

**Beyond Race and Poverty:
A Multi-Dimensional Approach to
Measuring Environmental Justice**

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Prepared by: EuQuantSM
(Formerly Boston Research Group, Inc.)

FINAL REPORT

EU QUANT



Executive Summary

This report develops a multidimensional index to measure the attributes of neighborhoods in the ARC Region; the Community Attribute Index (CAI).

The CAI ranges in value from 0 to 1 and is derived by reducing 165 community variables to the 13 most essential for expressing the characteristics of communities. The CAI is used to evaluate Environmental Justice (EJ) Areas.

EJ areas are currently defined only by race and poverty criteria. This practice causes a misspecification of high quality neighborhoods as EJ areas.

For example:

- 23 of the regions 50 highest ranking census tracts (by CAI score) are EJ areas.
- 50 of the regions 112 highest ranking census tracts (by CAI score) are EJ areas.
- The 3.6% Asian EJ criterion causes the misspecification.
- Excluding the Asian criterion:
 - Only 4 out of the top 50 areas are EJ.
 - Only 17 out of the top 112 areas are EJ.

The study recommends using the CAI in conjunction with race and poverty criteria to define EJ areas.

Overview of Results

As Metropolitan Atlanta's federally designated planning organization, the Atlanta Regional Commission (ARC) follows regulatory guidelines of the Federal Highway and Federal Transit Administrations in designating communities for Environmental Justice (EJ) monitoring.

EJ communities are monitored to determine whether or not regional transportation plans and investment strategies will have adverse health and environmental impacts on minority and low-income communities. EJ areas are defined as Census Block Groups in the ARC 13 county region that meet or exceed any of the following criteria: Black population of 30.4 percent; Hispanic population of 7 percent; Asian-American population of 3.6 percent; or poverty rate of 9.1 percent. Using these criteria ARC maps and overlays the region's transportation network on EJ areas, develops technical tools and assessment instruments to monitor EJ communities and makes policy recommendations that are designed to mitigate adverse environmental impacts.

For some time ARC has expressed a concern that race and poverty criteria used to define EJ areas causes it to monitor communities that would not qualify as EJ if broader criteria were used. Therefore, Boston Research Group Inc. (BRG) was commissioned to conduct a study that examines the intersection between community well-being and EJ status. The findings of this study strongly support ARC's intuition and reveal that "many" communities currently defined as EJ areas enjoy a quality of life that is among the highest in the region. As such, ARC may be directing scarce resources toward some areas that have the least need.

We recommend that EJ monitoring use a multi-dimensional index to describe the attributes of communities; in conjunction with race and poverty criteria. For this purpose, BRG has developed the Community Attribute Index or CAI®. The Community Attribute Index (CAI) is a comprehensive measure of community attributes derived by collecting information for 165 variables for each community of the ARC Region.

All data are geo-coded to the census tract level and principal component analysis is used to reduce the variables to the 13 most essential for defining the characteristics of communities. Principal Component Analysis grouped the 13 variables into 5 dimensions based on how the variables are associated. The five dimensions are: Economic Opportunity, Poverty Status, Educational Attainment, Housing and Population Mix, and Family Stability. All values are scaled so that they range between 0 (the minimum value) and 1 (the maximum value). A CAI score is then derived by taking the mean value of the 5 dimensions. Scaling allows us to derive a single value for each community, to compare different communities and to measure the change in community attributes over time.

CAI scores were derived for each census tract and each Super District of the ARC Region. Of the 50 census tracts with the most favorable attributes, as ranked by their CAI scores, 23 are currently designated as EJ areas. The main factor that causes these areas to be classified as EJ is the 3.6% Asian threshold requirement. If this requirement were eliminated, only four of the top 50 tracts would be designated as EJ areas. The Technical Note below describes how the CAI score is derived and the following table ranks Super Districts by CAI scores. Finally, the maps compare EJ areas to Super Districts classified by CAI quartiles.