# Slide 1:

# Presentation Title: Visualize 2045 Environmental Justice Analysis

# Sergio Ritacco

# Transportation Planner

# TPB Access for All Advisory Committee

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# Item #4

Slide 2: 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

Slide 3: 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

Map of region with Equity Emphasis Areas (EEAs) highlighted

Slide 4: Distribution of Jobs and Population

Graph showing Jobs in EEAs:

* 2019 = 824
* 2045 = 1,051

Graph showing Jobs in the rest of the region:

* 2019 = 2,517
* 2045 = 3,251

Graph showing Population in EEA:

* 2019 = 1,631
* 2045 = 2,037

Graph showing Population in rest of the region:

* 2019 = 4,026
* 2045 = 4,926

Map of region with Equity Emphasis Areas (EEAs) highlighted

Slide 5: Environmental Justice Analysis Process

Graphic of Process

Constrained Element Projects, Land-Use Forecasts, and Geography (EEAs or Rest of Region) lead to the Travel Demand Model and become Performance Measures Data

* 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

Slide 6: Environmental Justice Analysis Process

Three Steps:

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

Slide 7: Environmental Justice Analysis Measures

Accessibility Measures

* Average number of jobs accessible by auto
* Average number of jobs accessible by all transit
* Average number of jobs accessible by High Capacity Transit
* Average number of jobs accessible by bus
* Population with walkable access to High Capacity Transit
* Population with walkable access to bus service

Mobility Measures

* Average commute time by auto
* Average commute time by transit
* Average travel time to closest hospital by auto
* Average travel time to closest hospital by transit

Slide 8: Environmental Justice Test

Table of Benefit and Burden

For Accessibility

* Benefits are increase in avg # of jobs or population with walkable access
* Burden are decreases

For Mobility

* Benefits are a decrease in commute or travel time
* Burden is an increase

Determination Test

* Impact would be considered disproportionately high and adverse when:
* The burden is predominately borne by EEAs

AND

* 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

Slide 9: Recap of EJ Analysis Process

Maps showing EEAs and Rest of Region with different dots for Today, 2045 No-Build and 2045 Build

Slide 10: 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 remains unchanged in 2045
* Location and number of Hospitals remain unchanged in 2045
* This analysis does not consider more qualitative aspects like:
	+ Safety and comfort
	+ Reliability
	+ Availability of information and ease of use
	+ Language barriers
* Analysis does not examine the availability or quality of off-peak service

Slide 11: 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

Slide 12: EJ Analysis Results: Similar Benefits

Table showing Similar Benefits for EEAs and the Rest of the Region

Measures:

1. Average number of jobs accessible by auto
2. Average number of jobs accessible by 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
7. Average travel time to closest hospital by transit

Slide 13: EJ Analysis Results: Benefits and Burdens

Table showing Disproportionate Benefits for EEAs

Measure:

1. Average commute time by transit

Table showing Similar Burdens for EEAs and the Rest of the Region

Measure:

1. Average commute time by auto
2. Average travel time to the closest hospital

Slide 14: 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

Slide 15: Policy Observations

Repeat of Table of Measures and results in reference to the opportunities for improved outcomes from last slide.

Slide 16:

Sergio Ritacco

Transportation Planner

202.962.3232

sritacco@mwcog.org

Metropolitan Washington Council of Governments

777 North Capitol Street NE, Suite 300

Washington, DC 20002