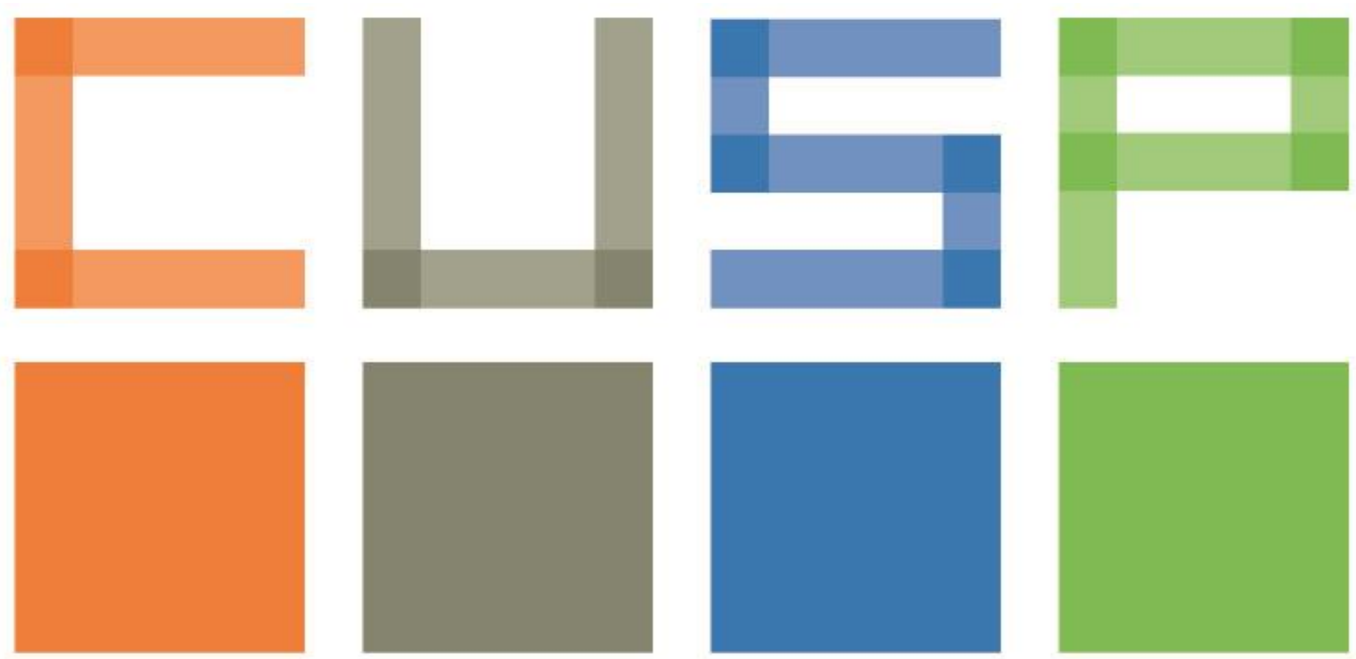




# NEW YORK CITY ECONOMIC MAP NYCEM



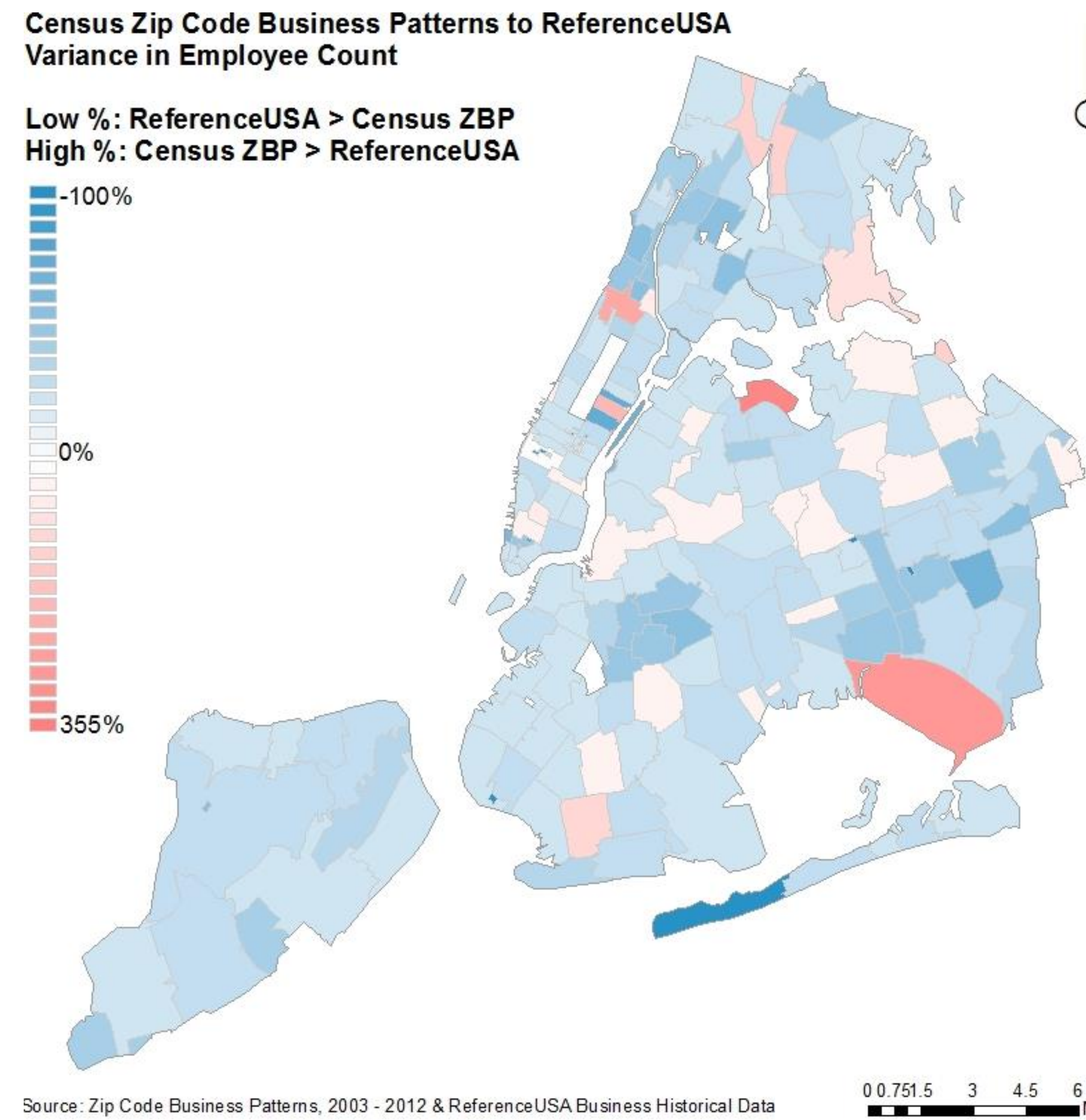
CENTER FOR URBAN  
SCIENCE+PROGRESS

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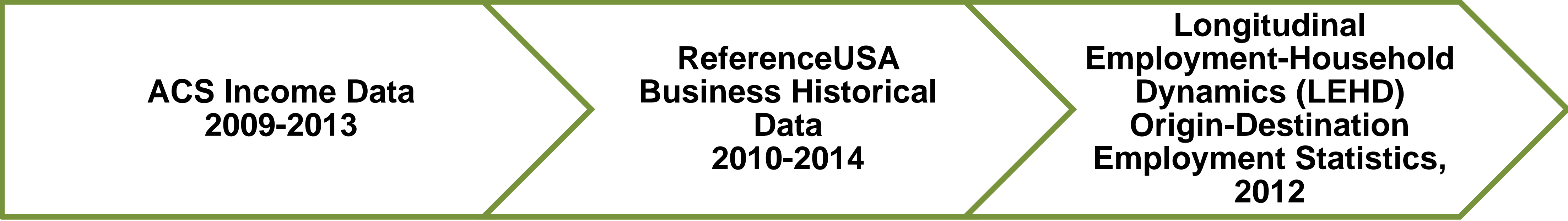
## CONTEXT

On behalf of New York City Small Business Services and Citi's Community Development branch, the New York City Economic Map (NYCEM) provides a proof-of-concept study in support of ongoing small business development initiatives. NYCEM is an interactive tool that provides insight to business activity across New York City census tracts. NYCEM combines querying of industry statistics with clustering on key employment features. The resulting map depicts NYC's diversity of industries & demographic compositions in order to inform targeted outreach decisions.

## LIMITATIONS

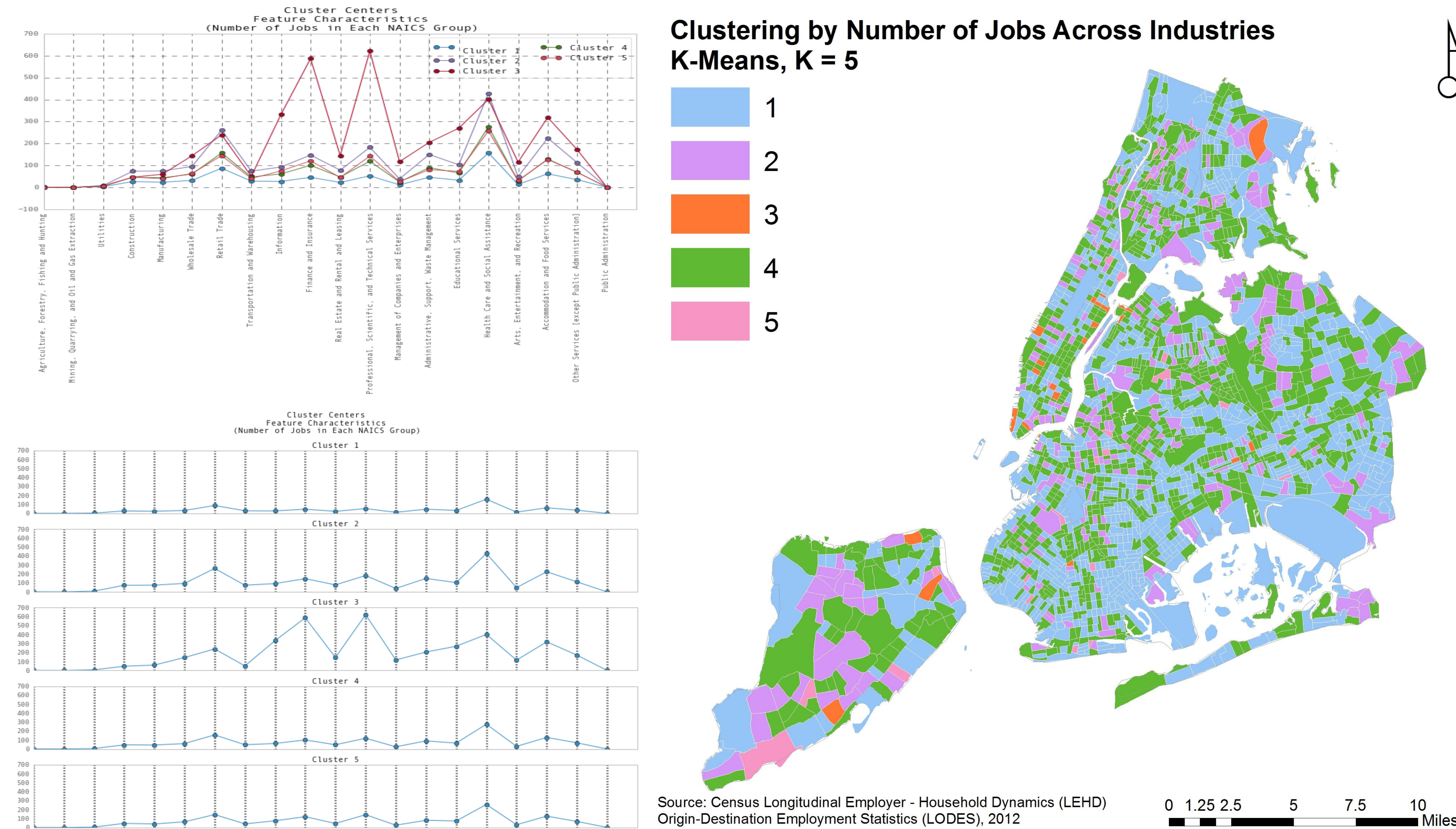


## DATA + METHODOLOGY



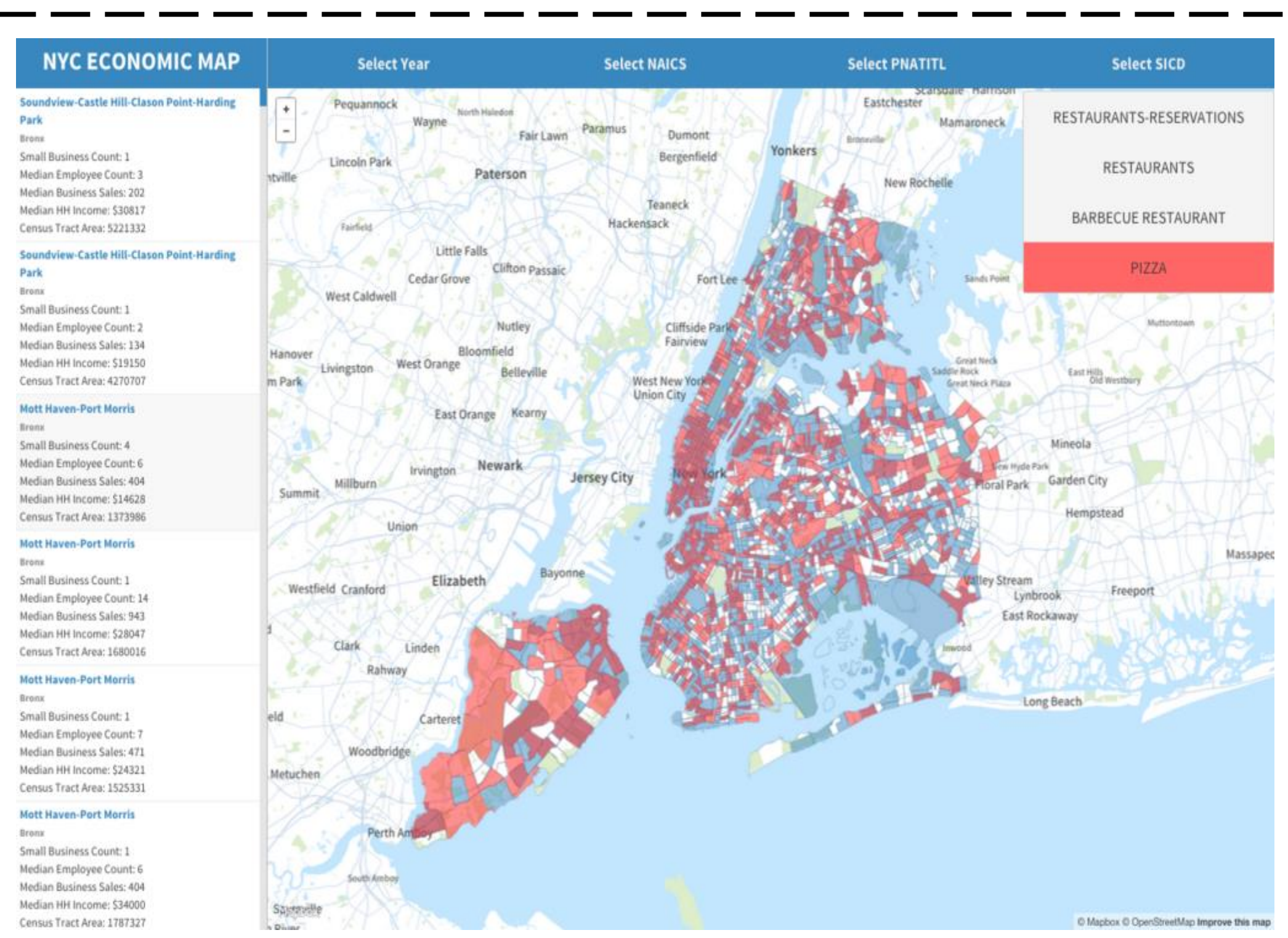
Using two publicly available and one commercially available data source, the NYCEM team constructed a queryable database with a hierarchy of summary statistics at the census tract level. In this form, there are 4,500+ SICD industry codes grouped into 940+ PNATITL industry codes. This level of granularity would be too much for this use-case, therefore one of 24 NAICS codes was appended to each PNATITL-SICD combination. Represented visually, this data structure allows us to present users with higher-level categorizations, and iteratively select the appropriate business category.

## EMPLOYMENT CLUSTERING RESULTS



## VISUALIZATION

NYCEM is powered by Mapbox and coded in Python, using Leaflet and GeoPandas packages for added functionality. Initially, NYC census tracts with related summary statistics were read into a hierarchy of directories based on the NAICS, PNATITL, and SICD codes. This kept the Mapbox visualization from having to load and parse an extremely large file which can be too expensive for the front-end. The hierarchy of data within the map is first the year, NAICS, SICD, followed by the GeoJson file for SICD code.



## THANK YOU

To NYCEM advisors **Dr. Greg Dobler** + **Dr. Tim Savage** of NYU CUSP, and to **NYC Small Business Services** & the **Citi Community Development** branch for your interest in this work.