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If They Don't Count, You Don't Count *Estimating the Number of City Park Users is Important -- Really*

By Peter Harnik and Amy Kimball

How many people visit the parks in your city? Do they go once a year for a festival, or every day to walk the dog? Do they prefer a park with a playground or one with benches by the lake? How long do they stay? What would make their experiences better?

With a few exceptions, your mayor does not know the answers to these questions. The parks department may have calculated how many people came for that big summertime concert, and it almost certainly knows how many folks sign up for yoga classes, softball leagues or rounds of golf. But those paying customers are only a tiny fraction of residents and visitors who make general use of the entire park system. The million-dollar question is what is the system's "regular" usage – walkers, picnickers, jugglers, basketballers, readers, Frisbee-throwers, playground climbers, runners, tennis-players, cyclists, boombox-listeners, kite-flyers, skaters, sunbathers, bird-watchers, people-watchers, squirrel-feeders -- on a sunny Saturday in June, a grey weekday in November and everything in between.

Part of the problem is that it isn't easy. This isn't like a movie theater with tickets, a county fair with a turnstile, or even a national park with an entry booth on the single road in. How do you count people coming freely into a park system from an infinity of entrances, often by foot, and engaging in a multitude of activities spread over thousands of acres?

The other part of the problem is that many park managers aren't all that interested in knowing the answer. A profit-making business counts its customers (and surveys them, which is something different) so that it can make a variety of decisions that might increase its profitability. Most park managers feel that since they aren't in the profit business counting is an expense and a headache they can dispense with.

This attitude is wrong. The concepts of "profit" and "investment" in the private sector are matched by the concepts of "benefit" and "appropriation" in the public sector. Getting a sufficient appropriation from the city council is as dependent on strong numbers – counting users – as its equivalent on the private side. Alan Tate in his book *Great City Parks* said, "User counts are the only form of profit and loss account that exists in park management. It is an object lesson in the patient, persistent and professional application of sound business principles in the public realm." Numbers help

managers assess the success of operation, give clues as to how they can perform better and provide benchmarks for excellence and goals to aspire to. Numbers can even be profitable in unexpected ways – in Portland, Ore., the Nike Corporation has pledged a substantial sponsorship contribution to the parks department if the city can demonstrate that it has doubled attendance at its parks.

Here's the clincher: checking the verb "count" in the thesaurus yields four telling synonyms: "enumerate," "estimate," "have influence" and "be important." Things that are important are tabulated, things that are unimportant aren't. If parks and park users are ever to have influence, we need to start counting.

Counting vs. Surveying

Counting and surveying park users are not the same thing. Counting is rigorous, quantitative and essentially looks backwards; surveying represents a softer, qualitative look into the future. Both are important means, not ends -- they are tools for better park management – but counting is the more telling. It's like the difference between the pre-election polls and the election itself, or the Associated Press poll of college football coaches and the bowl games. Ironically, it's easier to survey than to count.

Writers and researchers on urban park systems have been calling for greater usership data collection for some time. For instance, the Trust for Public Land's *The Excellent City Park System* identified "user satisfaction" as one of the main tenets of a successful parks program. Knowledge of how, when and where people use parks is essential in guiding managers in directing staff time, funding and a hundred other decisions.

Surveys

Surveys are often administered through the mail or telephone, or occasionally in the parks themselves. In a study of the nation's 50 largest cities, the Trust for Public Land found 11 which conducted user surveys, most of them in conjunction with their strategic planning process. The most frequently asked questions involved suggestions for new facilities, and almost every survey asked for an overall rating of parks and recreation services. (*See Table 1.*)

Surveys are good mechanisms for getting need, satisfaction, and trend data for parks. In comparison with physical counts, they are also relatively easy and quick to administer, and they can be relatively inexpensive, particularly if they are folded in as a subcomponent of a full-scale survey of city resident satisfaction undertaken by a city auditor department (as is done in Portland, Ore.).

In contrast to user counts, surveys also have the advantage of being able to incorporate non-users into the data collection and analysis. For instance, information about park users and non-users can be compared to census bureau information about the community at large to determine if all ethnic and age groups are being represented. Chris

Walker, senior researcher at the Urban Institute, suggests using census data from the zip codes of users questioned in an interception survey. Computerized geographical information systems (GIS) can also be used to find the demographics of a quarter-mile buffer (or more or less) around the park.

On the other hand, surveys are not flawless. According to the Urban Institute's Walker, telephone surveys tend to be skewed towards higher income individuals and towards higher park usership, because higher income individuals are both more likely to use parks and to answer a telephone survey. He also noted that people do not recall their experiences in parks very well, and respondents may overstate their use of the facilities. Mail surveys also suffer from the self-selection problem, exacerbated by the fact that they generate fewer total responses. Of the 11 cities which did surveys, none utilize the "interception" method in which users are questioned in the park, although Portland plans to use this procedure in its next survey.

Finally, a telephone or mail survey cannot gather detailed information about visitation to specific parks. Most make an attempt to get broad patterns, but the information gathered from a survey cannot replace on-site observations and counts.

Counts

While straightforward in concept, counting park users is sufficiently challenging in practice that in recent years it has become almost a lost art. Nearly none of the park departments contacted make an effort to count users beyond those that can be easily tallied through fee-paying services or gated facilities, such as swimming pools. Several managers spoken to were surprised at the suggestion of counting users in an open park and believed that it cannot be done.

It wasn't always the case. As far back as 1871, officials with New York's Central Park were tallying those entering its 13 gates (including also horses, carriages and sleighs). Chicago and Philadelphia did so too, although their exact methods are not known. Julia Bachrach of the Chicago Department of Planning and Development attributes the interest in counting to the rise of the new fields of social science and social work. One of the reasons for creating parks, after all, was for the social betterment of urban factory workers, and social scientists were eager to measure the results. (In Chicago, Bachrach notes, particularly meticulous numbers were kept on attendance at the "field houses" -- recreation centers -- because they were a brand new development for a park system which previously had focused only on passive use.)

Counts, of course, can yield much more information than simply a single participant number. They can also take note of gender, age and ethnicity as well as park user activities. Gender and age are particularly significant since they have strong correlation with perceptions of safety. If a particular park count yields a high proportion of males between 18 and 45, it is likely that the park is frightening or intimidating to much of the population. Any park whose proportion of females is significantly below 50 percent probably needs detailed analysis and attention.

It is relatively easy to count park users if they come primarily by car. For instance, Rick Rowe of Virginia Beach Parks Department has the groundskeepers in his larger parks count cars twice a day and uses a multiplier to arrive at an estimate. However, he makes no attempt to count users in the smaller neighborhood parks – and it is clear that this method does not work in dense urban areas or downtowns where most people travel to parks on foot or by public transportation.

Of all the free, multiple-entry parks in the U.S., Bryant Park in New York City has the most comprehensive system for counting park users. Every day, a park groundskeeper walks through the 6-acre park at 1:15 p.m. (chosen as the peak point in the lunch rush) with two click-counters, one for tallying men, the other for women. He also makes note of the weather, the temperature, whether the main lawn is open, and if there are any special events taking place in the park. (If there is a large event, a manager separately estimates the attendance.) The results are graphed and used for all kinds of analysis. As a word of caution, Jerome Barth, director of park operations, notes that these numbers provide only a noontime snapshot of one park (New York has 1,699 others), and that because of the time involved the work is expensive. Barth can afford it because the park is run by the Bryant Park Restoration Corporation, a private non-profit which operates independently of the New York City Parks Department. (Incidentally, the snapshot of Bryant Park's noontime visitation yields 3.5 million user-days.)

It should be noted that, technically, what's done in Bryant Park is called a census. A simpler and less expensive type of count is a sample. Sampling, which is how transportation departments are able to generate usage numbers for every street in a city, involves a two-step statistical process of counting many locations and then determining a set of ratios between the main locations and all the subsidiary spots. Once the ratios are set, a single count can yield relatively accurate estimates for all the others.

Then there are estimates. Several park departments conduct telephone or mail surveys and then use the information to extrapolate a guess at the numbers of users. Fort Worth, for example, learned that 66 percent of respondents use a park at least once a year, yielding an extrapolated usership of 364,000 persons. Chicago's survey revealed that 91 percent visited a park at least once a year; that projects out to more than 2.5 million Chicagoans. Unfortunately, this number has two nearly fatal flaws: it does not count out-of-town visitors and other non-residents, and it doesn't count multiple users, or what is known as user-days. A user-day is a much more realistic measure of a system's use – someone who goes to a park for a concert once in the summer counts as one; a daily park jogger counts as 365. This is why a place like Forest Park in St. Louis can register a user-day number – 12 million – far higher than the population of its metropolitan area.

A complete park user assessment

The city which probably does the best overall job of assessing its park visitation is Portland, Ore. Portland has consistently examined its park system on a yearly basis, and

it is now undertaking an even more comprehensive assessment of parks' users habits and attitude.

Since 1995, the City Auditor has produced an annual report on overall government performance. As a part of that, the Bureau of Parks and Recreation is audited based on staffing, spending, workload, citizen satisfaction and ability to reach major goals. (Portland also identified six other comparable cities -- Charlotte, Cincinnati, Denver, Kansas City, Sacramento, and Seattle -- against which to compare data.) In fiscal year 2003 the audit involved a survey about all city services which was sent to 16,000 resident households. (Its cost in mailing, printing, and data entry was \$28,000, not including the staff time required in writing the questionnaire.)

Beginning in 2004, with the addition of Robin Grimwade to its staff, the Bureau of Parks and Recreation is taking park monitoring to a new level. Grimwade, who came to Portland after an accomplished career of monitoring national park usage in his native Australia is committed to using a range of methodologies in his new city. These are:

1. *Observational surveys.* Observers will be stationed in parks to collect numbers of users for a given day, time and season and repeat it at regular intervals.
2. *Intercept surveys.* Paid staff will interview people who in parks to find out how they got there, why they came, how long they stayed, and the importance of the park's different attributes and facilities. The survey will initially be carried out seasonally, then every three to five years in order to track changes. If no changes are noted the frequency will be reduced to once every 10 years.
3. *Focus groups.* Certain individuals identified from the intercept surveys will be invited to participate in an in-depth focus group discussion about park use habits and desires for future park system directions.
4. *Telephone survey.* Finally, a random sample 1,500 residents – park users as well as those who never enter parks -- will be contacted by telephone to get opinions about park issues. (As of yet, the content of this survey had not yet been finalized.)

The purpose of gathering this information is to assist Portland in marketing its parks. By generating a “psychographic profile” of park users – including even such facts as where they shop and what TV programs they watch – Grimwade hopes to improve the agency's communication, increase park usership and help users have a satisfying park experience.

How Do Others Do It?

The dearth of information about counting city park users led us to examine how other institutions do their counting – and even to fantasize new ways that might work.

The National Park Service

The National Park Service, which has hundreds of facilities and a federal mandate to count its users, relies predominantly on mechanical traffic counters because they are accurate and require the least amount of staff. In parks where people also arrive on foot or bicycle, Street surveys visitors to determine the ratio of drivers to non-drivers and then relies on traffic meters at parking lots. At sites in urban areas, such as Washington D.C.'s Vietnam Memorial which has no parking, park rangers do direct clicker-counts for 15 minutes six times a day. (Butch Street, head statistician for the Park Service, noted that it would be virtually as accurate to do the counts only four days a week – three weekdays and one weekend day.)

The National Zoo

Unlike most zoos and museums, there is no entrance fee or turnstile for the National Zoo in Washington, D.C. Moreover, the zoo has several different entry points. Nevertheless, through astute observation, zoo officials have derived a simple and accurate method for counting visitors. A thorough survey of exiting visitors revealed that 80 percent of them stop at some time to see the famous panda exhibit. The zoo thus assigns an employee to click-count visitors at the pandas every half hour; total zoo visitation is then extrapolated from this number.

Beam Technology

There are several ways of counting pedestrians using infrared beams – “passively,” using body heat, and “actively,” using body mass to break a beam of light. These devices work quite well indoors but less so outside where virtually every environmental factor – from rain to falling leaves even to wind swaying the device -- has the possibility of “contaminating” the results. Beam technology is also not particularly accurate at distinguishing close groups of people. Nevertheless, with enough sampling, it is possible to set up a statistical conversion that is quite accurate over the long run.

“Blob” Technology

A more sophisticated approach has been developed by ShopperTrak, a company which uses video monitors to count shoppers. The procedure relies on “blob technology” which digitally analyzes shapes to determine whether a person is entering or exiting a store. The images are electronically sent to ShopperTrak for processing on a daily basis. The method has been applied to places as complex as casino floors but has not yet been applied to an urban park setting, in part because the system is not weatherproof. It also

measures only in a linear fashion, and may not capture the many paths people take in a park.

The Christmas Bird Count

If it seems hard to count people, how about *birds*? Begun in 1900, the Christmas Bird Count is so popular that people even pay to participate.

Held in thousands of locations between December 14th and January 5th, the Christmas Bird Count is a 24-hour marathon carried out almost entirely by volunteers. Teams of experienced birders matched with novices count all the birds they see – or, more often, hear – within a 15-mile circle. At the end of the period, the teams gather with their data sheets to tally the results, eliminating any duplicate unusual birds or flocks. The final Christmas Bird Count tally often has a party atmosphere, with participants eager to demonstrate their identification prowess. (The Christmas count has provided scientists with data to study the long-term health and status of bird populations across North America. According to the National Audubon Society, data in the 1980s documented the decline of American Black Duck populations, leading to conservation measures to reduce hunting pressure on this species.)

Other Ideas

Aharon Varady, a young planner from Cincinnati, has suggested two other concepts for tallying city park users. One would involve determining the percentage of park visitors who use restrooms and then installing equipment which counts the number of times toilets are flushed. The other would encourage park users to register each time they entered a park by providing a sign-in kiosk and offering a modest prize, such as a t-shirt, which would be given out through periodic drawings among registrants.

CUTS:

The U.S. Forest Service

In 1998, the Forest Service developed a method of counting users in a statistically significant manner called the National Visitor Use Monitoring Process (NVUM). The process relies on volunteers to be stationed at a stratified random sample of the entrances and times at which visitors are counted by volunteers or forest service employees. One limitation to the system is that “one visitor” could be someone there for one hour or someone backpacking for 14 days. Another is that visitor’s activities (camping, hiking, fishing, etc.) are not tallied; just that they visited the area.

Sample days are randomly selected. For each day, 24 hours of exiting visitor traffic is counted (usually through a mechanical traffic counter). Six hours of on-site interviews are also conducted. The results are statistically computed in order to get a number for the region. The Forest Service says their methods are within 15% of the actual number of visitors. This method requires a significant amount of staff time to set up checkpoints, conduct interviews, and process the results. However, volunteers are recruited to help conduct the interviews.