Anne Arundel County, MD: Transportation Mobility and Accessibility

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Background

Objective:
1) Provide Anne Arundel County with a spatial inventory of the low-income labor force, employment centers, transit availability, and their relation to one another.

2) Identify spatial gaps between the low-income labor force and employment.

Limitation:
- This study does not provide a full origin - destination profile of the low-income labor force

Research Questions:
- Primary:
  - Do public transit options adequately connect residences of low-income workers to employment areas?
  - Which areas need improved transit access?

- Secondary:
  - Where do low-income workers live?
  - Do they live close to transit?
  - Where are low-income employment opportunities? Are they transit accessible?
  - Who is dependent on public transit?
Methodology

- **Data sources:**
  - Longitudinal Employer-Household Dynamics (LEHD)
  - American Community Survey (ACS)
  - Anne Arundel County

- **Definition of low-income workers (LEHD data)**
  - Residences and Job locations (unit of analysis the same)
  - Earning $1250/month or less
  - 53,104 low-income workers
  - 253,815 total workforce

- **Three Map Types:**
  - Transit Coverage
  - Spatial Mismatch
  - Transit Captivity

- **Transit Services:**
  - MTA
    - MARC train stations
    - Multiple bus lines
  - RTA
  - Annapolis Bus System
Locations of high concentrations of low-income workers who lack transit:

- Odenton
- South Crofton
- South Pasadena
- Cape St. Claire

Low-Income Workers Coverage

<table>
<thead>
<tr>
<th>Location</th>
<th>¼ mile</th>
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<tbody>
<tr>
<td>Anne Arundel</td>
<td>19%</td>
</tr>
<tr>
<td>County w/o Annapolis</td>
<td>14%</td>
</tr>
</tbody>
</table>
Coverage Significantly Increases

Similar communities (to the $\frac{1}{4}$ mi. buffer) lack transit:

- Odenton
- South Crofton
- South Pasadena
- Cape St. Claire

Comparison of Low-Income Workforce Coverage

<table>
<thead>
<tr>
<th></th>
<th>$\frac{1}{4}$ mile</th>
<th>$\frac{1}{2}$ mile</th>
</tr>
</thead>
<tbody>
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<td>Anne Arundel</td>
<td>19%</td>
<td>38%</td>
</tr>
<tr>
<td>County w/o Annapolis</td>
<td>14%</td>
<td>33%</td>
</tr>
</tbody>
</table>
High Job Concentrations Similar Between Total and Low-Income Workforce

- Most areas of high employment concentrations are the same.
- Ft. Meade only shown on total employment map (left)
  - Data added separately
Both Spatial Mismatches and Overlaps Present

Low-Income Workers’ Jobs:
- Transit serving highly concentrated areas of jobs well
- /Ritchie HWY corridor lacking transit for employment centers

Low-Income Workers’ Residences:
- Highly concentrated residential communities reached, but lack coverage
  - Similar to transit coverage map findings

Relationship:
- Overlap in the I-97 corridor near Glen Burnie and Annapolis
- Separations in Cape St. Claire, Crofton, Odenton, Maryland City, and Severn
Closing the Gap: Recommendations and Implications

- **Residential Areas of Low-Income Workforce:**
  - Finding: Several communities lack transit coverage
  - **Recommendation:** Investigate feasibility of additional service in Odenton, Glen Burnie, Cape St. Claire, Pasadena, and Crofton

- **Employment Areas**
  - Finding: Most well served by transit, but a few centers lack access
  - **Recommendation:** Investigate the potential need for transit service to employment areas in the I-97/Ritchie HWY corridor

- **Overall:**
  - Finding: Correlation between long transit commute times and zero car households
  - **Recommendation:** Investigate transit needs in potential “transit captive” areas such as Pasadena, I-97 corridor, Annapolis
Limitations and Further Research

Limitations

- Insufficient Origin - Destination data for low-income workforce
- Transit dependence and choice riders
- Heat map accuracy
- Lack of federal employment data
  - Ex: Ft. Meade

Further Research Questions

- Do the people we identified as transit dependent actually fit that definition, or are they choice riders?
  - Example: Annapolis.
- Is transit coverage greater for wealthy communities than low-income communities?
- Can communities be better served through additional transit?
  - Last mile issue
- How are jobs distributed in Ft. Meade? Is transit service needed?