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The Racially and Socioeconomically Disparate Impact of Relocating the Hamilton County Board of Elections

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The Racially and Socioeconomically Disparate Impact of Relocating the Hamilton County Board of Elections

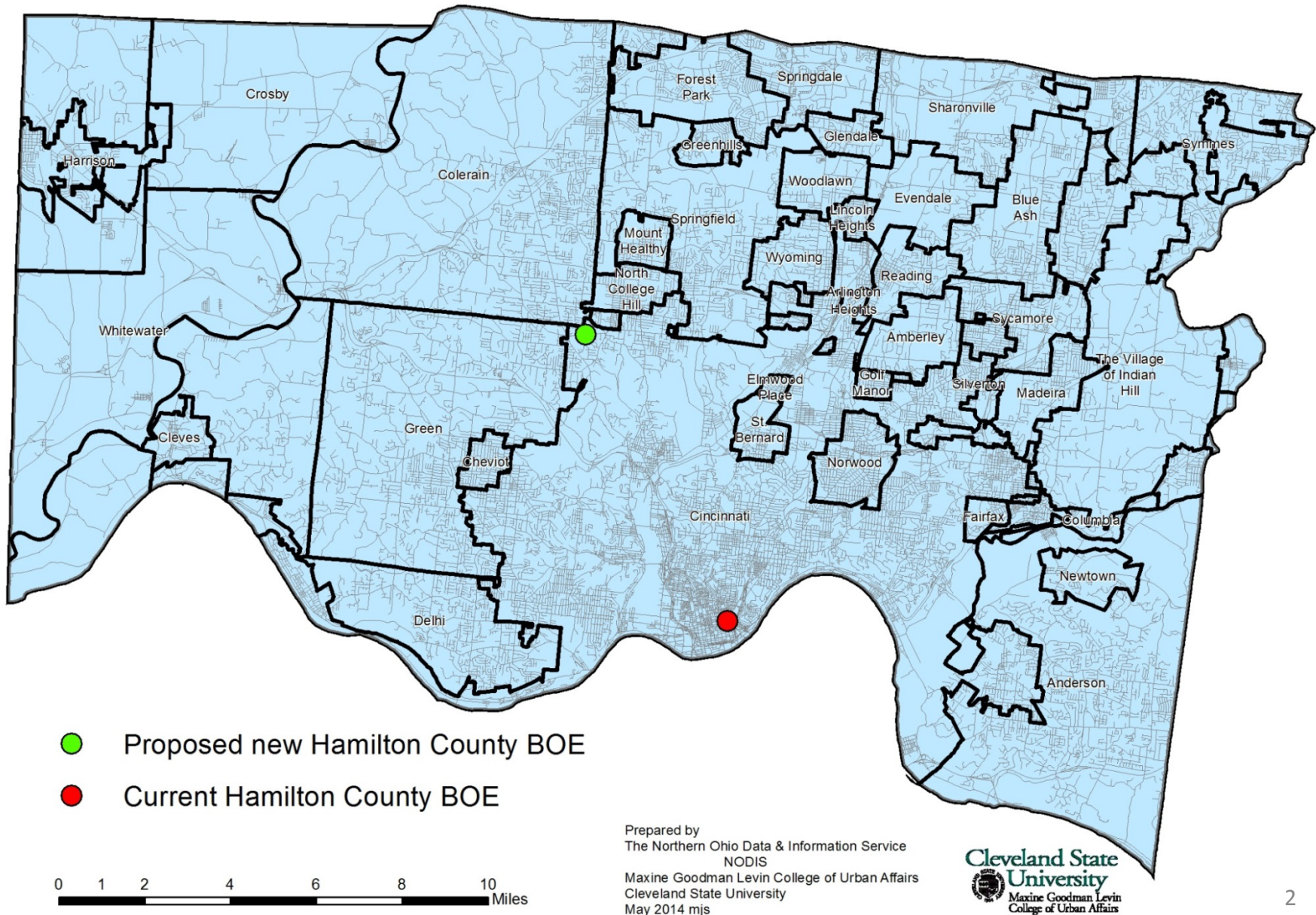
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of the Maxine Goodman Levin College of Urban Affairs
Cleveland State University

August 21, 2014



The Hamilton County Elections (BOE) recently decided to move its offices from its location in downtown Cincinnati to a more suburban location – effective in 2016.



The author was asked by the American Civil Liberties Union (ACLU), in anticipation of possible litigation, to analyze the impact of the move on the African American and low income voters of the county.

This is a voting rights issue.

Why is this a voting rights issue?

1. Ohio requires that there is only one place to vote in-person before an election in each county – at the BOE.
2. Ohio House Senate Bill 238 reduces early in-person voting days and eliminates voting during Golden Week and the Sunday before Election Day.

Therefore, accessibility to the BOE is important for early, in-person voting,

...especially for African Americans, who disproportionately use such voting opportunities.

Study Approach

2 Issues

I. First, the study documents the disproportionate use of early, in-person voting by the African American voters.

II. Then it addresses the question of the geographic accessibility to the new BOE location for minority and low income populations.

Issue I

The Disproportionate Use of Early, In-Person Voting by Minorities

Methods to Analyze Issue I

Do minorities Disproportionately Use Early In-Person Voting?

Data on voters in 2008, 2010, and 2012 general elections are used to estimate the use of early in-person voting (EIP), voting by mail, and voting on Election Day for racial and Hispanic groups of voters.

Votes are private and no data on race or ethnicity is collected.

To estimate the race and ethnicity of voters...

...it is assumed that African Americans, Whites, other races, and Hispanics voted in proportion to their percentage of voting age population in the census block in which they live.

Steps to Estimate Race and Hispanic Ethnicity

1. Geocode voters

Voter data – address, date and method used in voting – mail or in-person

95% geocoded

2. Assign probability of race/Hispanic ethnicity

2010 Census – voting age by race and Hispanic ethnicity

Comparisons of when voting occurred are made for:

- Election Day,
- in-person voting the Sunday before the election (only 2012),
- in person voting during the so-called "Golden Week",
- Other early in-person voting days
- and early voting by mail.

Voters are aggregated by voting period/method and race/ethnicity.

Proportions of voters in minority groups to White voters in regard to their use of voting periods/methods are compared.

Findings

Percentage of Votes by Race/Ethnicity (Three Elections Combined)

	Percent of Race/Ethnicity Votes				
	Black	White	Other race	Hispanic	Total
Election Day	72.6%	75.3%	74.7%	75.2%	74.7%
Sunday before	0.2%	0.1%	0.1%	0.1%	0.1%
Golden Week	1.7%	0.6%	1.0%	1.0%	0.8%
Other in-person early	7.5%	3.1%	4.6%	4.6%	4.1%
Mail	18.0%	21.0%	19.7%	19.2%	20.2%
Total	100.0%	100.0%	100.0%	100.0%	100.0%
	21.5%	73.0%	3.8%	1.7%	

**Percentage of Votes by
Election Day, Early In-Person, and Mail Voting
(Three Elections Combined)**

	Percent Election Day	Percent EIP	Percent Mail
Black	72.6%	9.4%	18.0%
White	75.3%	3.7%	21.0%
Other race	74.7%	5.7%	19.7%
Hispanic	75.2%	5.7%	19.2%
Total	74.7%	5.1%	20.2%

Test of Proportions

**Is the percent of votes for a minority group
greater than for White voters in that period of voting?**

	2012 Election			2010 Election			2008 Election		
Compared to White Voting Proportion:	Black	Other race	Hispanic	Black	Other race	Hispanic	Black	Other race	Hispanic
Election Day									
Sunday before	**	**		No voting on Sunday before election			No voting on Sunday before election		
Golden Week	**	**	**	**	**	*	**	**	**
Other in-person early	**	**	**	**	**	**	**	**	**
Mail									
Note:	** =	Statistically significant at the 0.01 level							
	* =	Statistically significant at the 0.05 level							

Minorities use ALL in-person voting opportunities more than White voters do.

Conclusions of Analysis of Racial Differences in Early In-Person Voting

Minorities, especially African Americans, disproportionately use early in-person voting opportunities compared to White voters in Hamilton County.

Therefore, reducing early in-person voting days will disproportionately disadvantage racial and Hispanic minority voters...

....especially if they have a more difficult time getting to the Board of Election to cast votes during those times.

Issue II

Accessibility to the New Board of Elections Location

Does the new BOE office location create a greater burden of geographic accessibility for voters:

- **without access to a vehicle,**
- **Who depend on public transportation, and**
- **are African Americans and poor?**

Approach to Analysis of Access (Issue II)

2 Parts

- 1. Establish that minority and low income populations have less intra-urban mobility (have fewer vehicles available in the household and have greater dependence on public transportation.)**
- 2. Compare the geographic accessibility of the existing and new BOE locations for households with no vehicle, African Americans, and low income populations.**

Part 1. Establish that minority and low income populations have less intra-urban mobility

(a) Spatial Analysis – unit of analysis = census tracts

Visual correlation of

- the percent of households without a vehicle,
with
- the concentration African Americans.
- also with persons below poverty

Statistically test the associations using correlation analysis at the census tract level.

Also (b) Non-Spatial Analysis – unit of analysis = persons

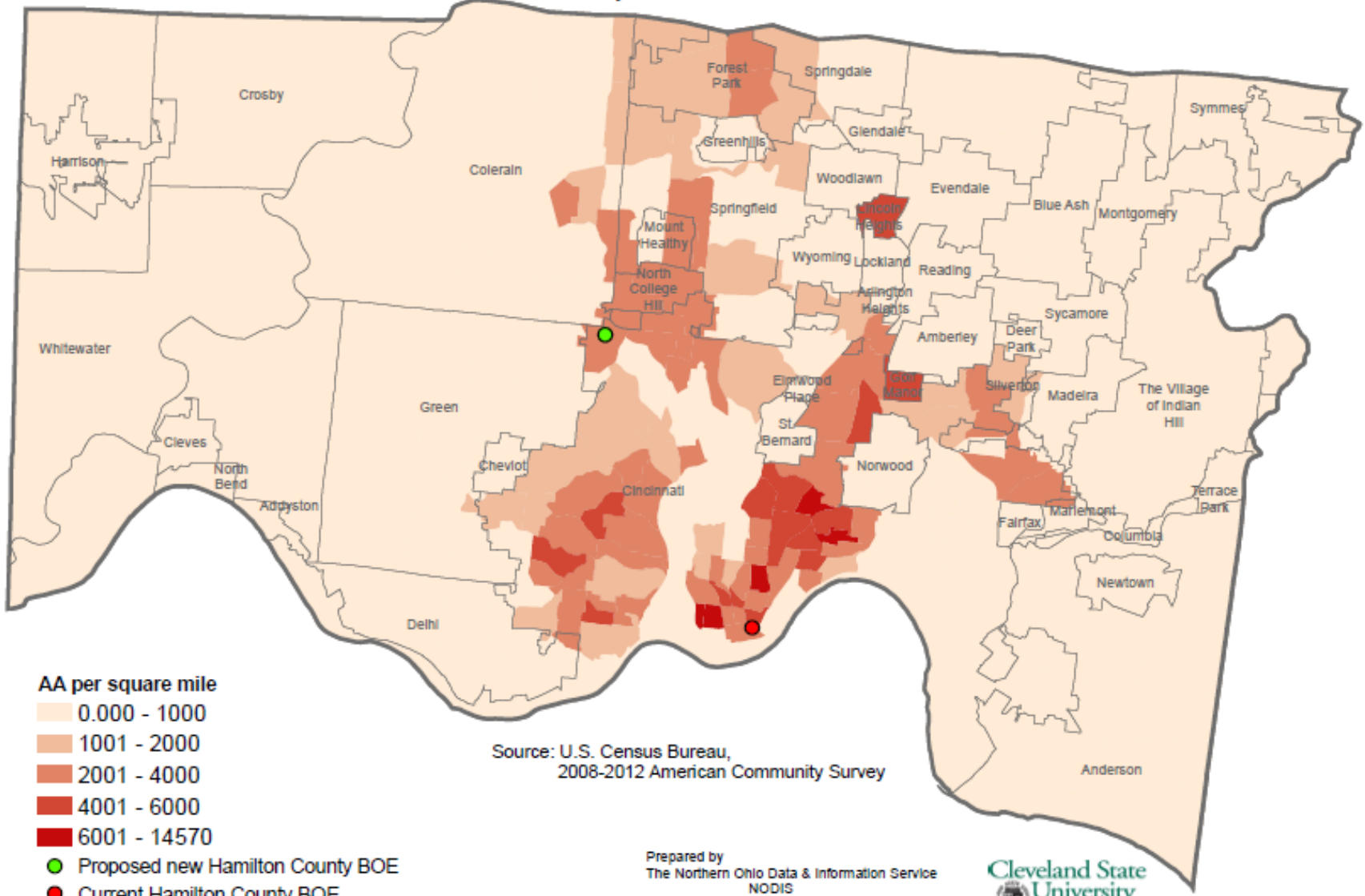
Results

Associations between Vehicles Available and Race and Poverty Distributions

Spatial Analysis

Visual Associations African American Population per Square Mile

Hamilton County
By Census Tract



- AA per square mile**
- 0.000 - 1000
 - 1001 - 2000
 - 2001 - 4000
 - 4001 - 6000
 - 6001 - 14570

- Proposed new Hamilton County BOE
- Current Hamilton County BOE



Source: U.S. Census Bureau,
2008-2012 American Community Survey

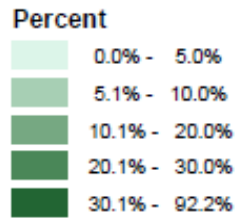
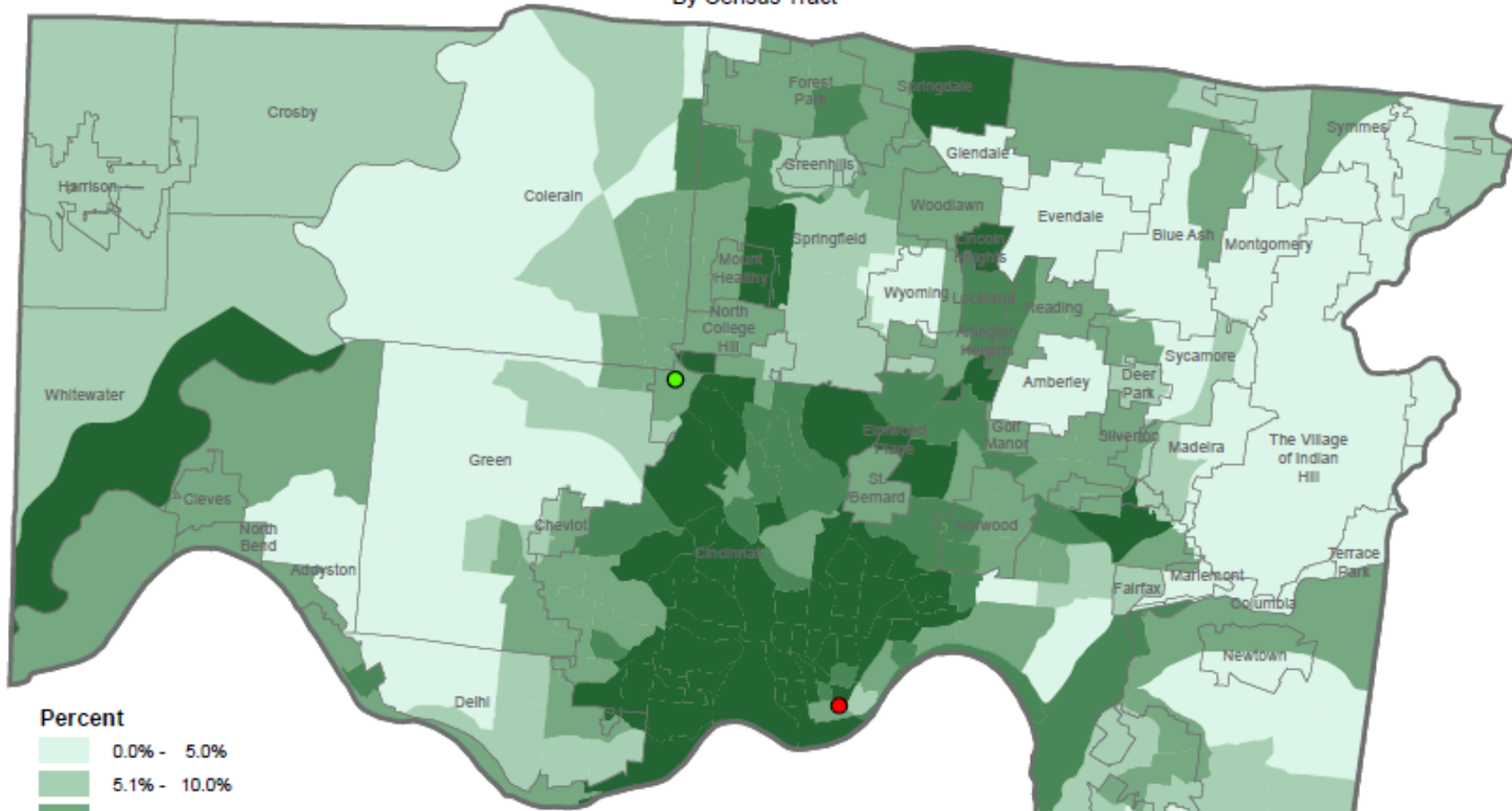
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Percent Below Poverty

Hamilton County

By Census Tract



- Proposed new Hamilton County BOE
- Current Hamilton County BOE



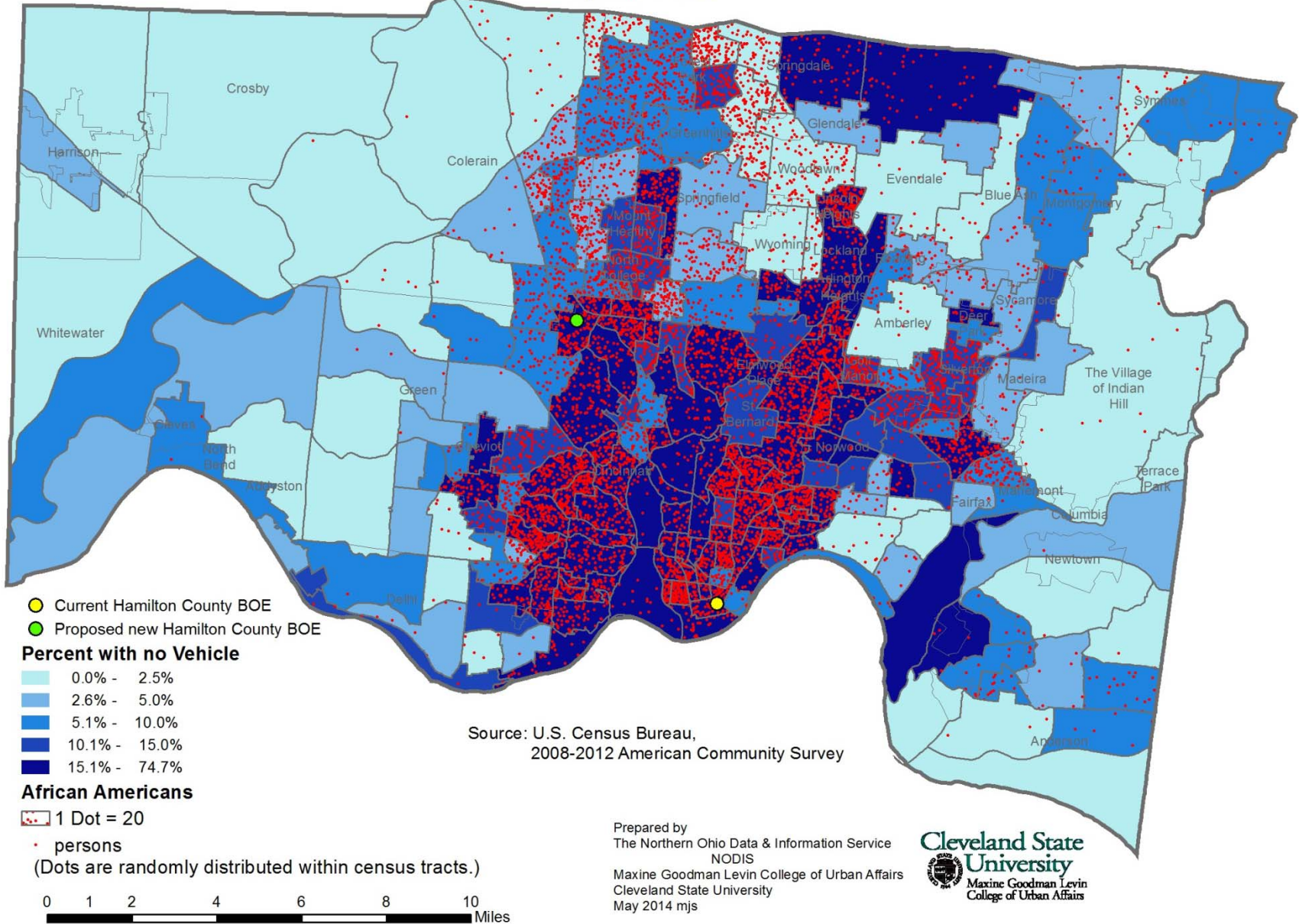
Source: U.S. Census Bureau,
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Percent of Households with No Vehicle Available and African American Population

By Census Tract



Visual comparisons require more rigorous analysis.

Statistical Test

.... confirms that the geographic distribution of African Americans is highly correlated with the spatial distribution of persons lacking automobile transportation ($r = 0.667$, significant at the 0.01 level).

The correlation between households without a vehicle and poverty is even higher at 0.842.

Thus geographic mobility of African American voters and those with low incomes is limited due to not having a car.

Non-Spatial Analysis – unit of analysis = persons

The American Community Survey (ACS) Public Use Microdata Sample (PUMS) allows the crosstabulation of a sample of individual records of persons by race with whether or not the household has vehicles and whether public transportation is used in commuting to work.

Statistically compare the percentages of African Americans and others in the county who have no vehicle available and use public transportation for commuting to work.

Test of proportions

Results

Countywide an estimated 21.3% of African Americans have no vehicle available in the household,

...compared to only 5.3% of non-African Americans

These two percentages are statistically different at the 0.01 confidence level.

There is also a statistically different percentage of African Americans using public transportation to commute to work

12.7%, versus 2.45%

Beyond the issue of effects of relocating the Hamilton County BOE, the issue of having only **one location** for early in-person voting arises in other counties as well.

The relationship between race and the availability of vehicles is found for each of the other 4 largest urban counties in Ohio – Cuyahoga, Franklin, Montgomery, and Summit.

And statewide

Percentage with a Vehicle Available in the Household by Race

County	African Americans, 18 and Older		Non-African Americans, 18 and Older	
	With vehicle	No Vehicle	With vehicle	No Vehicle
Cuyahoga	79.69	20.31	93.89	6.11
Franklin	86.10	13.90	95.36	4.64
Hamilton	78.69	21.31	94.70	5.30
Montgomery	82.60	17.40	94.91	5.09
Summit	81.32	18.68	95.39	4.61
Ohio	82.84	17.16	95.41	4.59

Source: 2007-2011 PUMS, ACS, U.S. Census Bureau

All percentage comparisons between African Americans and non-African Americans are statistically different at the 0.01 confidence level.

Part 2. Compare the geographic accessibility of the existing and new BOE locations.

Spatial Analysis

A. Does Public Transportation Solve the Problem?

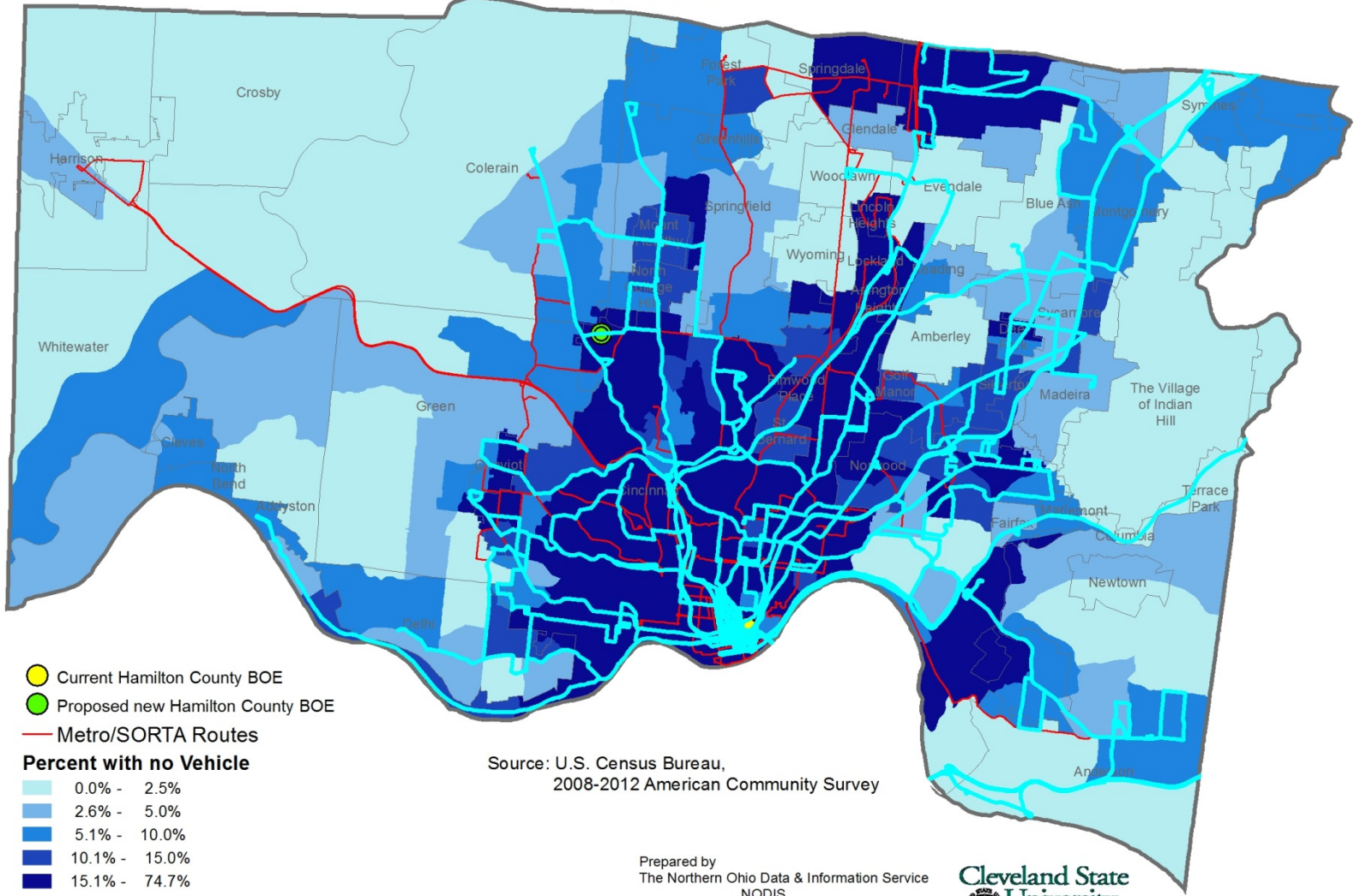
B. Compare the average distances to the two BOE locations for households with no vehicle.

A. Does Public Transportation Solve the Problem?

Metro/SORTA Routes within **Quarter Mile of Current BOE Location** and

Percent of Households with No Vehicle Available By Census Tract

28 of 47 routes



Source: U.S. Census Bureau,
2008-2012 American Community Survey

Percent with no Vehicle

- 0.0% - 2.5%
- 2.6% - 5.0%
- 5.1% - 10.0%
- 10.1% - 15.0%
- 15.1% - 74.7%



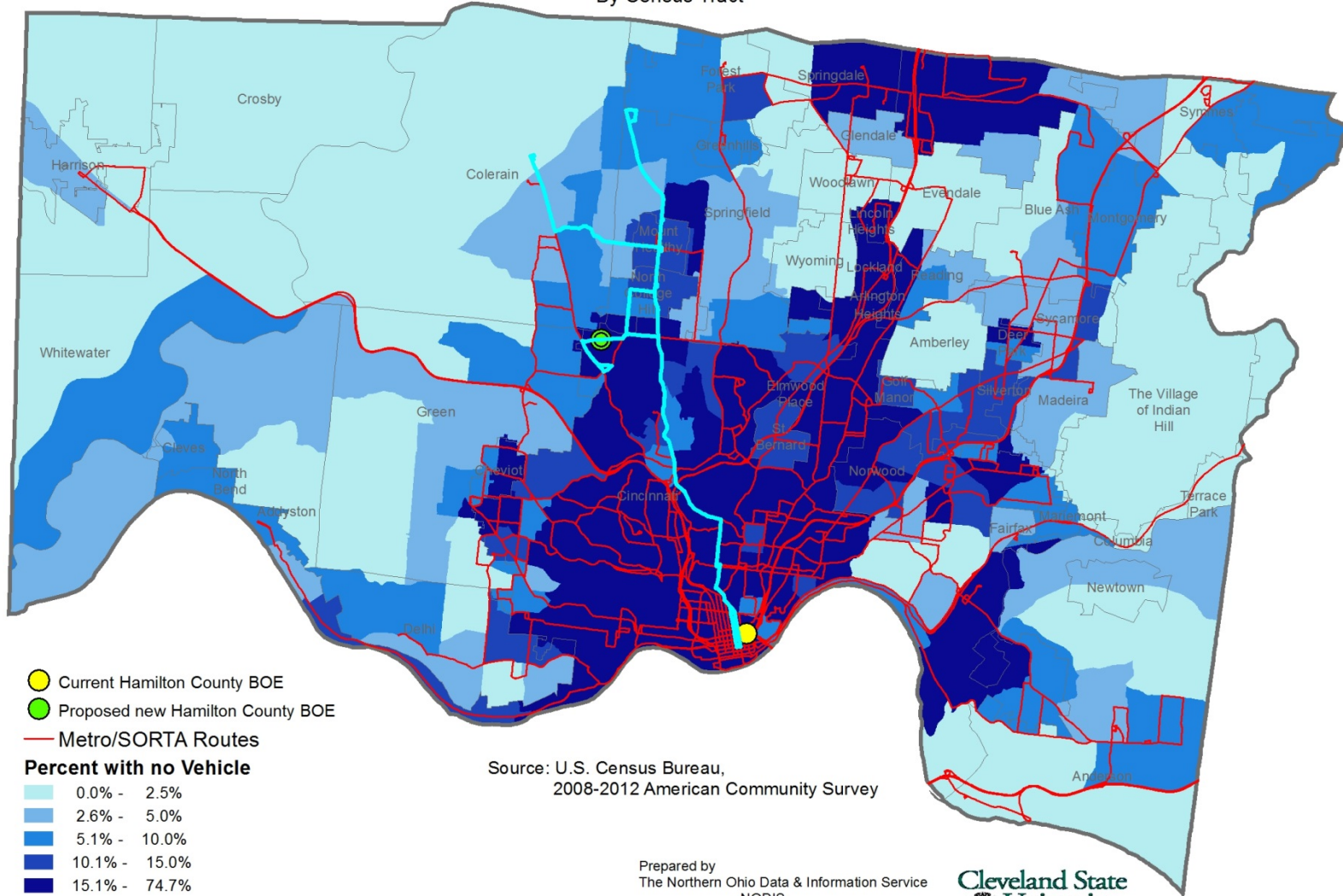
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Metro/SORTA Routes within Quarter Mile of New BOE Location

and Percent of Households with No Vehicle Available By Census Tract

1 of 47 routes



Source: U.S. Census Bureau,
2008-2012 American Community Survey



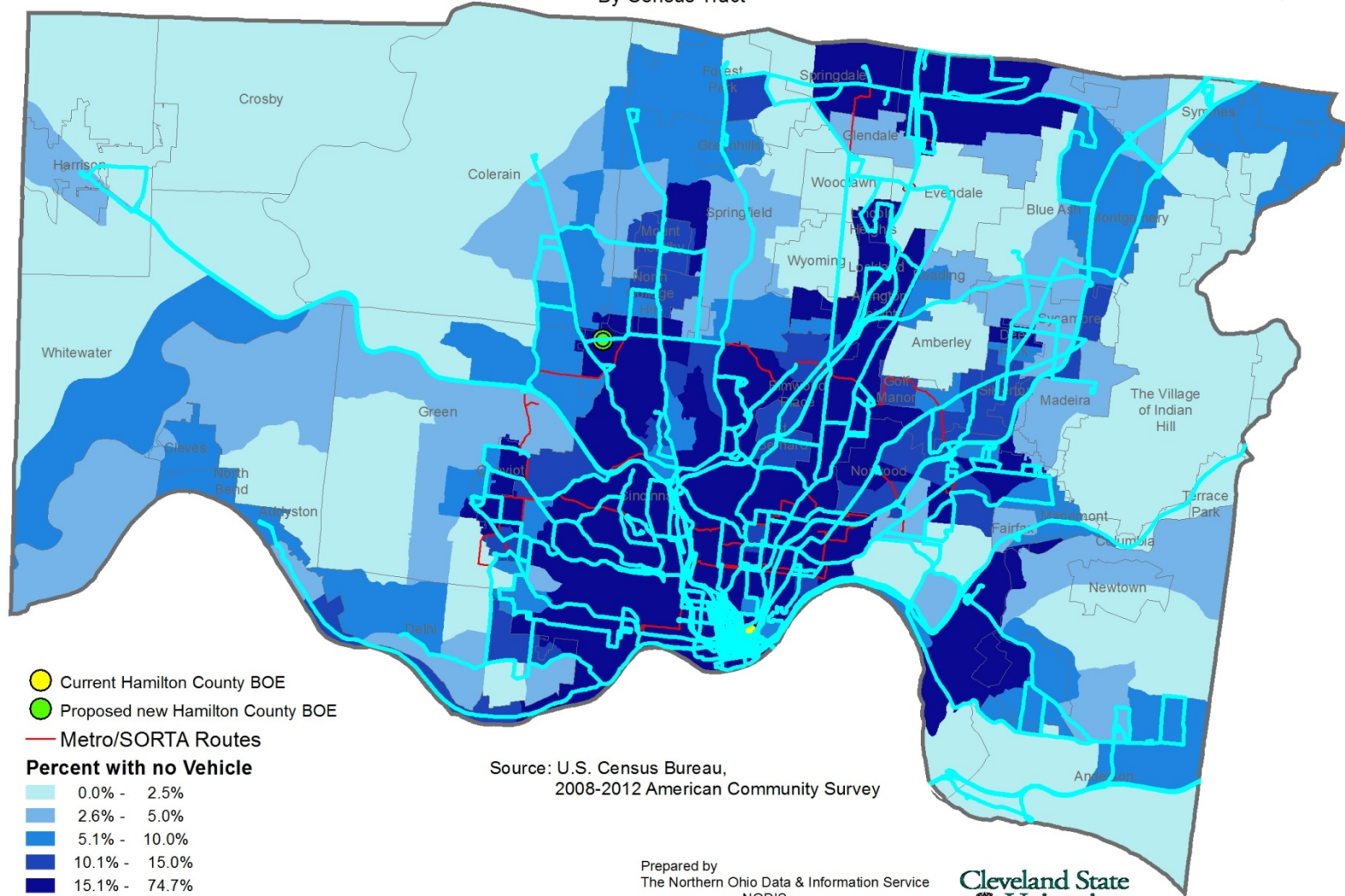
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Metro/SORTA Routes within Half Mile of Current BOE Location and

Percent of Households with No Vehicle Available By Census Tract

42 of 47 routes



Source: U.S. Census Bureau,
2008-2012 American Community Survey



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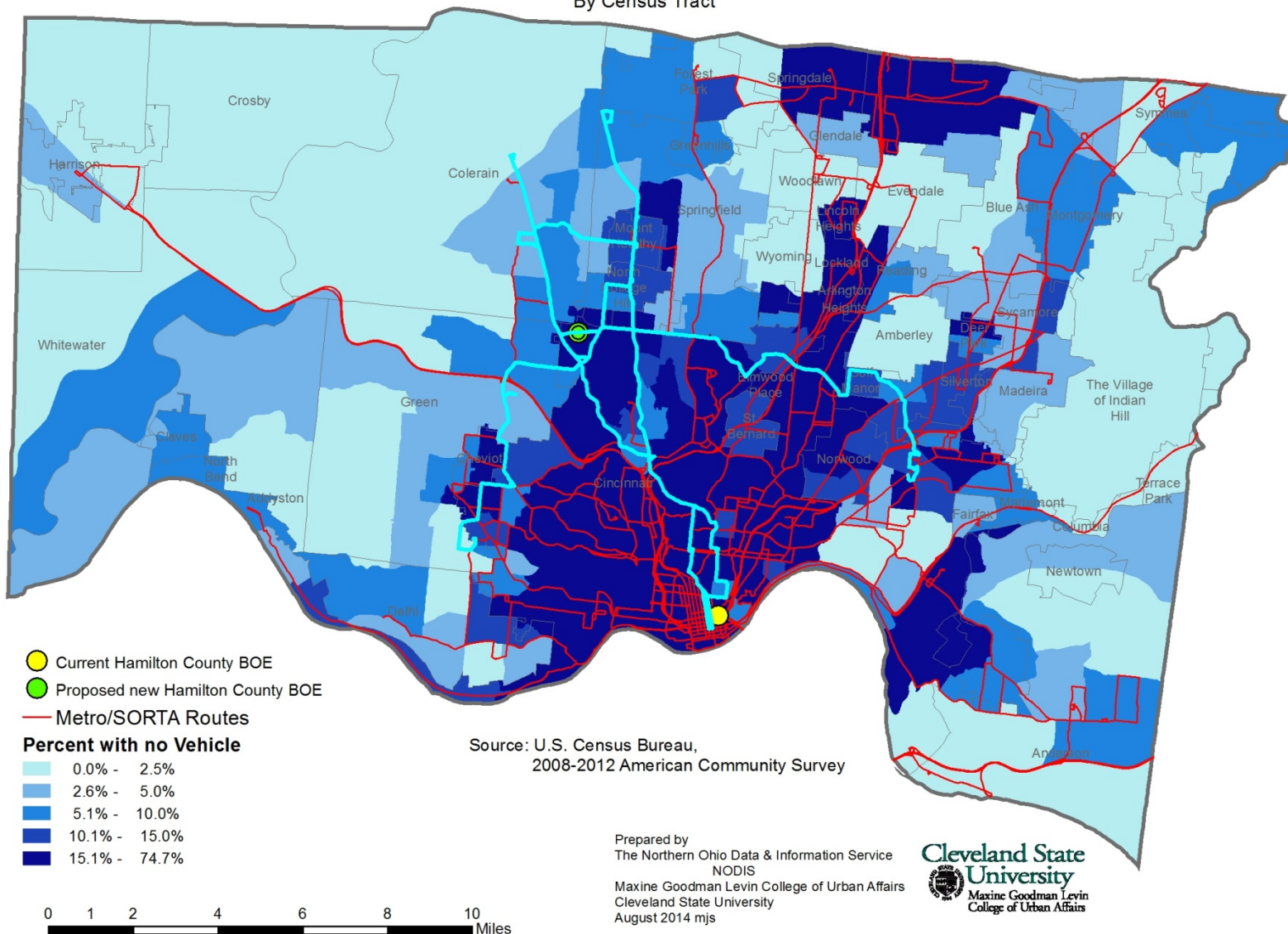
Metro/SORTA Routes within Half Mile of New BOE Location

and

Percent of Households with No Vehicle Available

By Census Tract

3 of 47 routes

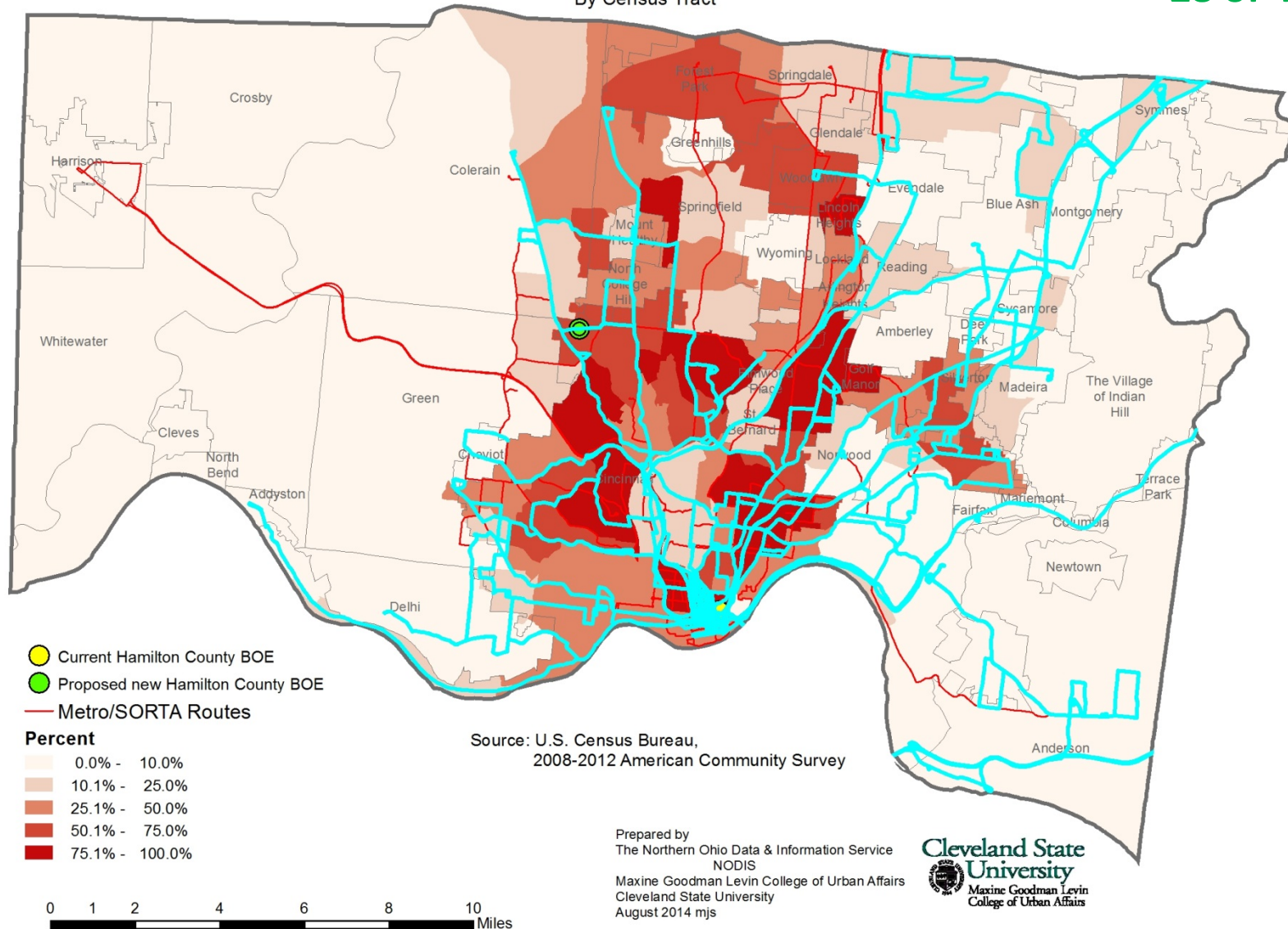


Metro/SORTA Routes within Quarter Mile of Current BOE Location and

Percent African American Population (one-race)

By Census Tract

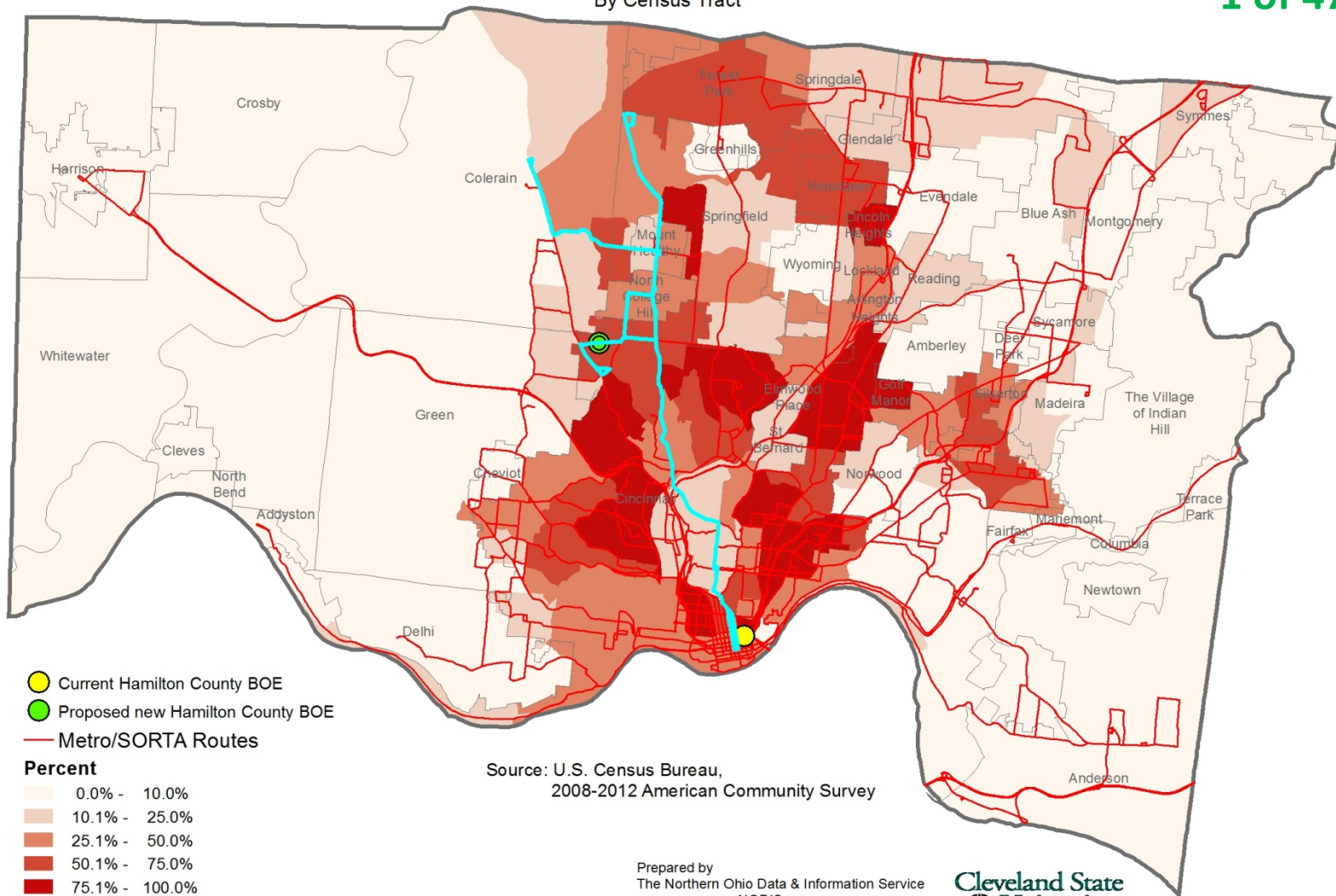
28 of 47 routes



Metro/SORTA Routes within Quarter Mile of New BOE Location and Percent African American Population (one-race)

By Census Tract

1 of 47 routes



Source: U.S. Census Bureau,
2008-2012 American Community Survey

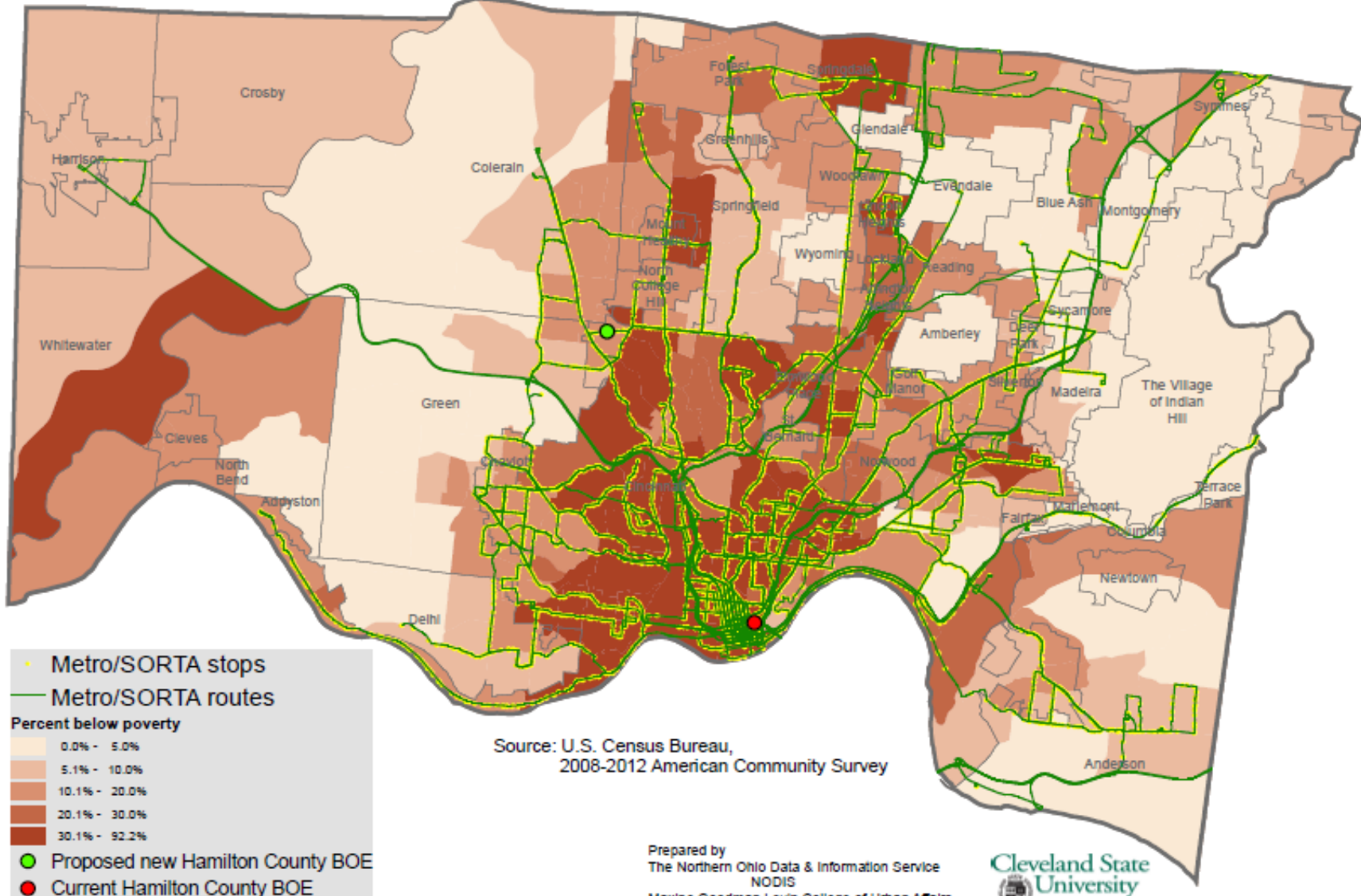


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Percent Below Poverty

Hamilton County
By Census Tract



- Metro/SORTA stops
- Metro/SORTA routes

Percent below poverty

Lightest tan	0.0% - 5.0%
Light tan	5.1% - 10.0%
Medium tan	10.1% - 20.0%
Dark tan	20.1% - 30.0%
Darkest tan	30.1% - 52.2%

- Proposed new Hamilton County BOE
- Current Hamilton County BOE

Source: U.S. Census Bureau,
2008-2012 American Community Survey



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Does Public Transportation Solve the Problem...????

The public transportation system is primarily designed to bring commuters to downtown Cincinnati - where the current BOE office is located.

Access to the new location will require one or more transfers for the vast majority of public bus users.

The maps indicate that the new location of the BOE is less accessible to those without a vehicle, African Americans, and persons below poverty.

B. Average Distance Traveled to Current and New BOE Locations

GIS is used to quantify the impact of the relocation on distances to the two BOE locations for households without a vehicle.

1. The distances (miles) from geographic centroids of each census tract to both the current BOE and the proposed new location are calculated.
2. These distances are multiplied by the number of households without a vehicle in each tract, indicating the aggregate miles for each tract.
3. The aggregate tract-level distances are summed for the county.
4. Finally, the difference in average distance for all households without a vehicle is calculated for both BOE locations.

A means test is used to determine if the difference in average distance to new BOE location for persons without a vehicle is greater than the distance to the current BOE location.

Results Concerning Proximity

Those without a vehicle are, on average, 0.68 miles farther from the new location than the current BOE office.

Those with a vehicle are, on average, 5.7 miles closer to the new location.

This difference is statistically significant at the 99% confidence level.

Summary of Findings

A significantly greater percentage of African Americans than non-African Americans are without access to a vehicle.

There is also a significantly larger proportion of African Americans who rely on public transportation to get to work more.

On average, households with no vehicle will have to travel farther to the new BOE location...while the public transportation system does not serve the new location as well as the current BOE location.

The new BOE location disproportionately benefits non African Americans and the non poor.

These findings indicate a greater burden for African American and low income voters in getting to the BOE, especially since the new location is less well served by public transportation

Conclusions

This analysis strongly suggests that the new BOE location will pose greater hardships on African American and poor voters who have less access to the new BOE office, because they may have no vehicle and depend on public transportation.

Unless the BOE provides suitable alternative in-person early voting locations, this analysis strongly suggests that the new BOE location will disadvantage African Americans and the poor. Yet the state prohibits alternative locations.

Depending on how effectively it is used by advocates, the study could have significant public policy impact in the areas of voting rights and local government management.

Questions