

## MRP Limitations

- ❑ Models the statistically expected prevalence
- ❑ Small area estimates tend to have narrow ranges and tend to underestimate those small areas with high prevalence and overestimate areas with low prevalence
- ❑ Cannot detect effects due to local interventions – cannot be used for program or policy evaluations

## Relationship to Existing Efforts

- ❑ Complements similar public health surveillance data that are specifically defined and well-accepted measures of chronic conditions and their risk factors
- ❑ **County Health Rankings**
  - County-level, not city or neighborhood
- ❑ **America's Health Rankings**
  - State-level, not city or neighborhood
- ❑ **Chronic Disease Indicators**
  - State-level, not city or neighborhood

# **500 CITIES – ONLINE INFORMATION, DATA, AND MAPS**

# Online Information – 500 Cities Homepage Two Phases

- ❑ <http://www.cdc.gov/500cities>
- ❑ The current version contains links to
  - Dataset (Open Data)
  - Mapbooks (PDFs)
- ❑ A revised version will launch in early 2017 with an embedded interactive web application
- ❑ The homepage is designed to be the primary portal for the 500 Cities project
- ❑ The dataset can also be accessed through CDC's Chronic Data Portal










## 500 Cities – Open Data

- ❑ Available now!
- ❑ CDC Chronic Data Portal
- ❑ <https://chronicdata.cdc.gov/health-area/500-cities>
- ❑ One of several “Health Areas”

# 500 Cities – Open Data (2)

- ❑ Complete datasets in two formats
  - Socrata
  - GIS-friendly (one for cities, one for census tracts)

The screenshot shows a web interface for the 500 Cities Open Data portal. On the left is a sidebar with a search bar, 'Clear All Options', 'View Types' (All, Datasets, Charts, Maps, Calendars, Filtered Views, External Datasets, Files and Documents, Forms, APIs), and 'Public Health Areas' (All, 500 Cities, Behavioral Risk Factors, Chronic Disease Indicators, Health-Related Quality of Life, Healthy Aging, Heart Disease & Stroke Prevention, Maternal & Child Health, Oral Health, Tobacco Use, Vision & Eye Health). The main content area displays search results for 'Results matching type of Datasets and category of 500 Cities'. The results are shown in a table with columns for Name, Popularity, Type, and RSS. Three results are visible:

Name	Popularity	Type	RSS
 <b>500 Cities: Local Data for Better Health</b> 2013, 2014. Data were provided by the Centers for Disease Control and Prevention (CDC), Division of Population Health, Epidemiology and Surveillance Branch. The project was funded by the Robert Wood Johnson Foundation (RWJF) in conjunction with the CDC Foundation. This dataset includes model-based small area estimates for 27 measures of chronic disease related to unhealthy behaviors (5), health outcomes (13), and use of preventive services (9). It represents a first-of-its kind effort to release information on a large scale for cities and for small areas within those cities. It includes estimates for the 500 largest US cities and approximately 28,000 census tracts within these cities. These estimates can be used to identify emerging health problems and to inform development and implementation of effective, targeted public health prevention activities. Because the small area model cannot detect effects due to local interventions, users are cautioned against using these estimates for program or policy evaluations. Data sources used to generate these measures include Behavioral Risk Factor Surveillance System (BRFSS) data (2013, 2014), Census Bureau 2010 census population data, and American Community Survey (ACS) 2009-2013, 2010-2014 estimates. More information about the methodology can be found at <a href="http://www.cdc.gov/500cities">www.cdc.gov/500cities</a> .	42 views		
 <b>500 Cities: City-level Data (GIS Friendly Format)</b> 2013, 2014. Data were provided by the Centers for Disease Control and Prevention (CDC), Division of Population Health, Epidemiology and Surveillance Branch. The project was funded by the Robert Wood Johnson Foundation (RWJF) in conjunction with the CDC Foundation. 500 cities project city-level data in GIS-friendly format. This dataset can be joined with city-level spatial data in a geographic information system (GIS) to produce maps of 27 measures at the city-level.	16 views		
 <b>500 Cities: Census Tract-level Data (GIS Friendly Format)</b> 2013, 2014. Data were provided by the Centers for Disease Control and Prevention (CDC), Division of Population Health, Epidemiology and Surveillance Branch. The project was funded by the Robert Wood Johnson Foundation (RWJF) in conjunction with the CDC Foundation. 500 cities project census tract-level data in GIS-friendly format. This dataset can be joined with census tract spatial data in a geographic information system (GIS) to produce maps of 27 measures at the census tract level.	17 views		

Showing 3 of 3

# 500 Cities – Open Data (3)

## Filtered Views

Results matching type of Filtered Views and category of 500 Cities

Name	Popularity	Type	RSS
<p><b>500 Cities: Visits to doctor for routine checkup within the past year among adults aged &gt;=18 years</b></p> <p>2014. Data were provided by the Centers for Disease Control and Prevention (CDC), Division of Population Health, Epidemiology and Surveillance Branch. The project was funded by the Robert Wood Johnson Foundation (RWJF) in conjunction with the CDC Foundation. This is a filtered subset of the 500 Cities data that provides model based small area estimates for 27 measures of chronic disease related to unhealthy behaviors (5), health outcomes (13), and use of preventive services (9). It represents a first-of-its-kind effort to release information on a large scale for cities and for small areas within those cities. It includes estimates for the 500 largest US cities and approximately 30,000 census tracts within those cities. These estimates can be used to identify emerging health problems and to inform development and implementation of effective, targeted public health prevention activities. Because the small area model cannot detect effects due to local interventions, users are cautioned against using these estimates for program or policy evaluation. Data sources used to generate these measures include Behavioral Risk Factor Surveillance System (BRFSS) data (2011, 2014), Census Bureau 2010 census population data, and American Community Survey (ACS) 2009-2013, 2010-2014 estimates. More information about the methodology can be found at <a href="http://www.cdc.gov/500cities">www.cdc.gov/500cities</a>.</p>	7 views		
<p><b>500 Cities: Visits to dentist or dental clinic among adults aged &gt;=18 years</b></p> <p>2014. Data were provided by the Centers for Disease Control and Prevention (CDC), Division of Population Health, Epidemiology and Surveillance Branch. The project was funded by the Robert Wood Johnson Foundation (RWJF) in conjunction with the CDC Foundation. This is a filtered subset of the 500 Cities data that provides model based small area estimates for 27 measures of chronic disease related to unhealthy behaviors (5), health outcomes (13), and use of preventive services (9). It represents a first-of-its-kind effort to release information on a large scale for cities and for small areas within those cities. It includes estimates for the 500 largest US cities and approximately 30,000 census tracts within those cities. These estimates can be used to identify emerging health problems and to inform development and implementation of effective, targeted public health prevention activities. Because the small area model cannot detect effects due to local interventions, users are cautioned against using these estimates for program or policy evaluation. Data sources used to generate these measures include Behavioral Risk Factor Surveillance System (BRFSS) data (2011, 2014), Census Bureau 2010 census population data, and American Community Survey (ACS) 2009-2013, 2010-2014 estimates. More information about the methodology can be found at <a href="http://www.cdc.gov/500cities">www.cdc.gov/500cities</a>.</p>	7 views		
<p><b>500 Cities: View a city's census tract data (GIS friendly data)</b></p> <p>500 cities project census tract-level data in GIS-friendly format. This dataset can be joined with census tract spatial data in a geographic information system (GIS) to produce maps of 27 measures at the census tract level. Census tract spatial data also can be downloaded at this site.</p>	8 views		
<p><b>500 Cities: Obesity among adults aged &gt;=18 years</b></p> <p>2014. Data were provided by the Centers for Disease Control and Prevention (CDC), Division of Population Health, Epidemiology and Surveillance Branch. The project was funded by the Robert Wood Johnson Foundation (RWJF) in conjunction with the CDC Foundation. This is a filtered subset of the 500 Cities data that provides model based small area estimates for 27 measures of chronic disease related to unhealthy behaviors (5), health outcomes (13), and use of preventive services (9). It represents a first-of-its-kind effort to release information on a large scale for cities and for small areas within those cities. It includes estimates for the 500 largest US cities and approximately 30,000 census tracts within those cities. These estimates can be used to identify emerging health problems and to inform development and implementation of effective, targeted public health prevention activities. Because the small area model cannot detect effects due to local interventions, users are cautioned against using these estimates for program or policy evaluation. Data sources used to generate these measures include Behavioral Risk Factor Surveillance System (BRFSS) data (2011, 2014), Census Bureau 2010 census population data, and American Community Survey (ACS) 2009-2013, 2010-2014 estimates. More information about the methodology can be found at <a href="http://www.cdc.gov/500cities">www.cdc.gov/500cities</a>.</p>	6 views		

## GIS Boundary Files

Results matching type of Files and Documents and category of 500 Cities

Name	Popularity	Type	RSS
<p><b>500 Cities: City Boundaries</b></p> <p>This city boundary shapefile was extracted from Esri Data and Maps for ArcGIS 2014 - U.S. Populated Place Areas. This shapefile can be joined to 500 Cities city-level Data (GIS Friendly Format) in a geographic information system (GIS) to make city-level maps.</p>	3 views		<input checked="" type="checkbox"/>
<p><b>500 Cities: Census Tract Boundaries</b></p> <p>This census tract shapefile for the 500 Cities project was extracted from the Census 2010 Tiger/Line database and modified to remove portions of census tracts that were outside of city boundaries. This shapefile can be joined with 500 Cities census tract-level Data (GIS Friendly Format) in a geographic information system (GIS) to make maps at the census tract level.</p>	2 views		<input checked="" type="checkbox"/>

Showing 2 of 2

# 500 Cities – Open Data (4)

## Example Charts

Clear All Options

**View Types**  
(All)  
Datasets  
Charts  
Maps  
Calendars  
Filtered Views  
External Datasets  
Files and Documents  
Forms  
APIs

**Public Health Areas**  
(All)  
500 Cities  
Behavioral Risk Factors  
Chronic Disease Indicators  
Health-Related Quality of Life  
Healthy Aging  
Heart Disease & Stroke Prevention  
Maternal & Child Health  
Oral Health  
Tobacco Use  
Vision & Eye Health [View All](#)

**Tags**  
office on smoking and health  
osh  
state system  
survey  
tobacco [View All](#)

**Results matching type of Charts and category of 500 Cities** 📄 📄 Most Accessed This week



# 500 Cities – Open Data (5)

- View
- Filter

500 Cities: Census Tract-level Data (GIS Friendly Format)  
2013, 2014. Data were provided by the Centers for Disease Control and Prevention (CDC), Division of Population Health.

	StateAbbr	PlaceName	PlaceFIPS	TractFIPS	Place_TractID	population2010	ACCESS2_CrudePrev	ACCESS2_Crude95CI	ARTHRITIS_CrudePrev
1	AL	Birmingham	0107000	01073000100	0107000-01073X	3,042	27.6	(24.2, 31.0)	34
2	AL	Birmingham	0107000	01073000300	0107000-01073X	2,735	32.2	(28.5, 36.0)	32
3	AL	Birmingham	0107000	01073000400	0107000-01073X	3,338	31.8	(28.0, 35.6)	37
4	AL	Birmingham	0107000	01073000500	0107000-01073X	2,864	33.7	(29.3, 37.9)	40
5	AL	Birmingham	0107000	01073000700	0107000-01073X	2,577	38.4	(33.0, 43.7)	40
6	AL	Birmingham	0107000	01073000800	0107000-01073X	3,859	26.5	(22.6, 30.2)	40
7	AL	Birmingham	0107000	01073001100	0107000-01073X	5,354	19.7	(15.8, 23.8)	36
8	AL	Birmingham	0107000	01073001200	0107000-01073X	2,876	28.9	(26.1, 31.9)	39
9	AL	Birmingham	0107000	01073001400	0107000-01073X	2,181	26.6	(22.3, 30.5)	40
10	AL	Birmingham	0107000	01073001500	0107000-01073X	3,189	31.8	(28.4, 34.9)	37
11	AL	Birmingham	0107000	01073001600	0107000-01073X	3,390	31.8	(27.6, 36.1)	42
12	AL	Birmingham	0107000	01073001902	0107000-01073X	1,894	30.5	(27.5, 33.8)	36
13	AL	Birmingham	0107000	01073002000	0107000-01073X	3,885	28.0	(24.4, 32.2)	37
14	AL	Birmingham	0107000	01073002100	0107000-01073X	3,186	24.3	(20.6, 28.6)	34
15	AL	Birmingham	0107000	01073002200	0107000-01073X	2,630	25.8	(22.3, 29.3)	34
16	AL	Birmingham	0107000	01073002303	0107000-01073X	2,936	31.7	(27.8, 36.0)	35
17	AL	Birmingham	0107000	01073002305	0107000-01073X	2,952	9.8	(8.2, 11.6)	23
18	AL	Birmingham	0107000	01073002306	0107000-01073X	3,257	10.3	(8.8, 12.2)	28

- Visualizations

Visualize

Calendar

Map

Chart

Visualization Type

- Column
- Stacked Column
- Bar
- Stacked Bar
- Pie
- Donut
- Line
- Area
- Timeline
- Bubble
- Tree Map

# Open Data – 500 Cities (6)

## Embed

500 Cities: Local Data for Better Health  
2013, 2014. Data were provided by the Centers for Disease Control and Prevention (CDC), Division of Population Health.

Year	StateAbbr	StateDesc	CityName	GeographicLevel	DataSource	Category	UniqueID	Measure	Data_Value_Unit	DataValueTypeID	Data
1	2014	US	United State:	US	BRFSS	Prevention	59	Current lack of health %		AgeAdjPrv	A
2	2014	US	United State:	US	BRFSS	Prevention	59	Current lack of health %		CrdPrv	C
3	2014	US	United State:	US	BRFSS	Health Outc:	59	Arthritis among adult: %		AgeAdjPrv	A
4	2014	US	United State:	US	BRFSS	Health Outc:	59	Arthritis among adult: %		CrdPrv	C
5	2014	US	United State:	US	BRFSS	Unhealthy B:	59	Binge drinking among %		AgeAdjPrv	A
6	2014	US	United State:	US	BRFSS	Unhealthy B:	59	Binge drinking among %		CrdPrv	C
7	2013	US	United State:	US	BRFSS	Health Outc:	59	High blood pressure 2 %		AgeAdjPrv	A
8	2013	US	United State:	US	BRFSS	Health Outc:	59	High blood pressure 2 %		CrdPrv	C
9	2013	US	United State:	US	BRFSS	Prevention	59	Taking medicine for h %		AgeAdjPrv	A
10	2013	US	United State:	US	BRFSS	Prevention	59	Taking medicine for h %		CrdPrv	C
11	2014	US	United State:	US	BRFSS	Health Outc:	59	Cancer (excluding skin %		AgeAdjPrv	A
12	2014	US	United State:	US	BRFSS	Health Outc:	59	Cancer (excluding skin %		CrdPrv	C
13	2014	US	United State:	US	BRFSS	Health Outc:	59	Current asthma amon %		AgeAdjPrv	A
14	2014	US	United State:	US	BRFSS	Health Outc:	59	Current asthma amon %		CrdPrv	C
15	2014	US	United State:	US	BRFSS	Health Outc:	59	Coronary heart diseas %		AgeAdjPrv	A
16	2014	US	United State:	US	BRFSS	Health Outc:	59	Coronary heart diseas %		CrdPrv	C
17	2014	US	United State:	US	BRFSS	Prevention	59	Visits to doctor for ro %		AgeAdjPrv	A
18	2014	US	United State:	US	BRFSS	Prevention	59	Visits to doctor for ro %		CrdPrv	C
19	2013	US	United State:	US	BRFSS	Prevention	59	Cholesterol screening %		AgeAdjPrv	A
20	2013	US	United State:	US	BRFSS	Prevention	59	Cholesterol screening %		CrdPrv	C
21	2014	US	United State:	US	BRFSS	Diseasment	59	Famil hyperch. lipid fact %		AgeAdjPrv	A

**Embed**

The Social Data Player enables you to publish this dataset on the Internet at large.

**Embed This Dataset**

```
<div style="float: left; width: 100%; height: 100%; border: 1px solid #ccc; padding: 5px; margin-bottom: 5px;">
  Local Data for Better Health
  </div>
  <div style="float: left; width: 100%; height: 100%; border: 1px solid #ccc; padding: 5px;">
    Local Data for Better Health
  </div>
</div>
```

**Size**

500x425   750x425   950x425

**Custom Size**  
425x425 is the minimum size

Width: 500  
Height: 425

## Export

500 Cities: Local Data for Better Health  
2013, 2014. Data were provided by the Centers for Disease Control and Prevention (CDC), Division of Population Health.

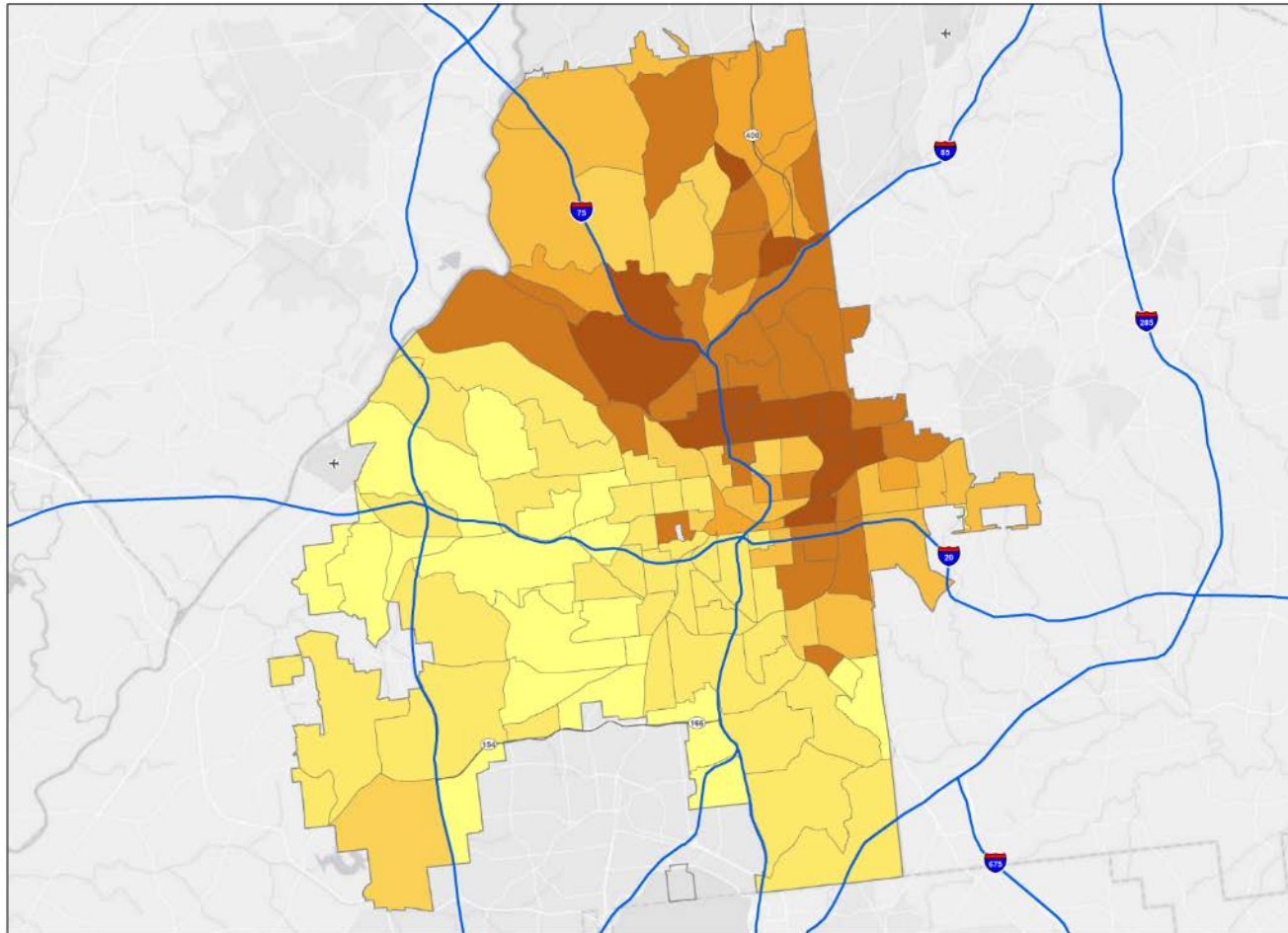
Year	StateAbbr	StateDesc	CityName	GeographicLevel	DataSource	Category	UniqueID	Measure	Data_Value_Unit	DataValueTypeID	Data
1	2014	US	United State:	US	BRFSS	Prevention	59	Current lack of health %		AgeAdjPrv	A
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3	2014	US	United State:	US	BRFSS	Health Outc:	59	Arthritis among adult: %		AgeAdjPrv	A
4	2014	US	United State:	US	BRFSS	Health Outc:	59	Arthritis among adult: %		CrdPrv	C
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7	2013	US	United State:	US	BRFSS	Health Outc:	59	High blood pressure 2 %		AgeAdjPrv	A
8	2013	US	United State:	US	BRFSS	Health Outc:	59	High blood pressure 2 %		CrdPrv	C
9	2013	US	United State:	US	BRFSS	Prevention	59	Taking medicine for h %		AgeAdjPrv	A
10	2013	US	United State:	US	BRFSS	Prevention	59	Taking medicine for h %		CrdPrv	C
11	2014	US	United State:	US	BRFSS	Health Outc:	59	Cancer (excluding skin %		AgeAdjPrv	A
12	2014	US	United State:	US	BRFSS	Health Outc:	59	Cancer (excluding skin %		CrdPrv	C
13	2014	US	United State:	US	BRFSS	Health Outc:	59	Current asthma amon %		AgeAdjPrv	A
14	2014	US	United State:	US	BRFSS	Health Outc:	59	Current asthma amon %		CrdPrv	C
15	2014	US	United State:	US	BRFSS	Health Outc:	59	Coronary heart diseas %		AgeAdjPrv	A
16	2014	US	United State:	US	BRFSS	Health Outc:	59	Coronary heart diseas %		CrdPrv	C

**Export**

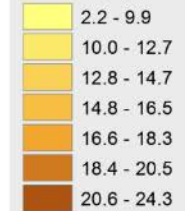
- SODA API
- OData
- Print
- Download
- Download a copy of this dataset in a static format
- Download As
  - CSV for Excel
  - JSON
  - RDF
  - RSS
  - TSV for Excel
  - XML

# 500 CITIES MAPBOOKS

## Binge drinking prevalence among adults aged $\geq 18$ years by census tract, Atlanta, GA, 2014



### Percent (%)



City boundary

Classification:  
Jenks natural breaks (9 classes) based on data for all 500 cities' census tracts. Legend depicts only those data classes within this map extent.

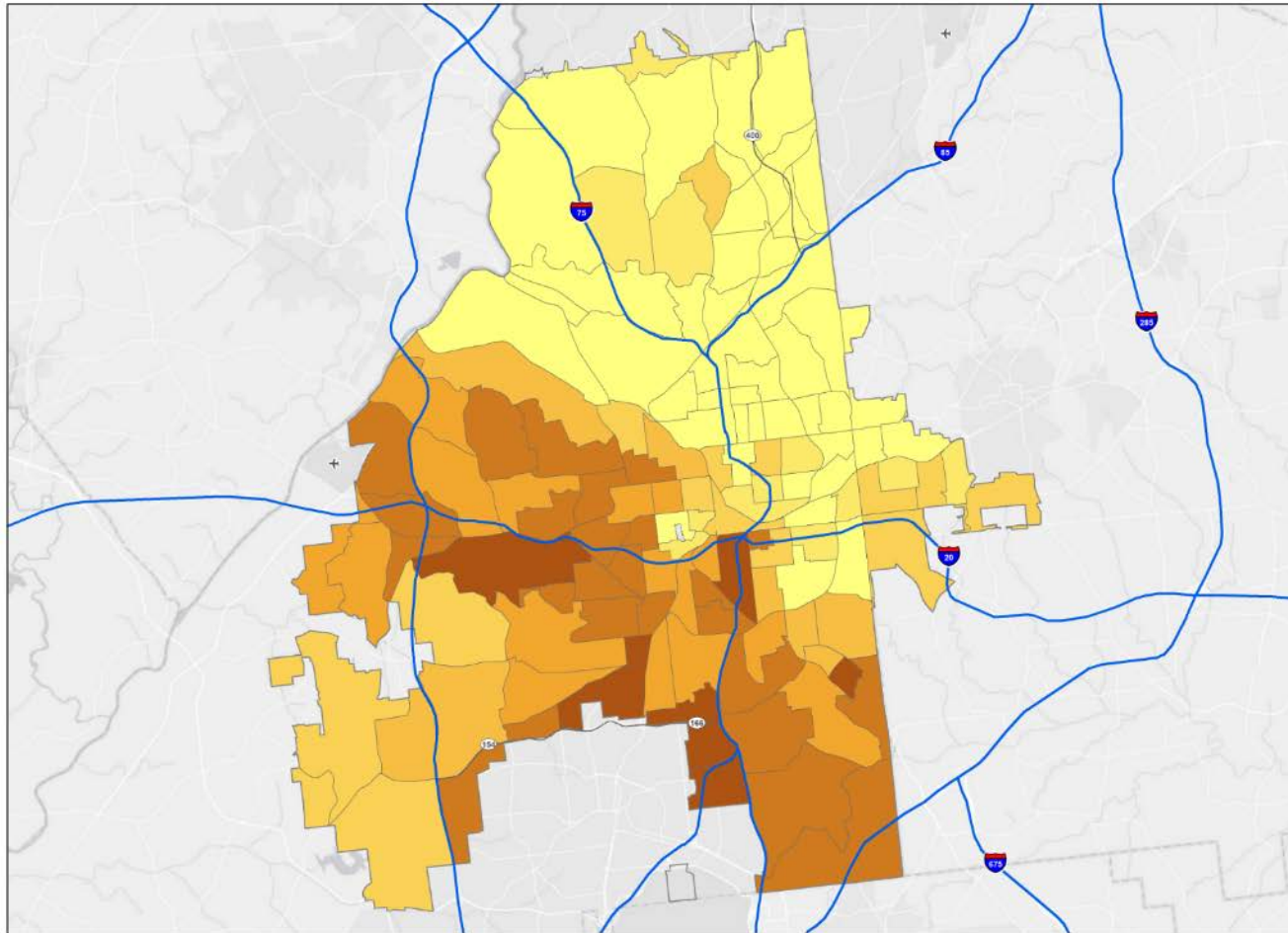
Census tracts with population less than 50 were excluded from the map.



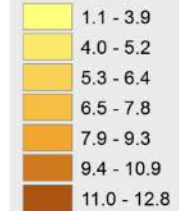
Data sources:  
CDC BRFSS 2014, US Census Bureau 2010 Census, ACS 2010-2014.



## Chronic obstructive pulmonary disease among adults aged $\geq 18$ years by census tract, Atlanta, GA, 2014



### Percent (%)



City boundary

Classification:  
Jenks natural breaks (9 classes) based on data for all 500 cities' census tracts. Legend depicts only those data classes within this map extent.

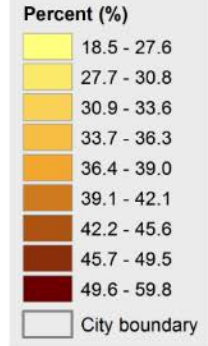
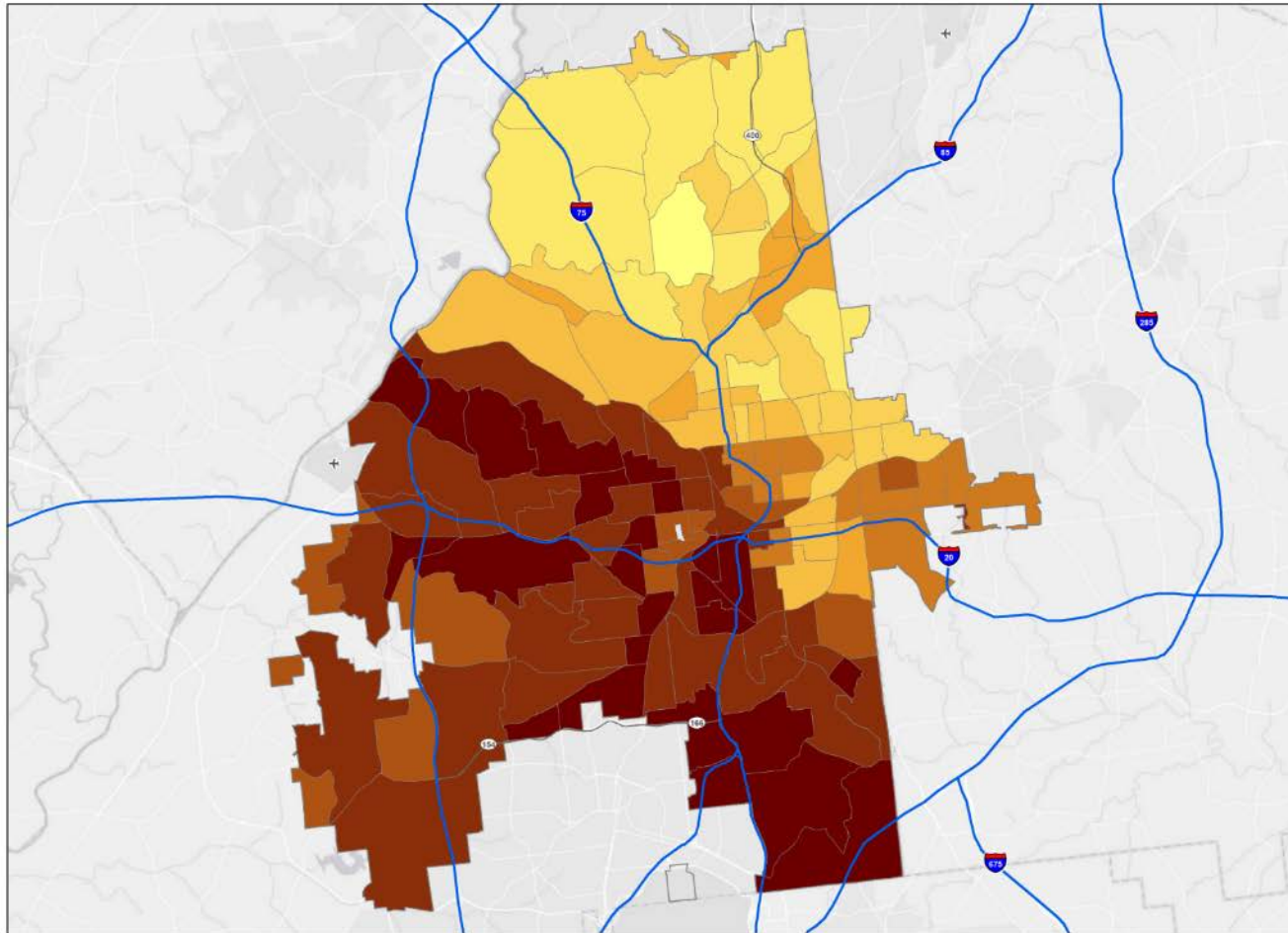
Census tracts with population less than 50 were excluded from the map.



Data sources:  
CDC BRFSS 2014, US Census Bureau 2010 Census, ACS 2010-2014.



## Sleeping less than 7 hours among adults aged $\geq 18$ years by census tract, Atlanta, GA, 2014



Classification:  
Jenks natural breaks (9 classes) based on data for all 500 cities' census tracts. Legend depicts only those data classes within this map extent.

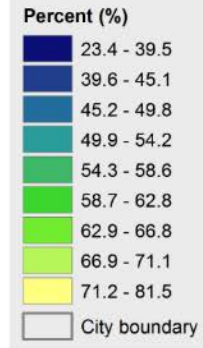
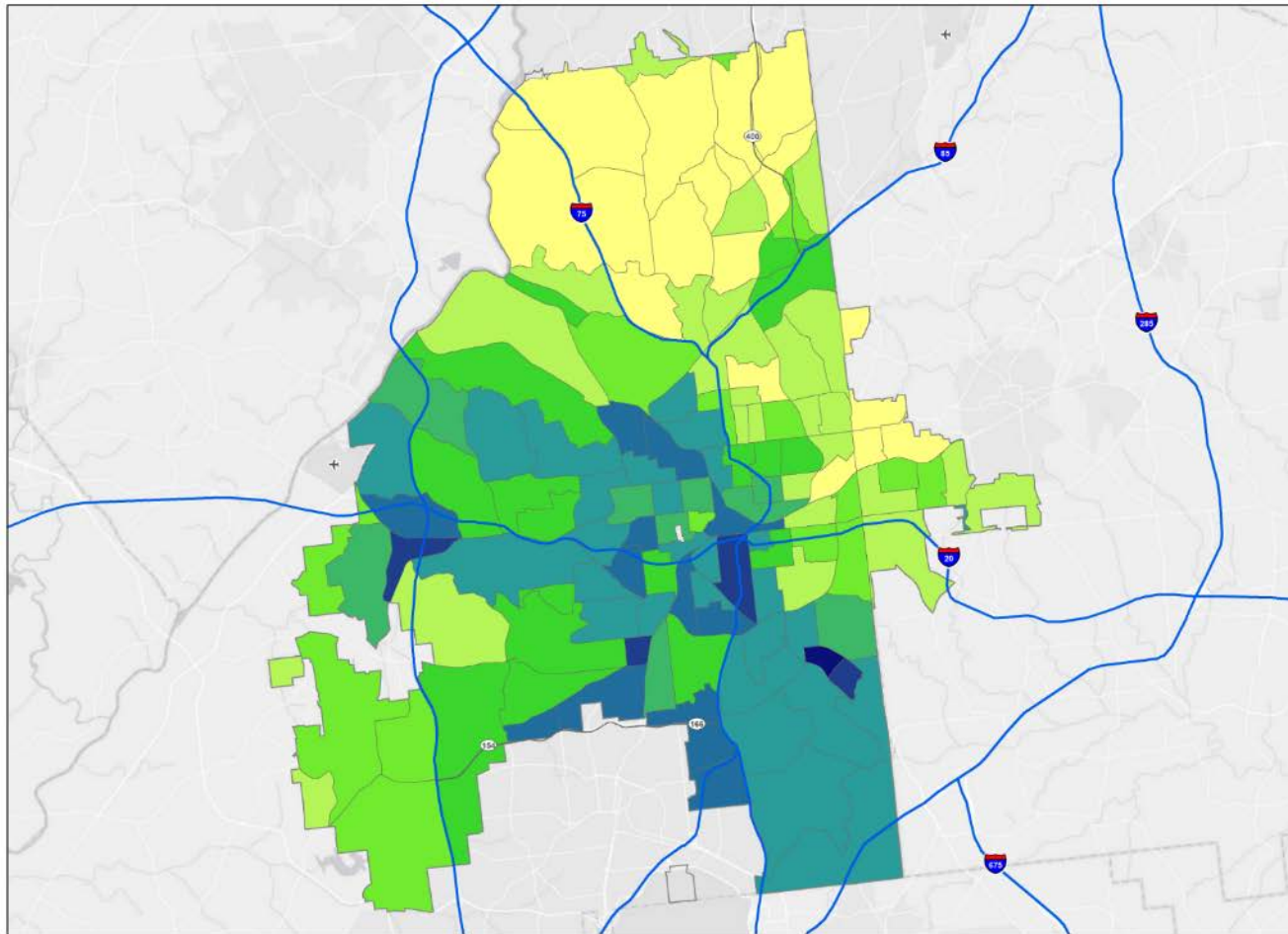
Census tracts with population less than 50 were excluded from map.



Data sources:  
CDC BRFSS 2014, US Census Bureau 2010 Census, ACS 2010-2014.



## Fecal occult blood test, sigmoidoscopy, or colonoscopy among adults aged 50-75 years by census tract, Atlanta, GA, 2014



**Classification:**  
Jenks natural breaks (9 classes) based on data for all 500 cities' census tracts. Legend depicts only those data classes within this map extent.

Census tracts with population less than 50 were excluded from the map.



**Data sources:**  
CDC BRFSS 2014, US Census Bureau 2010 Census, ACS 2010-2014.



## Interactive Web Application – Coming Soon

- ❑ A more interactive tools to explore the data
- ❑ Census tract data are difficult to visualize
- ❑ GIS-enabled interactive maps
- ❑ Deployment in early 2017



# The 500 Cities Project Delivering Data to Improve Population Health

Timely, high-quality, small-area epidemiologic data to:

- ❑ Identify emerging health problems
- ❑ Establish key health objectives
- ❑ Inform the development and implementation of effective and targeted prevention activities

# The 500 Cities Project Reflects Cutting Edge Public Health

- ❑ Reflects innovations in generating valid small-area estimates for population health.
- ❑ Complements existing sets of surveillance indicators that report state, metropolitan area, and county-level data.
- ❑ Releases uniformly-defined selected data for cities, many of which cover multiple counties or don't follow county boundaries, and for census tracts.
- ❑ Delivers health data on a large scale for cities and small areas within cities, for the first time.
- ❑ Enables retrieval, visualization, and exploration of city and tract-level data for the largest 500 US cities for behaviors, health outcomes, and preventive services that have a substantial impact on population health.



[www.cdc.gov/500cities](http://www.cdc.gov/500cities)

# Saving Lives. Protecting People. Saving Money through Prevention.



For more information please contact Centers for Disease Control and Prevention

1600 Clifton Road NE, Atlanta, GA 30333

Telephone: 1-800-CDC-INFO (232-4636)/TTY: 1-888-232-6348

E-mail: [cdcinfo@cdc.gov](mailto:cdcinfo@cdc.gov) Web: <http://www.cdc.gov>

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.



Office of the Director

Division of Population Health