



Parks Project

An Analysis Of Park Usage & Users In 3 Boston Parks

Parks Project

- 1 Introduction**
- 2 Characterizing Park Usage: Ringer, McLaughlin, Ronan**
- 3 Characterizing Park Users: Ringer, McLaughlin, Ronan**
- 4 Factors Affecting Park Usage**
- 5 Conclusion**

Introduction

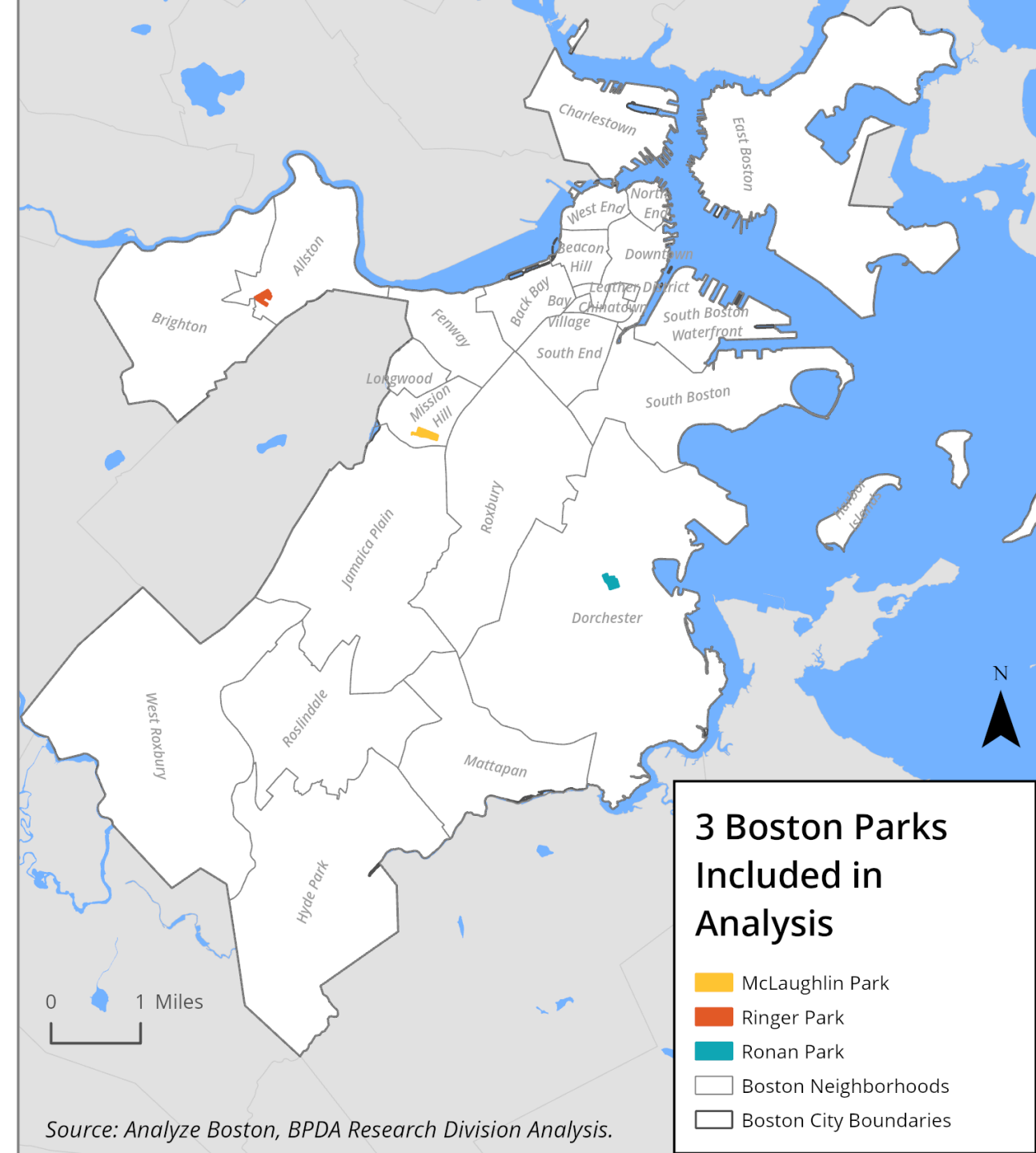
Research Question

How can we characterize park use?

- How many people visit the park?
- How has park use changed over time?
- How do patterns of park use vary between parks?
- Who uses the park?
- What factors might affect park use?

Research Project Scope

In Ringer, McLaughlin, and Ronan park?



Park #1: Ringer Park

Where is it?

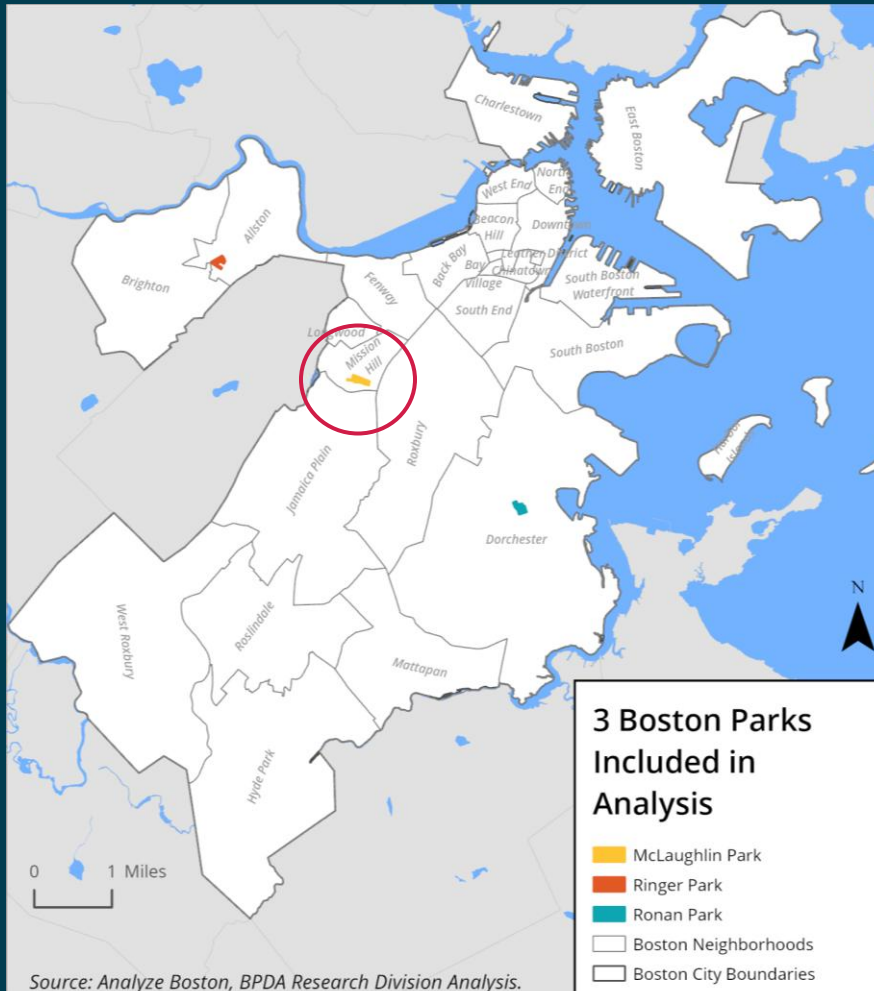


Characteristics

- Ringer a pet and family friendly neighborhood park located in Allston.
- Ringer is a 10.26 acre park with the following assets:
 - Softball field,
 - Basketball courts,
 - Tennis courts,
 - Playground,
 - Chess tables,
 - Water feature,
 - Benches,
 - Urban wilds wooded area with hiking trails

Park #2: McLaughlin Park

Where is it?



Characteristics

- McLaughlin is a pet and family friendly neighborhood park located in Mission Hill.
- McLaughlin is a 11.67 acre park with the following assets:
 - Softball field,
 - Basketball courts,
 - Playground,
 - Tot lots,
 - Batting cages,
 - Benches,
 - Urban wilds wooded area with hiking trails

Park #3: Ronan Park

Where is it?



Characteristics

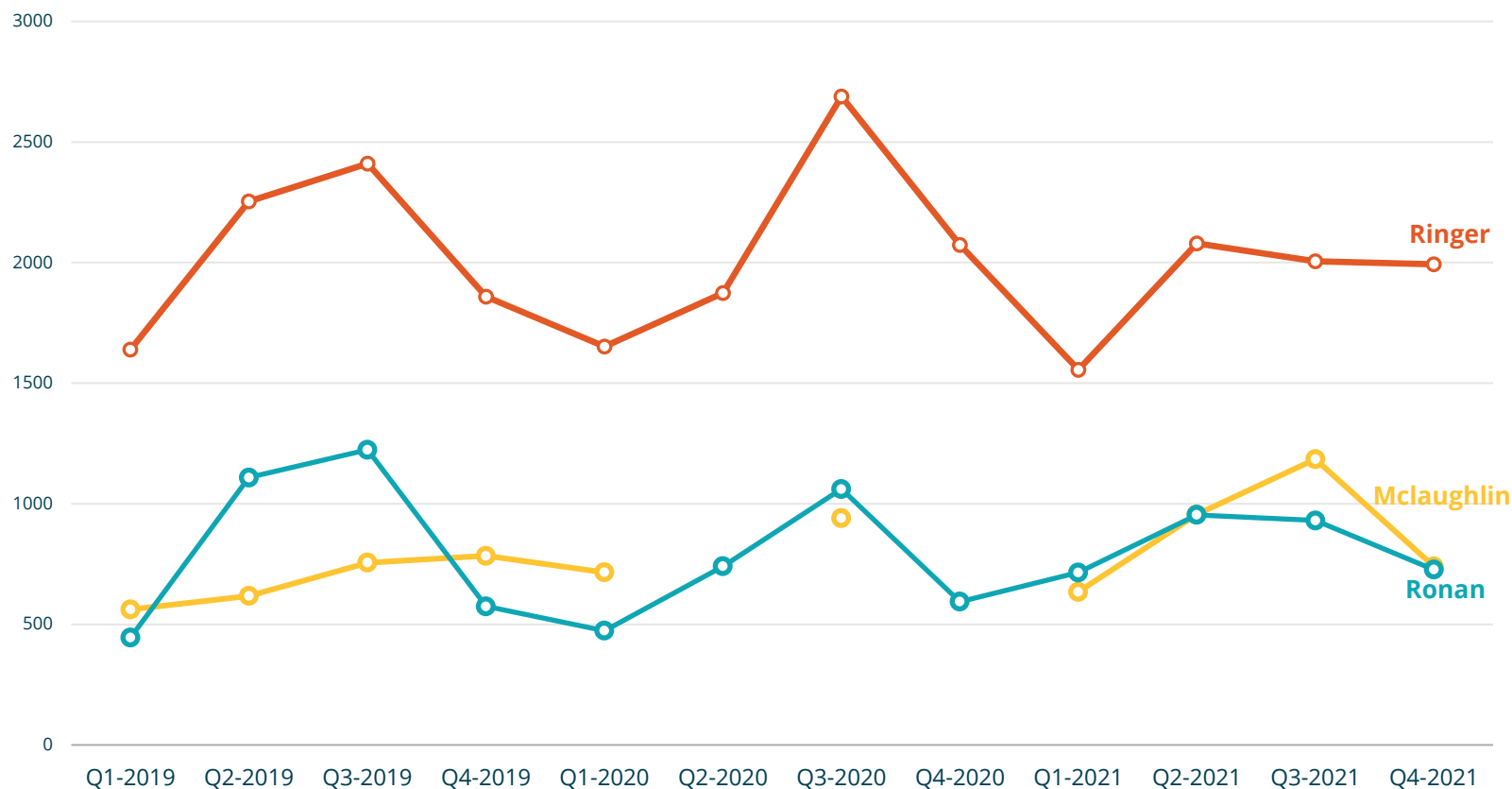
- Ronan is a pet and family friendly neighborhood park located in Dorchester.
- Ronan is a 11.24 acre park with the following assets:
 - Baseball field,
 - Basketball courts,
 - Playground,
 - Fenced-in dog area,
 - Splash pad/tot spray,
 - Benches,
 - Multi-purpose open field space

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Ringer had the highest overall average stoppers & passers for 2019 to 2021

Average Daily Zone Traffic by year by 3 mo increment, 2019 - 2021








- **Ringer** park had the highest average combined stoppers and passers over the data period, followed by Ronan then McLaughlin.
- **Ronan** and **Ringer** followed similar patterns in average daily zone traffic between 2019 and 2021.

Source: Streetlight Insight, BPDA Research Division Analysis.

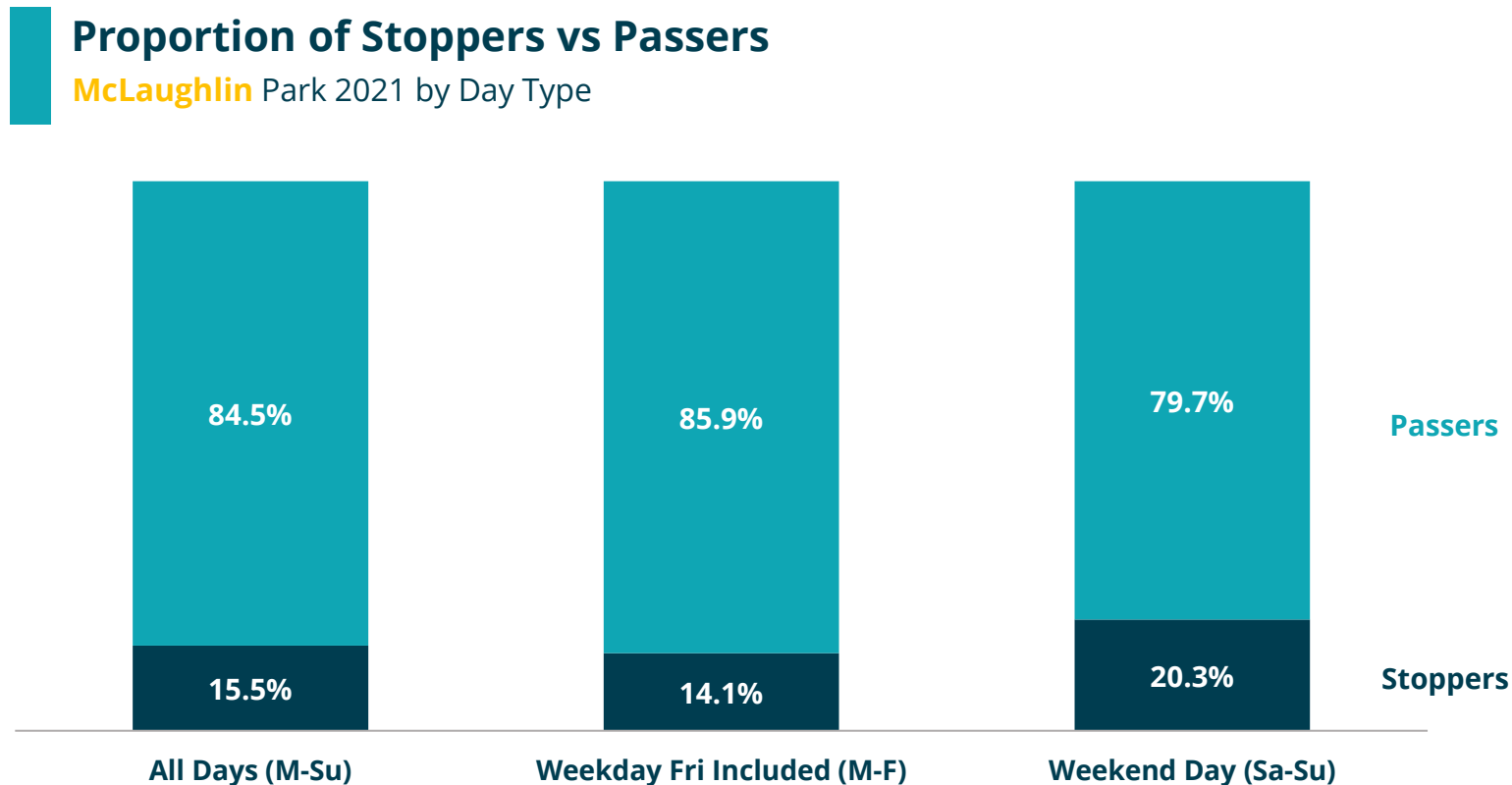
Park usage patterns of passers vs stoppers differ between the 3 parks

Summarizing Patterns in Park Use, 2019 - 2022

	Ringer	McLaughlin	Ronan
 % Passers 2021	74%	85%	64%
 % Passers 2019-21	decreased	increased	increased
 Avg Traffic 2019-21	decreased	increased	increased
 Most Popular	July - September	July - September	July - September
 Least Popular	January - March	January - March	January - March

Most McLaughlin Park Users are Passers

How do people use the park?



- Overall, McLaughlin is mostly used as a pass-through park.
- On weekdays, the proportion of passers is higher than on weekends.
- On weekends, 1 in 5 park users stop in McLaughlin park.

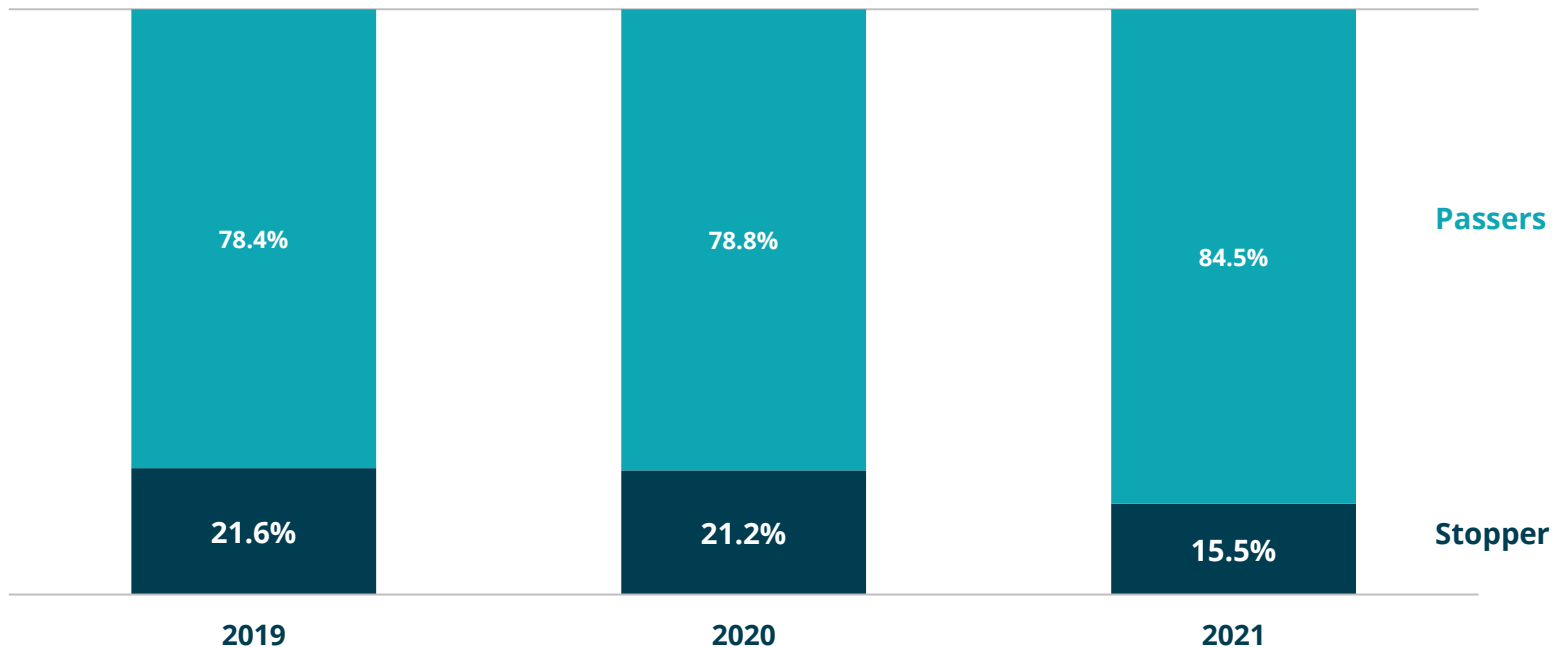
Source: Streetlight Insight, BPDA Research Division Analysis.

Proportion of passers **increased** over time

How do people use the park? How has that changed over time?

Proportion Stoppers vs Passers on Mon-Sun day

McLaughlin Park, 2019-2021

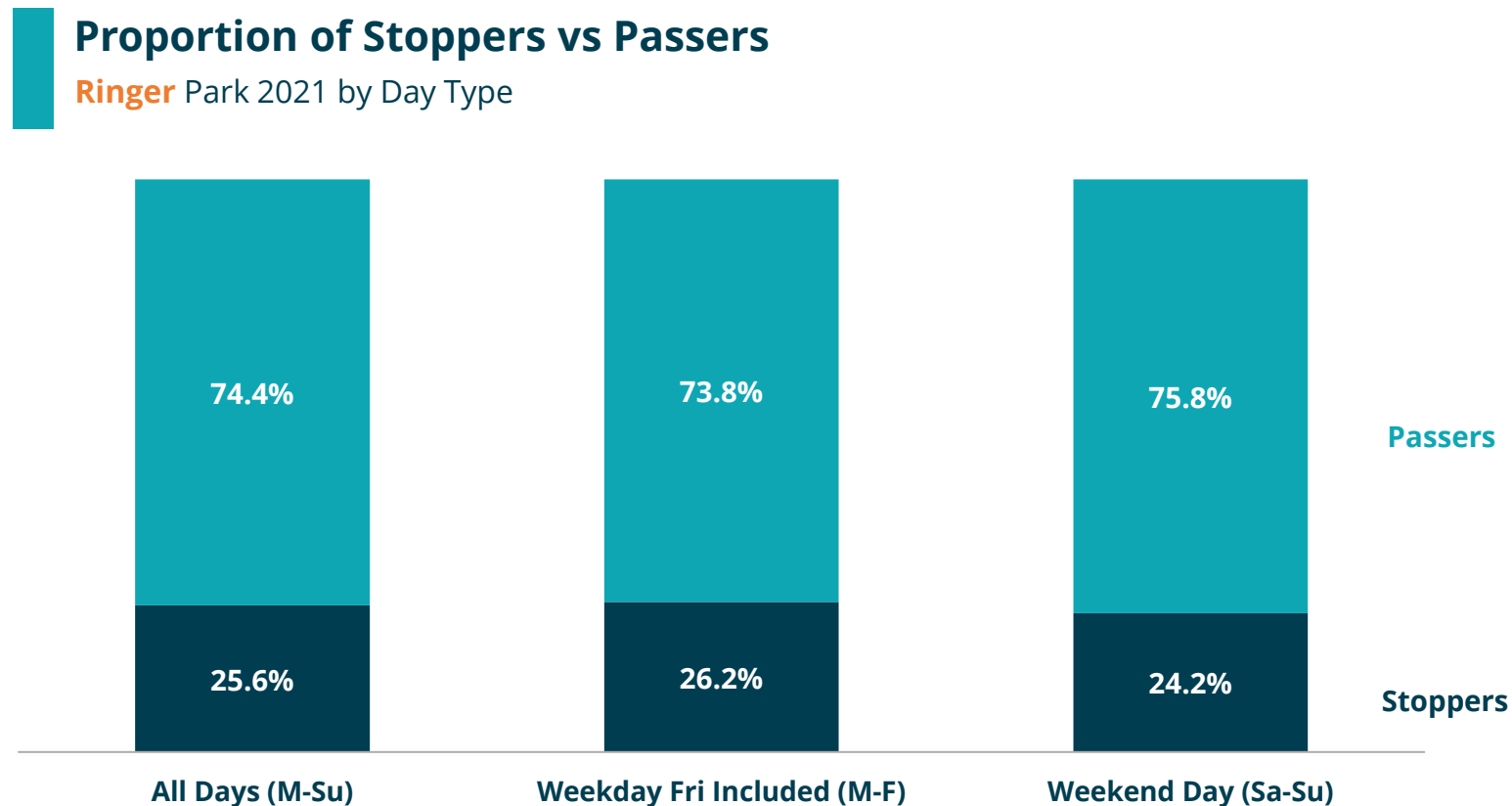


- For all 3 years, the proportion of passers is larger than the proportion of stoppers.
- 2021 saw the lowest proportion of stoppers.
- 2019 saw the highest proportion of stoppers.

Source: Streetlight Insight, BPDA Research Division Analysis.

Most Ringer Park Users are Passers

How do people use the park?



- Overall, Ringer is mostly used as a **pass-through** park.
- On a typical Mon-Sun day, 1 in 4 park users stop in Ringer park.
- On weekdays, the proportion of stoppers is slightly higher than on weekends.

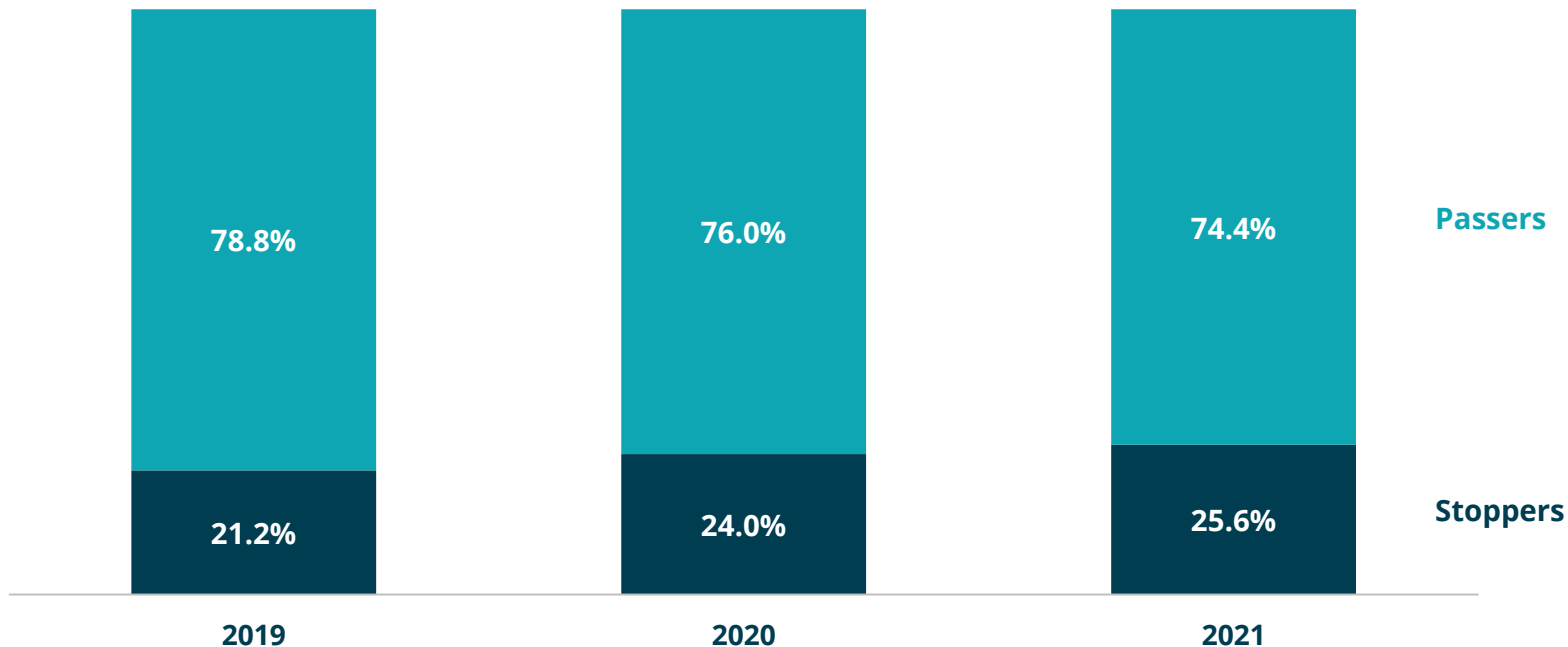
Source: Streetlight Insight, BPDA Research Division Analysis.

Proportion of stoppers **increased** 2019-21

How do people use the park? How has that changed over time?

Proportion Stoppers vs Passers on Mon-Sun day

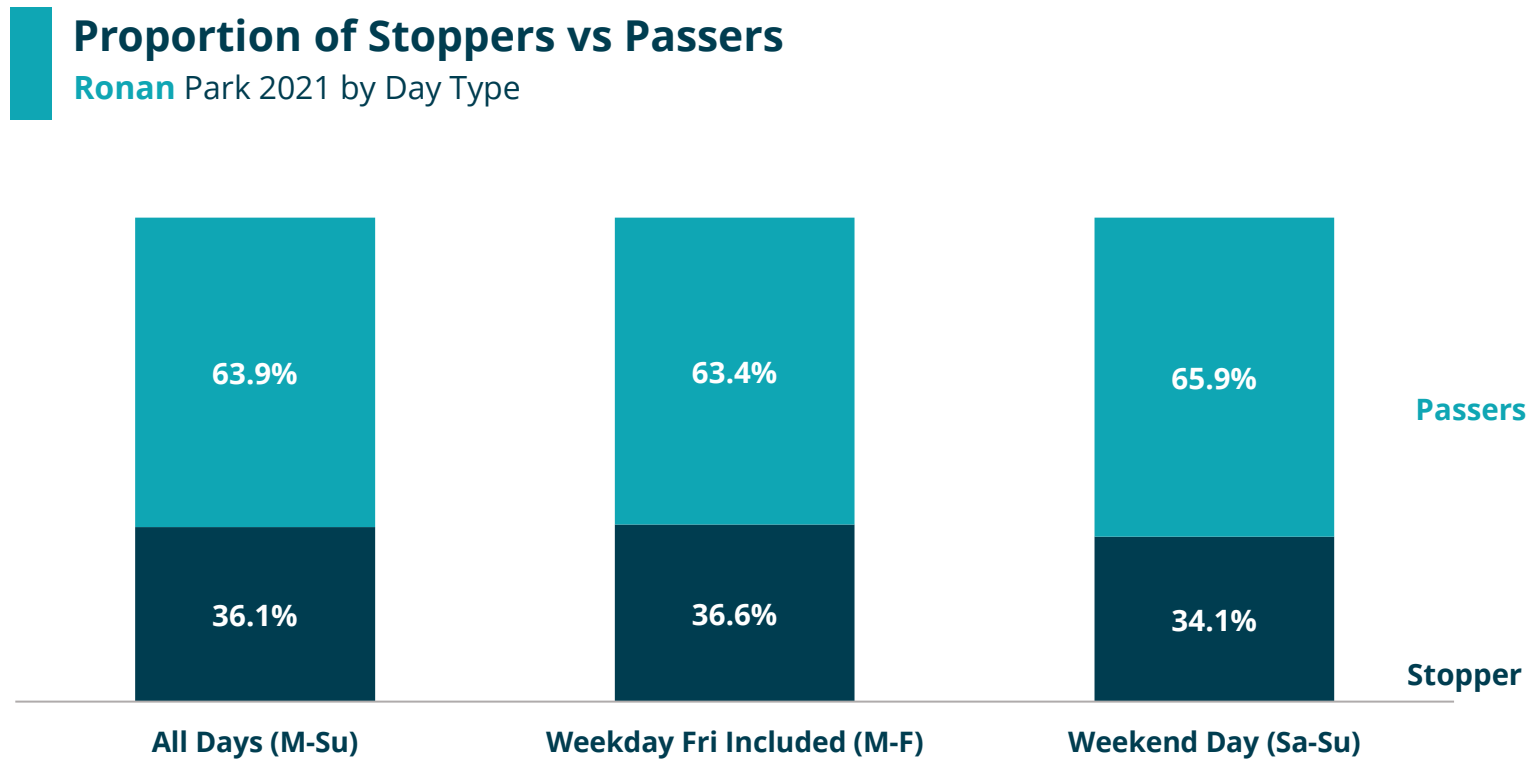
Ringer Park, 2019 - 2021



- For all 3 years, the proportion of passers is larger than the proportion of stoppers.
- 2021 saw the highest proportion of stoppers.
- 2019 saw the lowest proportion of stoppers.

Most Ronan Park Users are Passers

How do people use the park?



Source: Streetlight

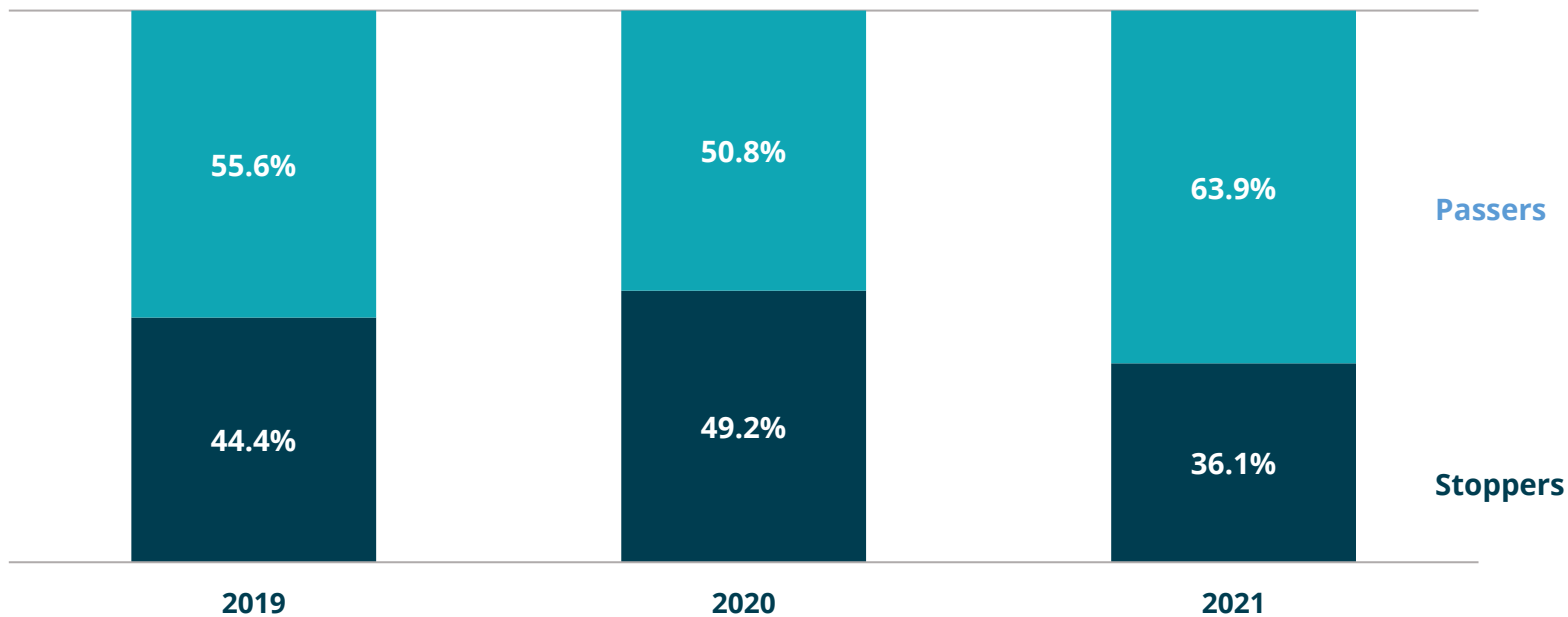
- Overall, **Ronan** is mostly used as a **pass-through park**.
- On a typical Mon-Sun day, **1 in 3 park users stop** in Ronan park.
- On weekends, the proportion of passers is slightly higher than on weekdays.

Source: Streetlight Insight, BPDA Research Division Analysis.

Proportion of passers **increased** 2019-21

How do people use the park? How has that changed over time?

Proportion Stoppers vs Passers on Mon-Sun day
Ronan Park, 2019 - 2021



Source: Streetlight

- While in 2019 and 2020 more Ronan park users stopped than passed through, in 2021 more park users passed through.
- 2021 saw the highest proportion of passers.
- 2020 saw the lowest proportion of passers.

Source: Streetlight Insight, BPDA Research Division Analysis.

Parks Project

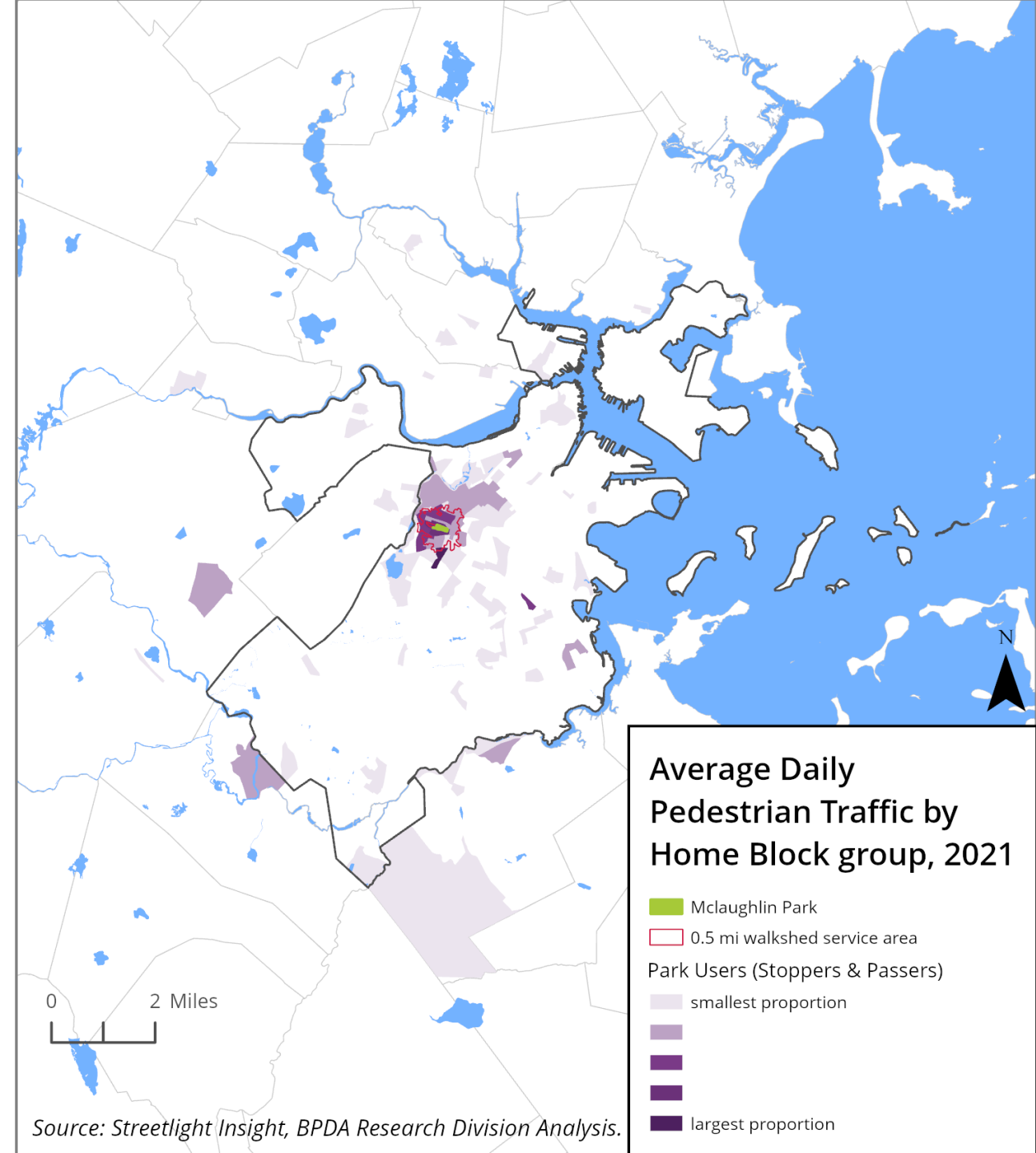
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Where do McLaughlin Park users live?

46.7% of McLaughlin park users* **live within** the 15 min walkshed service area

*total restricted to the greater Boston area bounded by I-95



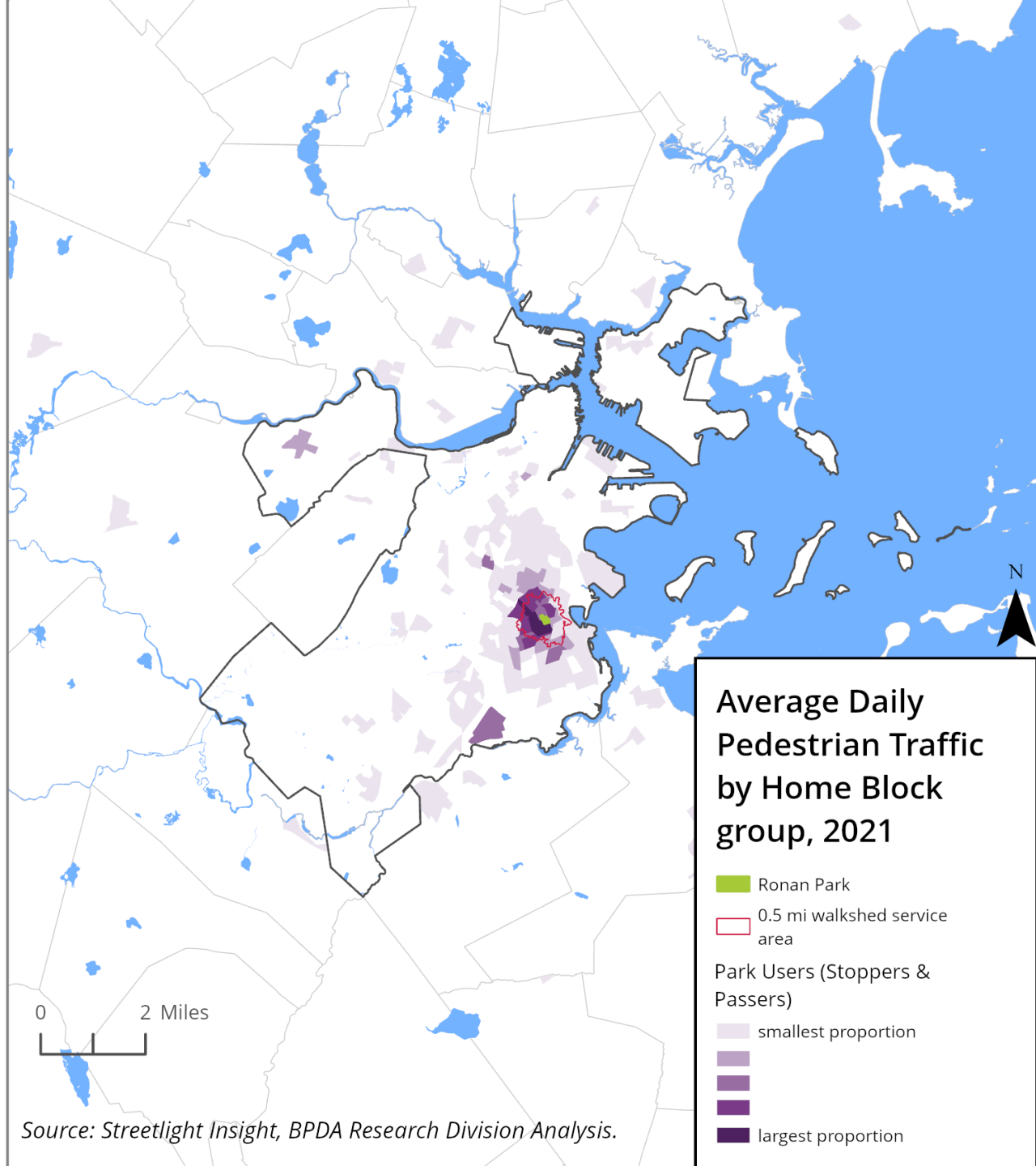
Source: Streetlight Insight, BPDA Research Division Analysis.



Where do Ronan Park users live?

35.6% of Ronan park users* **live within** the 15 min walkshed service area

*total restricted to the greater Boston area bounded by I-95

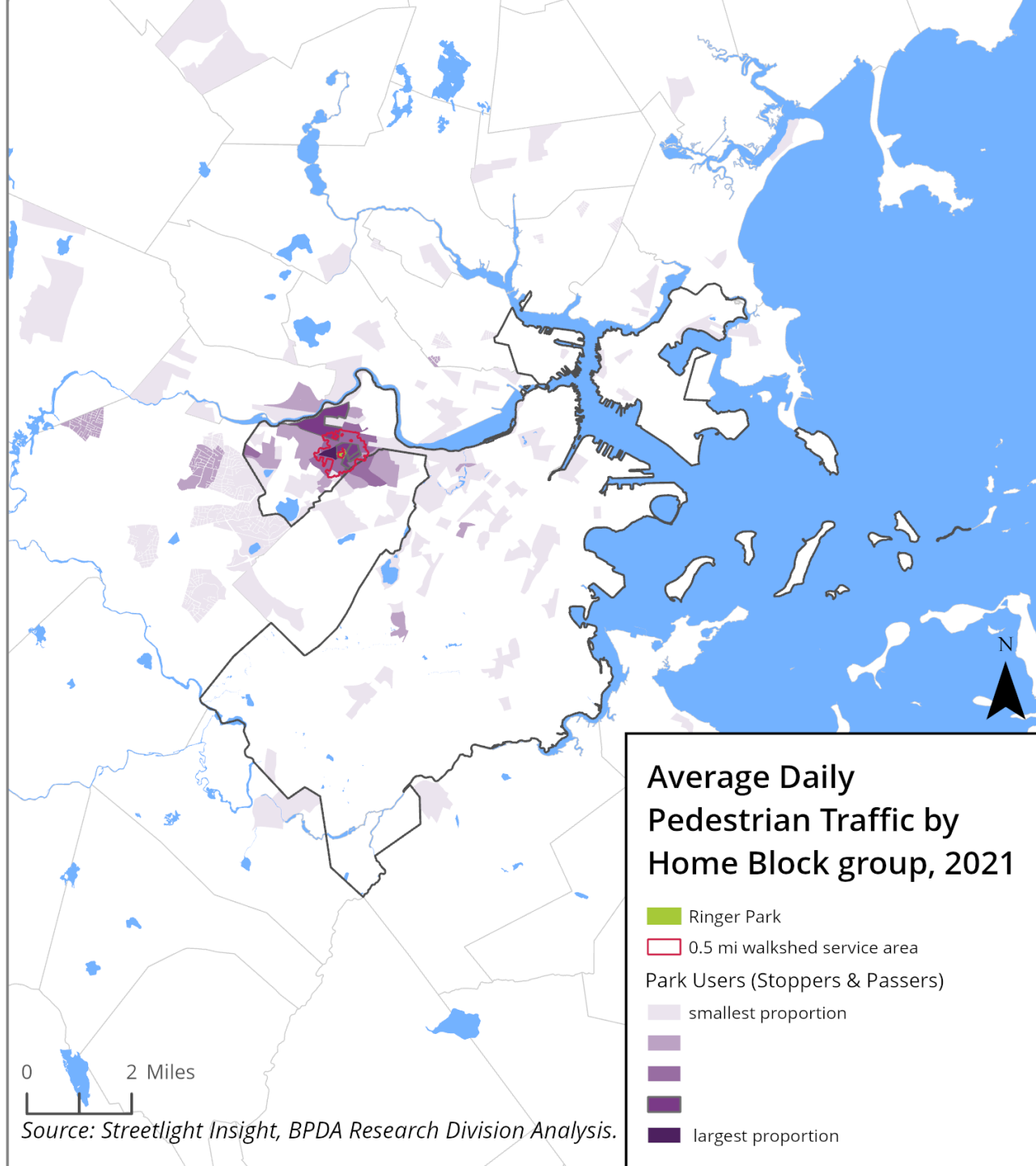




Where do Ringer Park users live?

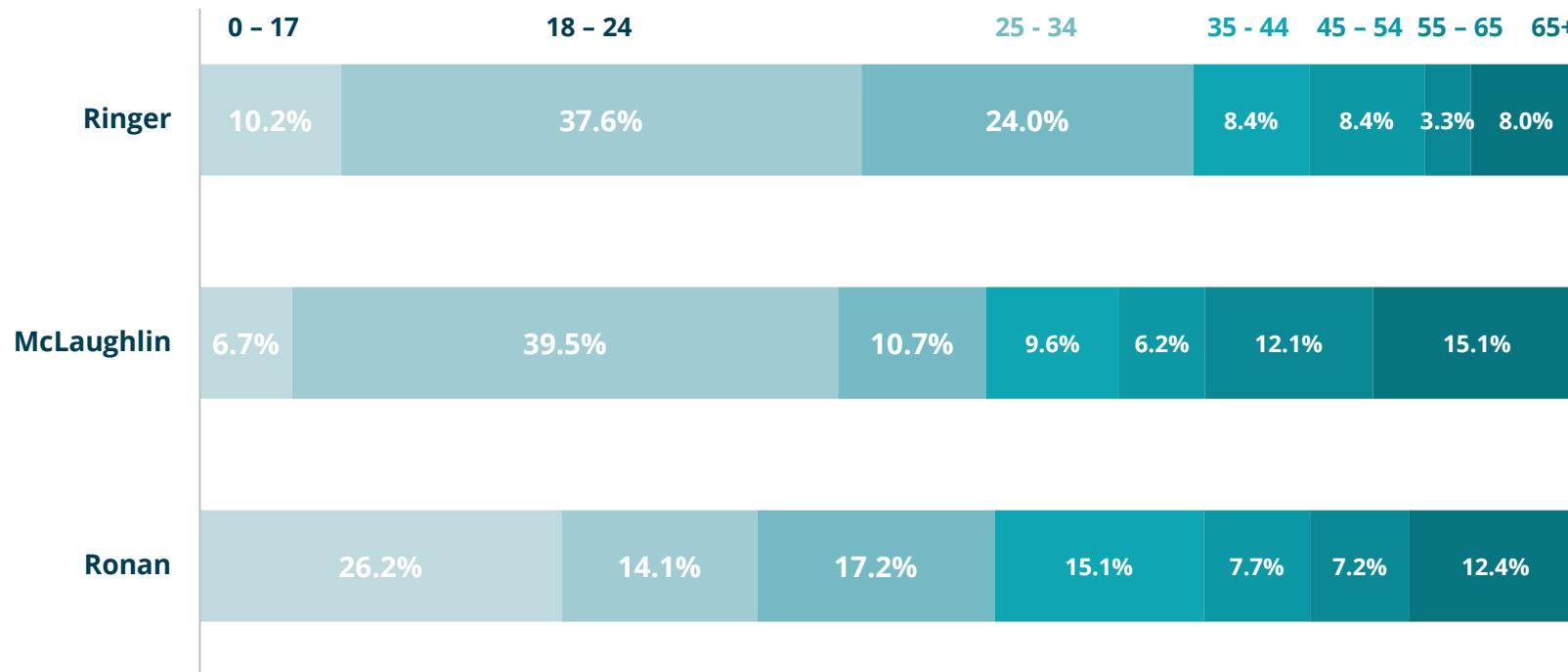
41.2% of Ringer park users* **live within** the 15 min walkshed service area

*total restricted to the greater Boston area bounded by I-95



Over 1 in 3 McLaughlin and Ringer park users are between 18 and 24 years old

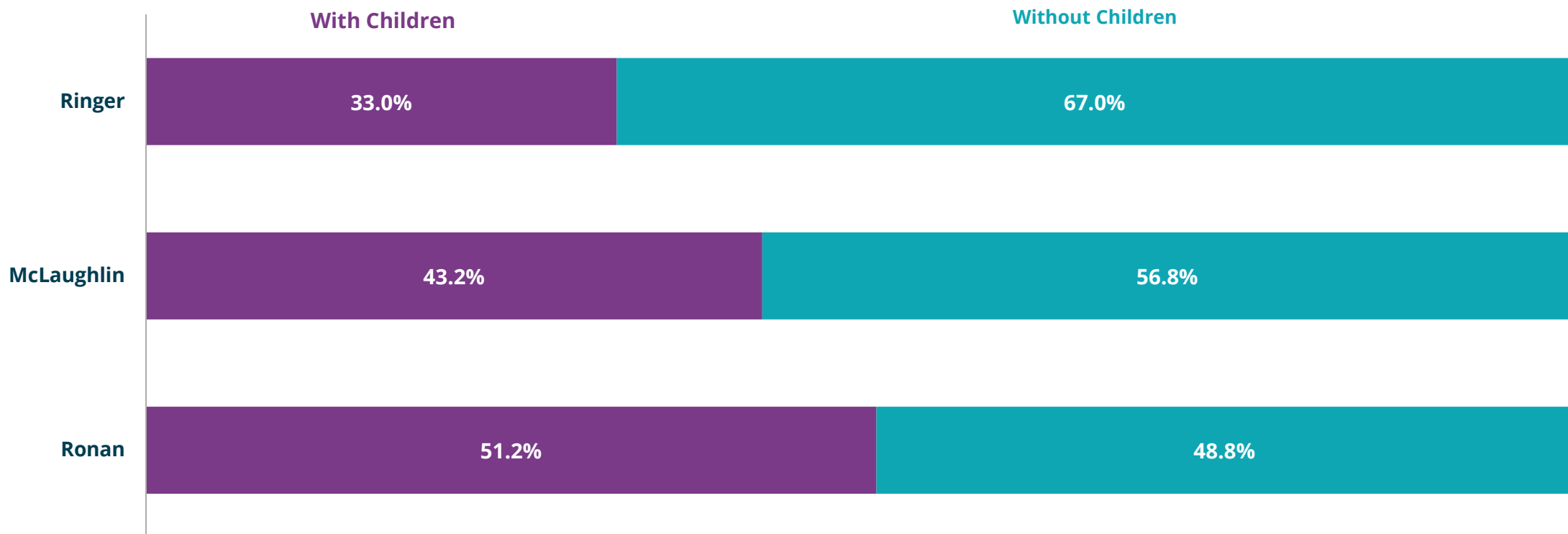
Park Users by Age Group by Park, 2022



- **Ringer** park users are most likely aged 18 – 24 and 25 – 34 years.
- **McLaughlin** park users are most likely aged 18 – 24 years or 65+ years.
- **Ronan** park users are most likely aged 0 - 17 or 35 - 44 years

Ronan park users are more likely come from households with children than McLaughlin & Ringer park users

Park Users by Park by Household Composition Type, 2021



Source: Streetlight Insight, BPDA Research Division Analysis.

For **all 3 parks**, the first or second most likely annual household income was **10-30k**

Park Users by Park by Income Group, 2021

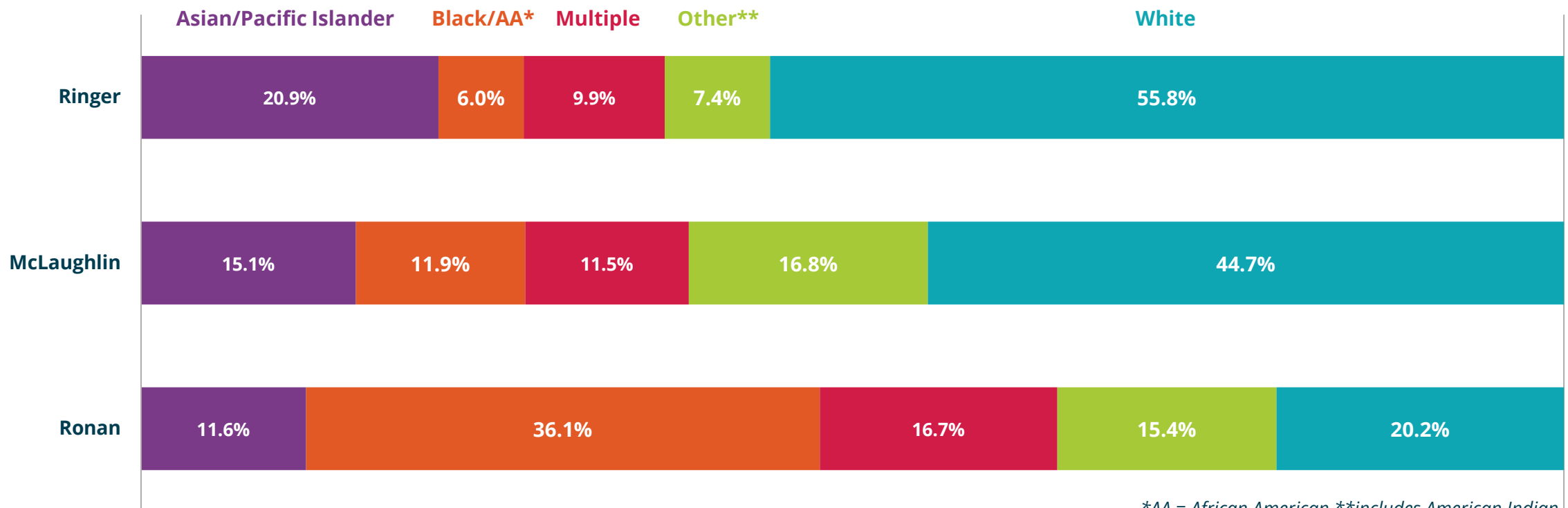
	<10k	10-30k	30-50k	50-75k	75-100k	100-150k	150k+
Ringer	9.5%	16.7%	12.8%	18.0%	10.7%	16.3%	16.0%
McLaughlin	13.8%	16.1%	10.0%	14.4%	11.5%	14.7%	19.5%
Ronan	9.7%	23.5%	15.1%	14.5%	11.8%	14.2%	11.2%

- **Ringer** park users are most likely to report household incomes of **50 – 75k** or **10 – 30k** a year.
- **McLaughlin** park users are most likely to report household incomes of **10-30k** or **150k+** a year.
- **Ronan** park users are most likely to report household incomes of **10 – 30k** or **30 – 50k** a year.

Source: Streetlight InSight, BPDA Research Division Analysis.

Ronan park users are most likely to be **Black/African American** while Ringer & McLaughlin park users are most likely to be **White**






Park Users by Park by Race, 2021



Source: Streetlight InSight, BPDA Research Division Analysis.

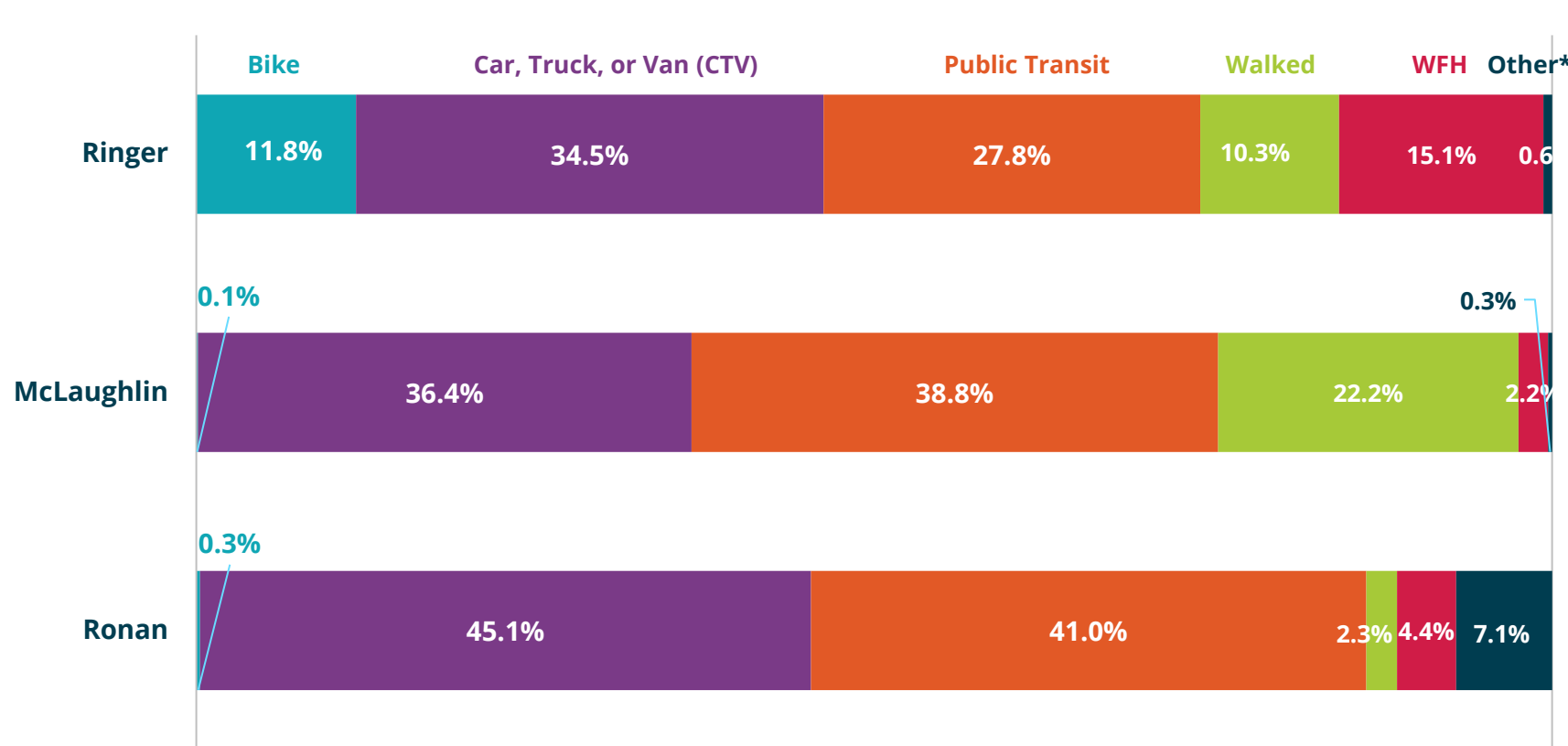
*AA = African American **includes American Indian
Note: As Streetlight tabulates Hispanic ethnicity separately, individuals identifying as Hispanic are included in the stated racial groups.

Demographic Comparison Continued

	Ringer	McLaughlin	Ronan
 Foreign Born	34%	25.8%	36.5%
 English Level Speaking English "less than very well"	18.8%	12.3%	24.5%
 Hispanic Ethnicity	13.2%	28.1%	22%
 Renters	77.2%	72.4%	65.5%
 Disability	8.8%	9.7%	14.4%

Most park users of all 3 parks take a **Car Truck or Van** or **Public Transit** to get to work





Park Users by Park by Means of Transportation to Work, 2022



*Note: includes Motorcycle and Taxi.

- **Ringer** park users showed the **most diversity** in means of transportation to work and the **highest WFH** population.
- **McLaughlin** park users tended to use **Public transit** most, followed by **CTV** and **walking**, to get to work.
- Approximately 86% of **Ronan** park users used **CTV** or **Public transit** to get to work.

Ringer park users are less likely to have access to a vehicle than McLaughlin & Ronan park users

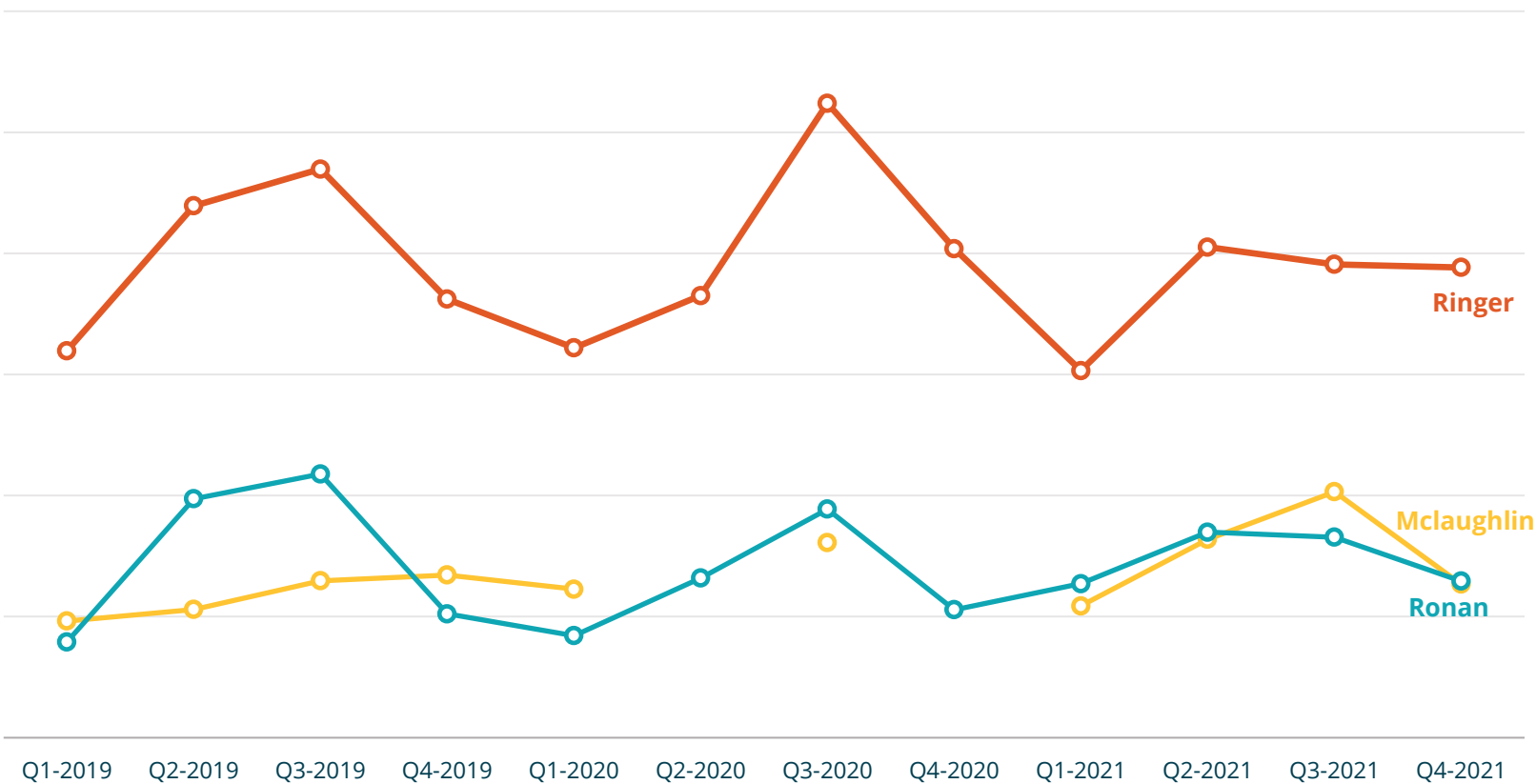
	Ringer	McLaughlin	Ronan
 No Vehicles	38.9%	37.9%	28.1%
 1 Vehicle	37.6%	41.7%	45%
 2 Vehicles	18.4%	15.9%	20.7%
 3 + Vehicles	5%	4.3%	6.2%

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Ringer park remains the park with the highest average daily traffic when adjusted for size

Average-Adjusted Average Daily Zone Traffic by Year by 3 mo increment, 2019 - 2021



- When adjusted for size, **Ringer** has the most activity, followed by **Ronan**, then **McLaughlin**.
- The order does not change when adjusted for size.
- Measuring park usage by average daily zone traffic (stoppers & passers), **Ringer** park is the most 'used'

Source: Streetlight Insight, BPDA Research Division Analysis.

Internal Factors affecting park usage

What does the literature say about park usage?

1

Recreation Facilities

Playgrounds, dog parks, spray play, etc.

2

Inclusiveness

Accessibility ramps, benches, drinking fountains, restrooms

3

Green & Blue Infrastructure

Landscaping, presence of water, tree canopy coverage, etc.





4

Flexibility of Movement

Number of entrances, paths, etc.

Internal Factors

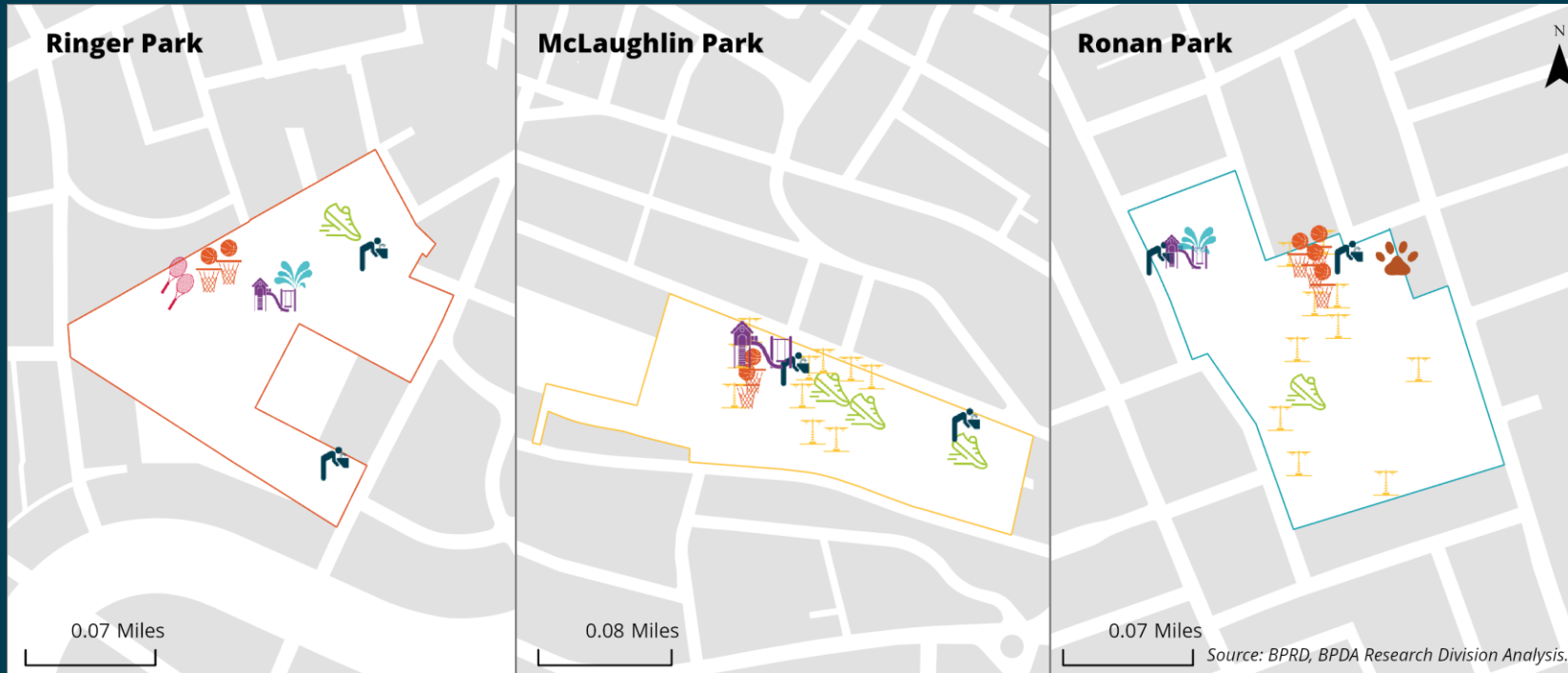
Movement Flexibility, Green & Blue Infrastructure

	Ringer	McLaughlin	Ronan
 Tree Canopy Coverage	65%	53.8%	22.2%
 Water Coverage	0%	0%	0%
 Water Feature	2 Fountain, Spray Play	0	1 Spray Play
 # Entrances	7	9	10

Internal Factors

Recreational Facilities

Map of Recreation Park Assets



Ringer, McLaughlin, and Ronan Park Assets

Ringer Park	Park Assets	Basketball	Athletic Lighting	Playground	Spray Play
McLaughlin Park	Asset	Dog Park	Drinking Fountain	Restroom	Tennis
Ronan Park	Athletic Field				

	Ringer	Ronan	McLaughlin
Basketball Courts	2	4	2
Athletic Fields	1	1	3
Spray Play	1	1	0
Playgrounds	1	1	1
Dog Parks	0	1	0
Tennis Courts	2	0	0
Total Facilities	7	8	6

Source: BPRD, BPDA Research Division Analysis.

Internal Factors



Inclusiveness

Facilities Supporting Park Visitorship

1



Benches

Rest, longer dwell times, age-inclusive design

2



Tables

Longer dwell times, social cohesion and interaction

3



Drinking Fountains

4



Public Restrooms

Available to all, children

External Factors affecting park usage

What does the literature say about park usage?

5

Surrounding Land Use

% commercial, % multi-family residential, % single-family, etc.

6

Surrounding Open Space

Presence of other open spaces near the park

7

Transportation Infrastructure

of transport modes to get to there, bus stops, subway, light rail nearby

8

Pedestrian Oriented Design

Sidewalks, bike routes, tree canopy

External Factors affecting park usage

What does the literature say about park usage?

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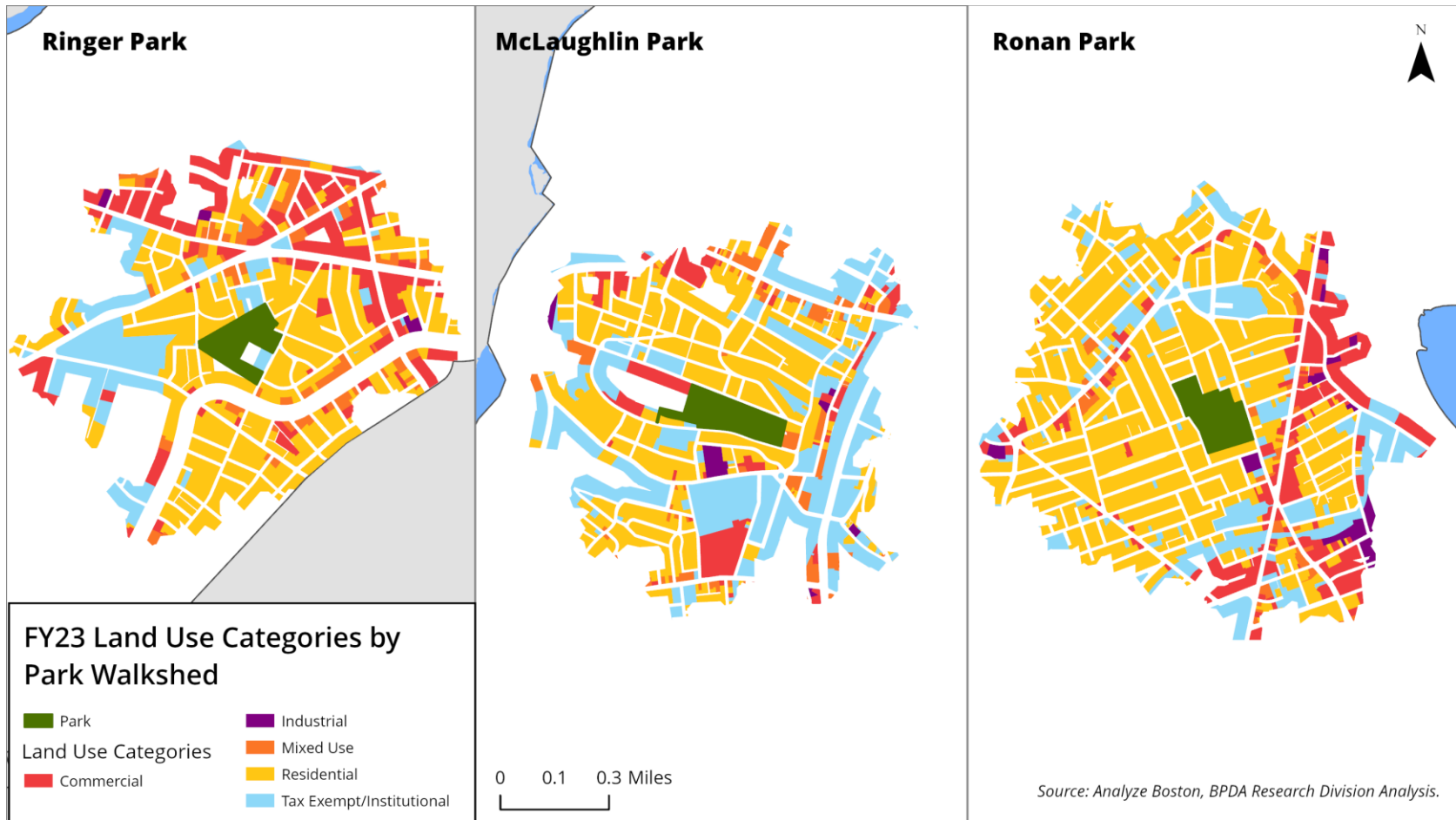
Pedestrian Oriented Design

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External Factors

Surrounding Land Use Mix

FY2023 Land Use Categories by Park Walkshed, 2021

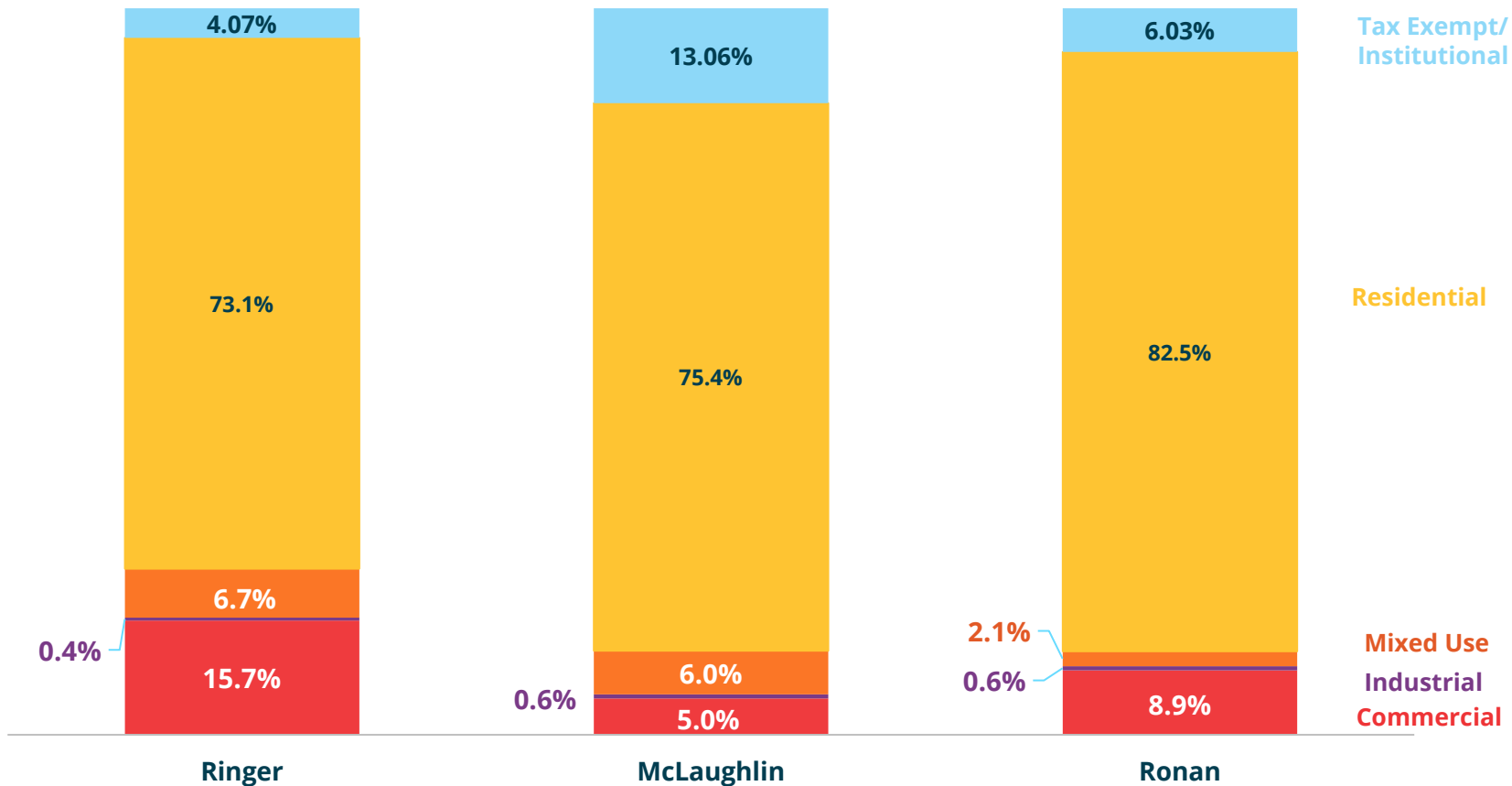


- All 3 parks exhibit a high degree of **residential land use** directly around their vicinity.
- **Commercial** and **tax-exempt** properties like schools or other parks are near all three parks, with **Ringer** and **Ronan** close to commercial hubs.

External Factors

Surrounding Land Use Mix

FY2023 Land Use Categories by Park Walkshed, 2021

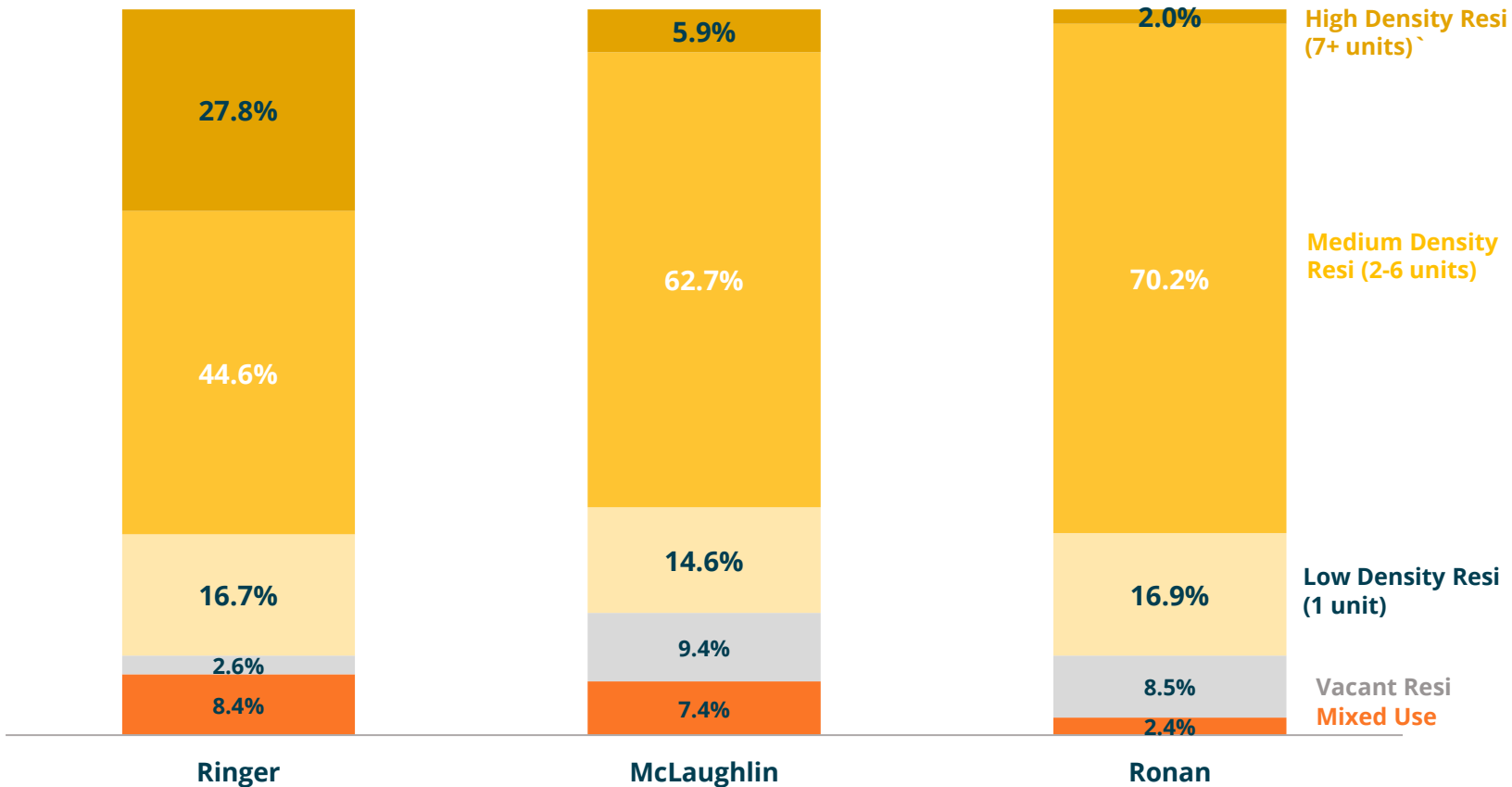


- Ringer has the **most diverse surrounding** land use mix.
- Ronan has the **least diverse surrounding** land use mix.

External Factors

Surrounding Land Use Mix: Residential

FY2023 Residential Land Use by Park Walkshed



- **Ringer** park has the most diverse surrounding residential land use mix.
- **Ronan** park has the least diverse surrounding residential land use mix.
- Ringer, the park with the **highest usage**, is also the park with the most diverse surrounding residential land use mix.

External Factors

Surrounding Open Space

Open Space Types by Park Walkshed, 2021



Total Open Space* Intersecting Park Walkshed

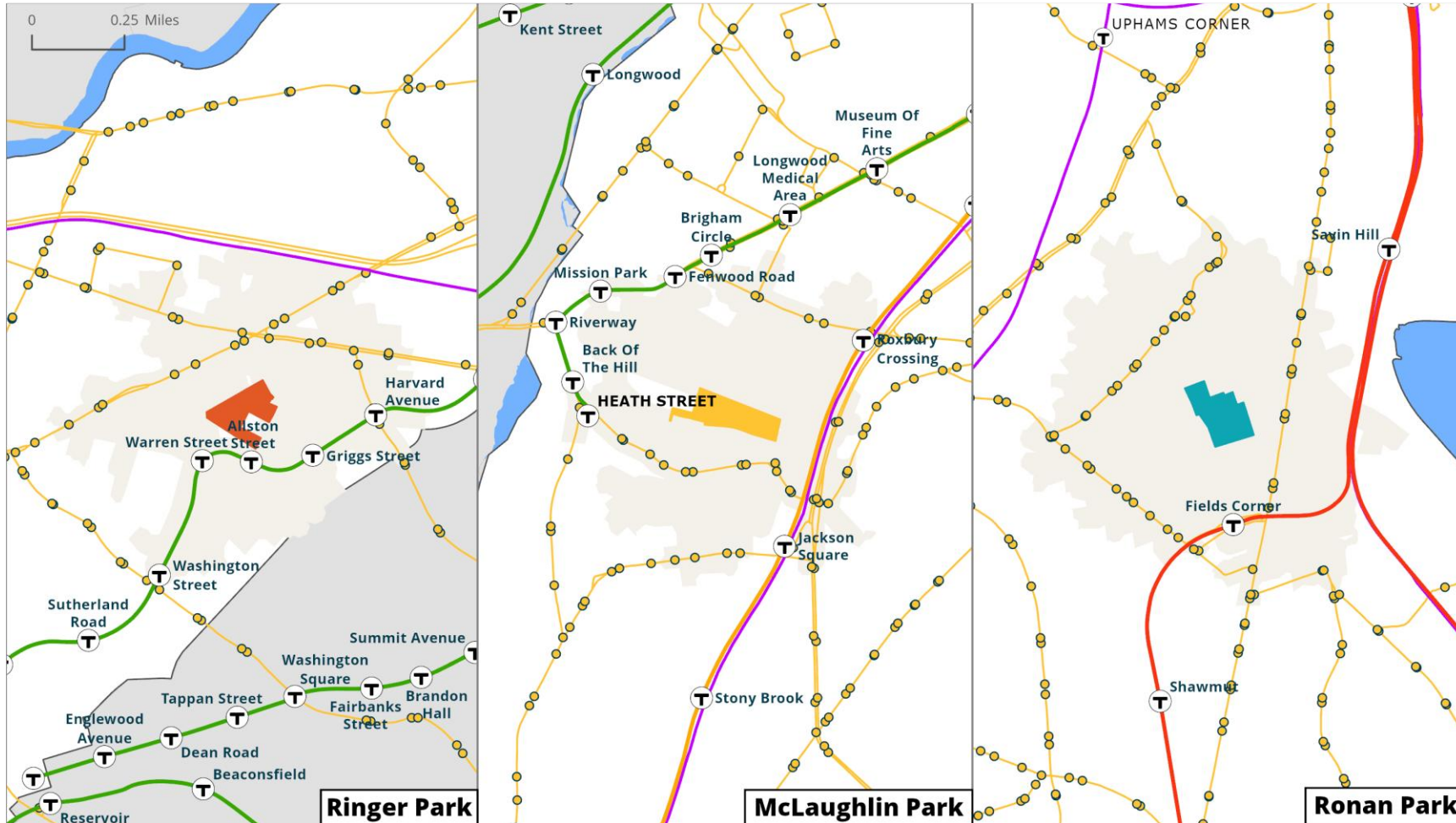
	Ringer	McLaughlin	Ronan
Acres	17.6	79.3	21.7
Number	6	11	9
Types	2	4	3

*includes Ringer, McLaughlin, and Ronan park respectively



External Factors

Transportation Infrastructure



of Stops in Walkshed

	Ringer	McLaughlin	Ronan
Bus	27	40	52
Rapid Transit	5	4	1
Comm-uter Rail	0	0	0

Transit Infrastructure Surrounding Parks

- Ringer Park
- McLaughlin Park
- Ronan Park
- 15 min walkshed
- T Stations

- Subway Lines
- BLUE
- GREEN
- ORANGE

- RED
- SILVER
- Bus Routes
- Bus Stops

Commuter Rail Stations

- Regular Service
- Open Only Seasonally or for Special Events

Commuter Rail Lines

- Regular Service
- Used Seasonally or for Special Events

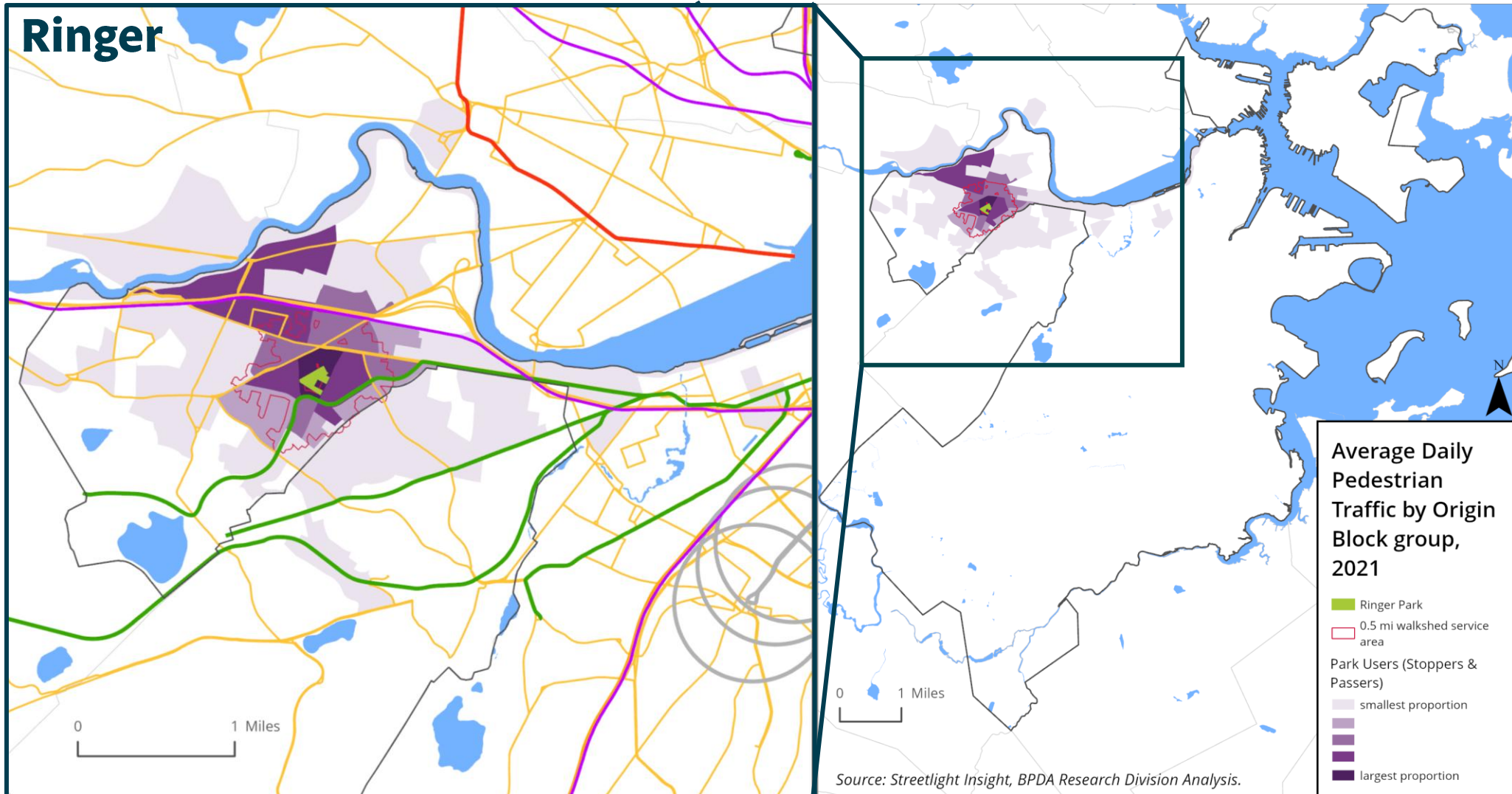
Source: Analyze Boston, BPDA Research Division Analysis.



External Factors

Transportation Infrastructure

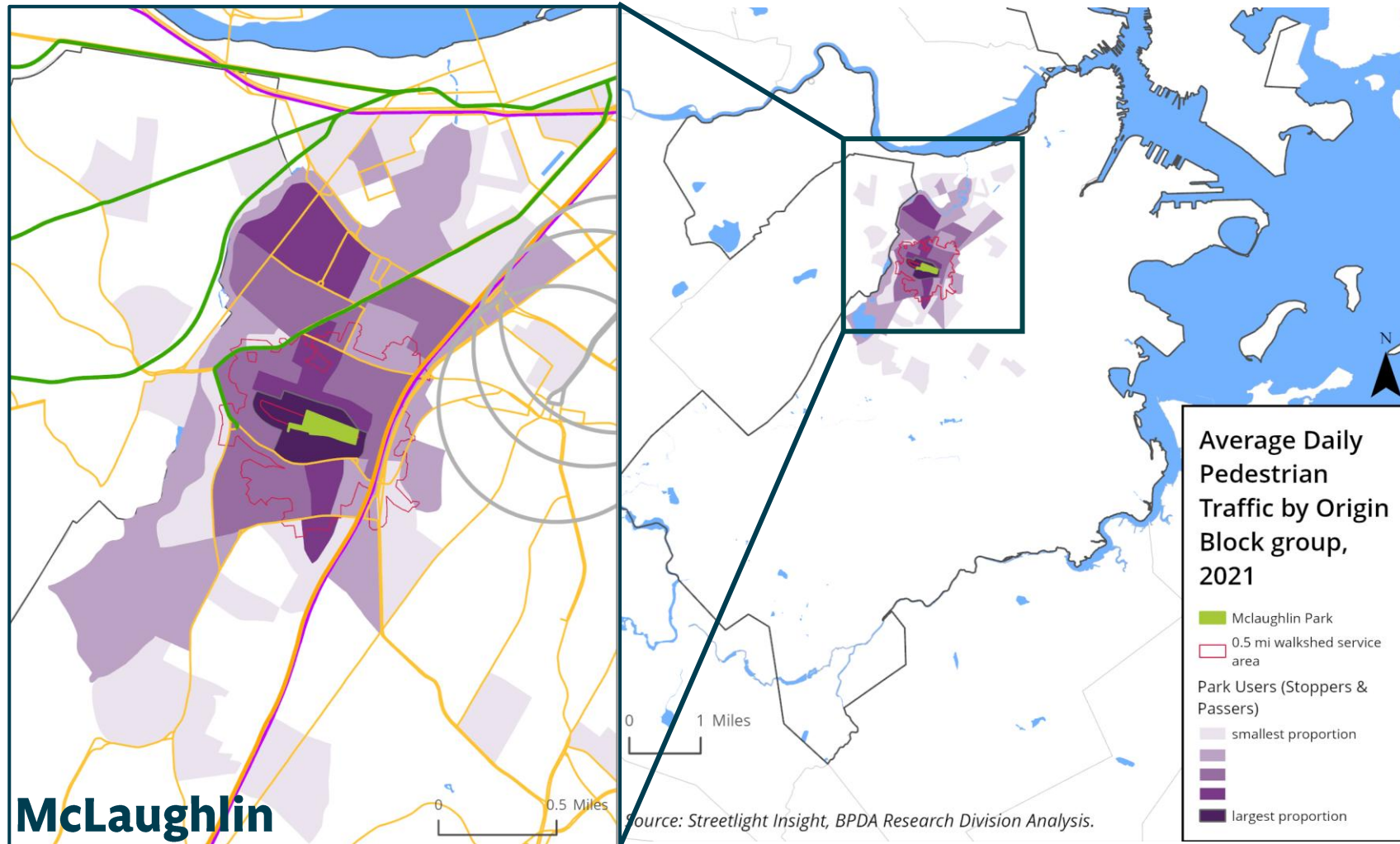
To Better Understand Pedestrian Traffic Origins



External Factors

Transportation Infrastructure

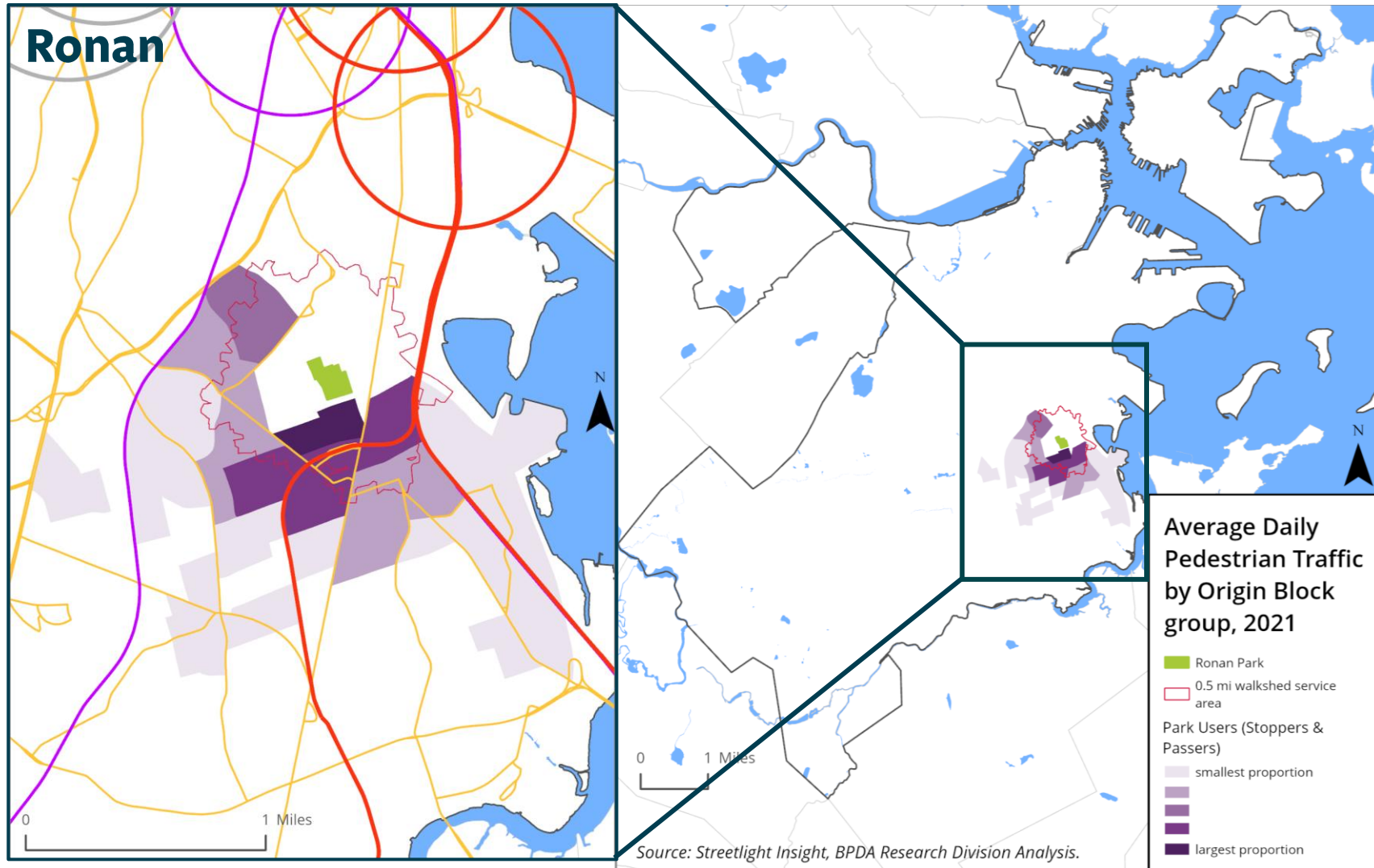
To Better Understand Pedestrian Traffic Origins



External Factors

Transportation Infrastructure

To Better Understand Pedestrian Traffic Origins



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Characterizing Park Usage

What we've learned about **how** these 3 Boston parks are **used**

1 Ringer

- Around 7 in 10 park users pass through the park
- The proportion of passers has decreased over time
- In 2021 average traffic down from 2019

2 Ronan

- Around 2 in 3 park users pass through the park
- The proportion of passers has increased over time
- In 2021 average traffic up from 2019

3 McLaughlin

- Around 4 in 5 park users pass through the park
- The proportion of passers has increased over time
- In 2021 average traffic up from 2019

Characterizing Park Users

What we've learned about **who uses** these 3 Boston parks

1 Ringer

- 41.2% of users live within the 0.5 mile walkshed service area.
- Users are most likely to be aged 18 - 24, white, make 50 - 70k a year, not have children, take a car truck or van to work, have access to 0 or 1 vehicle, and rent.

2 Ronan

- 35.6% of users live within the 0.5 mile walkshed service area.
- Users are most likely to be aged 0 - 17, black/african american, make 10 - 30k a year, have children, take a car truck or van to work, have access to 1 vehicle, and rent.

3 McLaughlin

- 46.7% of users live within the 0.5 mile walkshed service area.
- Users are most likely to be aged 18 - 24, white, make 150k+ a year, not have children, take public transit to work, have access to 1 vehicle, and rent.

Questions for Future Research

All Boston Parks

How can we expand this analysis of visitorship to other Boston parks? How can this supplement our current taxonomy of Boston's parks?

In-person Data Validation

How does the data compare to real observed park usage?

Granular Observations

Where applicable, can we identify specific types of paths/entrances/etc. that park users seem to use most/more? How could this change future park design?

LEVEL OF SERVICE ANALYSIS

Bridging the gap between system-wide needs and site-specific decisions.

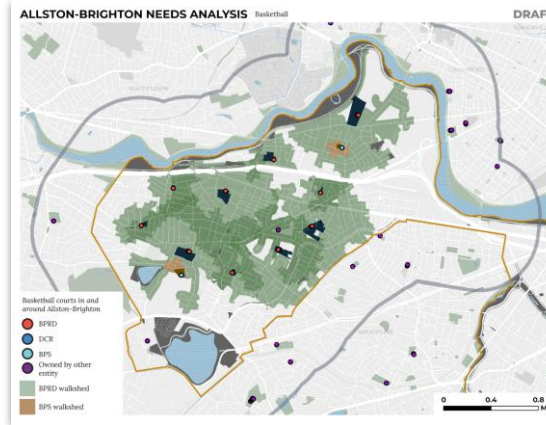
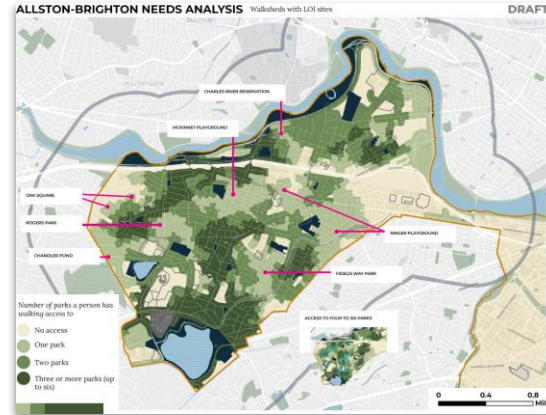
- Providing system-level guidance that can be used in a park's capital improvement project.
- Identifying sites where a system-level need can be met.

*Analysis: Strategically assess **facility** and **programmatic** needs across the city to inform capital improvement priorities using data and metrics, community input, and planning.*



LEVEL OF SERVICE ANALYSIS

- 2023-2029 OSRP research and action plan
- Case study review
- Preliminary geospatial analysis
- Staff interviews
- Facility briefs



FACILITY CAPACITY (INFRASTRUCTURE)

- k. Incorporate infrastructure that supports positive recreational programming by leagues, schools, camps and others.
- e. Meet or exceed ADA and MAAB standards for accessibility in parks; design for inclusive use where possible.
- c. Pilot improvements (like restrooms) and assess operational demands and impacts.
- d. Coordinate with the City's Commission on Persons with Disabilities and Age-Strong Commission to promote inclusive design and programming.

IMPROVING ACCESS (USABILITY)

ADD FACILITIES

- e. Support the creation of at least one public dog recreation space in each city neighborhood.
- d. Promote new features or improved infrastructure so that constituents are aware of expanded programmatic offerings.

ADDING FACILITIES

ACTIVATION

- d. Expand the season when drinking fountains and spray features are activated in parks.
- b. Expand partnerships and Friends groups to help support park activation and connect with constituents.
- c. Support park partner organizations, Friends groups, and volunteers so that they can be effective stewards and advocates for the open space system, expanding BPRD's reach and capacity.
- c. Engage with partners to increase the visibility of the positive impacts of access to open space through programming in the parks and urban wilds.

IMPROVING ACCESS (PROGRAMMING)

- a. Improve and promote an expanded online permitting system that is efficient, effective and accessible.
- b. Schedule open field time that allows for casual use of park facilities (i.e. pick-up games).
- c. Engage with permit holders and others to encourage use of facilities during non-peak times to expand capacity.
- c. Continue to implement and evaluate new approaches to outreach and relationship building.
- d. Promote creativity, arts and culture in the parks as key elements of vibrant urban environments.
- d. Develop a signage and information system for dynamic communication about events, facilities, and regulations.

AWARENESS

DEVELOPMENT REVIEW

- b. Create a reasonable and predictable formula for community contributions for open space through the development review process, looking to other communities nationwide that have implemented such programs.
- a. Engage in the development review process to incorporate criteria, expectations and mitigation that is rooted in the OSRP to ensure that open space impacts and opportunities are considered in all planning and development decisions.
- c. Establish a program for parkland dedication that provides a predictable, consistent model for the provision of public open space as part of the development review process.

IMPROVING ACCESS (ADDING FACILITIES)

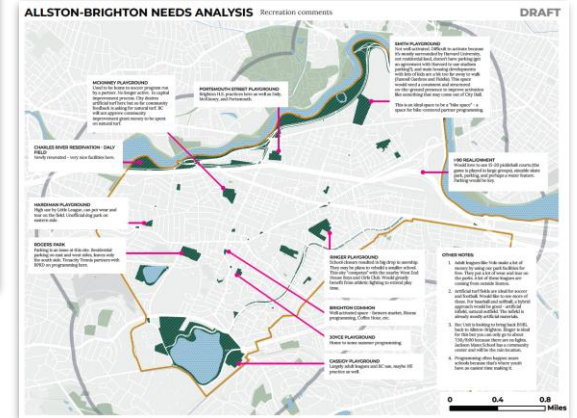
CASE STUDY RESEARCH

Melbourne, Australia | Sports Facility Needs Analysis (2018)

Developed facility improvement and partnership goals based on projected users and their needs. Information gathered through membership data, online survey of clubs, and facilities assessment. Heavily dependent on membership statistics and reported experiences with facilities to identify current and future demand. Includes facility ratios but not clear how it was used in decision making. Did a sport-by-sport analysis. The focus was on formal competition activities and participants, not casual use. Considered seasonal use, indoor/outdoor use, population growth in surrounding areas, range and number of established clubs, and analysis was gender and age disaggregated. Recommendations were specific to the sport, cited specific locations, and included estimated costs. Three broad principles: maximize use of existing facilities, participation and access to programs and facilities, and facility sustainability. Three ways of implementing the work: planning, new development, upgrade/renewal. Three priority levels: short-term, medium term, long-term.

Arlington, Virginia | Public Spaces Master Plan (2019)

Set population-based ratio goals for recreational amenities and a subset have access standards based on spatial distribution. Athletic fields were assessed with population-based ratios but discussed separately with additional analysis. This report does not outline a set number of assets needed but does recommend things like: siting new amenities where many modes of transport reach, conducting a public space needs assessment on a 5-year cycle, analyze field utilization, reduce duplication of services without reducing quality of service, identify opportunities to change or add amenities or enhance multi-modal access based on LOS analysis. In some ways, this is 1/2 of a LOS analysis since other factors still need analysis in order to identify where facilities are needed. Did not do a LOS analysis on land acquisition but Appendix II does have a nicely laid out explanation of acquisition priorities. The population-based standards indicate total number Arlington may need and access standards indicate where more or fewer of each amenity is needed. Population



PLANNING AND ANALYSIS AT PARKS AND RECREATION

- 2023-2029 Open Space and Recreation Plan
- Park System Expansion
- Level of Service Analysis
- 2025 Canopy Coverage Analysis
- Recreational Facilities Mapping with Mayor's Office

CLIMATE



CANOPY AND BIODIVERSITY



HEAT+FLOOD RISK/DESIGN



ENERGY USE

TRANSPORTATION ACCESS



PUBLIC TRANSPORT



PARKING+ TRANSPORT AMENITIES



TRAVEL TIME/ EXPERIENCE

HEALTH + SAFETY



SAFETY



ACCESS TO NATURE



RECREATION +ACTIVITIES

DIVERSITY OF PLAY



TYPES OF INTERACTIONS



ACCOMODATIONS

ACTIVATION



FRIENDS GROUPS



PROGRAMMING



OTHER AMENITIES

ACCESSIBILITY + INCLUSION



ACCESSIBLE ASSETS AND ROUTES



WAYFINDING



PERIMETER LAND USE AND DESIGN

Appendix: About the Data

Streetlight

- Used their **estimated pedestrian traffic data**: modeled data **estimate** of the **average** pedestrian traffic in the zone for a **typical day/time combination** in the time series.
- **Metric: StreetLight Pedestrian Volume**
 - = the number of pedestrian trips that interact with your zone of analysis.
 - Pedestrian Trips identified in location data sources (including cellphone mobility data) and differentiated from trips using other modes.
- **Streetlight** calculates the Pedestrian volume estimate by:
 - Computing a population factor for each trip and using these factors to weight the pedestrian trip sample by local population.
 - Using the vehicle penetration rate near the target zone to estimate pedestrian penetration rate.
 - Reducing the Pedestrian Volume estimate by a constant factor to index more closely to permanent pedestrian counters.