Geographic Information Systems (GIS) Research

Open Baltimore

Presentation for the MLDS Center Research Series

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Agenda

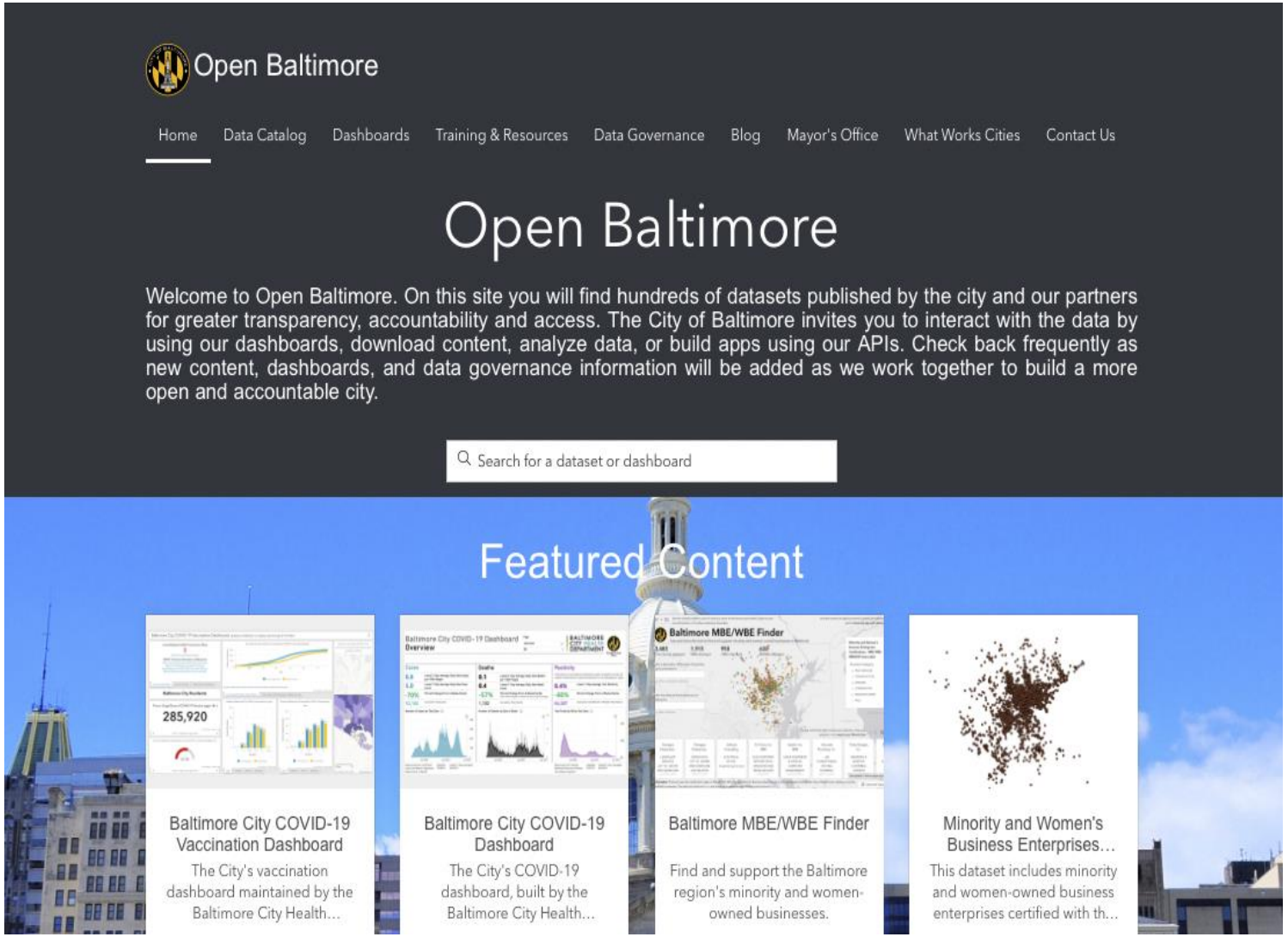
- Purpose of Presentation
- Description of Open Baltimore
- ArcGIS and Creating an Account
- Data Categories
- Featured Content
- Pre-populated Data Dashboards and Pre-populated Geo-coded Maps
- Create a Map
- Applications to MLDS Data

Presentation Purpose

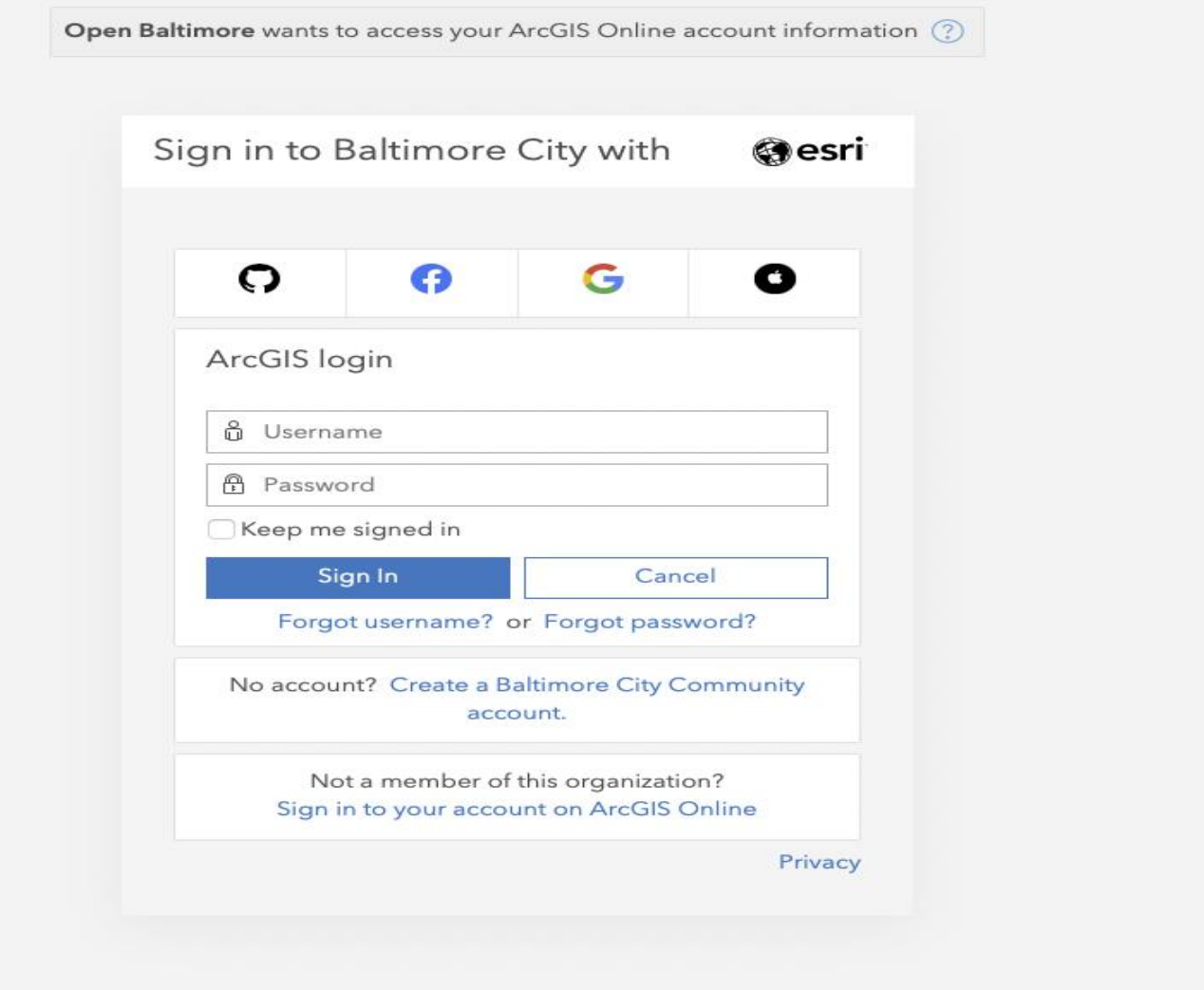
The purpose of this presentation is to show you how to conduct geographic information system (GIS) research using Open Baltimore. GIS allows researchers to see data by geographic location. Open Baltimore is a repository of datasets published by the city to enhance transparency. More specifically, I will briefly show you how to build GIS maps and how to interpret those GIS maps using a Baltimore City education dataset that is included in the system.

Description

- Repository with approximately 671 datasets
- Published by Baltimore City and some of its partners to increase **transparency, accountability,** and **access**
- You can download content, analyze data, or build apps
- https://data.baltimorecity.gov/

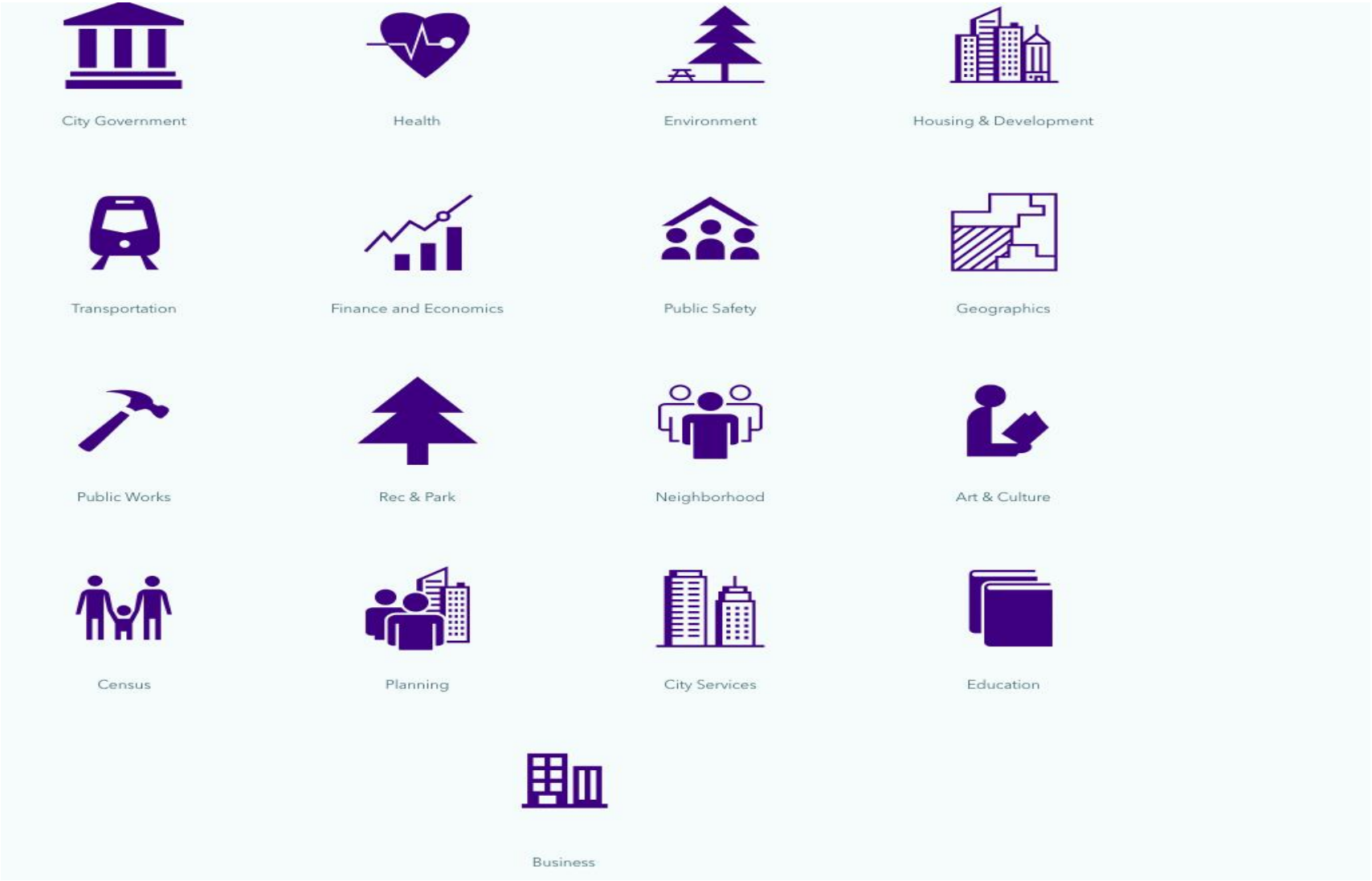


ArcGIS and Creating an Account

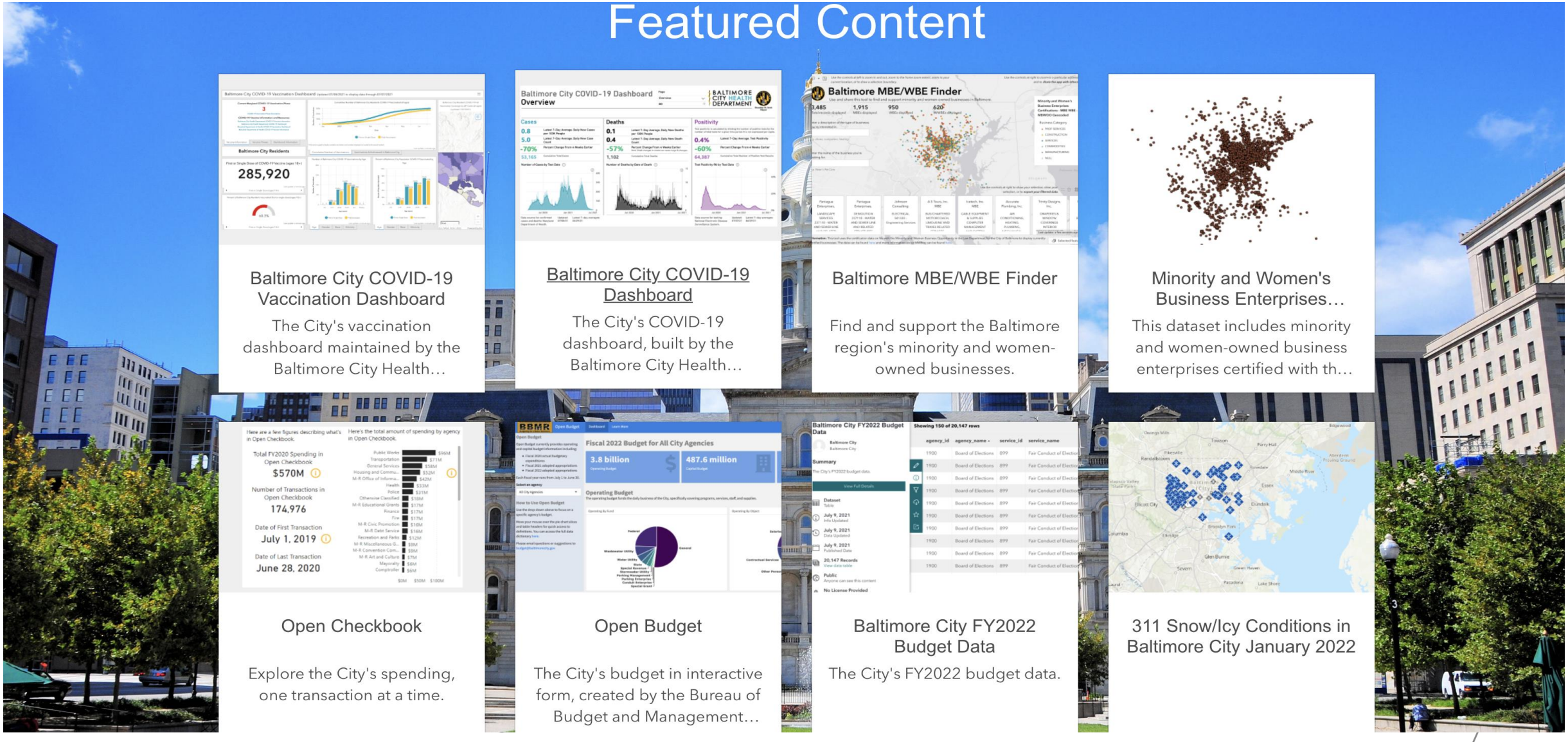


- ArcGIS is geospatial software
- Option to create an account
  - View, edit, manage, and analyze geographic data
  - Save data
  - Import data files to integrate with GIS technology

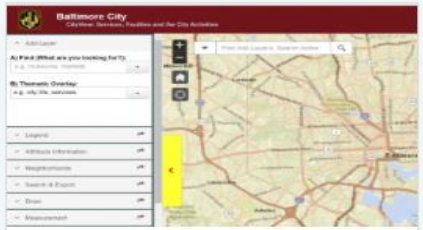
Data Categories



Featured Content

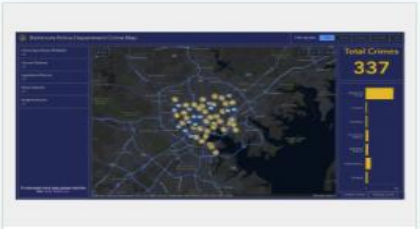


More Data Insights



Cityview

Explore



Baltimore Police Department Crime Map Dashboard

Explore

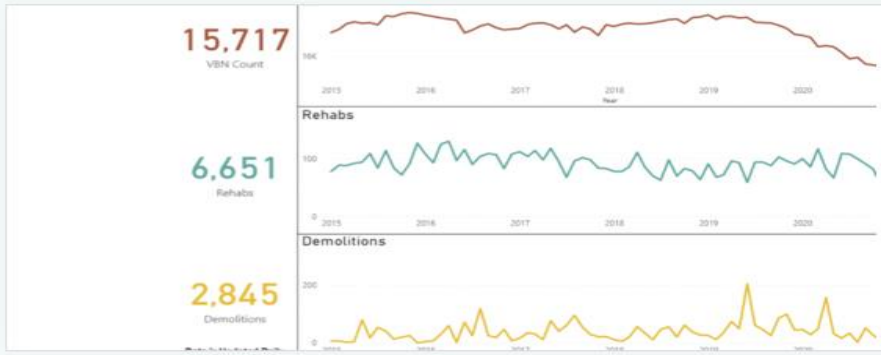
Baltimore City Grocery Stores Dashboard

Explore

Rec and Leisure

This webmap displays the location of recreation and park related facilities and ameniti...

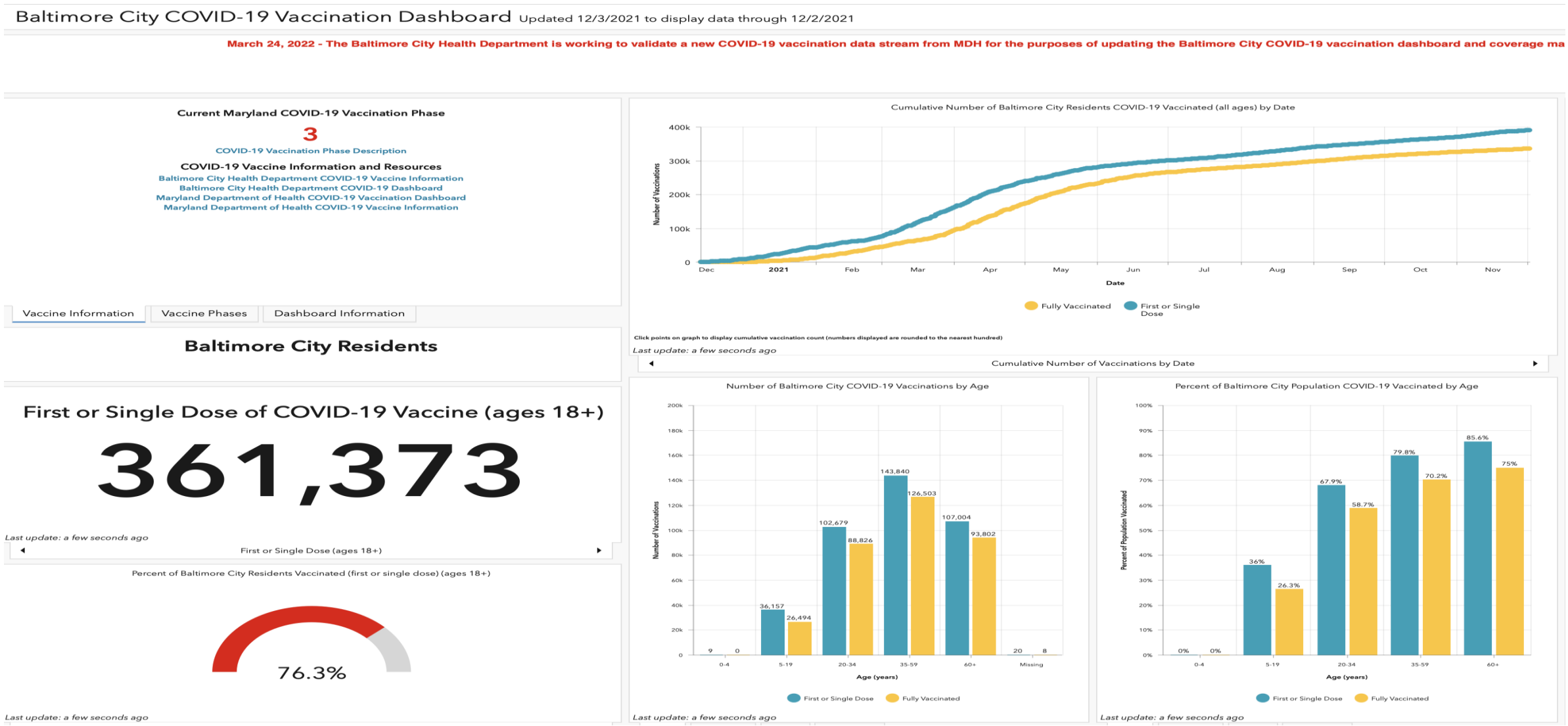
Explore



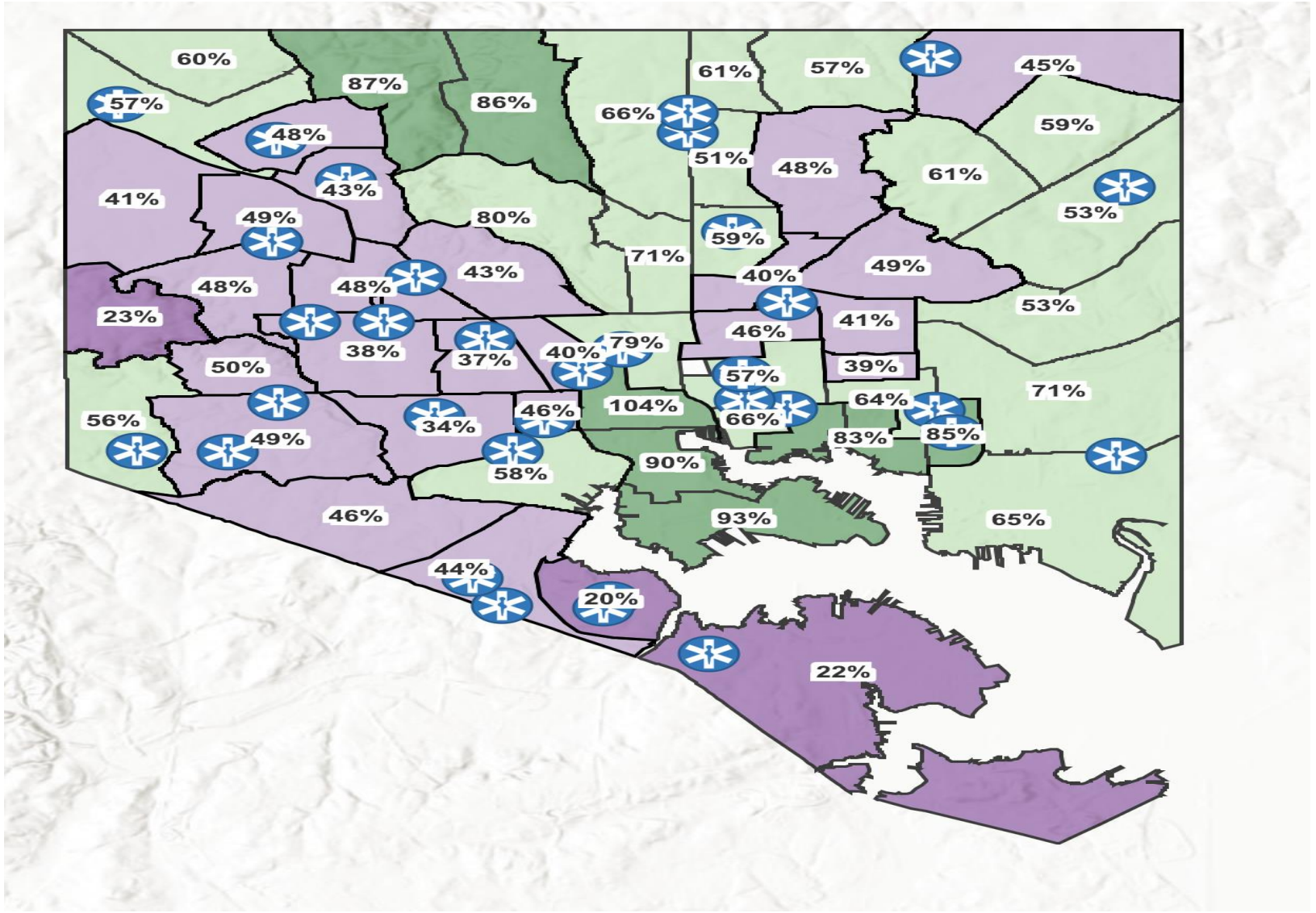
Vacant Building Dashboard

Explore

Pre-populated Data Dashboards



Pre-populated Geo-coded Map



Legend

Upcoming Baltimore City COVID-19 Vaccination Clinics - Week of April 4th- Clinics Offering Vaccine for Ages 5 to 11

Upcoming Baltimore City COVID-19 Vaccination Clinics - Week of April 4th

Community Statistical Area 30% and Below Vaccination Coverage -1st or Single Dose

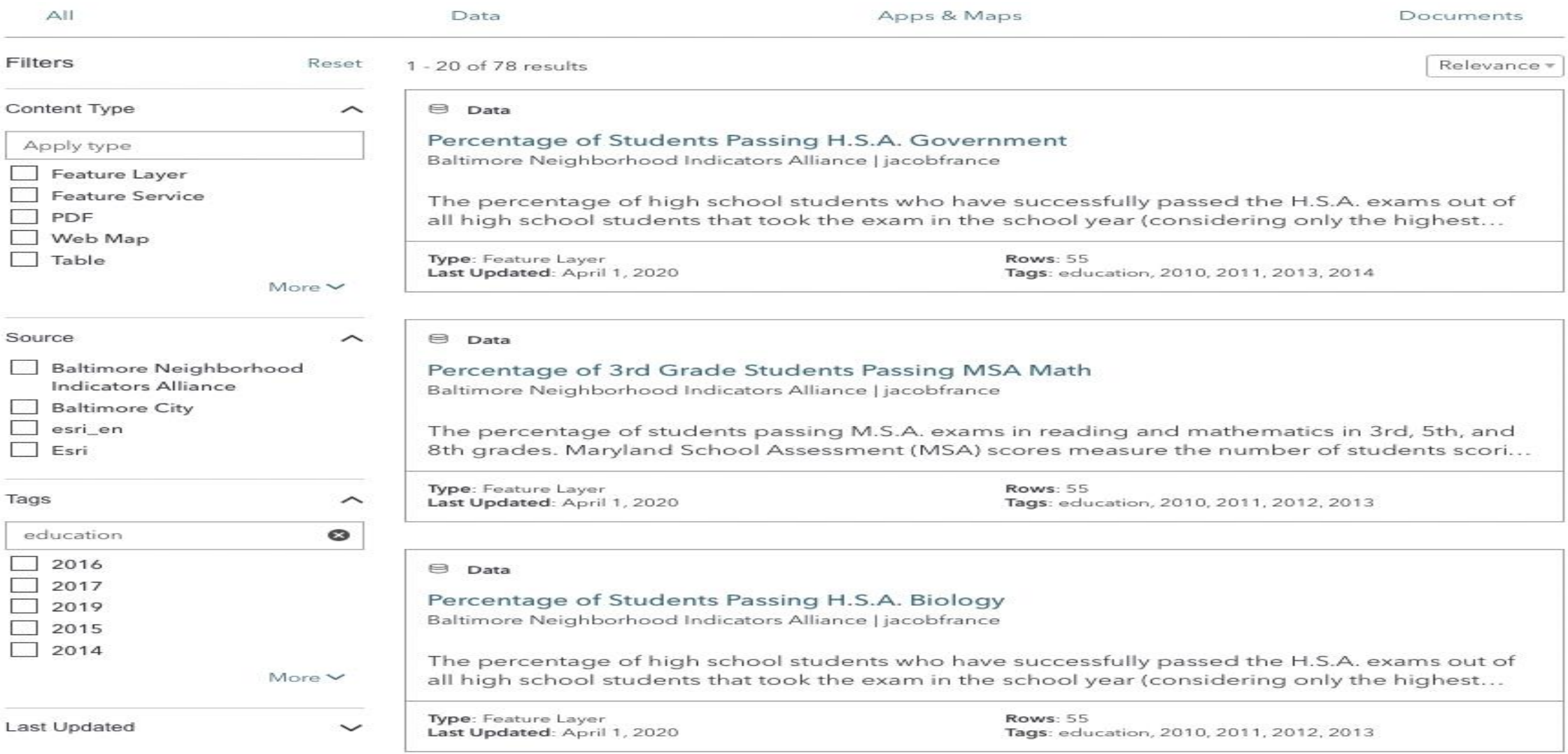
Community Statistical Area 31% to 50% Vaccination Coverage-1st or Single Dose

Community Statistical Area 51% to 80% Vaccination Coverage-1st or Single Dose

Community Statistical Area 81% and Above Vaccination Coverage-1st or Single Dose

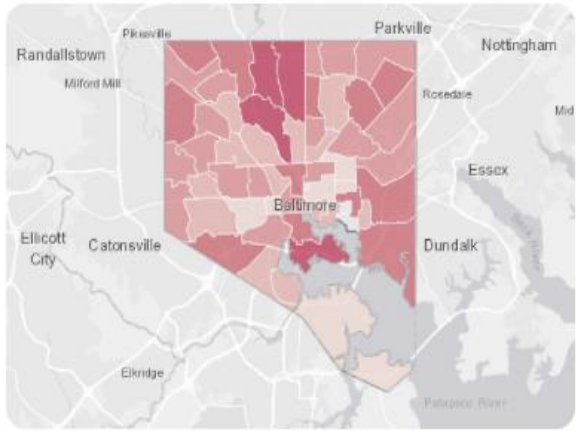
COVID-19 Vaccination Clinics from Maryland Department of Health

Build Your Own - Education Datasets



Create a Map

*Website error



High School Competion Rate - Community Statistical Area

Baltimore Neighborhood Indicators Alliance
Baltimore Neighborhood Indicators Alliance

View Map | Download | More

Summary

The percentage of 12th graders in a school year that successfully completed high school out of all 12th graders within an area.

The percentage of 12th graders in a school year that successfully completed high school out of all 12th graders within an area. Completers are identified as completing their program of study at the high school level and satisfying the graduation requirements for a Maryland High School Diploma or the requirements for a Maryland Certificate of Program Completion. Source: Baltimore City Public School System Years Available: 2009-2010, 2010-2011, 2011-2012, 2012-2013, 2013-2014, 2014-2015, 2015-2016, 2016-2017, 2018-2019, 2019-2020

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Details

Dataset
Feature Layer

January 4, 2021
Info Updated

May 25, 2021
Data Updated

March 24, 2020
Published Date

55 Records
View data table

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I want to...

Create a Map
Start a map with this data

Start Simple
Basic styling, drawing, and analysis

Advanced Mapping
Open in ArcGIS MapViewer

Create a Story
Open in ArcGIS StoryMaps

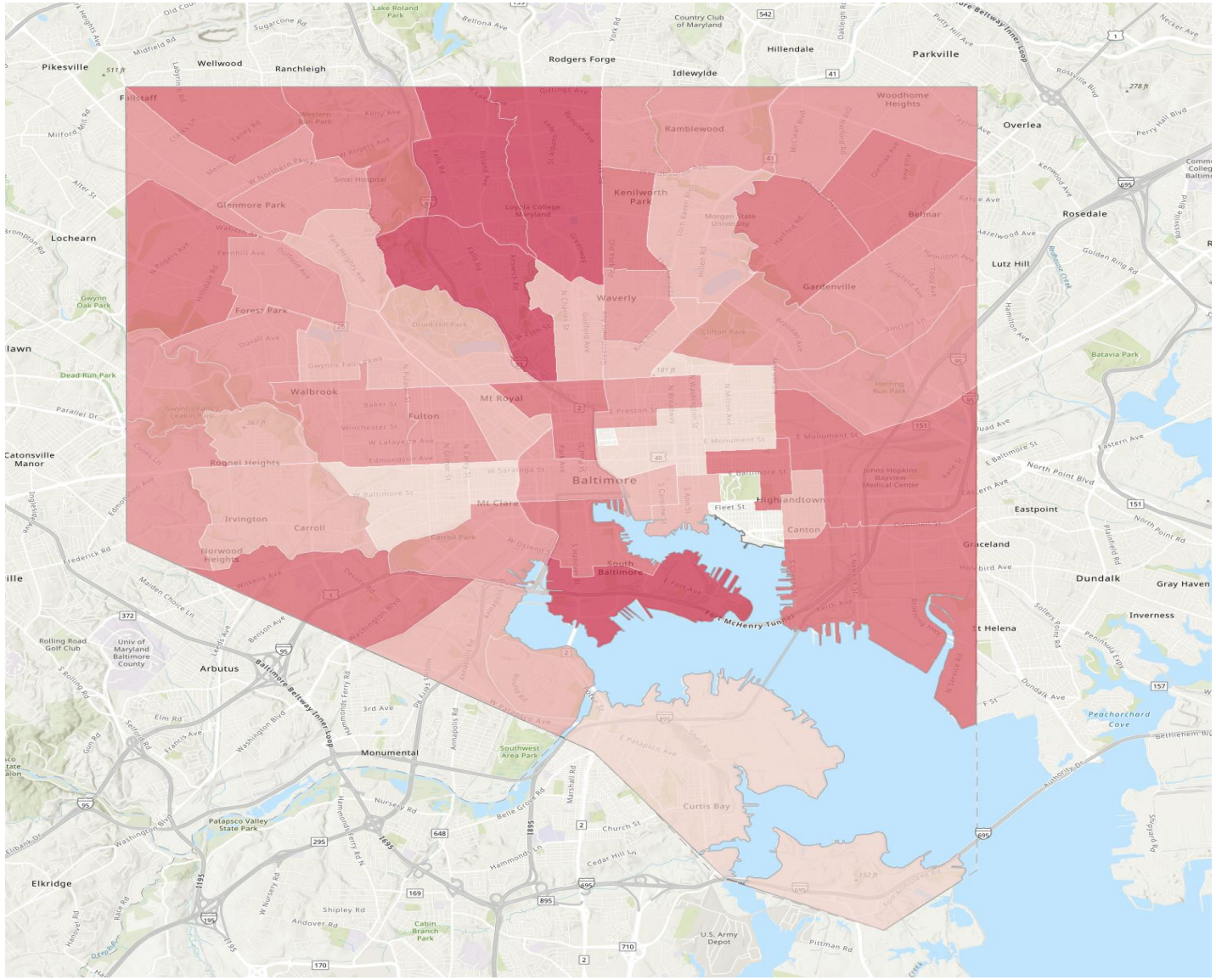
View API Resources
Try out the API Explorer

View Data Source
Select to open in a new tab

View All Metadata
Select to open in a new tab

Open in ArcGIS Online
Select to open in a new tab

Create a Map



Legend

High School Completion Rate

High School Competion Rate - Community Statistical Area

2019-2020

- 88.1% - 100.0%
- 81.9% - 88.0%
- 76.6% - 81.8%
- 70.9% - 76.5%
- 66.7% - 70.8%

- Can help researchers identify and target areas of opportunity for research

Corresponding Tables

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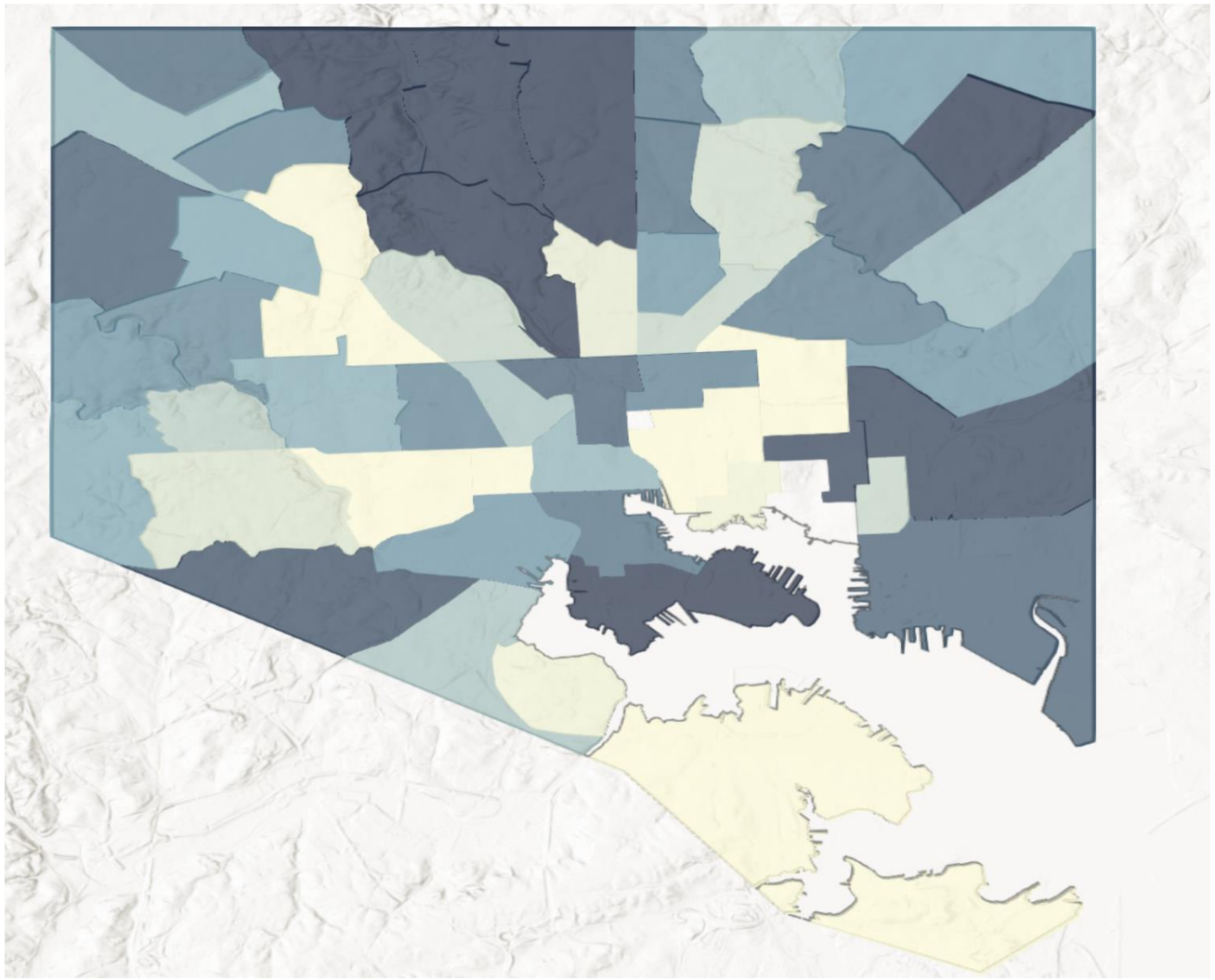
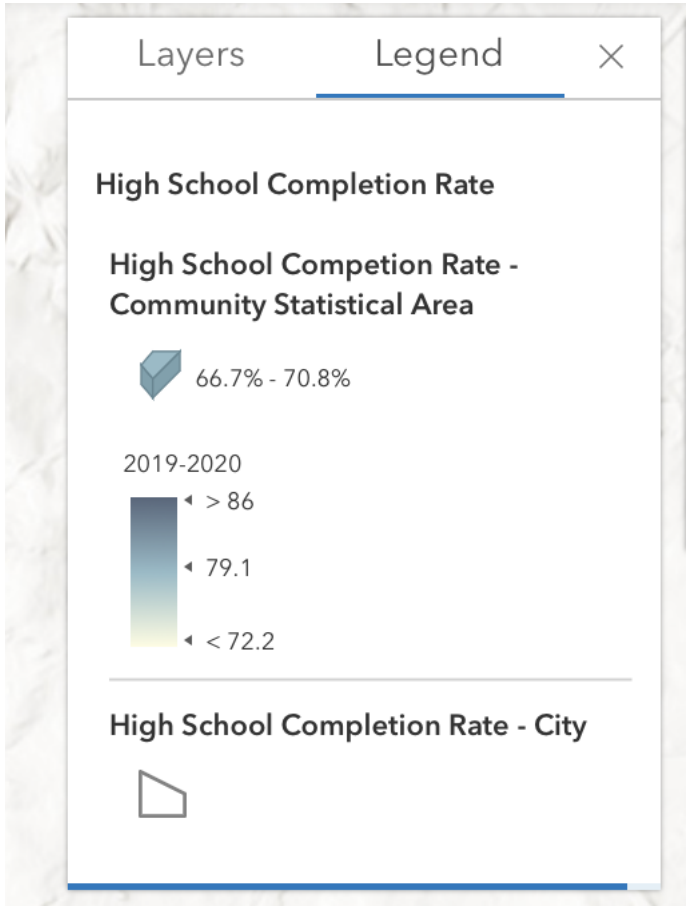
High School Competion Rate - Community Statistical Area (Features: 55, Selected: 0)

Community Stat...	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2018-201
Allendale/Irvington/ Hilton	80.34934	83.94	78.13953	82.68156	86.294416	77.647059	75.510204	75.141243	75.83892
Beechfield/Ten Hills/West Hills	85.86957	80.34	82.05128	89.2562	89.423077	86.792453	86.111111	68	78
Belair-Edison	82.85714	79.91	77.39464	82.18623	81.568627	80	84.234234	79.5	82.60869
Brooklyn/Curtis Bay/Hawkins Point	78.46154	75.38	70.5036	74.78261	78	69.411765	74.747475	78.448276	72.44897
Canton	75	66.67	100	80	80	75	80	50	33.33333
Cedonia/Frankford	82.11921	82.29	83.86076	81.84818	84.453782	85.770751	83.534137	79.497908	76.44628
Cherry Hill	76.40449	85.29	84.44444	77.31092	78.846154	66.990291	71.276596	77.419355	75.28089
Chinquapin Park/Belvedere	76.38889	84.09	82.43243	86.58537	80.882353	87.037037	81.967213	77.464789	81.63265
Claremont/Armistea	80.32787	81.48	78.37838	76.82927	81.15942	77.52809	80	75.454545	75.75757
Clifton-Berea	77.69784	80.75	81.29496	71.31783	65.09434	63.809524	76.530612	75.490196	68.96551
Cross-Country/Cheswolde	76.92308	80	75.75758	78.26087	87.878788	95	88.235294	82.352941	87.5
Dickeyville/Franklint	78.57143	80	84.84848	77.77778	65.217391	78.947368	85	88.888889	73.68421
Dorchester/Ashburt	80.74534	79.29	81.81818	85.31469	85.384615	79.6875	82.5	74.766355	79.46428
Downtown/Seton Hill	82.35294	90.91	93.33333	85.71429	91.304348	90	63.636364	93.75	85.71428
Edmondson Village	77.6699	76.98	83.60656	78.57143	79.2	78.070175	72.727273	77.894737	83.33333
Fells Point	72.22222	92.31	53.84615	62.5	83.333333	72.727273	83.333333	86.666667	53.84615
Forest Park/Walbrook	74.07407	76.42	80.17241	78.89908	82.352941	75.280899	80.645161	79.816514	83.65384

Change a Map




Layers
Legend
High School Completion Rate
High School Competion Rate - Community Statistical Area
66.7% - 70.8%
2019-2020
> 86
79.1
< 72.2
High School Completion Rate - City

Applications to MLDS Data

- Potential to use ArcGIS to map student movement from Maryland public high schools into postsecondary and the workforce; (e.g. could map *advanced course taking* and how it relates to college enrollments)
- Potential to link external data from Open Baltimore to MLDS data at the school level to provide contextual information for cross-sector research

Closing

- Create GIS stories
- Engage in training
- Participate in community and forums around GIS data
- Review and contribute to the ArcGIS Blog
- Generate research ideas (Baltimore City Grocery Stores)

Thank you to the MLDS Center for this opportunity.

Thank you to my Morgan State University colleagues.

Thanks to all of you!

Questions

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