SMART GRANTS PROGRAM

Philadelphia Digital Right-of-Way (ROW) and Mobility Improvement Project

City of Philadelphia

PROJECT PARTNERS

University of Washington Urban Freight Lab (UFL)
The Bloomberg Harvard Center for Cities at Harvard's Kennedy School
Philadelphia Parking Authority
Southeastern Pennsylvania Transportation Authority
Open Mobility Foundation
Delaware Valley Regional Planning Commission

PROJECT CHALLENGE

The City of Philadelphia's Digital Right-of-Way (ROW) and Mobility Improvement Project addresses two major challenges: scarcity in ROW space and scarcity of information about the ROW and its users. The Project will prototype a collection of technologies to develop accurate, granular, integrated, and up-to-date information about the ROW within a pilot region. The Project will also explore synergies across multiple systems to enable City officials and the public to interact with ROW policies digitally for curb use, permits, and transit services.

IMPACT

The City of Philadelphia's Digital Right-of-Way (ROW) and Mobility Improvement Project will map ROW data within a 112-block project area in the northeast Center City area. This high-density urban area has residential, commercial, and office uses. City residents and visitors here compete for scarce ROW space. Improving ROW management through digital tools is a critical need for the City. The Project will deploy technologies enabling public access to real-time information about the ROW, including the curb space, closure permits, and transit services through a mobile application, digital signages, and openly-published APIs.

CURRENT STATE OF THE ISSUE

The City does not maintain digital curb regulations or curb use data. The City's fee for a street closure permit is charged per lane per foot per unit of time. However, the City does not have the technology to allow residents to request closure at that resolution or spatial specificity. A recent pilot study showed that less than 5% of drivers using a bookable loading zone used it as per the regulations. All the major package delivery companies either double-parked or parked illegally on crosswalks or sidewalks.

POLICY QUESTIONS

1. How can the Right-of-Way information be digitized to make it more accessible to transportation professionals and other stakeholders managing or using the ROW? 2. How can improving the spatial resolution of the City's ROW base maps improve the City's ability to process street closures more efficiently? 3. How can the City use multiple integrated technologies that allow digital management of the ROW to make a high-density urban area safer for the most vulnerable users?

STAGE 1 OUTCOMES

A digital inventory of ROW assets and regulations that is updated in real-time through integrations with other systems across transportation digital infrastructure. A measurable reduction in parking violations, especially by package delivery companies. An open published API that provides real-time information about the ROW including curb access and active street closures.

STAGE 2 VISION

The vision for Stage 2 is to extend the technology deployments from Stage 1 to the entire City by: collecting and mapping ROW data for the rest of the City to enable the public-facing applications for all streets; installing new TSP technology across all bus routes; and upgrading the rest of the traffic signals. Since most of these technologies are software applications, the marginal cost of scaling up should not be prohibitive.