Reducing data overload using neighborhood indicators

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Reducing data overload using neighborhood indicators

1. Isn’t data overload *good*? (More data!)

2. How do indicators reduce data overload?

3. How have indicators reduced data overload in Baltimore?
Isn’t data overload *good?* (more data!)

(Not really...)
Herbert Simon won the Nobel Prize in 1978 for his pioneering research into decision-making within organizations.
The rational model of decision-making holds that actors:

(1) List all options;

(2) Determine all the consequences that follow each option;

(3) Comparatively evaluate these sets of consequences

Paraphrasing: Simon 1997(1945), page 77 and 93
The rational model of decision-making holds that actors:

(1) List all options;
   Only a subset of all options ever come to mind.

(2) Determine all the consequences that follow each option;
   Knowledge of consequences is always fragmentary.

(3) Comparatively evaluate these sets of consequences
   Future values can only be imperfectly anticipated.

Paraphrasing: Simon 1997(1945), page 77 and 93
Currently, when faced with decisions:

• The problem is not a lack of information but our capacity to attend to all the information available.

• We must select the information that is likely to be useful and ignore the rest.

• Technology should permit us to absorb information selectively.

Paraphrasing: Simon 1997(1945), page 226
How do indicators reduce data overload?
“A major initial step...is to extract opportunities and problems from the confusion of the environment—to attend to the right cues.”

Simon 1997(1945), page 123

Break lights alert other drivers to the situation ahead. Similarly, data indicators permit concise summarization of the situation.
## Functions of indicators

<table>
<thead>
<tr>
<th>Description</th>
<th>The primary focus of indicator producers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Simplification</td>
<td></td>
</tr>
<tr>
<td>Measurement</td>
<td></td>
</tr>
<tr>
<td>Trend identification</td>
<td></td>
</tr>
<tr>
<td>Clarification</td>
<td></td>
</tr>
<tr>
<td>Communication</td>
<td></td>
</tr>
<tr>
<td>Catalyst for action</td>
<td></td>
</tr>
</tbody>
</table>

Table source: Phillips (editor) 2005, Community Indicators Measuring Systems, page 5, from multiple sources.
How have indicators reduced data overload in Baltimore?
About BNIA-JFI

• BNIA-JFI was born in 2000 after a two-year planning process that included
  – Citywide nonprofit organizations
  – City government agencies
  – Neighborhood associations
  – Foundations

• Gathered together by the Association of Baltimore Area Grantmakers and the Annie E. Casey Foundation.

• Longitudinal data (2000 – Present)

• Work with non-profits, foundations, universities, researchers, businesses, students, residents

• Member of the National Neighborhood Indicators Partnership (NNIP) at Urban Institute
Baltimore Neighborhood Indicators Alliance is a *Data Intermediary*

- Schools
- Vital Statistics
- Library
- Police
- CitiStat

Data Cleaning, Geocoding & Linking (when permitted)

Users →

Users →

Users →

← Users

← Users

← Users
Reducing Data Overload by Reducing the Units of Analysis

(Reducing the number of records / rows)

621K people
236K parcels

278 Neighborhood Statistical Areas

55 Community Statistical Areas
Reducing Data Overload by Reducing the Number of Measures

(Reducing the number of fields / columns)

This field only, as a percentage
WHO WE ARE

Our goal: To strengthen Baltimore neighborhoods by providing meaningful, accurate, and open data at the community level.

BNIA-JFI is dedicated to producing reliable and actionable quality of life indicators for Baltimore’s neighborhoods.

Vital Signs provides indicators that “take the pulse” of Baltimore neighborhoods by measuring progress towards a better quality of life for all residents.

OUR PROJECTS

VITAL SIGNS 12

Find Your Community: Baltimore City

COMMUNITY OVERVIEW

Click on a community on the map to view more information.

HOW TO USE THE DATA

- Use the map above to find the community you would like data for. Alternatively, you can look up a community.
- Download our whole Vital Signs 12 Report to see the latest data in PDF printable form. Or review past editions of Vital Signs.
- Review the data by topic (or Vital Sign) on a citywide basis. (You can also drill down to communities for each topic.)
Census Demographics
- Housing and Community Development
- Children and Family Health
- Crime and Safety
- Workforce and Economic Development
- Sustainability
- Education and Youth
- Arts and Culture
Cross-Country/Cheswolde

- Census Demographics
- Housing and Community Development
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- Sustainability
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- Arts and Culture

Housing and Community Development

<table>
<thead>
<tr>
<th>Indicator</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affordability Index - Mortgage</td>
<td>49.0</td>
</tr>
<tr>
<td>Affordability Index - Rent</td>
<td>41.2</td>
</tr>
<tr>
<td>Median Number of Days on the Market</td>
<td>60</td>
</tr>
<tr>
<td>Median Price of Homes Sold</td>
<td>111,250</td>
</tr>
<tr>
<td>Number of Demolition Permits per 1,000 Residential Properties</td>
<td>1.0</td>
</tr>
<tr>
<td>Number of Historic Tax Credits per 1,000 Residential Units</td>
<td>0.3</td>
</tr>
<tr>
<td>Number of Homeowner's Tax Credits per 1,000 Residential Units</td>
<td>61.2</td>
</tr>
<tr>
<td>Number of Homes Sold</td>
<td>86</td>
</tr>
<tr>
<td>Number of Homestead Tax Credits per 1,000 Residential Units</td>
<td>617.1</td>
</tr>
<tr>
<td>Number of New Construction Permits per 1,000 Residential Properties</td>
<td>2.0</td>
</tr>
<tr>
<td>Percent Residential Properties that do Not Receive Mail</td>
<td>2.2</td>
</tr>
</tbody>
</table>

Percentage of houses that are owner occupied \(83.6\)
The pre-segmented file for this indicator had 235,831 records with 136 fields.

The statewide source has 1,545,103 records with 136 fields.
Census Demographics

Housing and Community Development

Children and Family Health

Crime and Safety

Workforce and Economic Development

Sustainability

Education and Youth

Arts and Culture
BNIA maintains a data sharing agreement with Baltimore City Public Schools and is the only organization in the city to produce education indicators *by neighborhood* instead of by school.
The attendance file had 88,460 records in 2012 including transfers between schools.
Thank you! Questions?