**New Machine Learning Methods Unlock Key Data for Affordable Housing Reform**

December 2, 2020—Shirley Green has lived in the same row house in Washington, DC’s Petworth neighborhood for the past 40 years. She and her children attended the same schools, played in the same playgrounds, and ate at the same restaurants. But this year, her rent has skyrocketed, and she may have to move out of her childhood home. Facing the looming threat of displacement, she and her fellow neighbors formed the Petworth Neighborhood Association to advocate for more protections for long-term residents. Using newly released public building data from the Urban Institute, the association advocated for and successfully won more affordable housing production and inclusive zoning policies. The association explained, “While we had anecdotal reports of new condo development and displacement of existing residents, we previously couldn’t quantify this neighborhood change, compare across neighborhoods, and justify our demands to decision makers. Urban’s data gave us the power to effectively advocate for ourselves!”

The national building height dataset was released publicly last month by the Urban Institute. In conjunction with Amazon Web Services’ Hackathon participants, they created a novel machine learning approach to generate building height data from input satellite data. Using this methodology, they calculated building heights for all cities in the United States and made the resulting dataset publicly available. The dataset truly democratizes data access and allows anyone to participate in the conversation around planning for housing equity and affordability. Previously, cities surprisingly didn’t have a good sense of what kind of buildings were in their jurisdictions. And although some of the largest cities, such as New York City, could afford to commission a building height dataset, most other cities and rural jurisdictions simply did not have the resources or data expertise. This prevented cities from developing detailed affordable housing plans and made it difficult for residents to understand how their neighborhoods were changing. These new data change all of that.

Over the past few months, there has been a sharp uptick in the number of cities that have released detailed affordable housing plans using Urban’s new building data. Usually, these reports are a time-intensive and costly undertaking for city planning departments. But according to Rob Velazquez, a city planner for the City of Memphis, “The open-source building height data has changed the game. We now have the foundational data needed to create accurate affordable housing roadmaps. We know now where and how to make investments in housing affordability at a regional scale. What used to be a process of mostly guesswork is now an accurate, efficient, data-driven enterprise!”

More impressively, because the underlying methodology is based on frequently updated satellite data, Urban researchers estimate they can update the building height data once a year and provide these data for free on an ongoing basis. This unlocks the possibility for real-time warning systems for displacement and gentrification that identify rapidly changing neighborhoods like Petworth. And as Petworth residents have proven, these data can truly change lives for the better.