

Who Visits & When? Big Data Sheds New Light On State & Regional Park Access

Getting a full picture of visitors to an entire state's parks system — including time trends and demographic insights — is a job only Big Data can accomplish. Three Minnesota public agencies collaborated on a study of parks visitation. Using StreetLight's advanced analytics tools, they obtained and analyzed data for parks statewide — a huge leap forward from costly manual counting and survey methods.

EXECUTIVE SUMMARY

- Three Minnesota agencies teamed up to test a new data collection and analysis method for examining visits to state and regional parks.
- Agencies wanted to improve upon costly, labor-intensive manual counts, widen the scope of park analysis statewide, and access elusive demographic data.
- New methodology expanded access to data and analysis across all parks, even those with more limited resources, enabling agencies to understand the effectiveness of individual programs and policies.

Mission: Enhance and Equalize Access to Park Visitation Data Across the State

Three Minnesota public agencies, including the Minnesota Department of Natural Resources, the Metropolitan Council, and the Greater Minnesota Regional Parks and Trails Commission, wanted a clearer picture of state and regional park visitors to guide improvements to natural resource management, visitor experiences, and park maintenance.

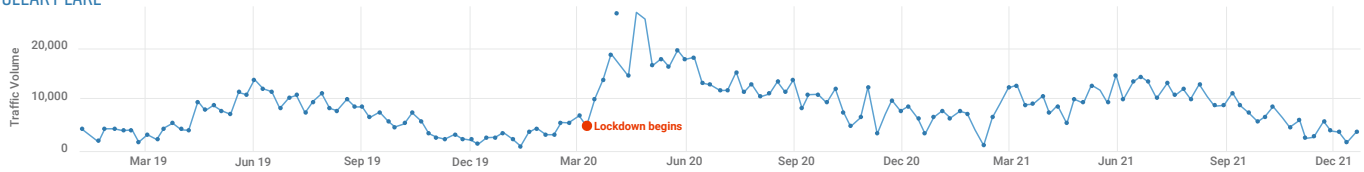
The team tested a new data-gathering methodology using StreetLight's API, which promised a much larger-scale, statewide park attendance picture, reaching hundreds of parks (rather than only some of the individual larger parks) in just a few clicks. This Big Data approach augmented the agencies' traditional, more costly, labor-intensive manual counting and surveying methods, centralizing data gathering and analysis to enable more informed management of all Minnesota parks.

"StreetLight provides unprecedented detail for park managers, such as weekly data which is so much more detailed than survey or manual counts. With StreetLight API, we could run codes for all 210 parks in one click."

RAVEN MCKNIGHT
ASSOCIATE DATA SCIENTIST



GLEARY LAKE



COMO ZOO AND CONSERVATORY



Analyses show disrupted park visitation patterns after COVID lockdowns, validating StreetLight counts against known visitor variation.

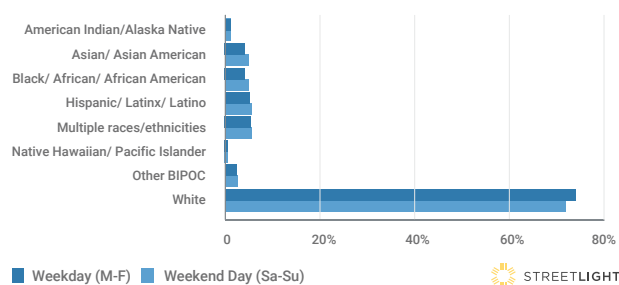
Analysis: Better Park Visitation Numbers and a Closer Look at the Race and Income Recreation Gap

Researchers used the StreetLight API to retrieve three years of park visitation data for 210 state and regional Minnesota parks. The study ran over 100,000 unique analyses, which included year-round data for parks of all sizes all over the state. Metrics dove into weekly visits, rather than the traditional comparisons of peak summer versus off-season data or monthly analysis.

Demographic data, including race and income, was then overlaid on visitation data, enabling the team to detect more precisely who is using which parks and when.

To test the validity of the StreetLight tool, analysts also verified that StreetLight’s visitor data matched up with real-world events such as the COVID-19 shutdown.

WEEKEND PARK VISITORS ARE MORE DIVERSE



Data shows parks see greater diversity on weekends.

Results: Statewide Study Brought Scalability and Greater Park Visitation Insights

The StreetLight analysis tool helped researchers gain access to in-depth park visitation numbers, broken down weekly across parks statewide. This filled in major information gaps created by traditional manual counting.

For data validation purposes, demographic insights were statistically similar to past manually-run surveys. The demographic analysis also revealed variable park use between demographic groups and suggested that to reach the most racially diverse visitors, surveys should be run on weekends.

StreetLight’s visitor Metrics were further validated against real-world scenarios which caused known visitor variation. For example, COVID lockdowns disrupted the typical seasonal visitation patterns at multiple locations, leading to unusual spikes in some cases and significant declines in others.

Researchers determined that results from StreetLight were granular enough to enable individual park managers to share the results of a single program or policy with one another. This was exciting because it decreased the amount of individual research each park had to do—greatly reducing costs—before implementing new ideas.

With these shared insights, Minnesota parks of all sizes can now:

- Make informed decisions on natural resource management
- Improve visitor experiences
- Optimize park maintenance schedules