



Environmental Justice Analysis

Updated methods for *Maximize2045*

March 5, 2019



Introduction

- **EJ Principles:**
 - Avoid, minimize, or mitigate disproportionately high and adverse human health and environmental effects on minority and low-income populations
 - Ensure the full and fair participation by all potentially affected communities in the transportation decision-making process
 - Prevent the denial of, reduction in, or significant delay of these protections for minority and low-income populations

Introduction



- **EJ Populations:**

- Low-income: A person whose household income is at or below the U.S. Department of Health and Human Services poverty guidelines is considered low-income.
- Minorities: A person belonging to any of the following groups is considered part of a minority population:
 - Person of origin in any of the black racial groups of Africa;
 - Person of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin;
 - Person having origins in any of the original peoples of the Far East, Southeast Asia, Indian subcontinent, or Pacific Islands; or
 - Person having origins in any of the original people of North America (American Indian, Alaskan Native) and who maintains cultural identification through tribal affiliation or community recognition.

Identifying EJ Populations: Minorities

		BRTB Population		Share	
White, non Hispanic	White, non Hispanic	1,605,111	1,605,111	57.5%	57.5%
Minorities	Black, non Hispanic	1,186,939	801,713	42.5%	28.7%
	American Indian and Alaska Native, non Hispanic		5,327		0.2%
	Asian, non Hispanic		148,872		5.3%
	Native Hawaiian and Pacific Islander, non Hispanic		1,069		0.0%
	Some other race, non Hispanic		7,496		0.3%
	Two or more races, non Hispanic		69,896		2.5%
	Hispanic - all races		152,566		5.5%
Total		2,792,050	2,792,050	100.0%	100.0%

Source: U.S. Census Bureau, 2013-2017 American Community Survey 5-year Estimates

Identifying EJ Populations: HHs in Poverty

Jurisdiction	Total Households	Below 100% of Poverty Line	
		Households	Share
Anne Arundel	205,395	11,818	5.8%
Baltimore City	239,791	49,940	20.8%
Baltimore	312,859	27,209	8.7%
Carroll	60,432	3,174	5.3%
Harford	92,895	7,539	8.1%
Howard	111,337	5,385	4.8%
Queen Anne's	17,995	1,079	6.0%
Regional Total	1,040,704	106,144	10.2%

Source: U.S. Census Bureau, 2013-2017 American Community Survey 5-year Estimates

Methodology



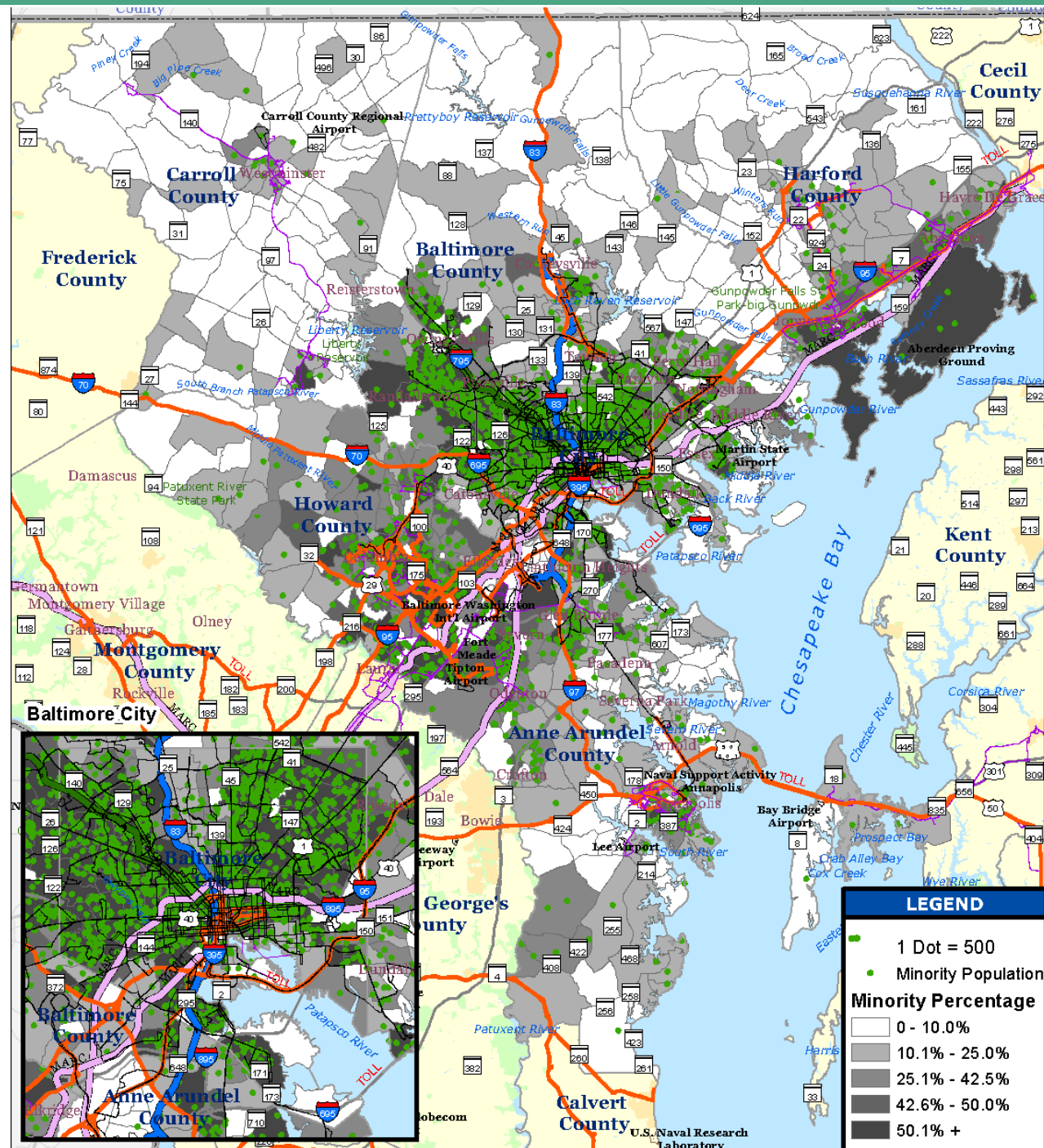
- **Transportation Analysis Zones (TAZs) serve as the geographic basis for EJ analysis**
 - TAZs are the basis of analysis in the current travel demand model
 - A TAZ is identified as an EJ area if it has a concentration of households in poverty (10.2%) or minorities (42.5%) at or greater than the regional average
 - Shortcomings of TAZ thresholds: Small pockets of EJ populations can be excluded

Methodology

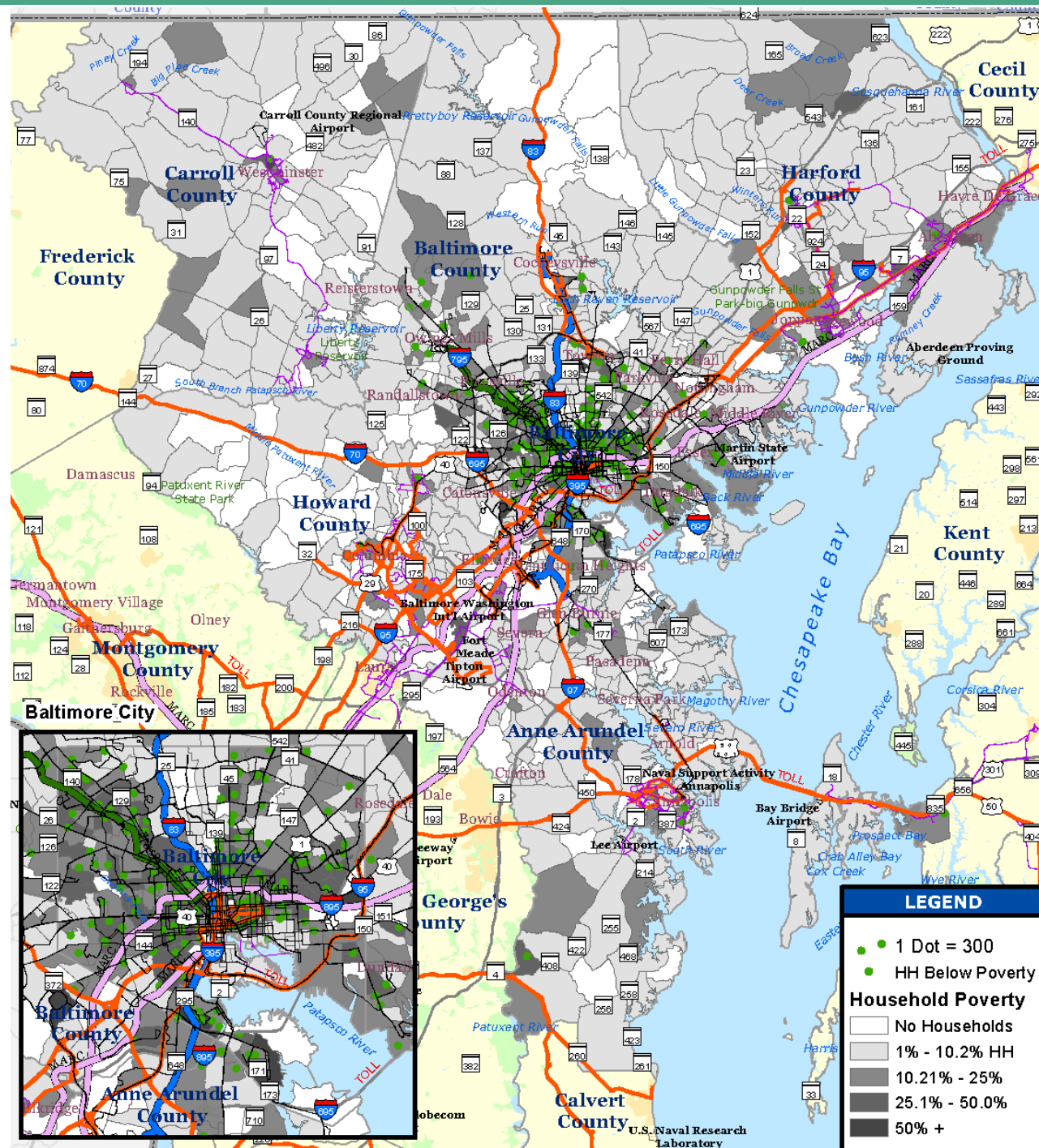


	Number of TAZs	BRTB Region Totals		EJ Population			
		Pop	HH	Minority Pop	Minority %	HH in Poverty	HH in Poverty %
EJ TAZs	661	1,470,791	550,963	946,573	79.7%	85,090	80.2%
Minority > 42.5%	212	535,585	192,685	350,579	29.5%	9,919	9.3%
Poverty HH > 10.2%	142	265,318	104,293	65,060	5.5%	16,126	15.2%
Both Minority & Poverty	307	669,888	253,985	530,934	44.7%	59,045	55.6%
Non-EJ TAZs	731	1,321,259	489,742	240,366	20.3%	21,054	19.8%
Total	1392	2,792,050	1,040,705	1,186,939	100%	106,144	100%

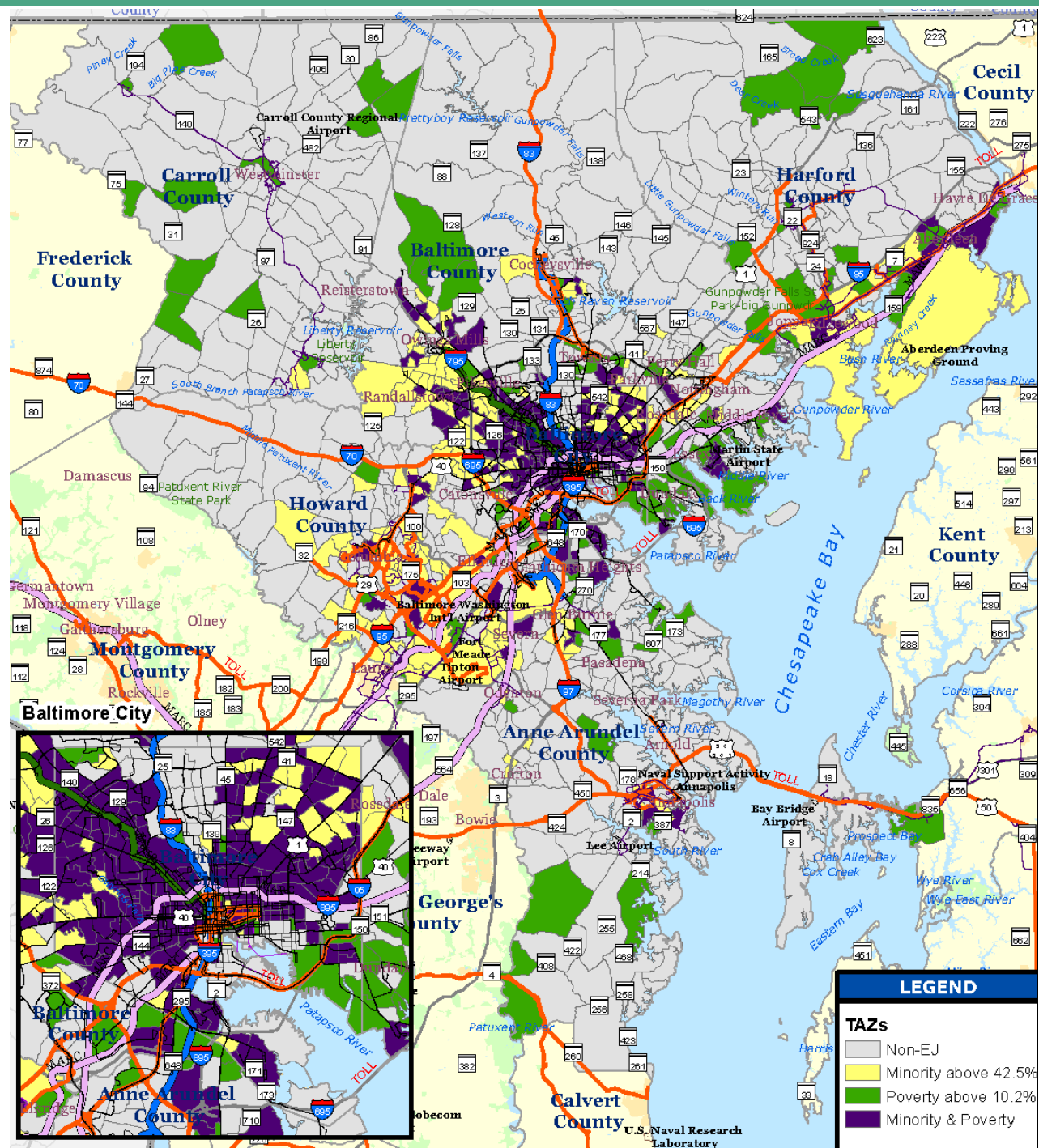
TAZs by Minority Percentage



TAZs by Households in Poverty



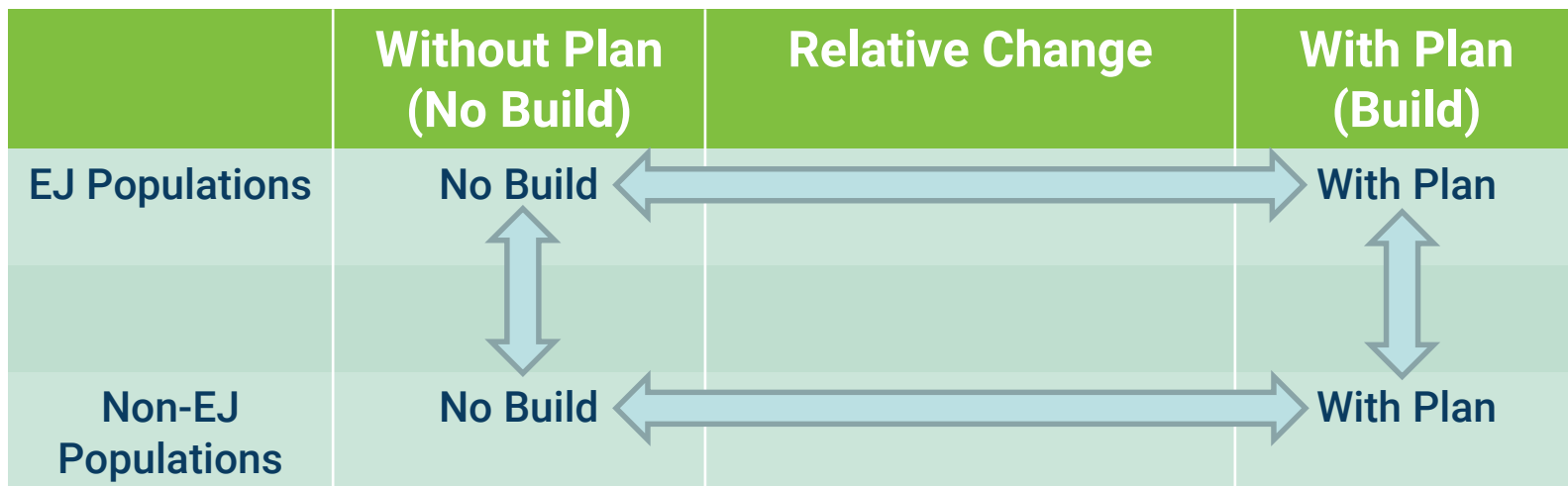
EJ TAZs



Methodology



- How can we improve the EJ Analysis from Max2040 to Max2045?
 - Similar method for identifying EJ Areas
 - Improve discussion of demographics for the region's EJ population and methodology for all readers
 - Integrate additional measures of accessibility and mobility
 - Improved discussion of analysis both within and between scenarios



Max2045: Potential Expanded set of measures



- **Accessibility Measures**
 - Average number of jobs accessible by both auto (30 min) & transit (60 min)
 - Average number of shopping opportunities accessible by both auto (30 min) & transit (60 min)
- **Mobility Measures**
 - Average commute time by both auto & transit
 - Average travel time for shopping purposes by both auto & transit
 - Average travel time to closest hospital by both auto & transit

Max2045: Potential Expanded set of measures



- **Proximity to important destinations and services**
 - Percent of population close to a college or university by both auto & transit
 - Percent of population close to a hospital by both auto & transit
 - Percent of population close to a supermarket or public market by both auto & transit



EJ Analysis: Next Steps

- Complete modeling of these measures
- Analyze data
 - Calculate results for EJ vs. Non-EJ populations
 - Compare results both within and across scenarios
- Write up analysis
- Future EJ analysis opportunities in the activity-based model

For More Information

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Max2040: Previous Measures

- **Labor Force to Jobs Ratio**
 - 30 minutes auto
 - 60 minutes transit
- **Attractions to shopping opportunities**
 - 30 minutes auto
 - 60 minutes transit