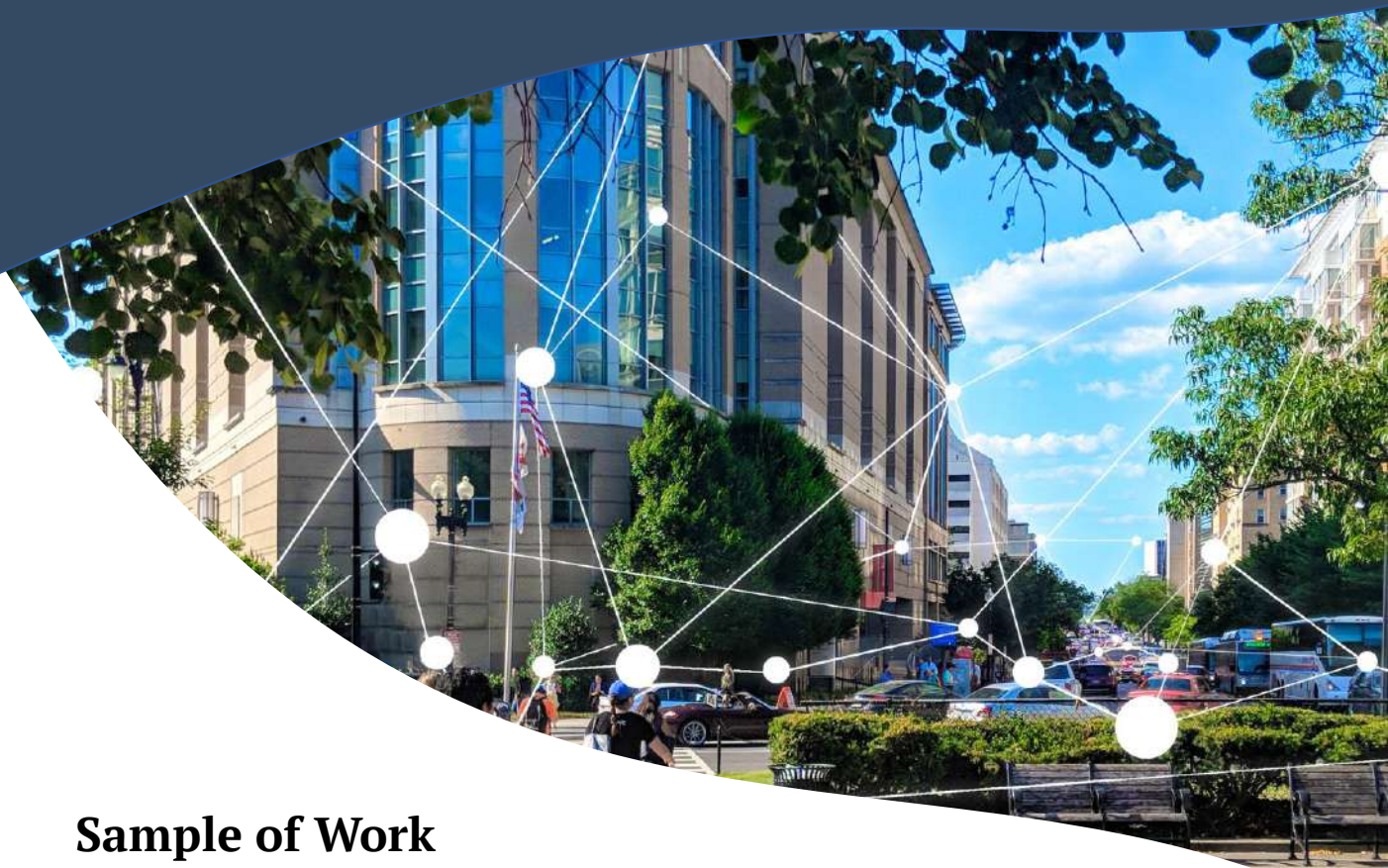


# City78



## Sample of Work

1440 G St NW  
Washington DC 20005

754 213 0981  
781 835 8209

City78.org  
Connect@City78.org



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## Introduction

City78 develops data-driven, human-centric solutions for city governments, companies and community leaders. We bring community-generated data, from Google and other review platforms, together with urban planning analyses to develop nuanced understandings of neighborhoods and cities and create actionable solutions that improve the quality of urban life for all. Our methods are based in the ever-growing belief that mixed-use development promoting community-gearred solutions is essential in solving urban problems stemming from urban spatial segregation and restrictive zoning laws (e.g. congestion, overpopulation, inefficient government funding allocation). These restrictive urban models divide communities, create socioeconomic barriers, and limit access to and the potential of the urban environment. By directly including the community as co-creators of the city, we are able to shift away from the current paradigm of prescriptive urban solutions and instead build ethical, sustainable cities around solutions derived from understanding communities, their histories, needs, perceptions and use of space.

## Solutions

City78 offers a number of solutions focusing on:

- Mapping
- Custom data
- Data visualization
- Web design and development

These solutions aim to bring the viewer through data experientially through interactive visualizations as well as uncover and explore nuanced trends and analyses through unconventional data sources and sophisticated GIS analysis.

# Capitol Riverfront & NoMa

Visualizing population trends and future developments for the Capitol Riverfront and NoMa Business Improvement Districts (BIDs).

The interactive slider encourages the viewer to switch between current and future population densities, allowing the viewer to imagine “what will be” in these two fast-developing areas of DC from a data-focused lens.



[Link 1](#)

[Link 2](#)

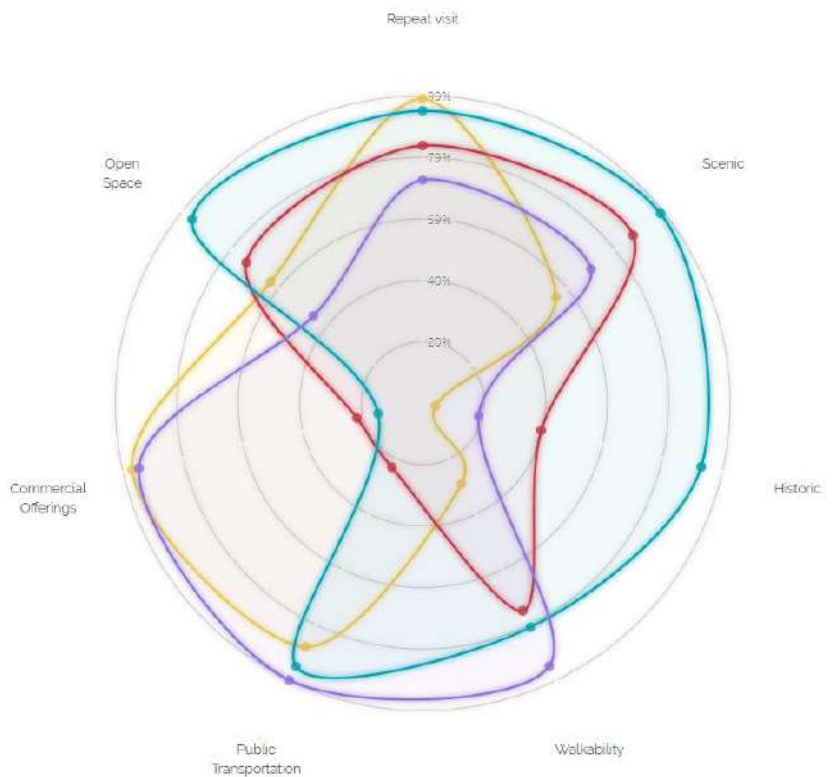






## Sentiment and Community Perception of Space

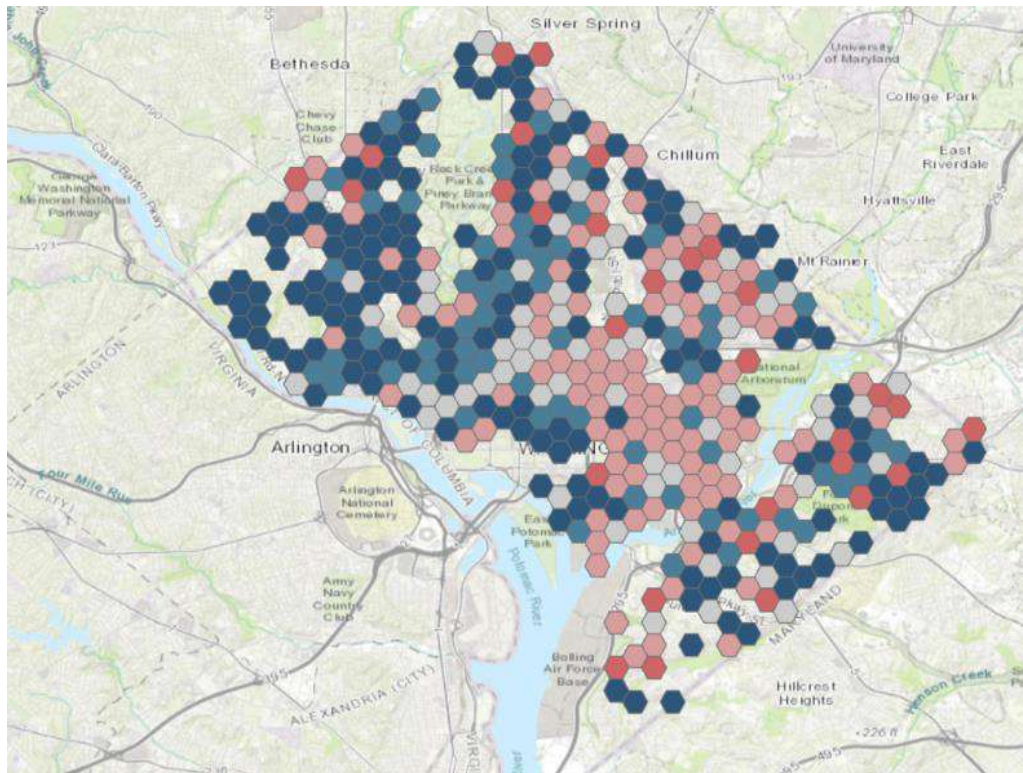
City78 pride itself in its methodological approach in understanding communities operating in the urban environment. Through a set of custom-built scripts which leverage Google Maps and Google Place APIs as well as Natural Language Processing (NLP) libraries, City78 is able to assess community perception and use of space across entire cities.





## Hex Maps, Clustering and Anonymized Data

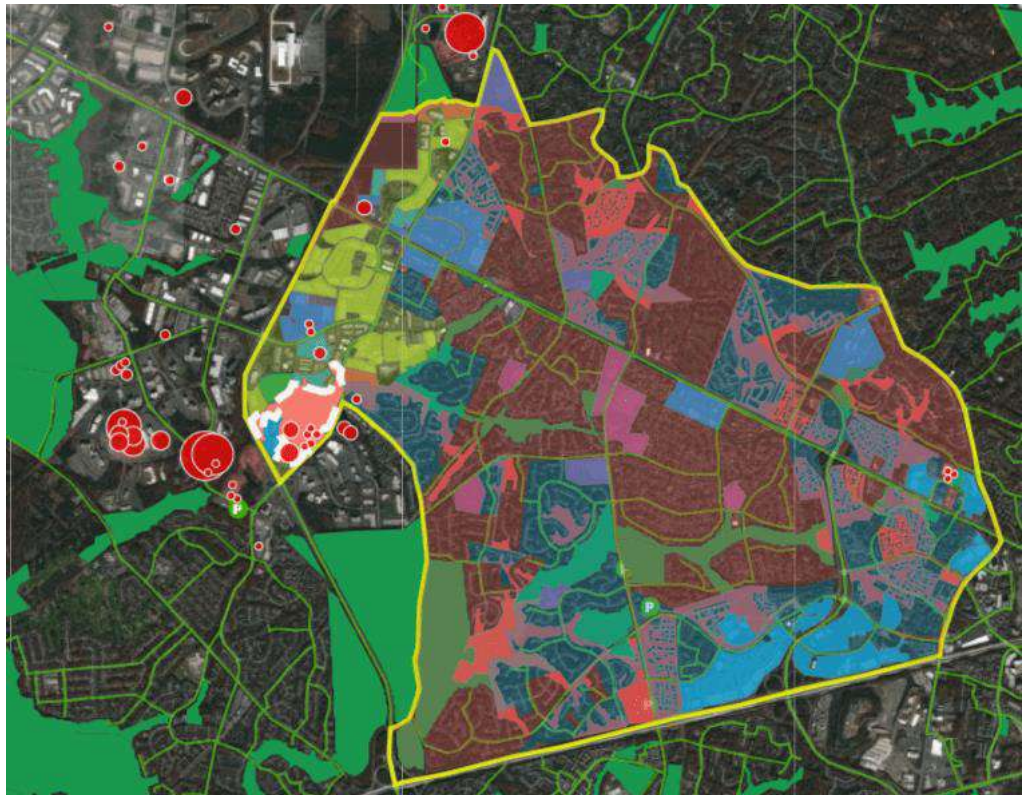
Hex maps are used for a variety of reasons: sometimes it is due to data concerns or anonymity, others it is to evaluate trends by clustering the data. The map to the right was for a project assessing AirBnB locations and optimal placement of dockless bikes and scooters.



Made with ArcGIS.

## Projected Land Use Modeling and Future Developments

Interactive maps can be made for different kinds of users; in the case of the map to the right, mapping current zoning, planned future development funding as well as a number of other variables caters towards an expert audience rather than general viewership.

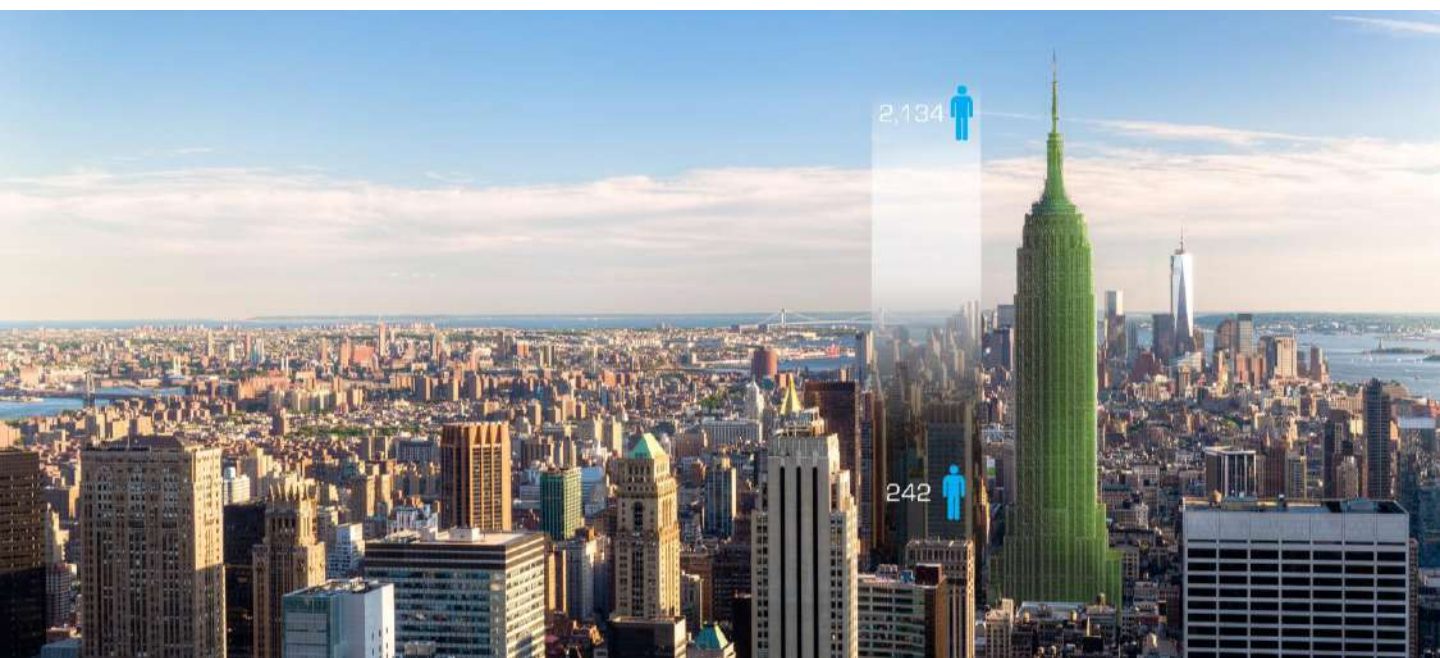






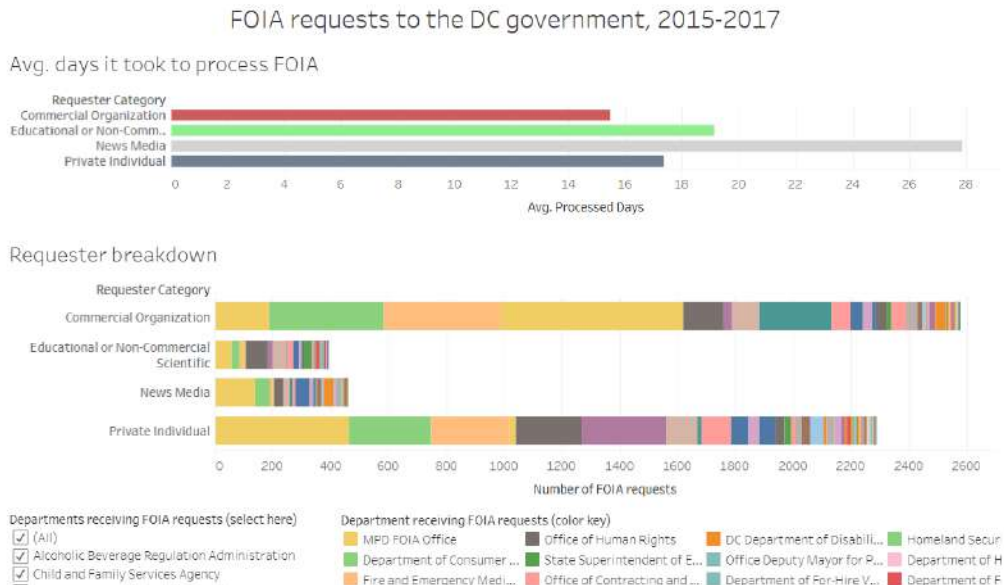
## Situating Models in the Here and Now

The City78 team believes strongly in visualizations and models that appeal both to the expert user as well as the layperson. The images above and below depict hypothetical energy savings if prominent structures in cities adopted a prototype miniature solar panel.



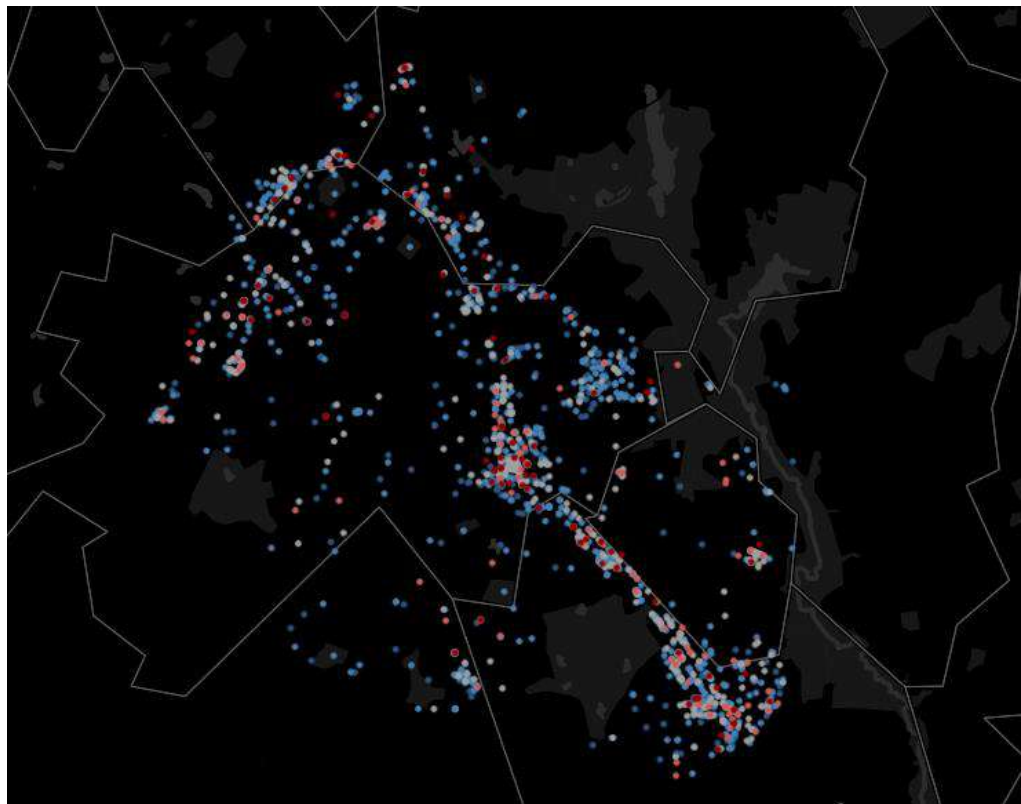
## Esri, Open Data and Custom Databases

City78 draws on a wide variety of data, both open and proprietary. These include Esri's Business Analyst, open data, custom-built datasets, and more.

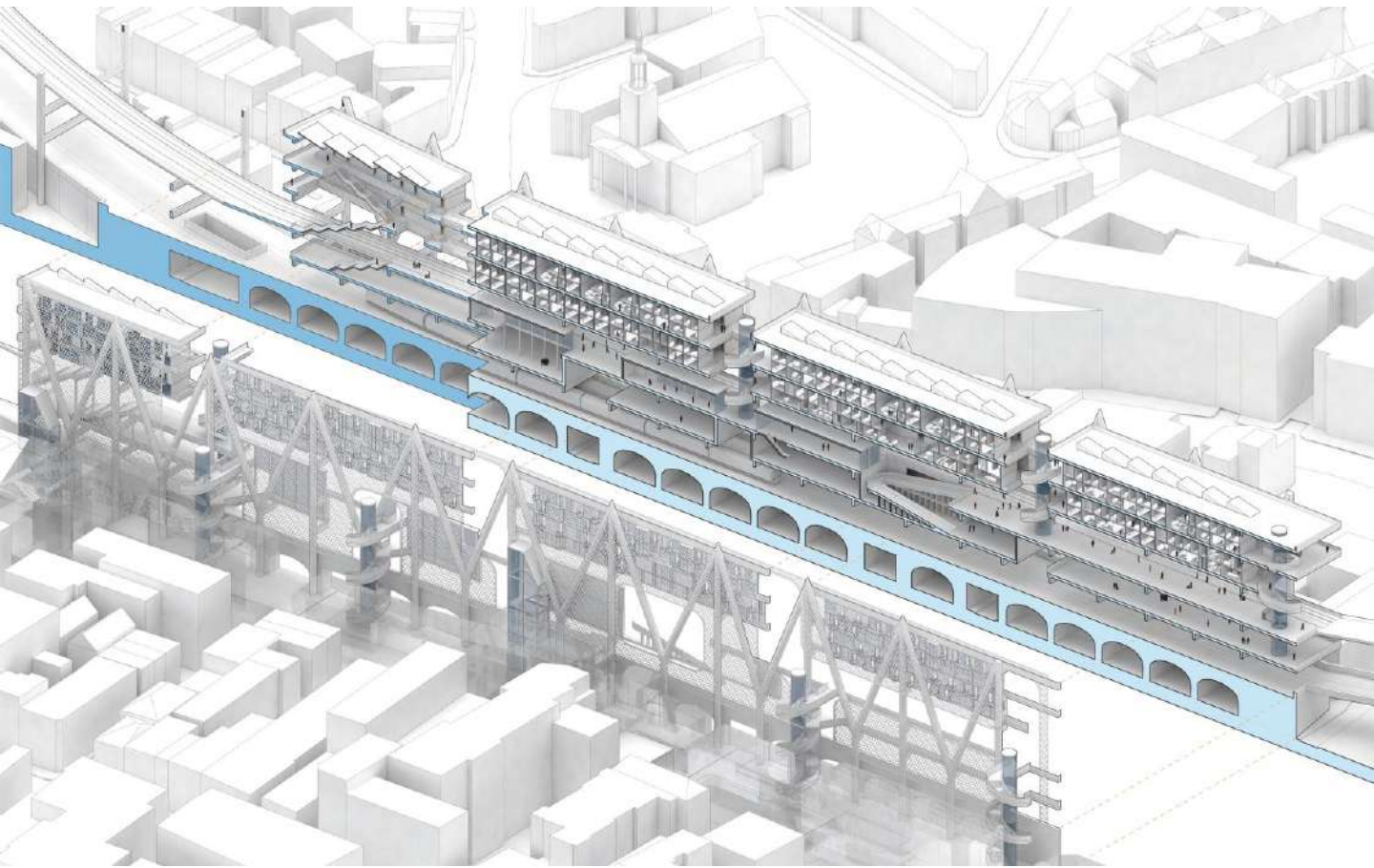


## Citywide Commercial and Public Spaces Assessment

Visualizes average review score of all public and commercial spaces registered in Google. The map is interactive, and allows users to hover over each space, with a tooltip box stating the name, address, average review, and hours of operation of the location.



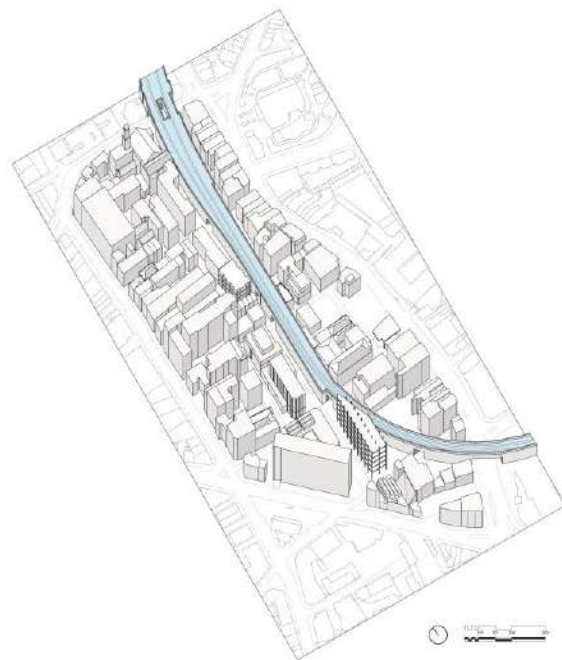


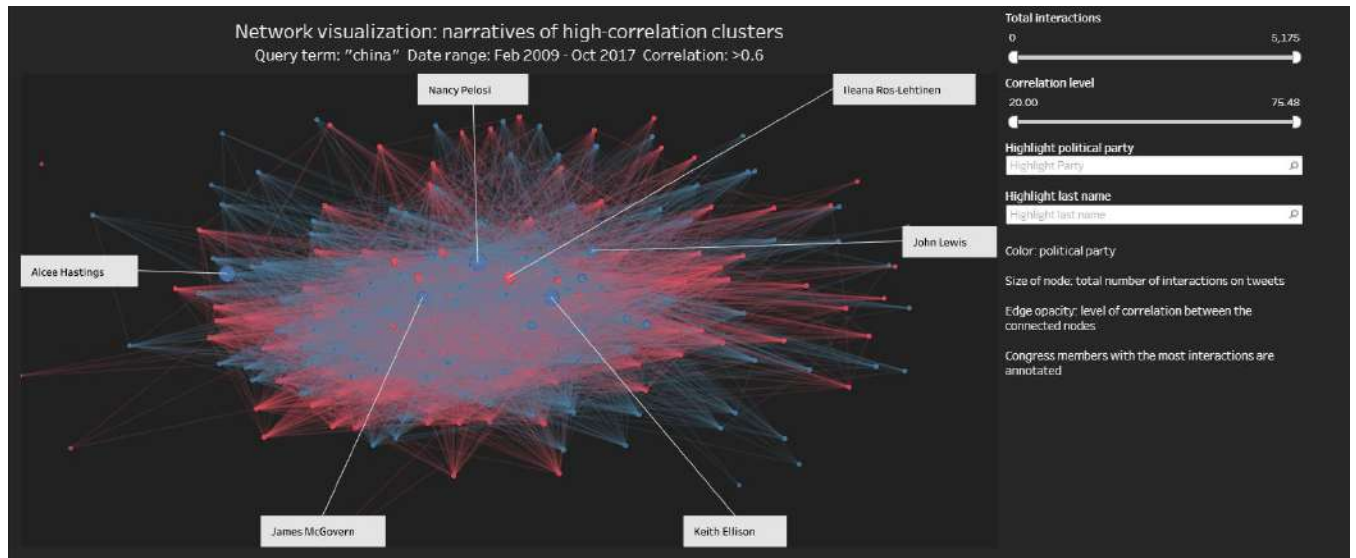


## Models to Reinvent Urban Space

City78 translates raw data into concise population trends, community perception and use of space indices, etc. City78 delivers all this in clear visuals to help the viewer fully understand our models.

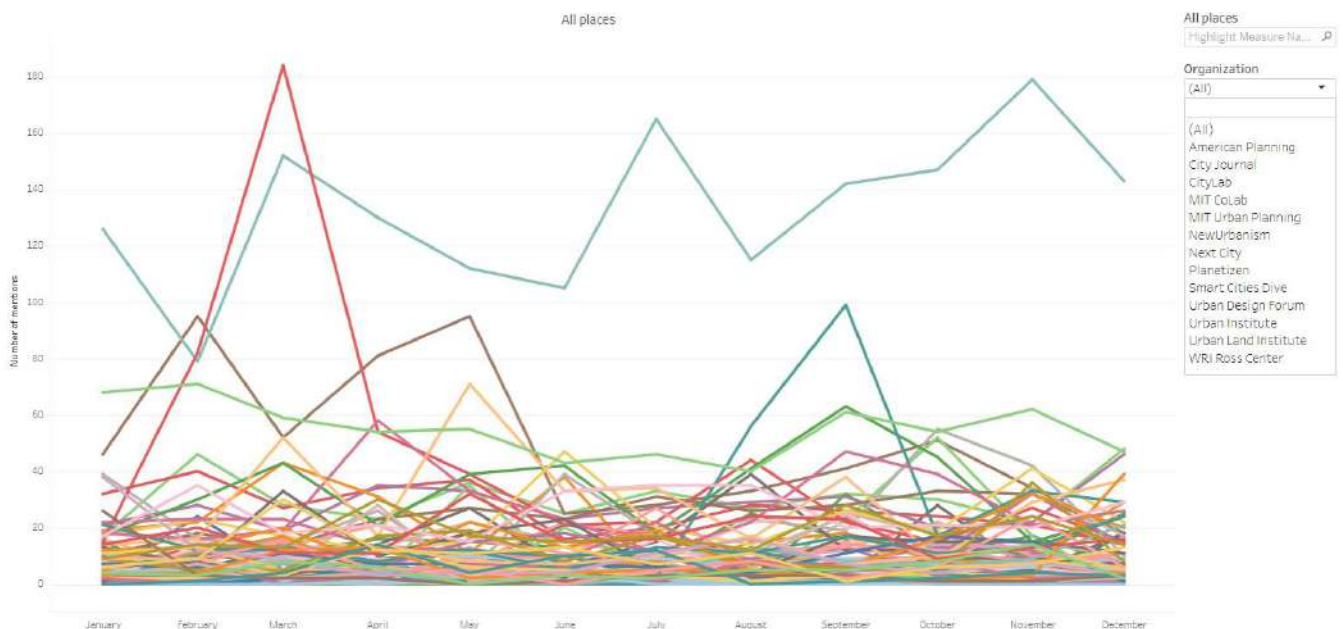
The model above imagines a community center housing multiple uses built upon abandoned railway lines running through London.





## Twitter and Online Communities

Online communities are becoming increasingly essential to understand in order to better assess the built environment. In some ways, our devices have become our primary means of expression. City78 has developed custom tools to understand online communities and transpose our findings into tangible recommendations for cities.



City78 realizes urban development through sophisticated architectural designs and modeling.

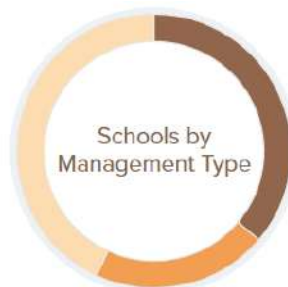






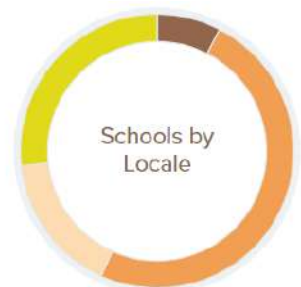
2014

Click donuts for Trends and  
Details



Schools by Management Type

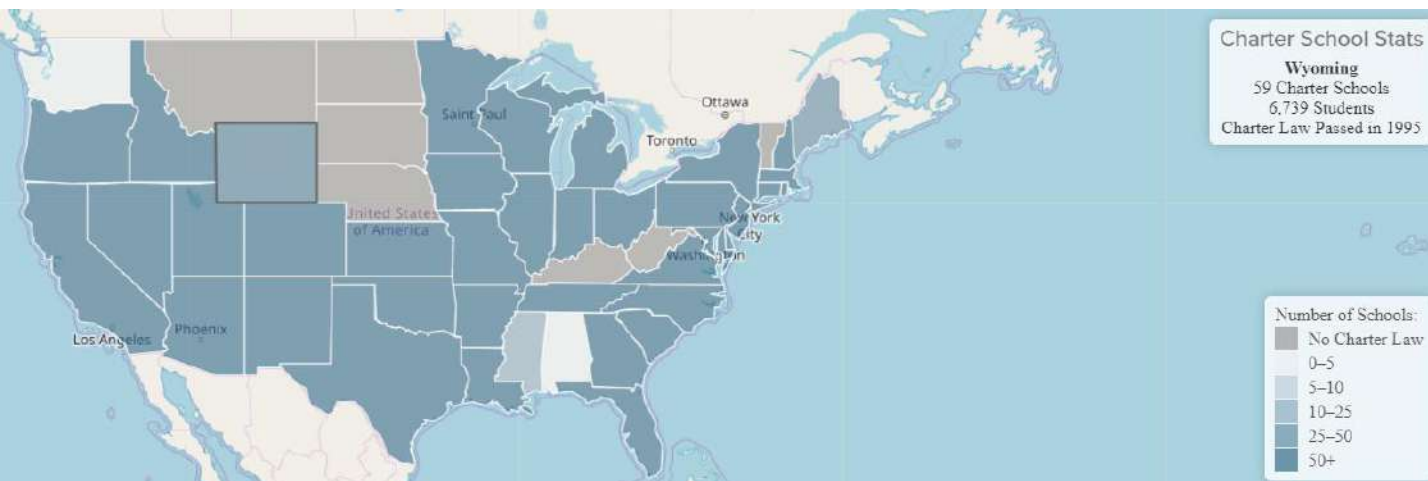
CMO	36%   1,680
EMO	21%   960
Freestanding	43%   2,000



Schools by Locale

Urban	8%   200
Suburban	49%   1,300
Town	17%   438
Rural	27%   707

2014



## Custom Interactive Dashboards

City78 brings unique data and findings directly to the viewer through interactive, intuitive dashboards. Pictured above is a dashboard to assess school data across the US.

[Link](#)

## Science, Technology, Engineering, and Mathematics (STEM) Access and Enrollment in the Nation's Schools

A closer look at access and enrollment in Algebra I.

— U.S. DEPARTMENT OF EDUCATION



Powered by IHSNED and the 2015-16 Civil Rights Data Collection

f t in

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\* Grouped  
□ Stacked

### Introduction

#### The importance of STEM

In today's era of technological innovation, students need to gain knowledge and skills in order to solve difficult problems, gather and evaluate evidence, and make sense of information they receive. Students can develop and strengthen these skills by studying science, technology, engineering, and mathematics subjects, otherwise known as STEM (<https://www.ed.gov/1>). A strong STEM education is a bonus for all students. As the demand for new skills grows, we must prepare students to develop innovative solutions for the challenges of the 21st century.

A strong STEM education is increasingly recognized as a path to employment. The need for STEM knowledge and skills will grow and continue into the future (<https://www.ed.gov/1>). The Secretary of Education has outlined a comprehensive education agenda that includes promoting science, technology, engineering, or math (STEM) education with a particular focus on computer science as a key priority (<https://www.ed.gov/1>). The agenda focuses on expanding access to STEM and computer science courses for all students. According to the Office of Innovation and Improvement, more than half of all STEM jobs in 2018 will be in computer science-related fields. Computer science knowledge will help prepare students for the changing economy (<https://www.ed.gov/1>).

The data story explores both access to and enrollment in Algebra I using the 2015-16 Civil Rights Data Collection (CRDC). In terms of access, the data story looks at the types of schools that offer Algebra I classes and the students who have access to those courses because they are enrolled in those schools. In terms of enrollment, the data story looks at the students who actually enrolled in Algebra I classes that are offered. As we will see through the story, just because students have access to Algebra I classes does not mean they actually enroll in those classes.

Our charts are interactive! Hover over or click on chart elements to learn more about specific data points.



Let's take a closer look at Algebra I access and enrollment at the district level, school level, and by different student characteristics. We will begin with an overview of all grades and then transition to focus on 8th grade Algebra I.

#### School Level

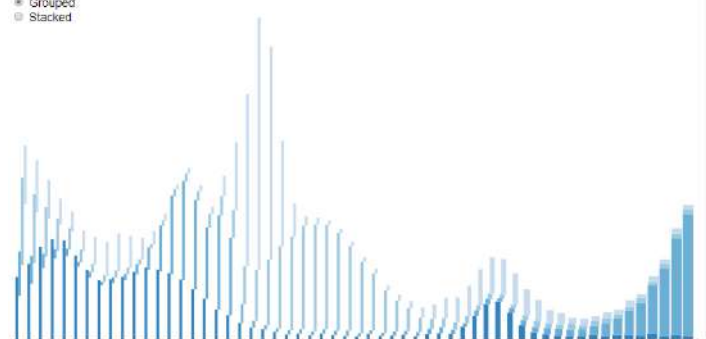
Schools were most likely to offer Algebra I in 9th or 10th grade.

Using the data

The data file used for this chart has been downloaded.



About 69 percent of schools offered Algebra I in 9th grade compared with 64 percent of schools for 9th or 10th grade and 50 percent of schools for 11th or 12th grade.



## Comprehensive, End-to-End Solutions

While some projects call for simple webpage design in order to best deliver content to the reader, others require more complex interactive visualizations.