CASE STUDY

Mapatón – Mexico City, Mexico

SUMMARY

Mapatón[36] is an innovative crowdsourcing and gamification experiment in Mexico City to map the city's bus routes through civic collaboration and technology. Prior to the experiment, there was a complete lack of comprehensive information – including maps – on the thousands of bus routes in Mexico City. City leaders set out to solve this problem by designing a citywide game that residents could play while travelling by bus. During play, the game relayed critical information such as GPS coordinates to the city. In a matter of weeks, the game provided sufficient data to map the routes, as well as information on variables such as length of journey, passage frequency, duration and fares.

36. See www.mapatoncd.mx.

THE PROBLEM

Mexico City has one of the largest public bus systems in the world. Because of its size and complexity, as well as its largely informal spirit, Mexico City has not been able to develop data or maps for this mode of transport, which is used by 70% of the population and accommodates 30 000 public buses that provide 14 million individual rides per day. Until this point, no data-driven policy has been possible, and citizens have had to rely on word-of-mouth to work out how to get from point A to point B. To address these issues and better serve citizens, Mexico City devised an innovative plan to map bus systems.

AN INNOVATIVE SOLUTION

Processes for the generation of mobility data are time-consuming and expensive. To address this problem, Mexico City decided that the best option was to allow passengers to generate the data themselves. In 2013, the *Laboratorio para la Ciudad* ("Laboratory for the City") – the experimental arm and creative think tank of the Mexico City government, reporting to the Mayor – organised a multi-stakeholder collaboration (OECD, 2016). In partnership with 12 organisations including NGOs, the private sector and other government offices, they created a year-long working group (OECD, 2016). Its objective was to improve urban mobility and transport in Mexico City through the development of the crowdsourcing initiative *Mapatón*. In 2016, more than 4 000 public transport users
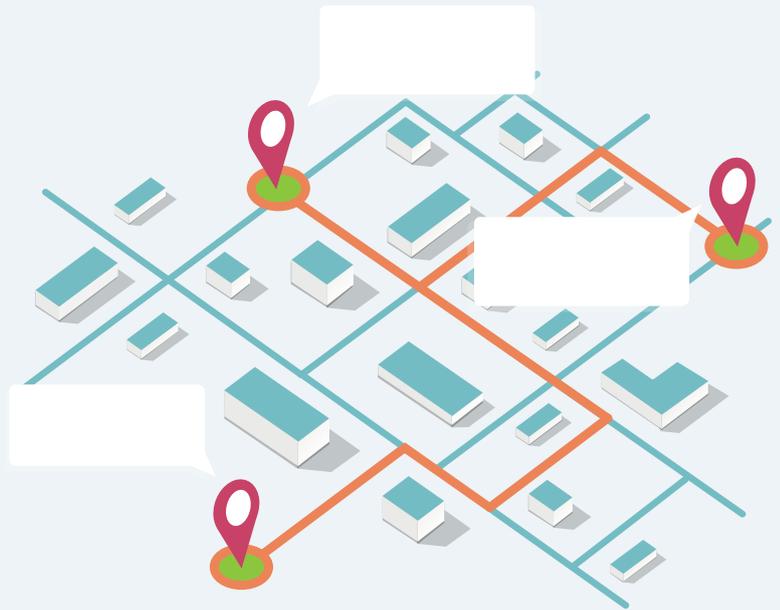
⊕ Crowdsourced mapping

participated in the citywide game, gathering data with the aim of creating an open database on the 1 500 plus bus routes in the city. These participants earned points for their efforts, which they could exchange for prizes and rewards (MegaCities-ShortDocs, 2016). During the closing event and awards ceremony of *Mapatón*, the working group provided the generated open source database to the Head of Government, the Secretary of Mobility of the City and the public. A few weeks later, PIDES, a local NGO, hosted a three-day hackathon to create useful resources from the data generated by *Mapatón*, with the participation of ten mentors specialising in programming, geography and design, among others.

⊕ Mapatón players photographing a bus for the game.

⊕ Hackathon participants.

⌂ Mapatón players mapping a bus stop.

NOVELTY
A citywide game had never before been used to create open data for such a huge transportation system.

IMPACT AND RESULTS
Over 4 000 mappers produced data on the more than 1 500 bus routes in the city, covering almost 50 000 kilometres. This is 10 000 kilometres greater than the circumference of the Earth. This impressive feat was accomplished with a budget of less than USD 15 000 in just two weeks. A traditional large-scale mapping effort could have cost millions (MegaCities-ShortDocs, 2016). The Ministry of Mobility, as well as key foundations, are now helping to clean the data and are using them for data-driven policy and research. The data were also opened up to the public for use by companies and civic hackers to develop smartphone apps for several transport modes and routes to help riders get from place to place.

REPLICABILITY
Mexico City is working to create an open platform for other cities that want to replicate *Mapatón*. At least six international cities have already expressed interest.

CHALLENGES AND LESSONS LEARNED
Despite conducting four pilot studies, several technical challenges had to be overcome in the course of the project, such as the quality of the produced data. A particular problem arose when on two occasions, different users attempted to hack the system by adding ghost routes and points. They were quickly blocked (Pides Innovación, 2016). This highlights the importance of involving experts and the capacity to react quickly to make adjustments to the software, as necessary. Another set of challenges concerned the involvement of participants, without whom no data would have been generated. Creating incentives for participation in the form of the gaming element and the chance to win prizes, as well as communicating the importance of participation through storytelling, proved essential.

⌂ Hackathon participants and winners.