NEIGHBORHOOD OPPORTUNITY ASSESSMENT

INNOVATION VILLAGE

Nicole Akpedeye | Alexandra Nassau-Brownstone | Jack Narron | Jamesha Gibson

Professor. Chao Liu
Innovation Village

The first Innovation District in Baltimore

The mission of the Innovation Village is to

“strength[en] Central West Baltimore economically through entrepreneurship, innovation and inclusive growth for all.”

Over 50 partners including:
anchor institutions,
community based organizations,
companies, and
national organizations
Mount Royal Community Development Corporation

Seeks to better understand the current socioeconomic conditions of the neighborhood by creating an inventory of neighborhood data

Evaluate spatial relationships between the data to determine some of the underlying factors contributing to:

- Poverty
- Neighborhood blight
- Crime
Research Questions

1. Where do we see concentrations of key populations (members of the workforce, millennials, and more educated households) within Innovation Village?

1. Are there higher rates of homeownership vs. renters within Innovation Village?

1. Where do we see the highest concentrations of poverty and crime within Innovation Village?

1. What are the spending habits of residents within Innovation Village?

1. Are there potential locations of opportunity/challenges where additional educational, safety, or other types of investment or intervention may help to stabilize the community?
Variables Examined

Age (with a focus on working-age adults and millennials)

Educational Attainment

Housing Ownership & Vacancies

Crime

Poverty Rate

Household Spending Habits

Existing services and amenities
Methodology

1. Download raw data from the 2000 Census and ACS 2014 5 year Estimates for the city of Baltimore (Including Innovation Village), as well as Baltimore Open City data.

1. Reorganized data using Microsoft Excel.

1. Created color gradient maps and heatmaps of the data using ArcGIS.

1. Calculated Z-scores of the variables and created a Neighborhood Assessment Index map for Baltimore City and Innovation Village using ArcGIS.

1. Determined spending habits, market profile, businesses, and major shopping centers in the Innovation Village using ArcGIS Online.
Percentage of Workforce Age Population -- Baltimore
% of Workforce Age Population -- Innovation Village
Percentage of Millennial Age Population
Age: Takeaways

From 2000 - 2014 -- significant increase in workforce age *(defined as 18-64)* population surrounding Inner Harbor, Canton, near Universities, and employment and art/entertainment centers.

Millennials are clustered around Universities (UMD Baltimore, MICA, Coppin State University, Baltimore Community College, Morgan State, Notre Dame of Maryland University)

Within Innovation Village, the concentrations of workforce age and Millennials follow a similar pattern -- near Bolton Hill, Mount Vernon, Mondawmin
Educational Attainment: % with High School Diploma
Educational Attainment: % with High School Diploma
Educational Attainment: Bachelor’s Degree +
Educational Attainment: Bachelor’s Degree +

[Map showing percentage of people with Bachelor's degree and above in Baltimore for 2000 and 2014]
## Educational Attainment: Takeaways

<table>
<thead>
<tr>
<th></th>
<th>2000 % of High School Diploma</th>
<th>2014 % of High School Diploma</th>
</tr>
</thead>
<tbody>
<tr>
<td>Innovation village</td>
<td>63.8%</td>
<td>78.3%</td>
</tr>
<tr>
<td>City of Baltimore</td>
<td>68%</td>
<td>81%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>2000 % of Bachelor’s Degree or higher</th>
<th>2014 % of Bachelor’s Degree or higher</th>
</tr>
</thead>
<tbody>
<tr>
<td>Innovation village</td>
<td>18.5%</td>
<td>28.2%</td>
</tr>
<tr>
<td>City of Baltimore</td>
<td>19%</td>
<td>26%</td>
</tr>
</tbody>
</table>
Housing Ownership: Owners vs. Renters
Housing Ownership: Owners vs. Renters
Housing Ownership: Occupied vs. Vacant
Housing Ownership: Occupied vs. Vacant
## Housing Ownership: Takeaways

<table>
<thead>
<tr>
<th></th>
<th>2000 % of Owner Occupied Housing</th>
<th>2014 % of Owner Occupied Housing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Innovation village</td>
<td>28.4%</td>
<td>27.02%</td>
</tr>
<tr>
<td>City of Baltimore</td>
<td>50.3%</td>
<td>47.2%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>2000 % of Vacant Housing</th>
<th>2014 % of Vacant Housing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Innovation village</td>
<td>19.6%</td>
<td>25.8%</td>
</tr>
<tr>
<td>City of Baltimore</td>
<td>14%</td>
<td>18%</td>
</tr>
</tbody>
</table>
Crime
Arson

Violent Crime in Baltimore - 2011

Violent Crime in Baltimore - 2016
Assault
Burglary & Robbery

Violent Crime in Baltimore - 2011

Violent Crime in Baltimore - 2016
Homicide

Violent Crime in Baltimore - 2011

Violent Crime in Baltimore - 2016
Larceny & Theft

Violent Crime in Baltimore - 2011

Legend
- US Interstates
- Water
- Innovation Village
- Street Grid
- Low Dense
- Moderately Dense
- Most Dense

Legend
- US Interstates
- Water
- Innovation Village
- Street Grid
- Low Dense
- Moderately Dense
- Most Dense

Density Map: Larceny/Theft Occurrences
Crime: Takeaways

Innovation Village has become more of a hot spot for:

- Arson
- Assault
- Larceny/Theft

Innovation Village has become less of a hotspot for:

- Homicide
- Rape

Innovation Village has remained roughly the same for:

- Burglary/Robbery
Poverty
Poverty
Poverty: Takeaways

Over 14 years, the poverty has increased and spread from the central neighborhoods to southern and western neighborhoods in the Innovation Village.

Note that the northeastern area of the Innovation Village does not have concentrations of poverty either in 2000 or 2014.

Poverty is concentrated in areas surrounding the Innovation Village, a possible indication of contributing trends within its boundaries.
Neighborhood Assessment Index

Baltimore City Neighborhood Assessment
By Z-Score | 2000

Legend

-5.87 -1.44
-1.43 -0.56
-0.55 - 0.64
0.05 - 29.60

Innovation Village

Total Z-Score

Source: 2000 U.S. Decennial Census
Map produced by: Alayna Nosey, Lathanqa Royal-Oliver, Jack Harney, Alexandra Nuccio-Brownstone

Baltimore City Neighborhood Assessment
By Z-Score | 2014

Legend

-6.46 -1.58
-1.57 -0.52
-0.51 - 0.84
0.85 - 19.65

Innovation Village

Total Z-Score

Source: 2014 American Community Survey
Map produced by: Alayna Nosey, Lathanqa Royal-Oliver, Jack Harney, Alexandra Nuccio-Brownstone
Neighborhood Assessment Index

Innovation Village Neighborhood Assessment
By Z-Score | 2000

Legend

Innovation Village

Total Z-Score
-5.87 -1.44
-1.43 - 0.56
-0.65 - 0.84
0.85 - 29.60

Source: 2000 U.S. Decennial Census

Innovation Village Neighborhood Assessment
By Z-Score | 2014

Legend

Innovation Village

Total Z-Score
-6.49 - 1.58
-1.57 - 0.52
-0.51 - 0.84
0.85 - 19.65

Source: 2014 American Community Survey

Map produced by: Alejandro Hinostroza | Jasmine Brancato Gibson | Jack Krimmer | Kassandra Roseta-Beverly

A z-score tells how many standard deviations (a measure of dispersion in statistics) a certain piece of data is above or below the mean.
Source: http://www.statisticshowto.com/probability-and-statistics/z-score/

A z-score tells how many standard deviations (a measure of dispersion in statistics) a certain piece of data is above or below the mean.
Source: http://www.statisticshowto.com/probability-and-statistics/z-score/
Neighborhood Assessment Index: Takeaways

High Z-scores located in the Bolton Hill, Mid-Town Belvedere, and Mondawmin neighborhoods.


Larger trends in the areas around the Innovation Village may also impact neighborhoods within its boundaries.
Retail Spending

Innovation Village
Businesses within Innovation Village
Major Shopping Centers
Businesses within the Innovation Village

Business Summary

Innovation
Area: 1.93 square miles

Prepared by Esri

Data for all businesses in area
Total Businesses: 1,121
Total Employees: 15,266
Total Residential Population: 32,118
Employee/Residential Population Ratio: 0.45:1

<table>
<thead>
<tr>
<th>by SIC Codes</th>
<th>Businesses Number</th>
<th>Percent</th>
<th>Employees Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture &amp; Mining</td>
<td>2</td>
<td>0.2%</td>
<td>17</td>
<td>0.1%</td>
</tr>
<tr>
<td>Construction</td>
<td>36</td>
<td>3.2%</td>
<td>298</td>
<td>2.0%</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>11</td>
<td>1.0%</td>
<td>126</td>
<td>0.8%</td>
</tr>
<tr>
<td>Transportation</td>
<td>11</td>
<td>1.0%</td>
<td>138</td>
<td>0.9%</td>
</tr>
<tr>
<td>Communication</td>
<td>16</td>
<td>1.4%</td>
<td>68</td>
<td>0.4%</td>
</tr>
<tr>
<td>Utility</td>
<td>1</td>
<td>0.1%</td>
<td>400</td>
<td>2.6%</td>
</tr>
<tr>
<td>Wholesale Trade</td>
<td>15</td>
<td>1.3%</td>
<td>162</td>
<td>1.1%</td>
</tr>
</tbody>
</table>

Retail Trade Summary
- HD Improvement
  - General Merchandise Stores: 4 (0.4%) 16 (1.0%)
  - Food Stores: 55 (4.9%) 289 (1.9%)
  - Auto Dealers, Gas Stations, Auto Aftermarket: 16 (1.4%) 96 (0.6%)
  - Apparel & Accessory Stores: 24 (2.0%) 264 (1.7%)
  - Furniture & Home Furnishings: 13 (1.2%) 45 (0.3%)
  - Eating & Drinking Places: 92 (8.2%) 826 (5.4%)
  - Miscellaneous Retail: 57 (5.1%) 205 (1.3%)

Finance, Insurance, Real Estate Summary
- Banks, Savings & Lending Institutions: 129 (11.4%) 545 (3.5%)
- Securities Brokers: 18 (0.7%) 43 (0.3%)
- Insurance Carriers & Agents: 9 (0.8%) 43 (0.3%)

Real Estate, Holdings, Other Investment Offices: 83 (5.6%) 958 (6.3%)

Services Summary
- Hotels & Lodging: 3 (0.3%) 16 (0.1%)
- Automotive Services: 24 (2.1%) 139 (0.9%)
- Motion Pictures & Amusements: 29 (2.5%) 311 (2.0%)
- Health Services: 50 (4.5%) 793 (5.2%)
- Legal Services: 21 (1.9%) 141 (0.9%)
- Education Institutions & Libraries: 39 (3.5%) 2,137 (14.0%)
- Other Services: 329 (29.3%) 2,943 (18.8%)

Government: 75 (6.7%) 4,998 (32.7%)

Unclassified Establishments: 46 (4.1%) 92 (0.6%)

Totals: 1,121 (100.0%) 15,266 (100.0%)

Source: Copyright 2016 Intergroup, Inc. All rights reserved. Esri Total Residential Population forecasts for 2016.

Data Note: Data on the Business Summary report is calculated using Esri’s Data allocation method which uses census block groups to allocate business summary data to custom areas.

December 10, 2016
Business & Spending Trends: Takeaways

More businesses focused on health, legal, and education services within the Innovation Village.

More opportunities for retail shopping throughout the Innovation Village.


# Recommendations & Ideas for Future Research

<table>
<thead>
<tr>
<th>Western Innovation Village</th>
<th>Challenges</th>
<th>Opportunities</th>
</tr>
</thead>
</table>
| (Mondawmin, Coppin Heights, Easterwood) | ● Lowest educational attainment (within IV)  
● Increased crime rate 2011-2016 (arson, larceny rape)  
● Low level of retail spending, despite location of mall  
● Small number of local businesses | ● From 2000-2014, Increased % residents in workforce age group + millennials  
● Growing homeownership rates (but overall occupancy dropped)  
● Reduced Poverty Rate over time  
● Mondawmin Mall as retail anchor |
### Recommendations & Ideas for Future Research

#### Central Innovation Village

**Challenges**
- Increased poverty rate (2000-2014)
- High vacancy rates
- Increased crime rates 2011-2016 (arson, assault, larceny, theft)
- Low level of retail spending + local businesses

**Opportunities**
- Growing level of high school educational attainment -- try to engage in higher level training or education
- High Vacancy Rate--->opportunity for redevelopment
## Recommendations & Ideas for Future Research

<table>
<thead>
<tr>
<th>Eastern Innovation Village</th>
<th>Challenges</th>
<th>Opportunities</th>
</tr>
</thead>
</table>
| (Bolton Hill, Belvedere, Madison Park, Charles North, Mount Vernon) | ● Increased larceny and theft (2011-2016)  
● Significantly more renters than homeowners | ● High % of residents in workforce age group  
● Highest educational attainment within IV  
● High occupancy rate (mostly renters)  
● Reduced overall crime rate over time  
● Highest retail spending and # of businesses |
Thank You!