Anne Arundel County, MD Transit Map Consolidation

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URSP 688L

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Today's Presentation

- Transit maps analysis
- Resident, worker, and job concentration areas
- Transit stop accessibility
- Major points of interest
- ArcGIS Online transit application demo
- County recommendations

ANNE ARUNDEL COUNTY
MARYLAND

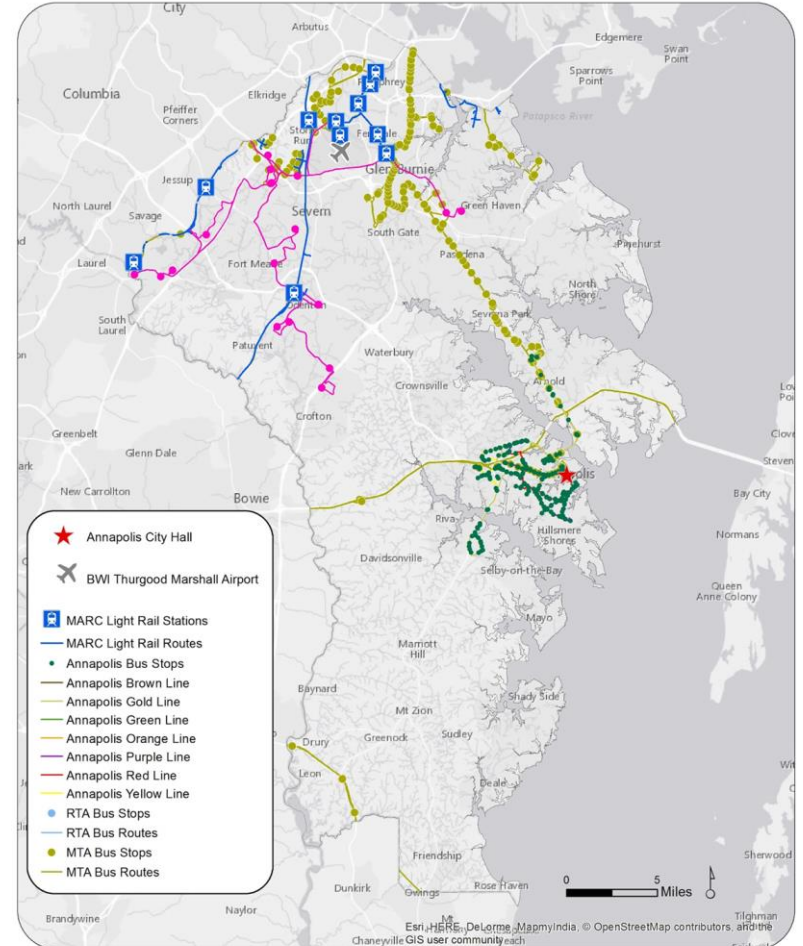Anne Arundel County, MD
Transit Networks

Area: 588 sq. mi.

Population: 564,195 people

Employment: 263,100 people

Objective:

To assist Anne Arundel County residents, city officials, and visitors by bridging the gap between accessibility and mobility with a modern, consolidated transportation map.

Consolidated Transit Map

MARC Light Rail Stations: 11

MTA Bus Stops: 414

RTA Bus Stops: 26

Annapolis City Bus Stops: 238
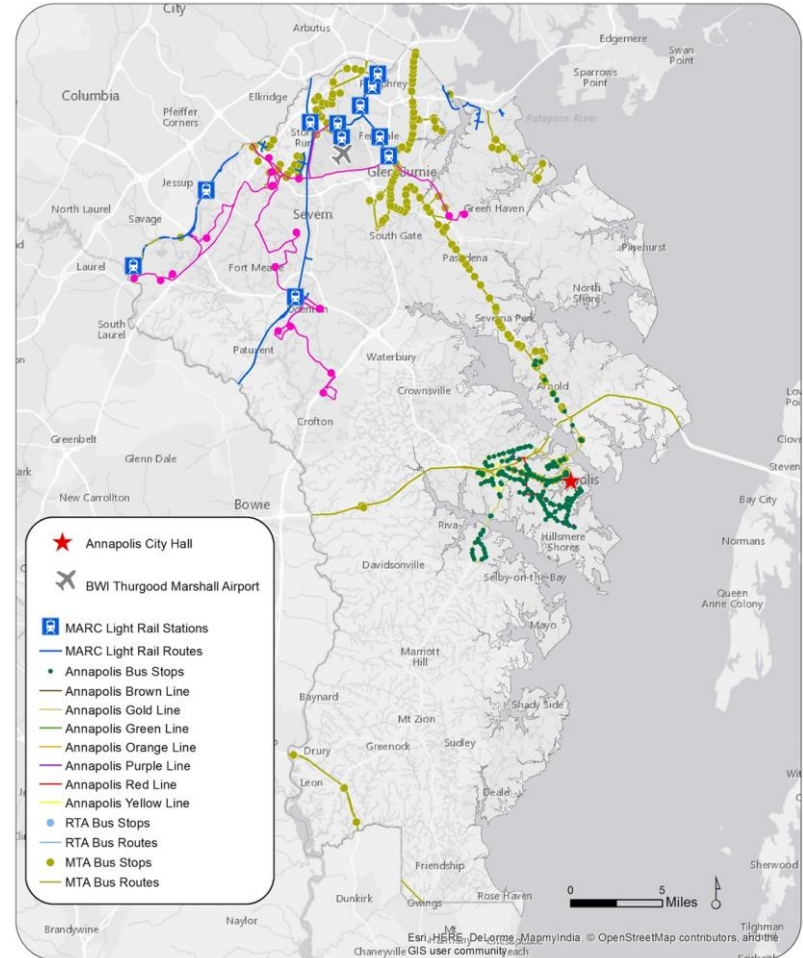
Transit Overview

Light rails concentrated in northern part of the county, near Baltimore

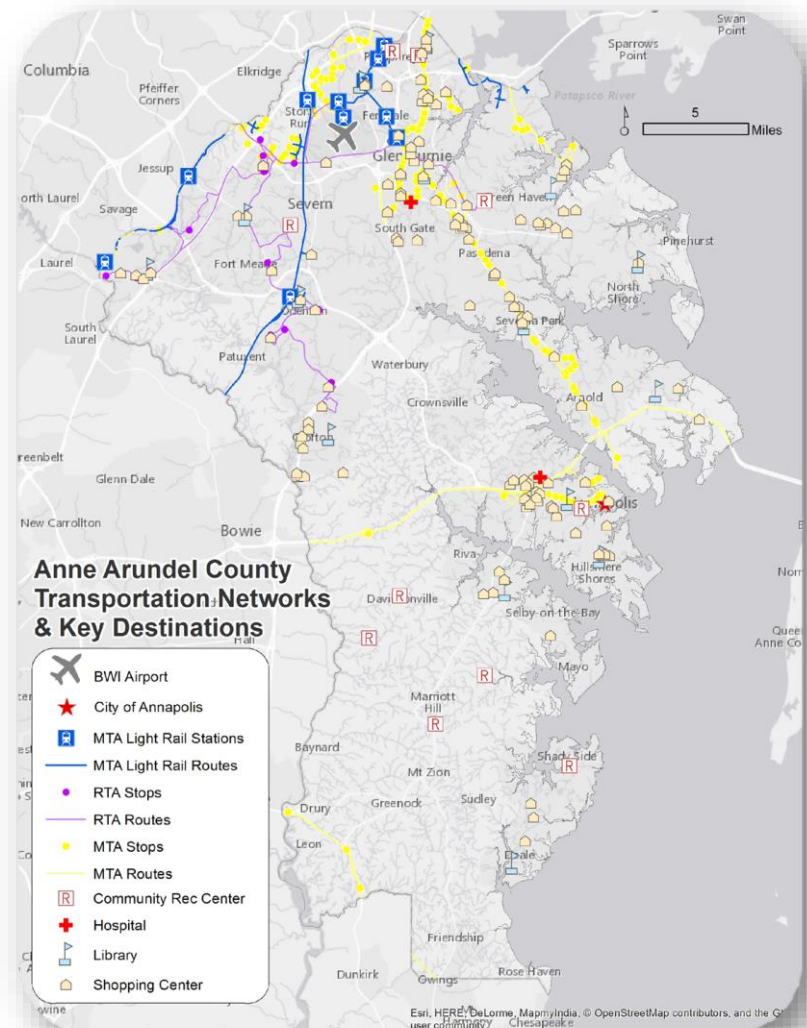RTA service in northwestern part of the county

MTA vs RTA

MTA buses and routes concentrated in northern and eastern parts of the county through the east of Annapolis

City of Annapolis: 238 bus stops (57%) of the county's 414 total stops

Anne Arundel County, MD
Transit Networks

★ Annapolis City Hall
✈ BWI Thurgood Marshall Airport
🚉 MARC Light Rail Stations
—— MARC Light Rail Routes
• Annapolis Bus Stops
—— Annapolis Brown Line
—— Annapolis Gold Line
—— Annapolis Green Line
—— Annapolis Orange Line
—— Annapolis Purple Line
—— Annapolis Red Line
—— Annapolis Yellow Line
• RTA Bus Stops
—— RTA Bus Routes
• MTA Bus Stops
—— MTA Bus Routes

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Key Destinations

- Airport
- Schools
- Libraries
- Government Buildings
- Hospitals
- Health Centers
- Park & Rides
- Parks
- Community Recreation Centers
- Shopping Centers
- Churches

Anne Arundel County Transportation Networks & Key Destinations

Legend:
- ✈ BWI Airport
- ★ City of Annapolis
- MTA Light Rail Stations
- MTA Light Rail Routes
- RTA Stops
- RTA Routes
- MTA Stops
- MTA Routes
- R Community Rec Center
- ✚ Hospital
- Library
- Shopping Center

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Overview of Key Destinations

BWI Airport

Best served by Light Rail and RTA routes. Connection to Annapolis via MTA bus service.

Why?

Education: 218

Transit system cannot serve them all.

Government: 95 buildings

Payment centers, Courts, and local, city, and county buildings

Locations of employment and services

Overview of Key Destinations

Park and Rides: 22

    Tracy's Landing park and ride in the south; correlation?

Parks & Recreation: 132

    Areas of concern are in the southern and central parts of the county and areas in the eastern part of the county along the Chesapeake Bay above Annapolis

Shopping Centers: 138

    Majority of them are in the northern part of the county and around Annapolis
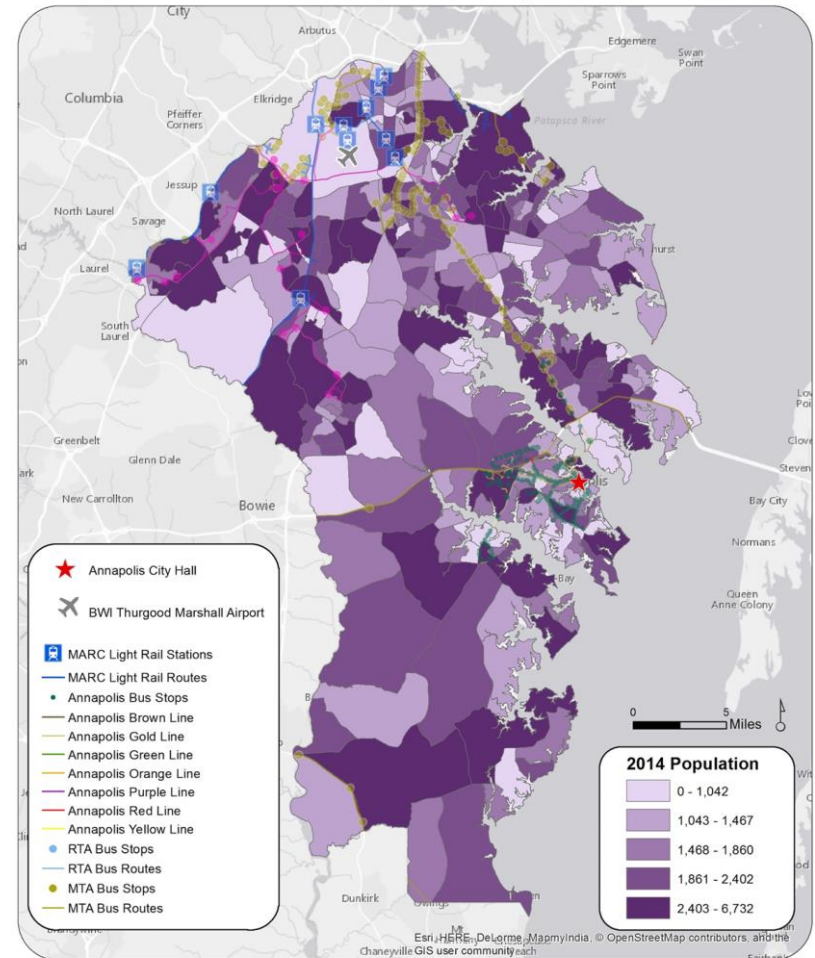
    What does this mean? Economy
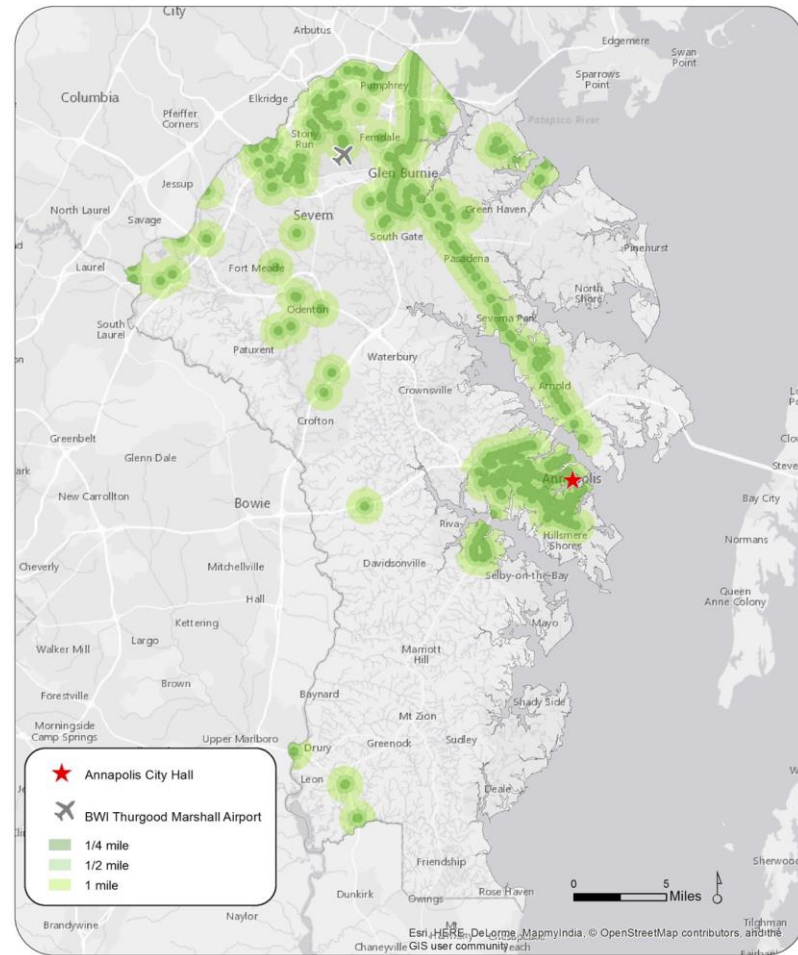
Churches: 287 churches

Population Distribution

- 2014: 560,286 residents

  - 4.2% increase in past 4 years

- Population over 65 years old: 75,156

  - 18.1% increase in past 5 years

Anne Arundel County, MD
Transit Networks with Population

Legend:
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- ✈ BWI Thurgood Marshall Airport
- MARC Light Rail Stations
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2014 Population
- 0 - 1,042
- 1,043 - 1,467
- 1,468 - 1,860
- 1,861 - 2,402
- 2,403 - 6,732
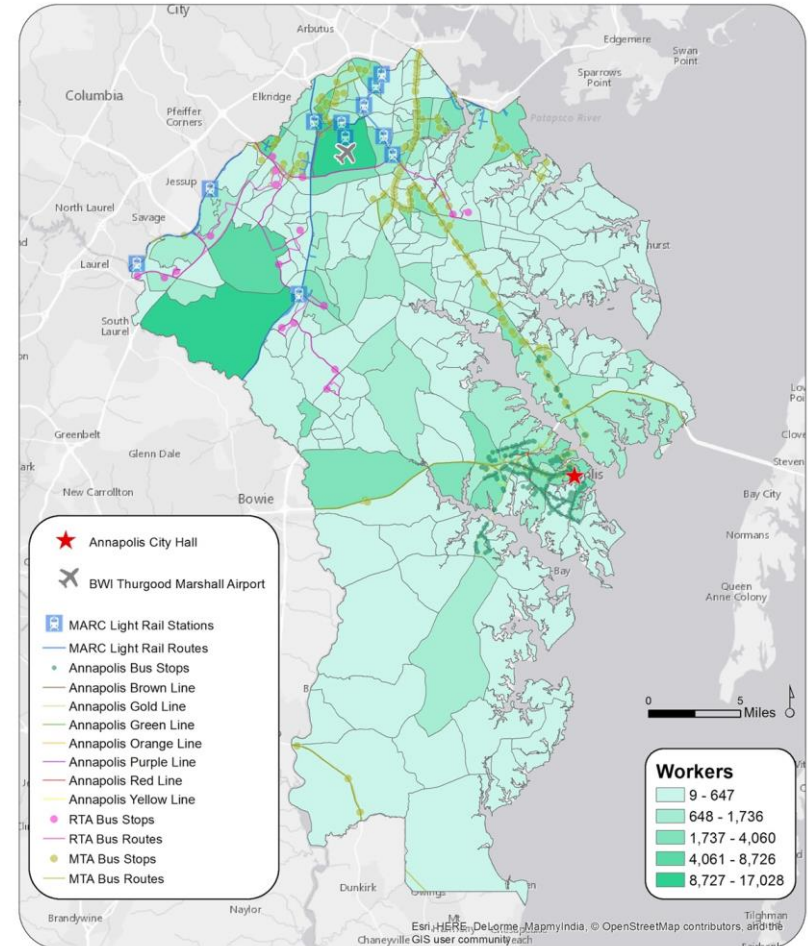
Transit Stop Accessibility

- **20%** of residents within ¼ mile of transit

- **42%** of residents within ½ mile of transit

- **77%** of residents within 1 mile of transit

- **Areas in need of improved transit access:**

  - South of Annapolis (Mayo, Harbor View, Shady Side, Deale)

  - Bays to the north of Annapolis

  - Central Anne Arundel County

Anne Arundel County, MD
All Transit Stations - Euclidean Distance Buffers

★ Annapolis City Hall

✕ BWI Thurgood Marshall Airport

    1/4 mile
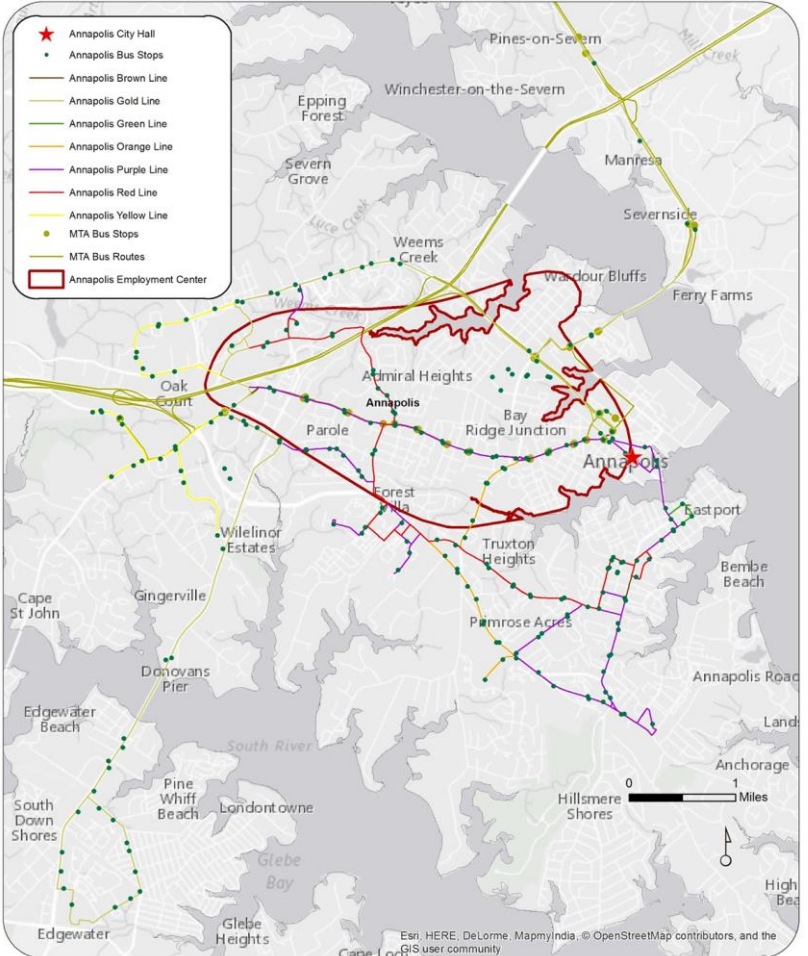   1/2 mile
    1 mile

Worker Distribution

- Concentrations in the northwestern part of the county and Annapolis

- More concentrated than population density

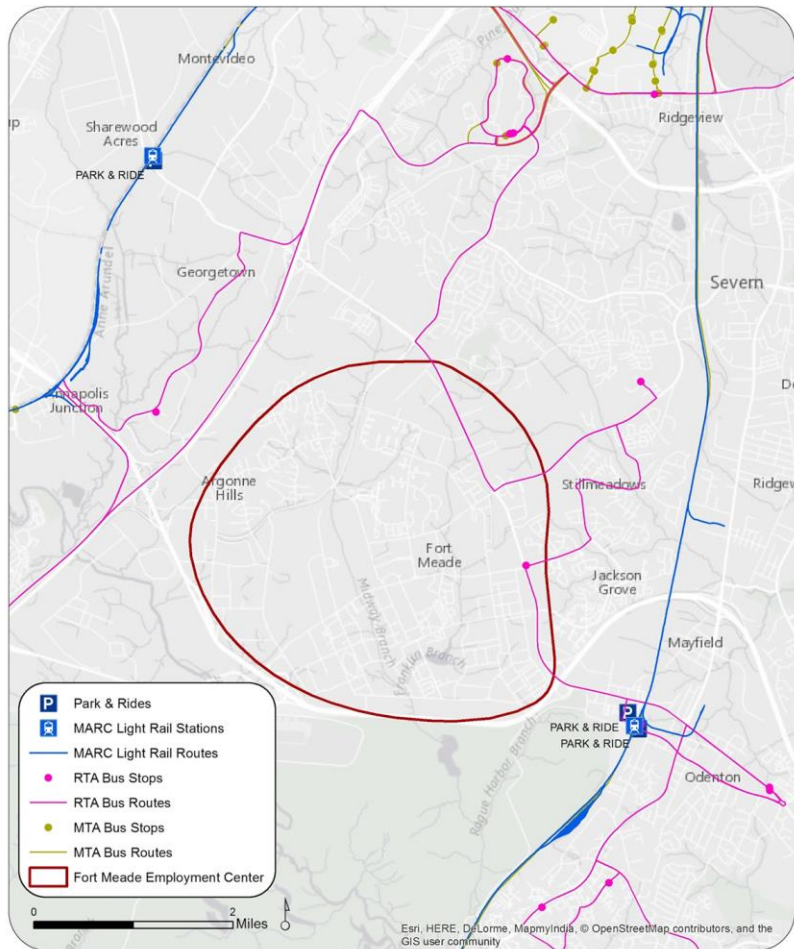- Higher worker density near employment centers

Anne Arundel County, MD
Workers by Census Tract (2000)

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- MTA Bus Routes

Workers
- 9 - 647
- 648 - 1,736
- 1,737 - 4,060
- 4,061 - 8,726
- 8,727 - 17,028

Employment Centers

- Fort Meade

- City of Annapolis

- BWI Airport

- Linthicum Heights
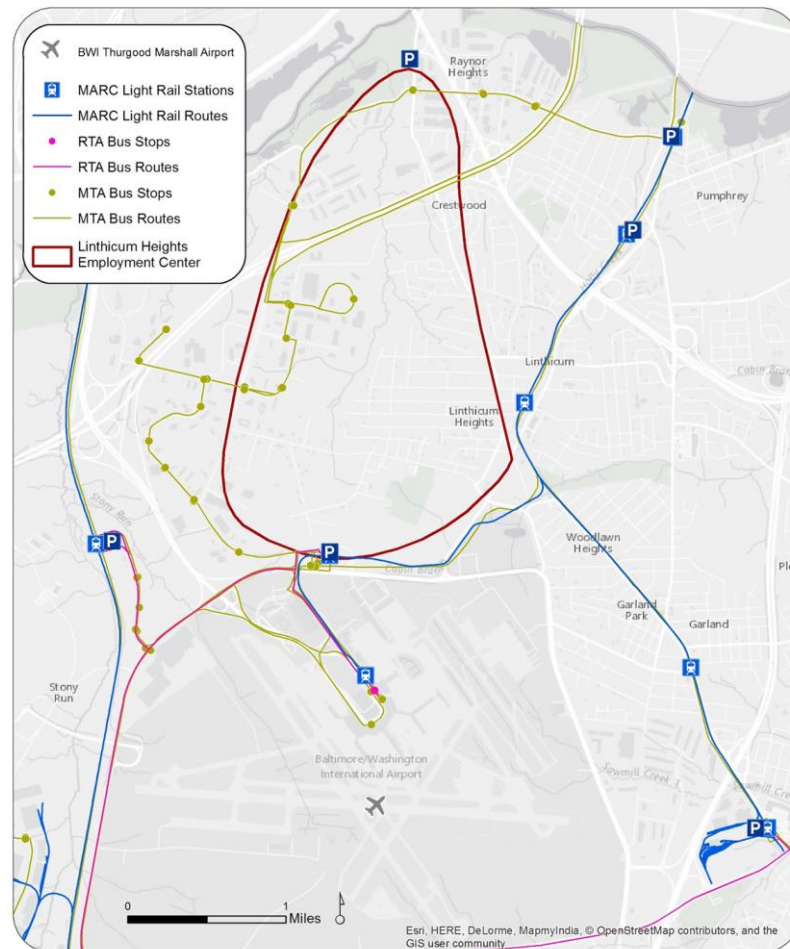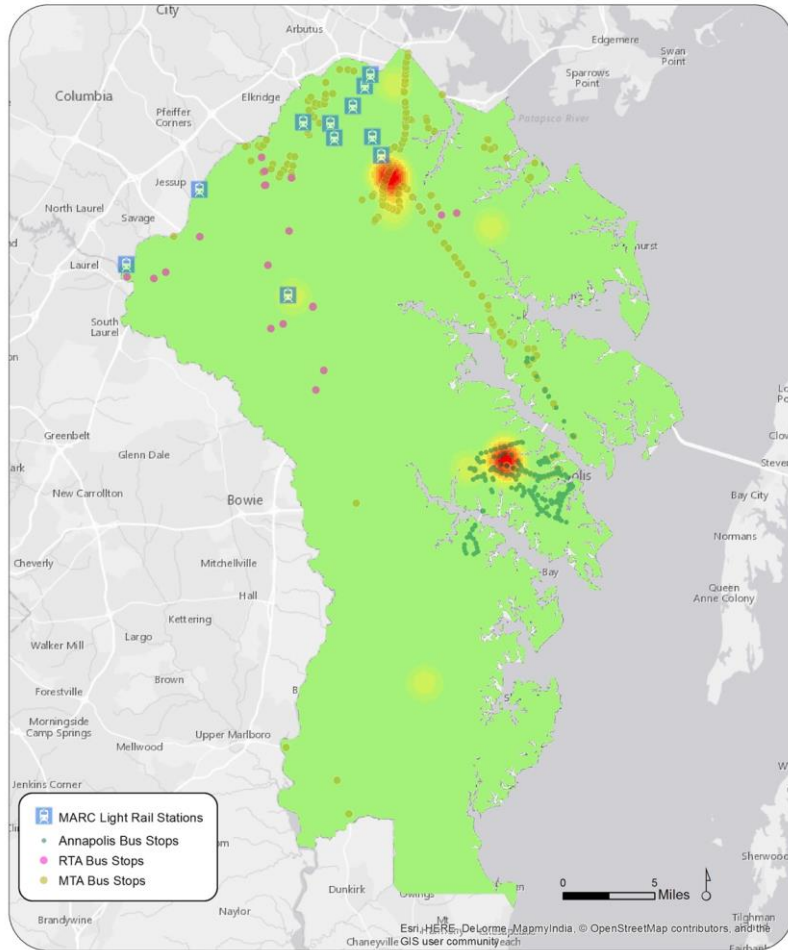

Anne Arundel County, MD
Employment Center - Annapolis
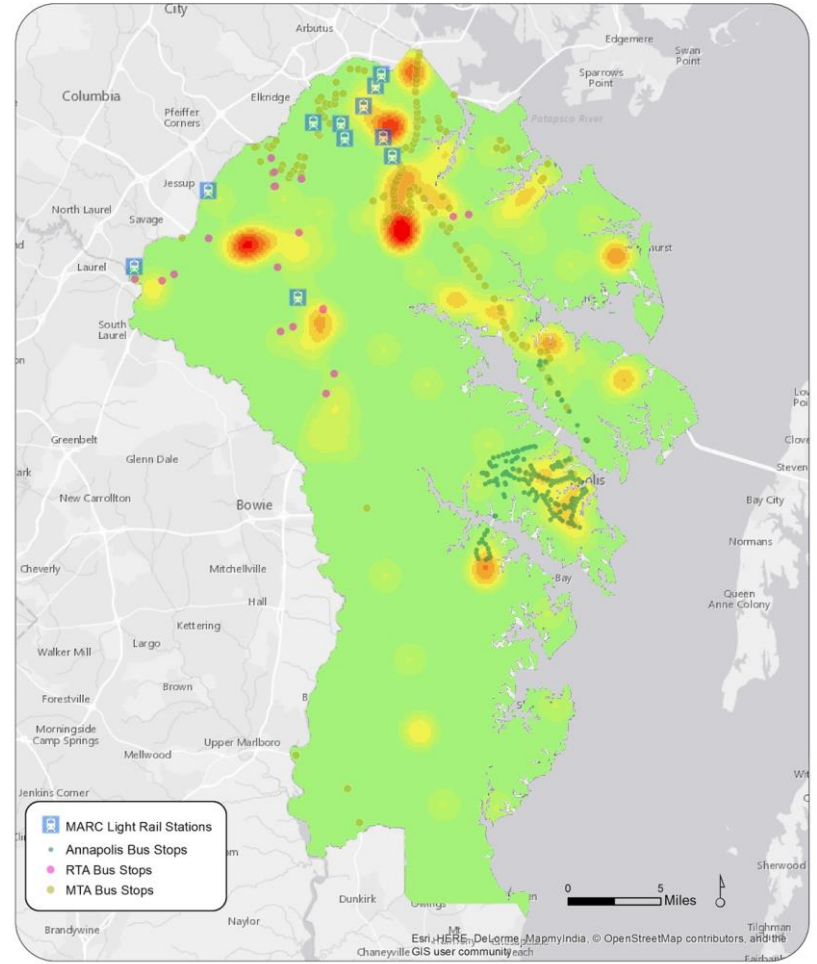
Anne Arundel County, MD
Employment Center - Fort Meade

Anne Arundel County, MD
Employment Center - Linthicum Heights

Anne Arundel County, MD
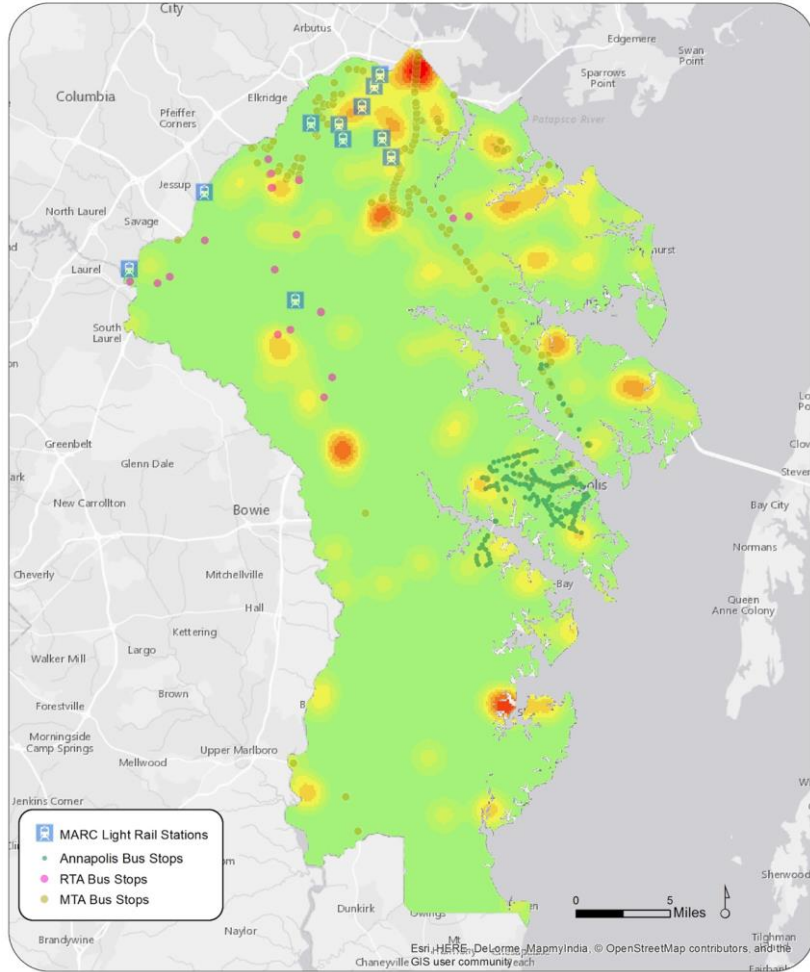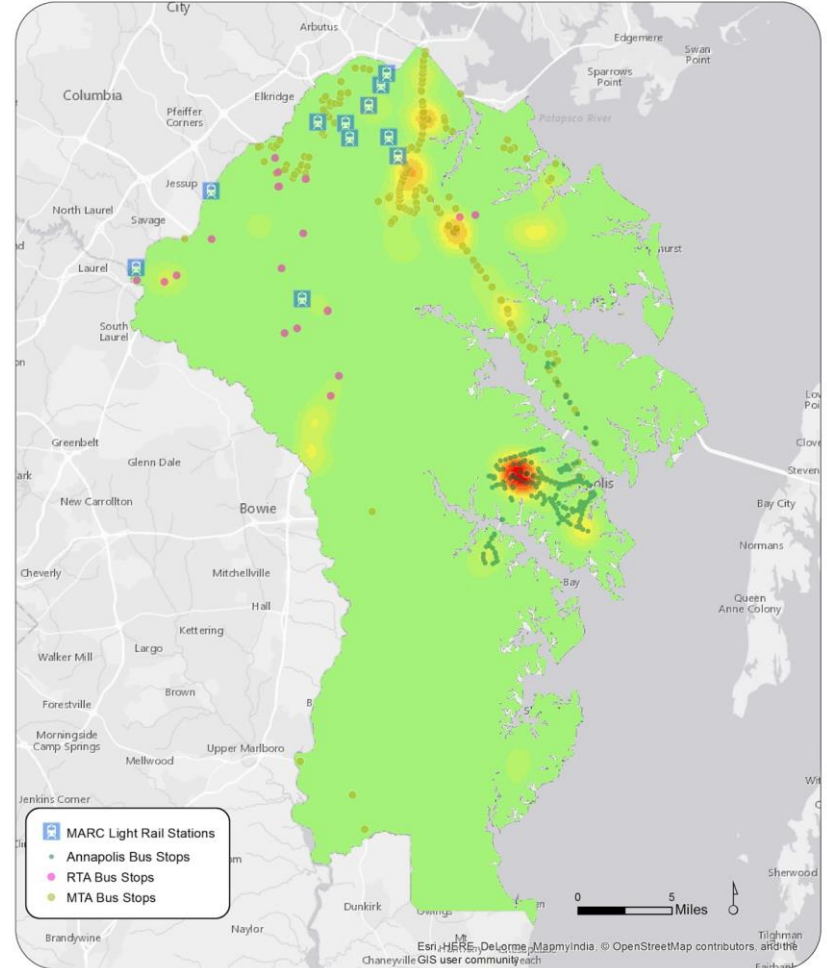Heatmap - Hospitals and Health Centers

Anne Arundel County, MD
Heatmap - Schools

MARC Light Rail Stations
Annapolis Bus Stops
RTA Bus Stops
MTA Bus Stops

Data Sources: U.S. Census; Anne Arundel County

Anne Arundel County, MD
Heatmap - Parks

MARC Light Rail Stations
Annapolis Bus Stops
RTA Bus Stops
MTA Bus Stops

Anne Arundel County, MD
Heatmap - Shopping Centers

MARC Light Rail Stations
Annapolis Bus Stops
RTA Bus Stops
MTA Bus Stops

Data Sources: U.S. Census; Anne Arundel County

ArcGIS Online

- Data is set up in ArcGIS
- Hosted on ArcGIS Online as a feature service
- Configured in an ArcGIS Online Web Map
- App developed using ESRI's Web AppBuilder
- Available using web browser on computer or mobile device
- http://is.gd/AACOTrans

Recommendations

- Expand existing transit system to the south of the county
- Provide improved access to underserved areas of the county (bays, center)
- Provide riders access to consolidated transit map to assist in navigation
- Improve walking access to transit stops
- Promote walking to transit stops in order to encourage transit usage