Measuring Housing Quality

A guide to creating indices to measure neighborhood housing conditions and stability

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Introduction

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In order to measure and evaluate a city's quality of housing, the use of citywide data can be a powerful tool. Fortunately, from city to city, it is possible to find a large quantity of data that is publicly accessible, detailed, and free.

This document provides a guide for how policymakers, planners, community development workers, and others can create an in-depth, systematic system for evaluating housing using data.

This document outlines the approach used in the project: "Health in Hartford's Neighborhoods" produced by the Trinity College Liberal Arts Action Lab and the Connecticut Data Collaborative.

Defining Housing Quality

Housing Quality can be measured in many ways. Our approach examined: Housing Stability and Housing Conditions

***Housing Stability**:*
Measuring the social and economic experience of housing for neighborhood residents.

Questions guiding the formation of the index:

- What is the everyday experience of owning or renting in a particular community?
- Is the housing stock affordable?
- Are residents able to stay in their communities for an extended period of time and at will?
- Do residents have to fear of being forcibly removed from their homes?
- Does the housing experience improve or detract from residents' economic long-term economic prospects?

***Housing Conditions**:*
Measuring the physical, built environment.

Questions guiding the formation of the index:

- Do certain communities feature properties that are "blighted" or in a state of poor maintenance?
- To what extent are certain communities prone to housing code violations?
- Are there concentrations of vacant properties?
- Are certain properties or neighborhoods prone to crimes against the physical environment (i.e. vandalism, arson, destruction of property)?

Basis for Analysis

Having divided housing quality into two categories, the “Health in Hartford’s Neighborhoods” study attempted to quantify and best approximate both housing stability and conditions using public data and statistics readily available.

What follows is the step-by step process for creating each index as this project team followed with suggestions and ideas for those seeking to replicate this model.

The construction of both indices was based on best practices and techniques that are detailed in the literature review (see the last slide for a link).

Creating an Index

Decisions

Data.

Find readily available data that meets these requirements from federal, state, and municipal public data sources.

Indicators to consider: rent as a percentage of household income, monthly cost of homeownership as a percentage of household income, and homeownership percentage from the US Census American Factfinder at the Census tract level.

Geography.

Establish the geographical unit of analysis which *all* variables will be analyzed.

A must when creating an index which is a comparative tool meant to measure the parts of the whole against each other.

Census tract level data provided the most reliable estimates when trying to understand neighborhood conditions..

Time.

Be consistent with time periods for the data gathered and analyzed.

This project utilized U.S. Census American Community Survey 5-year estimates for the time period that coincided with the Center for Disease Control and Prevention 500 Cities: Local Data for Better Health.

Geographic Levels for Neighborhood analysis

Geography	Benefits	Drawbacks
Census Tract (Recommended)	-Nuanced in terms of place and differentiation within a city -Large amount of data and variable types readily available. -Ability to convert to a neighborhood level analysis if so desired. -Workable margin of error	-Not ideal for comparison amongst cities and regions.
Block Group	-Most nuanced in terms of place. May be useful for small cities and towns, populations <50,000.	-Large margin of error. -Limited amount of data available. Few variable types available.
Zip Code	-Less nuanced in terms of place and differentiation within a city when less is desired. May be useful for very large cities. -Low margin of error	-Not ideal for small cities. -Limited amount of housing data available. Few variable types available
Census Place (City)	-Ideal for comparison between and amongst cities. -Low margin of error. -Large quantity of data available. Many housing variable types	-Impossible to use if project desires analysis within a city.

Margins of Error need to be examined and carefully considered when looking at small geographic units.

Index Creation

Step 1: Ranking–Take each indicator in the index and rank the values for each geographical unit (in our project, each census tract) from lowest to highest.

Step 2: Segment –Divide each indicator ranking into quantiles or a division that makes sense for the geographical unit of analysis (for our project we had 40 census tracts so chose to divide the Stability indicators into 5 equal groups but divide the Conditions indicators into 10 groups since there were fewer indicators).

Step 3: Assign a score– assign a score for each tract in the highest quantile and each subsequent quantile down to the lowest quantile. Repeat for each indicator.

Step 4: **Sum it up** – add the scores together for each geographical unit (census tract). Each census tract will have a number for each indicator in the index. For Housing Stability we had seven indicators, therefore each tract had seven rankings to sum.

Although this guide presents the steps as linear,

Housing Stability Index

Data: Housing Stability

A measure of the social and economic experience of housing.

Theme of Stability	Variables
Affordability	1) Rent as a Percentage of Household Income 2) Monthly Cost of Homeownership as a Percentage of Household Income
Financial Security and Opportunity	3) Average Price per Square Foot
Risk of Forced Relocation	4) Annual Eviction Rate 5) Annual Foreclosure Rate
Rootedness in the Community	6) Homeownership Percentage 7) Length of Tenure (Length of Occupancy

The "Health in Hartford's Neighborhoods" project team identified the themes of **affordability, financial security and opportunity, the risk of forced relocation/removal,** and **rootedness in the community** as being particularly important**.**

These are good guideposts for housing stability. However, community leaders in other cities may determine that different themes of housing stability may be more applicable to the realities in their cities

The construction of both indices was based on best practices and techniques that are detailed in the literature review (see last slide for a link).

Housing Conditions Data

Data: Housing Conditions

A measure of the quality of the physical, built environment of housing.

Theme of Conditions	Variables
Abandonment	United States Postal Service Vacancy Rate
Physical Property Conditions	Housing Code Violation Rate Per Housing Unit
Physical Neighborhood Conditions	Fire Violation Per Housing Unit

The "Health in Hartford's Neighborhoods" project team identified the themes of **abandonment, physical property conditions, physical neighborhood conditions (built environment quality)** as being particularly important**.**

These are good guideposts for housing stability. However, community leaders in other cities may determine that different themes of housing stability may be more applicable to the realities in their cities

Finding data on housing conditions was more of a challenge and required the creation of indicators. For example, the City of Hartford did not have a citywide survey of property conditions we used vacancy rates as a proxy for conditions.

Putting it all together

Step-by-step Overview

Although this guide presents the steps as linear, the process will not necessarily be linear in practice. Over the course of doing this work, it may be necessary to revisit certain steps to make changes and improvements.

Step 1: Literature Review- Members of the team should familiarize themselves with the literature that establishes best practices for measuring housing quality. Click here to see an example of the literature we referenced to create our indices.

Step 2: Data- Explore federal, state, and local public data sources available and determine years, geography of availability.

Step 3: Determine measures- important to your community: Based on the literature review and data available.

Step 4: Time period: Determine time period to be examined.

Step 5: Geographical unit-Determine which geographic level you are interested in exploring, such as census tract, city, county, or state.

Step 6: Proxy data or build variables-the exact indicator may not be readily available. For example, average length of tenure by tract had to be constructed.