



Statewide Park and Trail Visitation

Key findings from a Legacy-funded joint research project



May 15 2023

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Lake Elmo Park Reserve

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Project background

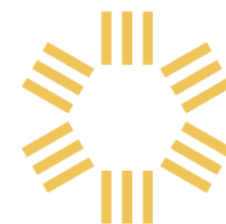
- Two-year joint research project funded by MN Legacy Parks and Trails Fund
 - Coordinate Among Partners pillar
 - Joint powers agreement
- Question: Is location-based services (LBS) data useful for park and trail research?
 - Exploratory project
 - 200+ parks and 3600+ miles of trails
 - Goal: Park- and trail-level use estimates



What is location-based services (LBS) data?



- Data vendor: StreetLight Data, Inc
- Derived from smartphones with opt-in GPS
- Aggregated and **anonymized**
- **Can't** identify individuals, **can** look at patterns of travel
- Benefits
 - No in-field work required
 - Spatial and temporal detail



STREETLIGHT
DATA

What can we measure with LBS?



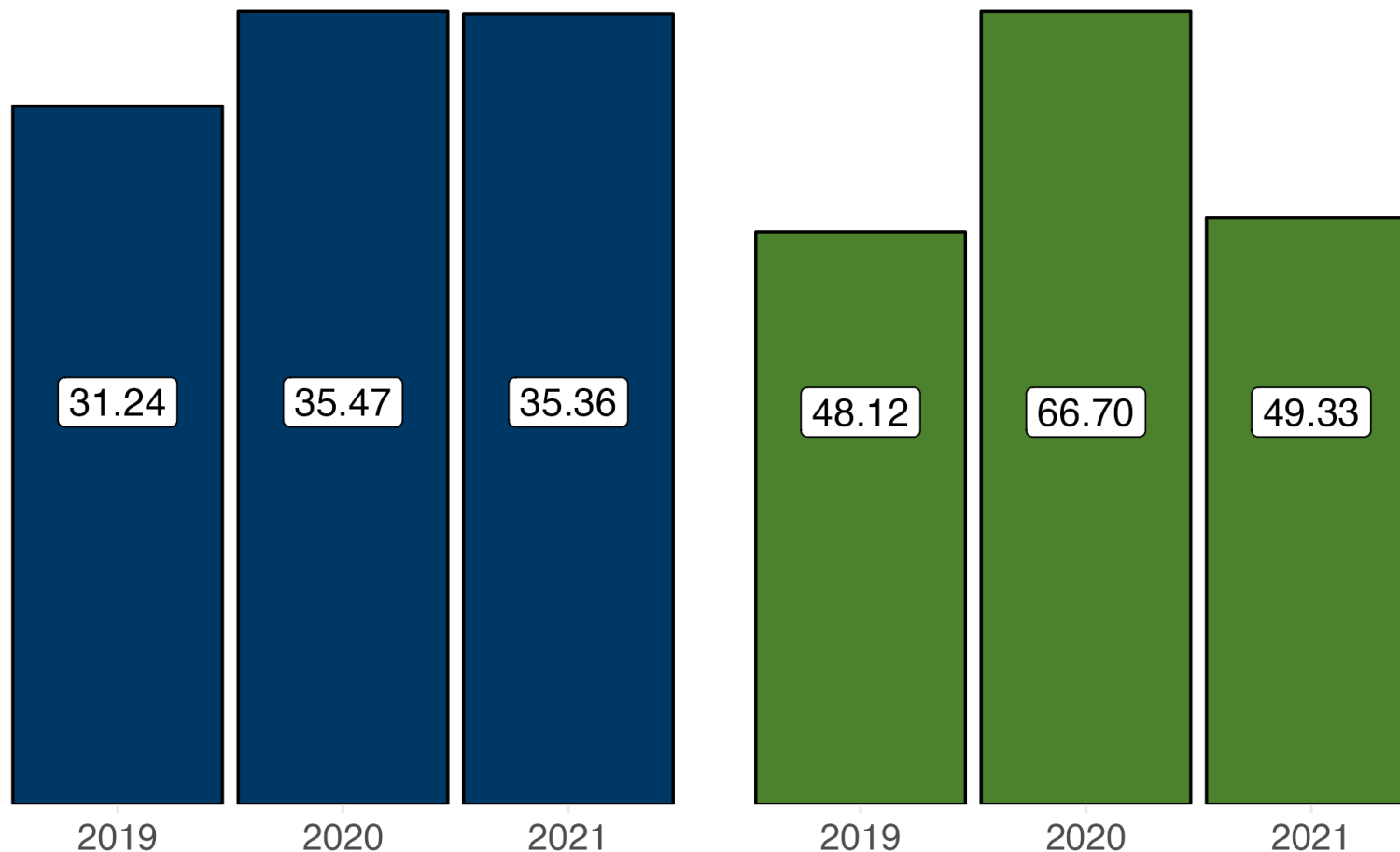
- Definitions do not agree 100% with annual use estimates or visitor survey
- Estimated **weekly visits to parks** (bike, pedestrian, and vehicle)
- Estimated **monthly miles of use on trails**
- Inferred visitor home locations and demographics
 - Complements, but does not replace surveys or qualitative data
- January 2019 – April 2022

Finding: parks and trails are valuable

Metropolitan regional park and trail use

Estimated park use
(millions of visitors)

Estimated trail use
(millions of miles traveled)



Source: StreetLight Data, Inc. Accessed April 2023.

- Average of 34 park visits and 57 miles of trail use per 7-county resident
- COVID-19 affected trails more than parks
- Use trended upward 2019–2021

Park Findings



Como Conservatory

- COVID-19 affected individual parks differently
 - Behavior change = more use
 - Closed amenities = less use
- Most visitors arrive around noon or shortly after work (5-7pm)
 - Specific to regional parks
- 58% of park visitors arrive by vehicle
 - 35% pedestrian, 7% bicycle

Trail Findings

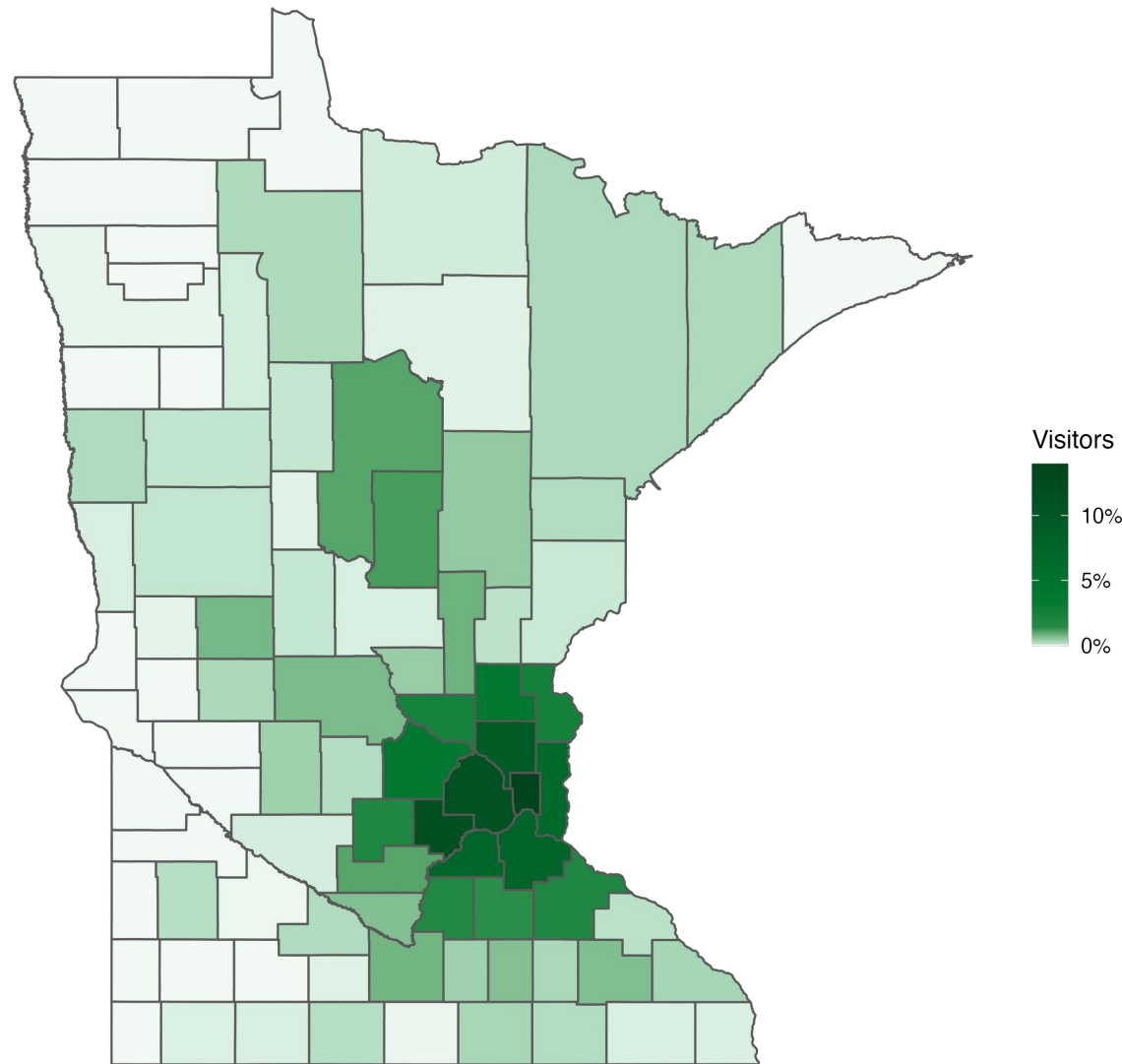


Theodore Wirth

- Trails had a larger “COVID effect” than parks
- Bikes make up the majority of use (60%)
- Pedestrians have a larger share:
 - during the winter
 - in walkable areas
- Many trails are busy at 9am and 5pm
 - Integral to transportation and recreation

Finding: Metro region attracts statewide visitors

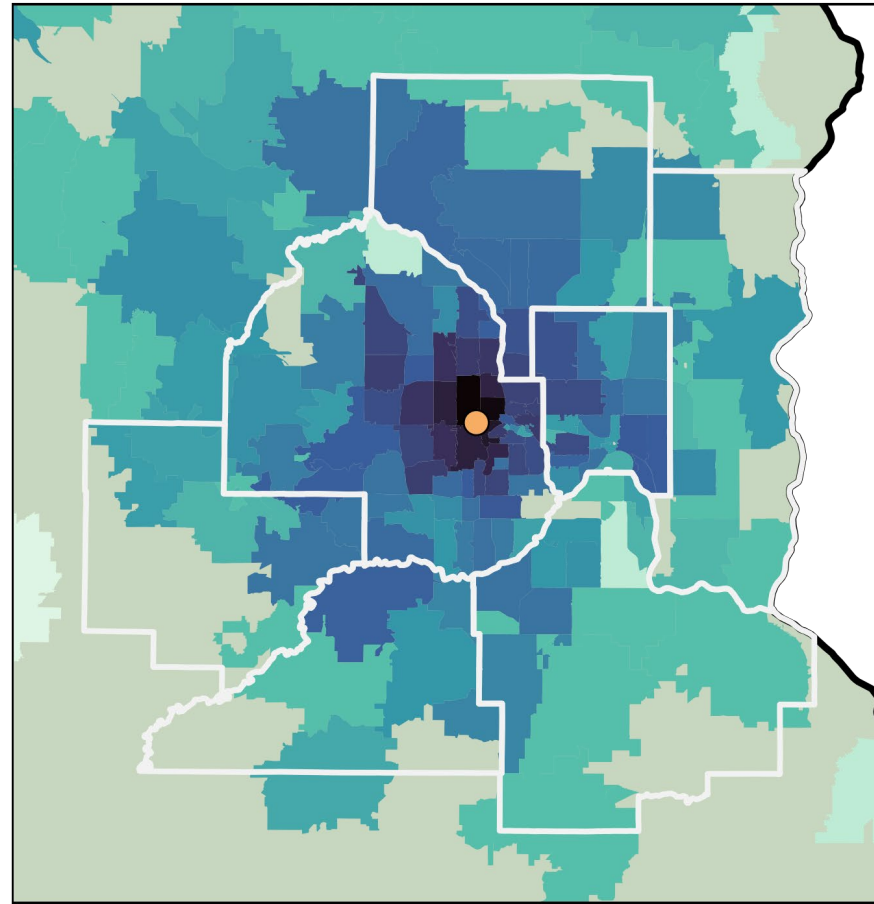
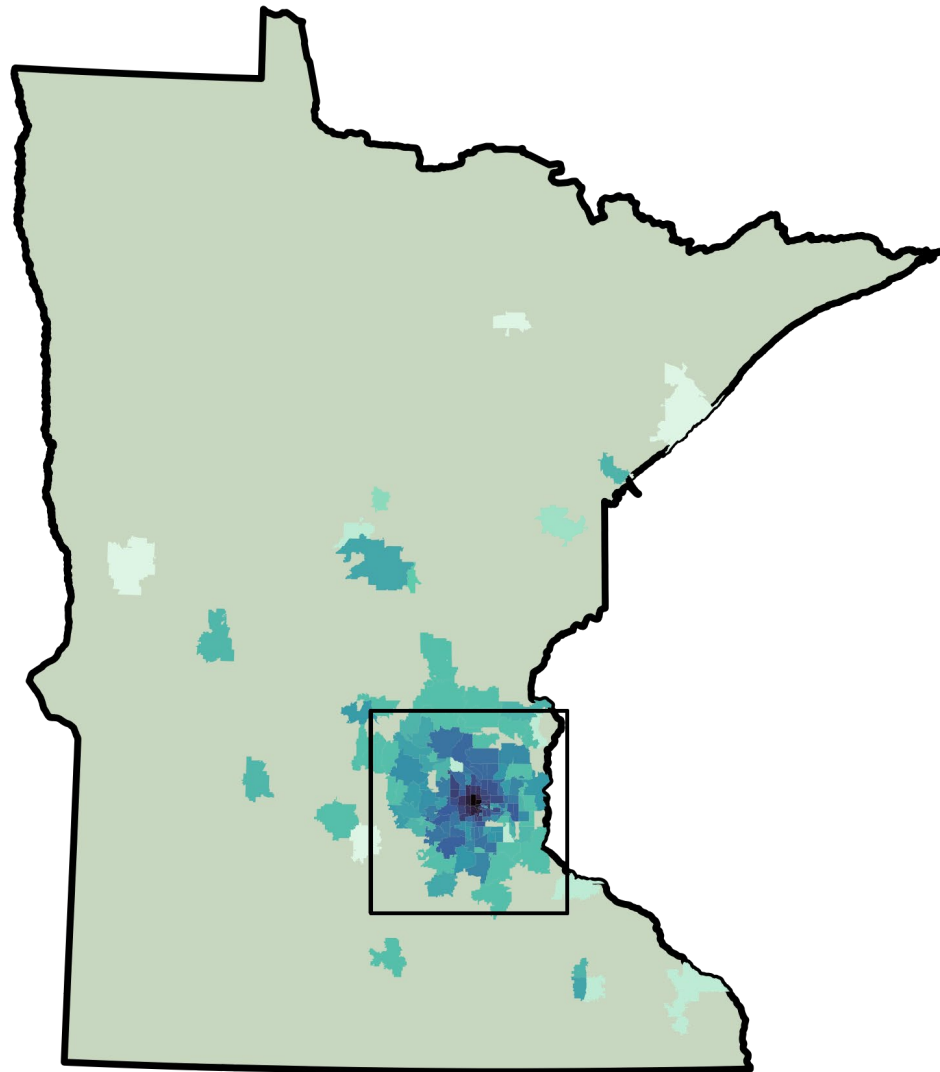
Inferred home locations of visitors to metropolitan regional parks
Minnesota counties, summer 2021



- 21% of visitors came from a different county
- 7.5% of visitors came from out of state
 - Adjacent states
 - California, Texas, Florida
 - All lower 48 states represented
- Data available at park or trail level

Example: Theodore Wirth

Visitor home locations Zip codes, summer 2021



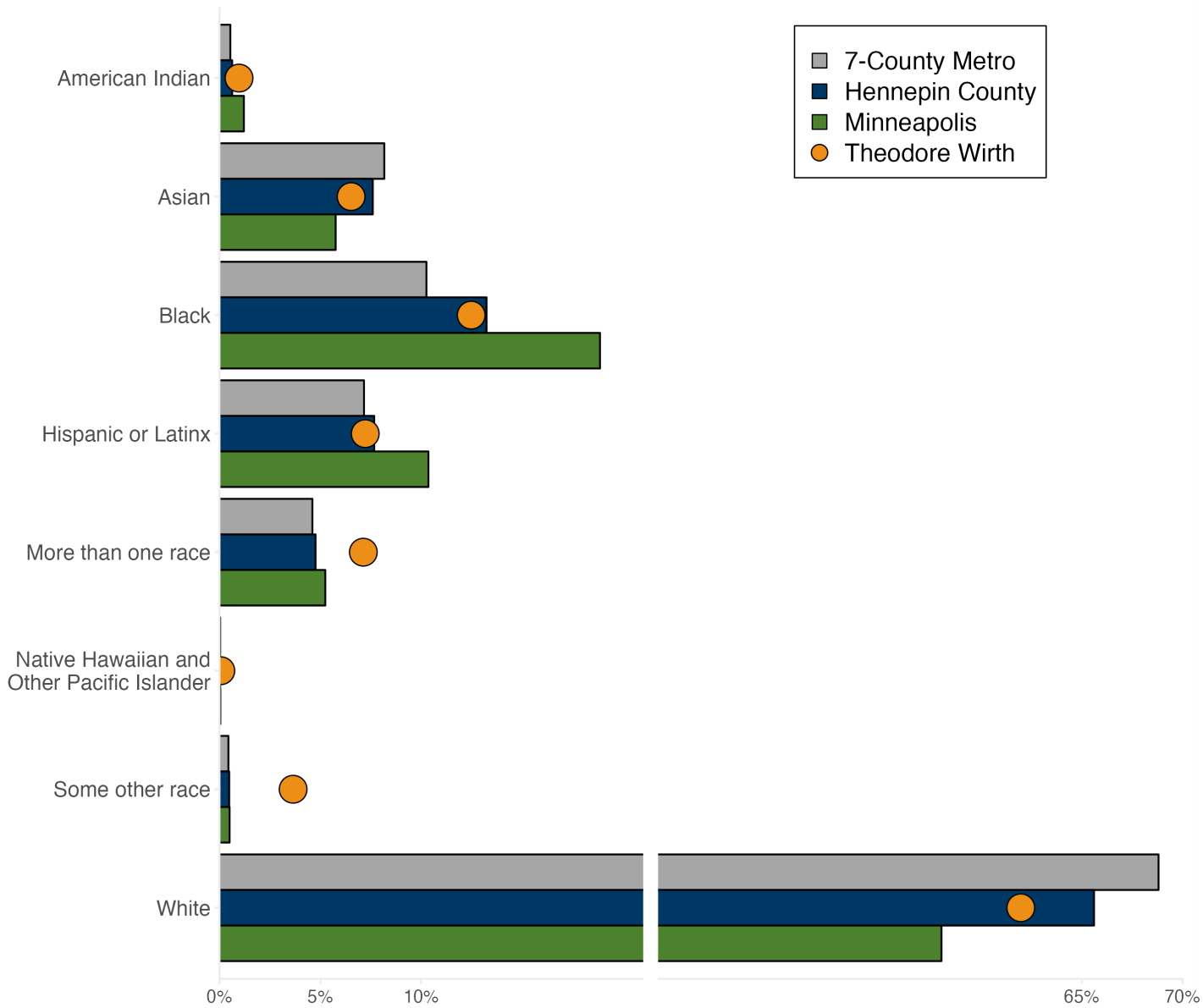
Only zip codes with > 0.1% of all 2021 visitors are shown.

Finding: Detailed data allows for equity analysis

Category	Census Group
Race/ethnicity	American Indian/Alaska Native
	Asian/Asian American
	Black/African/African American
	Hispanic/Latinx/Latino
	Multiple races/ethnicities
	Native Hawaiian/Pacific Islander
	Some Other Race
	White
Household income	Less than \$25,000
	\$25,000 - 39,999
	\$40,000 - 59,999
	\$60,000 - 74,999
	\$75,000 - 99,999
	\$100,000 - 149,999
	\$150,000 or higher
Highest educational attainment	High school
	Associate degree/some college
	4-year degree
	Graduate or professional degree

- Unit-level inferred visitor demographics
 - Based on 2020 Census data
- Limitations: inferred data, Census categories
- Identify barriers to access or opportunity gaps
- Guide survey or outreach efforts
- Best used at the park or trail level

Example: Theodore Wirth

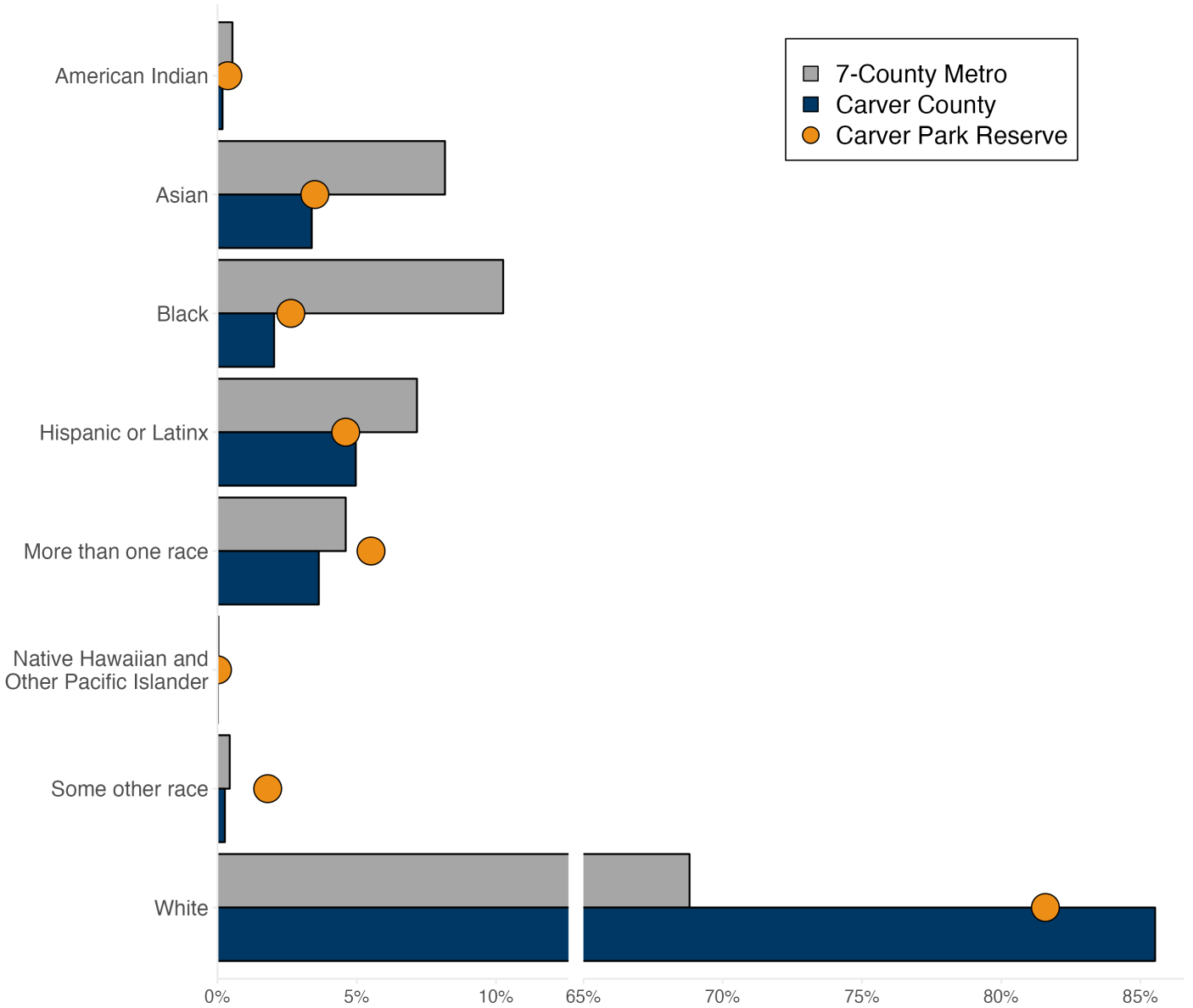


Source: 2020 US Census, StreetLight Data, Inc. Accessed May 2023.

- Visitors may not represent the region’s population
- Requires expert knowledge
 - Who is the “audience” for the park?
- Differs by unit
 - Ex) state vs regional parks

Group	Estimated percent Black	Data source
7-county metro population	10.3%	2020 Census
Hennepin county population	13.2%	2020 Census
Minneapolis population	18.9%	2020 Census
Theodore Wirth visitors	12.5%	LBS

Example: Carver Park Reserve

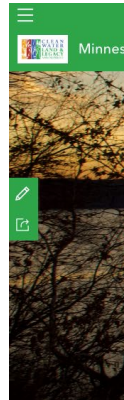


Source: 2020 US Census, StreetLight Data, Inc. Accessed May 2023.

- Ideal comparison likely more specific than county or city limits
- Ex) Expect somewhere between 69% and 85% white visitors

Group	Estimated percent white	Data source
7-county metro population	68.8%	2020 Census
Carver county population	85.5%	2020 Census
Carver Park Reserve visitors	81.6%	LBS

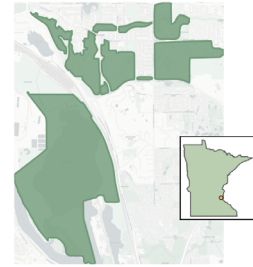
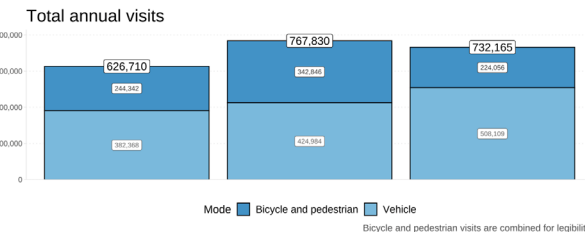
Project website and webinars



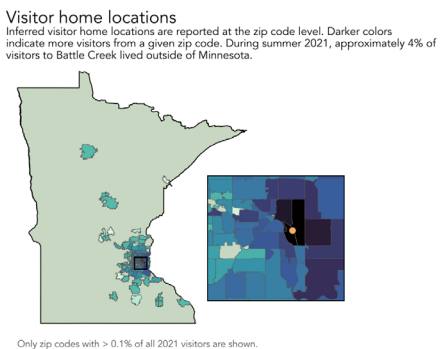
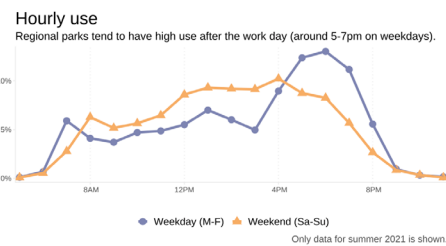
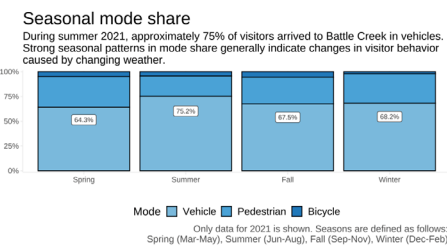
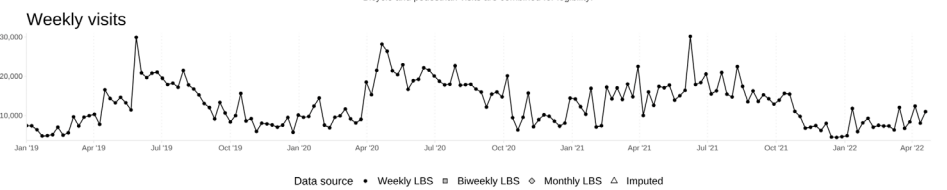
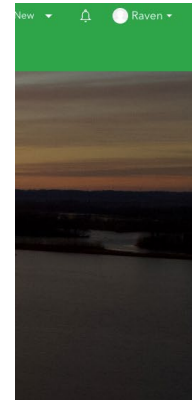
Factsheet: Battle Creek Regional Park (Ramsey County)

This factsheet summarizes unit-level data for Battle Creek Regional Park. Park use estimates were derived using location-based services (LBS) data and represent the number of visitors arriving to the park by vehicle, bike, or foot. An agency-level vehicle multiplier of 1.84 was used to convert vehicle counts to visitor counts. Visitation at Battle Creek Regional Park may have been affected by the COVID-19 pandemic, poor air quality in 2021, or park-specific events.

LBS data was obtained from StreetLight Data, Inc and was accessed in April, 2023. This project was funded with Legacy Partnership Research Funds from the State of Minnesota Parks and Trails Legacy Fund.



Battle Creek is part of the Twin Cities regional park system. The park is in Ramsey County under Ramsey County Parks and Recreation. Park boundaries were accessed via the Minnesota Geospatial Commons in April, 2023 and may have been edited to remove unrelated roadways to improve LBS data performance.



Visitor demographics are inferred based on inferred home locations and data from the 2020 US Census. The table below compare Minnesota's population (Census data) to inferred demographics for visitors to Battle Creek during summer 2021 (LBS data).

Category	Census Group	State Total	Park Estimate	
Race/ethnicity	American Indian/Alaska Native	1.0%	0.8%	
	Asian/Asian American	5.2%	12.8%	
	Black/African American	6.9%	10.9%	
	Hispanic/Latino/Latino	6.1%	8.3%	
	Multiple races/ethnicities	4.1%	7.1%	
	Native Hawaiian/Pacific Islander	0.0%	0.1%	
	Some Other Race	0.4%	3.8%	
	White	76.3%	56.2%	
	Household income	Less than \$25,000	10.4%	15.1%
		\$25,000 - \$9,999	11.2%	12.0%
\$40,000 - \$9,999		15.1%	15.5%	
\$60,000 - 74,999		10.0%	10.1%	
\$75,000 - 99,999		14.1%	14.1%	
\$100,000 - 149,999		18.3%	17.6%	
Highest educational attainment	\$150,000 or higher	20.8%	15.6%	
	High school	30.9%	32.6%	
	Associate degree/some college	32.4%	30.3%	
	4-year degree	24.2%	24.3%	
	Graduate or professional degree	12.6%	12.8%	

- Key findings for parks, trails, and visitors
- Content in peer review
- Additional resources (FAQ, technical documentation, etc)
- Detailed unit-level data (Excel workbook)
- Summarized and interpreted figures
- May 22-25: 4 public webinars
 - Key Findings, Parks, Trails, Visitors
 - Link: <https://bit.ly/3NfQEPP>



Thank you!

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This Project was funded with Legacy Partnership Research Funds from the State of Minnesota Parks and Trails Legacy Fund in collaboration with the Minnesota Department of Natural Resources, the Greater Minnesota Regional Parks and Trails Commission, and the Metropolitan Regional Park Agencies.