

LEVERAGING CENSUS DATA FOR MPO EQUITY ANALYSES



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LEVERAGING CENSUS DATA FOR MPO EQUITY ANALYSES

Overview

- About DVRPC
- DVRPC's Approach to Equity Analysis: *Indicators of Potential Disadvantage*
- Understanding Equity Regulations
- Aligning Indicators with Legislation
- Beyond Legislation
- Updating DVRPC's methodology
- Experiments:
 - Statistical Significance
 - Workplace and Journey to Work



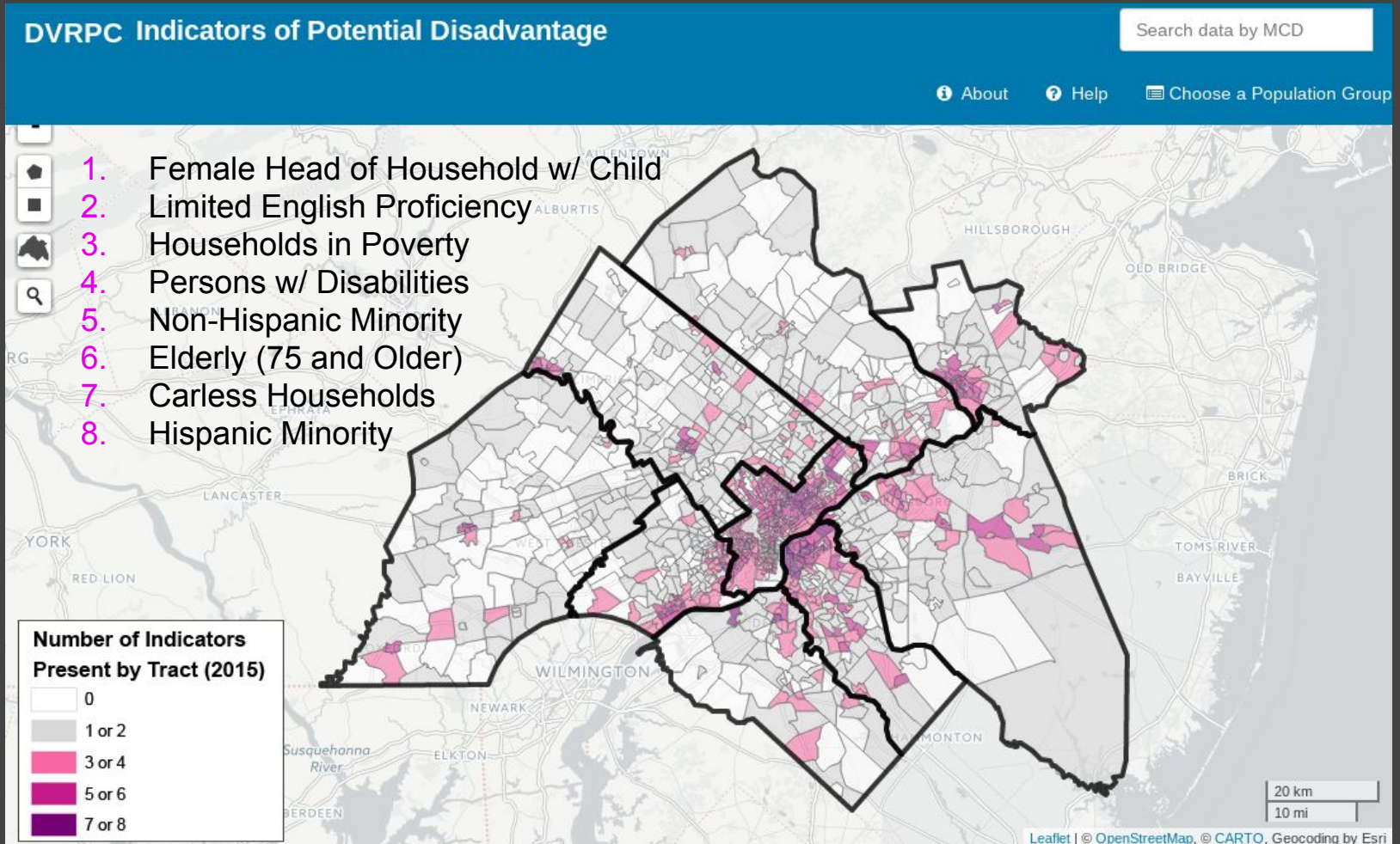
DELAWARE VALLEY REGIONAL PLANNING COMMISSION

Federally designated MPO for
nine-county Philadelphia region

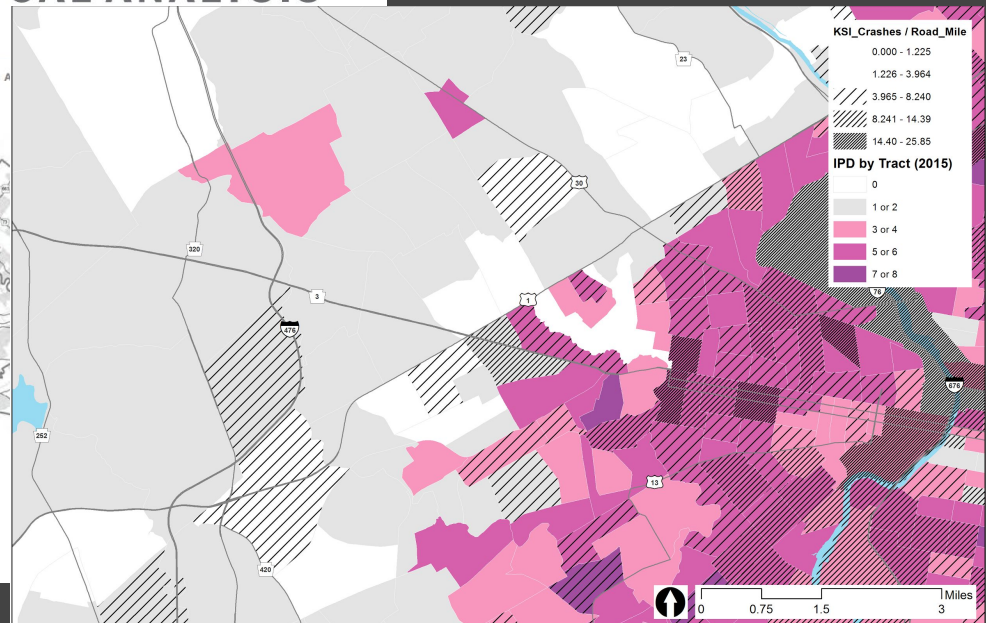
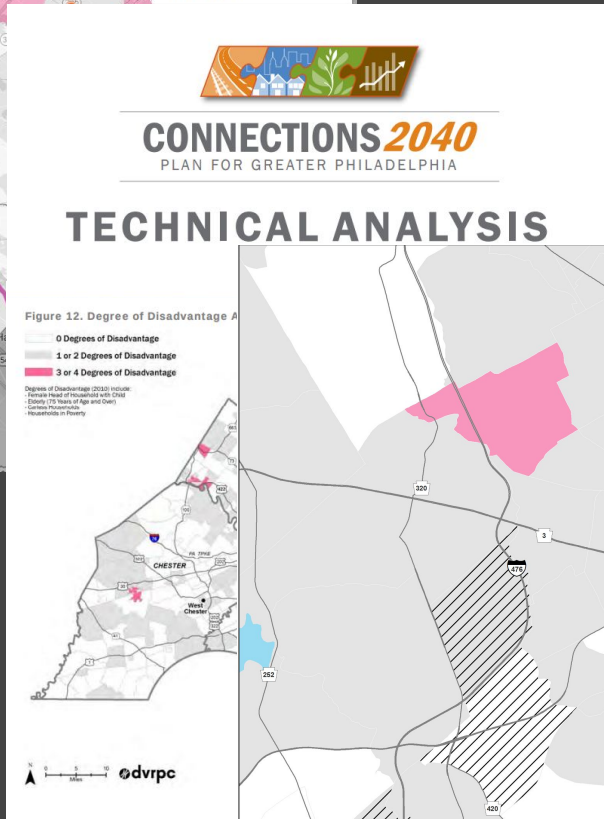
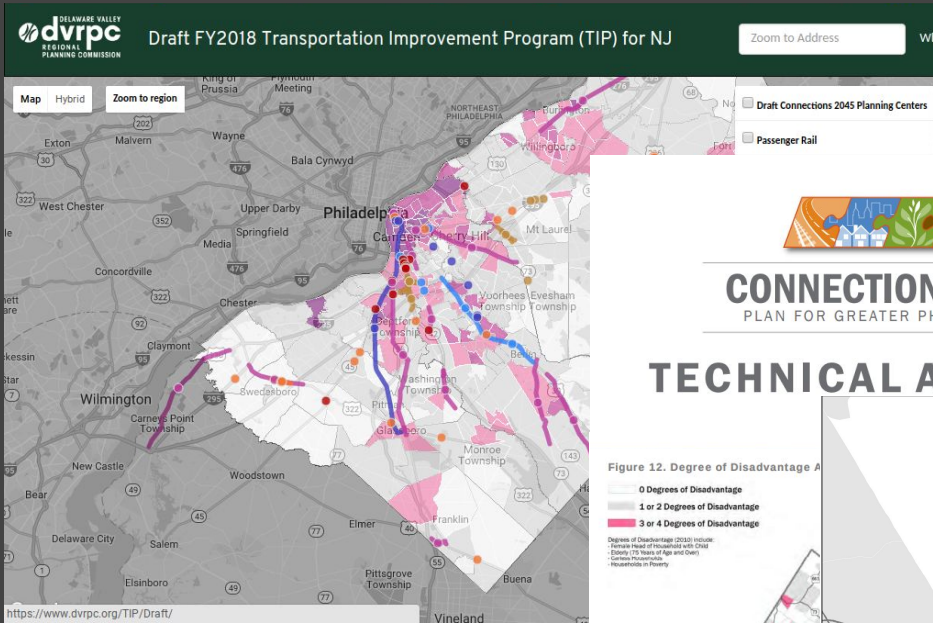
Must comply with Title VI
requirements and Environmental
Justice (EJ) recommendations

**DVRPC'S APPROACH:
INDICATORS
OF
POTENTIAL DISADVANTAGE**

INDICATORS OF POTENTIAL DISADVANTAGE



INDICATORS OF POTENTIAL DISADVANTAGE



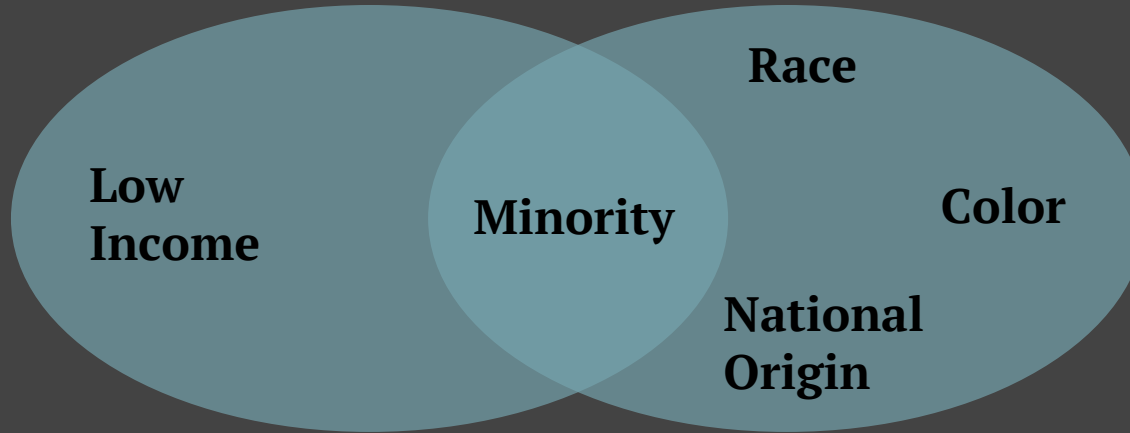
UNDERSTANDING EQUITY REGULATIONS



UNDERSTANDING EQUITY REGULATIONS

EJ

TITLE VI



FHWA

*Purpose:
Identify and address
adverse human health or
environmental effects*



*Purpose:
Prohibit discrimination*

ALIGNING INDICATORS WITH LEGISLATION



ALIGNING INDICATORS WITH LEGISLATION

Indicator (ACS 5-year estimates)	Executive Order 12898	Title VI of the Civil Rights Act of 1964	FHWA's Title VI and EJ documents	FTA's Title VI and EJ documents
Youth			✓	
Older			✓	
Female			✓	
Racial Minority	✓	✓	✓	✓
Ethnic Minority	✓	✓	✓	✓
Foreign Born		✓	✓	✓
Limited English Proficiency		✓	✓	✓
Disabled			✓	
Low-income	✓		✓	✓

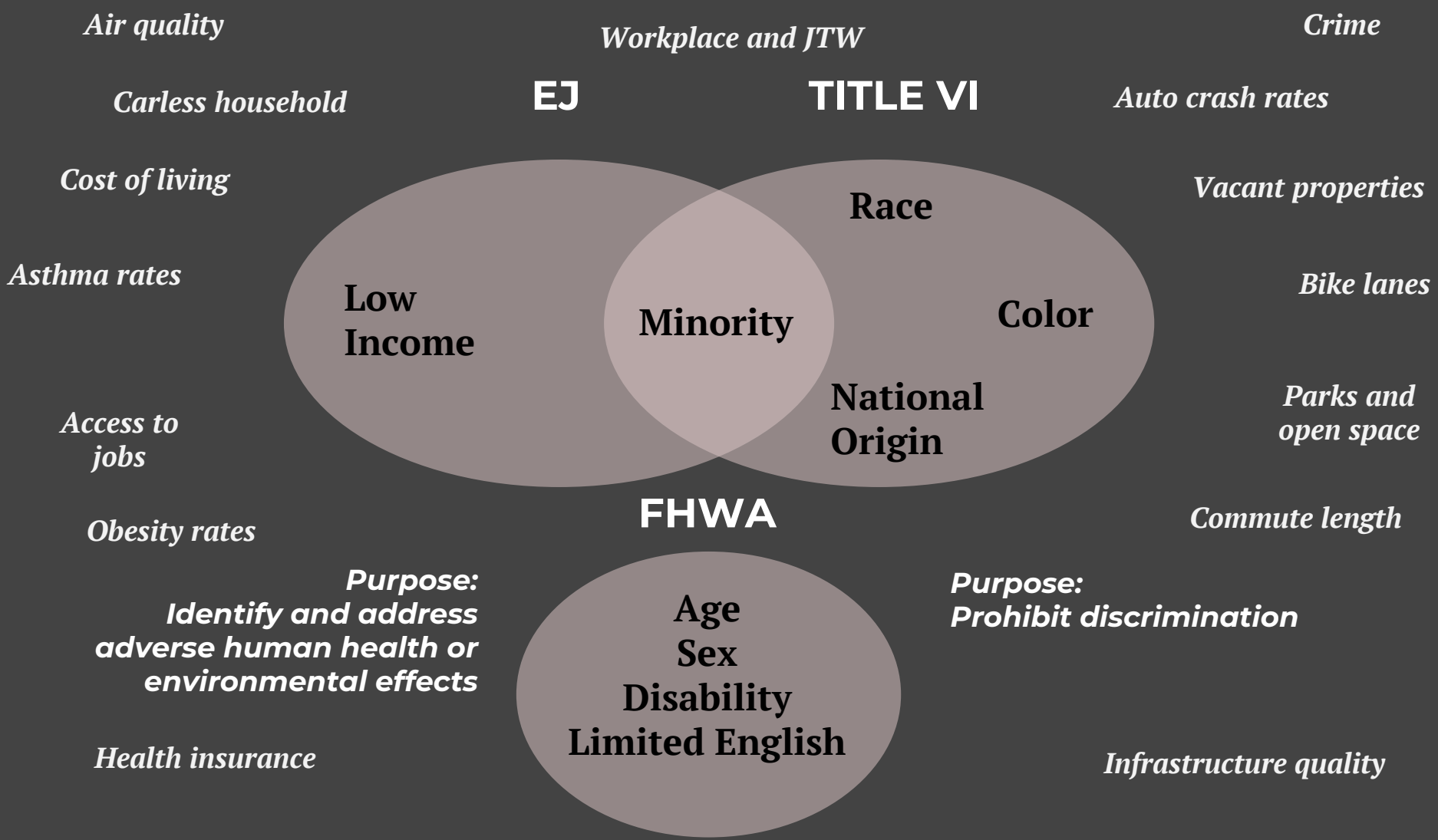
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Female			✓	
Racial Minority	✓	✓	✓	✓
Ethnic Minority	✓	✓	✓	✓
Foreign Born		✓	✓	✓
Limited English Proficiency		✓	✓	✓
Disabled			✓	
Low-income	✓		✓	✓
Carless Households	X	X	X	X
Female Head of Household	?	X	?	X

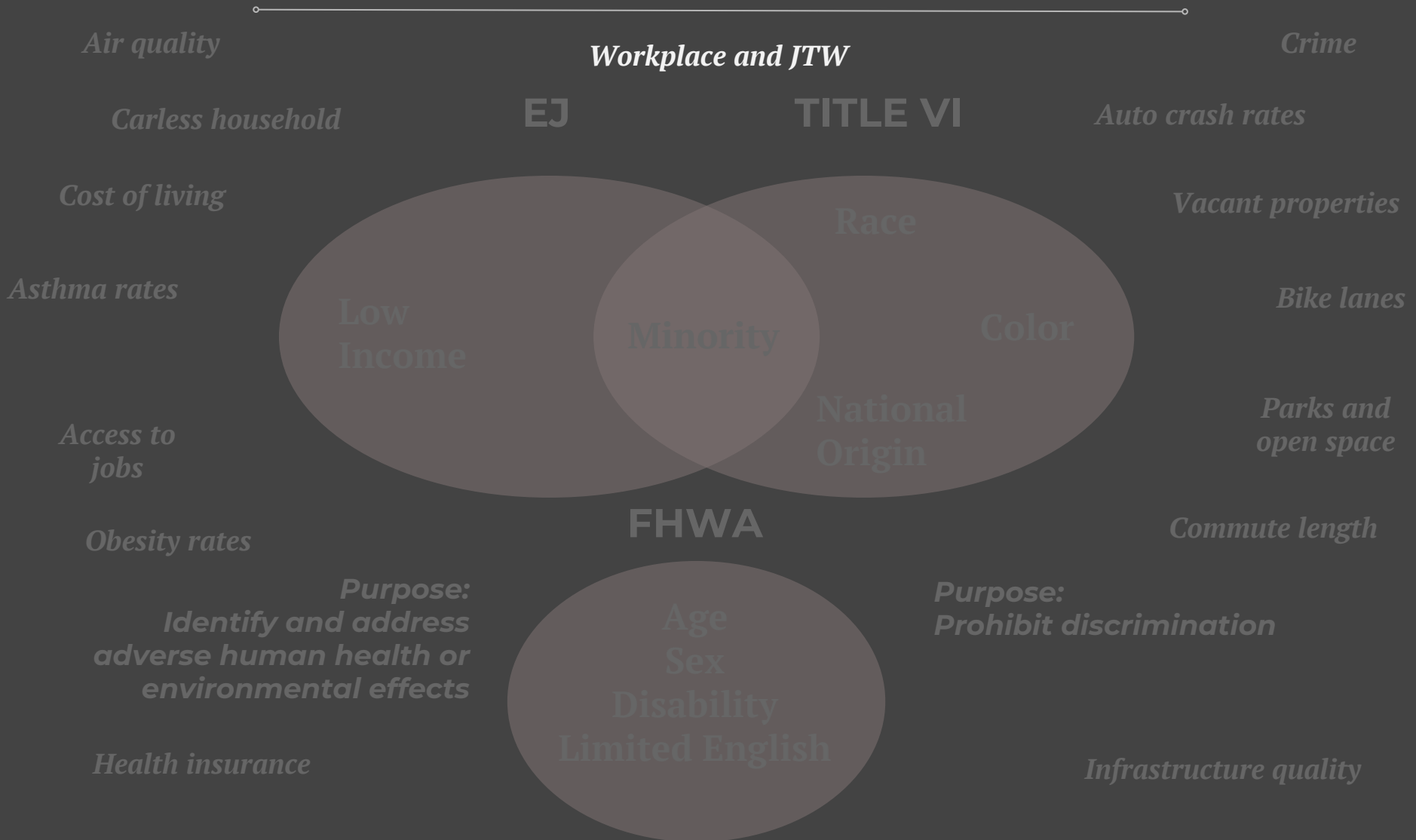
BEYOND THE LEGISLATION



BEYOND THE LEGISLATION

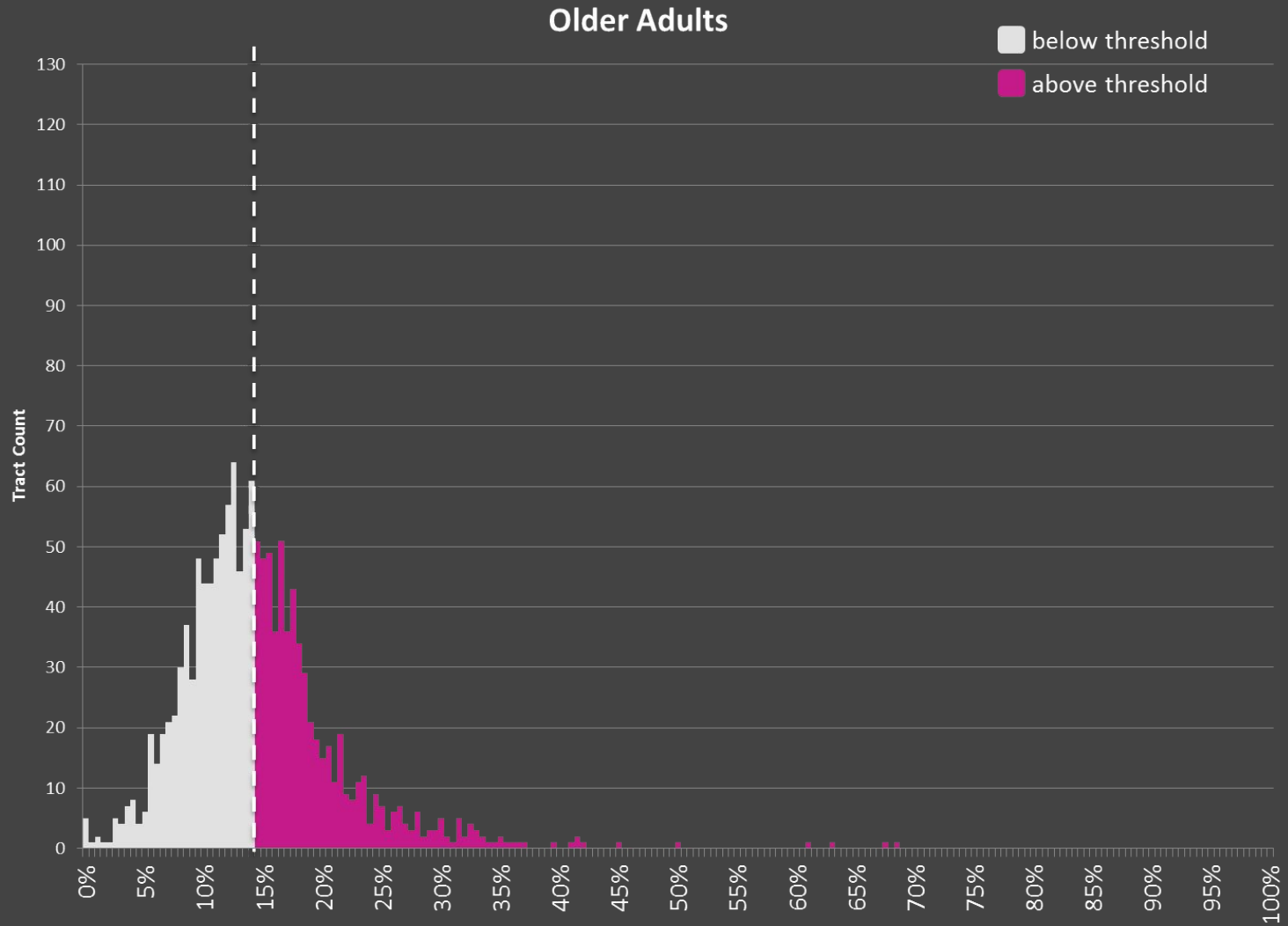


BEYOND THE LEGISLATION

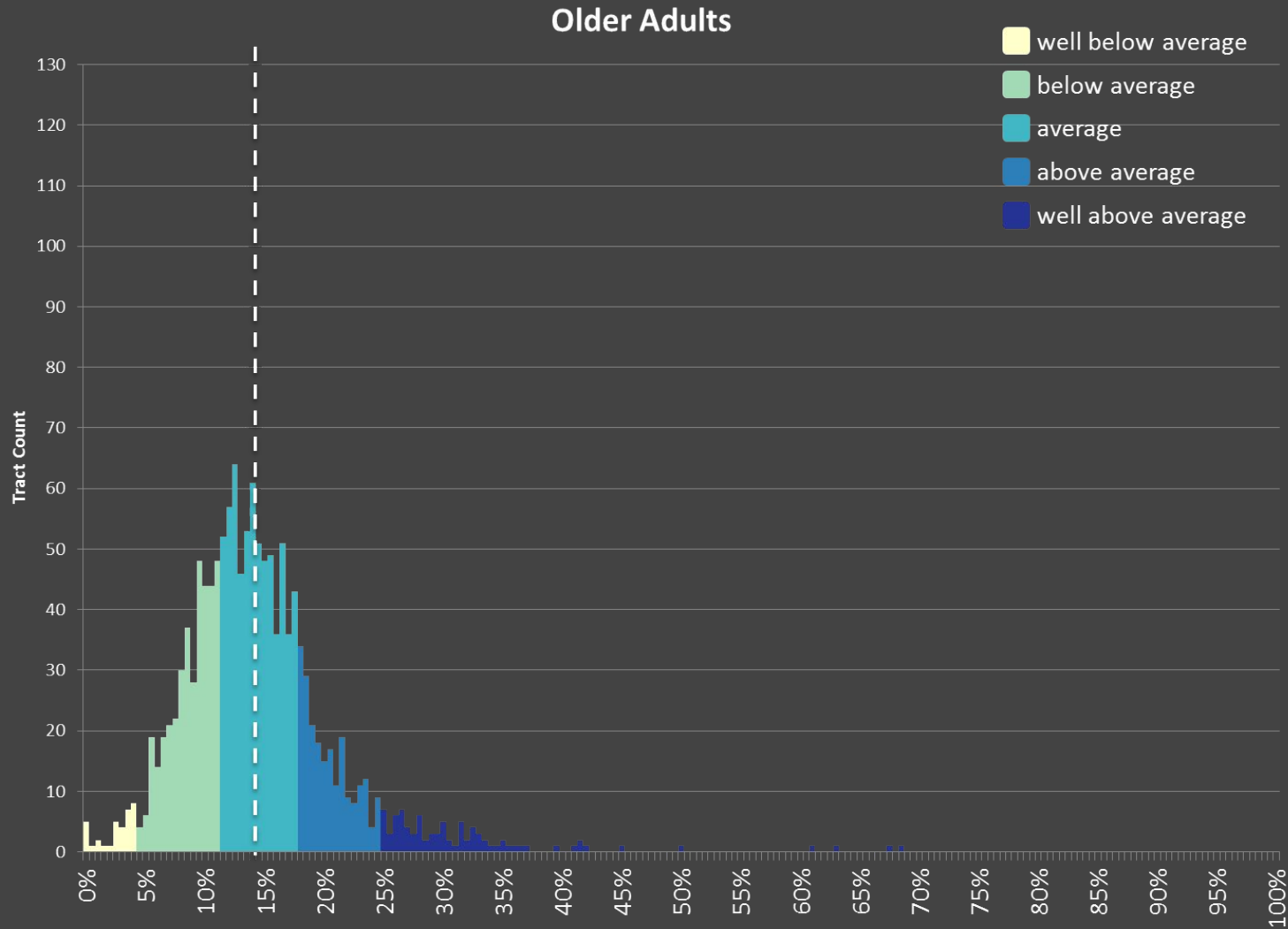


UPDATING METHODOLOGY

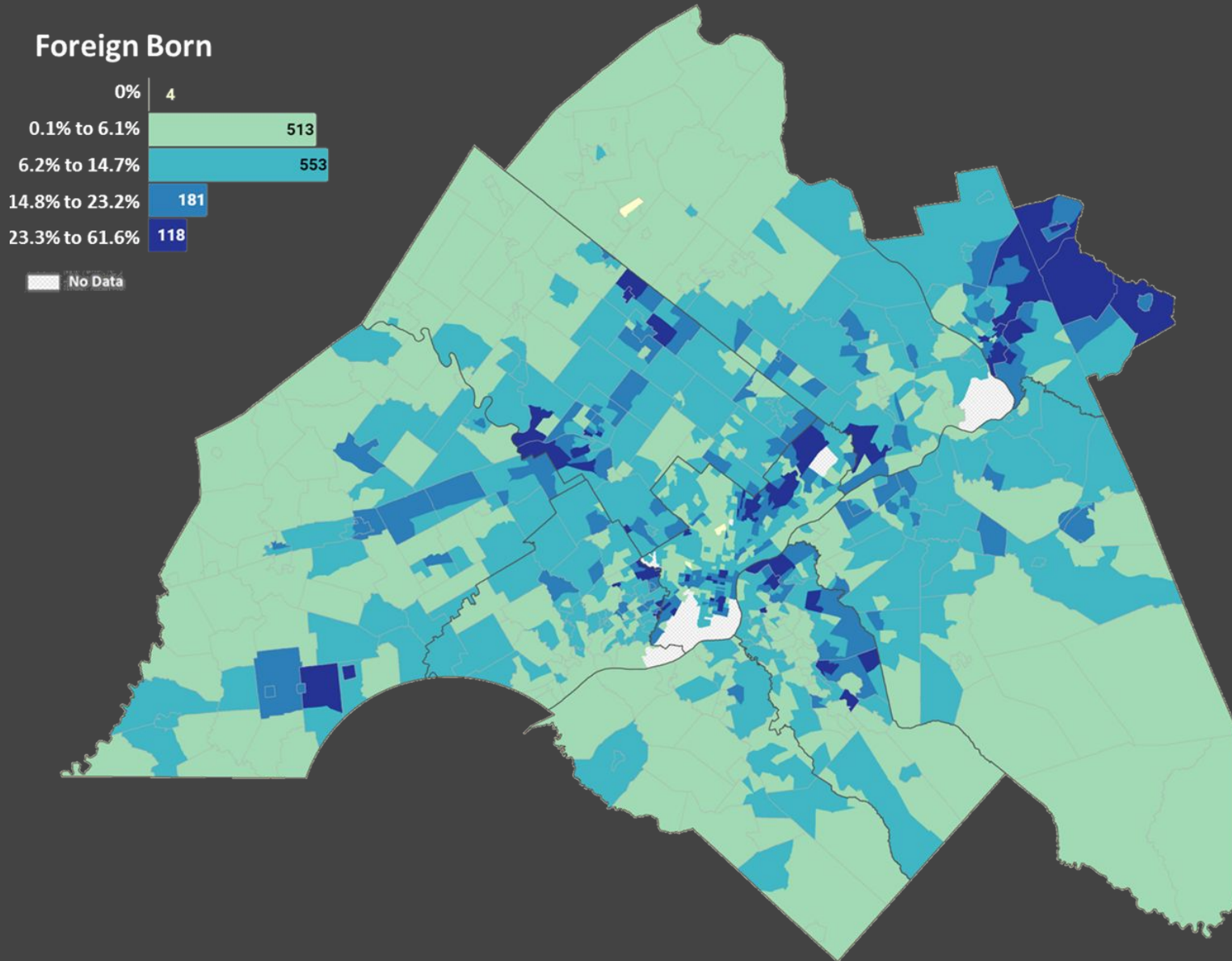
UPDATING METHODOLOGY: 2001 TO 2017



UPDATING METHODOLOGY: 2017 AND BEYOND



UPDATING METHODOLOGY: 2017 AND BEYOND



UPDATING METHODOLOGY: 2017 AND BEYOND

Youth

Older

Female

Racial Minority

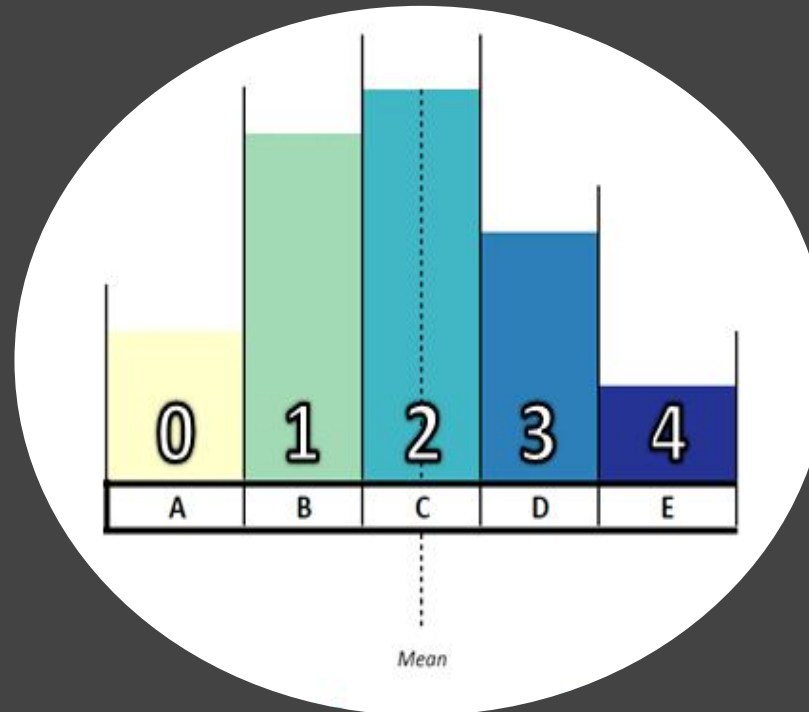
Ethnic Minority

Foreign Born

Limited English Proficiency

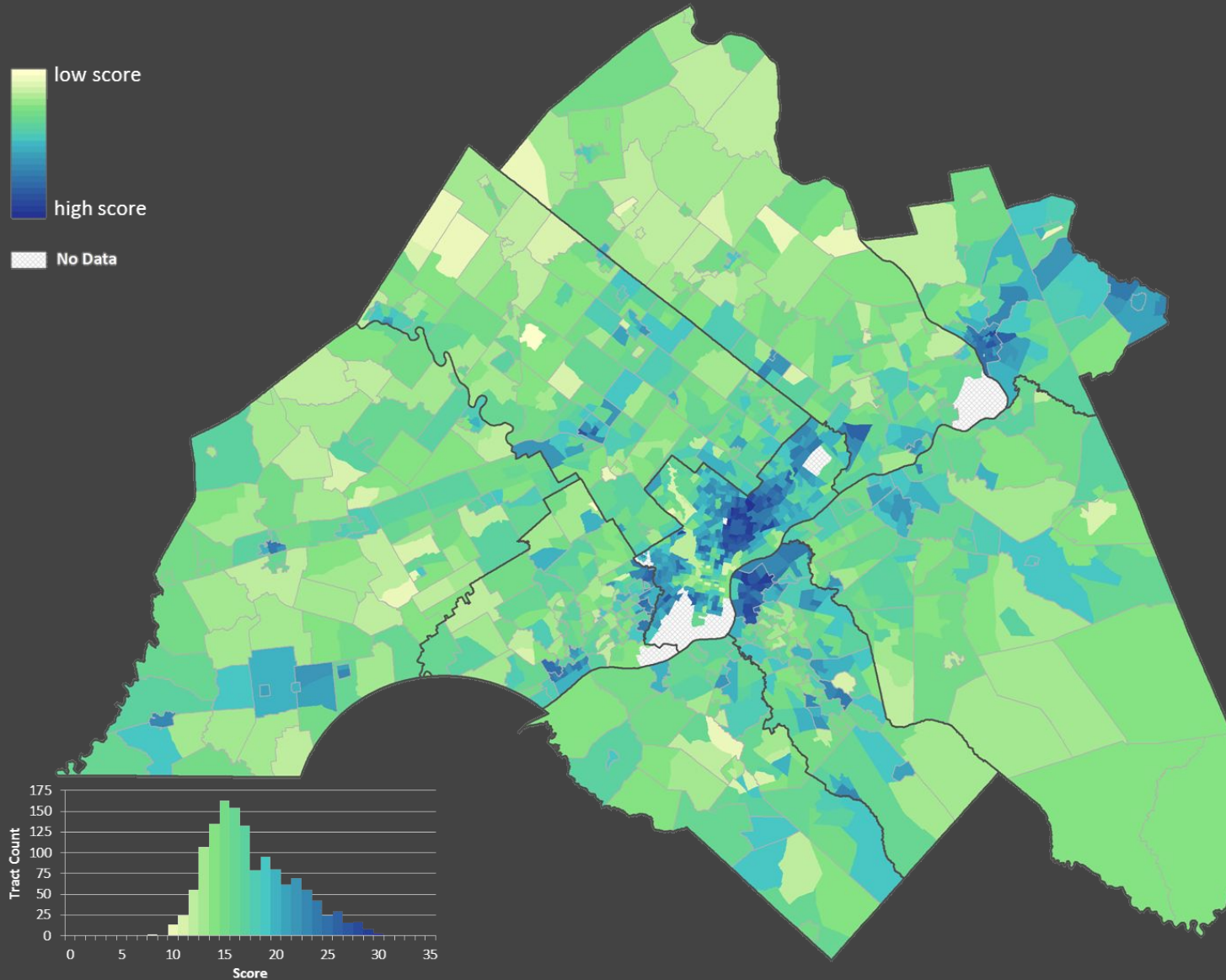
Disabled

Low-income



A - well below average
B - below average
C - average
D - above average
E - well above average

UPDATING METHODOLOGY: 2017 AND BEYOND

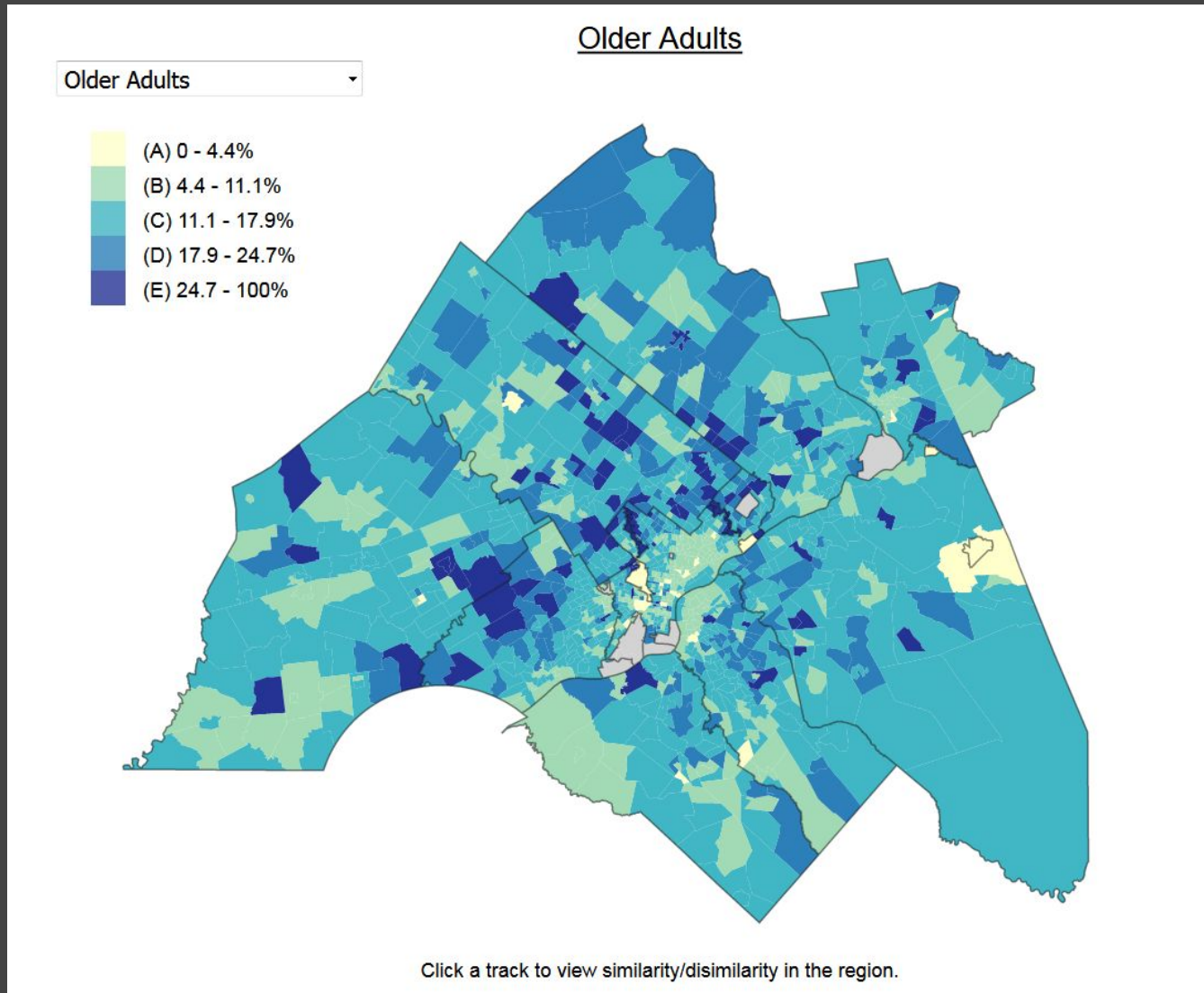


EXPERIMENT #1

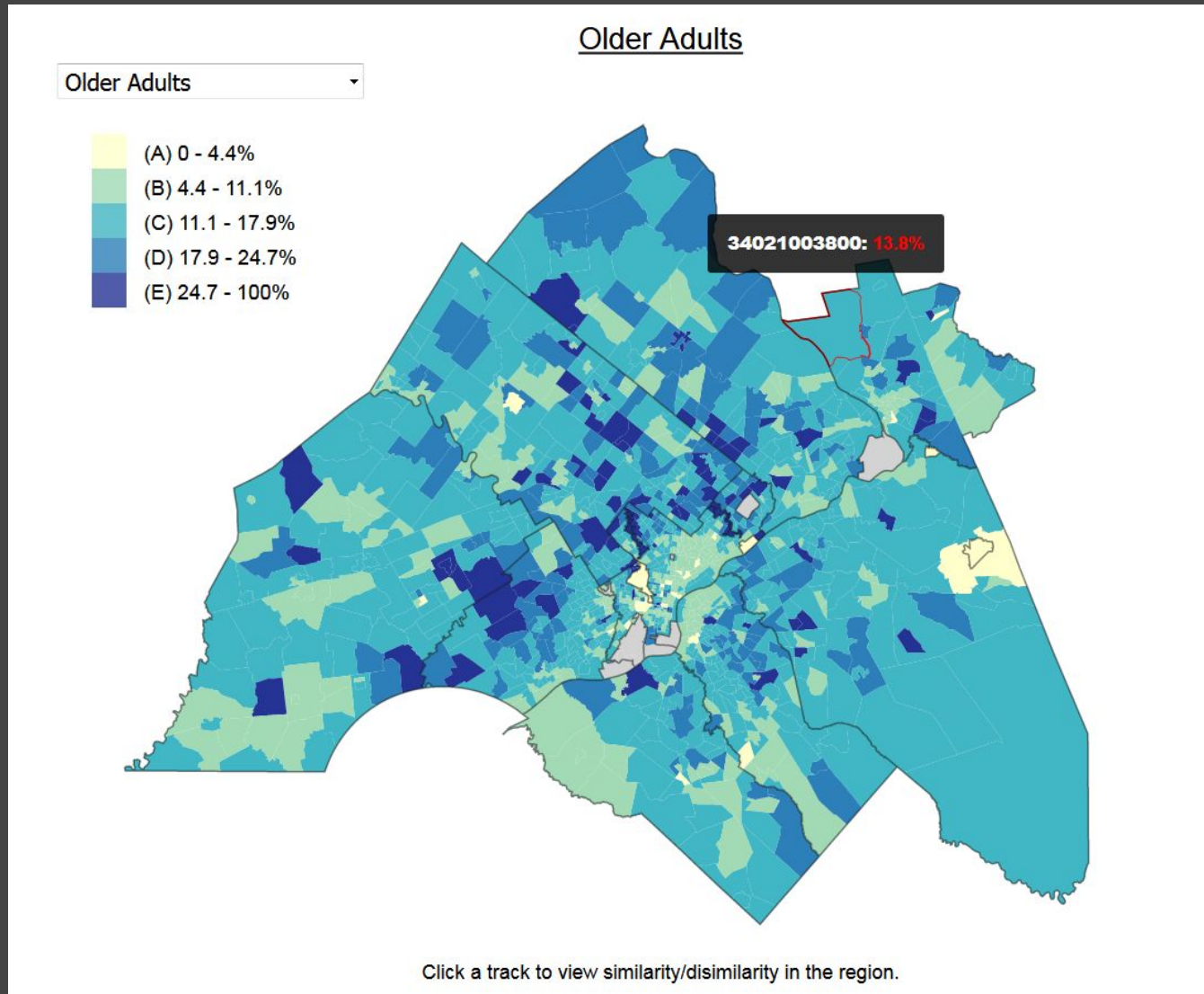
COMMUNICATE STATISTICAL SIGNIFICANCE



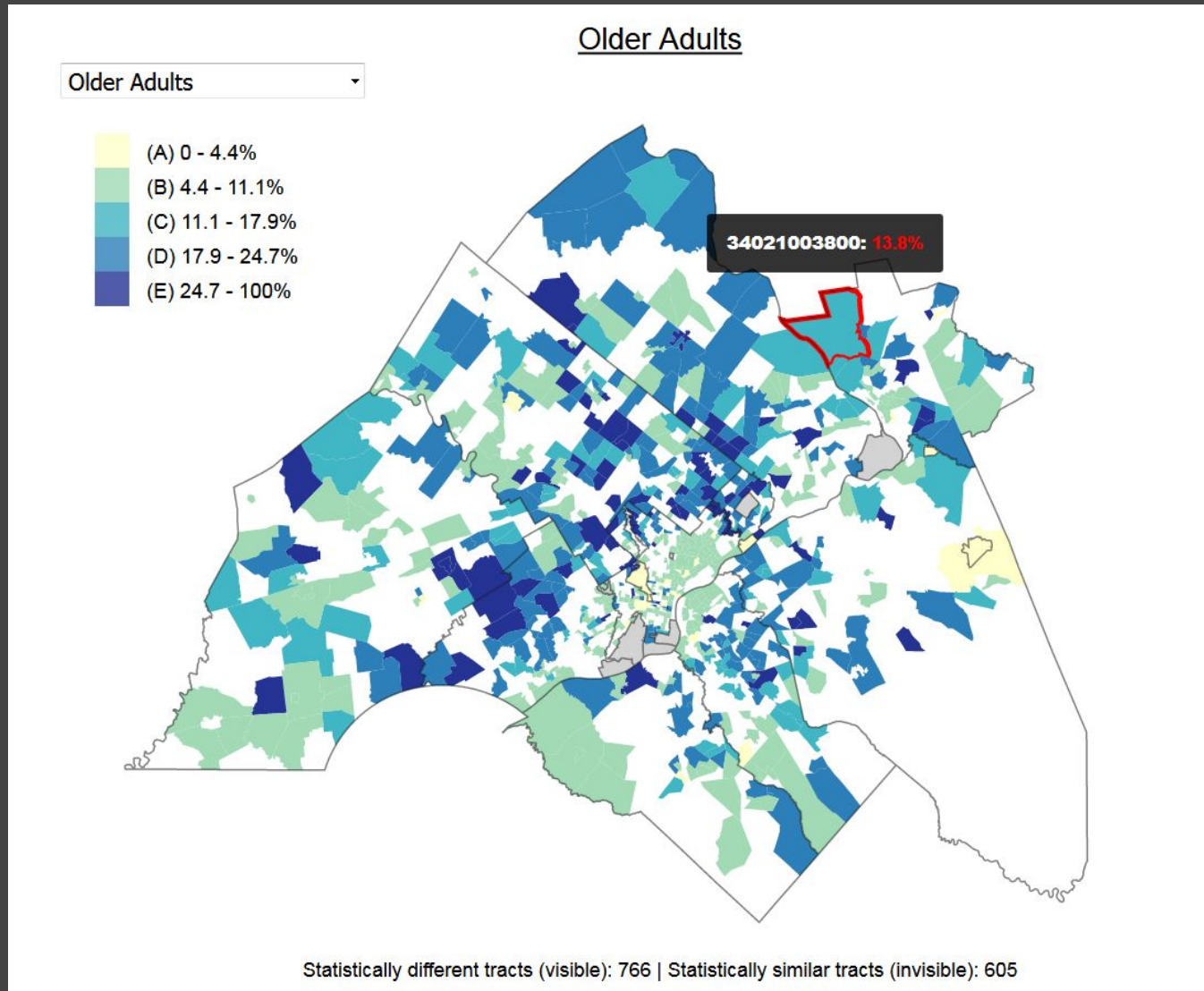
COMMUNICATE STATISTICAL SIGNIFICANCE



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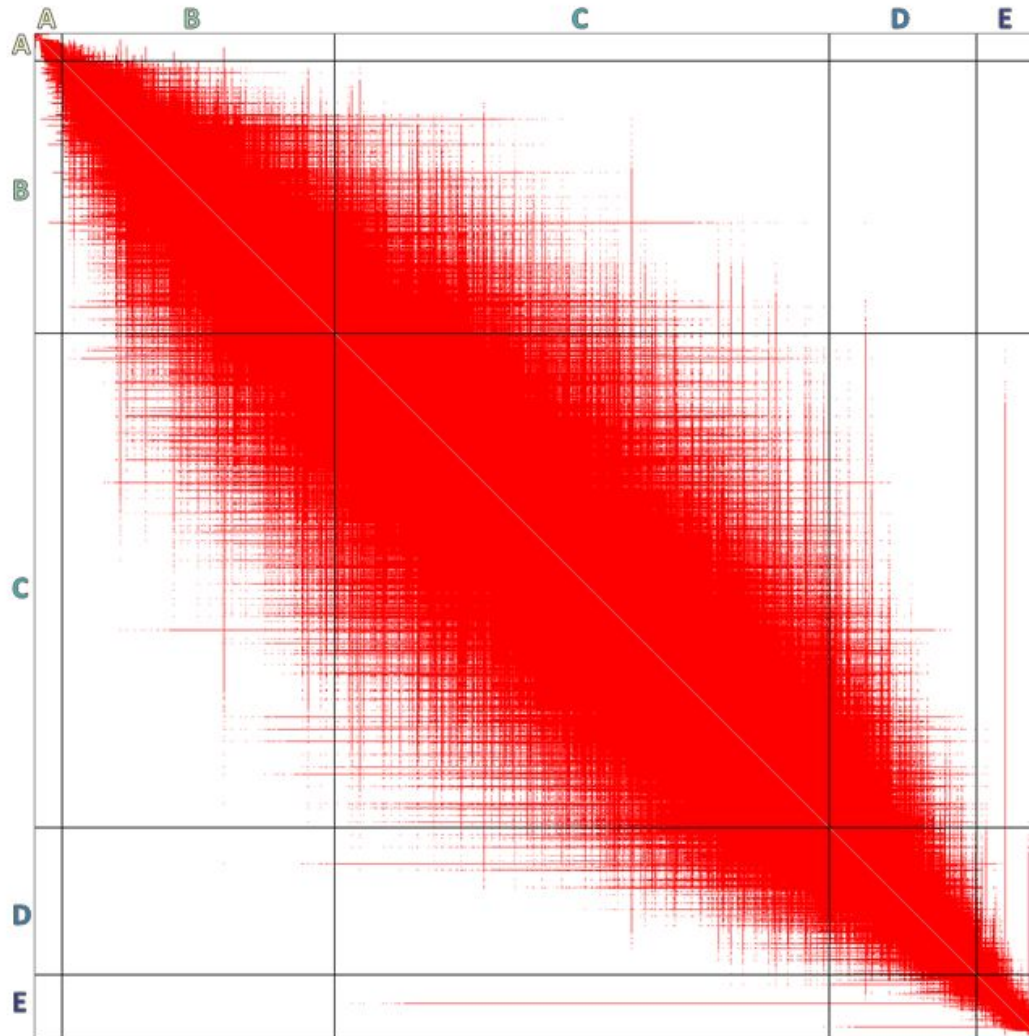


COMMUNICATE STATISTICAL SIGNIFICANCE



COMMUNICATE STATISTICAL SIGNIFICANCE

Older Adults



Percent Not Distinct

	A	B	C	D	E
A	65%	7%	0%	0%	0%
B	7%	76%	22%	0%	0%
C	0%	22%	78%	23%	1%
D	0%	0%	23%	88%	18%
E	0%	0%	1%	18%	61%

- A – well below average
- B – below average
- C – average
- D – above average
- E – well above average

EXPERIMENT #2

GO BEYOND RESIDENCE



CTPP EXPERIMENTATION

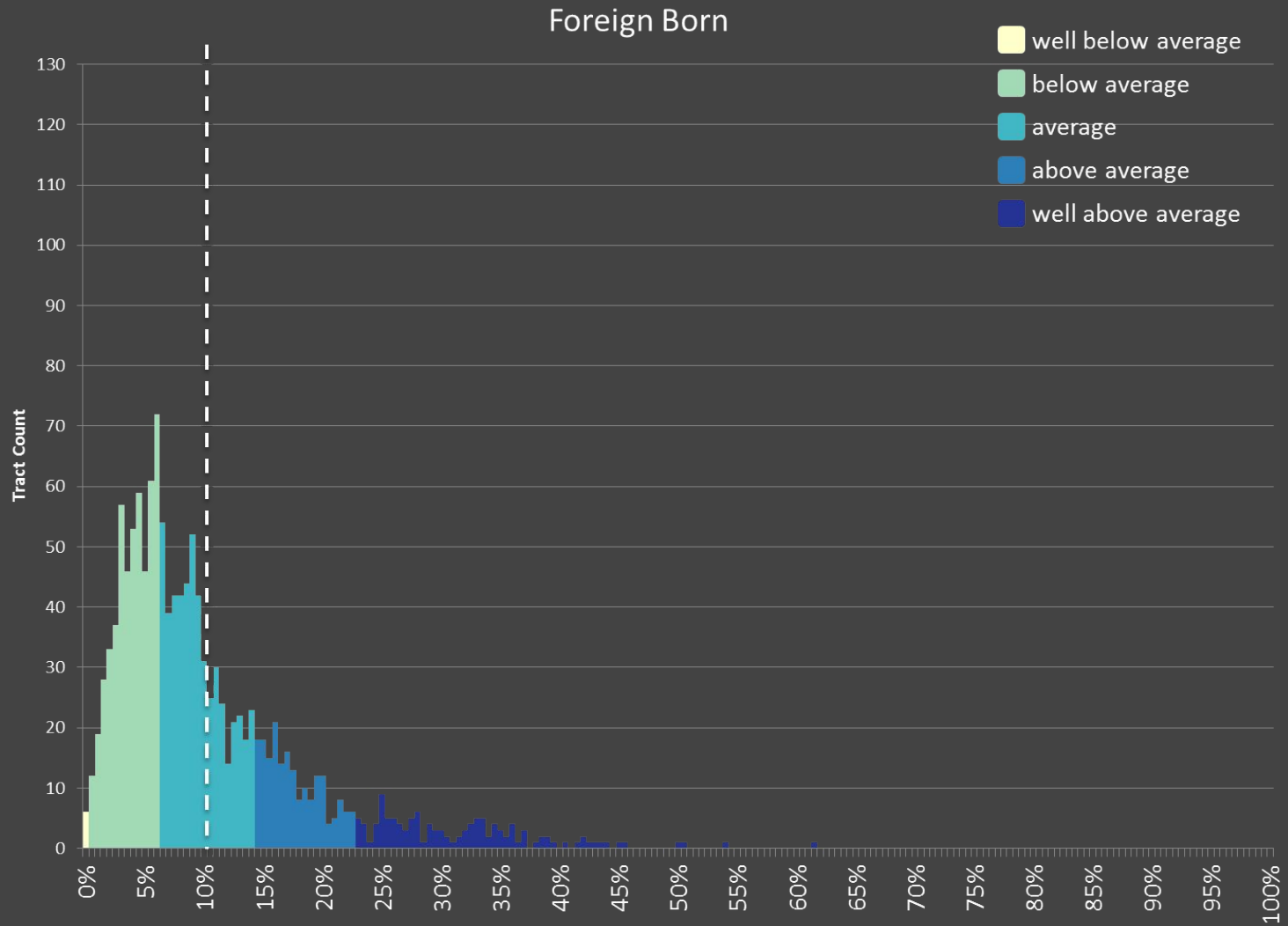
Workplace

- Minority (Race & Ethnicity)
- Foreign Born
- Limited English Proficiency
- Low Income (150% Poverty Rate)
- Carless Households

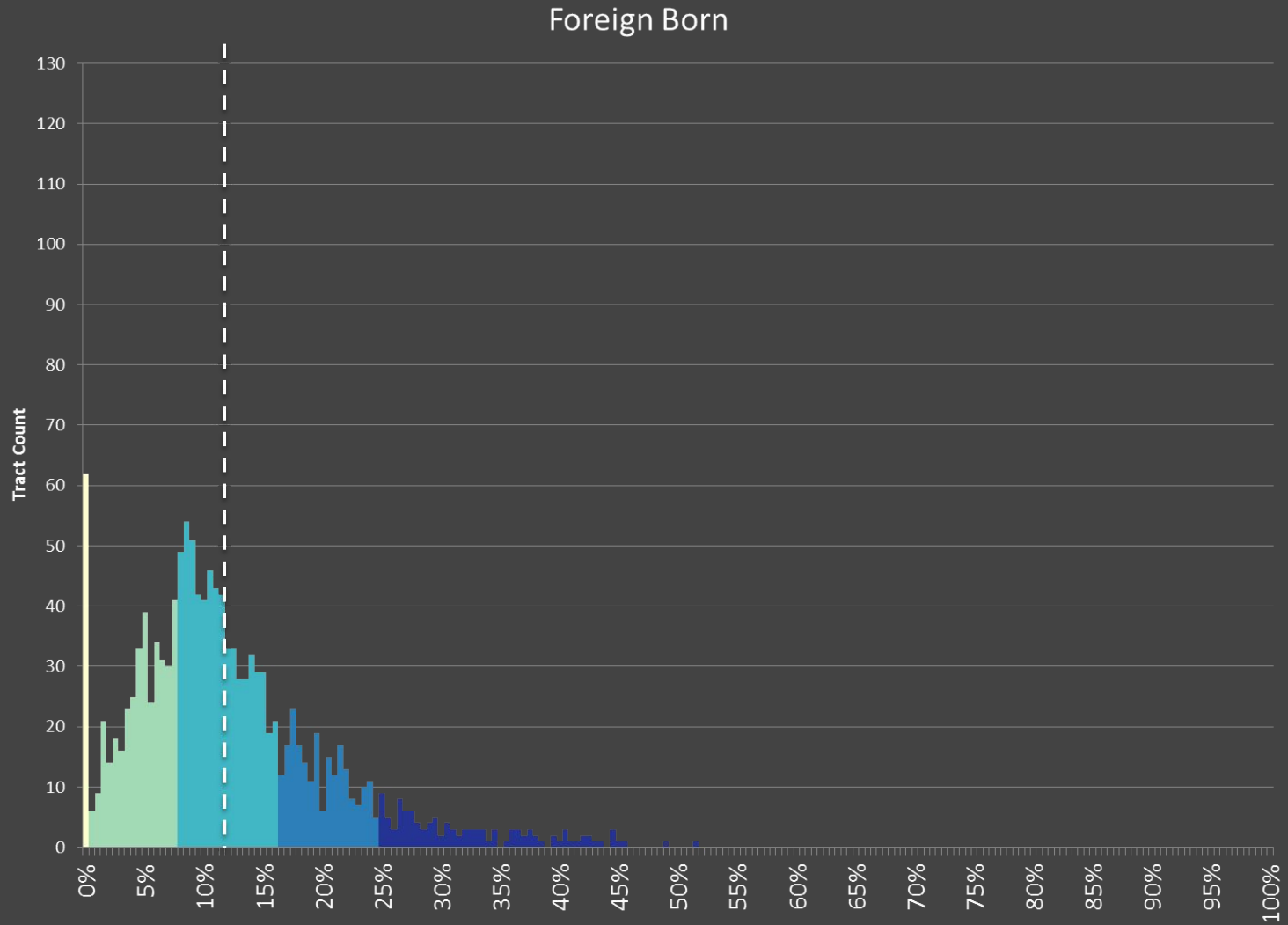
Journey-to-Work Flows

- Minority (Race & Ethnicity)
- Low Income (150% Poverty Rate)

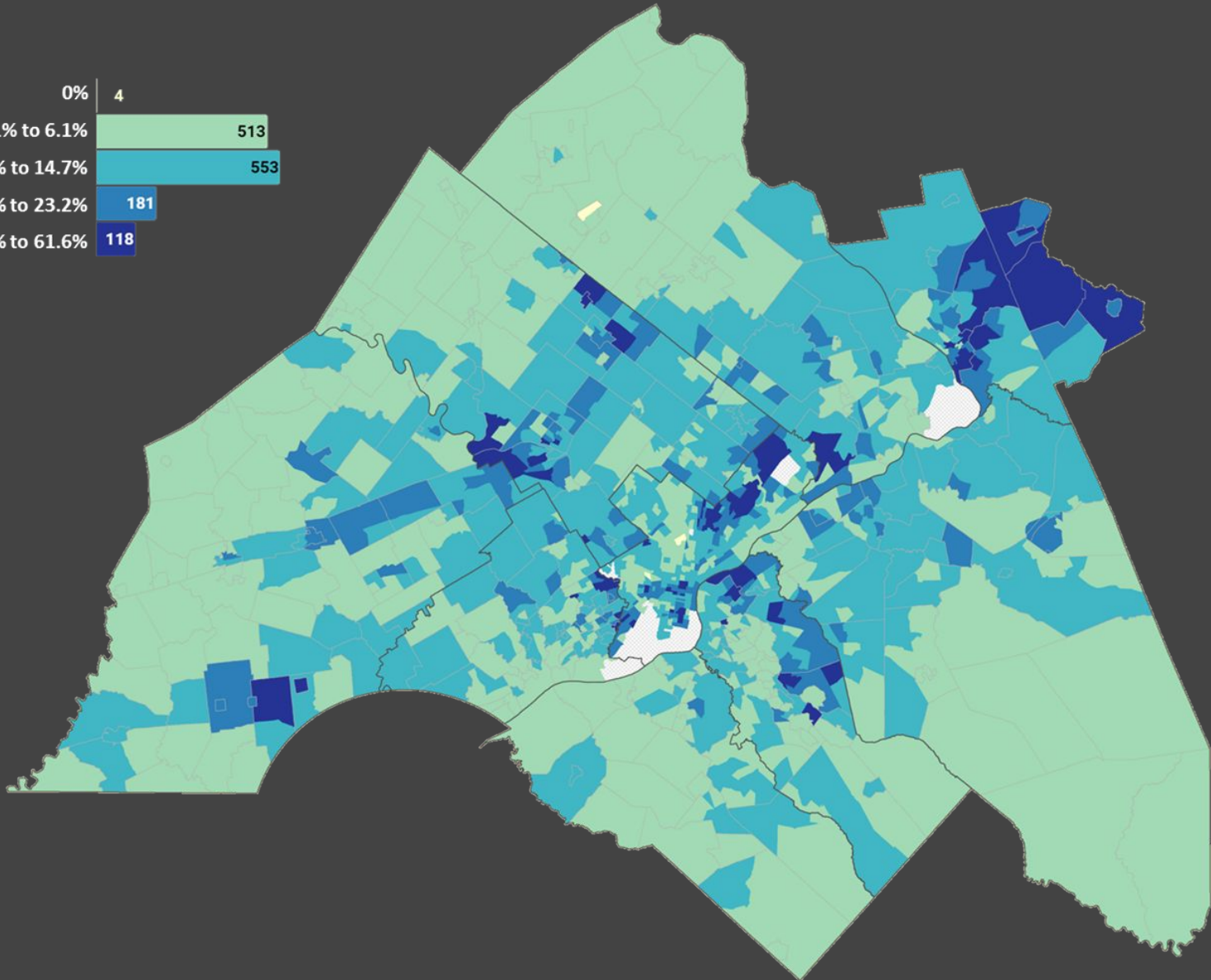
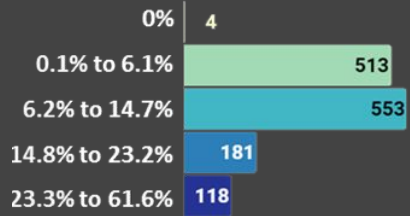
FOREIGN BORN - RESIDENCE



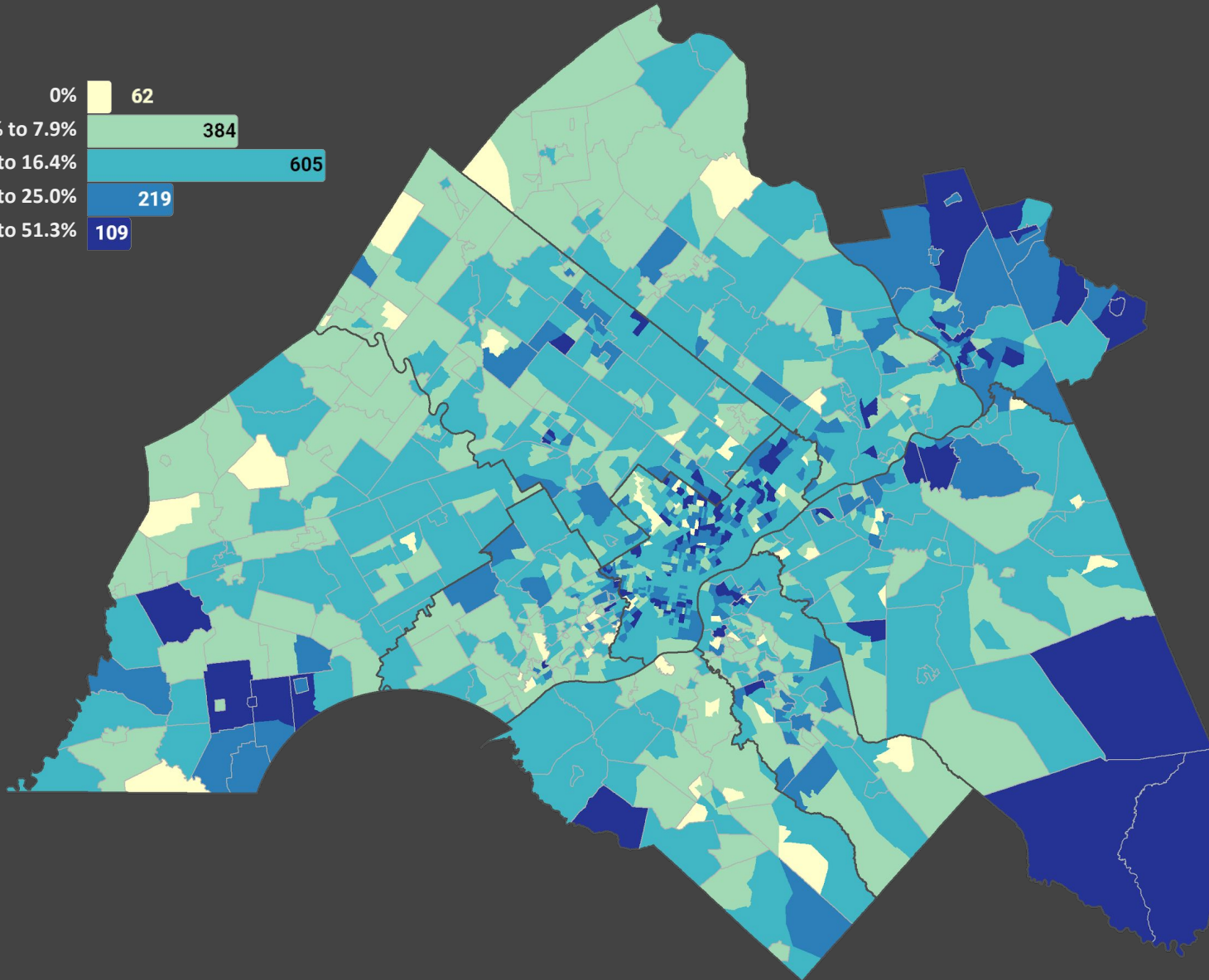
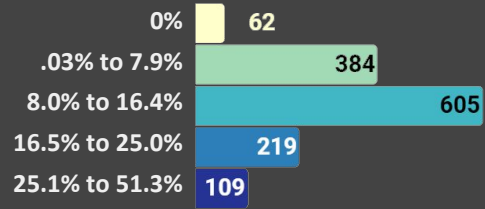
FOREIGN BORN - WORKPLACE



FOREIGN BORN - RESIDENCE



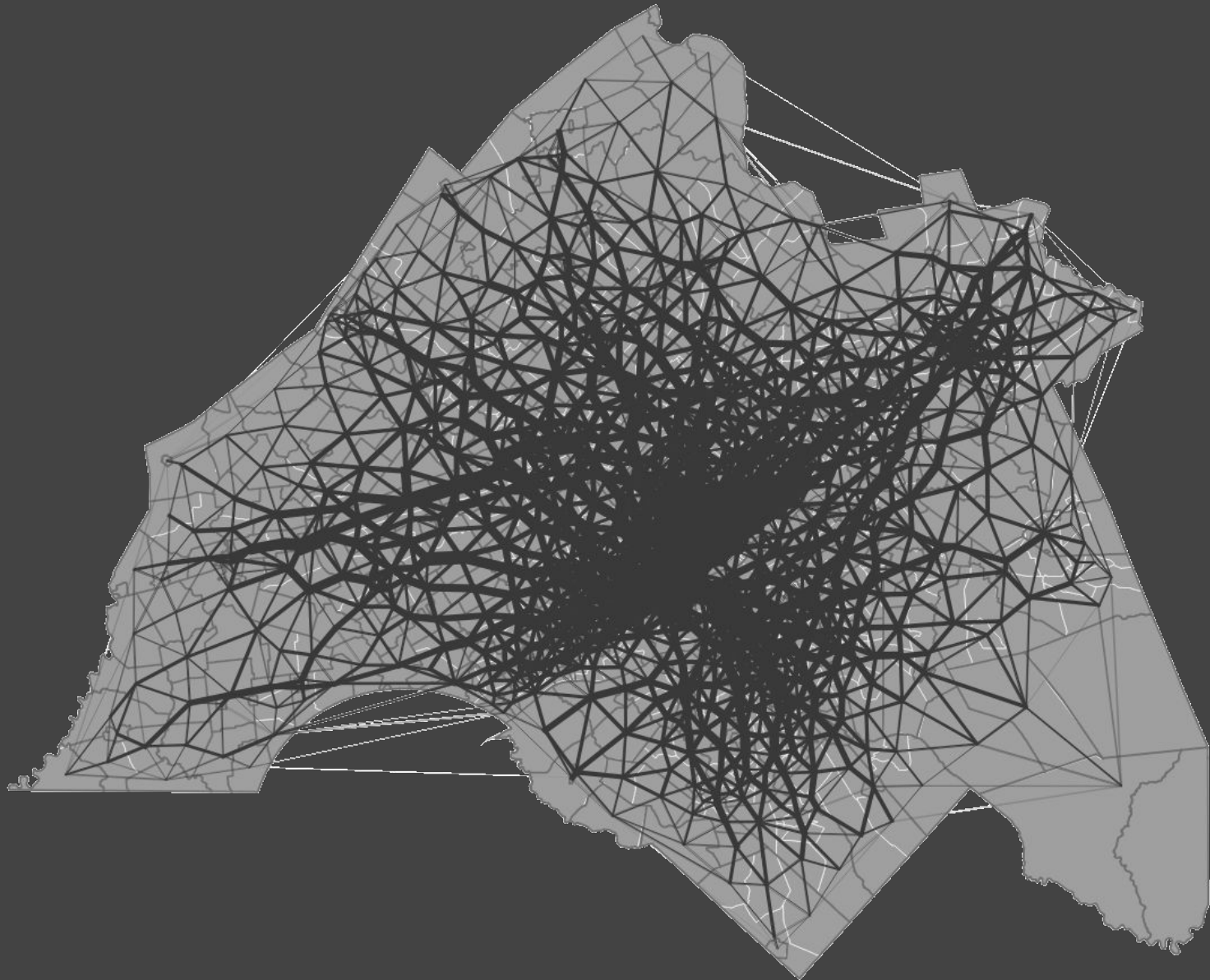
FOREIGN BORN - WORKPLACE



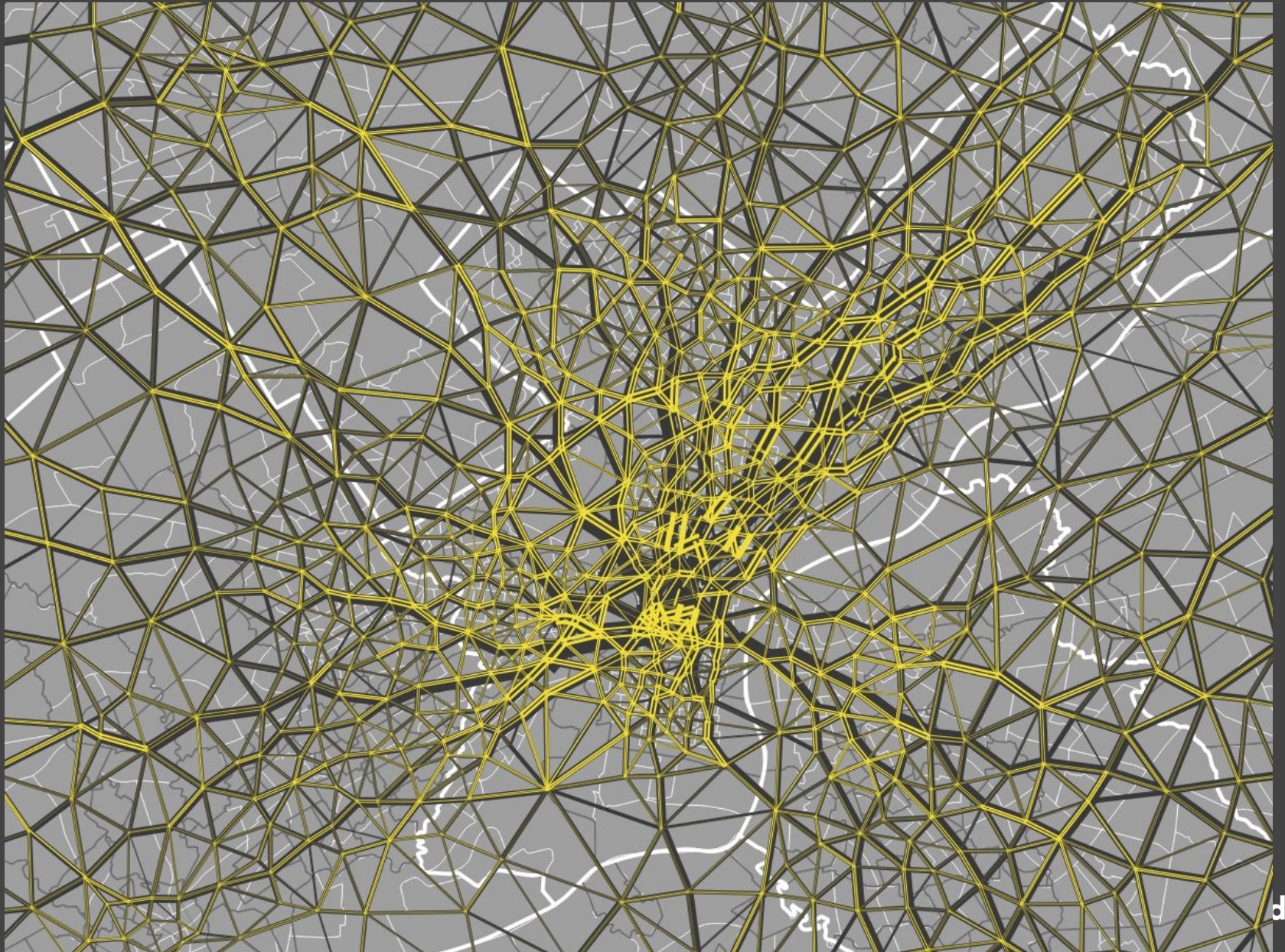
DESIRE LINES - TOTAL FLOW (20+ WORKERS)



DELAUNAY LINES - TOTAL FLOW



DELAUNAY LINES - LOW INCOME FLOW



THANK YOU!

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RESOURCES

DVRPC's IPD Interactive Map: www.dvrpc.org/webmaps/IPD/

Experimental Statistical Significance Map:

https://g-rock.github.io/ej_mapping/

List of CTPP EJ Tables: CTPP Status Report - April 2017

www.fhwa.dot.gov/planning/census_issues/ctpp/status_report/sr0417/index.cfm

QGIS Delaunay Line Tool: <https://github.com/AequilibraE/AequilibraE>

EXTRA SLIDES



INDICATORS AND CENSUS TABLES

Indicator in IPD analysis update	ACS data table for indicator in IPD analysis	Protected class indicator represents
Youth	S0101: Age and Sex	Age
Older Adults	S0101: Age and Sex	Age
Female	S0101: Age and Sex	Sex
Racial Minority	B02001: Race	Race and Minority
Ethnic Minority	B03002: Hispanic or Latino Origin by Race	Minority and National Origin
Foreign Born	B05012: Nativity in the United States	National Origin
Limited English Proficiency	S1601: Language Spoken at Home	Limited English Proficiency, and National Origin
Disabled	S1810: Disability Characteristics	Disability
Low-Income	S1701: Poverty Status in the Past 12 Months	Low-Income