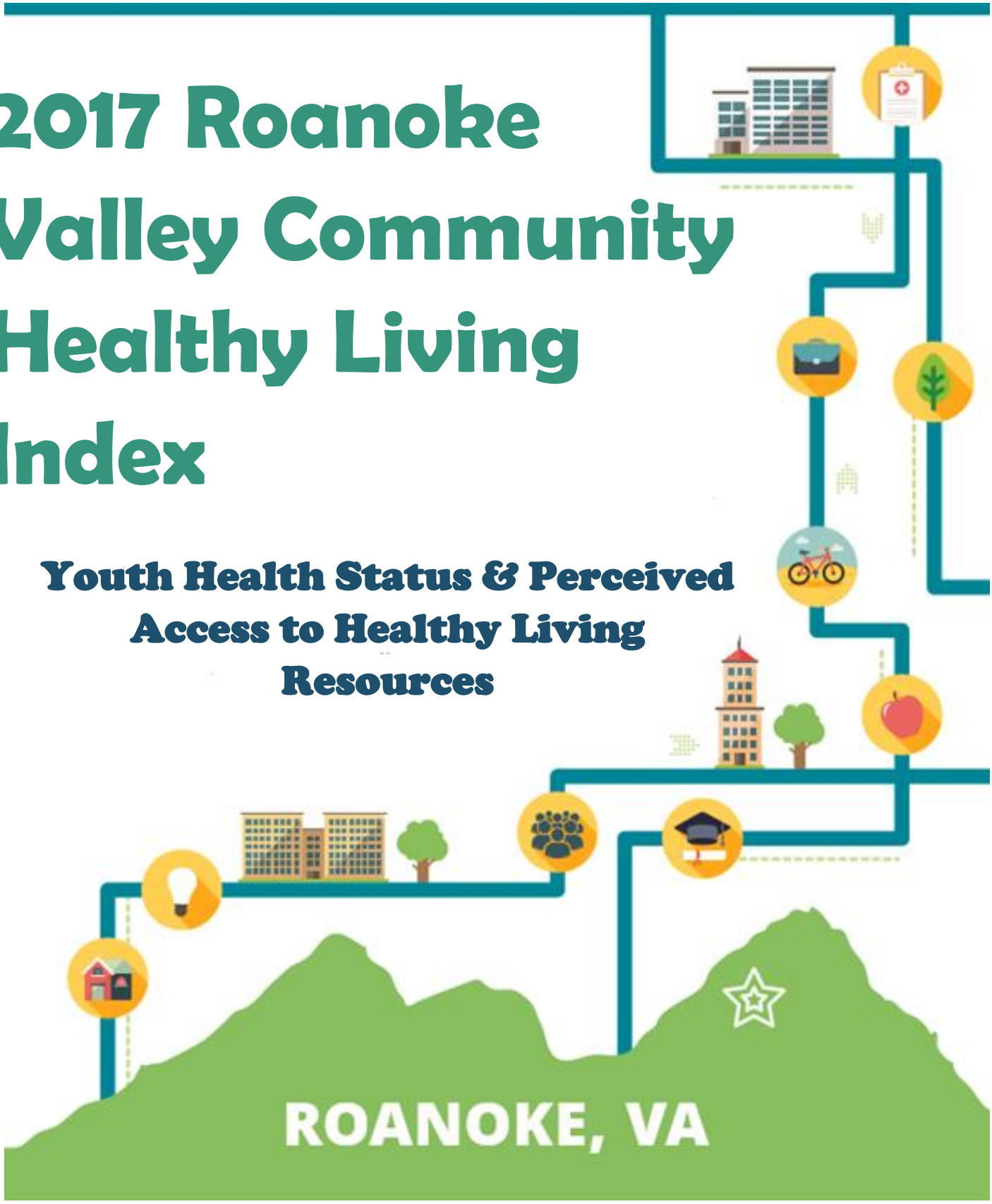
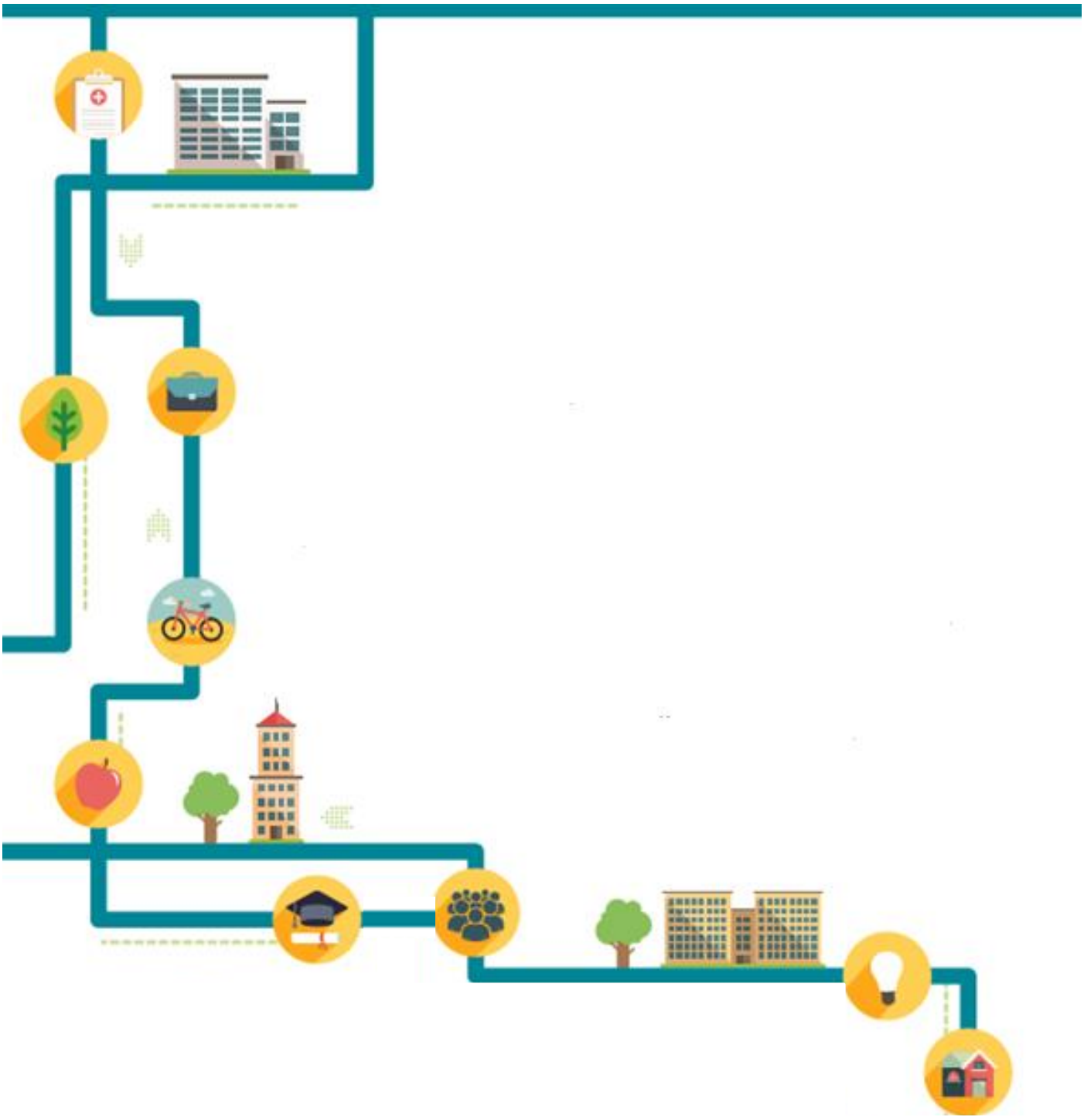
2017 Roanoke Valley Community Healthy Living Index

Youth Health Status & Perceived Access to Healthy Living Resources





Acknowledgement:

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The Roanoke Valley Community Healthy Living Index is made possible through the support of the Roanoke City Public School System, who has served as an active partner since 2011.

The 2017 Health Reports for the Roanoke Valley Community Healthy Living Index were prepared by Dr. Liz Ackley with the attentive assistance of Hailey Sitze, Hannah Kolcz, Emily Hutchinson, and Marissa Freeman (Undergraduate Research Assistants, Roanoke College), and Brittney Cerebe (Research Fellow, Hidden Valley High School). For more information or for questions concerning this report, please contact Dr. Liz Ackley at ackley@roanoke.edu.

Disclaimer:

The Roanoke Valley Community Healthy Living Index (RV-CHLI) was developed to catalyze positive change toward the elimination of health disparities in Roanoke, Virginia. This report is intended for use by the community and can be cited accordingly: Ackley, E. & Hutchinson, E. (2017). The Roanoke Valley Community Healthy Living Index: 2017 Roanoke Youth Health Report. As a means to encourage the long-term sustainability of the RV-CHLI, users are asked to contact the director at ackley@roanoke.edu when reports are used to support organizational or community efforts. While an internal committee has reviewed the data presented in this report, complete accuracy cannot be guaranteed. The authors assume no liability for the use or misuse of this data.

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Background:

The Roanoke Valley Community Healthy Living Index (RV-CHLI) was developed in 2011 to facilitate awareness of relationships between "place" and health across Roanoke's city neighborhoods. Adapted from a previously validated tool developed by the Centers for Disease Control and Prevention[1], the RV-CHLI combines GIS technologies with familial perceptions of access to healthy living resources and objective measures of youth health outcomes[2]. In this way, the RV-CHLI serves to empower community stakeholders to make informed decisions in the development of projects and programs seeking to improve community health while encouraging cross-sector partnerships as a means to enhance collective impact in the neighborhoods that need it most.

In addition to providing an array of local stakeholders with benchmark data concerning youth health status across the city of Roanoke, the RV-CHLI has served as a catalyst for strategic planning for the Roanoke Invest Health Initiative and the PATH Coalition.

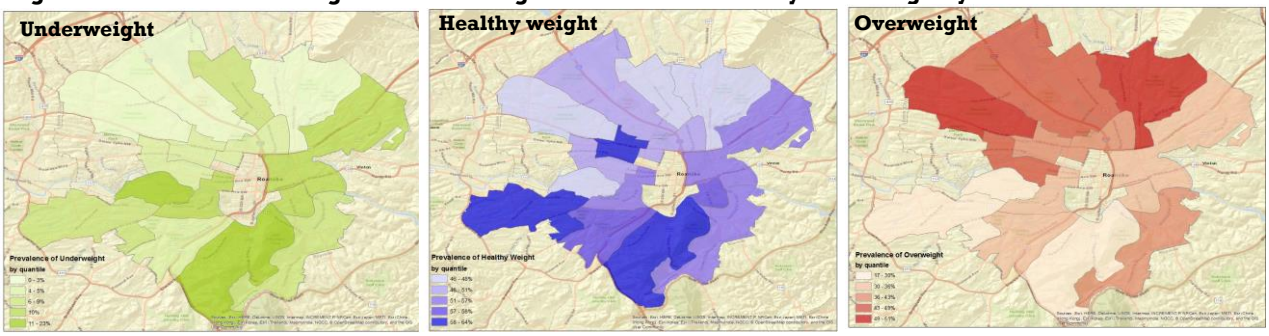
[1] Soowon, K., et al. (2009). Development of the Community Healthy Living Index: A tool to foster healthy environments for the prevention of obesity and chronic disease. *Preventive Medicine, 50*(S), 80-85.

[2] Youth health outcomes used in this assessment were determined objectively from the FitnessGram Test Battery. More information on this widely-accepted assessment can be found at http://www.cooperinstitute.org/fitnessgram/components.

Executive Summary:

Across the city of Roanoke, considerable variation exists relative to the prevalence of healthy weight status in youth (see Figure 1). When compared to national prevalence rates among similarly-aged youth, Roanoke's elementary school-aged youth display higher rates of underweight and obesity and lower rates of healthy weight[3]. Whereas 38% of elementary school-aged youth across the United States experience health risk due to suboptimal weight status[3], 48% of Roanoke's elementary school-aged youth classify as at risk[4].

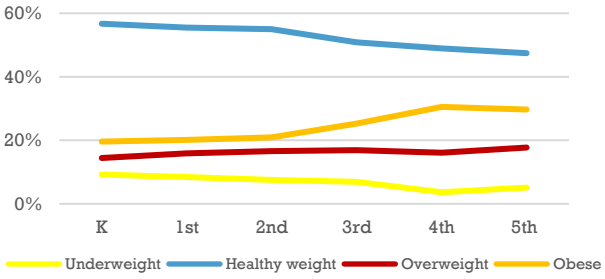
Figure 1. Prevalence of weight status among Roanoke's elementary school-aged youth



Note: Figure stratified by school attendance zone; darker colors indicate higher prevalence rates.

Similar to national trends, grade-related prevalence rates in weight status across Roanoke indicate a gradual decline in healthy weight and underweight over time, while overweight and obesity increase from kindergarten to 5th grade (Figure 2).

Figure 2. Weight status of Roanoke's elementary school-aged youth by grade level



When prompted to reflect on neighborhood-level access to resources supporting healthy living across Roanoke's diverse city neighborhoods, among families with elementary school-aged children:

- 74% perceive they have adequate access to spaces supporting physical activity;
- 69% perceive they have sufficient access to healthy foods;
- 59% perceive their neighborhood is safe for engaging in daytime physical activities, compared to 44% in the evening;
- 28% perceive their neighbors are engaged in creating a culture of health in their neighborhood;
- Sidewalk access and traffic enforcement are perceived as the leading barriers to physical activity participation among youth;
- Improvements to sidewalks and neighborhood parks are recommended as priority areas of need related to enhancing child engagement in physical activity.

[3] The National Center for Health Statistics report can be found at https://www.cdc.gov/nchs/data/hestat/obesity_child_13_14/obesity_child_13_14.pdf

[4] As indicated by combined prevalence rates of underweight, overweight, and obesity.

2017 Roanoke Valley Community Healthy Living Index Assessment Results

Youth Health Status

Weight-Related Health Status:

The measurement of body mass index-for-age (BMI-for-age) allows for the assessment of weight-related health risk in youth while controlling for maturation as children age. Derived from assessments of weight and height, BMI-for-age percentiles can be used to classify a child as underweight (< 5th percentile for age), healthy weight (≥ 5th to < 85th percentile for age), overweight (≤ 85th to < 95th percentile for age), or obese (≥ 95th percentile for age)[5]. BMI-for-age is determined as a part of the FitnessGram test battery, an annual assessment of the components of health-related fitness conducted by school physical educators.

Recent data reported by the National Center for Health Statistics (2015) indicates that when viewing BMI-for-age percentiles at the national level, 17.5% of school-aged children (6-11 years) are obese, whereas 17.2% of children classify as overweight[3]. When underweight status is considered (comprising 3.5% of the youth population), roughly 38% of youth are classified as having increased health risk due to unhealthy weight[3]. In line with national trends, state-level indicators suggest that approximately 31% of youth in the Commonwealth are overweight or obese[6]. Results from the 2017 assessment of BMI-for-age in Roanoke indicate that 41% of local youth are overweight or obese. When underweight is considered, 48% of Roanoke's youth classify as at risk due to unhealthy weight status (see Table 1 and Figure 3).

Table 1: Youth weight status

BMI-for age Classification	Roanoke			United States
	Boys	Girls	Total	
Underweight	7%	7%	7%	4%
Healthy Weight	54%	51%	52%	63%
Overweight	16%	16%	16%	17%
Obese	23%	26%	25%	17%
Total number of students (*n*)	**2,719**	**2,653**	**5,372**	**n/a**

** Note. This sample represents 73% of Roanoke's elementary school-aged youth*

[5] For more information on BMI-for-age, including measurement and interpretation guidelines, visit https://www.cdc.gov/obesity/childhood/defining.html

[6] http://childhealthdata.org/docs/nsch-docs/virginia-pdf.pdf?sfvrsn=0

Compared to national prevalence estimates, children in Roanoke experience higher rates of underweight (7% vs. 4% nationally) and obesity (25% vs. 17% nationally), lower rates of healthy weight (52% vs. 63% nationally) and comparable rates of overweight (16% vs. 17% nationally). To better understand local trends in youth weight status, BMI-for-age percentiles were examined by sex (Figure 4) and age (represented by grade level; see Figure 5). When examining national estimates, sex-related trends in overweight and obesity indicate that among school-aged children (6-11 years), approximately 16% of boys and girls are overweight, and approximately 17% of boys and girls are obese[4].

Figure 3. Youth weight status

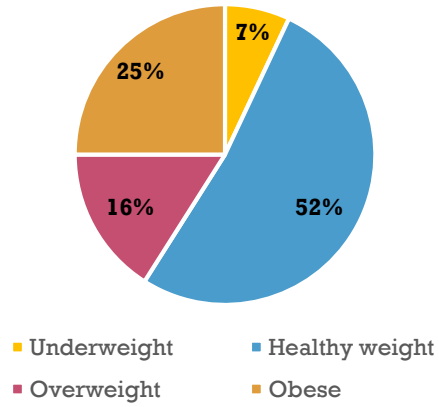
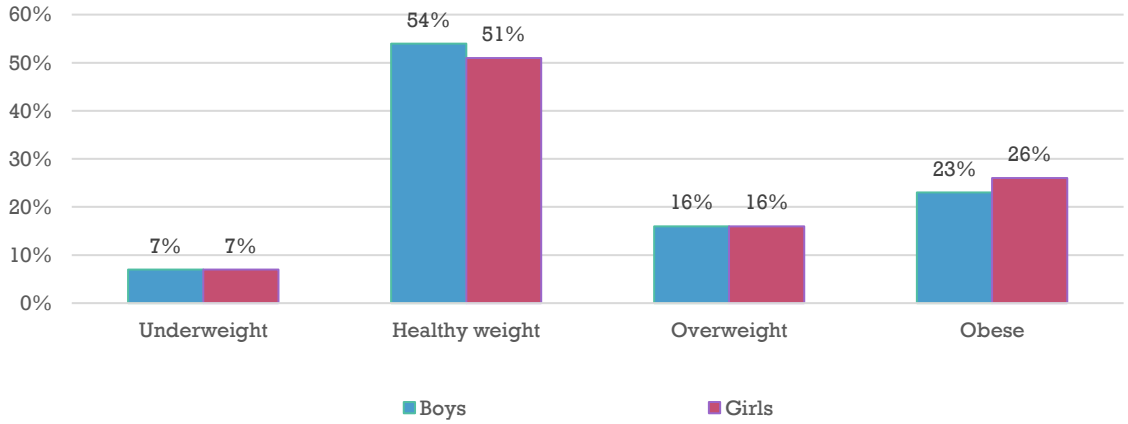
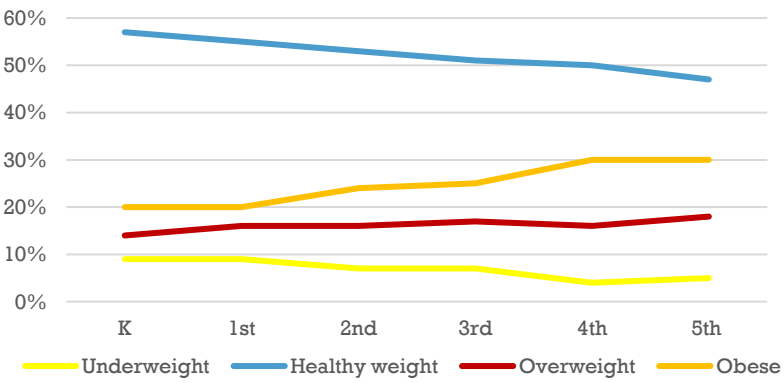


Figure 4. Youth weight status by sex



Among boys in Roanoke, higher rates of underweight (7%) and obesity (23%) are observed compared to national trends (see Table 1 for comparison). Girls in Roanoke experience similar trends, displaying higher rates of underweight (7%) and obesity (26%) compared to national estimates.

Figure 5. Youth weight status by grade



In examining weight-related trends by age at a national level, obesity gradually increases from 9% among youth aged 2-5 years to 17% among youth aged 6-11 years, further increasing to 21% among adolescents aged 12-19 years[3]. Since BMI-for-age percentiles control for maturation as children age, healthy weight status *should* be maintained over time. When considering age-related trends in weight status in Roanoke, elementary school-aged youth experience similar increases in unhealthy weight gain, with rates of overweight and obesity increasing from kindergarten to fifth grade (see Figure 5).

Healthy Behaviors

An individual's health status is influenced by a number of determinants, including (but not limited to) family education attainment, income and employment, genetics, the physical environment, safety, social support, access to clinical and wellness services, and engagement in healthy behaviors. Not surprisingly, as much as 20-50% of the variation in health status between individuals can be explained by healthy behaviors[7], yet the ability to engage in healthy behaviors is largely influenced by access to healthy living resources, such as supportive infrastructure and services. To evaluate engagement in healthy behaviors and access to healthy living resources, families were asked to describe their child's physical activity and healthy eating behaviors and to rate their perceived access to resources supporting healthy living in their neighborhood. *Due to the voluntary nature of the survey, attention should be given to the sample size before generalizing this data.*

In 2017, 1,003 families with elementary school-aged children volunteered to complete the Neighborhood Physical Activity Assessment, representing 14% of eligible families in the public school system.

Physical Activity

While families were generally unaware if a "Safe Routes to School" or walking school bus program existed in their home neighborhood (Figure 6), 12% of students reported walking or riding their bike to school (Figure 7). Among those students, 2nd and 3rd grade students were most likely to actively commute.

Figure 6. Neighborhood safe routes

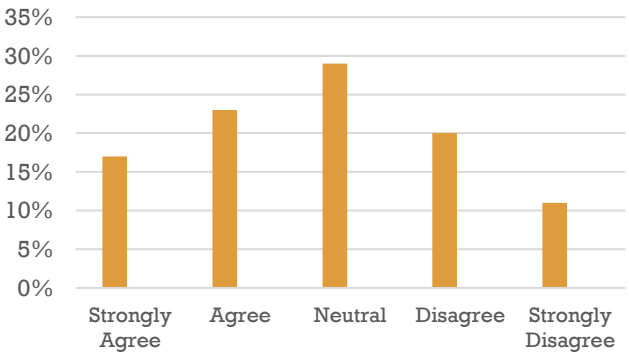
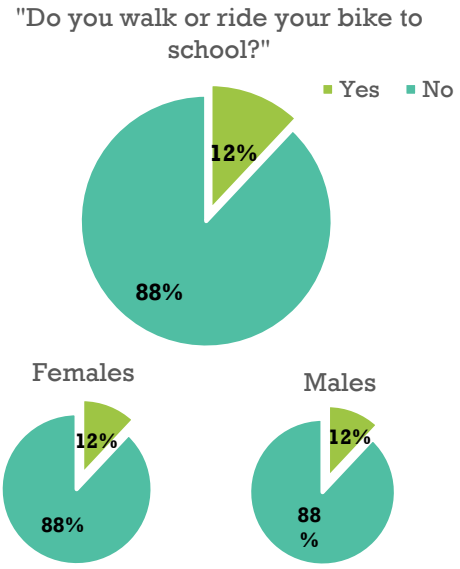


Figure 7. Active commuting



[7] Infographic developed by the Bipartisan Policy Center: https://bipartisanpolicy.org/library/what-makes-us-healthy-vs-what-we-spend-on-being-healthy/.

When asked to identify barriers to engaging in neighborhood-level physical activities, the most commonly reported barriers related to infrastructure [36% of responses; including insufficient sidewalks (33%), bike lanes (8%), accessible infrastructure (7%), parks (7%), and lighting (2%)], heavy traffic [19% of responses], and safety concerns [16% of responses, including violence (5%), loose dogs (4%), drugs (2%) and bullies (2%)]; see Figure 8 for other prominent themes.

Figure 8. Barriers to physical activity

Perceived Access to Resources Supporting Physical Activity

To better understand neighborhood-level resources supporting engagement in physical activities, students (with the help of their parents/guardians) were asked to rank their perceived level of access to infrastructure supporting physical activity. Among respondent families, 74% believe they have sufficient access to parks and recreational facilities supporting physical activity in their neighborhood (see Figure 9). When asked to consider the safety of these resources, 40% of respondents perceived their neighborhood parks, sidewalks, and parking areas were sufficiently lit to be considered safe (Figure 10).

Figure 9: Resources supporting physical activity

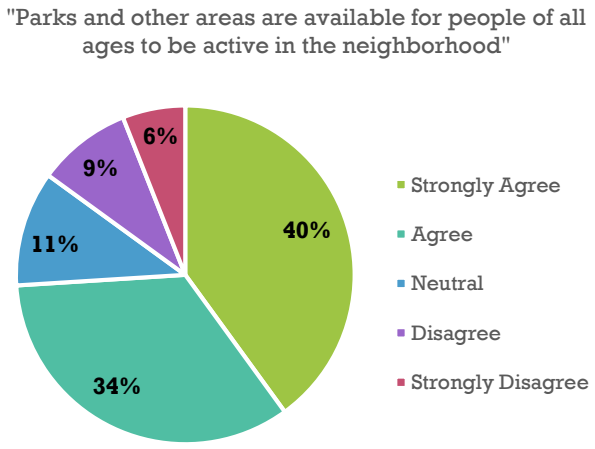
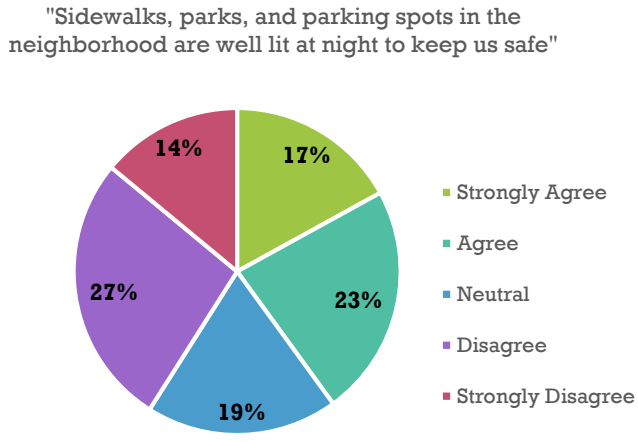


Figure 10. Safety of resources



Perceived Safety for Engaging in Neighborhood-Level Physical Activity

Because safety is a significant determinant of physical activity in youth, families were prompted to provide more detail regarding safety-related concerns in their neighborhood. According to 56% of respondent families in Roanoke, heavy traffic and inappropriate driving speeds are perceived as significant dangers in their neighborhood (Figure 11).

When prompted to describe police presence in areas supporting physical activity, respondents were generally positive or impartial about the visibility of police officers in their neighborhood, with 69% of families reporting adequate levels of police presence in areas supporting physical activity[8] (see Figure 12).

Regarding perceived safety for engaging in physical activities at home, 59% of respondent families perceive their neighborhood is safe for supporting engagement in daytime physical activity (Figure 13), whereas 44% of families perceive the neighborhood is safe for supporting physical activity in the evening[9] (Figure 14).

Figure 11: Perceived traffic safety in areas supporting physical activity

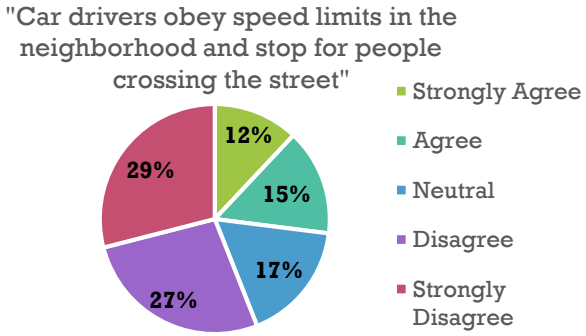


Figure 12: Perceived police presence in areas supporting physical activity

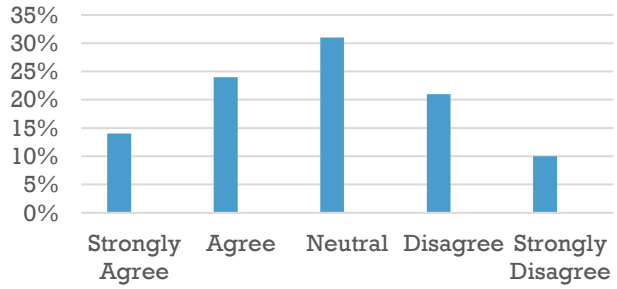


Figure 13. Perceived daytime safety

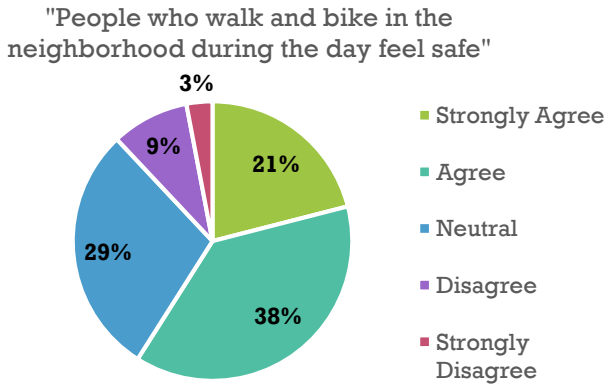
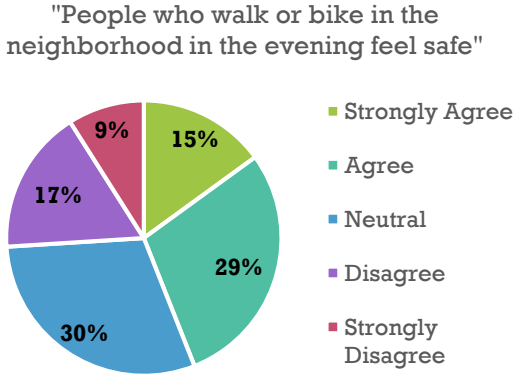


Figure 14. Perceived evening safety

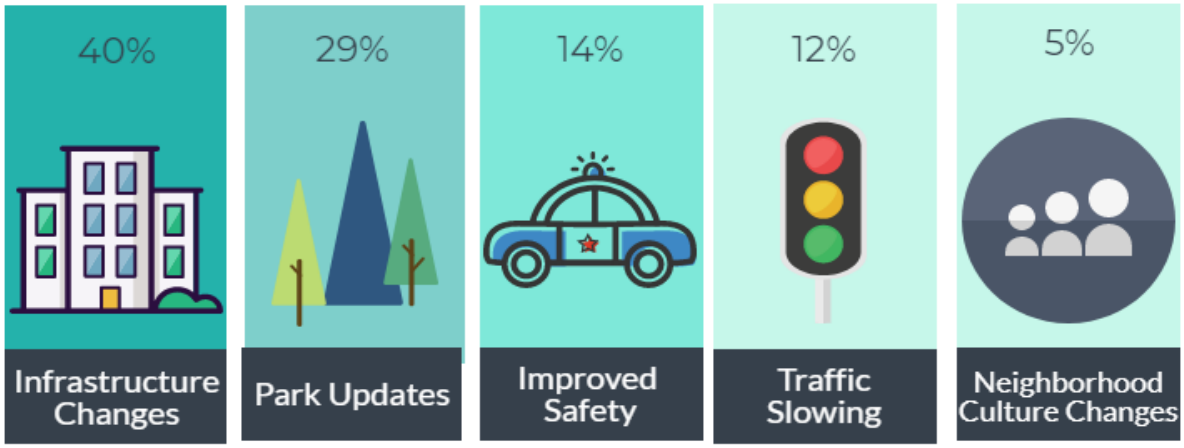


[8] As indicated by a "neutral", "agree", or "strongly agree" response to the prompt "Police officers watch areas used for physical activity, like parks and playgrounds, to keep us safe".
[9] As indicated by a "strongly agree" or "agree" response to the prompts, "People who walk and bike in the neighborhood during the day feel safe" or "People who walk and bike in the neighborhood in the evening feel safe".

Recommendations for Promoting Neighborhood-Level Physical Activity

To enhance participation in neighborhood-level physical activities, respondent families suggest that attention be given to enhancing neighborhood infrastructure [40% of responses; including improvements to sidewalks (56%), lighting (6%), bike lanes (2%), and greenway access (1%)] and improving neighborhood parks (29%); see Figure 15.

Figure 15: Recommendations for enhancing neighborhood physical activity



Healthy Eating

Perceived Neighborhood-Level Access to Healthy Foods

Participating students (with the help of their parents/guardians) were asked to describe the level of access to healthy foods in their home neighborhood. While, 69% of respondent families perceived they have sufficient access to stores offering healthy foods in their neighborhood[10] (Figure 16), only 38% of families agreed that incentives were provided by neighborhood stores to encourage health eating[11] (Figure 17).

Figure 16: Perceived access to healthy foods

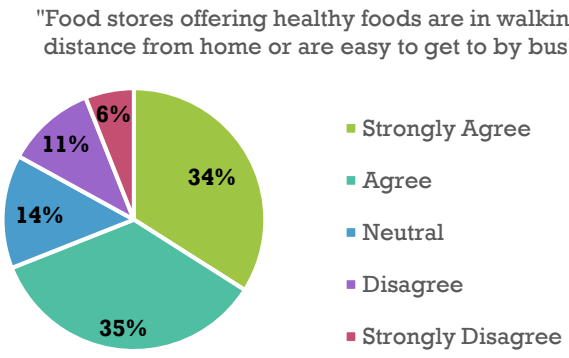
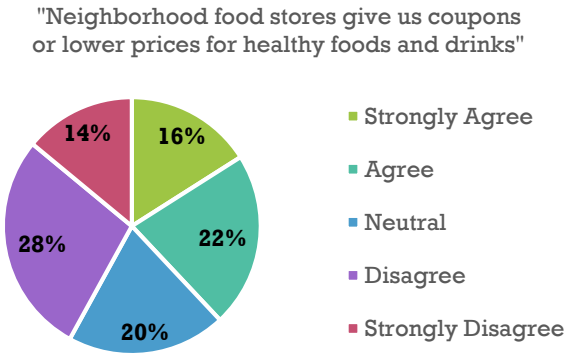


Figure 17: Incentives for healthy foods



[10] As indicated by responding "agree" or "strongly agree" to the statement, "Food stores offering healthy foods are in walking distance or are easy to get to by bus".
[11] As indicated by responding "agree" or "strongly agree".

Healthy Living

Neighborhood Culture of Healthy Living

To better understand neighborhood culture supporting healthy living across Roanoke's diverse neighborhoods, participating students (with the help of their parents/guardians) were asked to describe their interactions with neighbors relative to healthy living behaviors (namely physical activity and healthy eating). Among respondent families, 40% report spending time with neighbors while engaging in physical activity (Figure 18) and 33% of families report that healthy foods are served when neighbors gather to spend time together (Figure 19).

Figure 18: Neighborhood culture of physical activity

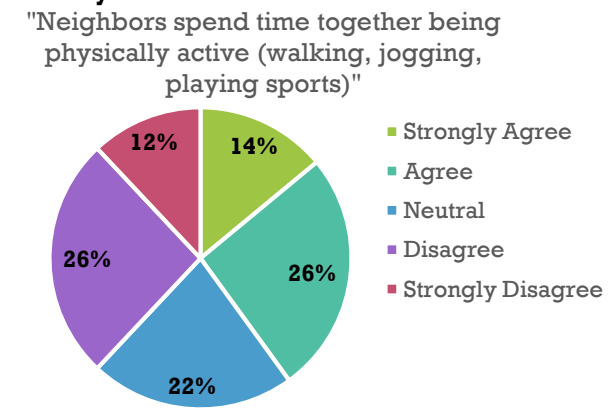
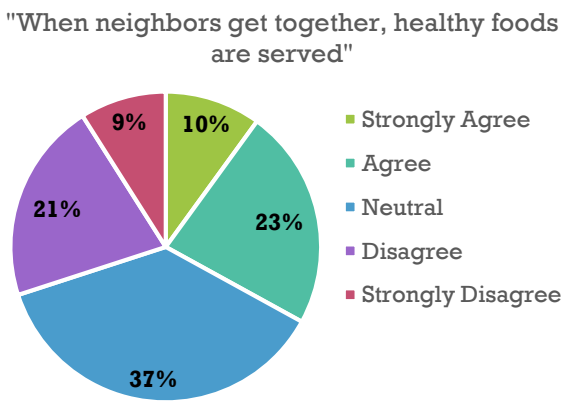


Figure 19: Neighborhood culture of healthy eating



Reflecting levels of neighborhood engagement in healthy behaviors reported by respondents, 37% of families report having a group of individuals in their neighborhood who are enhancing their neighborhood culture of health (Figure 20). Moreover, when prompted to report if neighbors had been active in promoting a culture of health, 28% of families agreed or strongly agreed (Figure 21).

Figure 20: Neighborhood support for promoting a culture of health

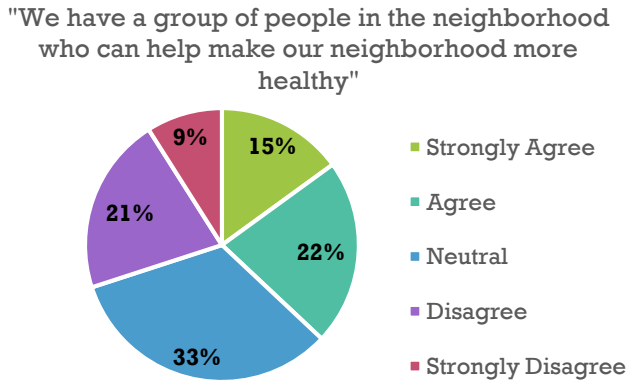
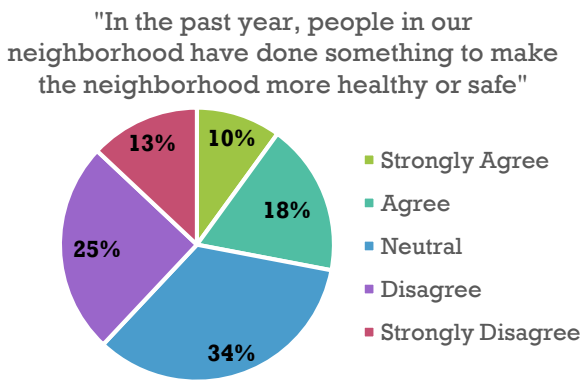


Figure 21: Neighborhood engagement in enhancing a culture of health



Actionable Recommendations

GET INVOLVED!

The Roanoke Valley Community Healthy Living Index was developed to support actionable planning across Roanoke's diverse neighborhoods.

There are numerous ways to get involved to make our neighborhoods healthier. Consider becoming involved with one or more of the following groups or organizations listed on this page.

JOIN YOUR NEIGHBORHOOD FORUM

All of Roanoke's historic neighborhoods are supported by a neighborhood group. These groups are served by residents who are working to realize their vision for a thriving community.

Visit **http://www.roanokeva.gov/1198/Links-to-Neighborhoods** to learn more.

ADVOCATE

Policies encouraging healthy living, including healthy eating and physical activity, need support from community members like you! Contact your local elected officials and community leaders to advocate for health in all policies, or serve on a local advisory commission (vacancies on local commissions can be found here: **http://www.roanokeva.gov/1066/Vacancies**).

SHARE YOUR IDEAS

The Roanoke Valley Community Healthy Living Index supports the work of numerous community partners seeking to enhance equitable access to healthy living resources across Roanoke city neighborhoods. If you have an idea, contact our team at **RoanokeValleyCHLI@gmail.com.**

* This page was adapted from The Health Collaborative's "Executive Summary: What Can You Do?", found at www.thehealthcollab.com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