Arlington County, VA
Vision Zero Equity Analysis

Vision Zero Network Webinar: Equity By Design
Developing a Framework for Inclusive Vision Zero Planning
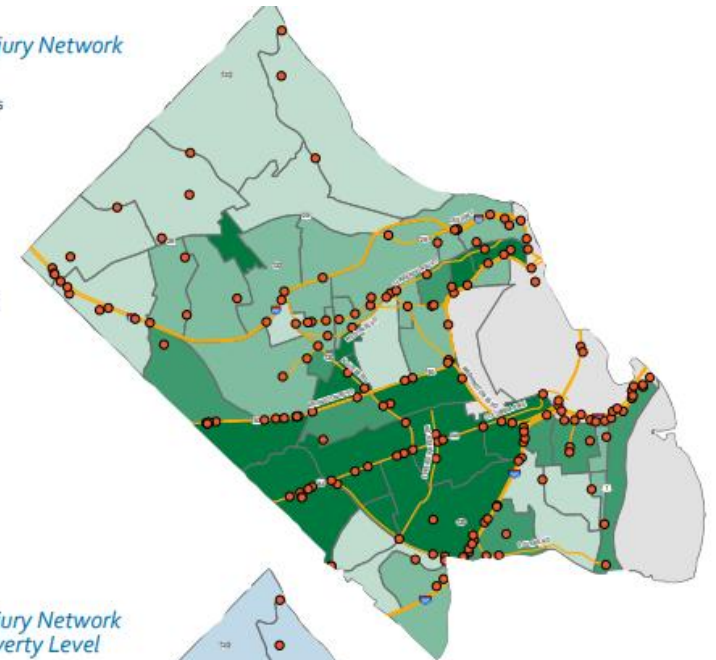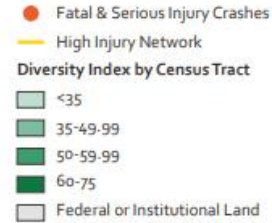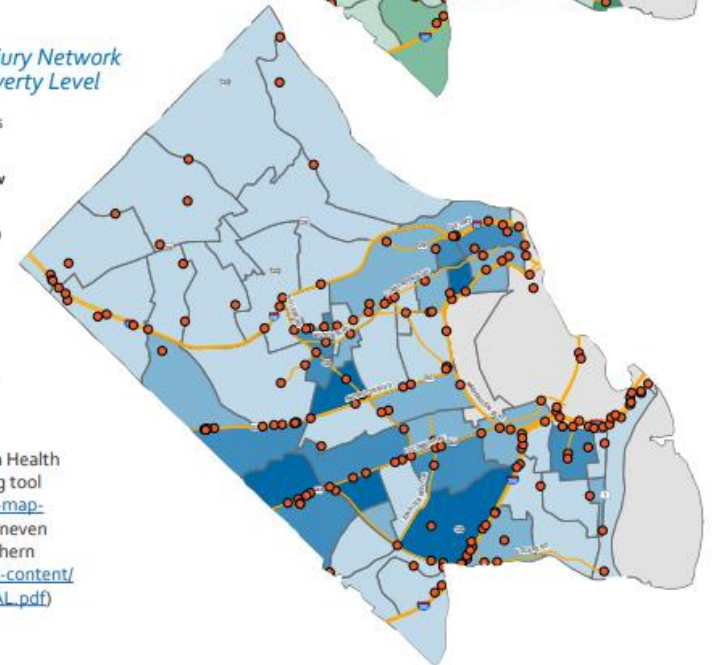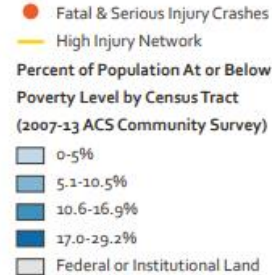
January 31, 2024

GENESIS OF EQUITY ANALYSIS

- One of the six goals of Arlington's Vision Zero program: To prioritize transportation safety investments equitably.

- While developing the Vision Zero Action Plan, we compared equity indicators to crash data to determine if/how imbalances in social opportunity relate to transportation safety. Findings showed a rough relationship between crashes and each racial diversity and lower income block groups.

- To learn more, the Action Plan prescribed **Action Item A4: Equity Analysis, to identify the inequitable impacts of transportation on safety in Arlington communities** and integrate this work in furtherance of the County's Equity Resolution.

Arlington County High-Injury Network & Diversity Index

- Fatal & Serious Injury Crashes
- High Injury Network

Diversity Index by Census Tract

- <35
- 35-49.99
- 50-59.99
- 60-75
- Federal or Institutional Land

Arlington County High-Injury Network & Percent at or Below Poverty Level

- Fatal & Serious Injury Crashes
- High Injury Network

Percent of Population At or Below Poverty Level by Census Tract (2007-13 ACS Community Survey)

- 0-5%
- 5.1-10.5%
- 10.6-16.9%
- 17.0-29.2%
- Federal or Institutional Land

Data Sources: Northern Virginia Health Foundation interactive mapping tool (novahealthfdn.org/interactive-map-opportunity/) and report, The Uneven Opportunity Landscape in Northern Virginia (novahealthfdn.org/wp-content/uploads/NVHF-Issue-Brief-FINAL.pdf)

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PROGRESSION OF THE ANALYSIS

GIS Analysis
Analysts worked with crash and equity layers to understand transportation safety equity challenges.

We realized we needed to look outside the world of transportation.

Steering Team
Representatives from across the County helped to define equity indicators and scope of the analysis.

We expanded the scope and established a multidisciplinary group to support analysis and findings.

Additional Focuses
Analysts applied data on systemic safety risks, hospital/injury data, community requests, and driver origins.

We looked at safety using an equity lens: Who benefits? Who is burdened? Who is missing? How do we know? What do we do?

Consultant Support
A third-party quality checked our work and packaged it into a digestible report and actions.

We supported the analysis with a national literature review to identify potential root causes and successful ways to mitigate inequities.

Report & Findings
The steering team, analysts, and consultant worked together to finalize a report and path forward.

We published these findings as a resource for County staff, the public, and the County Board as a backbone for equitable decision-making and project programming.

Implementation & Tracking
Arlington's Division of Transportation is implementing the actions and learning as we go.

We are tracking and measuring progress that will be reported through the Annual Vision Zero reporting cycle. We are supporting the incorporation of findings into other disciplines.
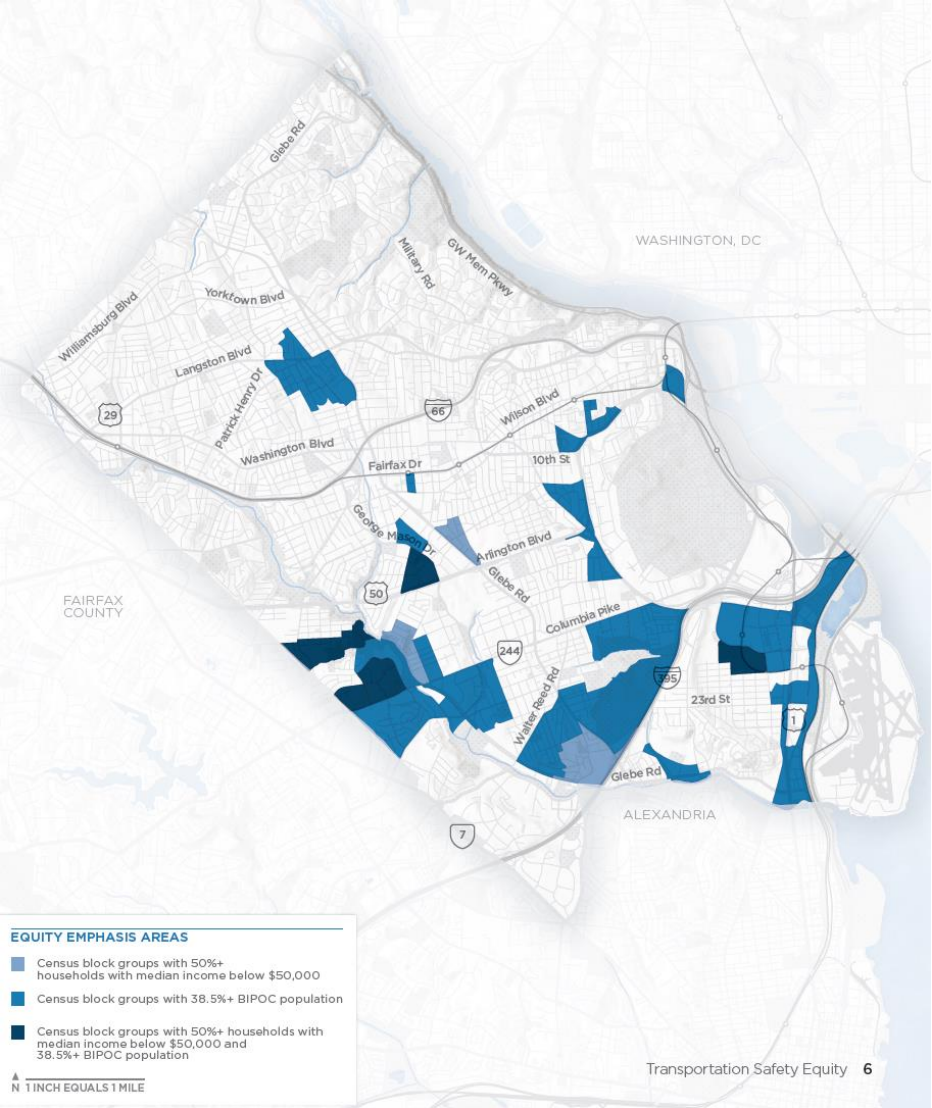
ARLINGTON COUNTY EQUITY LENS

WHAT DO/DID WE DO?

WHO BENEFITS?

HOW DO WE KNOW?

WHO IS BURDENED?

WHO IS MISSING?

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Data:

- **Equity Emphasis Areas**
- Crash Data
- Driver Origins
- Systemic Risks
- Community Requests
- Hospital Data

EQUITY EMPHASIS AREAS
- Census block groups with 50%+ households with median income below $50,000
- Census block groups with 38.5%+ BIPOC population
- Census block groups with 50%+ households with median income below $50,000 and 38.5%+ BIPOC population

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Transportation Safety Equity   6

Identified through Arlington Transit's Title VI Requirements for FTA.

Included Census Block Groups:
- With a Black, Indigenous, or people of color (BIPOC) population of 38.5%+
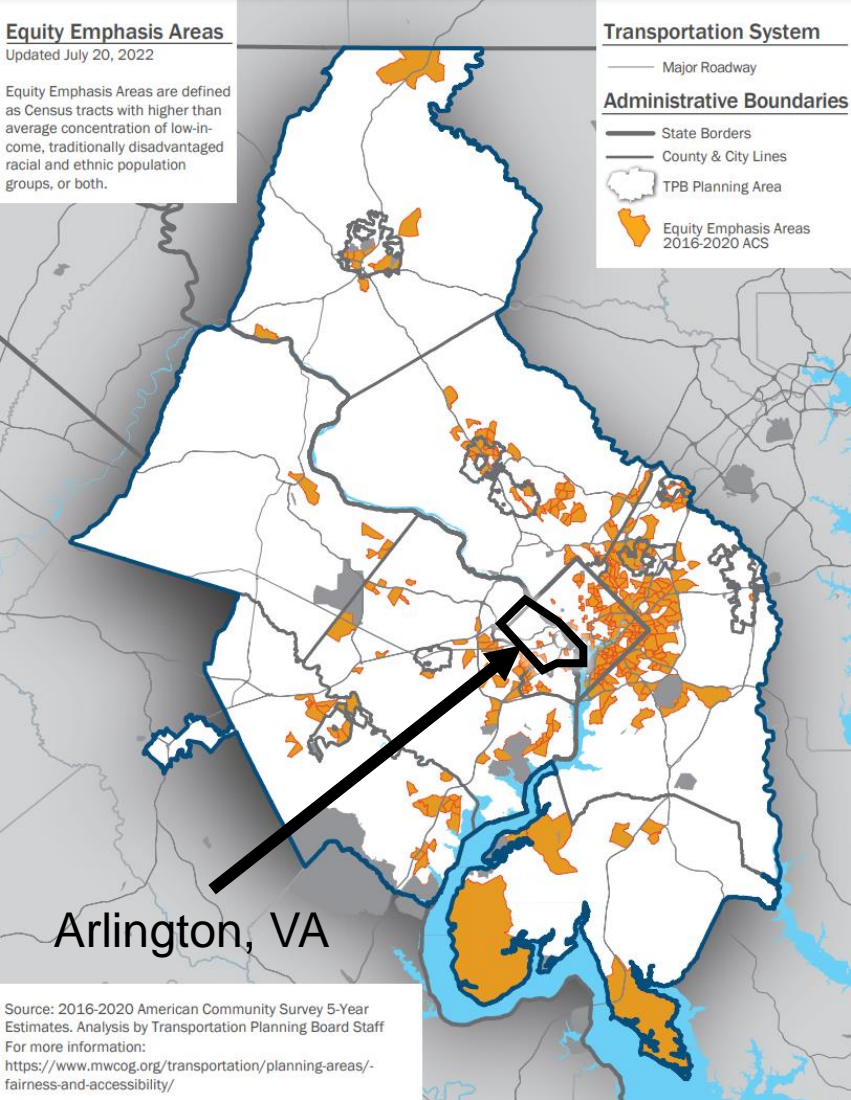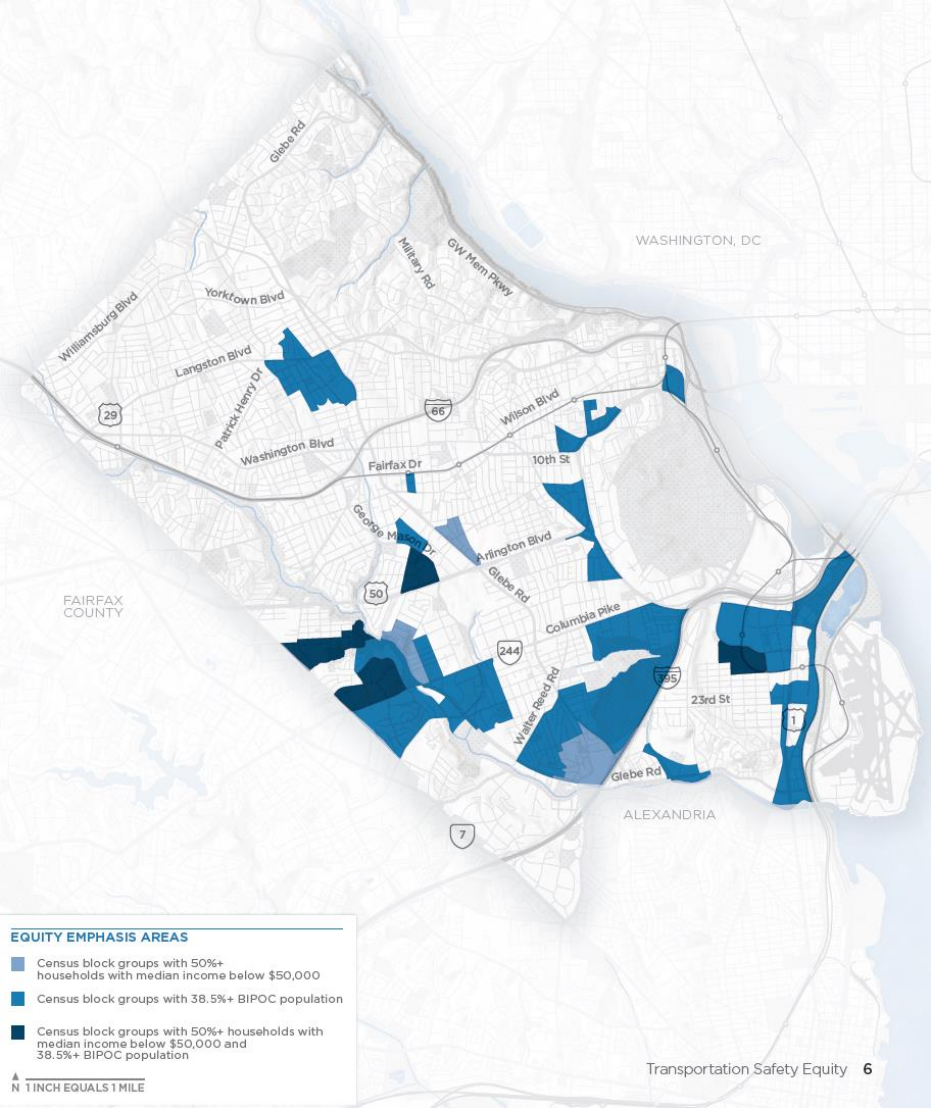- Where 50%*+ households have a median income of $50,000 or less

*We refined the income threshold from 17.5% to 50% of households with a median income of $50,000 or less to effectively prioritize neighborhoods with lower incomes.

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Data:

- **Equity Emphasis Areas**
- Crash Data
- Driver Origins
- Systemic Risks
- Community Requests
- Hospital Data

We did not use our MPO's equity emphasis areas because the thresholds for Arlington relative to the region did not provide adequate coverage.

EQUITY EMPHASIS AREAS

- Census block groups with 50%+ households with median income below $50,000
- Census block groups with 38.5%+ BIPOC population
- Census block groups with 50%+ households with median income below $50,000 and 38.5%+ BIPOC population

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Transportation Safety Equity   6

Equity Emphasis Areas
Updated July 20, 2022

Equity Emphasis Areas are defined as Census tracts with higher than average concentration of low-income, traditionally disadvantaged racial and ethnic population groups, or both.

Transportation System
— Major Roadway

Administrative Boundaries
— State Borders
— County & City Lines
— TPB Planning Area
— Equity Emphasis Areas 2016-2020 ACS

Arlington, VA

Source: 2016-2020 American Community Survey 5-Year Estimates. Analysis by Transportation Planning Board Staff
For more information:
https://www.mwcog.org/transportation/planning-areas/-fairness-and-accessibility/

Data:

- Equity Emphasis Areas
- **Crash Data**
- **Driver Origins**
- **Systemic Risks**
- **Community Requests**
- **Hospital Data**

Systemic safety

We analyzed the intersection of crash factors with socioeconomic, roadway, and built environment variables to identify crash patterns and at-risk locations in Equity Emphasis Areas.

Community reporting

We examined locations of community-reported safety concerns and engagement to determine if Equity Emphasis Areas had proportional representation in comparison to the County.

What we studied

Crash origins

We assessed the origin ZIP Codes of people involved in Arlington crashes to determine how local and regional trips impact crashes. We explored data at the ZIP Code level as this is how it is reported in police crash data.

Hospital data

We analyzed transportation-related injury records by demographic characteristics to assess imbalances in crash hospitalizations by race in comparison to countywide Census data.

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Crashes occur twice as often in Equity Emphasis Areas.

CRASH LOCATION	CRASHES	SQUARE MILES	CRASHES PER SQUARE MILE
ENTIRE COUNTY	8,577	26.1	**329**
LOWER-INCOME AREA	458	0.75	**611**
HIGHER-BIPOC AREA	2,003	3.0	**668**

ALL CRASHES 2016 - 2020

● Crash   ▨ Equity Emphasis Area

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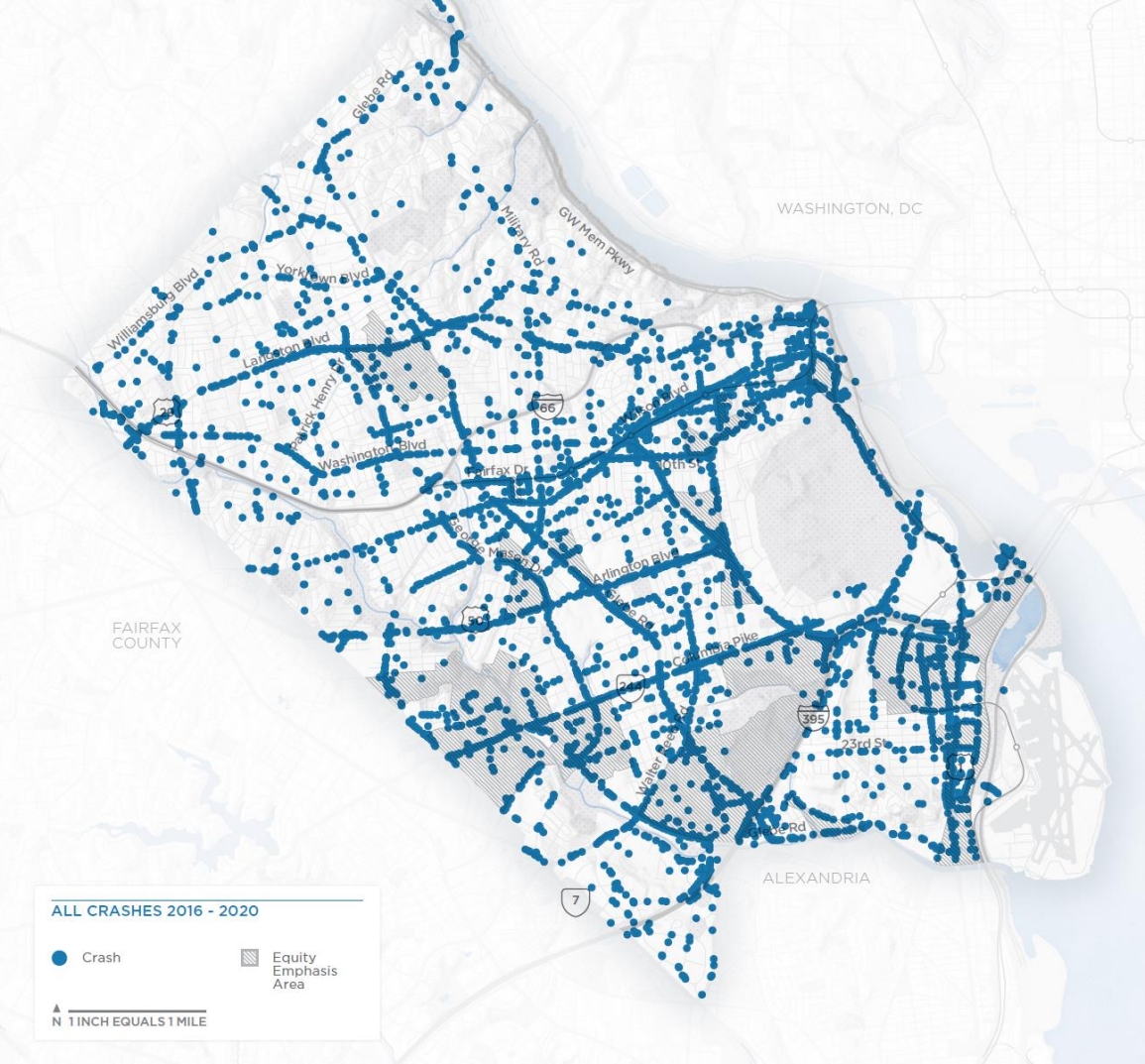
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The top ten crash patterns in Equity Emphasis Areas more often involve pedestrians, left turn conflicts, and specific land uses like schools.

NUMBER	CRASH PATTERNS OCCURRING WITHIN EQUITY EMPHASIS AREAS	TOTAL CRASHES	FATAL/SEVERE CRASHES	FATAL/SEVERE AS PERCENT OF TOTAL
1	Pedestrian-involved crashes within one quarter-mile of a community facility	68	12	18%
2	Pedestrian-involved crashes with motor vehicle proceeding straight in low-vehicle ownership areas	30	5	17%
3	Pedestrian-involved crashes within residential areas	43	5	12%
4	Senior-involved (60+) crashes within 50 feet of a bus stop or Metrorail station entrance	40	4	10%
5	Pedestrian-involved crashes with motor vehicle turning left in low-vehicle ownership areas	26	2	8%
6	Left-turn in commercial areas	60	4	7%
7	Under-19-involved crashes in residential areas	30	2	7%
8	Alcohol-involved crashes within one quarter-mile of a school	30	2	7%
9	Alcohol-involved crashes in residential areas	76	4	5%
10	Left-turns within one quarter-mile of a school	57	3	5%

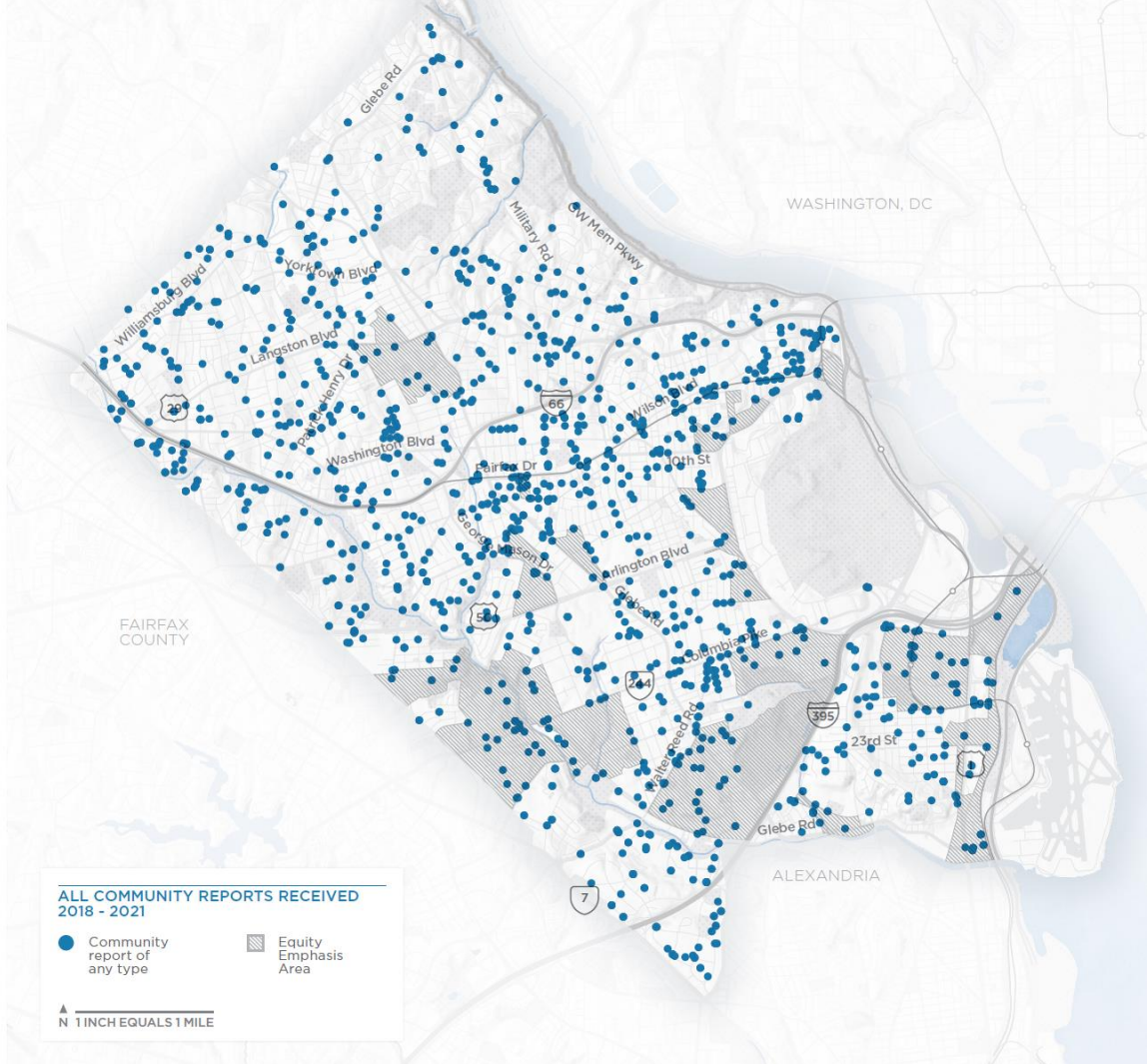# Crashes and Equity Emphasis Areas are concentrated in ZIP Code 22204.

ZIP Code 22204 stands out with nearly a quarter of the County's crashes and almost half of the County's Equity Emphasis Areas. It tops the chart with other metrics, except jobs.

ZIP CODE	POPULATION	JOBS	CRASHES	PEOPLE IN CRASHES	TRAVEL	EQUITY
22201	22%	26%	25%	13%	24%	49%
22202	17%	22%	17%	6%	23%	19%
22203	14%	15%	12%	6%	23%	9%
22204	11%	15%	11%	4%	18%	9%
22205	11%	5%	11%	3%	17%	7%
22206	9%	4%	7%	3%	11%	5%
22207	7%	4%	6%	3%	10%	2%
22209	6%	3%	8%	2%	8%	0%
22213	2%	1%	2%	1%	2%	0%

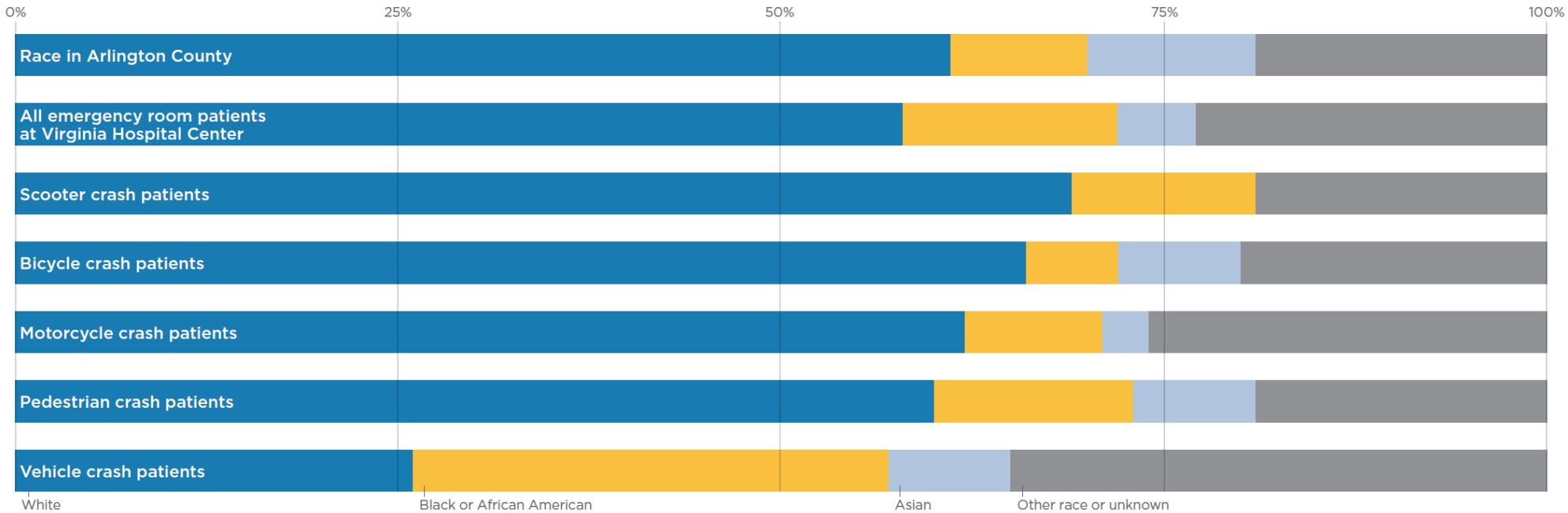|	POPULATION	JOBS	CRASHES	PEOPLE IN CRASHES	TRAVEL	EQUITY
	Percent of Arlington County population living in ZIP Code	Percent of Arlington County jobs in ZIP Code	Percent of Arlington County crashes in ZIP Code	Percent of people involved in Arlington County crashes living in ZIP Code	Percent of daily trips to/from ZIP Code	Percent of Arlington County Equity Emphasis Area block groups in ZIP Code

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Community requests are underrepresented in Equity Emphasis Areas.

Most community requests came from densely populated areas, which corresponds with community requests per capita. Still, Equity Emphasis Areas are underrepresented.

ALL COMMUNITY REPORTS RECEIVED
2018 - 2021

● Community report of any type

Equity Emphasis Area

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People who identify as Black or African American are overrepresented in vehicle crash hospitalizations at the Virginia Hospital Center.

	0%	25%	50%	75%	100%

- Race in Arlington County
- All emergency room patients at Virginia Hospital Center
- Scooter crash patients
- Bicycle crash patients
- Motorcycle crash patients
- Pedestrian crash patients
- Vehicle crash patients

White | Black or African American | Asian | Other race or unknown

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This analysis confirmed that there are neighborhoods in Arlington County that have been...

historically overrepresented in crash data

and

underrepresented in responses to transportation-related safety requests.

We developed ten Equity Action Items to rectify transportation inequities.

The recommendations create a path for Arlington to:

Act proactively

Be proactive in addressing infrastructure needs with an equity lens.

Prioritize safety

Create a platform to prioritize safety projects in underserved neighborhoods.

Encourage participation

Ensure that reporting channels are clear and accessible to all community members.

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By tracking progress, we commit to reduce and rectify disproportionalities over time.

ACTION ITEM	TIMELINE	TRACKING METRICS
Reassess proportionalities of crashes in Equity Emphasis Areas versus not	2023 - 2025	Reassess hospitalization metrics
Update and quality check Equity Emphasis Areas as new data becomes available	Coordinate with Arlington Transit FTA Title VI updates	Periodic check-ins with Arlington Transit on updates to Title VI area definition, which are used as a basis for the Equity Emphasis Areas
Prioritize safety analysis and safety improvement projects in Equity Emphasis Areas	2023 - 2025	Percentage of projects completed in Equity Emphasis Areas; percentage of community requests for projects in Equity Emphasis Areas
Improve safety at intersections within Equity Emphasis Areas	2023 - 2025	Percentage of projects completed in Equity Emphasis Areas; percentage of community requests for projects in Equity Emphasis Areas
Deploy engineering tools to reduce driver speeds in Equity Emphasis Areas	2023 - 2025	Percentage of projects completed in Equity Emphasis Areas; reduction in driver speeds in Equity Emphasis Areas
Enhance pedestrian infrastructure within Equity Emphasis Areas	2023 - 2025	Percentage of projects completed in Equity Emphasis Areas; percentage of community requests for projects in Equity Emphasis Areas
Host public safety campaign and build relationships in Equity Emphasis Areas	2023 - 2025	Estimated reach of campaigns in Equity Emphasis Areas; reduction in serious or fatal crashes in Equity Emphasis Areas
Evaluate safety improvements on corridors in Equity Emphasis Areas	2023	Reduction in speeds and serious or fatal crashes as determined through before/after study
Promote consistent safety messaging, infrastructure, and policies with regional partners	2023 - 2025	Regular check-ins with regional Vision Zero partners
Focus traffic safety and Vision Zero outreach in Equity Emphasis Areas	2023 - 2025	Percentage of outreach events held in Equity Emphasis Areas
Apply an Equitable Engagement Checklist to Vision Zero and other transportation outreach	Ongoing	Increase in engagement with historically underrepresented groups

TRACKING PROGRESS

We defined tracking metrics for each action item to continuously assess our progress toward reducing disproportionalities in safety.

We will report our progress toward these actions and use outcomes to inform the Arlington County Vision Action Plan update in 2025.
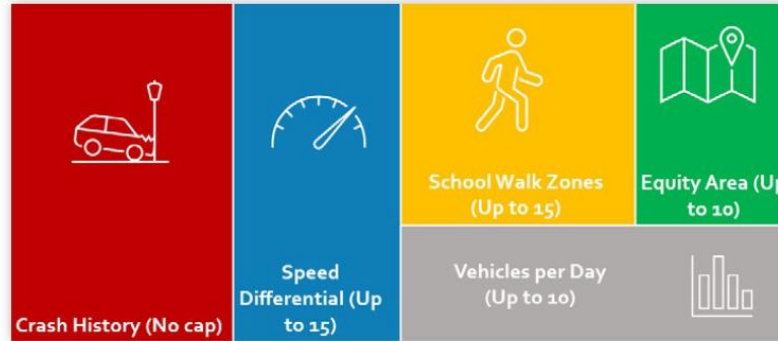
TRACKING METRICS
- Percentage within Equity Emphasis Areas of:
  - Completed Projects
  - Community Requests (e.g. Report a Problem)
  - Outreach Events
- Reductions within Equity Emphasis Areas in:
  - Serious or fatal crashes
  - Vehicle speeds
- Estimated reach of campaigns in Equity Emphasis Areas
- Increase in engagement by historically underrepresented groups

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Quarterly pop-up events in Equity Emphasis Areas

We are putting the equity analysis to work!

Speed camera site selection ranking tool
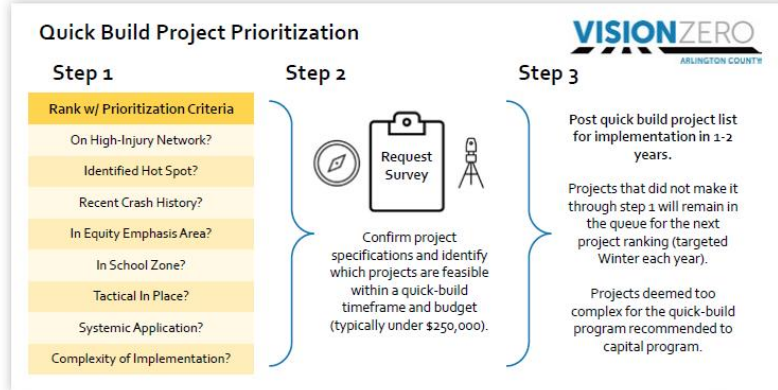
Quick-build and capital project prioritization ranking tools

Multilingual safety outreach materials
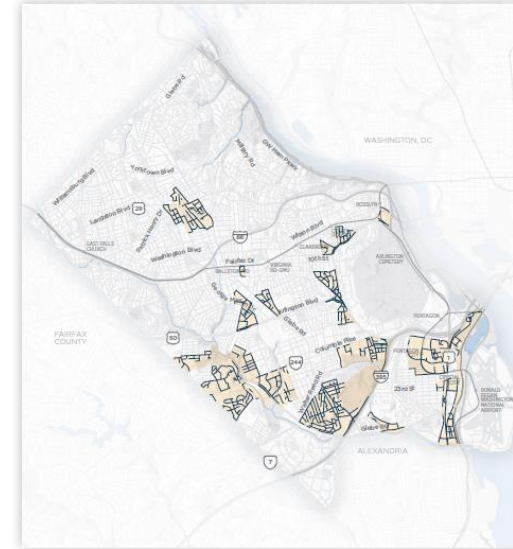
Systemic risk inventory in Equity Emphasis Areas

LESSONS LEARNED

Collaborate

Involve people from different disciplines and perspectives to ensure you understand the full picture and address blind spots.

Get Curious

Be open. Ask questions. Do research. Listen to feedback. Engage in challenging conversations. Stick with it.

OPERATIONALIZE!!!!

Create processes that bake in equity needs so that no one needs to actively champion equity in tasks or decision-making.