Developing the UBN Framework

Lauren Anderson

University of Louisville, School of Medicine

Center for Healthy Air Water and Soil

Universal Basic Neighborhood

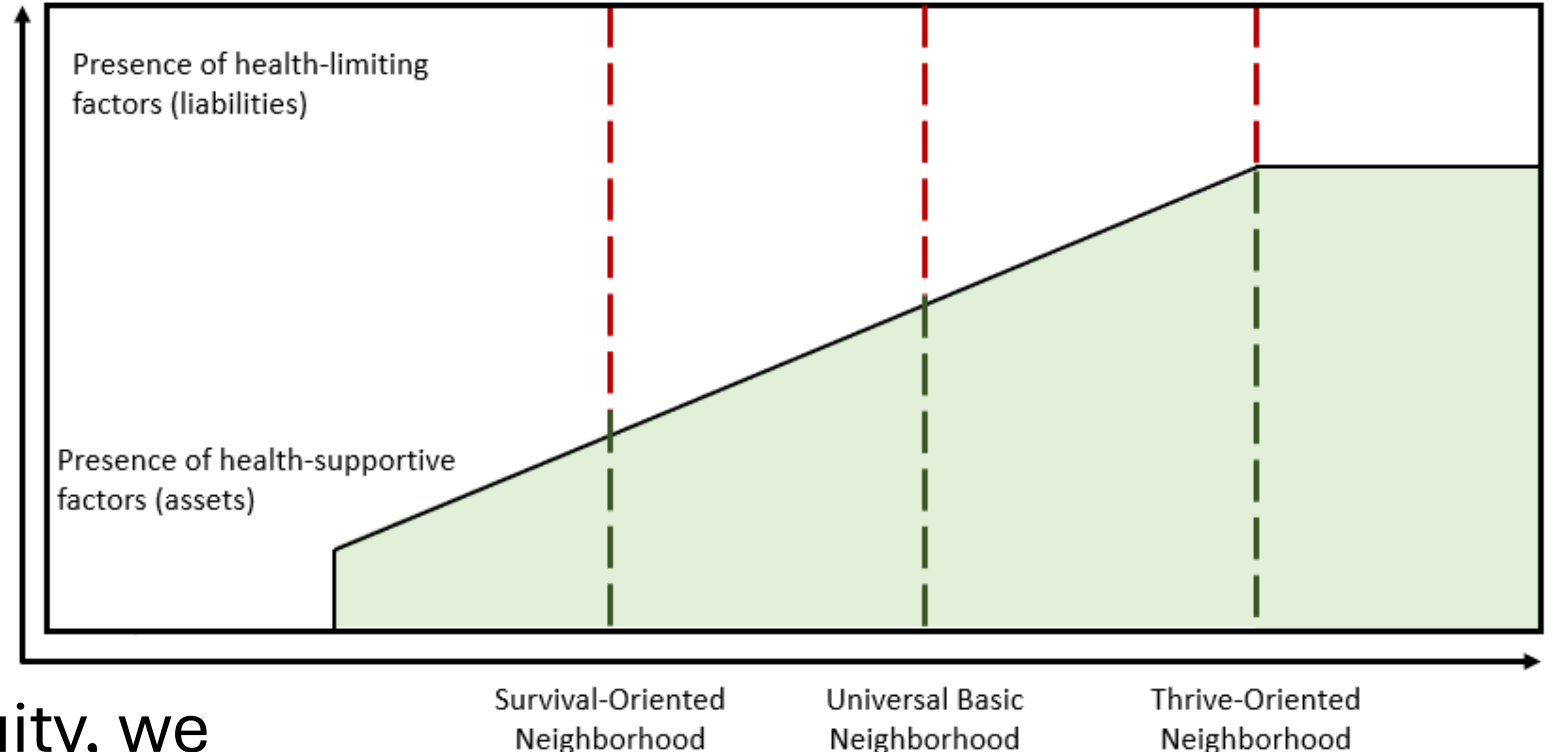A Universal Basic Neighborhood supports people and provides the things people need to be healthy.

1. Health shaped by where you live.
2. We need clean places (healthy air, water, soil and low levels of pollution) to live that offer us ways to access the things we need (food, exercise, jobs, friends and family).

Why? To improve health equity, we need to diagnose and treat places.

UBN Framework

To see how well neighborhoods support health we look for area assets and identify areas for growth area liabilities in four categories

1. **Environment**
2. **Housing**
3. **Transportation**
4. **Social Supports**

We measured these categories using 35 area characteristics, called neighborhood indicators.

Scores were assigned to each indicator: neutral (0), positive (+1), or negative (-1).
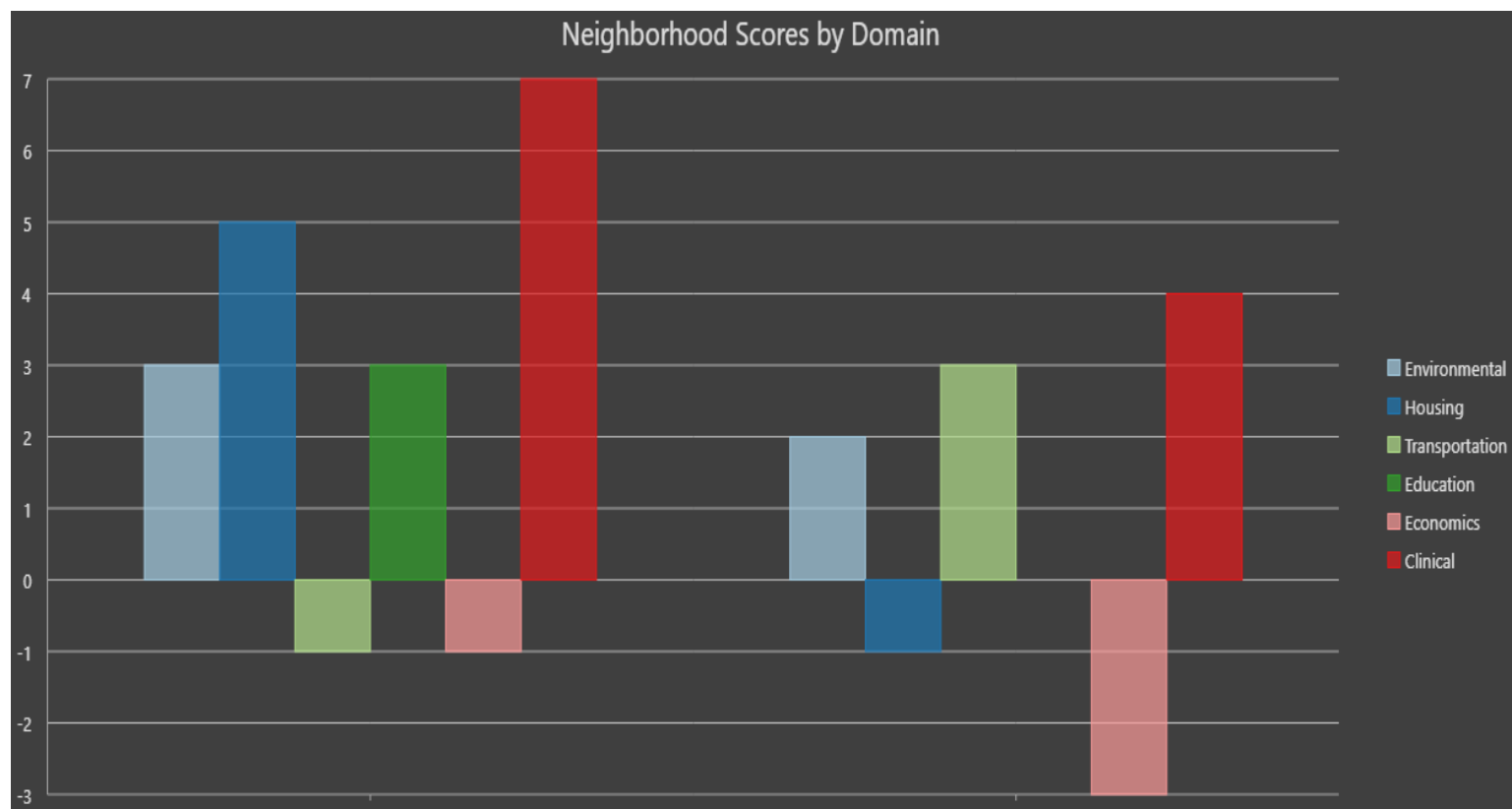
Example Score for Noise Pollution Indicator

Example: Average 24-hour Exposure to Noise Pollution
- National administrative policy has stated that the 24-hour average noise level should be less than 55 decibels (dB).
- Excessive noise pollution contributes to stress, sleep disturbances, and increased risk for heart disease.

Scoring
- If the average noise level is **above 55 dB,** a score of **-1** is applied
- If the average noise level is **between 50 and 55 dB,** a score of **0** is applied
- If the average noise level is **below 50 dB,** a score of **+1** is applied

Accounting of Assets & Liabilities

Russell Assessment

Metric	Threshold Description	Based on	County Average	Russell Average
Average PM2.5 concentration	Average 24-hour PM2.5 concentration should be less than 9 µg/m3	average	8.75	8.86
Toxic emission hazards	The "Whole Body Hazard Index Score" should be less than .0004	average	0.0004	0.0007
Point sources	The area should have a maximum of one point pollution source	research	0.6	0
Park Access	There should be at least one park in the area	average	0.53	1

Metric	Threshold Description	Based on	County Average	Russell Average
Subsidized housing rate	At least 8% of housing in an area should be supported with subsidy programs	average	8.09	34.98
Public housing available	An area should have 10% of public housing stock available	average	10.94	39.58
Secure tenure	An area should have secure tenure, evidenced by around 7% of its residents residing in the area for 5 years or more	research	0.73	0.74
Grocery outlet access	There should be at least two grocery outlets in each area	average	2.25	3.5
Adequate childcare	There should be at least two childcare facilities in each area	average	2	4.25
Access to internet	At least 91% of residents should have access to the internet	average	0.89	0.85
Commute time	The average commute should be less than 30 minutes	research	23.42	25.39
Hospital access	There should be a hospital within a 20-minute public transportation trip of the area	research	1	1

Russell Assessment

Metric	Threshold Description	Based on	County Average	Russell Average	Russell Score
Accessible Public Transport Network	There should be at least 16 bus stops per area	average	16.77	33.75	1
Alternative Transportation Usage	There should be at least 1% of commuters choosing public or active transport options	average	0.16	0.20	1

Metric	Threshold Description	Based on	County Average	Russell Average	Russell Score
Social service centers	There should be at least one social service center available to the neighborhood	average	0.68	1.5	1
Cultural ecosytem	There should be at least six cultural outlets in the area	average	6.64	11	1
Voter Registration	Average voter registration rate should be more than 25%	average	0.27	0.31	0
Social connection	At least 35% of residents should feel like they have social connections	average	31.59	35.1	0

Russel Evaluation

- Russell meets thresholds for:
  - Environmental: PM2.5 average concentration, point sources, park access
  - Housing: secure tenure, subsidized and public housing, grocery and childcare access
  - Transportation: commute time, transportation network
  - Social: voter registration, social service and cultural assets
- Louisville should support Russell and help to create opportunities around:
  - Environmental: urban heat, noise pollution, toxic hazards, lead paint hazards, tree canopy, and park area
  - Housing: affordable housing, utility security, food security, access to internet, hospital access, and area cleanliness
  - Transportation: vehicle availability and traffic injury
  - Social: Diversity index, social connection and support, poverty index, and safety

Russell's Assets

By meeting key thresholds across environmental, housing, transportation, and social domains, Russell already benefits from a firm foundation of health-promoting elements.

- Continuing to reduce PM2.5 concentrations and controlling emissions from point sources can further strengthen environmental quality, particularly if coupled with maintaining and expanding park access to encourage physical activity and social interaction.

- In housing, secure tenure and existing grocery and childcare services can be enhanced through local partnerships or collaborative programs that ensure consistent, affordable resources for families and individuals.

- Building upon the existing transportation network by exploring new routes, extending service hours, or improving infrastructure can address commute challenges and better connect residents to essential services.

- Finally, leveraging strong voter registration rates alongside social service and cultural assets can nurture community pride, foster civic engagement, and facilitate inclusive improvement projects that reflect the distinct needs and aspirations of neighborhood residents.

Beyond these indicators, community members have highlighted additional assets through surveys, focus groups, and interviews—assets that, while not yet fully defined, hold significant potential for strengthening local well-being. To build on this strong base, future efforts should involve existing networks, enhance the visibility of cultural resources, and leverage informal support systems that bolster resilience.

Russell's Suggested Action Plan

Indicator	Goal	Potential Partners
Exposure to Nature	**Increase tree canopy coverage by 12%** • Develop a long-term urban forestry plan with local environmental organizations. • Establish tree planting initiatives with volunteer involvement and community support. • Provide financial incentives for private property owners to plant trees.	Arbor Day Foundation Louisville Metro Parks environmental organizations
	Increase park area by one third of an acre per capita • Convert vacant lots into community parks and recreational spaces. • Advocate for city funding to acquire and develop green spaces. • Partner with organizations like the Trust for Public Land to design and implement new parks.	Trust for Public Land Louisville Metro Parks Local developers

Indicator	Goal	Potential Partners
Housing Cost	**Provide housing support to people who are housing cost burdened** • Expand rental assistance programs for low-income households. • Develop policies to incentivize affordable housing development. • Partner with nonprofit housing organizations to increase access to affordable housing.	Habitat for Humanity Louisville Affordable Housing Trust Fund HUD
	Provide utility security support people who face the threat of utility cutoff • Offer utility payment assistance programs and implement tiered pricing for low-income households. • Collaborate with local utility providers to reduce shutoffs through payment plans. • Partner with nonprofits like Metro United Way for emergency utility aid.	LG&E Louisville Water Company Metro United Way Louisville Metro Community Services
	Provide housing security programs for people who face housing insecurity • Increase funding for emergency housing shelters and transitional housing programs. • Implement eviction prevention services and legal aid for tenants. • Develop permanent supportive housing for individuals at risk of chronic homelessness.	Louisville Metro Housing Authority Local shelters Coalition for the Homeless

Russell's Suggested Action Plan

Indicator	Goal	Potential Partners
Road Safety	**Mitigate traffic fatalities and serious injury** • Implement traffic calming measures such as speed bumps and lower speed limits. • Add pedestrian crossings, bike lanes, and other safety features to roadways. • Promote safe driving campaigns in collaboration with local law enforcement.	Vision Zero Network Louisville Public Works Urban planning consultants

Indicator	Goal	Potential Partners
Social Supports	**Increase social connections in the area** • Develop community centers that host activities and programs to bring residents together. • Support volunteer and mentorship programs to strengthen interpersonal networks. • Organize neighborhood block parties and cultural events.	YMCA Neighborhood associations Local nonprofits
	Increase social cohesion • Establish peer support groups and community-building initiatives. • Partner with local nonprofits to address systemic barriers to social inclusion. • Increase funding for mental health and social services.	United Way Local mental health organizations (NAMI, etc.) Community Foundation of Louisville

Neighborhood Plan Assessment

- Neighborhood plans serve as guiding documents that outline a community's vision, priorities, and strategies for growth and development.

- For this assessment, neighborhood plans for Russell and Crescent Hill were evaluated to determine the extent to which they address key place-based factors.

Metric	In Plan?	Score
Average maximum warm season temperature	no	-
Average 24-hour exposure to noise pollution	no	-
Average 24-hour PM2.5 concentration	no	0
Deteriorated Lead Paint Index	yes	-
Point Sources	no	0
Park access	yes	+
Tree canopy coverage	yes	-

Metric	In Plan?	Score
Cultural Outlets per capita	yes	+
Social Service Centers	yes	+
Diversity Index	yes	-
Social Connection	yes	-
Social Support	yes	0
Voter Registration	yes	0

3 Related Policy Recommendations

- Amend Louisville Metro Code of Ordinances Chapter 161 (Neighborhood Development Plans) to <u>require</u> currently optional sections related to health outcomes.

- Amend Louisville Metro Code of Ordinances Chapter 161 (Neighborhood Development Plans) to include Universal Basic Neighborhood (UBN) health factors.

- Update department policies to include Universal Basic Neighborhood (UBN) health factors in decisions.