

Appendix A – Environmental Justice Information



MEMORANDUM

TO: Virginia Department of Transportation – NOVA District Environmental
 DATE: March 1, 2024
 FROM: Steven Swarr, JMT
 PROJECT: Marina Way Extension
 RE: Environmental Justice Analysis

The following is a memorandum documenting the Environmental Justice (EJ) analysis that was conducted for the Marina Way Extension project. This analysis was completed per the guidelines identified in VDOT’s IIM-ED-714.1: Environmental Justice Identification and Outreach document. This analysis was done in addition to the detailed EJ analysis included in the Marina Way Environmental Assessment (EA).

The Environmental Justice (EJ) study area for the Marina Way Extension project in Woodbridge, VA is entirely within one Census Tract (51153900201). Minority populations, limited English speaking households, and low-income households are used to identify EJ populations. Data was collected for Census Tract 51153900201 and Prince William County is from the Environmental Protection Agency’s (EPA) EJ Screen Environmental Screening and Mapping Tool and summarized in the table above. Full EJScreen reports for Census Tract 51153900201 and Prince William County are attached to this summary.

Index	Census Tract 51153900201	Prince William County, VA
Total Population:	2,338	477,224
People of Color:	77%	59%
Population of one race:	98%	96%
White alone	23%	41%
Black or African American alone	25%	20%
American Indian	0%	0%
Asian alone	7%	9%
Hispanic alone	40%	25%
Native Hawaiian and Pacific Islander alone	0%	0%
Some Other Race alone	2%	0%
Population of 2 or more races:	2%	4%
Limited English Speaking:	11%	6%
Low Income:	23%	17%

*Data from EJScreen: Environmental Justice Screening and Mapping Tool



Minority Populations

The EPA defines minority populations based on the percentage of people of color which is individuals in a block group/census tract who “list their racial status as a race other than white alone and/or list their ethnicity as Hispanic or Latino”. The word “alone” indicates that a person is not multiracial and identifies as one single race. As indicated in the reports, the state and national averages for minority population percentage are 38% and 39% respectively. Census Tract 51153900201 has a minority population percentage of 77% which is higher than both the state and national averages. Additionally, this number is higher than the minority population percentage in Prince William County (59%). This data indicates the presence of an EJ population.

Limited English-Speaking Households

As defined by the EPA, Limited English Speaking is the percent of people within a block group who live in a household in which all members aged 14 and older speak a non-English language and also have difficulty with English. The state average for Limited English-Speaking Households is 2% while the national average is 5%. The population of people in a Limited English-Speaking Household in Census Tract 51153900201 is 11% while the percentage of the population in Prince William County is 6%.

Low-Income Households

The EPA defines low-income as households in which the household income is less than or equal to twice the federal "poverty level." The state average for households below this income is 25% and the national average is 31%. The percentage of people in Census Tract 51153900201 that live in a low-income household is 23% which is lower than state and national averages. This does not indicate the presence of an EJ population.

Impact to EJ Populations

The project will require the acquisition of new right-of-way (ROW) but does not require the displacement or relocation of any residences or businesses. The result of the project is to relieve the burden of future traffic congestion and improve vehicle and pedestrian accessibility to residences and businesses in the North Woodbridge area. Although there are EJ populations present, the Project is not anticipated to have disproportionate and adverse human health or environmental effects on these populations. No low-income populations have been identified that would be adversely impacted by the proposed project.



Attachments

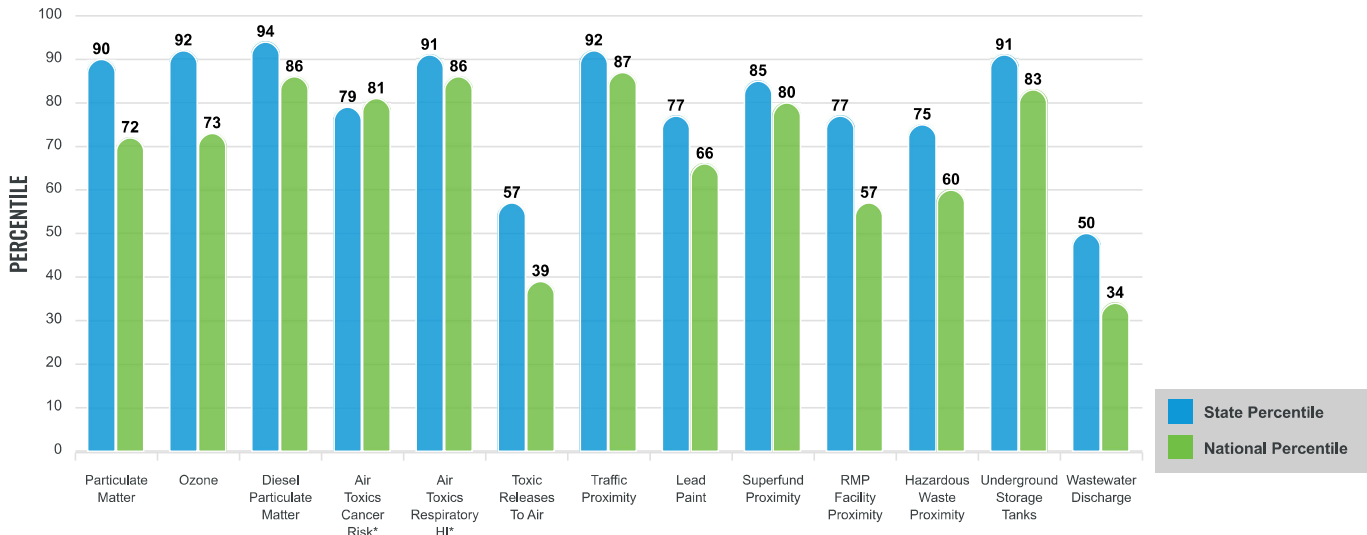
Environmental Justice & Supplemental Indexes

The environmental justice and supplemental indexes are a combination of environmental and socioeconomic information. There are thirteen EJ indexes and supplemental indexes in EJScreen reflecting the 13 environmental indicators. The indexes for a selected area are compared to those for all other locations in the state or nation. For more information and calculation details on the EJ and supplemental indexes, please visit the [EJScreen website](#).

EJ INDEXES

The EJ indexes help users screen for potential EJ concerns. To do this, the EJ index combines data on low income and people of color populations with a single environmental indicator.

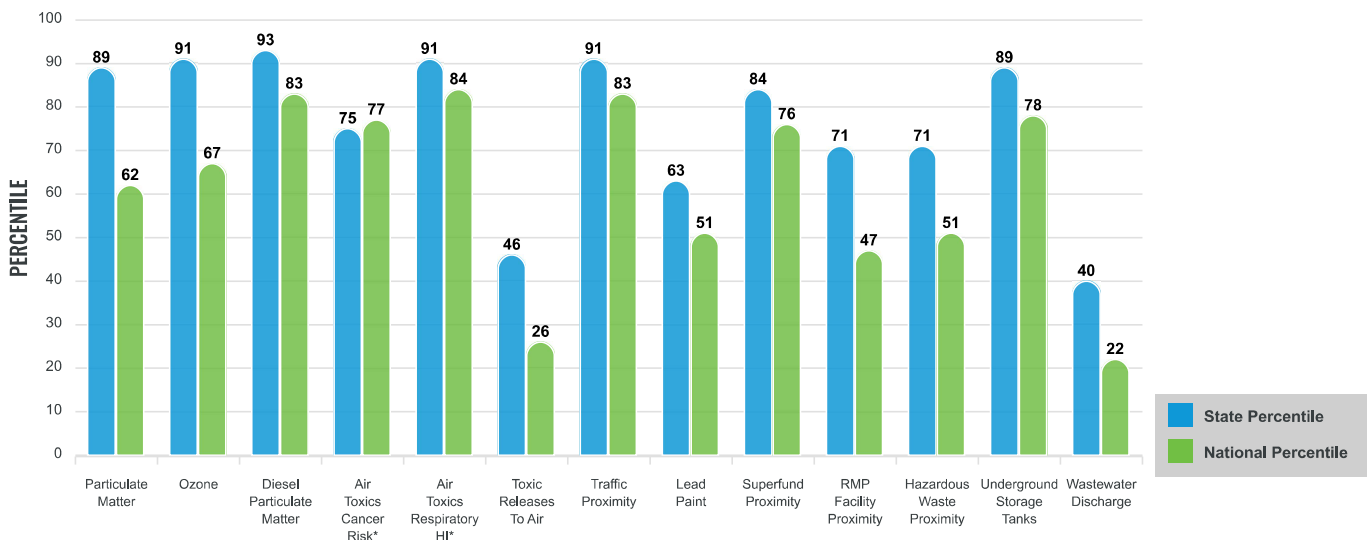
EJ INDEXES FOR THE SELECTED LOCATION



SUPPLEMENTAL INDEXES

The supplemental indexes offer a different perspective on community-level vulnerability. They combine data on percent low-income, percent linguistically isolated, percent less than high school education, percent unemployed, and low life expectancy with a single environmental indicator.

SUPPLEMENTAL INDEXES FOR THE SELECTED LOCATION



These percentiles provide perspective on how the selected block group or buffer area compares to the entire state or nation.

Report for Tract: 51153900201

EJScreen Environmental and Socioeconomic Indicators Data

SELECTED VARIABLES	VALUE	STATE AVERAGE	PERCENTILE IN STATE	USA AVERAGE	PERCENTILE IN USA
POLLUTION AND SOURCES					
Particulate Matter ($\mu\text{g}/\text{m}^3$)	8.13	7.53	75	8.08	48
Ozone (ppb)	61.2	59.1	81	61.6	51
Diesel Particulate Matter ($\mu\text{g}/\text{m}^3$)	0.435	0.209	98	0.261	86
Air Toxics Cancer Risk* (lifetime risk per million)	30	29	26	25	52
Air Toxics Respiratory HI*	0.4	0.33	62	0.31	70
Toxic Releases to Air	47	4,300	28	4,600	17
Traffic Proximity (daily traffic count/distance to road)	670	150	95	210	93
Lead Paint (% Pre-1960 Housing)	0.12	0.22	48	0.3	38
Superfund Proximity (site count/km distance)	0.094	0.11	68	0.13	65
RMP Facility Proximity (facility count/km distance)	0.11	0.21	52	0.43	31
Hazardous Waste Proximity (facility count/km distance)	0.2	0.61	49	1.9	35
Underground Storage Tanks (count/km ²)	5.1	1.9	90	3.9	78
Wastewater Discharge (toxicity-weighted concentration/m distance)	6.3E-06	7.2	24	22	15
SOCIOECONOMIC INDICATORS					
Demographic Index	50%	31%	83	35%	74
Supplemental Demographic Index	16%	12%	73	14%	63
People of Color	77%	38%	89	39%	81
Low Income	23%	25%	53	31%	42
Unemployment Rate	8%	5%	81	6%	75
Limited English Speaking Households	11%	2%	93	5%	86
Less Than High School Education	14%	10%	75	12%	70
Under Age 5	6%	6%	58	6%	57
Over Age 64	6%	17%	15	17%	13
Low Life Expectancy	22%	20%	72	20%	72

*Diesel particulate matter, air toxics cancer risk, and air toxics respiratory hazard index are from the EPA's Air Toxics Data Update, which is the Agency's ongoing, comprehensive evaluation of air toxics in the United States. This effort aims to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that the air toxics data presented here provide broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. Cancer risks and hazard indices from the Air Toxics Data Update are reported to one significant figure and any additional significant figures here are due to rounding. More information on the Air Toxics Data Update can be found at: <https://www.epa.gov/haps/air-toxics-data-update>.

Sites reporting to EPA within defined area:

Superfund	0
Hazardous Waste, Treatment, Storage, and Disposal Facilities	0
Water Dischargers	3
Air Pollution	4
Brownfields	0
Toxic Release Inventory	1

Other community features within defined area:

Schools	0
Hospitals	0
Places of Worship	0

Other environmental data:

Air Non-attainment	Yes
Impaired Waters	Yes

Selected location contains American Indian Reservation Lands*	No
Selected location contains a "Justice40 (CEJST)" disadvantaged community	Yes
Selected location contains an EPA IRA disadvantaged community	Yes

EJScreen Environmental and Socioeconomic Indicators Data

HEALTH INDICATORS

INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Low Life Expectancy	22%	20%	72	20%	72
Heart Disease	3.8	5.5	21	6.1	9
Asthma	9.1	9.6	35	10	27
Cancer	3.8	6.1	10	6.1	9
Persons with Disabilities	6.3%	12.6%	16	13.4%	9

CLIMATE INDICATORS

INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Flood Risk	11%	9%	77	12%	70
Wildfire Risk	0%	2%	0	14%	0

CRITICAL SERVICE GAPS

INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Broadband Internet	2%	13%	19	14%	14
Lack of Health Insurance	4%	8%	28	9%	30
Housing Burden	Yes	N/A	N/A	N/A	N/A
Transportation Access	Yes	N/A	N/A	N/A	N/A
Food Desert	No	N/A	N/A	N/A	N/A

Report for Tract: 51153900201

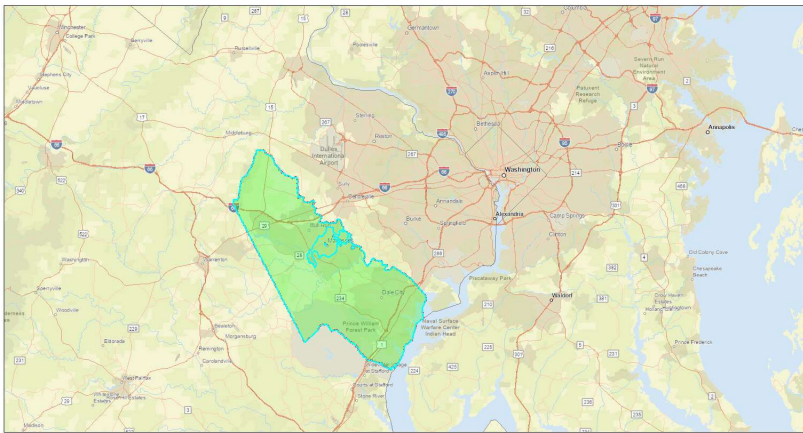
EJScreen Community Report

This report provides environmental and socioeconomic information for user-defined areas, and combines that data into environmental justice and supplemental indexes.

XX

County: Prince William
 Population: 477,224
 Area in square miles: 347.16

A3 Landscape

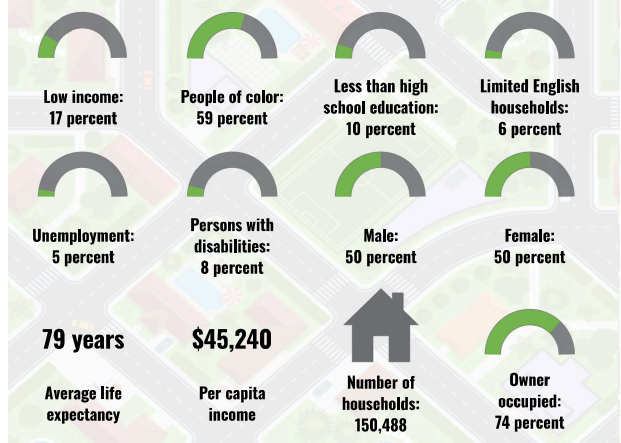


February 28, 2024
 Project 1
 new study area

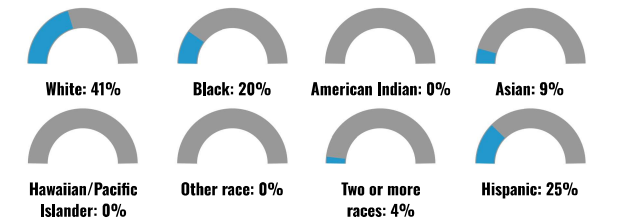
1:577,791
 0 5 10 20 mi
 0 5 10 20 km

County of Prince William, Fairfax County, VA, VGIN, East, Shenandoah, Gooch, Shenandoah, PAO, NEPTUNIA, VGSO, EPA, NPS, USFWS

COMMUNITY INFORMATION



BREAKDOWN BY RACE



BREAKDOWN BY AGE



LIMITED ENGLISH SPEAKING BREAKDOWN



LANGUAGES SPOKEN AT HOME

LANGUAGE	PERCENT
English	65%
Spanish	20%
French, Haitian, or Cajun	1%
Other Indo-European	5%
Korean	1%
Chinese (including Mandarin, Cantonese)	1%
Vietnamese	1%
Tagalog (including Filipino)	1%
Other Asian and Pacific Island	1%
Arabic	1%
Other and Unspecified	3%
Total Non-English	35%

Notes: Numbers may not sum to totals due to rounding. Hispanic population can be of any race. Source: U.S. Census Bureau, American Community Survey (ACS) 2017-2021. Life expectancy data comes from the Centers for Disease Control.

Environmental Justice & Supplemental Indexes

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EJ INDEXES

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SUPPLEMENTAL INDEXES

The supplemental indexes offer a different perspective on community-level vulnerability. They combine data on percent low-income, percent linguistically isolated, percent less than high school education, percent unemployed, and low life expectancy with a single environmental indicator.

These percentiles provide perspective on how the selected block group or buffer area compares to the entire state or nation.

Report for County: Prince William

EJScreen Environmental and Socioeconomic Indicators Data

SELECTED VARIABLES	VALUE	STATE AVERAGE	PERCENTILE IN STATE	USA AVERAGE	PERCENTILE IN USA
POLLUTION AND SOURCES					
Particulate Matter ($\mu\text{g}/\text{m}^3$)	XX	XX	XX	XX	XX
Ozone (ppb)	XX	XX	XX	XX	XX
Diesel Particulate Matter ($\mu\text{g}/\text{m}^3$)	XX	XX	XX	XX	XX
Air Toxics Cancer Risk* (lifetime risk per million)	XX	XX	XX	XX	XX
Air Toxics Respiratory HI*	XX	XX	XX	XX	XX
Toxic Releases to Air	XX	XX	XX	XX	XX
Traffic Proximity (daily traffic count/distance to road)	XX	XX	XX	XX	XX
Lead Paint (% Pre-1960 Housing)	XX	XX	XX	XX	XX
Superfund Proximity (site count/km distance)	XX	XX	XX	XX	XX
RMP Facility Proximity (facility count/km distance)	XX	XX	XX	XX	XX
Hazardous Waste Proximity (facility count/km distance)	XX	XX	XX	XX	XX
Underground Storage Tanks (count/km ²)	XX	XX	XX	XX	XX
Wastewater Discharge (toxicity-weighted concentration/m distance)	XX	XX	XX	XX	XX
SOCIOECONOMIC INDICATORS					
Demographic Index	XX%	XX%	XX	XX%	XX
Supplemental Demographic Index	XX%	XX%	XX	XX%	XX
People of Color	XX%	XX%	XX	XX%	XX
Low Income	XX%	XX%	XX	XX%	XX
Unemployment Rate	XX%	XX%	XX	XX%	XX
Limited English Speaking Households	XX%	XX%	XX	XX%	XX
Less Than High School Education	XX%	XX%	XX	XX%	XX
Under Age 5	XX%	XX%	XX	XX%	XX
Over Age 64	XX%	XX%	XX	XX%	XX
Low Life Expectancy	XX%	XX%	XX	XX%	XX

*Diesel particulate matter, air toxics cancer risk, and air toxics respiratory hazard index are from the EPA's Air Toxics Data Update, which is the Agency's ongoing, comprehensive evaluation of air toxics in the United States. This effort aims to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that the air toxics data presented here provide broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. Cancer risks and hazard indices from the Air Toxics Data Update are reported to one significant figure and any additional significant figures here are due to rounding. More information on the Air Toxics Data Update can be found at <https://www.epa.gov/haps/air-toxics-data-update>.

Sites reporting to EPA within defined area:

Superfund	XX
Hazardous Waste, Treatment, Storage, and Disposal Facilities	XX
Water Dischargers	XX
Air Pollution	XX
Brownfields	XX
Toxic Release Inventory	XX

Other community features within defined area:

Schools	XX
Hospitals	XX
Places of Worship	XX

Other environmental data:

Air Non-attainment	XX
Impaired Waters	XX

Selected location contains American Indian Reservation Lands*	XX
Selected location contains a "Justice40 (CEJST)" disadvantaged community	XX
Selected location contains an EPA IRA disadvantaged community	XX

EJScreen Environmental and Socioeconomic Indicators Data

HEALTH INDICATORS

INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Low Life Expectancy	15%	20%	10	20%	10
Heart Disease	3.8	5.5	21	6.1	9
Asthma	9.1	9.6	35	10	27
Cancer	4.6	6.1	21	6.1	18
Persons with Disabilities	8%	12.6%	26	13.4%	18

CLIMATE INDICATORS

INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Flood Risk	3%	9%	30	12%	30
Wildfire Risk	0%	2%	0	14%	0

CRITICAL SERVICE GAPS

INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Broadband Internet	4%	13%	31	14%	24
Lack of Health Insurance	11%	8%	73	9%	70
Housing Burden	XX	N/A	N/A	N/A	N/A
Transportation Access	XX	N/A	N/A	N/A	N/A
Food Desert	XX	N/A	N/A	N/A	N/A

Report for County: Prince William