The Search for (Environmental) Justice

CAMPO PPP Update 2016

TRANSPORTATION & ENVIRONMENTAL JUSTICE

There are three fundamental environmental justice principles:

- To **avoid, minimize, or mitigate** disproportionately high and adverse human health and environmental effects, including social and economic effects, on minority populations and low-income populations.

- To ensure the **full and fair participation** by all potentially affected communities in the transportation decision-making process.

- To **prevent the denial of, reduction in, or significant delay** in the receipt of benefits by minority and low-income populations.

Metropolitan Planning Organizations

To certify compliance with Title VI and address Environmental Justice, MPOs need to:

- Enhance their analytical capabilities to **ensure that the long-range transportation plan and the transportation improvement program (TIP) comply with Title VI**.

- Identify residential, employment, and transportation patterns of low-income and minority populations so that their needs can be identified and addressed, and the **benefits and burdens of transportation investments can be fairly distributed**.

- Evaluate and - where necessary - improve their public involvement processes to **eliminate participation barriers** and engage minority and low-income populations in transportation decision making.

BASIS

"No person in the United States shall, on the ground of race, color, or national origin be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance."

- Title VI of the Civil Rights Act of 1964

TITLE VI AND ENVIRONMENTAL JUSTICE ADDRESS WHICH GROUPS?

Title VI of the Civil Rights Act prohibits discrimination on the basis of race, color, or national origin.

Executive Order 12898 and the DOT and FHWA Orders on Environmental Justice address persons belonging to any of the following groups:

- **Black** - a person having origins in any of the black racial groups of Africa.

- **Hispanic** - a person of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race.

- **Asian** - a person having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent.

- **American Indian and Alaskan Native** - a person having origins in any of the original people of North America and who maintains cultural identification through tribal affiliation or community recognition.

- **Native Hawaiian or Other Pacific Islander** - a person having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands.

- **Low-Income** - a person whose household income (or in the case of a community or group, whose median household income) is at or below the U.S. Department of Health and Human Services poverty guidelines.

Source: http://www.fhwa.dot.gov/environment/environmental_justice/overview/ retrieved 20151228

In Addition to Title VI

In addition to Title VI, there are other Nondiscrimination Statutes that afford legal protection. These include:

- **Section 162 (a) of the Federal-Aid Highway Act of 1973 (23 USC 324) (<u>sex</u>),**
- **Age Discrimination Act of 1975 (<u>age</u>), and**
- **Section 504 of the Rehabilitation Act of 1973/Americans With Disabilities Act of 1990 (<u>disability</u>)**

Taken together, these requirements define an over-arching **Title VI/Nondiscrimination Program**.

What we did:

- We built a **regional-scale screening tool**.

- We had to figure out
  - Geographic Extent
  - What to measure
  - How to measure it

- **It is NOT meant to capture every EJ instance**, but to provide an indication that one is more or less likely to be present.

Step 1: Define Geographic Extent

- Define geographic scope:
  - County by County versus region-wide; this is important because setting the universe for the statistical measures important for next step
  - What is the region?
    - MSA includes Person County But not Granville or Harnett
    - MPO boundaries include Granville and Harnett but not Person.
    - Model Area Boundary (MAB) includes parts of Person and Nash
    - Air Quality Region includes whole counties except Chatham
  - Use only tracts in the MPOs, or if part of a county is in, use the whole county for calculations? Or something else?

Discussion: Geographies
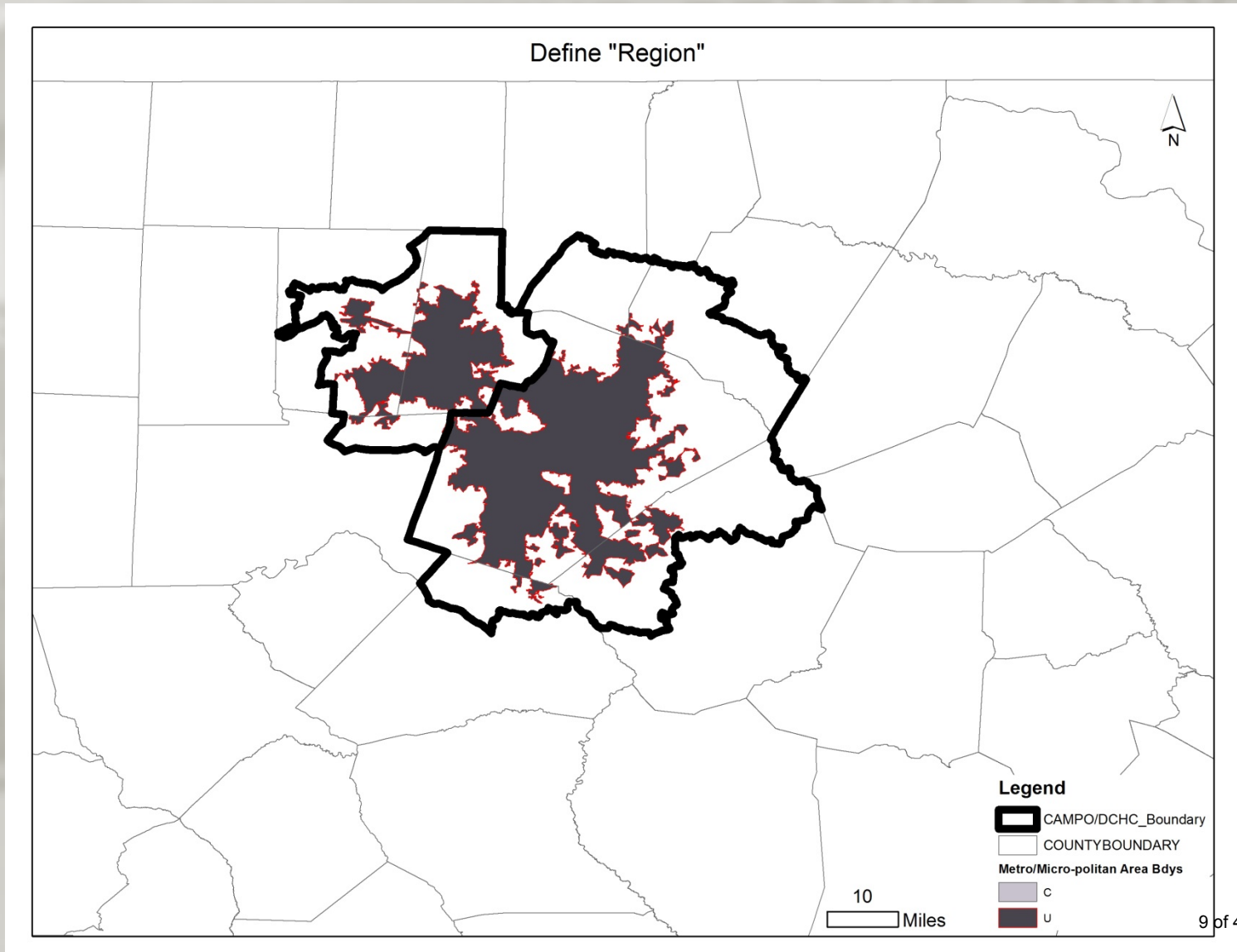
Final: Block Groups In (or part in) the MPO Boundaries
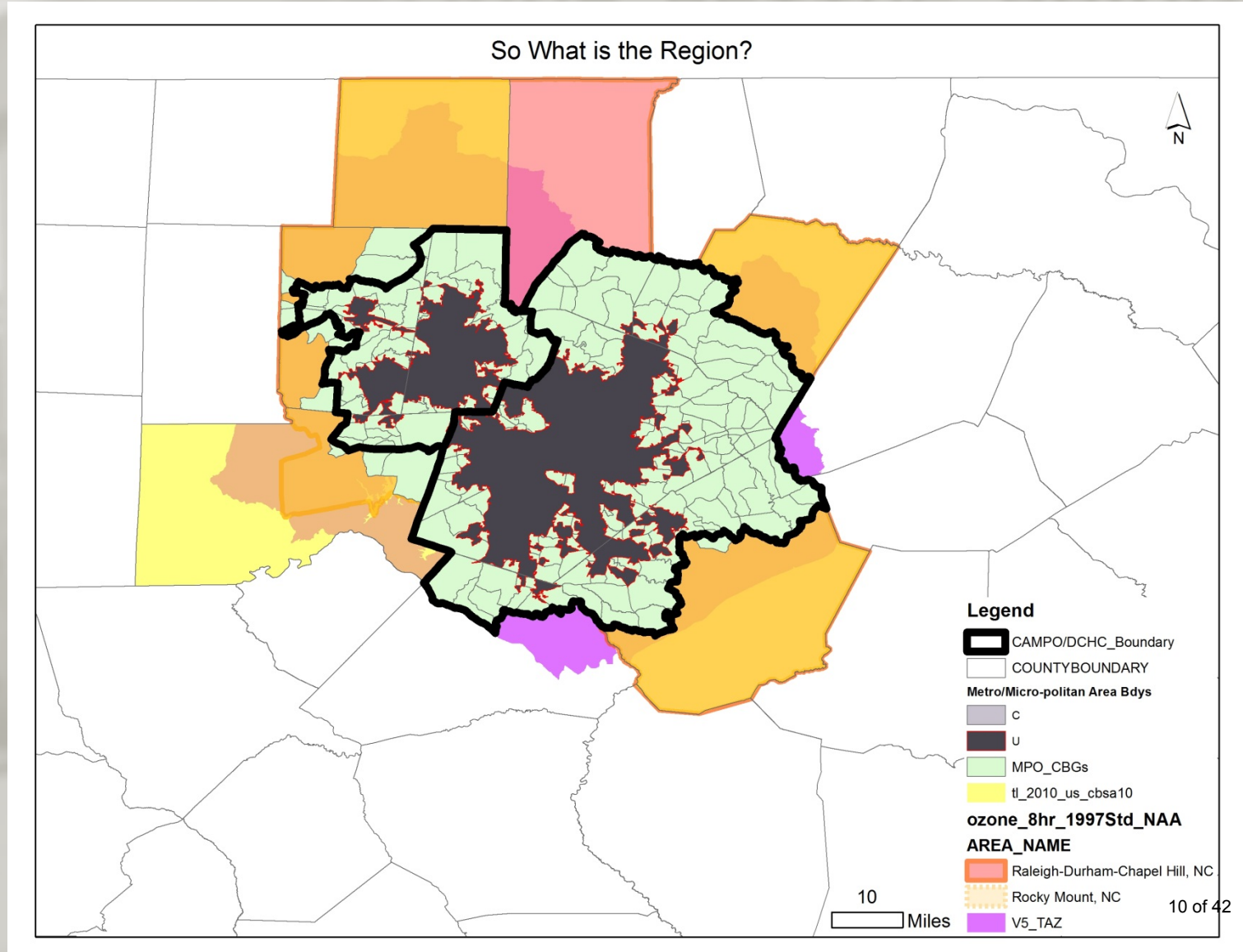
Protected Classes
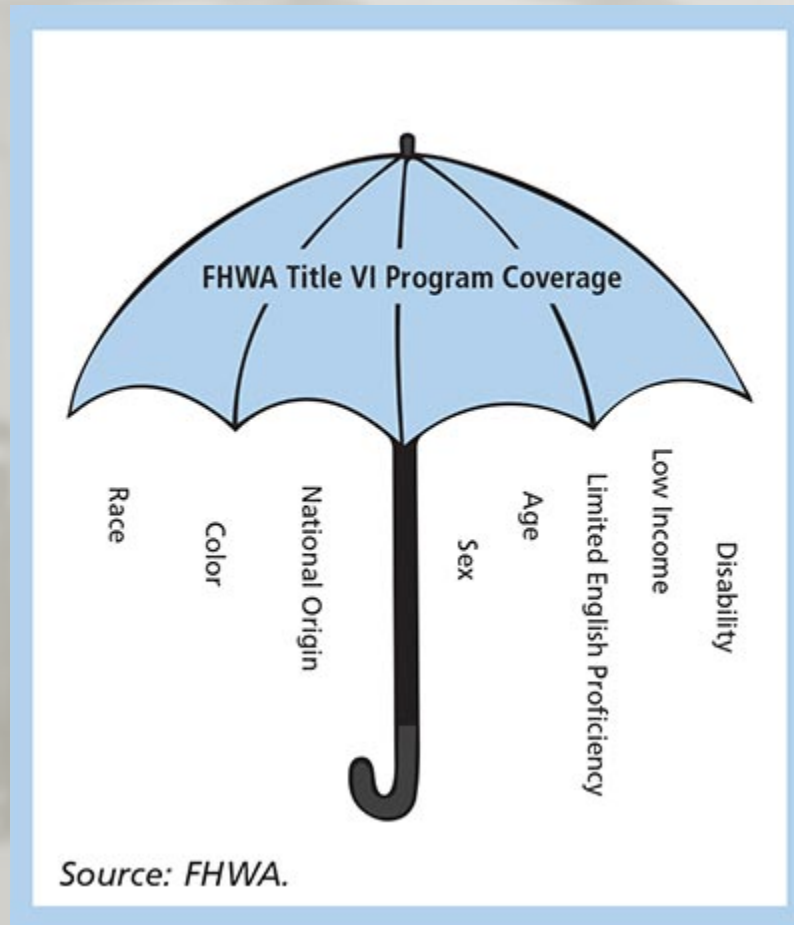
Step 2: Define Indicators (Variables)

As Defined by Title VI

- **Minority:**
  - **Race** (Black, Asian, American Indian and Alaskan Native, Native Hawaiian or Other Pacific Islander, [Mixed Race?])
  - **Hispanic/Latino Origin**
- **Low-Income** (specifics defined later)

Step 2: Define Indicators (cont.)

In addition to Title VI:

- **Limited English Proficiency (LEP)** (Executive Order 13166)

- **Persons with Disability** (ADA/Section 504) Measured as **Zero-Car Households** for transportation planning purposes

- **Age** (Age Discrimination Act of 1975) Measured as probable non-driving populations

Step 2: Define Indicators

Based on DCHC's indicators, we used:

- **Minority Non-White (includes all protected race categories)**

- **Hispanic/Latino Origin**

- **Limited English Proficiency (all languages)**

- **Zero-Car Households**

- **Age 65+**

(maps will follow in the next section on choosing the threshold measure)

Voice of Experience:
Durham-Chapel Hill Carrboro MPO

2014 ENVIRONMENTAL JUSTICE REPORT

Lindsay R. Smart, AICP
Senior Transportation Planner

DCHC
Metropolitan Planning Organization
Planning Tomorrow Today

2.11.2015 MPO Board Meeting

"State of Practice" Review Performed by DCHC MPO Summer/Fall 2014

- Mid-Ohio Regional Planning Commission (FHWA featured case study)

- Other EJ Reports Reviewed*:

  - Delaware Valley Regional Planning Commission

  - South Jersey Transportation Planning Organization

  - Southwestern Pennsylvania Commission

  - North Central Texas Council of Governments

  - Syracuse Metropolitan Planning Area

  - Coastal Region Metropolitan Planning Organization (Georgia)

  - Wilmington Area Planning Council

*not all-inclusive list of documents that were reviewed

Column A	Column B	Column C	Column D
EJ Populations	Total # of Communities of Concern Block Groups	Total # of Block Groups in DCHC MPO Area	Percent of Total Block Groups
Racial Minority Populations	88	257	34%
Hispanic/ Latino Ethnicity Origin Populations	61	257	24%
Elderly Population	48	257	19%
Limited English Proficiency Populations	60	257	23%
Low-Income Households	53	257	21%
Zero-Car Households	51	257	20%
TOTAL	455		
Averaged Percent of Total Block Groups (sum of Column D ÷ 6)			25%

Map 3.8 Overlapping Communities of Concern in the DCHC MPO Area

Overlapping Communities of Concern Block Groups
- 1 Overlap (2 communities of concern)
- 2 Overlaps (3 communities of concern)
- 3 Overlaps (4 communities of concern)
- 4 Overlaps (5 communities of concern)
- Zero or One Community of Concern
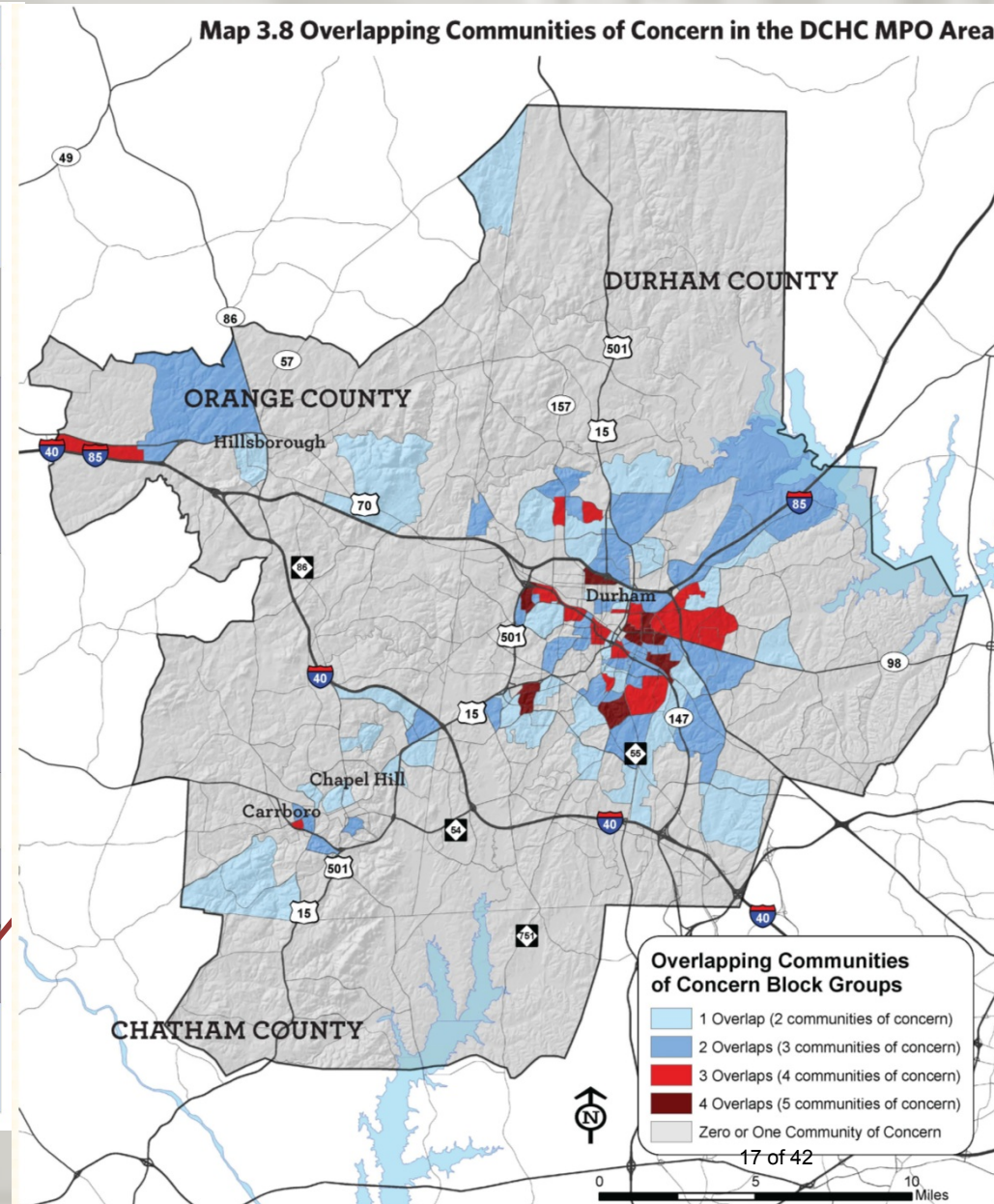
Step 2: Define Indicators

In a deviation from DCHC:

- **Individual Poverty Status instead of Median Household Income (MHI) (with additional 60 percent reduction factor)**

Why?

All the other measures are based on individuals or households; MHI does not lend itself to our custom geography—calculating the regional base requires some crazy mathematics

Step 2: Define Indicators

So gender is a protected class. Where is it?

While not completely true, most clusters for gender are group quarters like college dorms or prisons.

Outside of those, the distribution is even and not useful for identifying concentrations/clusters.

DISTRIBUTION OF FEMALE POPULATION CAMPO & DCHC COUNTIES

ACS_2014_5YR_BG_37_NORTH_CAROLINA Technical Committee 11/16/2016 Item 8

SEX BY AGE: Female: Total population -- (Estimate) / SEX BY AGE: Total: Total population -- (Estimate)
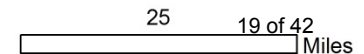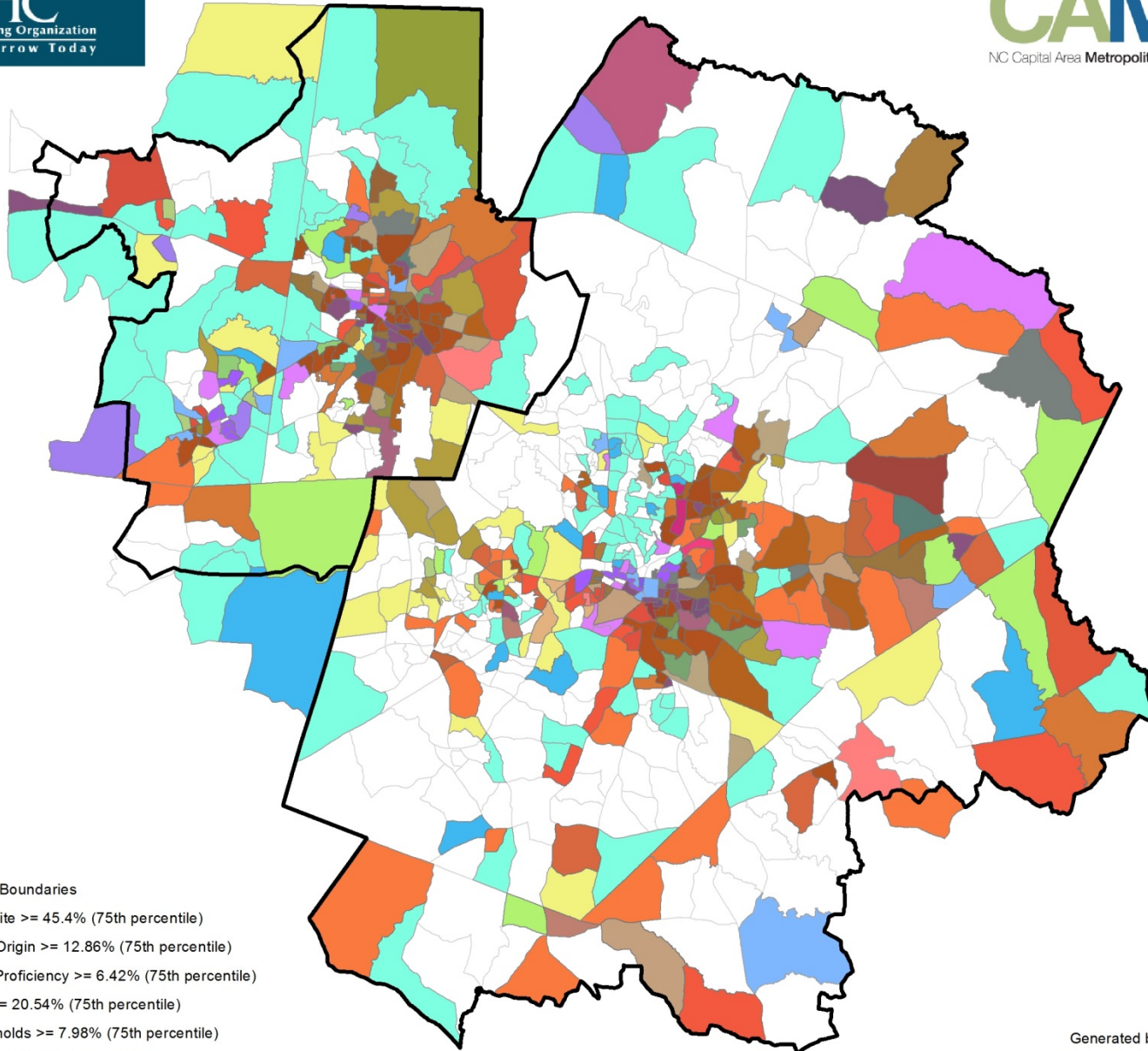
- 0-32%
- 32-64%
- 64-96%

Generated by CAMPO on: 6/30/2016

25

Miles

CAMPO/DCHC Region Count of How Many of the 6 Title VI/EJ Measures Trigger


CAMPO/DCHC_Boundaries

Minority Non-White >= 45.4% (75th percentile)

Hispanic/Latino Origin >= 12.86% (75th percentile)

Limited English Proficiency >= 6.42% (75th percentile)

Poverty Status >= 20.54% (75th percentile)

Zero Car Households >= 7.98% (75th percentile)

Over Age 65 >=6.12% (75th percentile)

All Region Block Groups

Generated by CAMPO on: 6/30/2016

10 Miles

CAMPO/DCHC Region Count of How Many of the 5 Title VI/EJ Measures Trigger
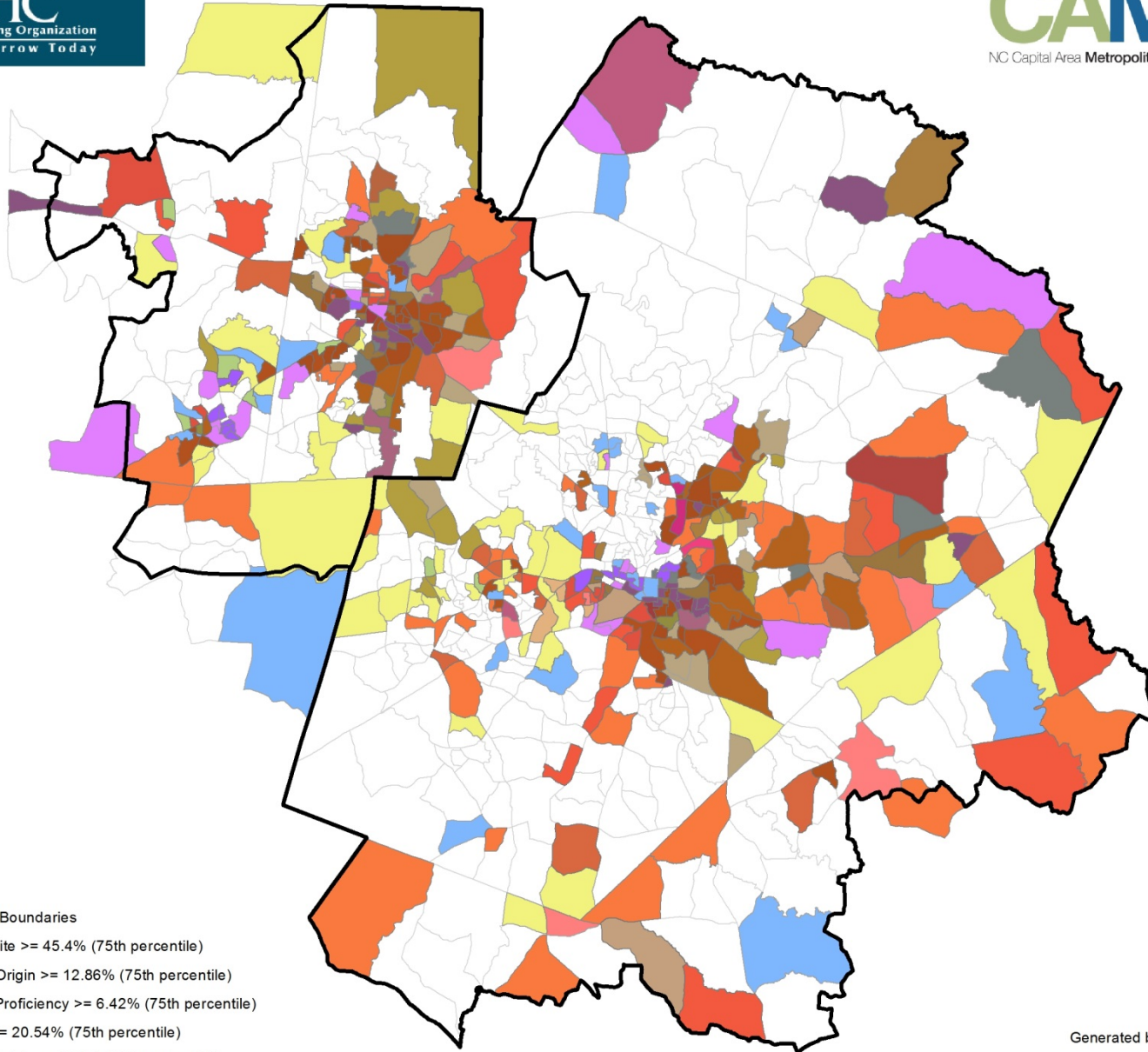
Age removed

CAMPO/DCHC_Boundaries

Minority Non-White >= 45.4% (75th percentile)

Hispanic/Latino Origin >= 12.86% (75th percentile)

Limited English Proficiency >= 6.42% (75th percentile)

Poverty Status >= 20.54% (75th percentile)

Zero Car Households >= 7.98% (75th percentile)

All Region Block Groups

Generated by CAMPO on: 6/30/2016

10 Miles

Our Survey Says…

- August 2nd the regional group met and decided on 6 variables:
  - Minority race
  - Hispanic/Latino origin
  - "Near Poverty" (<150% of poverty level)
  - Zero-Car Households
  - Linguistic Isolation
  - Age 70 and Over

Step 3: Choose How To Measure

- Mean, median, mode

- Percentiles, Quartiles

What is an optimal amount of the region to trigger as special?

- We should not trigger so much of the region that it does not give us a meaningful evaluation tool (at the regional scale).

- Be as inclusive as possible in light of the above; we do not want to leave anyone out without good reason

- The final analysis should identify clustered patterns that allows for targeted outreach

- The methodology should be efficient and respectful of limited staff resources

What is an optimal amount of the region to trigger as special?

- The working hypothesis: No more than 60% of block groups should trigger

- Basis:
  - Other plans
  - Yields a reasonably tight clusters with the variables we use

- If not 60%, what is better and why?
  - (consensus was we didn't have a better target)

The Mean vs. the Median

As measures of central tendency, the mean and the median each have advantages and disadvantages. Some pros and cons of each measure:

- The median may be a better indicator of the most typical value if a set of scores has an **outlier**. An outlier is an extreme value that differs greatly from other values.

- However, when the sample size is large and does not include outliers, the mean score usually provides a better measure of central tendency.

To Illustrate

Michael Jordan
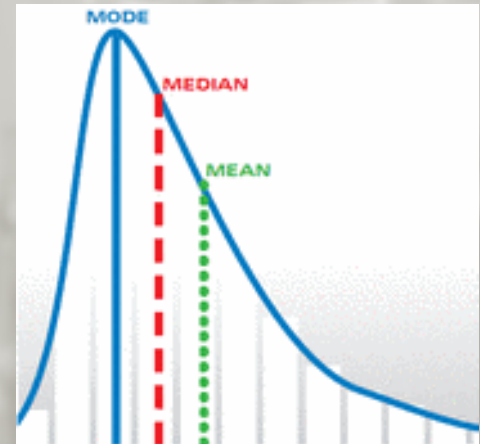
There's an old story about 1984 University of North Carolina geography graduates earning average salaries of over $1,000,000 right out of college. That must be one awesome program!

Alas, it turns out that one of those graduates was Michael Jordan, whose geography knowledge came in handy when having to travel to the cities of the NBA.
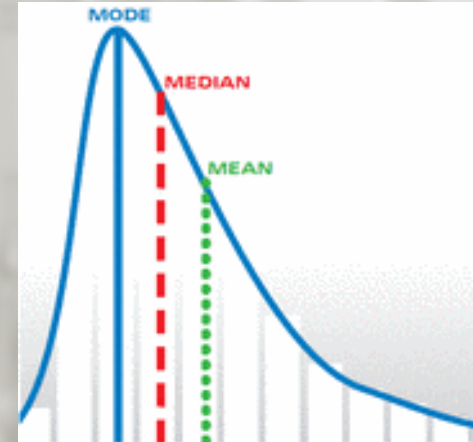
Without Jordan, the mean salary was probably closer to $25,000. This shows the effect that an outlier—an extreme value not in the general pattern of the data—can have on measures of center.

Typical UNC Geography Graduate

So, Quartiles?

- Give flexibility to look at other thresholds than the central value

- Can look at higher or lower values on your spectrum

- They are symbolically like the 25% and 75% equivalents of the median (if the median were 50%)
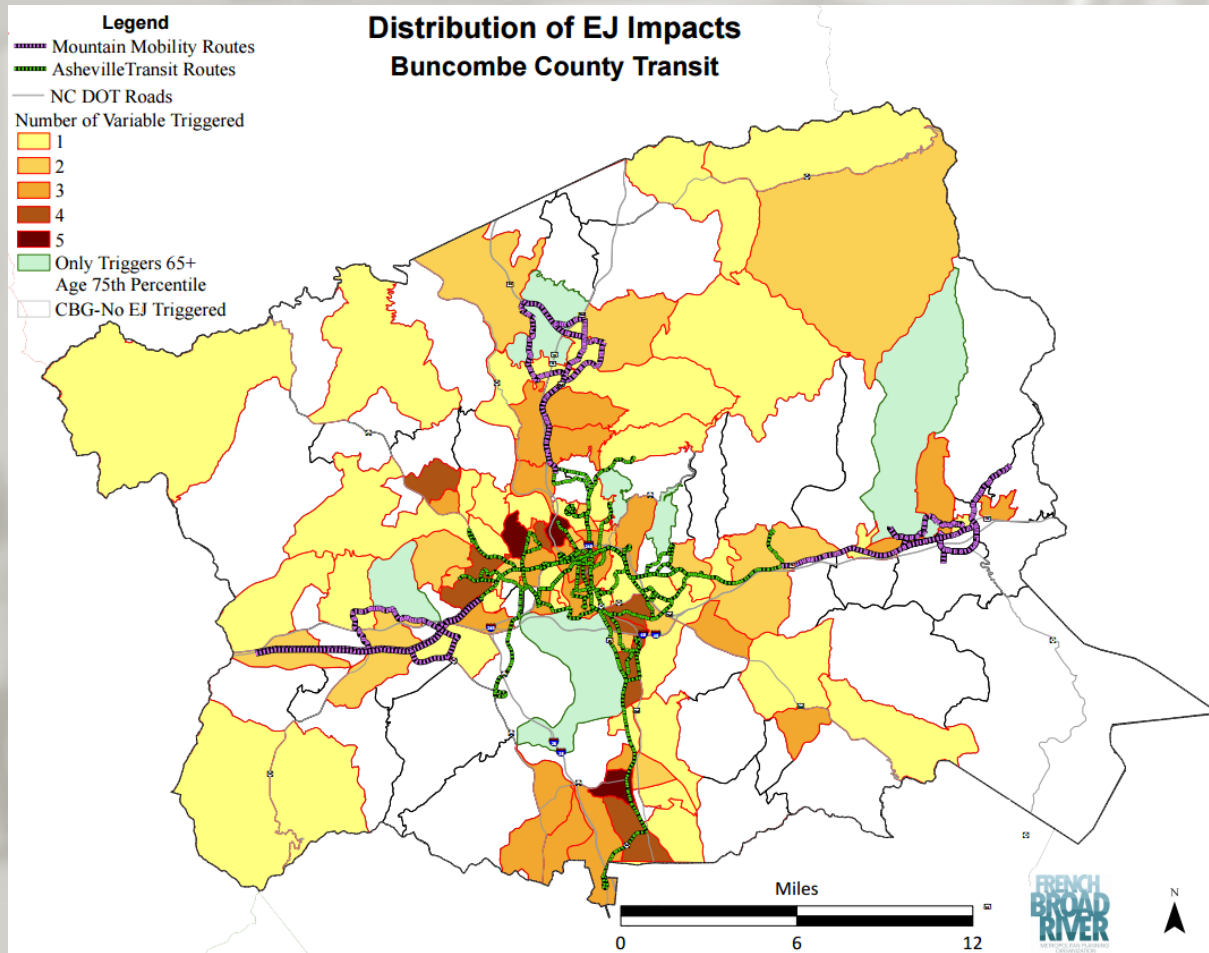
(Aside--Can also be done as percentiles as any break point along your spectrum, just not quartiles anymore—say the 65th percentile)
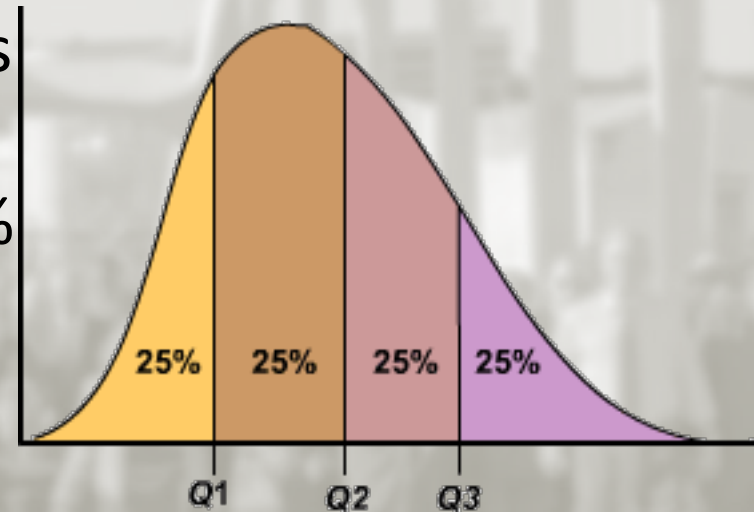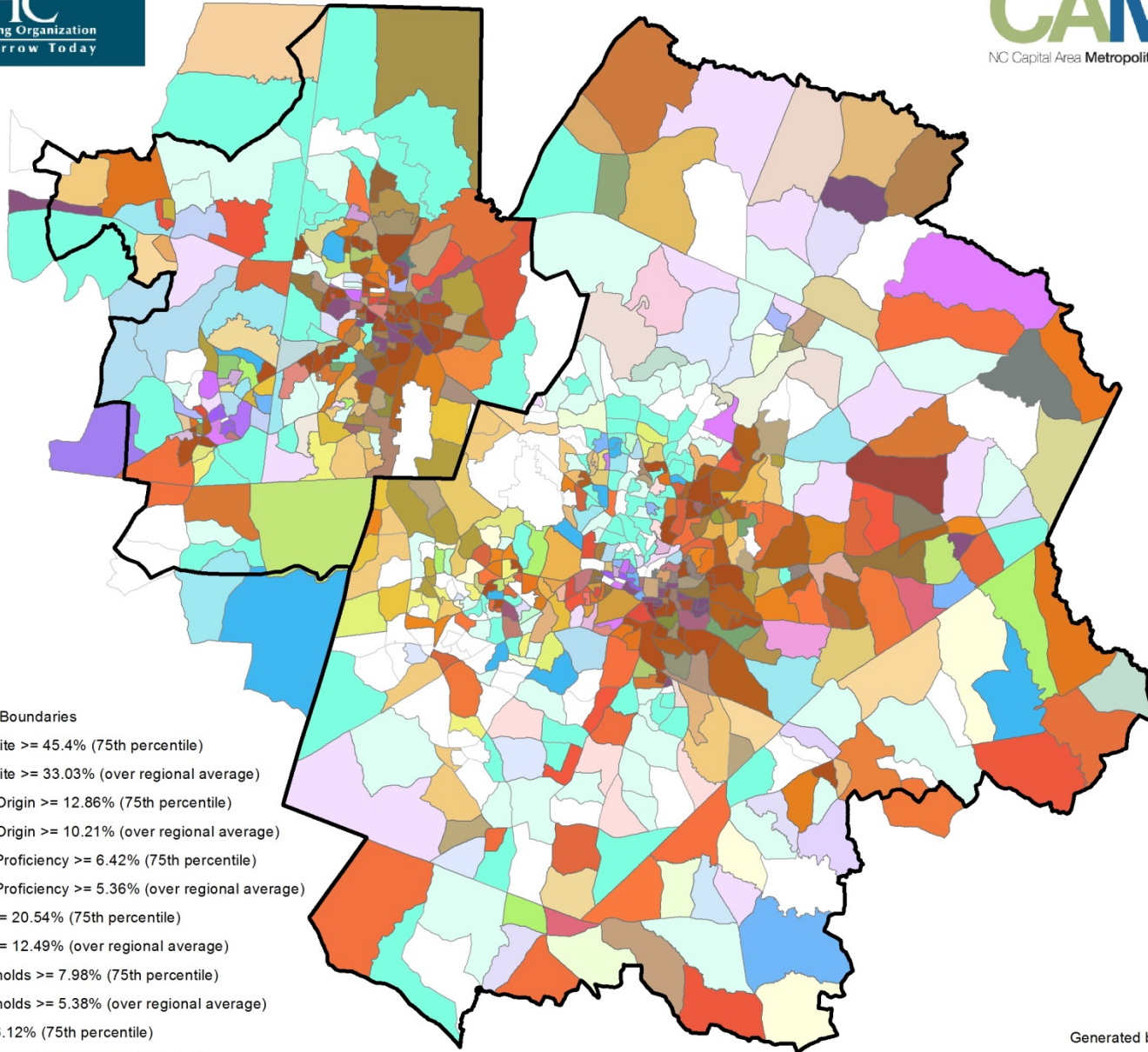
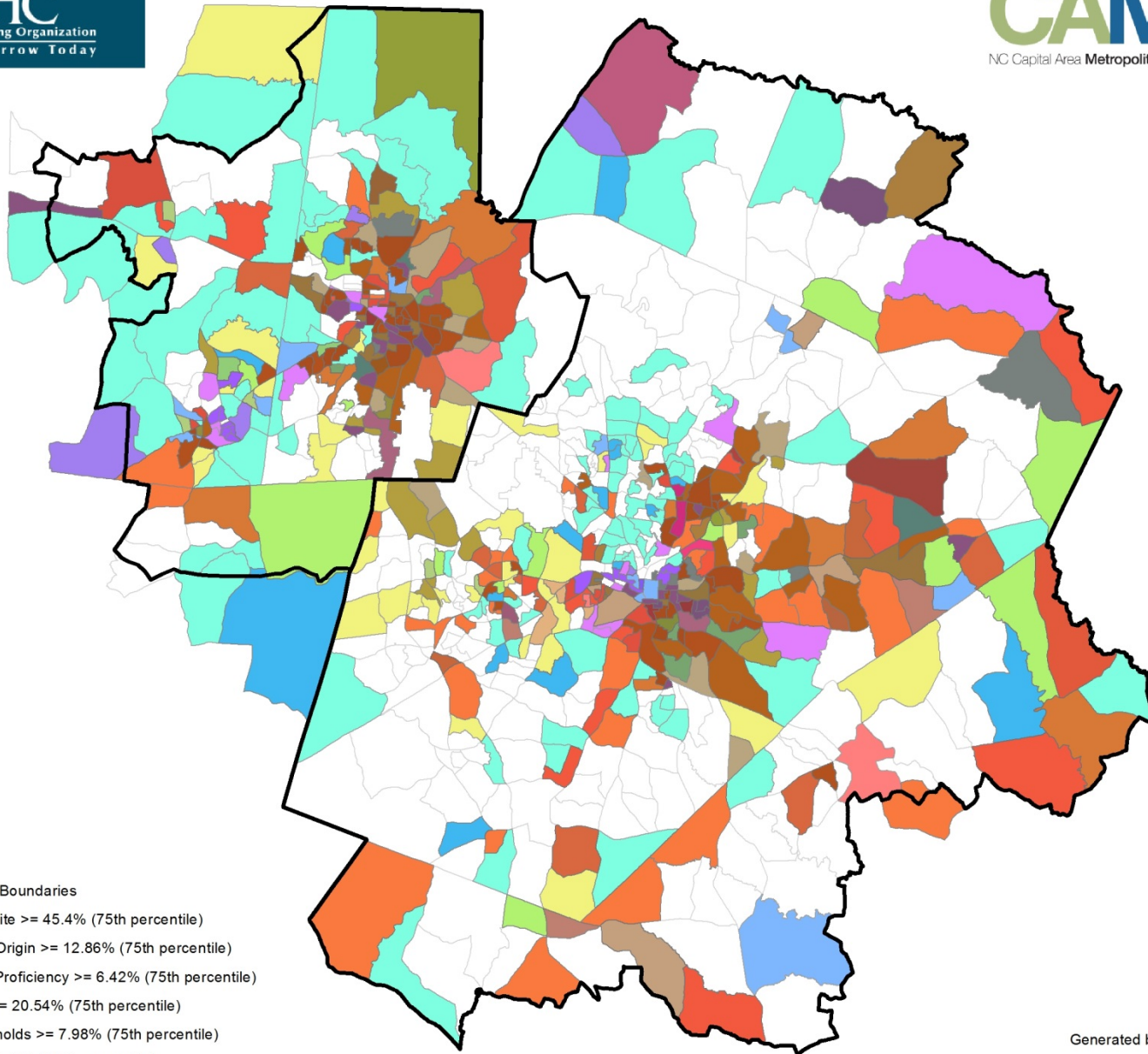So we can use the mean, but only count if there are at least 2 indicators present (DCHC)

Map 3.8 Overlapping Communities of Concern in the DCHC MPO Area
Technical Committee 11/16/2016 Item 8

DURHAM COUNTY

ORANGE COUNTY
Hillsborough

Durham

Chapel Hill

Carrboro

CHATHAM COUNTY

Overlapping Communities of Concern Block Groups

- 1 Overlap (2 communities of concern)
- 2 Overlaps (3 communities of concern)
- 3 Overlaps (4 communities of concern)
- 4 Overlaps (5 communities of concern)
- Zero or One Community of Concern

0   5   10
Miles

Or just set a higher threshold (FBRMPO 2040 MTP)

CAMPO/DCHC Region Count of How Many of the 6 Title VI/EJ Measures Trigger

CAMPO/DCHC_Boundaries

Minority Non-White >= 45.4% (75th percentile)

Minority Non-White >= 33.03% (over regional average)

Hispanic/Latino Origin >= 12.86% (75th percentile)

Hispanic/Latino Origin >= 10.21% (over regional average)

Limited English Proficiency >= 6.42% (75th percentile)

Limited English Proficiency >= 5.36% (over regional average)

Poverty Status >= 20.54% (75th percentile)

Poverty Status >= 12.49% (over regional average)

Zero Car Households >= 7.98% (75th percentile)

Zero Car Households >= 5.38% (over regional average)

Over Age 65 >=6.12% (75th percentile)

Over Age 65 >= 4.08% (over regional average)

All Region Block Groups

Generated by CAMPO on: 6/30/2016

CAMPO/DCHC Region Count of How Many of the 6 Title VI/EJ Measures Trigger

Legend:

CAMPO/DCHC_Boundaries

Minority Non-White >= 45.4% (75th percentile)

Hispanic/Latino Origin >= 12.86% (75th percentile)

Limited English Proficiency >= 6.42% (75th percentile)

Poverty Status >= 20.54% (75th percentile)

Zero Car Households >= 7.98% (75th percentile)

Over Age 65 >=6.12% (75th percentile)

All Region Block Groups

Generated by CAMPO on: 6/30/2016

So What's the Issue?

How Did We Do?

- Using a threshold near the middle yields too many block groups after six variables (92%). This makes targeted outreach or analyzing our investments difficult since "everyone's special"

- This is offset by requiring more than one indicator be present, potentially missing groups specifically called out in Title VI

- The 75th percentile (top quintile) creates a higher threshold for inclusion, but only one trigger is required & balancing "everyone's special"

- Yields around 64% of the region—close enough to the 60% target to be acceptable

Our Survey Says...

- August 2nd the DCHC MPO, CAMPO, NCDOT, and FHWA regional group met and chose the 75th percentile for the six variables.

- Summary: Higher threshold for each variable than DCHC MPO, but Communities of Concern don't need to overlap to be considered significant.

# Top 25% of Non-White Race Census Block Groups

This map shows where concentrations of populations of non-white race exist in the region at or above the 45.4% threshold. The threshold represents block groups where 45.4% of the people living there indentify as a non-white race for the Census.

45.4% is the cutoff to be in the highest ranking 188 block groups in the region--the top 25% out of 577 total block groups. Any block groups with zero populations are then removed (usually just the Airport).
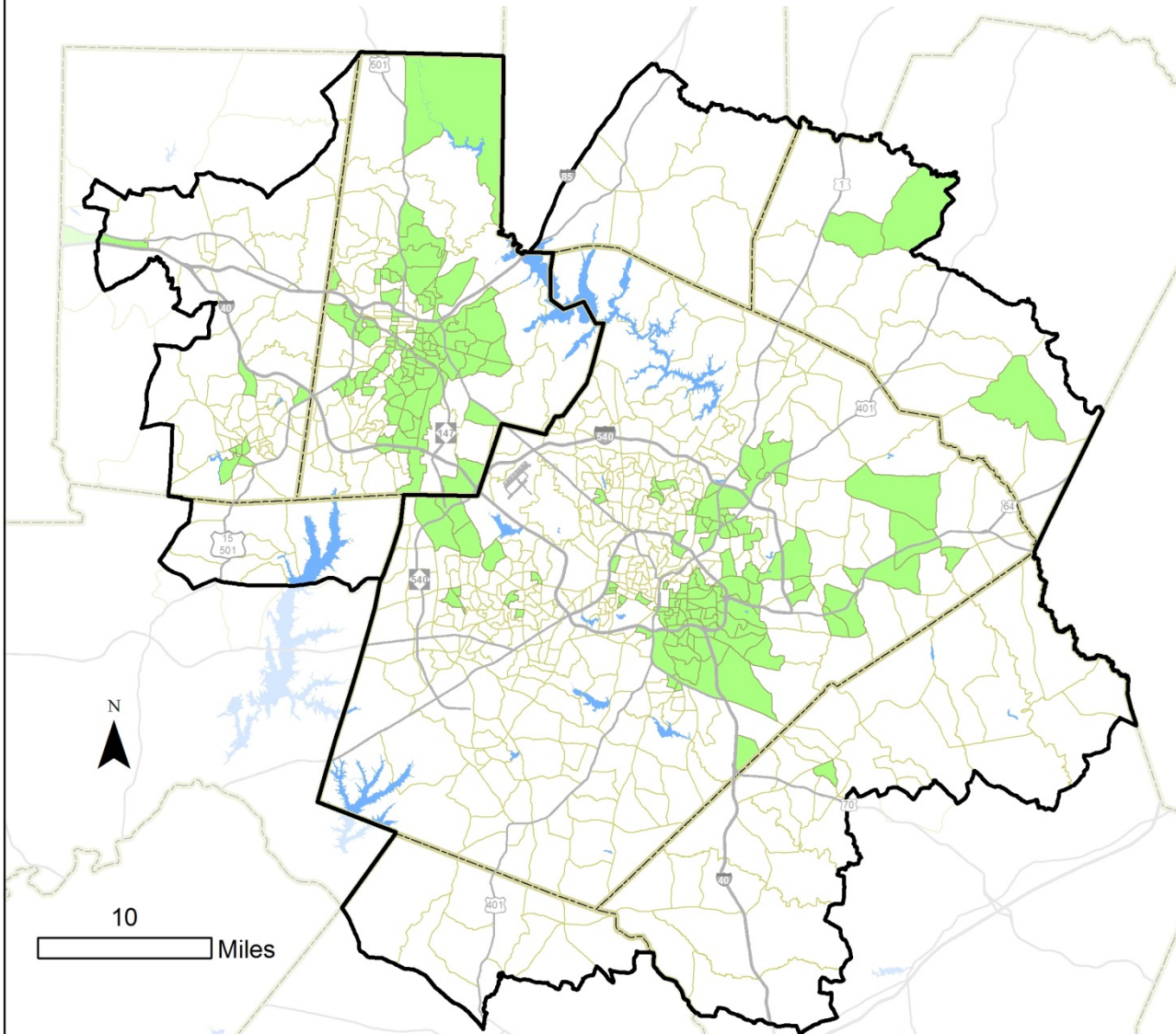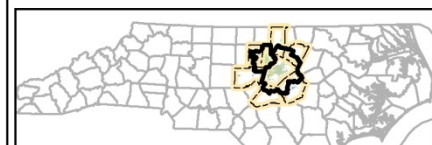
RDU Airport

CAMPO/DCHC_Boundaries

Interstate

US Route; NC 147 & NC 540

Counties in 2-MPO Region

Lakes

MinorityNonWhite 45.4%

Other Block Groups

The Capital Area Metropolitan Planning Organization, in cooperation with other mapping organizations, is committed to offering its users accurate, useful, and current information about the Region. Although every effort has been made to ensure the accuracy of information, errors and conditions originating from physical sources used to develop the database may be reflected in the map and/or data supplied. The user must be aware of data conditions and bear responsibility for the appropriate use of the information with respect to possible errors, original map scale, collection methodology, currency of data, and other conditions specific to certain data.

N

10 Miles

Generated by CAMPO on 8/5/2016

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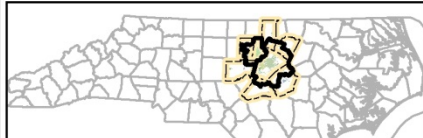# Top 25% of Hispanic/Latino Origin Census Block Groups

This map shows where concentrations of populations of Hispanic/Latino origin exist in the region at or above the 12.86% threshold. The threshold represents block groups where 12.86% of the people living there indentify as a non-white race for the Census.

12.86% is the cutoff to be in the highest ranking 188 block groups in the region--the top 25% out of 577 total block groups. Any block groups with zero populations are then removed (usually just the Airport).
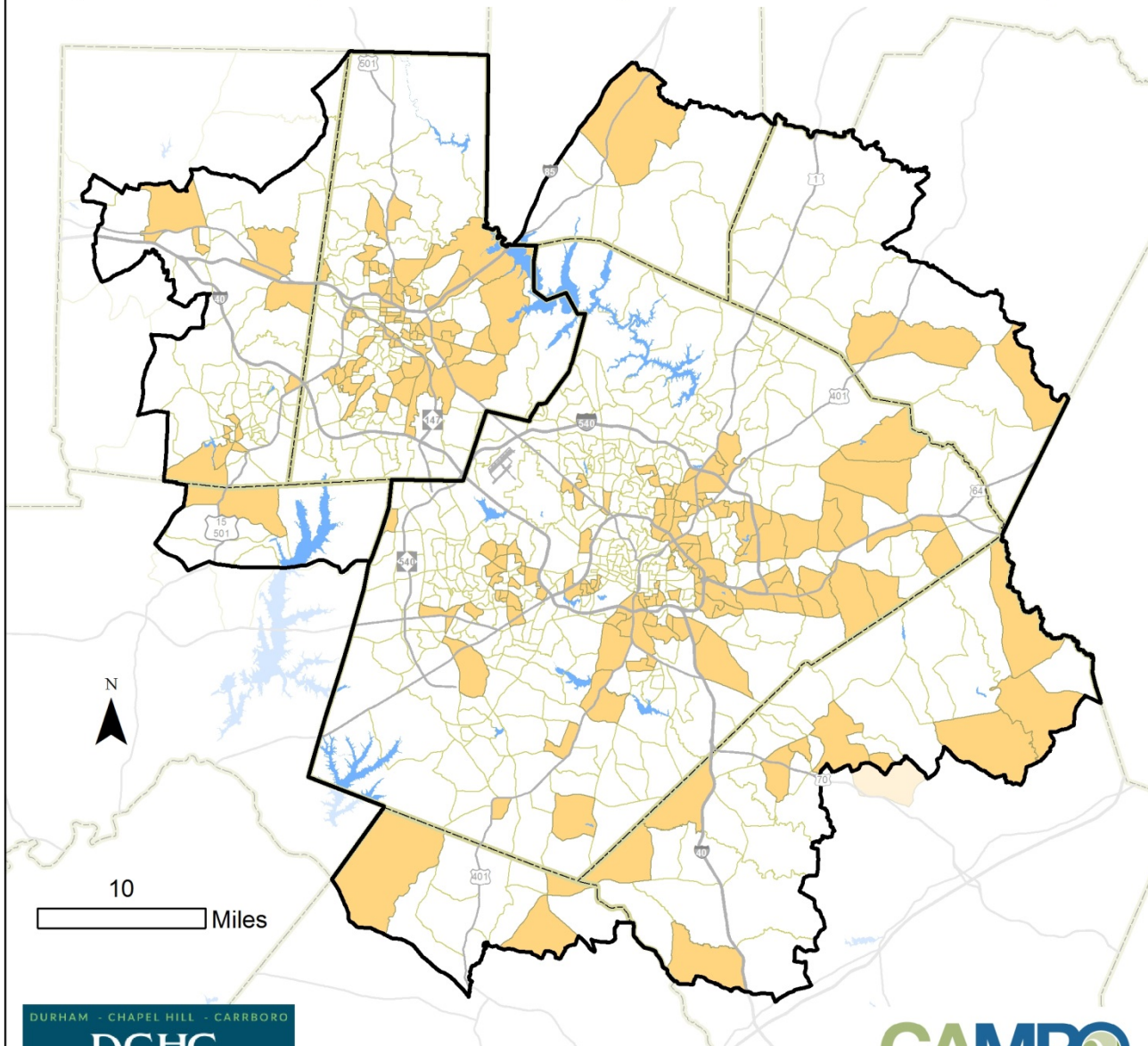
RDU Airport

CAMPO/DCHC_Boundaries

Interstate

US Route; NC 147 & NC 540

Counties in 2-MPO Region
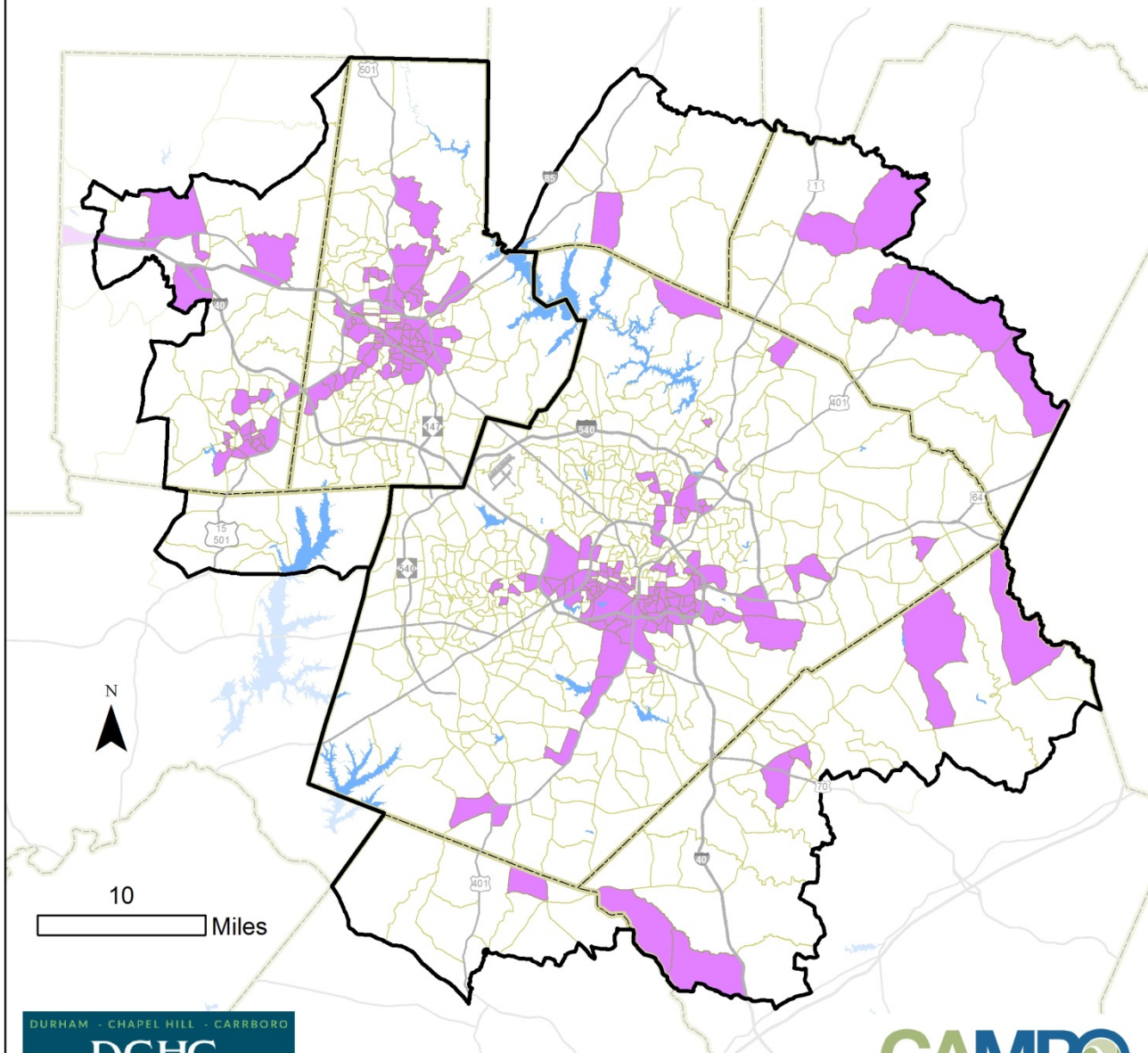
Lakes

Hispanic/Latino 12.86%

Other Block Groups

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N

10 Miles

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Top 25% of Individuals Below 150% Poverty Census Block Groups

This map shows where concentrations of populations of individuals making below 150% of the poverty line exist in the region at or above the 34% threshold. The threshold represents block groups where 34% of the people living there identify as a non-white race for the Census.

34% is the cutoff to be in the highest ranking 188 block groups in the region--the top 25% out of 577 total block groups. Any block groups with zero populations are then removed

Legend:

- RDU Airport
- CAMPO/DCHC_Boundaries
- Interstate
- US Route; NC 147 & NC 540
- Counties in 2-MPO Region
- Lakes
- Below 150% of Poverty 75th
- Other Block Groups

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N

10 Miles

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38 of 42
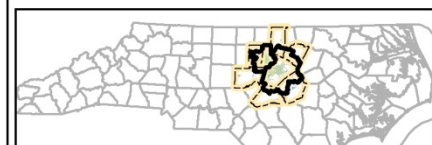
Top 25% ofZero-Car Household Census Block Groups

This map shows where concentrations of populations of households with no automobile transportation exist in the region at or above the 7.98% threshold. The threshold represents block groups where 7.98% of the people living there indentify as a non-white race for the Census.

7.98% is the cutoff to be in the highest ranking 188 block groups in the region--the top 25% out of 577 total block groups. Any block groups with zero populations are then removed
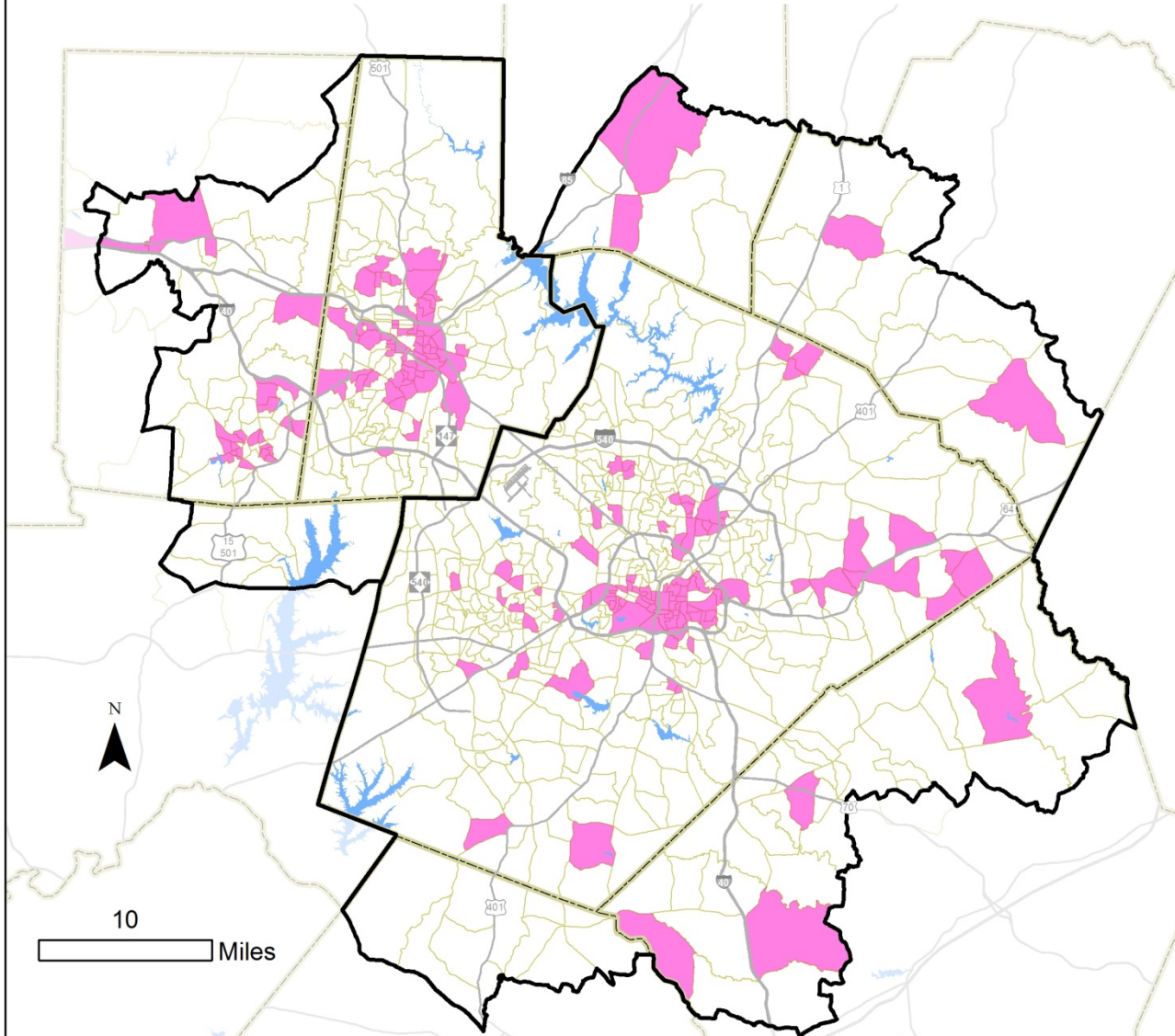
Legend:
- RDU Airport
- CAMPO/DCHC_Boundaries
- Interstate
- US Route; NC 147 & NC 540
- Counties in 2-MPO Region
- Lakes
- Zero Car HHs 7.98%
- Other Block Groups

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N

10 Miles

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Top 25% of Linguistically Isolated Census Block Groups

This map shows where concentrations of populations of persons who do not speak English or speak English "less than very well" exist in the region at or above the 6.42% threshold. The threshold represents block groups where 6.42% of the people living there indentify as a non-white race for the Census.

6.42% is the cutoff to be in the highest ranking 188 block groups in the region-- the top 25% out of 577 total block groups. Any block groups with zero populations are then removed (usually just the Airport).
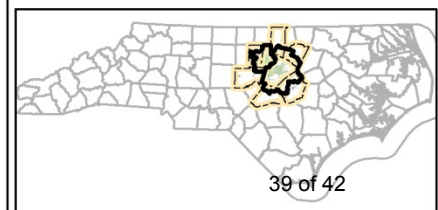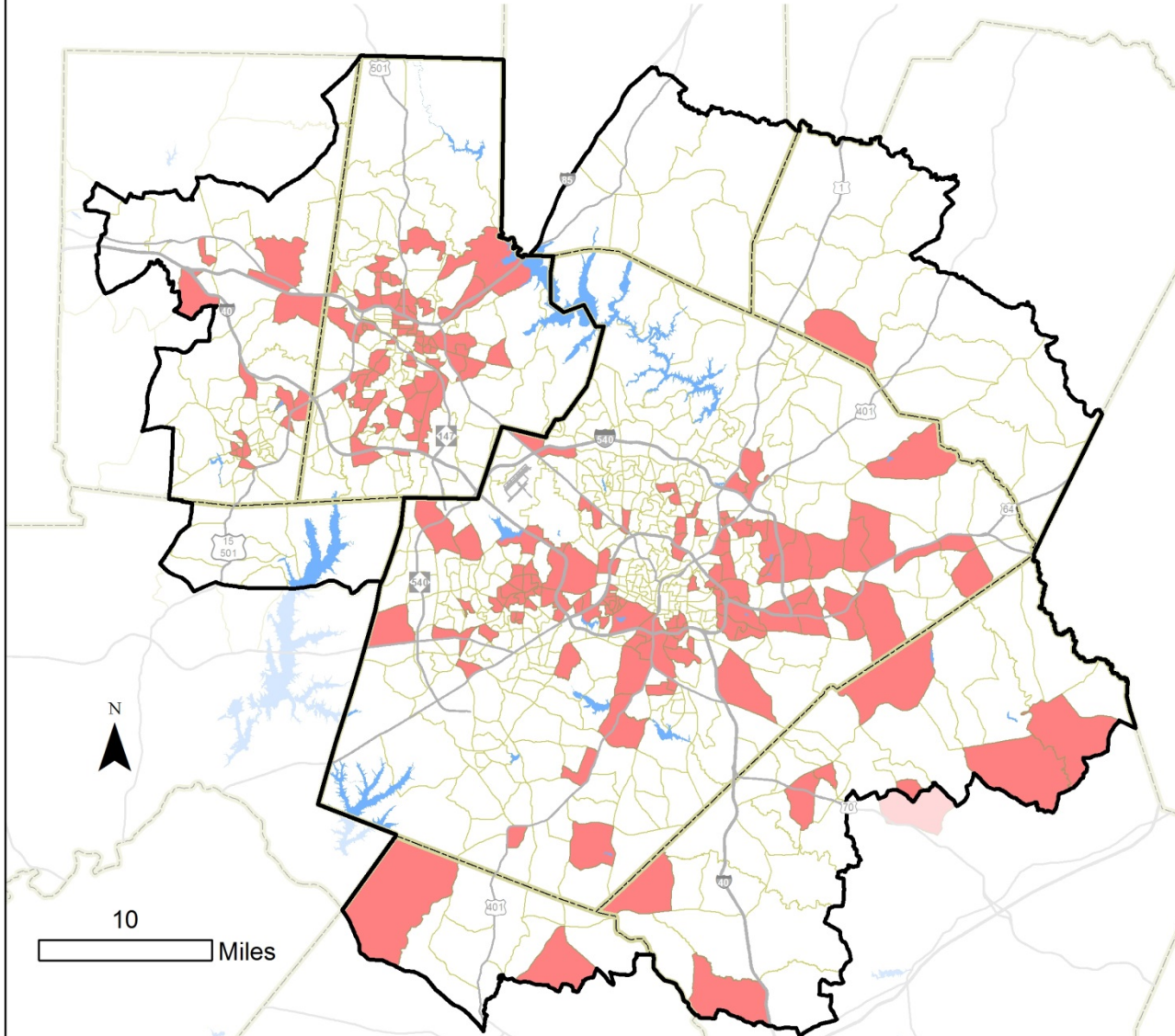
Legend:
- RDU Airport
- CAMPO/DCHC_Boundaries
- Interstate
- US Route; NC 147 & NC 540
- Counties in 2-MPO Region
- Lakes
- Linguistically Isolated
- Other Block Groups

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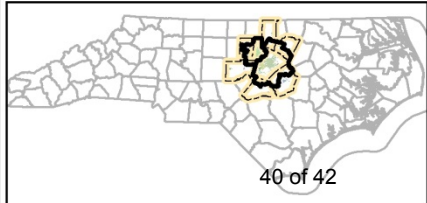
N

10 Miles

Generated by CAMPO on 8/17/2016

Top 25% of Age 70 and Over Census Block Groups

This map shows where concentrations of populations of persons 70 years old and older exist in the region at or above the 9.23% threshold. The threshold represents block groups where 9.23% of the people living there indentify as a non-white race for the Census.

9.23% is the cutoff to be in the highest ranking 188 block groups in the region--the top 25% out of 577 total block groups. Any block groups with zero populations are then removed
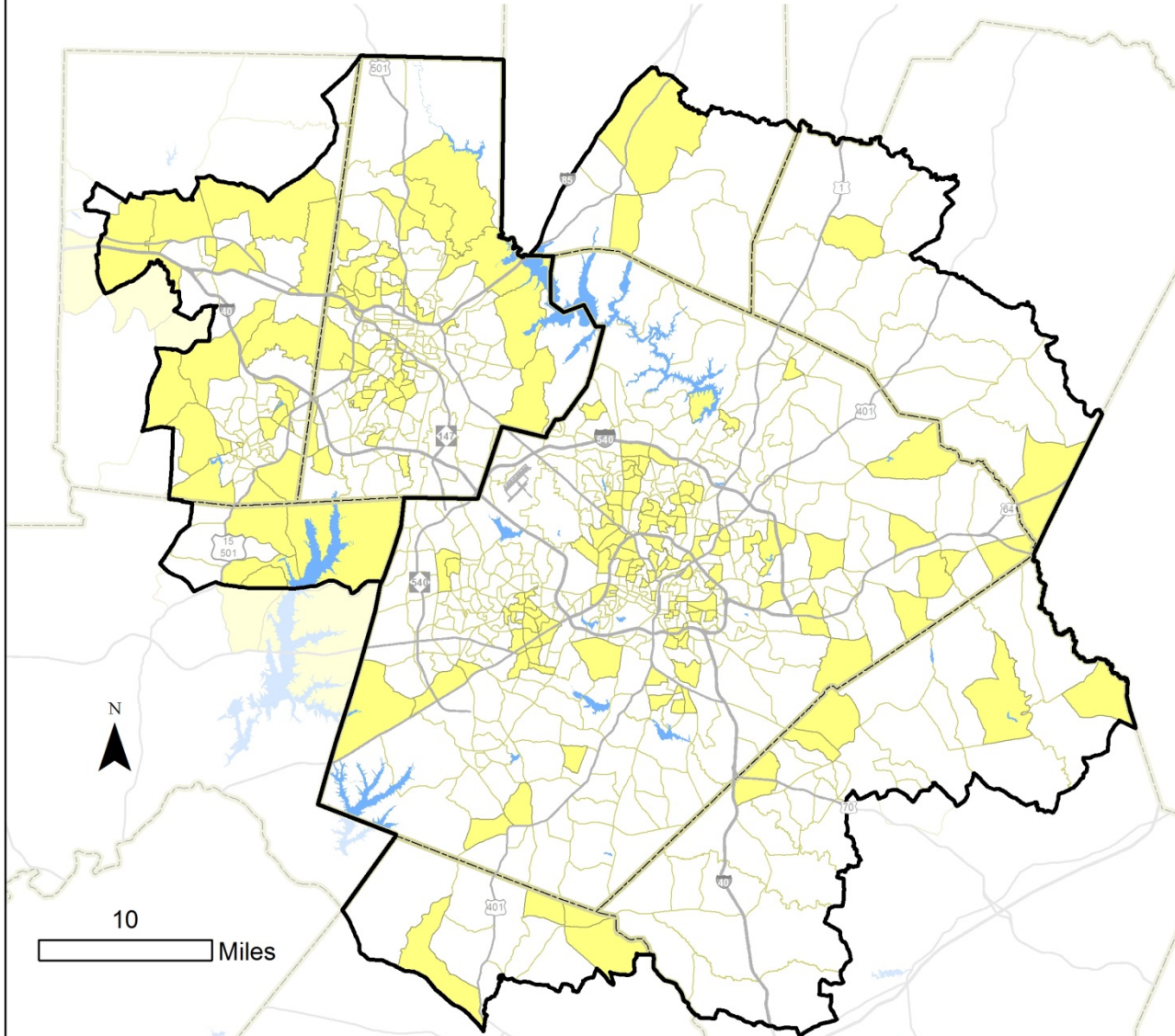
Legend:
- RDU Airport
- CAMPO/DCHC_Boundaries
- Interstate
- US Route; NC 147 & NC 540
- Counties in 2-MPO Region
- Lakes
- Age70Plus
- Other Block Groups

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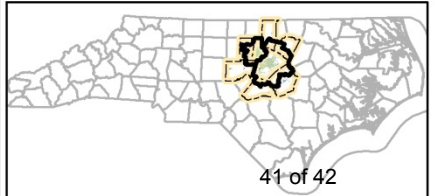
N

10 Miles

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Regional 75th Percentile Number of Indicators Overlap

This map is meant to be a regional-scale tool for the MPOs to use in regional-scale planning and regional-scale outreach. It does not identify every community that might meet Title VI protected status, but seeks to identify where there are concentrations of Title VI and other populations subject to protections under the law and associated policies. When working at a more local scale, additional identification may be needed.

The map shows the overlap of 6 indicators at the Census Block Group: Non-white race, Hispanic/Latino Origin, Individuals below 150% of the federal poverty threshold, Linguistic Isolation, Zero-car Households, and Age 70 and over. Each indicator has a threshold calculated for the 75th percentile (top 25%), and any Block Group that meets or exceeds the threshold is included.

The Capital Area Metropolitan Planning Organization, in cooperation with other mapping organizations, is committed to offering its users accurate, useful, and current information about the Region. Although every effort has been made to ensure the accuracy of information, errors and conditions originating from physical sources used to develop the database may be reflected in the map and/or data supplied. The user must be aware of data conditions and bear responsibility for the appropriate use of the information with respect to possible errors, original map scale, collection methodology, currency of data, and other conditions specific to certain data.

Number of Overlapping Indicators

- 0
- 1, ONLY TRIGGERS AGE
- 1, NOT AGE
- 2
- 3
- 4
- 5
- 6

Legend:
- RDU Airport
- CAMPO/DCHC_Boundaries
- Lakes
- Interstate
- US Route; NC 147 & NC 540
- Counties in 2-MPO Region

10 Miles

N

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