



**Research Brief,
Short Paper**

ISSN 2687-8844

Editorial Review Board

Christopher Connor PhD
Tim Collins PhD
Kim Pierce
Andrea Runge
Allan Buttery, PhD
Mehryar Nooriafshar, PhD
Owen Stanley PhD
Salvador Garza
Matt Johnson

The Illinois Institute for Rural Affairs (IIRA) works to improve the quality of life for rural residents by partnering with public and private agencies on local development and enhancement efforts.



**Western Illinois
University**

Support for Healthy Eating and Active Living in Rural Communities: Insights from a National Survey of Local Governments

Adee Athiyaman¹

Abstract

This paper explores local government policies that facilitate or support healthy eating and active living. Microdata from the “Community Based Survey of Supports for Healthy Eating and Active Living” (CBS HEAL)” were collated to gain insights into healthy living. Data analysis suggests that the nonmetro has fewer municipalities that require installation of dedicated bicycle infrastructure for roadway expansion projects. More than one in five local governments in both the metro and the nonmetro provide tax incentives such as tax abatement, tax credit, or property tax exemption to attract supermarkets and full-service grocery stores to their community.

Introduction

In earlier Research Briefs, I highlighted empirics such as:

- (i) more than one third of the nonmetro residents are physically inactive, compared to approximately one fourth of the metro residents who are physically inactive²;
- (ii) the average poverty rate is 13.25% in the nonmetro compared to 10.8% in the metro³;
- (iii) higher poverty rate is associated with a higher number of food-insecure households⁴; and
- (iv) nonmetro has a higher prevalence of obesity, population with BMI greater than 30⁵.

¹ Professor, Illinois Institute for Rural Affairs, Western Illinois University.

² Athiyaman, A. (2023). Physical activity of Illinoisans in the metro and the nonmetro. *Research Brief*, 5(2), January 31. Available: <https://iira.org/physical-activity-of-illinoisans-in-the-metro-and-the-nonmetro/>.

³ Athiyaman, A. (2022). Rural Illinois in numbers: Content-valid indicators for governance. *Research Brief*, 4(11), June 16. Available: <https://iira.org/rural-illinois-in-numbers-content-valid-indicators-for-governance/>.

⁴ Athiyaman, A. (2023). Health and healthcare disparities in Illinois: Metro versus nonmetro. *Research Brief*, 5(3), February 16. Available: <https://iira.org/health-and-health-care-disparities-in-illinois-metro-vs-nonmetro/>.

⁵ Athiyaman, A. (2023). Pharmaceuticalization of obesity: Empirical analysis of metro and nonmetro populations, cognitions and behavior. *Research Brief*, 5(22), November 16. Available: <https://iira.org/pharmaceuticalization-of-obesity-empirical-analysis-of-metro-and-nonmetro-populations-cognitions-and-behavior/>.

This paper extends this type of research on metro / nonmetro differences in healthy living by exploring local government policies that facilitate or support healthy eating and active living. Microdata from a survey of municipalities in the nation were used to gather insights on the topic.

Theoretical Constructs

The task of a scientist is to discover generalized laws by which observable events may be interrelated, theory construction. Theoretical constructs in behavioral sciences can be classified as 'response' variables, for example, behavioral actions and/or human characteristics such as traits and abilities, and 'stimulus' variables such as environmental conditions. The laws that scientists seek can be stated as:

$$\text{Response} = f(\text{Stimulus})$$

Historically, illness is considered as abnormal biological variations and responses were believed to be rational⁶. However, there are social and cultural meanings attached to the responses; for example, some cultures believe that evil eye is the cause of frightening experience and as a remedy rub raw egg all over the body of the ill⁷. This is why human behavior varies even though the objective stimuli, for example, environmental conditions, remain unchanged.

⁶ Sontag, S. (1978). *Illness as a metaphor*. New York: Farrar, Straus and Giroux.

⁷ Athiyaman, A. (2023). Health related beliefs of ethnic groups: An exploratory analysis. *Research Brief*, 5(11), June 1. Available: <https://iira.org/health-related-beliefs-of-ethnic-groups-an-exploratory-analysis/>.

In this paper, the focus is on environmental conditions related to physical activity and healthy eating, for example, access to healthy foods, walkability and bikeability of communities⁸. The unit of analysis is local governments listed as municipalities: cities, towns, villages, and boroughs.

Methodology

The Center for Disease Control and Prevention (CDC) conducted the "Community Based Survey of Supports for Healthy Eating and Active Living" (CBS HEAL) in 2021. The sample included 4,417 municipalities with a population size of at least 1,000. The city or town manager, city planner, or city administrator was the primary respondent; in some instances, the mayor, city clerk, or other similar position served as the respondent. Table 1 shows the topics or themes that were explored in the mail / CATI⁹ survey. Data collection began in May 2021 and concluded in September 2021; the response rate corrected for coverage error was 50%, weighted N = 10,300.

⁸ Mansfield, E. D., Ducharme, N., & Koski, K. G. (2012). Individual, social and environmental factors influencing physical activity levels and behaviours of multiethnic socio-economically disadvantaged urban mothers in Canada: A mixed methods approach. *International Journal of Behavioral Nutrition and Physical Activity*, 9, 1-15.

⁹ CATI stands for Computer Assisted Telephone Interviewing.

Table 1: Topics of the Survey, CBS HEAL, 2021

Topics	Salient Variables
Structure of the local government	Presence of entity responsible for: <ul style="list-style-type: none"> □ housing, parks and recreation; public health, and health equity.
Planning for healthy eating and active living	Presence of comprehensive master plan. Types of master plans: <ul style="list-style-type: none"> □ bicycle or pedestrian plan and health equity plan. Objectives included in the plan: <ul style="list-style-type: none"> □ establishing recreational walking and bicycling paths and supporting community gardens.
Built environment	Budget provisions related to outdoor recreation areas such as: <ul style="list-style-type: none"> □ lighting in outdoor recreation areas, □ patrols by police or security in outdoor recreation areas, □ maintenance of green space and equipment, □ prohibition of unleashed dogs in outdoor recreation areas, and □ provision of safe/clean drinking water fountains. Official objective to install bicycle racks at public facilities such as public parks, government buildings, and transit stations.
Zoning that supports healthy eating / active living	Zoning codes or design / development guidelines for: <ul style="list-style-type: none"> □ sidewalk coverage; □ sidewalk widths, minimum of 5 feet; □ pedestrian amenities such as trees or furniture along the street; □ mixed land uses.
Public transportation policies	Local government considers locating public transit near the following destinations: <ul style="list-style-type: none"> □ Community health clinics, health hubs, or medical offices; □ Farmers markets; □ Supermarkets or other full-service grocery stores; □ Parks or recreation facilities; □ Schools (including colleges/universities).

For each topic listed in Table 1, data are presented for both the metro and the nonmetro regions. Results of data analyses are presented as per the recommendations of the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE)¹⁰.

Findings

Structure of Local Governments

Three in ten municipalities are located in the nonmetro. Most of the local governments, both in the metro and the non-

metro, have a department, office, or division that is responsible for “planning” and “parks and recreation”. However, in spite of research findings that “African Americans and Hispanics have poor access to healthcare providers and the disparity between the Whites and the minority population in healthcare access is more pronounced in the non-metro”¹¹, only 5% of the municipalities in the metro and 3% of the municipalities in the nonmetro have a health equity department or office (Table 2).

Table 2: Structure of Local Government

Local Gov’t has a Dep’t for...	Metro		Nonmetro	
	Yes	No	Yes	No
Transportation	45%	55%	22%	78%
Planning	87%	13%	67%	33%
Housing	36%	64%	17%	83%
Parks and Recreation	86%	14%	76%	24%
Health or Public Health	18%	82%	14%	86%
Health Equity	5%	95%	3%	97%
N, Weighted: min and max values	6427 - 7314		2730 – 3036	

Note: All χ^2 were significant at the $p < .05$ level.

¹⁰ <https://www.strobe-statement.org/>.

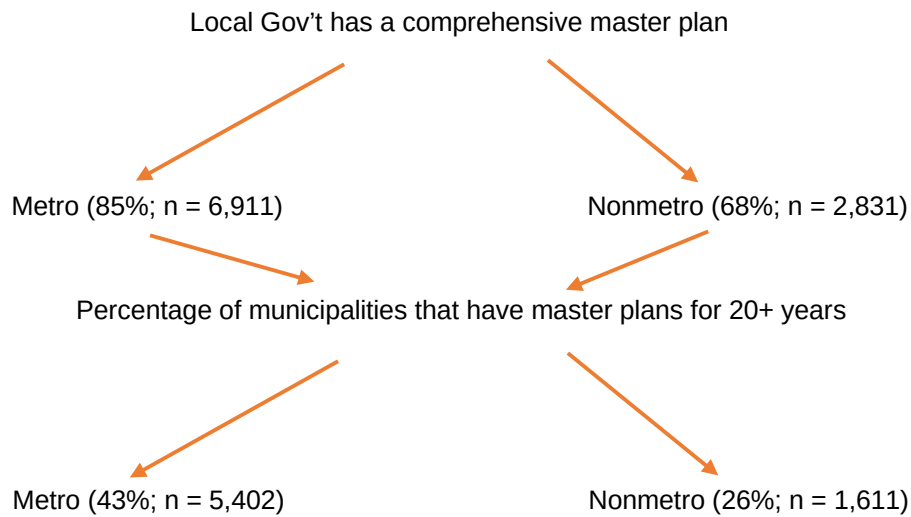
¹¹ Athiyaman, A. (2023). Health policy for rural Illinois, data for policy development. *Research Brief*, 5(4), February 25. Available: <https://iira.org/health-policy-for-rural-illinois-data-for-policy-development/>.

Community-Wide Planning Efforts

A higher proportion of municipalities in the metro compared to the nonmetro have comprehensive plans, 85% and 68% respectively. Two in five nonmetro local governments develop their plans without

state mandate, compared to one in three in the metro. More than two in five municipalities in the metro have been crafting master plans for 20 or more years; the same number for the nonmetro is 26% (Figure 1).

Figure 1: Presence of Comprehensive Master Plan and Time of Adoption



Objectives included in the master plans differ between the municipalities in the metro and the nonmetro; for example, 40% of the municipalities in the nonmetro focus on “preserving land for agricultural uses” compared to 32% in the metro. In contrast, more municipalities in the metro focus on establishing new parks, green spaces, or recreational walking and bicycling paths. The objective of providing free safe/clean drinking water in outdoor public spaces such as parks is pursued by local governments in both the geographies (Table 3).

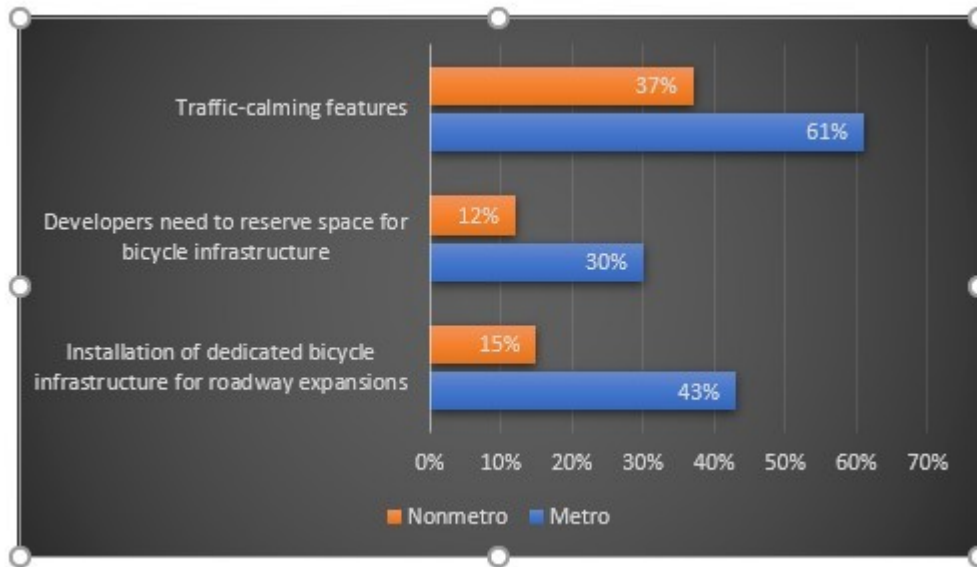
Table 3: Objectives Included in the Master Plan(s)

Objective	Metro	Nonmetro	χ^2
Streets policy ensuring the needs of all users during the design of major road projects.	60% (n=5,617)	34% (n=1,887)	378.74
Regulations to promote pedestrian routes between blocks	60% (n=5,727)	35% (n=2,019)	375.29
Establishing green spaces, recreational walking and bicycling paths	87% (n=6,202)	71% (n=2,195)	313.12
Mixed-use development, combining residential land use with other land uses	81% (n=5,945)	60% (n=2,082)	377.44
Supporting farmers markets or community gardens	65% (n=5,910)	58% (n=2,047)	30.00
Preserving land for agricultural uses	32% (n=5,707)	40% (n=1,943)	43.23
Providing safe drinking water in outdoor public places	53% (n=5,443)	54% (n=1,983)	Not sig.

Built Environment that Supports Physical Activity

The nonmetro has few municipalities that require installation of dedicated bicycle infrastructure for roadway expansion projects or when retrofitting streets, 15%. The nonmetro lags behind the metro in policies that require developers to reserve space for use by the local jurisdiction for development of bicycle infrastructure. Traffic-calming features such as speed bumps and reduced speed zones that increase roadway safety in areas with high pedestrian and bicycle volume are fewer in the nonmetro (Figure 2).

Figure 2: Existence of Policies that Support Physical Activity



When asked about policies that support outdoor recreation, a majority of both the metro and the nonmetro municipalities reported having lighting in parks or outdoor recreation areas, patrols by police / security, and prohibition of unrestrained dogs in outdoor recreation areas. Less than one in

two nonmetro municipalities provide drinking water fountains or water bottle filling stations in outdoor recreation areas; in contrast, 60% of the local governments in the metro provide this benefit (Table 4).

Table 4: Local Government Policies Related to Outdoor Recreation Areas

Policy	Metro	Nonmetro	χ^2
Lighting in outdoor recreation areas	80% (n=6,824)	78% (n=3,031)	7.38, p < .05
Patrols by police or security	80% (n=6,730)	77% (n=3,003)	14.02, p < .05
Maintenance of green space and equipment	92% (n=6,860)	82% (n=2,959)	172.89 p < .05
Prohibition of unrestrained dogs	91% (n=6,782)	80% (n=2,985)	204.65, p < .05
Provision of drinking water fountains	60% (n=6,405)	46% (n=2,900)	141.74, p < .05
Maintenance of drinking water fountains	70% (n=6,502)	51% (n=2,877)	302.11, p < .05

Zoning that Supports Healthy Eating and Active Living

More than nine out of ten municipalities in the metro and four out of five municipalities in the nonmetro have a zoning commission. Of these less than one in ten local governments have a designated health / public health representative on the commission. However, a majority of the local governments have a community representative on the zoning commission (Figure 3).

Communities with a health representative on the zoning commission provide zoning incentives that, for example, encourage supermarkets to open in underserved areas or food deserts; they also craft specific zoning policies to address recurring non-permanent farmers markets. In summary, the benefit of having a public health representative on the zoning committee to enhance community health is evident in both the metro and the nonmetro (Table 5).

Figure 3: Zoning Commissions and Representations

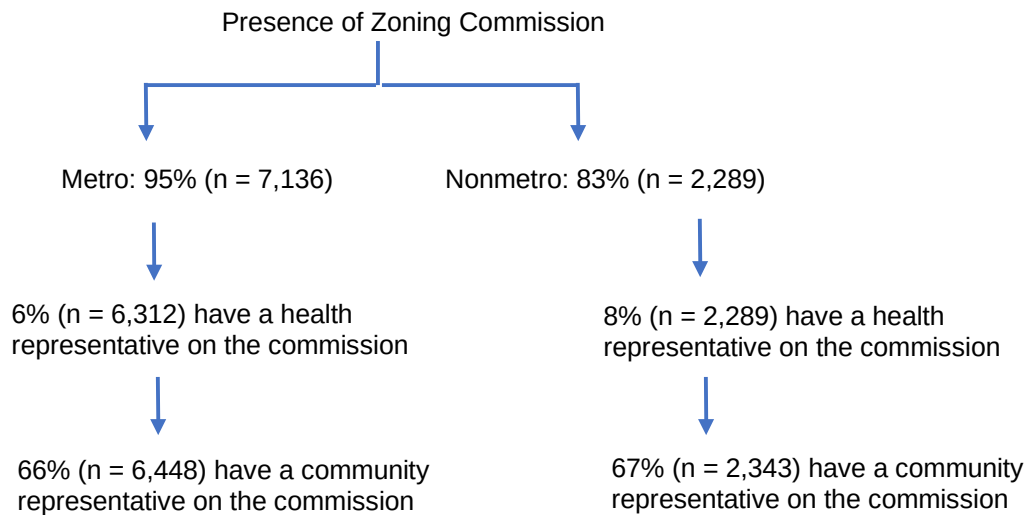


Table 5: The Impact of Having Public Health Officials on Zoning Commission

Metro

Policies to Remove Zoning Barriers	Public Health Rep on Zoning Commission?	
	Yes	No
Yes	40%	11%
No	30%	47%
Community does not have food deserts	30%	42%
χ^2, p	235.04, $p < .05$	

Nonmetro

Policies to Remove Zoning Barriers	Public Health Rep on Zoning Commission?	
	Yes	No
Yes	16%	11%
No	31%	47%
Community does not have food deserts	53%	42%
χ^2, p	12.45, $p < .05$	

Public Transportation and Other Policies that Support Healthy Eating and Active Living

One in five municipalities in the nonmetro operate paratransit community vans or shuttle buses on demand; in comparison, more than two out of five municipalities in the metro, 44%, operate on-demand transit. The transit vans or shuttle buses service community health clinics, supermarkets or other full-service grocery stores, and parks or recreation facilities (Table 6).

Table 6: Paratransit Service Destinations

Destination	Metro	Nonmetro
Community health clinics, health hubs, or medical offices	95% (n = 2,871)	92% (n = 582)
Farmers markets	63% (n = 2,540)	49% (n = 509)
Supermarkets or other full-service grocery stores	94% (n = 2,769)	81% (n = 549)
Parks or recreation facilities	85% (n = 2,569)	73% (n = 468)

Other than transit bus services to grocery stores, 24% of the local governments in both the geographies provide tax incentives such as tax abatement, tax credit, or property tax exemption to encourage supermarkets and full-service grocery

stores to open in the community. A higher proportion of municipalities in the nonmetro explicitly prioritize low-income areas for store locations (Table 7).

Table 7: Approaches to Encourage Supermarkets to Open Stores in the Community

Approach	Metro	Nonmetro	χ^2
Tax incentives	24% (n = 6,508)	24% (n = 2,743)	Not sig.
Grant or loan programs	14% (n = 6,510)	16% (n = 2,737)	5.71, p < .05
Programs that link store openings to broader neighborhood revitalization	13% (n = 6,435)	12% (n = 2,660)	Not sig.

Percentage of Municipalities that Target Incentives for Grocery Stores to Open in Low-Income Areas

Approach	Metro	Nonmetro
Tax incentives	72%, n = 356	82%, n = 108
Grant or loan programs	63%, n = 369	65%, n = 103
Programs that link store openings to broader neighborhood revitalization	78%, n = 370	82%, n = 96

Summary and Conclusion

This research explores structures and policies of rural communities that facilitate healthy eating and active living. Microdata from a 2021 survey of municipalities were used for data analysis. Findings indicate that:

1. The structure of most local governments in both the metro and the nonmetro lack a separate department or entity that is responsible for public health and/or health equity.
2. A majority of the local governments in the nonmetro, 66%, do not have an objective or policy that ensures the needs of all road users during the design of major road projects.
3. Traffic-calming features such as speed bumps and reduced speed zones that increase roadway safety in areas with high pedestrian and bicycle volume are fewer in the nonmetro.
4. Less than one in two nonmetro municipalities provide drinking water fountains or water bottle filling stations in outdoor recreation areas; in contrast, 60% of the local governments in the metro provide this benefit.
5. Less than one in ten local governments have a designated health / public health representative on the zoning commission.
6. One in five municipalities in the nonmetro operate paratransit community vans or shuttle buses on demand; in comparison, more than two out of five municipalities in the metro operate on-demand transit services.
7. More than one in five local governments, 24%, in both the geographies provide tax incentives such as tax abatement, tax credit, or property tax exemption to attract supermarkets and full-service grocery stores to their community.

The World Health Organization states that people have the right to the highest attainable standard of health¹²; the statement implies that it is the responsibility of governments to provide appropriate conditions for healthy living. This research shows that having a health representative on the zoning committee could be the means to attain the desired end, provide support for healthy eating and active living.

¹² <https://www.who.int/news-room/fact-sheets/detail/human-rights-and-health>.

References

Athiyaman, A. (2022). Rural Illinois in numbers: Content-valid indicators for governance. *Research Brief*, 4(11), June 16. Available: <https://iira.org/rural-illinois-in-numbers-content-valid-indicators-for-governance/>.

Athiyaman, A. (2023). Physical activity of Illinoisans in the metro and the nonmetro. *Research Brief*, 5(2), January 31. Available: <https://iira.org/physical-activity-of-illinoisans-in-the-metro-and-the-nonmetro/>.

Athiyaman, A. (2023). Health and healthcare disparities in Illinois: Metro versus nonmetro. *Research Brief*, 5(3), February 16. Available: <https://iira.org/health-and-healthcare-disparities-in-illinois-metro-vs-nonmetro/>.