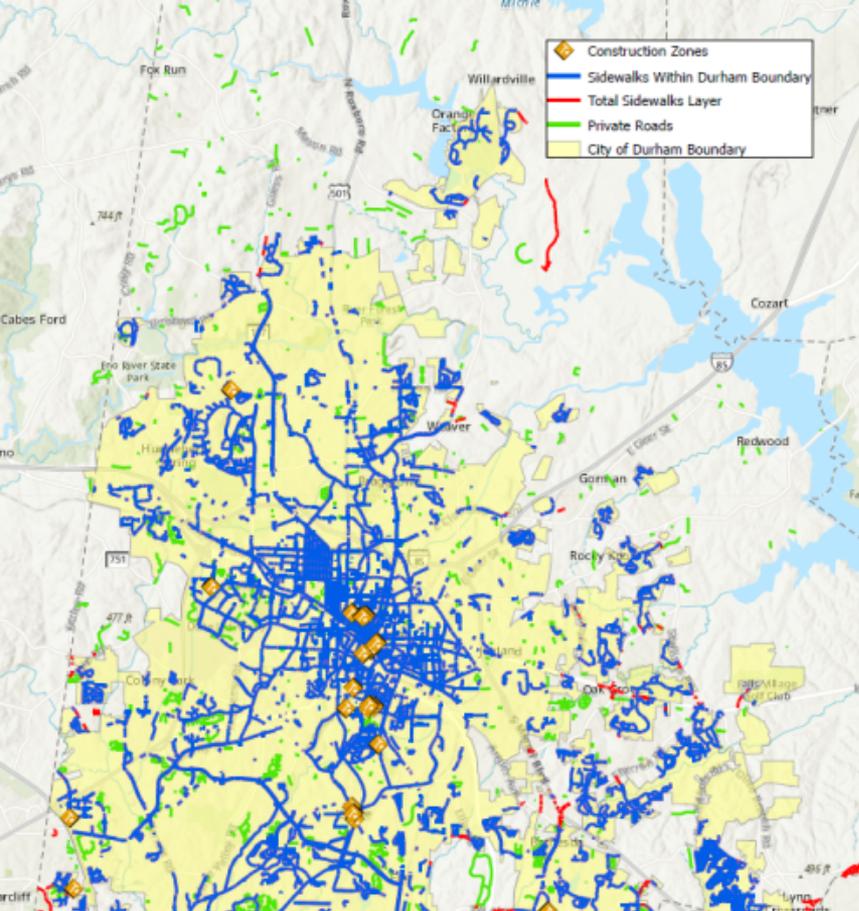




Sidewalk Condition Study & Sidewalk Asset Management Plan

August 2022





Introduction

- 285,527 Population
- 1.6% Increase In Population/Year
- 639 Miles of Sidewalks



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Plan Goals

- City Wide Engagement Process
- Condition Assessment of Sidewalks and Curb Ramps
- Identify Deficiencies
- Develop Sidewalk Asset Management Plan
- Risk-Based and Data Driven
- Apply an Equity Lens
- Set Annual Budget for Accessibility Improvements



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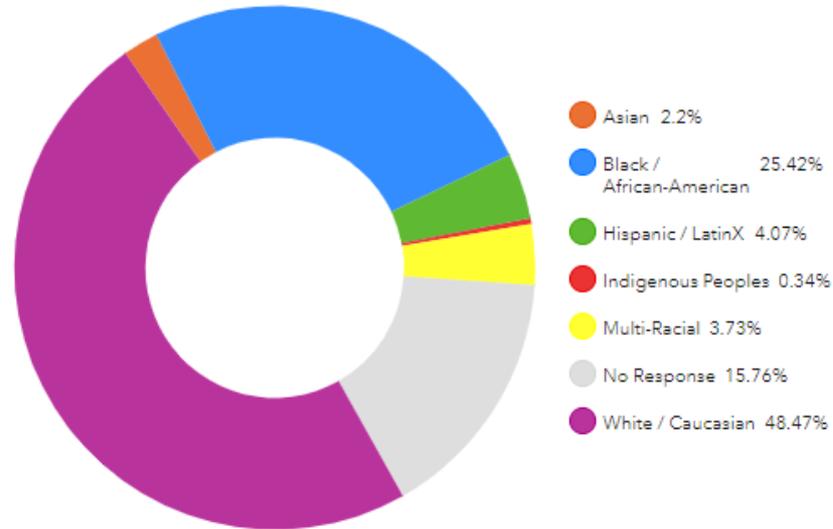


Racial Diversity of Respondents

Engagement Process

- ~ 50% People of Color
- ~ 50% White Only

TOTAL RESPONDENTS



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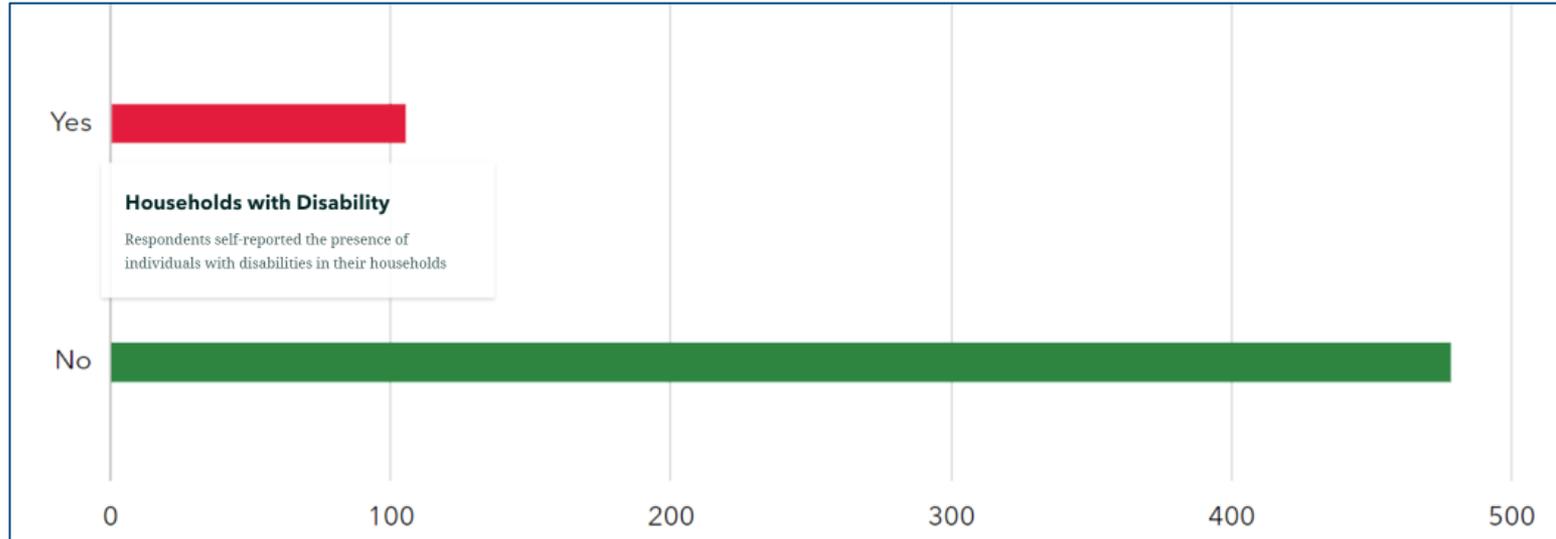
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Household Disability – 18%



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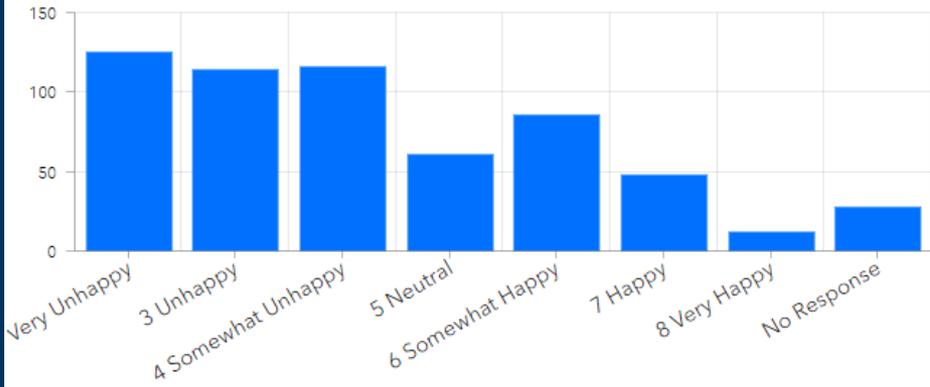
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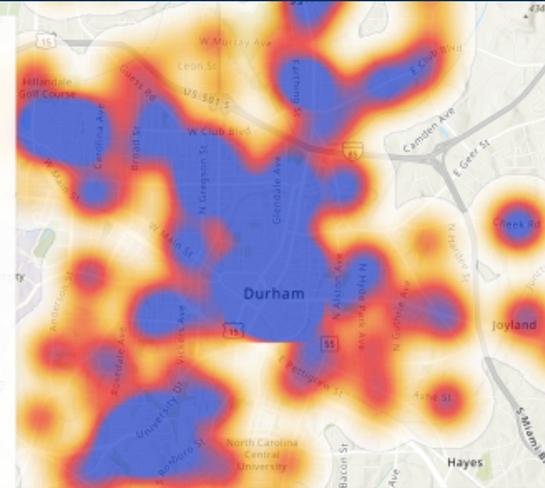
High Level of Dissatisfaction

ALL RESPONDENTS



Levels of Dissatisfaction with Neighborhood Sidewalk Conditions

This map shows survey respondents' levels of dissatisfaction with sidewalks in their neighborhoods based on a scale ranging from "Very Unhappy" (darker shades) to "Very Happy" (lighter shades)



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Community Engagement Summary



Key takeaways from the engagement survey include:

- Over 80% use sidewalks at least weekly.
- More than 57% reported some level of dissatisfaction with the condition of City of Durham sidewalks.
- Over 85% of people of color expressed some level of dissatisfaction with City of Durham sidewalks.
- More than 85% of total respondents reported frequently walking in the street to avoid sidewalk issues.
- Dissatisfaction levels were fairly consistent across population groups and income levels³

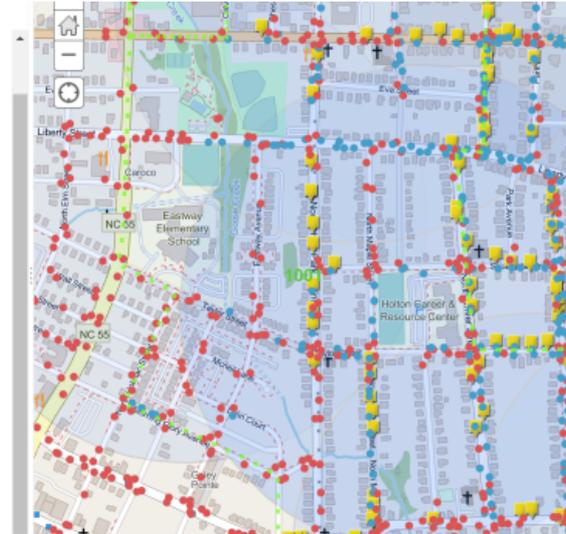
ROW Sidewalk Condition Assessment

Scope of Assessment

- 639 Miles of Sidewalk
- 100,000+ Data Points
- 50+ Sidewalk Attributes
- Curb Ramps PROWAG
- Equity & Proximity Elements
- ArcGIS Integration

Legend

- TO DO
- Done
- Driveway Aprons
- Food Stores
- LEP Indicator
- Community Services
- School_Area



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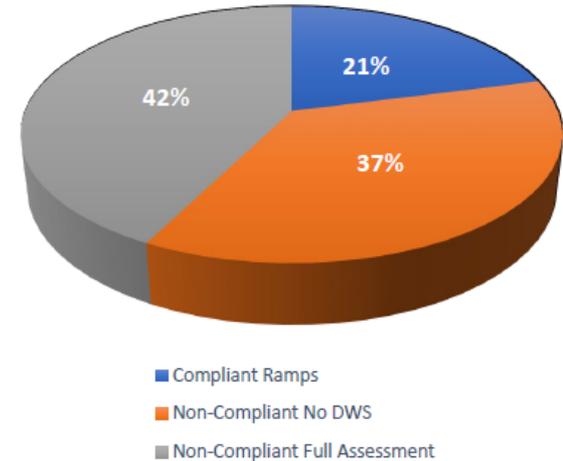
Curb Ramps

Not PROWAG Compliant

- Curb Ramps: 79%

Table 2. Condition Study Summary			
Category	Deficiency Count	Area (sq ft)	Repair/Repl Cost
Curb Ramps			
Deficient Curb Ramps - No Detectable Warning Surface	4654	481,827	\$24,091,350.00
Deficient Curb Ramps - Full Assessment	5414	631,375	\$31,568,750.00
Deficient Curb Ramps - Drainage Only	34	6,847	\$239,653.05
Total Deficient Curb Ramps	10,102	1,120,049	\$55,899,753.05

Curb Ramp Analysis



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Sidewalk Conditions

Not PROWAG Compliant

- Sidewalks Conditions: 64.2k



Table 9. Sidewalk Conditions Summary			
Category	Deficiency Count	Area (sq ft)	Repair/Repl Cost
Sidewalk Conditions			
Replace Panel (>2.00" VHD or Poor Condition)	4,788	320,272	\$6,405,440
Fair Condition (0.25" - 0.50" VHD)	34,028	914,116	\$2,742,348
Moderate Condition (0.51" - 1.00" VHD)	17,313	479,581	\$2,397,905
Severe Condition (1.01" - 2.0" VHD)	3,470	98,167	\$1,472,505
Good Condition			
Minor Ground Obstruction	315	44,254	\$44,254
Ground Obstruction Significant	725	75,718	\$757,180
Good Condition			
Minor Vertical Obstruction	240	14,302	\$143,020
Vertical Obstruction Significant	649	46,016	\$460,160
Driveway Aprons	841	77,099	\$1,696,178
Water Ponding on Sidewalk	1,414	146,847	\$2,936,940
Sidewalk Cross Slope >2.1% (Runs > 50 linear feet)	316	79000	\$1,560,000
Sidewalk Gaps	84	16,680	\$333,600
Total Sidewalk Conditions	64,183	2,312,052	\$20,949,530

Non-Sidewalk Conditions

- Non-Sidewalk Conditions: 17.3k



Table 4. Non-Sidewalk Conditions Summary

Category	Count
Exposed Utilities	5,314
Footpaths	162
Graffiti/Vandalism	10
Poles	8970
Trees Affecting Sidewalk	1294
Wall in ROW > 15 Deg Lean	142
Wall in ROW < 15 Deg Lean	1368
Total Non-Sidewalk Conditions	17,260



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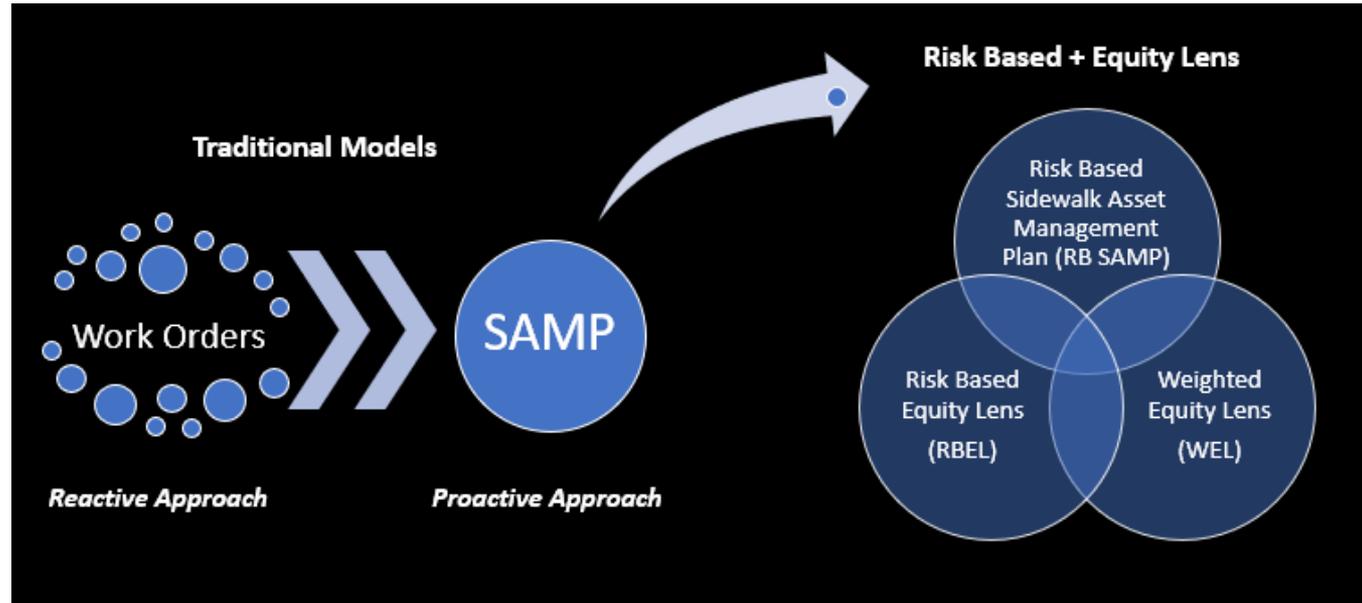
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Risk-Based Approach

New Plan

- Proactive
- Risk-Based
- Equity Group Risk



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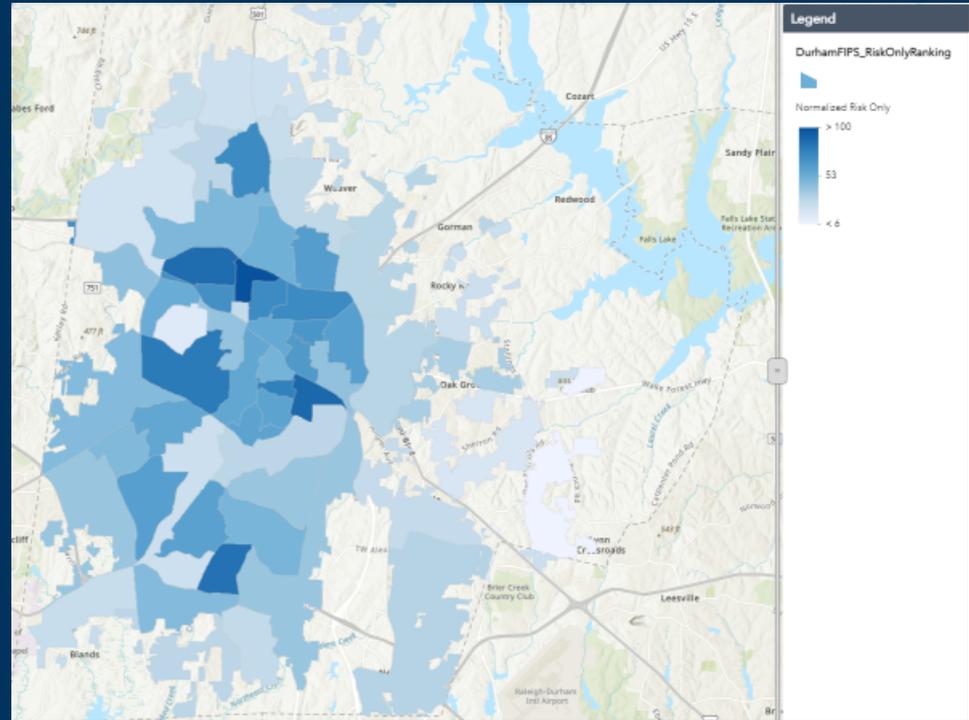
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Risk-Based Approach

- Risk to Total Population
- Prioritization Plan
- Organized by Census Zones
- 63 Durham Zones



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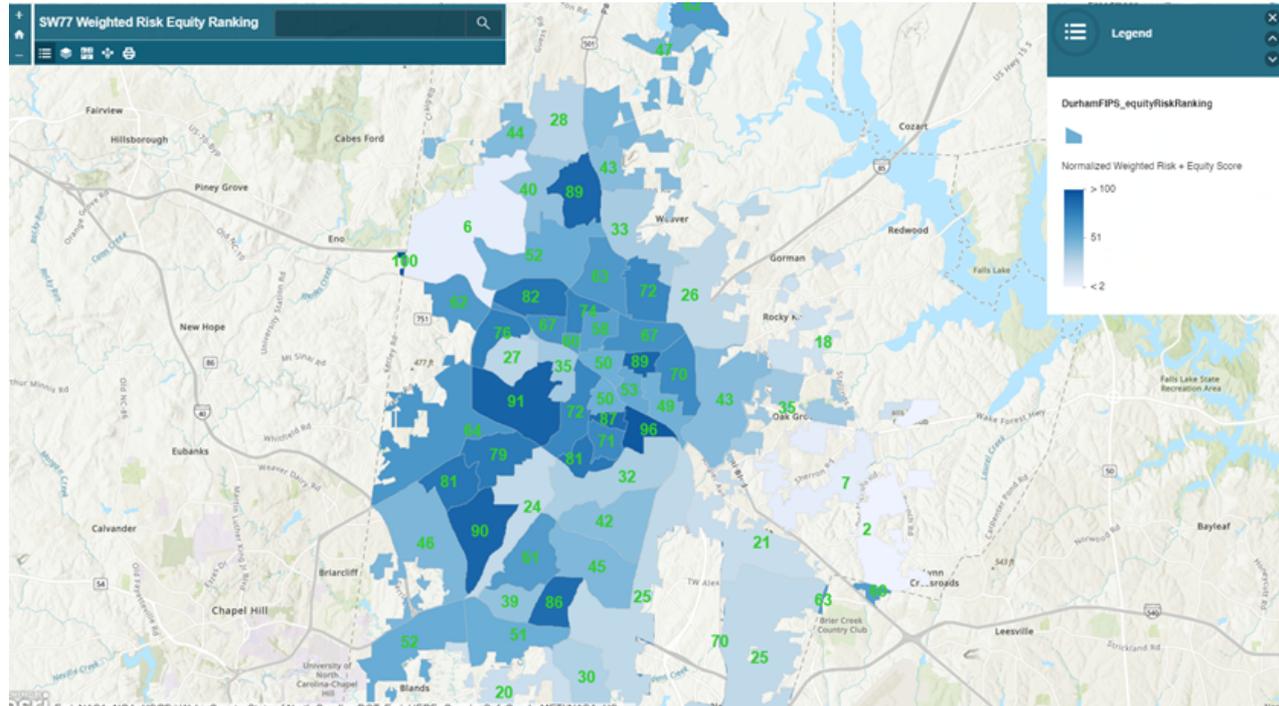
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Equity Lens – Risk-Based Approach

- Risk to Total Population
- Risk to Equity Groups
- Prioritization Plan
- Equitable Spending



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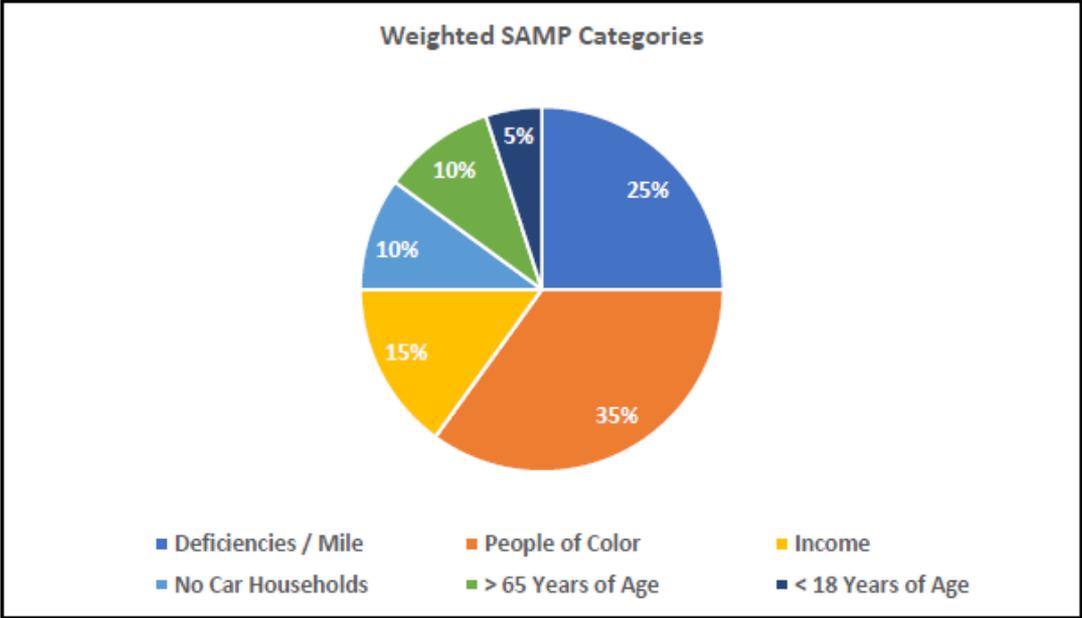
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Equity Groups



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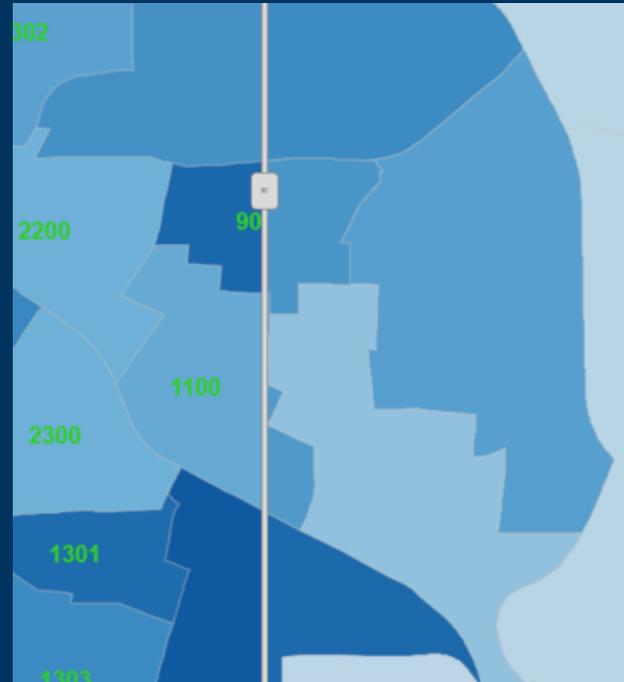
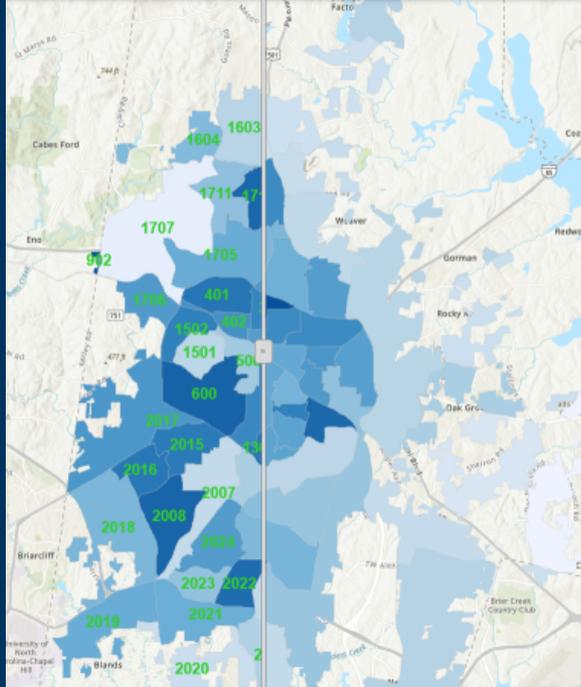
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SAMP Prioritization Enhanced



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Close-Up - Zone 1002

- Old East Durham
- Traditional Prioritization methods based only on deficiency risk ranked this zone 16th out of 63 zones.
- **11th Highest Priority Zone for Repair Using Risk-Based Equity Prioritization Model Identified through Durham SAMP**



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Data + History = Action

Risk Based Analysis

- 1,412 total sidewalk deficiencies on 8.8 miles of sidewalk
- 159 deficiencies/mile

Equity Based Analysis

- 24th highest ranking for POC
- 11th highest ranking for people over 65
- 35th highest for no-car households
- 6th for people under 18 years old
- 27th highest based on low-income level



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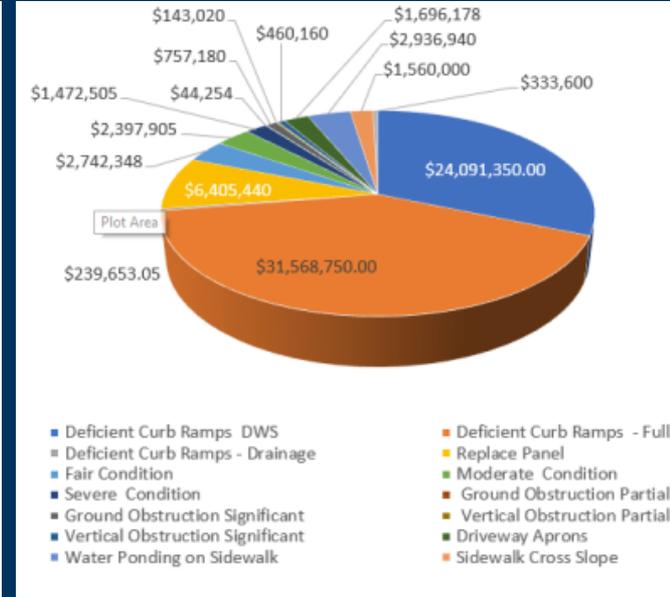
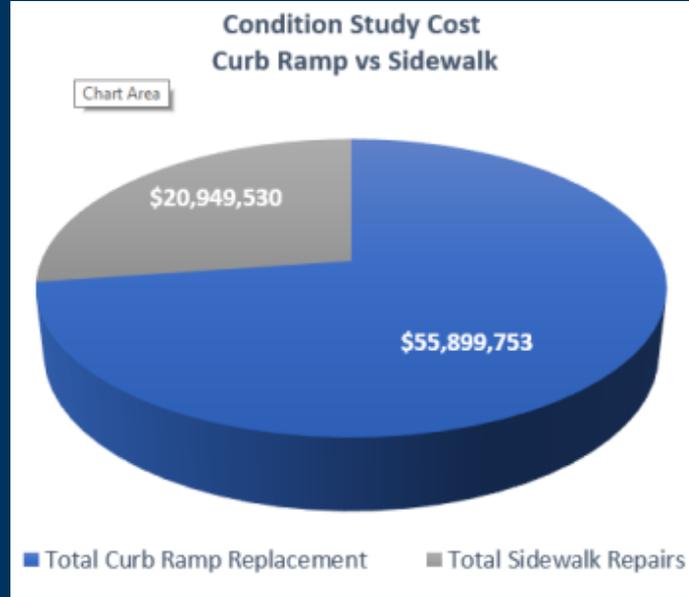
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Plan Implementation

Repair Costs

- **Total: \$76.8M**
- SW: \$20.95M
- Curb: \$55.89M
- **10YR Plan: \$9.65M***
- 5YR Plan: \$18.13M



* No growth, new defects, or increasing cost of construction included



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Questions & Answers

Clint Blackburn, P.E., Public Works, City of Durham
Aaron Hester, SVP, Precision Safe Sidewalks



Aidilisms



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