

Visualize 2045

Environmental Justice Analysis

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TPB Access for All Advisory Committee
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Item #4



Purpose

Share the results of the Environmental Justice (EJ) analysis to determine if the planned projects of Visualize 2045 poses a disproportionately high and adverse impact on low income and minority populations of the region



Equity Emphasis Areas

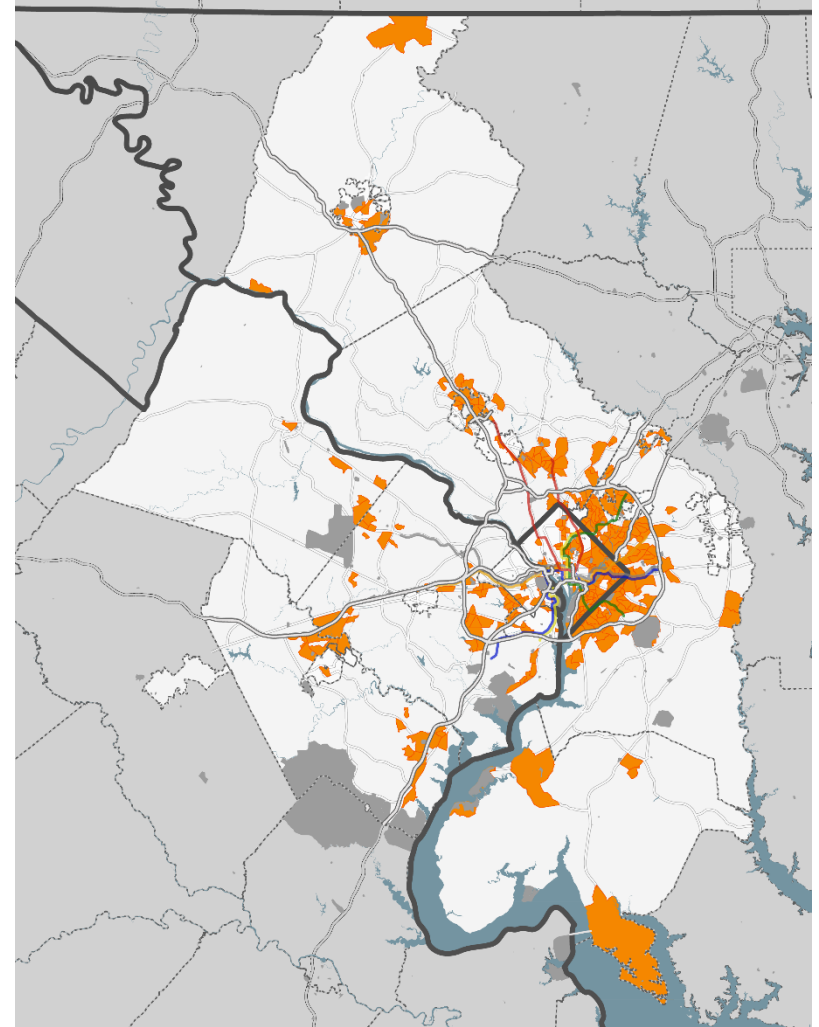
Criteria 1

- Low-Income concentration more than 1.5 times the regional average

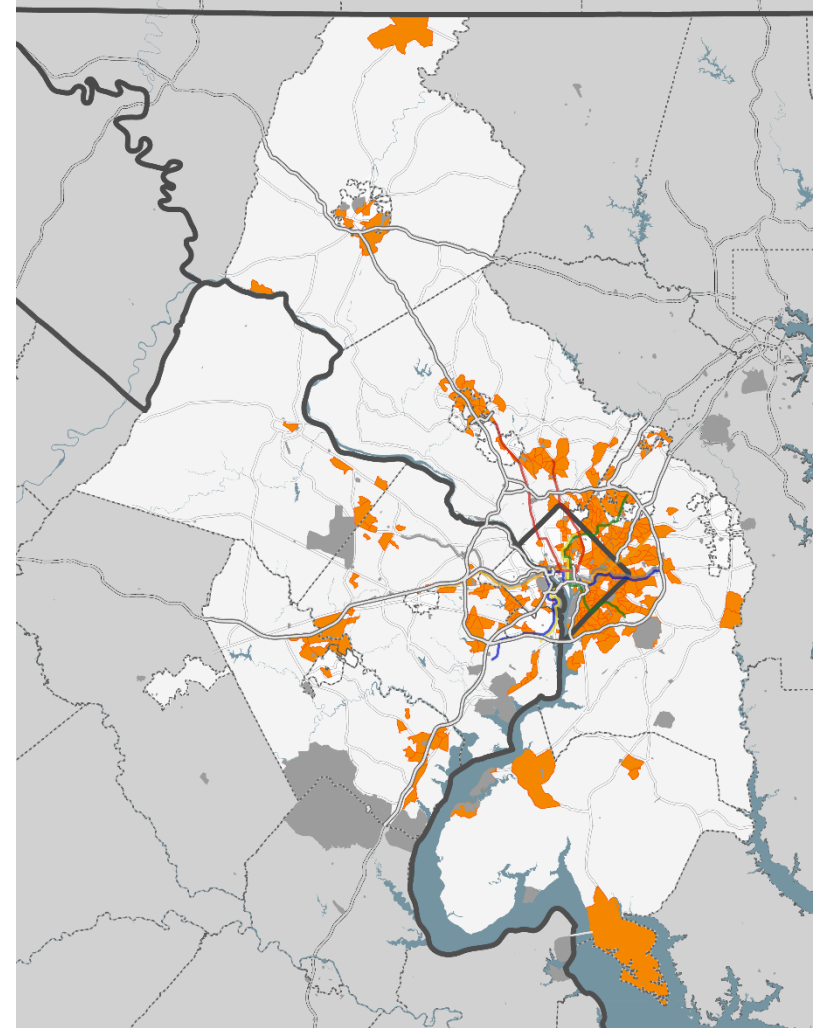
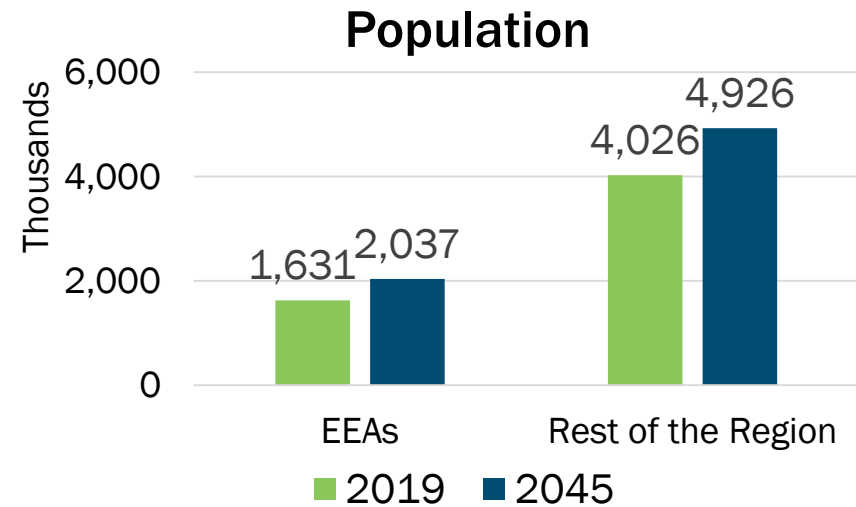
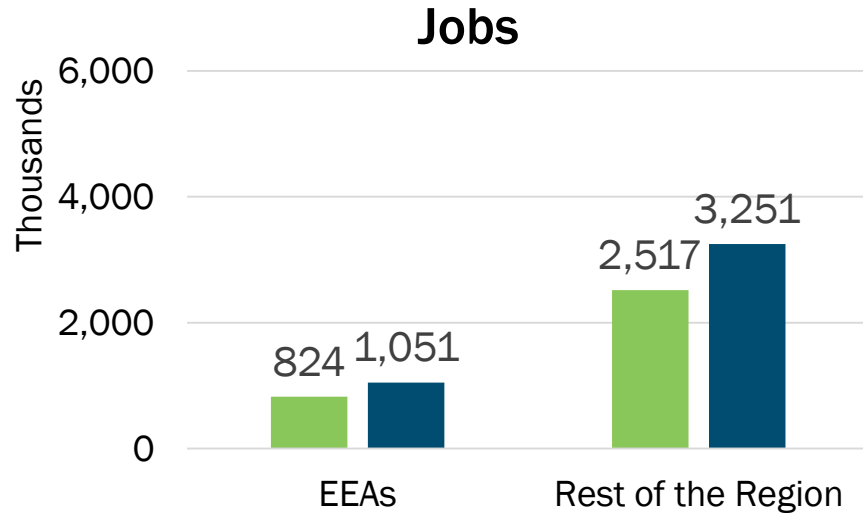
Criteria 2

- High concentrations of 2+ minority population groups
- OR
- High concentrations of 1+ more minority population groups with low income at or above the regional average

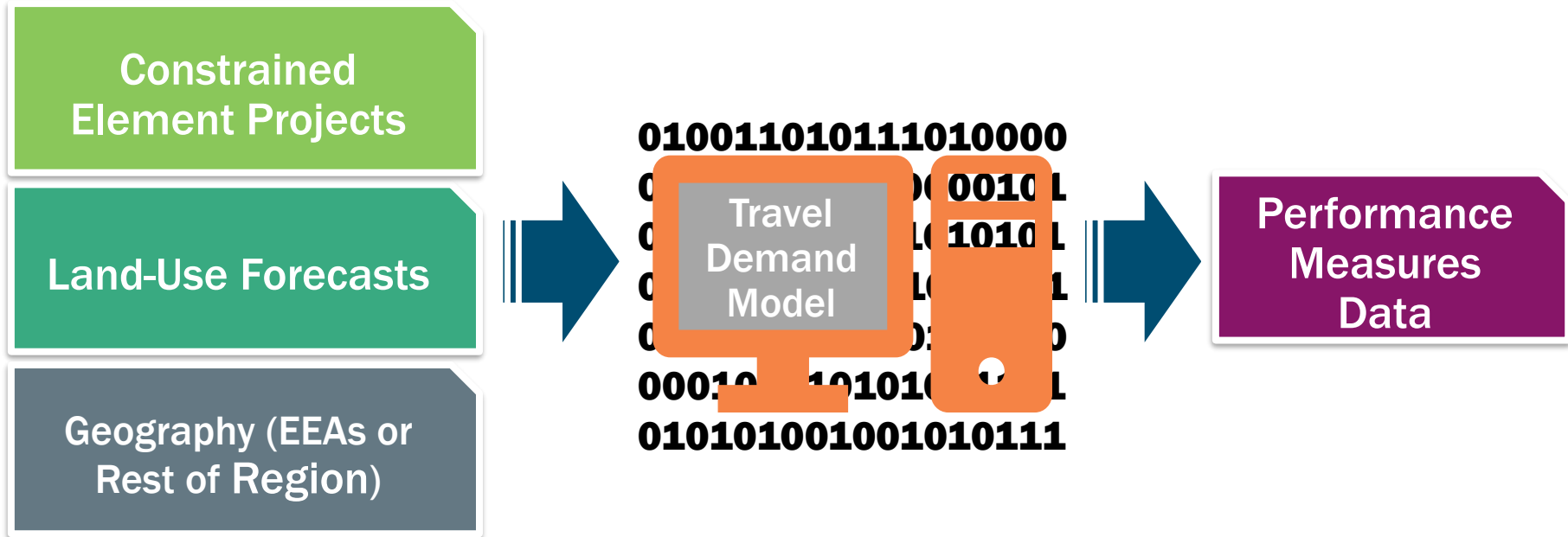
**TPB Approved in March 2017 and
update June 2018**



Distribution of Jobs and Population



Environmental Justice Analysis Process



- Round 9.1 Cooperative Forecasts of Population, Households, & Employment
- Version 2.3.75 Travel Demand Model
- Analysis of TPB Planning Area during AM Peak Period



Environmental Justice Analysis

Three Steps:

1. Estimate changes in transportation accessibility and mobility due to the planned projects in Visualize 2045
2. Identify benefits and burdens of those changes in Equity Emphasis Areas (EEAs) as-a-whole and in the Rest of the Region
3. Determine if Visualize 2045 imposes a disproportionately high and significantly adverse impact on low-income and minority populations



Environmental Justice Analysis Measures

Accessibility Measures

1. Average number of jobs accessible by auto
2. Average number of jobs accessible by all transit
3. Average number of jobs accessible by High Capacity Transit
4. Average number of jobs accessible by bus
5. Population with walkable access to High Capacity Transit
6. Population with walkable access to bus service

Mobility Measures

7. Average commute time by auto
8. Average commute time by transit
9. Average travel time to closest hospital by auto
10. Average travel time to closest hospital by transit



Environmental Justice Test

	Benefit	Burden
Accessibility Measures	Increase	Decrease
Mobility Measures	Decrease	Increase

Determination Test

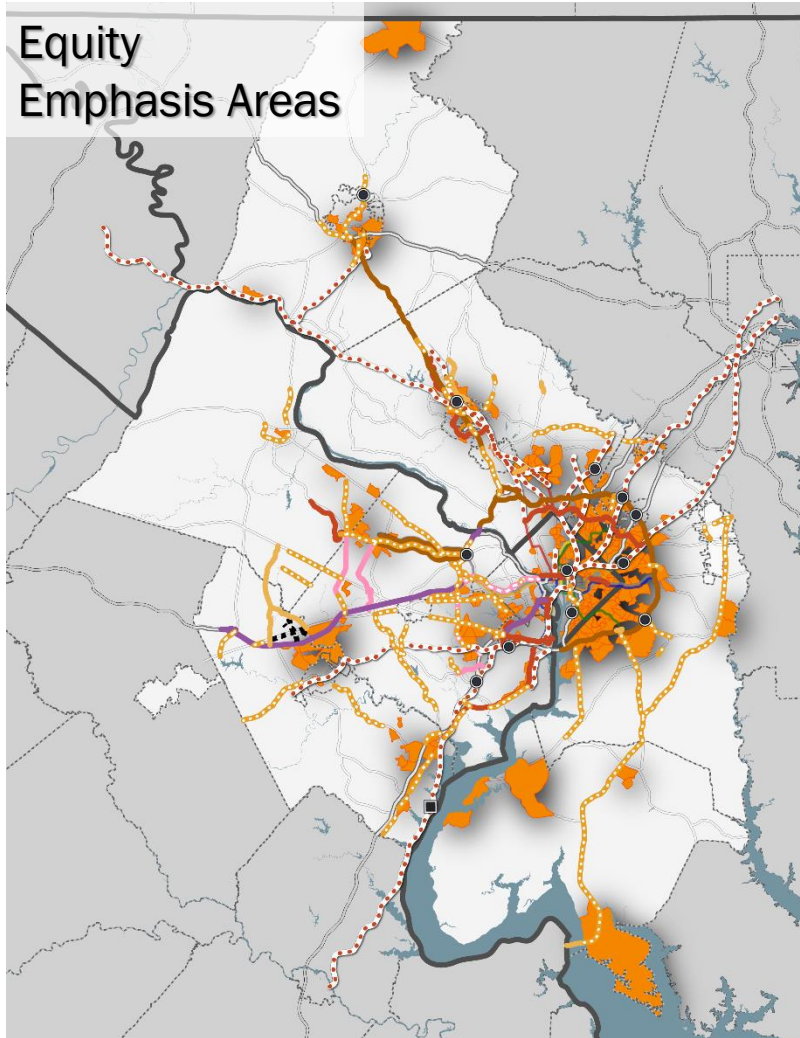
Impact would be considered disproportionately high and adverse when:

- 1) The burden is predominately borne by EEAs
and
- 2) Is appreciably more severe or greater in magnitude in EEAs than the Rest of the Region

Bottom line: EEAs must experience a **Burden** while the Rest of the Region a **Benefit**



Recap of EJ Analysis Process



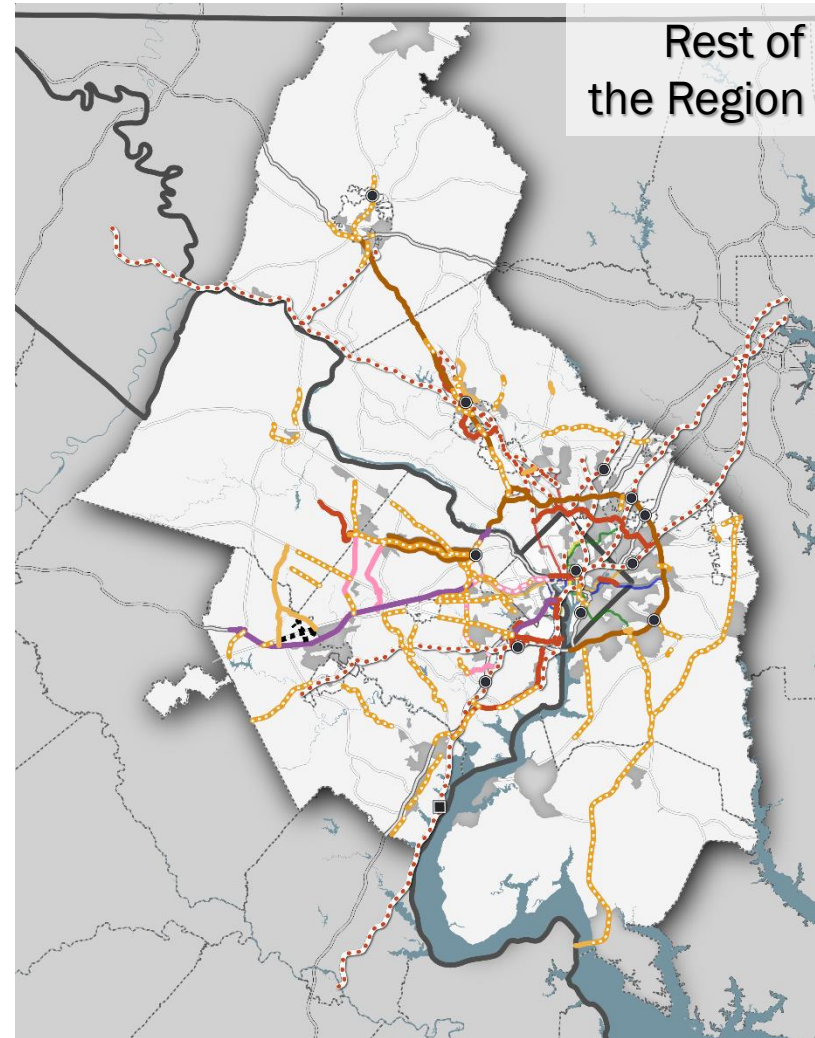
Today



2045
No-Build



2045
Build



Context for Findings

- Regional-level analysis whose findings are not applicable to particular EEA(s) or attributable to specific project, corridor, or sub-area
- Current location of EEAs remain unchanged in 2045
- Location and number of Hospitals remain unchanged in 2045
- This analysis does not consider more qualitative aspects like:
 1. Safety and comfort
 2. Reliability
 3. Availability of information and ease of use
 4. Language barriers
- Analysis does not examine the availability or quality of off-peak service



EJ Analysis Results: Overview

Determination

Planned projects of Visualize 2045 would not have a disproportionate and adverse impact on low-income and minority populations

On ten performance measures:

- ✓ **Seven measures:** Similar **Benefits** for EEAs and the Rest of the Region
- ✓ **One measure:** Disproportionate **Benefits** for EEAs
- **Two measures:** Similar **Burdens** for EEAs and the Rest of the Region



EJ Analysis Results: Similar Benefits

Similar **Benefits** for EEAs and the Rest of the Region

Measure		2019	2045 Plan-Build	Impact of Visualize 2045	
				Absolute	Percent
1. Average number of jobs accessible by auto	EEAs	1,029	1,045	+16	+1.6%
	Rest of the Region	799	853	+54	+6.8%
2. Average number of jobs accessible by transit	EEAs	540	738	+198	+36.7%
	Rest of the Region	302	428	+126	+42.0%
3. Average number of jobs accessible by High Capacity Transit	EEAs	197	335	+138	+70.2%
	Rest of the Region	125	203	+78	+62.9%
4. Average number of jobs accessible by bus	EEAs	99	145	+46	+46.3%
	Rest of the Region	70	104	+34	+49.4%
5. Population with walkable access to High Capacity Transit	EEAs	648	1,119	+471	+72.8%
	Rest of the Region	977	1,517	+540	+55.2%
6. Population with walkable access to bus service	EEAs	1,492	1,872	+380	+25.5%
	Rest of the Region	2,617	3,211	+594	+22.7%
10. Average travel time to closest hospital by transit	EEAs	33.9	33.6	-0.3	-0.9%
	Rest of the Region	45.0	44.9	-0.1	-0.2%

Note: Figures in thousands and minutes



EJ Analysis Results: Benefits and Burdens

Disproportionate **Benefits** for EEs

Measure		2019	2045 Plan-Build	Impact of Visualize 2045	
				Absolute	Percent
8. Average commute time by transit	EEAs	54.1	52.9	-1.2	-2.2%
	Rest of the Region	53.3	54.3	+1.0	+1.9%

Similar **Burdens** for EEs and the Rest of the Region

Measure		2019	2045 Plan-Build	Impact of Visualize 2045	
				Absolute	Percent
7. Average commute time by auto	EEAs	42.3	47.0	+4.7	+11.1%
	Rest of the Region	47.4	52.5	+5.1	+10.8%
9. Average travel time to closest hospital by auto	EEAs	15.3	16.7	+1.4	+9.2%
	Rest of the Region	16.8	18.5	+1.7	+10.1%

Note: Figures in thousands and minutes



Policy Observations

- ✓ Visualize 2045 complies with and passes federal EJ determination
- ✓ Parity between EEAs and Rest of the Region on most performance measures
- Opportunities exists for improved outcomes:
 1. EEA's advantage of access to more jobs by auto compared to Rest of Region is forecast to narrow
 2. No. of jobs accessible in EEAs by Bus only travel is half that accessible by High Capacity Transit
 3. Walk access to High Capacity Transit in EEAs and Rest of the Region is half that to Bus



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