

Up & Out: Active City Data Challenge

Question

How can the City measure the number of people using community facilities, such as bike lanes, sidewalks, parks, libraries, beaches and community centers?

Summary

The City Long Beach is looking for innovative ways to capture, measure and analyze the number of people using community facilities, such as bike lanes, sidewalks, parks, libraries, beaches, and community centers. The successful solution or set of solutions will enable the city to understand the value of public space today and inform the City's continued efforts to make Long Beach a more walkable, bike able, transit-oriented city.

Presently, the City does not consistently and uniformly collect data about the use of public space, public infrastructure, or public facilities. This creates challenges for planning, grant writing, and designing infrastructure. As described below, the City does count motorized vehicles and travel, but does little for bikes, pedestrians, and others.

Challenge Description

The City of Long Beach has an express focus on "city livability." In Long Beach, city livability is synonymous with walking, biking, and swimming, and for years, Long Beach has made strategic investments to facilitate and promote these activities. These include actions which have led to drastic improvements in water quality, investment in over 140 miles of bike infrastructure, progressive zoning, and more. In addition, the City invests in public facilities that promote community building, such as our parks, libraries, and community centers. These neighborhood and regional destinations are accessible via foot, bike, transit, or car. After years of hard work, the investments are starting to pay off. In 2016, Long Beach was ranked as the 10th most walkable city in the United States, outpacing all its Southern California sister cities.

In order to optimize investments in biking, pedestrian, and community-driven infrastructure, the City seeks to better understand the value these investments bring to our communities and businesses. Extensive studies are done to project the potential impacts of community facilities and infrastructure before they are completed. Currently, the City, has little consistent, real time data regarding the use of public infrastructure and public facilities after they are completed. For example, if a new bike lane is installed, the City must rely on the annual bike census to determine if the new lane has led to an increase in cycling. This method does not allow the City to measure usage in real time throughout the year and analyze trends on a more granular level.

Currently, the City utilizes a variety of methods and technologies to capture information on use of public facilities and infrastructure including:

Transport

- **Tube Counts** – Pneumatic road tube counters are a tool that is commonly used to conduct traffic counts on streets and roads. Many professionals have high confidence in the accuracy of road tube counts, and vendors of pneumatic road tubes often claim accuracy rates in the neighborhood of 99 percent. The City has been using consultants to collect the traffic volume data and speed data.
- **Bike Census** – Volunteers at strategic points count the number of cyclists passing.
- **Traffic Studies** – Before construction projects or changes to the road system, extensive traffic studies are conducted to understand what the impact of the project on traffic has been. The projections are rarely compared against what actually happens after construction of the project.
- **Video Detection** – Video detection currently assesses the presence of vehicles and pedestrians at signalized intersections. That data can trigger the stop light to change, last longer, etc. The data, however, is massive and is not retained.
- **Eco-Counter** – Additionally, the City is purchasing and installing one Eco-Counter along the new beach pedestrian path. This counter distinguishes between cyclists and pedestrians and provides a visual output of the day's count that passersby can see.
- **Bike Share Data** – Includes information on bike number, trip date, start and end location, and rider type.

Events

- **Ticket Counts** – The attendance of special events, for example those held in public parks, is tracked through ticket sales
- **Registration** – Classes which take place at parks, libraries, and community centers track the number of registrants

These means and methods do not adequately count the number of people using community facilities, such as bike lanes, sidewalks, parks, libraries, beaches, and community centers.

Opportunity

The City is looking to gather more comprehensive data on the number of people using community facilities, such as bike lanes, sidewalks, parks, libraries, beaches, and community centers. The data will (1) allow the City to make better investments, (2) help the City understand the ways the public uses infrastructure, (3) lead to competitive grant proposals based on data, and (4) better target outreach efforts.

The City seeks solutions that can measure some or all of the following “uses” of public infrastructure and facilities as well as any additional quantitative and qualitative information that can enhance the City’s ability to analyze public space engagement and utilization. All proposed solutions should have the ability to anonymize data and protect the right to privacy. These “uses” include:

- Number of people passing a point (volume)
- Number of people in a specific location
- Measure date/time
- Measure duration of use
- Track point to point travel

Successful products and/or services may additionally include some of the functionality below.

- Differentiate between different modal types (bike, ped, etc.)
- Connect to existing City data systems
- Connect to public facing applications or APIs so the public can interact with the data
- Ability to publish and communicate data to the public
- Be used for streets, sidewalks, paths, parks, public buildings, street furniture
- Can accurately model future use of public spaces
- Be durable, replaceable, replicable, and not staff intensive
- Connect to Long Beach Transit data to understand non-vehicular trips
- Automatically aggregate and analyze data
- Provide simple and visual data outputs
- Produce data that can be useful for predictive modeling
- Capture direction of travel

These lists are exemplary only. The City looks forward to receiving many creative solutions.

Award

The City has identified multiple funding sources that may be used to assist with the implementation of the Up & Out: The Active City Data Challenge, including:

- a. Outdoor Office: The City received a \$300,000 grant from the Knight Foundation to construct a space for innovation and entrepreneurial activities in a downtown park. There is an evaluation component of this project that will require data collection and the assessment of activities in the park. Some of these grant resources are available to implement an activation counter.
- b. Departments: There are several City departments that are interested in long term solutions for assessing activation and use of programs and services they deliver. If the selected solution

is applicable to their service area, it is anticipated that the City could establish a blanket purchase order with the selected vendor and there could multiple ongoing purchases of the solution utilizing the structural operating budget of interested departments. Interested departments include Public Works, Park, Recreation, and Marine, and Library Services.

- c. City Innovation Fund: The City Council appropriated \$1 million in funds to match the Bloomberg Innovation Grant. These funds may be used to fund and implement innovative solutions.

Partnership Opportunities

- a. The City of Long Beach may procure more than one solution. Proposers of selected solution(s) may have the opportunity to collaborate with each other to build capacity, leverage skill sets, and structure a coordinated response.
- b. Proposers of selected solution(s) may have the opportunity to work collaboratively with the City of Long Beach, supportive philanthropies, and business corridors to design, develop, and test potential solutions.
- c. Bloomberg Philanthropies, Innovation Team Grant: the City received a \$3 million grant over a three year period from January 1, 2015 – December 31, 2017, to address the priorities of economic development and access to city services. Some of these funds currently support priority projects that involve access to services or economic development such as the Breakthru LB Launch, Do Grow Long Beach Challenge. Innovation Team staff include an industrial designer, cultural anthropologist, developer, and three project managers. Winning solution providers will have the opportunity to work with this dynamic team.
- d. Citymart, Inc: A funding partnership with the Knight Foundation allows the City of Long Beach to work with Citymart, Inc. Citymart has a global network of service providers and cities seeking solutions. Winning solution providers will have recognition and access to that network.

SCALE

The City is seeking to buy one or multiple solutions that can be deployed in different situations and scenarios. Some may be at entrances to public facilities, embedded in the right-of-way or sidewalk, attached to a bench, deployed at schools, community centers, libraries, and others in open spaces.

DESIRED IMPACT

The successful set of solution or solutions should provide accurate, real time, quantitative data on the following user(s):

High Priority:

- Public park visitors
- Community Center patrons
- Foot traffic to/from/within commercial centers and businesses

- Library patrons

General Users:

- Pedestrians
- Cyclists
- Skaters

Additionally, but not required, the City would like to connect new data streams to existing systems, and use the aggregated information to analyze public infrastructure and facility needs across the City. The City will use the data to:

- To make better decisions
- Understand the impact of decisions
- Understand bike and pedestrian patterns in the City
- Promote modal shifts so that more folks walk, bike, and use transit to move through the City.
- Improve public health
- Increase public safety
- Link improvements and investments to high traffic areas
- Reduce traffic congestion
- Estimate and model demand of public spaces and facilities
- Better understand user demographics
- Plan new facilities
- Design sidewalks and public spaces
- Measure the progress of plans and programs

Ultimately, the City hopes to promote a healthy and active lifestyle and to cultivate dynamic public spaces that are teeming with activity. We can achieve this through our prudent investments in walking, biking, swimming, and public infrastructure.

