Montgomery Planning   Countywide Planning and Policy

2/10/2022

Existing Conditions Report

Countywide Pedestrian Master Plan

Agenda

1. Welcome

2. Forest Glen Walk Audit Discussion

3. Existing Conditions Presentation

Forest Glen Walk Audit

Forest Glen Walk Audit

Forest Glen Walk Audit
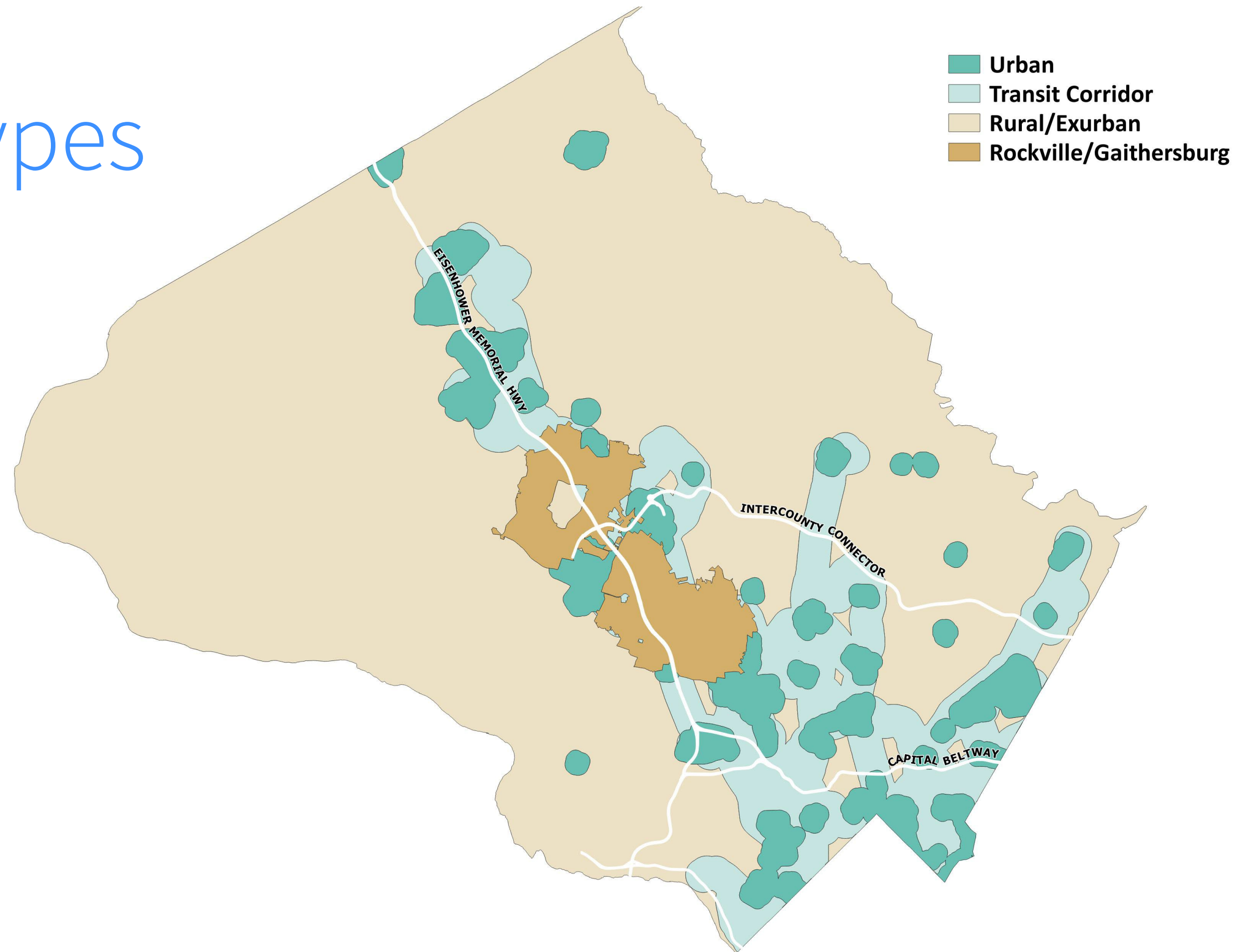
Forest Glen Walk Audit
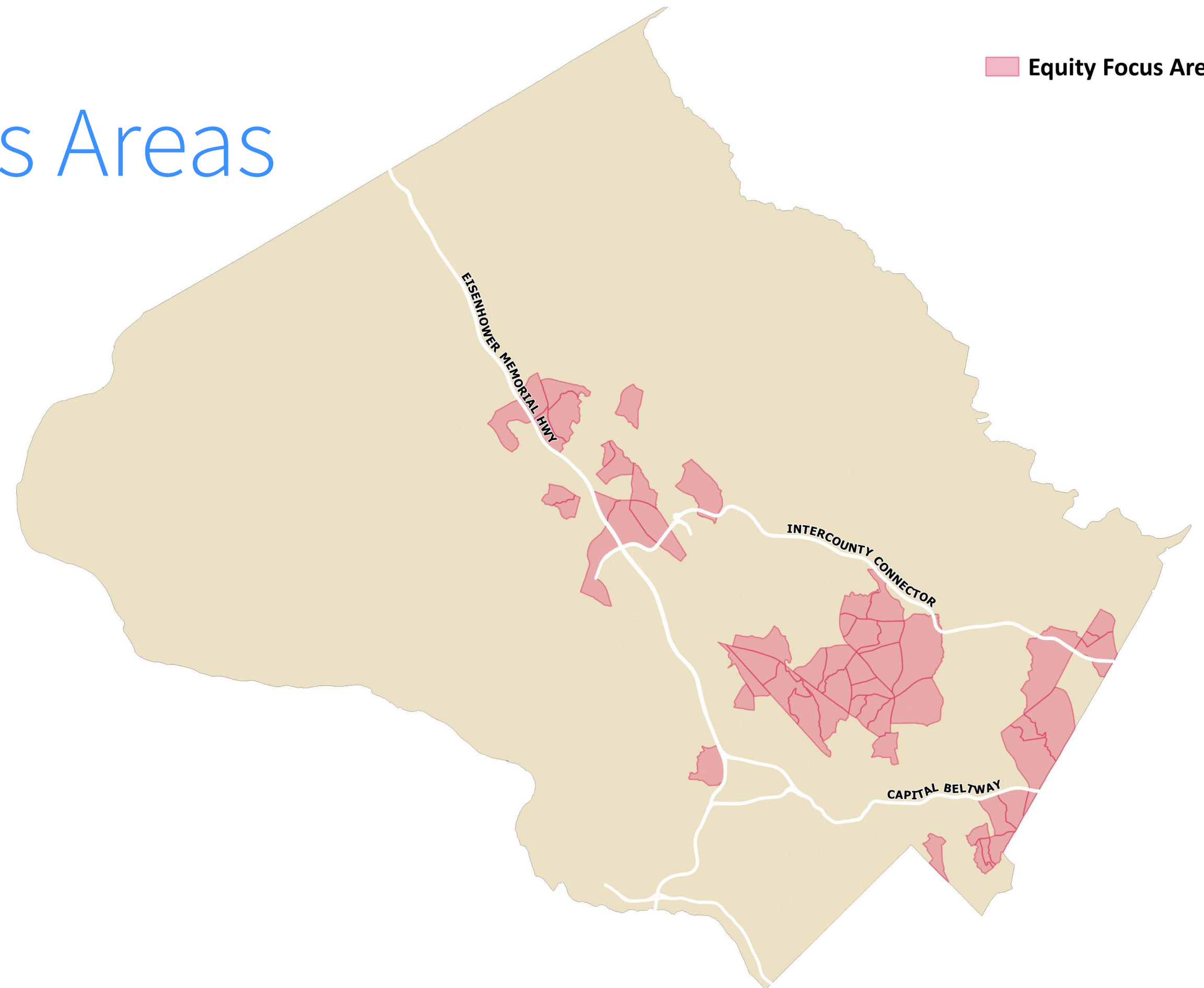
Existing Conditions Presentation

Pedestrian Plan Goals

1. Increase Walking Rates and Pedestrian Satisfaction in Montgomery County

2. Create a Comfortable, Connected, Convenient Pedestrian Network in Montgomery County

3. Enhance Pedestrian Safety in Montgomery County

4. Build an Equitable and Just Pedestrian Network

Land Use Types

Legend:
- Urban
- Transit Corridor
- Rural/Exurban
- Rockville/Gaithersburg

EISENHOWER MEMORIAL HWY

INTERCOUNTY CONNECTOR

CAPITAL BELTWAY

Equity Focus Areas

Equity Focus Areas (EFA)

EISENHOWER MEMORIAL HWY

INTERCOUNTY CONNECTOR

CAPITAL BELTWAY

Title I / Focus / FARMS Schools

- Title 1 / Focus / FARMS
- Other Schools
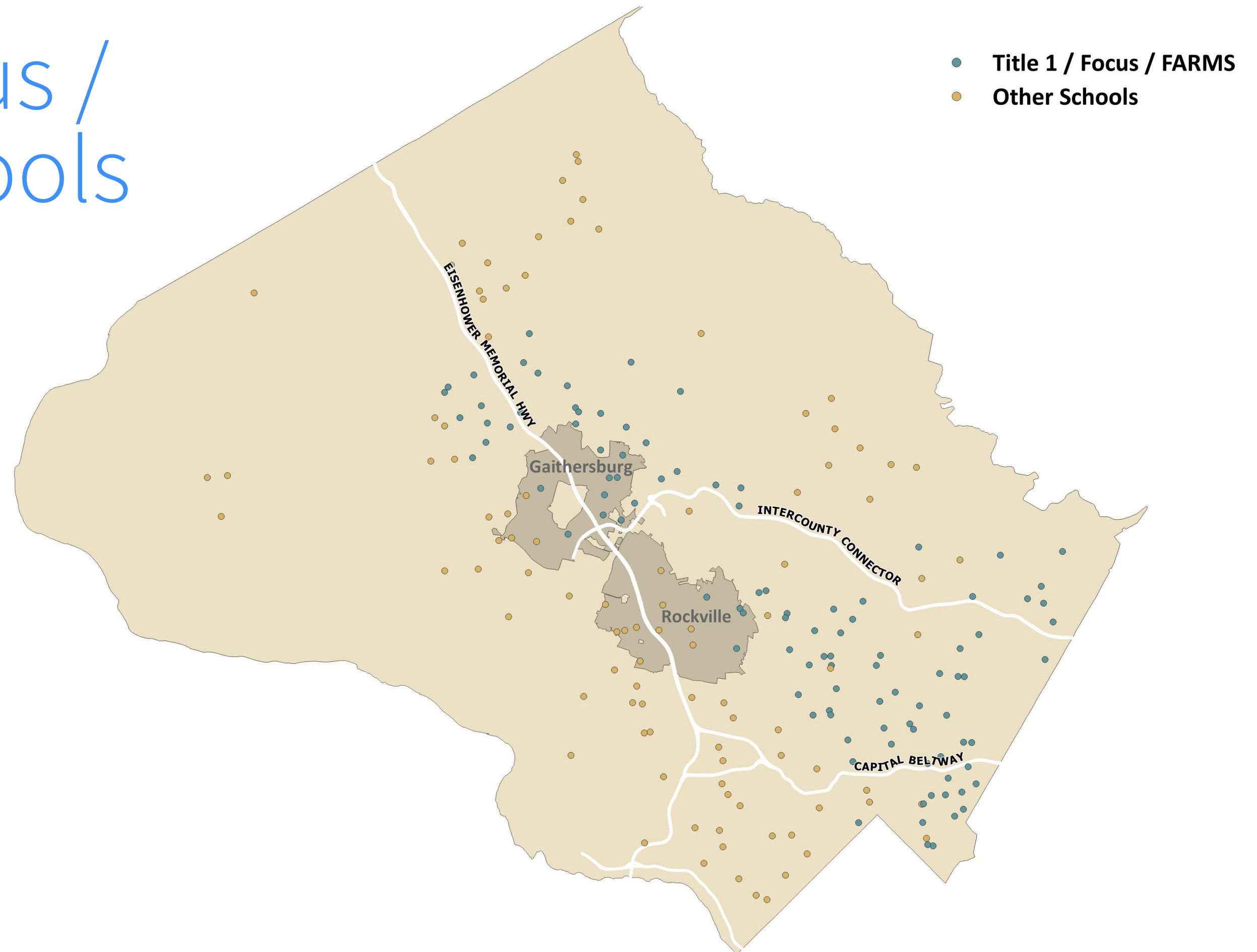
Goal 1: Increase Walking Rates

Pedestrian Mode Share by Area Type

	Total	Land Use Type			Equity Focus Areas	
		Urban	Transit Corridor	Exurban /Rural	EFAs	Non-EFAs
Overall Weekday Trips*	7.5%	11.3%	7.3%	4.6%	9.6%	7.0%
Commute Trips**	2.2%	3.7%	1.8%	1.1%	2.4%	2.1%

* Regional Travel Survey, 2017-2018
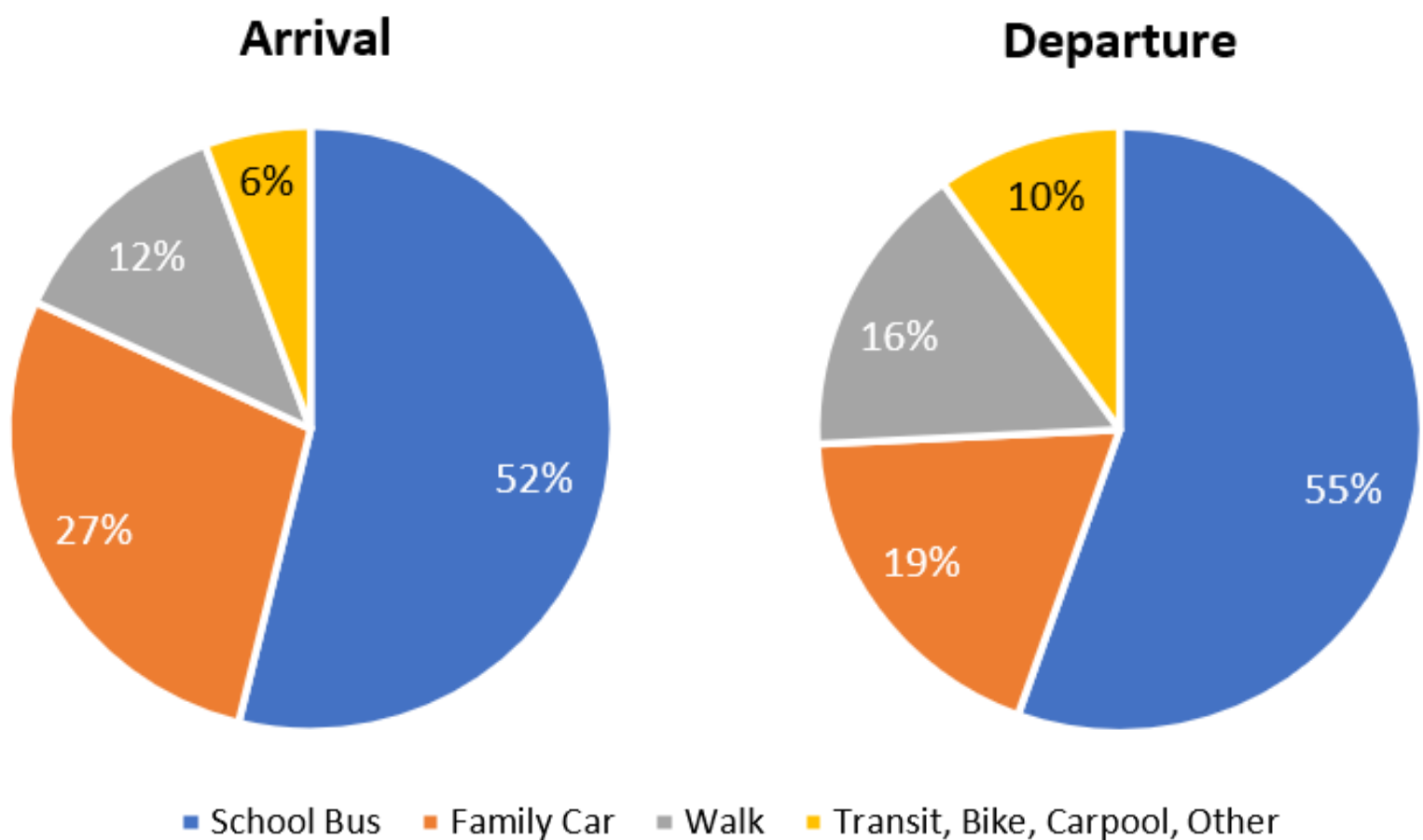** American Community Survey, 2019 Five-Year Estimates

Goal 1: Increase Walking Rates

Student Mode Share by Arrivals and Departures

Arrival

52%
27%
12%
6%

Departure

55%
19%
16%
10%

■ School Bus ■ Family Car ■ Walk ■ Transit, Bike, Carpool, Other

Goal 1: Increase Walking Rates

Student Mode Share by Arrivals and Departures

Arrival

52% — School Bus
27% — Family Car
12% — Walk
6% — Transit, Bike, Carpool, Other

Departure

55% — School Bus
19% — Family Car
16% — Walk
10% — Transit, Bike, Carpool, Other

■ School Bus ■ Family Car ■ Walk ■ Transit, Bike, Carpool, Other

Walking Arrivals/Departures by School Level

School Level	Arrival	Departure
Elementary School	16%	18%
Middle School	11%	16%
High School	8%	12%
Total	12%	16%

Goal 1: Increase Walking Rates
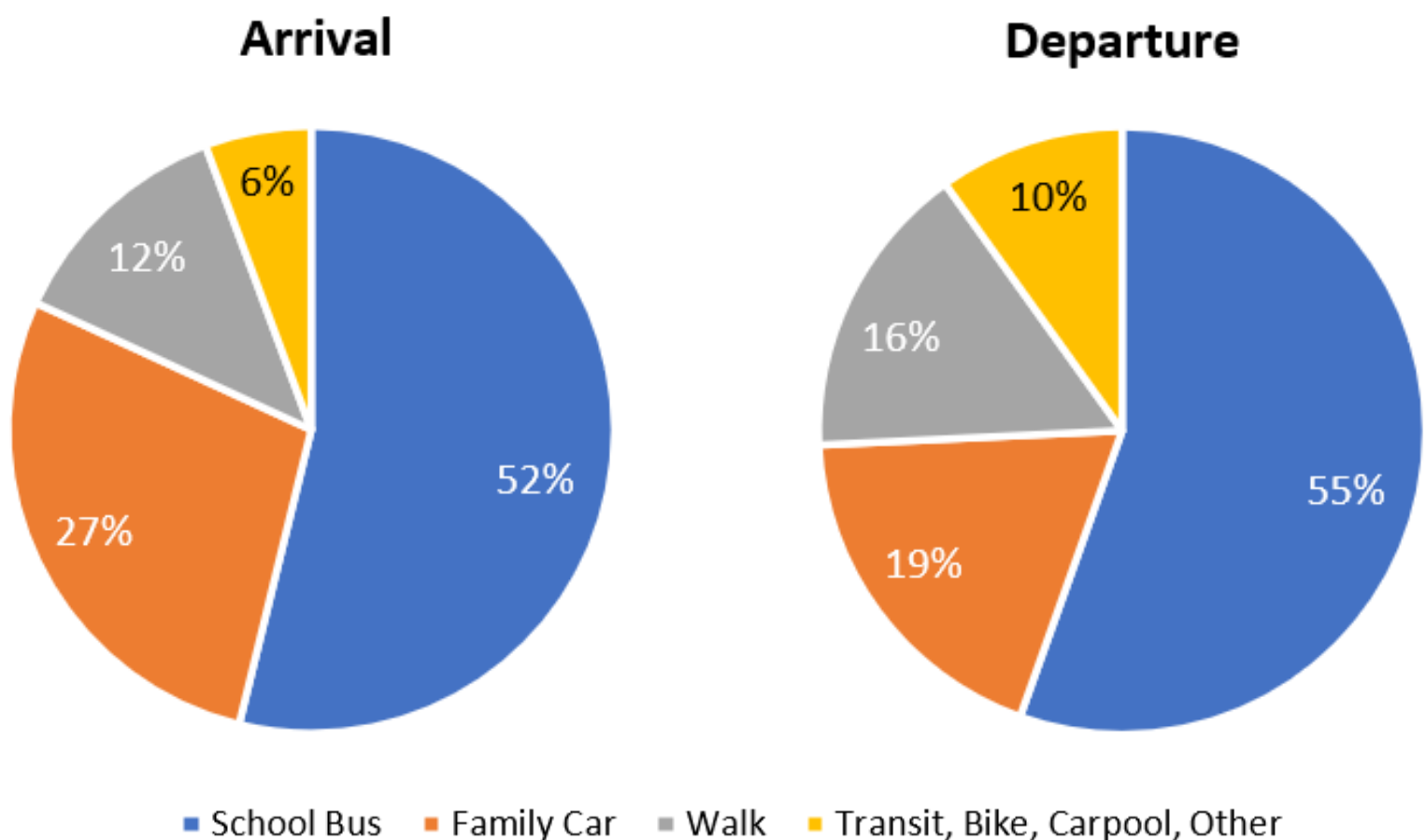
Student Mode Share by Arrivals and Departures

Walking Arrivals/Departures by School Level

School Level	Arrival	Departure
Elementary School	16%	18%
Middle School	11%	16%
High School	8%	12%
Total	12%	16%

Students at Focus/Title I schools are more likely to walk to/from school than those at non-designated schools.

Goal 1: Increase Walking Rates

Pedestrian Satisfaction by Land Use/Reported Disability Status
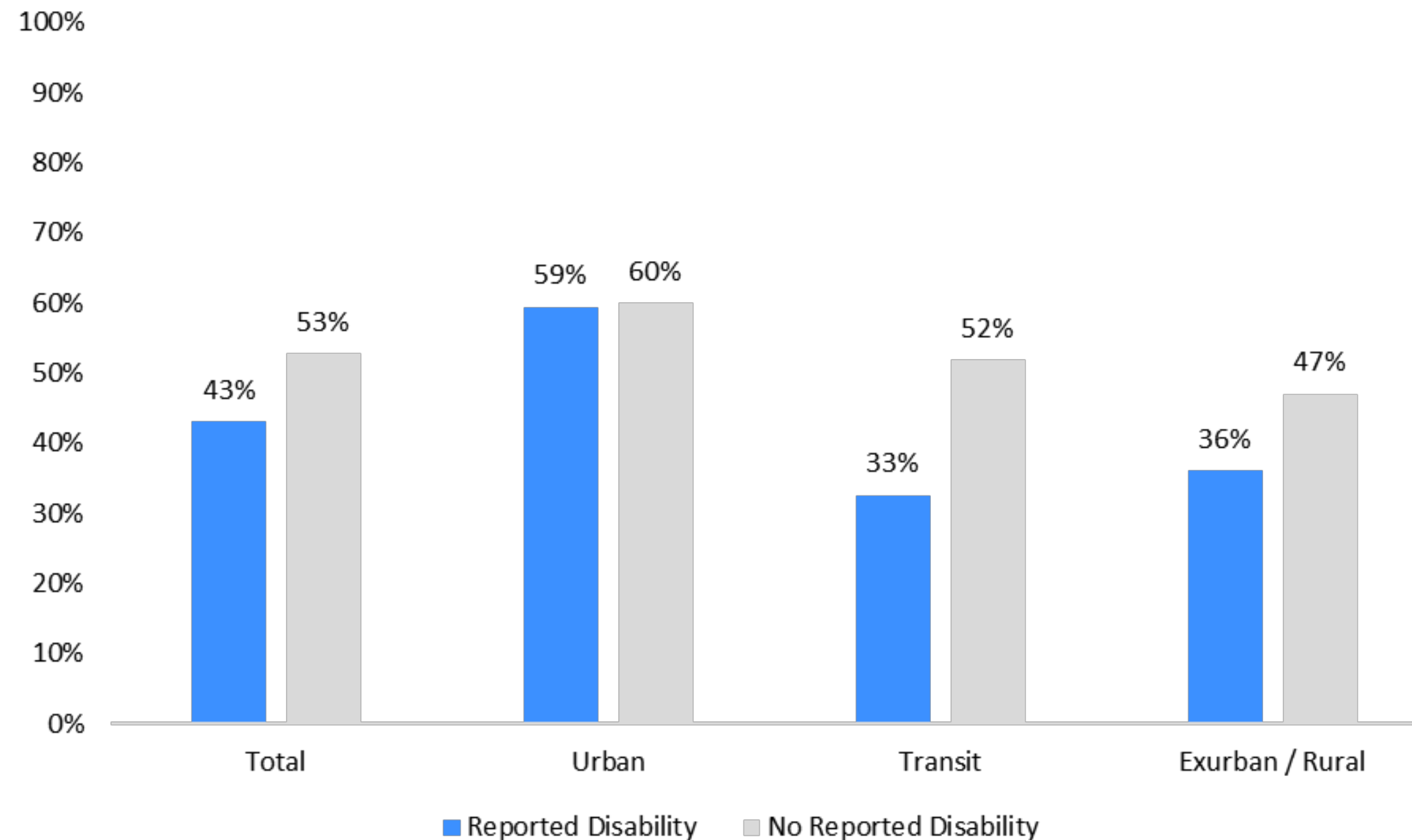
Goal 2: Create a Comfortable Pedestrian Network

Sidewalk Gap Mileage by Street Classification/Land Use

Street Classification	Existing Sidewalks (miles)	Gap Mileage			
		Urban	Transit Corridor	Exurban/ Rural	Total
Arterial	205	7	11	80	98
Business	79	2	0	0	2
Controlled Major Highway	20	1	0	0	1
Country Road	2	0	0	3	3
Exceptional Rustic Road	0	0	0	1	1
Freeway	3	0	0	0	0
Industrial	12	0	0	1	1
Major Highway	214	5	7	38	50
Minor Arterial	62	1	2	5	7
Local	1,367	1	1	2	3
Parkway	3	0	0	0	0
Primary Residential	227	4	7	45	55
Rustic Road	2	0	0	0	0
Total	2,193	19	28	175	222

Existing Conditions Report

Goal 2: Create a Comfortable Pedestrian Network

Sidewalk Width by Street Classification

Street Classification	Mileage	Sidewalk Width			
		3.5' to < 5'	>= 5' to <8'	>=8' to 10'	> =10'
Controlled Major Highway	20	17%	40%	38%	5%
Major Highway	214	23%	54%	19%	5%
Parkway	3	3%	46%	10%	41%
Arterial	205	26%	47%	25%	3%
Minor Arterial	62	57%	39%	3%	1%
Business	79	18%	57%	14%	11%
Primary Residential	227	74%	21%	5%	0%
Industrial	12	14%	68%	12%	6%
Country Road	2	0%	18%	82%	0%
Rustic Road	2	0%	96%	0%	4%
Exceptional Rustic Road	0	48%	52%	0%	0%
Local Street	1,367	61%	32%	5%	3%
Total Mileage	**2,193**	**1,175**	**784**	**189**	**67**

Goal 2: Create a Comfortable Pedestrian Network

Sidewalk Buffer by Street Classification

Street Classification	Buffer Width		
	No Buffer	Less than Six Feet	Six Feet or Greater
Controlled Major Highway	3%	66%	31%
Major Highway	47%	30%	23%
Parkway	4%	26%	70%
Arterial	20%	29%	70%
Minor Arterial	21%	27%	52%
Business	29%	32%	39%
Primary Residential	11%	17%	72%
Industrial	15%	25%	61%
Country Road	0%	4%	96%
Rustic Road	8%	18%	74%
Exceptional Rustic Road	53%	27%	21%
Local Street	20%	16%	64%

Existing Conditions Report

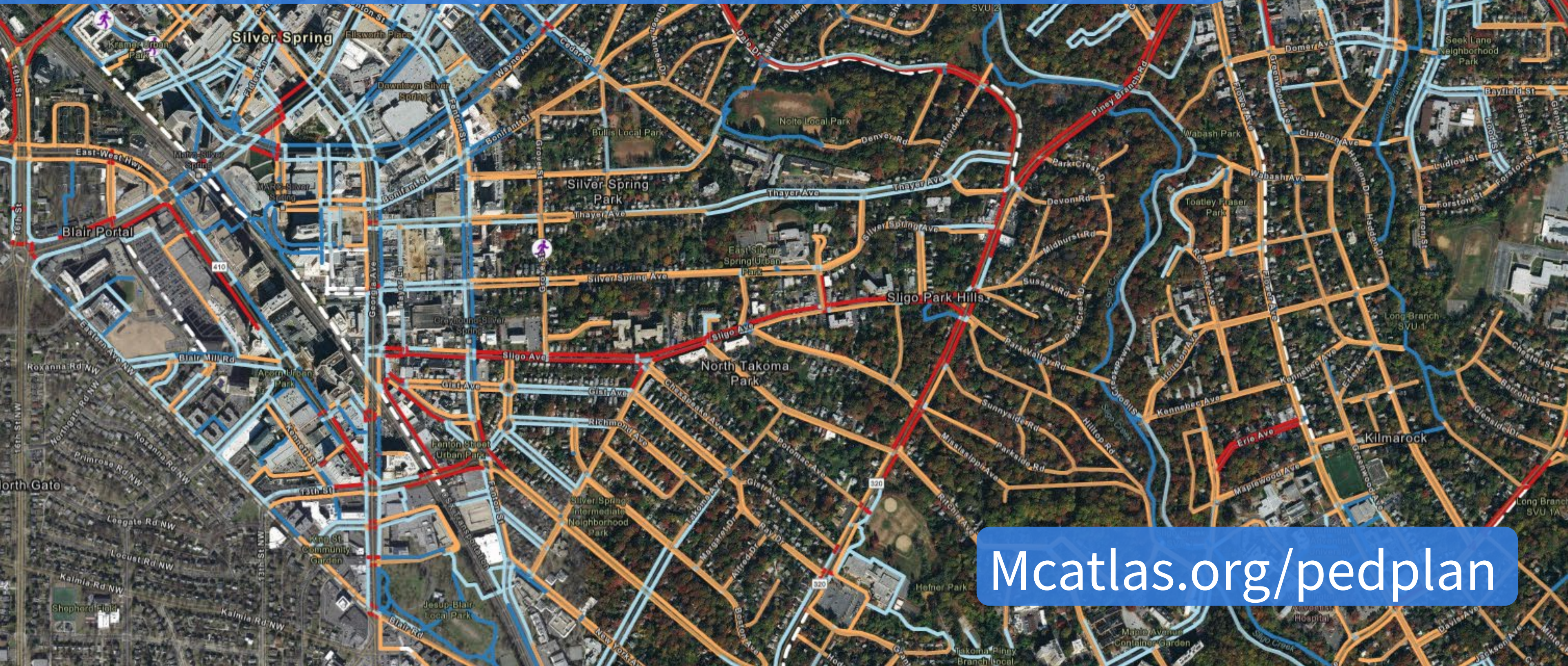# Goal 2: Create a Comfortable Pedestrian Network

Sidewalk Buffer by Street Classification

Street Classification	Buffer Width		
	No Buffer	Less than Six Feet	Six Feet or Greater
Controlled Major Highway	3%	66%	31%
Major Highway	47%	30%	23%
Parkway	4%	26%	70%
Arterial	20%	29%	70%
Minor Arterial	21%	27%	52%
Business	29%	32%	39%
Primary Residential	11%	17%	72%
Industrial	15%	25%	61%
Country Road	0%	4%	96%
Rustic Road	8%	18%	74%
Exceptional Rustic Road	53%	27%	21%
Local Street	20%	16%	64%

28 percent of sidewalks in EFAs lack buffers, compared to 20 percent outside EFAs.

Existing Conditions Report

Pedestrian Level of Comfort

Mcatlas.org/pedplan

Goal 2: Create a Comfortable Pedestrian Network

Overall Pedestrian Comfort on Streets and at Crossings

| PLOC Score	Pathway Mileage	Crossing Locations
Very Comfortable	24%	11%
Somewhat Comfortable	34%	33%
Uncomfortable	21%	38%
Undesirable	20%	17%

Pathway comfort levels are substantially higher in EFAs (73 percent) than non-EFAs (58 percent), likely due to where these areas are located and when they were developed.

Crossing comfort is similar between EFAs and non-EFAs.

Goal 2: Create a Comfortable Pedestrian Network

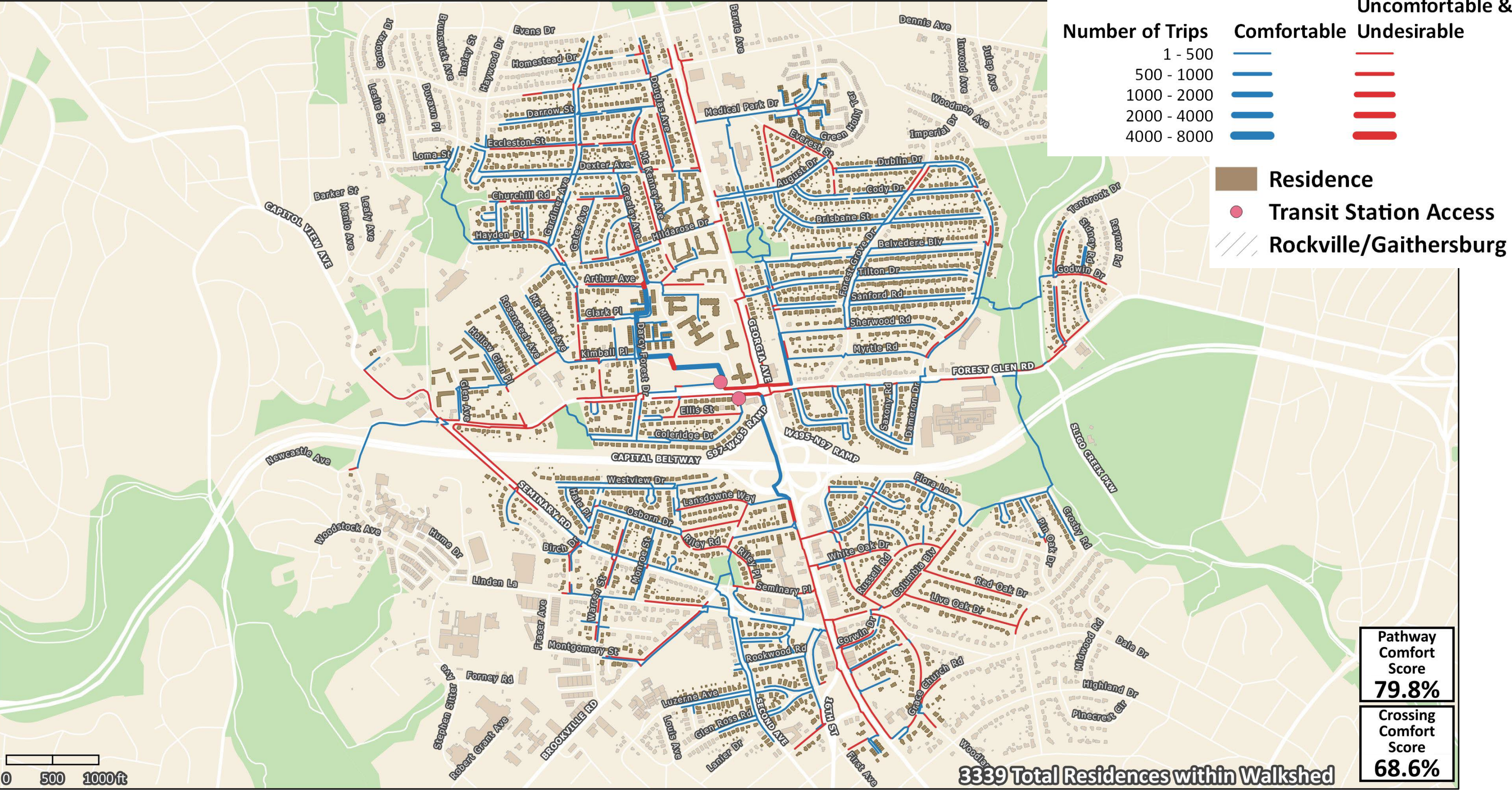- Pedestrian Level of Comfort used to understand destination access

$$comfortable\ access = \frac{total\ comfortable\ distance\ of\ all\ residential\ trips}{total\ distance\ of\ all\ residential\ trips}$$

70 Percent Comfortable

Residence

Park

0.3 Miles Uncomfortable

0.7 Miles Comfortable
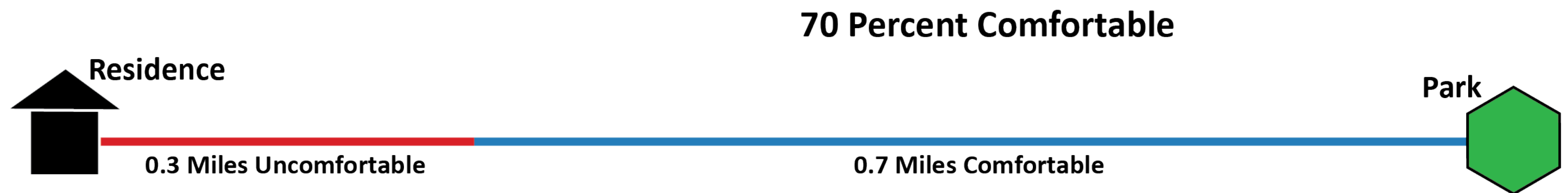
Goal 2: Create a Comfortable Pedestrian Network

- Comfortable access within one-mile walkshed to

  - Libraries

  - Parks

  - Recreation Centers

  - Transit Stations

Forest Glen

Number of Trips   **Comfortable**   **Uncomfortable & Undesirable**

Number of Trips	Comfortable	Uncomfortable & Undesirable
1 - 500		
500 - 1000		
1000 - 2000		
2000 - 4000		
4000 - 8000		

Residence
● **Transit Station Access**
Rockville/Gaithersburg

Pathway Comfort Score
79.8%

Crossing Comfort Score
68.6%

3339 Total Residences within Walkshed

Goal 2: Create a Comfortable Pedestrian Network

Comfortable Access to Community Destinations and Transit Stations

		Community Destinations			Transit Stations		
		Libraries	Recreation Centers	Parks	Red Line	Purple Line	Brunswick Line
Urban	Pathways	79%	82%	N/A	87%	79%	83%
	Crossings	63%	65%	N/A	68%	79%	70%
Transit Corridor	Pathways	64%	86%	61%	74%	69%	N/A
	Crossings	65%	58%	27%	48%	82%	N/A
Exurban/ Rural	Pathways	78%	59%	81%	N/A	N/A	92%
	Crossings	34%	53%	42%	N/A	N/A	89%

Existing Conditions Report

Goal 2: Create a Comfortable Pedestrian Network

Comfortable Access to Community Destinations by EFA Status

		Community Destinations			Transit Stations		
		Libraries	Recreation Centers	Parks	Red Line	Purple Line	Brunswick Line
EFAs	Pathways	77%	82%	83%	88%	73%	88%
	Crossings	55%	49%	34%	59%	73%	79%
Non-EFAs	Pathways	77%	77%	66%	85%	81%	83%
	Crossings	66%	68%	34%	68%	80%	69%

Overall, crossing comfort tends to be worse in EFAs, while pathway comfort is better. While Red Line station connectivity is more comfortable in EFAs, Purple Line station connectivity is worse.

Goal 2: Create a Comfortable Pedestrian Network

- Comfortable access to schools is measured differently
  - Rather than one-mile walkshed, the distance is based on the school's attendance boundary and the appropriate walk distance for the school type
    - Elementary: 1 mile
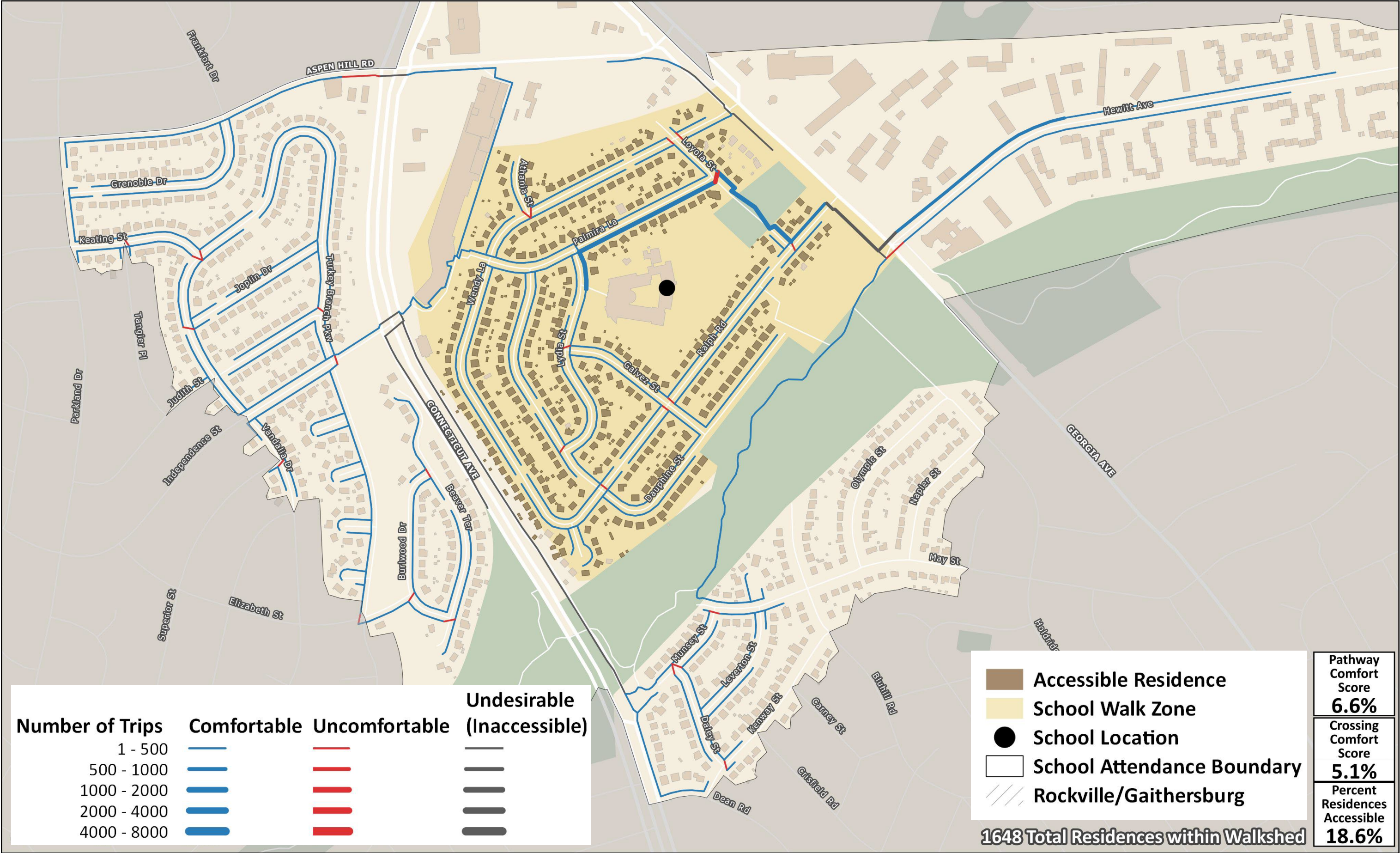   - Middle: 1.5 miles
    - High: 2 miles

Goal 2: Create a Comfortable Pedestrian Network

- Comfortable access to schools is measured differently

  - Trips that use undesirable pathways/crossings cannot be counted toward the school's comfort scores
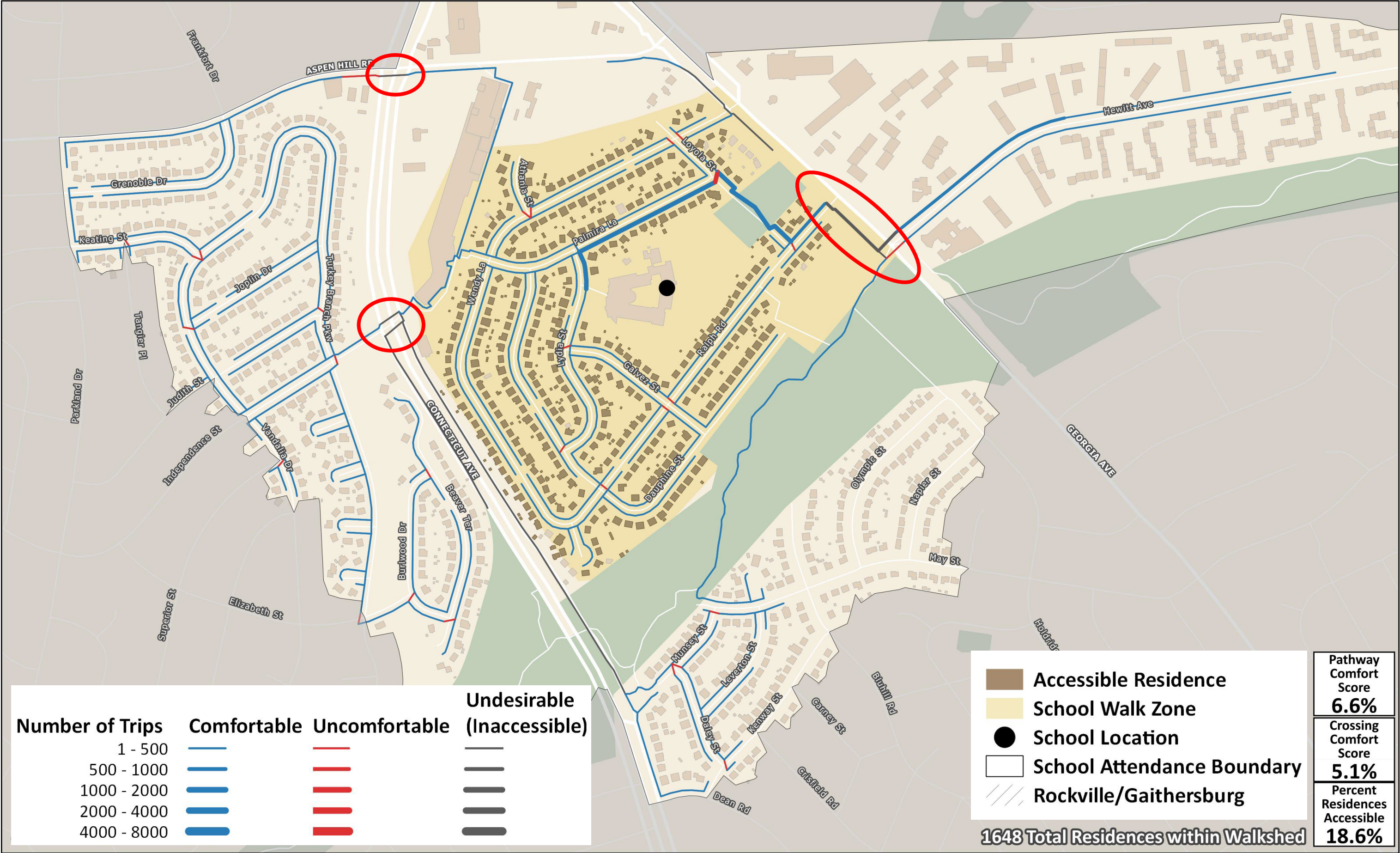
$$comfortable\ school\ access$$

$$= \frac{total\ comfortable\ distance\ of\ all\ residential\ trips\ (without\ travel\ along\ undesirable\ segments)}{total\ distance\ of\ all\ residential\ trips\ (including\ those\ traveling\ along\ undesirable\ segments)}$$

Harmony Hills ES

Number of Trips

	Comfortable	Uncomfortable	Undesirable (Inaccessible)
1 - 500			
500 - 1000			
1000 - 2000			
2000 - 4000			
4000 - 8000			

Accessible Residence
School Walk Zone
● School Location
School Attendance Boundary
/// Rockville/Gaithersburg

1648 Total Residences within Walkshed

Pathway Comfort Score
6.6%

Crossing Comfort Score
5.1%

Percent Residences Accessible
18.6%

Existing Conditions Report

Harmony Hills ES

Number of Trips | Comfortable | Uncomfortable | Undesirable (Inaccessible)
1 - 500
500 - 1000
1000 - 2000
2000 - 4000
4000 - 8000

Accessible Residence
School Walk Zone
● School Location
□ School Attendance Boundary
▨ Rockville/Gaithersburg

1648 Total Residences within Walkshed

Pathway Comfort Score **6.6%**

Crossing Comfort Score **5.1%**

Percent Residences Accessible **18.6%**

Goal 2: Create a Comfortable Pedestrian Network

Comfortable Access to Schools

School Types	Pathways	Crossings
Elementary Schools	40%	32%
Middle Schools	21%	13%
High Schools	7%	5%

Goal 3: Enhance Pedestrian Safety
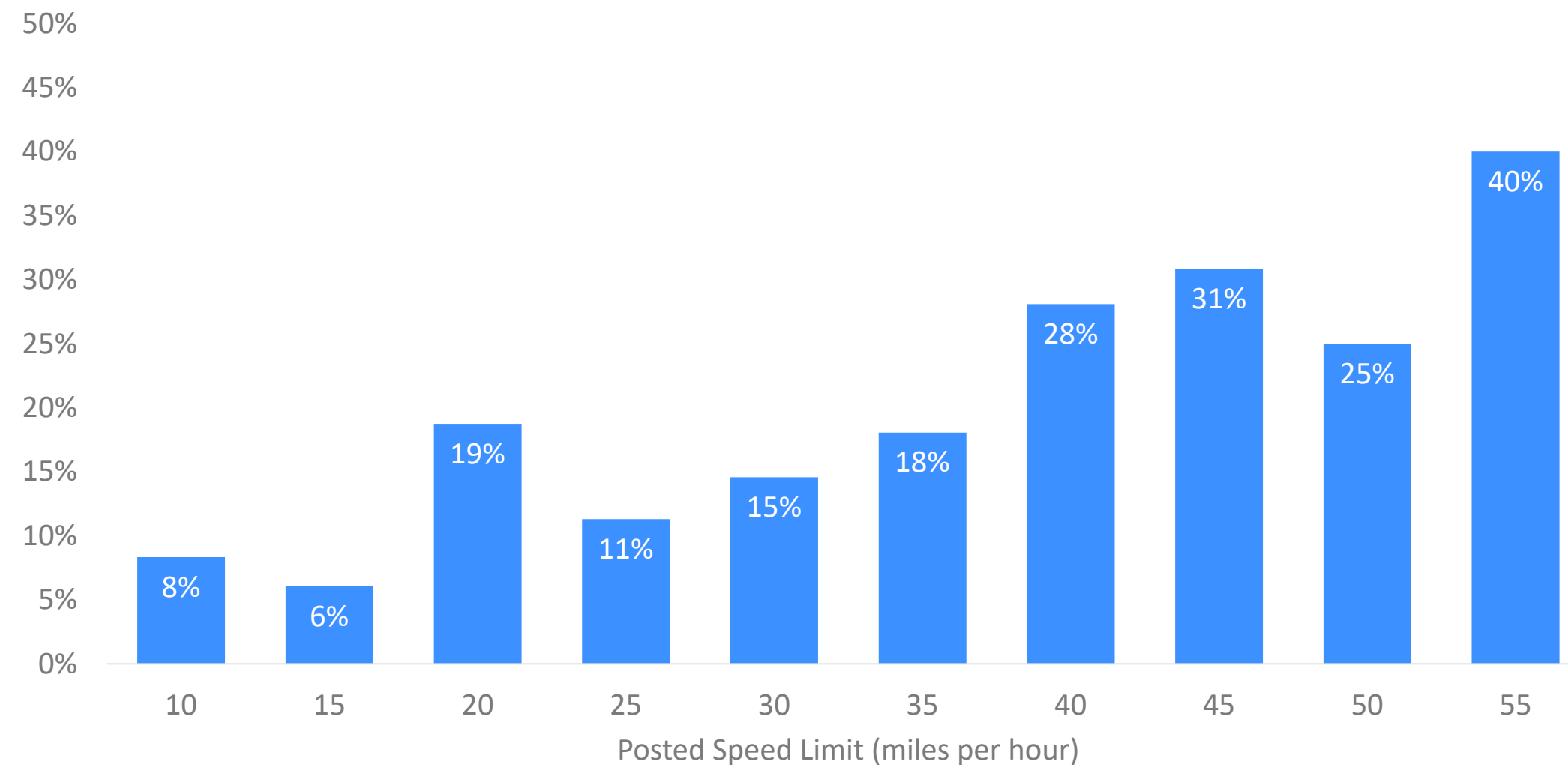
Pedestrian-involved Crashes

Percent of Total Crashes

4%
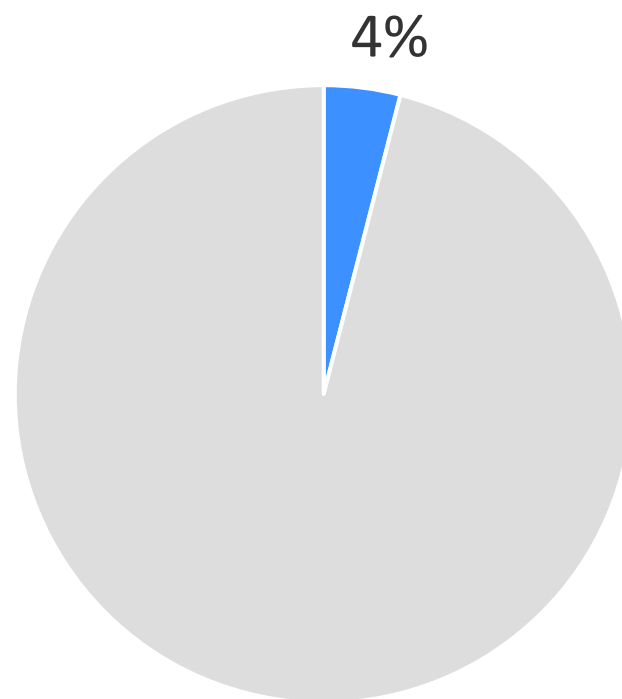
Percent of Severe Injuries
and Fatalities

27%
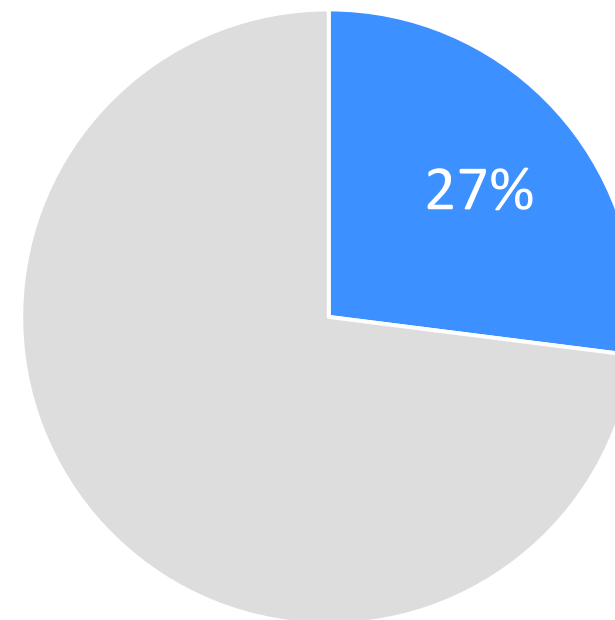
Goal 3: Enhance Pedestrian Safety

Percent of Pedestrian Crashes Resulting in a Severe Injury or Fatality by Speed Limit
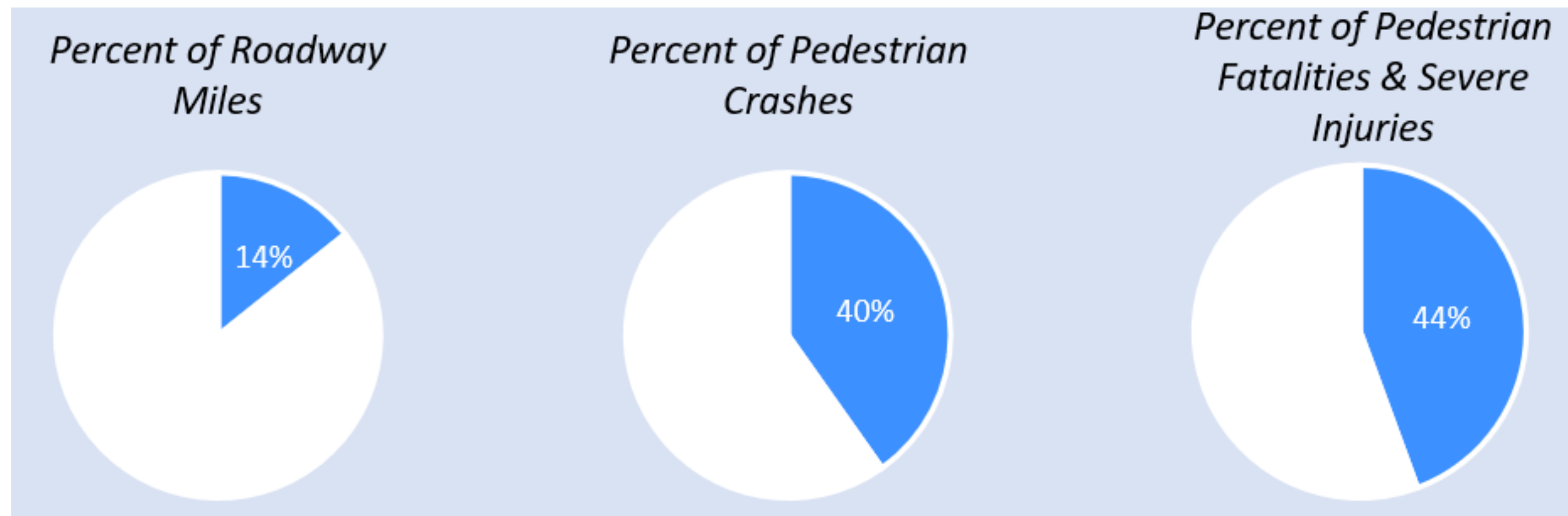
Goal 3: Enhance Pedestrian Safety

Pedestrian Crashes by Area Type

Percent of Roadway Miles

Percent of Pedestrian Crashes

Percent of Pedestrian Fatalities & Severe Injuries

■ Urban ■ Transit Corridor ■ Exurban/Rural
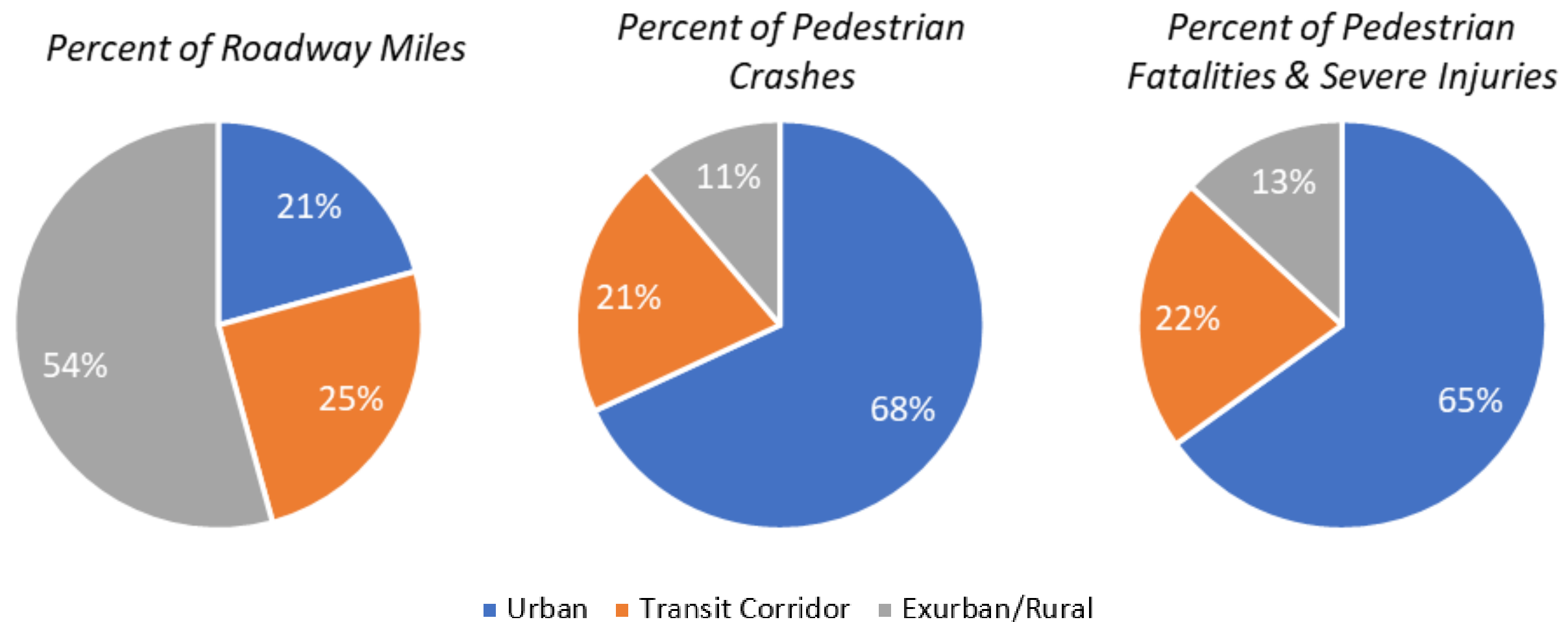
Goal 3: Enhance Pedestrian Safety

Pedestrian Crashes in Equity Focus Areas

Percent of Roadway Miles — 14%

Percent of Pedestrian Crashes — 40%

Percent of Pedestrian Fatalities & Severe Injuries — 44%

Goal 3: Enhance Pedestrian Safety

Pedestrian Severe Injuries and Fatalities by Roadway Type

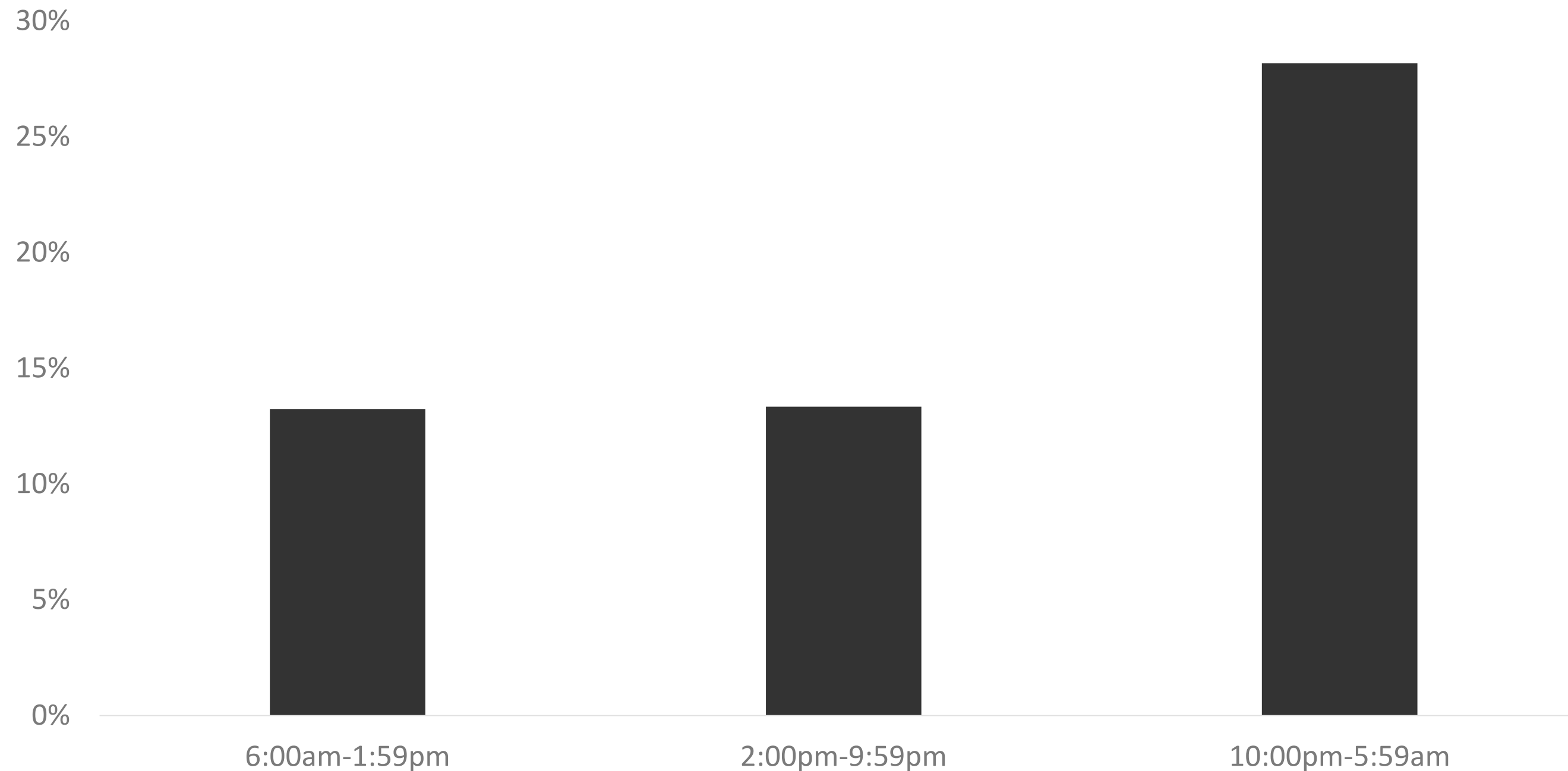| Street Classification	Urban		Transit Corridor		Rural		Total	
	% KSI	% Roadway Mileage	% KSI	% Roadway Mileage	% KSI	% Roadway Mileage	% KSI	% Roadway Mileage
Controlled Major Highway	4%	0.4%	1%	0.2%	0%	0.1%	5%	0.6%
Major Highway	25%	2.0%	10%	1.3%	4%	1.8%	39%	5.0%
Arterial	6%	1.8%	2%	1.2%	1%	4.7%	9%	7.7%
Country Arterial	0%	0.0%	0%	0.0%	0%	1.8%	0%	1.8%
Minor Arterial	1%	0.5%	1%	0.6%	0%	0.5%	3%	1.5%
Business	20%	1.6%	0%	0.0%	0%	0.0%	20%	1.6%
Country Road	0%	0.0%	0%	0.0%	0%	1.1%	0%	1.1%
Industrial	0%	0.0%	0%	0.1%	0%	0.1%	0%	0.2%
Parkway	0%	0.0%	0%	0.1%	0%	0.2%	0%	0.3%
Local	3%	13.6%	2%	19.4%	1%	34.3%	7%	67.4%
Primary Residential	7%	1.3%	5%	1.9%	3%	3.7%	15%	6.8%
Exceptional Rustic Road	0%	0.0%	0%	0.0%	0%	1.3%	0%	1.3%
Rustic Road	0%	0.1%	0%	0.1%	1%	4.6%	1%	4.7%

Existing Conditions Report

Goal 3: Enhance Pedestrian Safety

Pedestrian Crashes by Time of Day
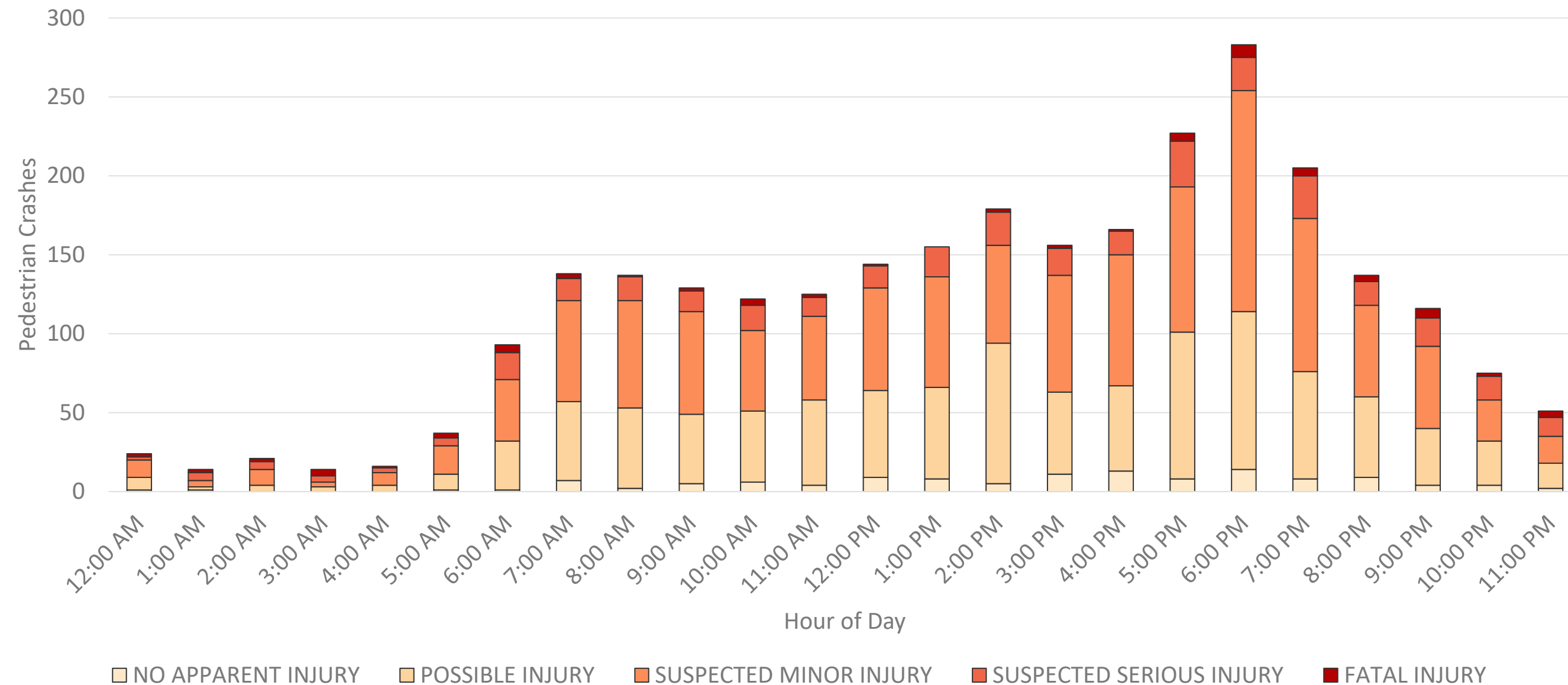
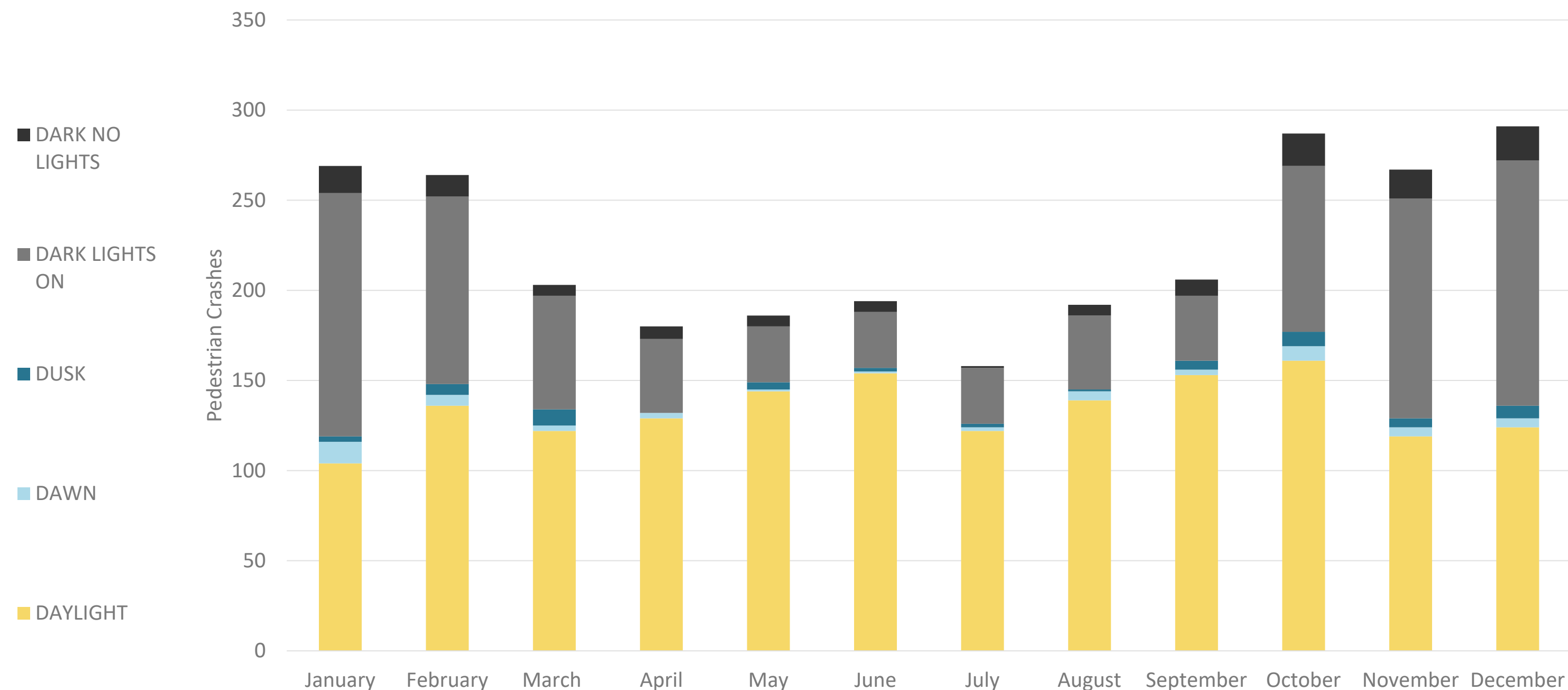# Goal 3: Enhance Pedestrian Safety

Crashes Resulting in Severe Injury or Fatality as a Percentage of all Pedestrian Crashes by Time of Day

Existing Conditions Report

Goal 4: Build an Equitable Pedestrian Network

Goal 1

- Walking rates are higher in Equity Focus Areas (EFAs)

- Walk to school rates are higher for Title I/Focus and high FARMS rate schools

- Pedestrian satisfaction is lower for people with reported disabilities

Goal 2

- Crossing comfort to destinations is worse in EFAs, while pathway comfort is better

- Title I/Focus schools have more comfortable access than their non-designated counterparts

- Less comfortable pathways in urban/transit corridor EFAs have less tree canopy coverage than similar pathways outside EFAs

Goal 3

- Pedestrian crashes and injuries are overrepresented in EFAs

Next Steps

Goal 1: Increase Walking Rates

- Address Issues Pedestrians with Disabilities Face

- Improve Pedestrian Satisfaction Along Streets

- Improve Pedestrian Satisfaction at Crossings

Next Steps

Goal 2: Create a Comfortable Pedestrian Network

- Fill Sidewalk Gaps

- Prioritize Buffers along High-Speed Streets

- Provide Pedestrian Refuge Islands

- Improve Comfortable Access to Elementary Schools

- Prioritize Safer Crossings to Parks

Next Steps

Goal 3: Enhance Pedestrian Safety

- Reduce High-Speed Pedestrian Crashes

- Address Safety Disparities between EFAs and Non-EFAs

- Improve Lighting

- Communicate Permitted Pedestrian Activity

Timeline

Task	Date
Brief Planning Board on Existing Conditions Report	March 2022
Present draft recommendations to Interagency Working Group and Community Advisory Group	April 2022
Host community meetings about draft recommendations and prioritization	June 2022
Present draft recommendations and prioritization to Planning Board	September 2022
Write draft plan	September – December 2022
Planning Board Review	2023