

Metro Boston Rental Listings Collaboration



Program Overview

Objective:

a member collaborative to shape and support the Metro Boston Rental Listings Database

Background:
motivations and timeline

Problem: Existing Sources of Rent Data are Insufficient

American Community Survey

- Rent values do not represent market asking prices, but rather averages for long-term and new residents, including those housed in deed-restricted affordable housing
- Data aggregated to 5-year intervals and released with a two-year time lag
- Data only available aggregated to Census geographies

Private sources

- Opaque about methods of collection
- To get record-level rental listings is expensive and often cost prohibitive

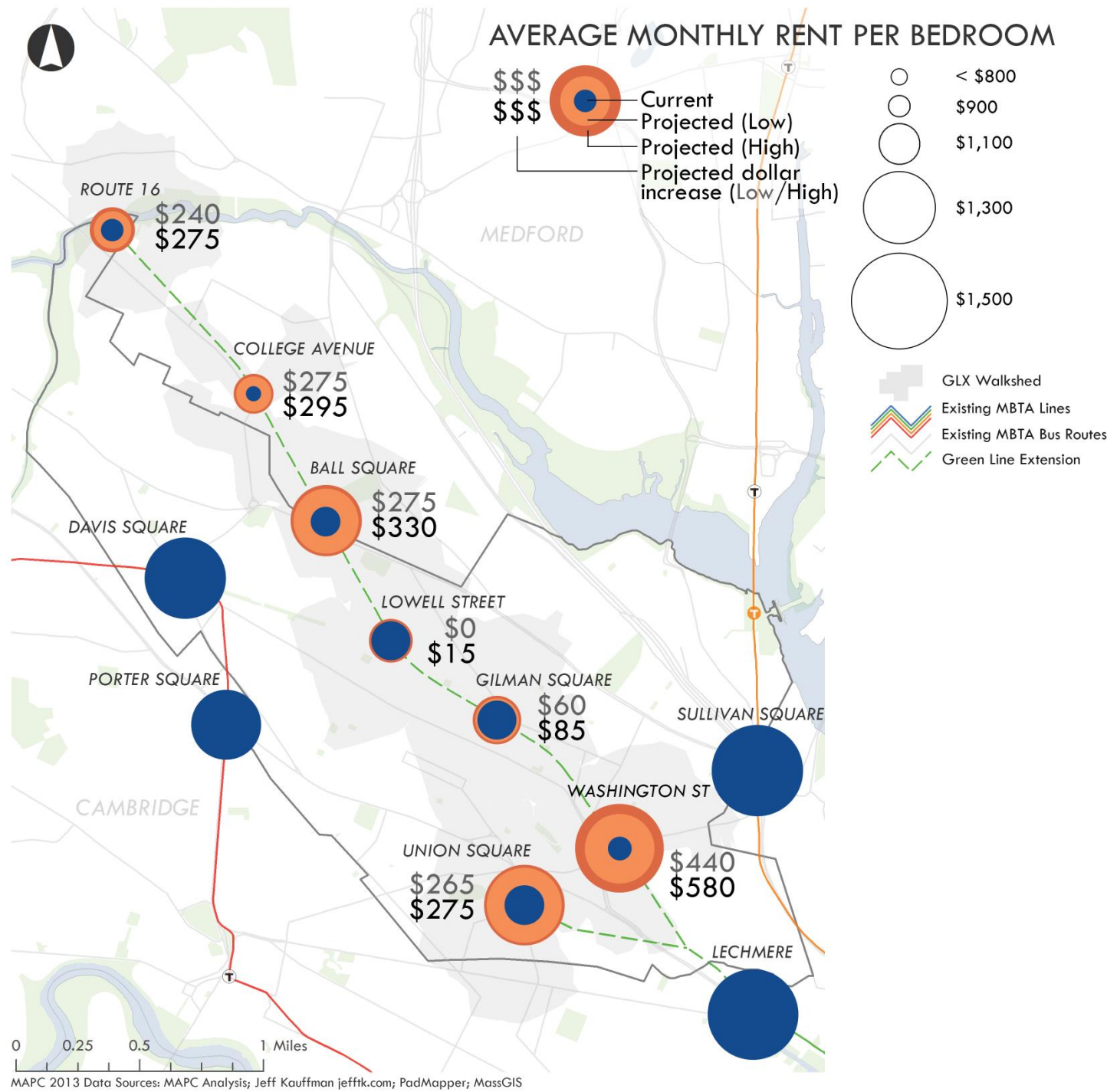
Solution: Scrape available rental listings to generate useful data + insights

1. Scrape data from online sources (i.e. Padmapper, Craigslist)
2. Clean, deduplicate, assess, and annotate
3. Summarize counts, mean, and median asking rents to municipal, neighborhood, zip code, and census tract levels
4. Visualize trends
5. Report cleaned records, summary information, spatial data, and visualizations to Collaboration members monthly, including quarter and annual summaries throughout the calendar year

Timeline

- **2013-14:** First use of Padmapper data for research report
- **2015:** Technology and capacity to scrape rental listings from online platforms
- **2017:** Development project with municipal partners to clean and improve collected data
- **2018:** Quarterly data reported to municipal partners
- **2019:** Rental Listings Collaboration established
- **2020:** COVID-19 monthly listings
- **2021:** Recruiting new members
- **2023-2024:** RLDB Web portal developed + launched (rental-listings.mapc.org)

Figure source: *Dimensions of Displacement*, MAPC, 2014



RLDB Web Hub: An
easy-to-use online
interface for accessing,
querying, and
visualizing the data

Rental Listings Database: Web Portal

Rental Listings Database Analyses Documentation Data Login

Data Visualizations

The MAPC Region
Median Asking Rent by Bedroom Count

Unit Type

- 0br
- 1br
- 2br
- 3br
- 4br
- 5br

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About the Rental Listings Database

The Metro Boston Rental Listings Database (RLDB) is a comprehensive database of point-level market value rental listings.

Since November of 2015, MAPC has been collecting rental listings from online platforms including Craigslist and Padmapper to build this database. MAPC has developed an automated collection, cleaning, de-duplicating, geocoding, and classifying process for this database, with a set of machine-readable data outputs.

The RLDB can be used for a number of planning and housing applications. Because the data are point-level, they can be summarized to custom geographies, down to the neighborhood and census tract scales using coordinates supplied by the lister. MAPC reports data to our municipal partners on a

Become a Member and get access to:

2/7/2024	Data Downloads: Multiple avenues for downloading our 80,000+ Rental Listings data records
2/7/2024	Data API Access: Gain access to our data API!
2/7/2024	Data Visualization: View your data in app, with more visualizations coming soon!

- In 2023 RLDB collaboration members worked with MAPC to secure TAP funding to develop a website and data portal to improve usability and access to the rental listings data
- Launched in early 2024, the Rental Listings Database web portal provides a public face for the program, with a secure login for members to access data, analysis, and querying and visualization tools.
- Features include the ability to access, filter and download rental listings data in a variety of formats, as well as the ability to visualize or map data with easy-to-use tools.
- Technical users can also now access rental listings data via a documented API.

<https://rental-listings.mapc.org/data>

Web Portal Features



Dynamic data visualizations

Rental Listings Database Analyses Documentation

Query

Get all listings where:

Asking Price: is any amount ▾

Number of Bedrooms: is any amount ▾

Date Posted: is after 01/01/2023 and before 01/01/2024

Municipality: is any municipality ▾

Neighborhood: is any neighborhood ▾

Title: contains any text

[Reset](#) [Submit Query](#)

Loaded all 17722 listings matching current query. 100%

Tabular View [Aggregates](#) [Map](#) [Single Axis Scatter Plot](#) [Median Ask by Month](#) [Median by Bedroom by Month](#) [Median Ask by Neighborhood](#) [Num Listings](#)

Showing 17722/17722 rows.

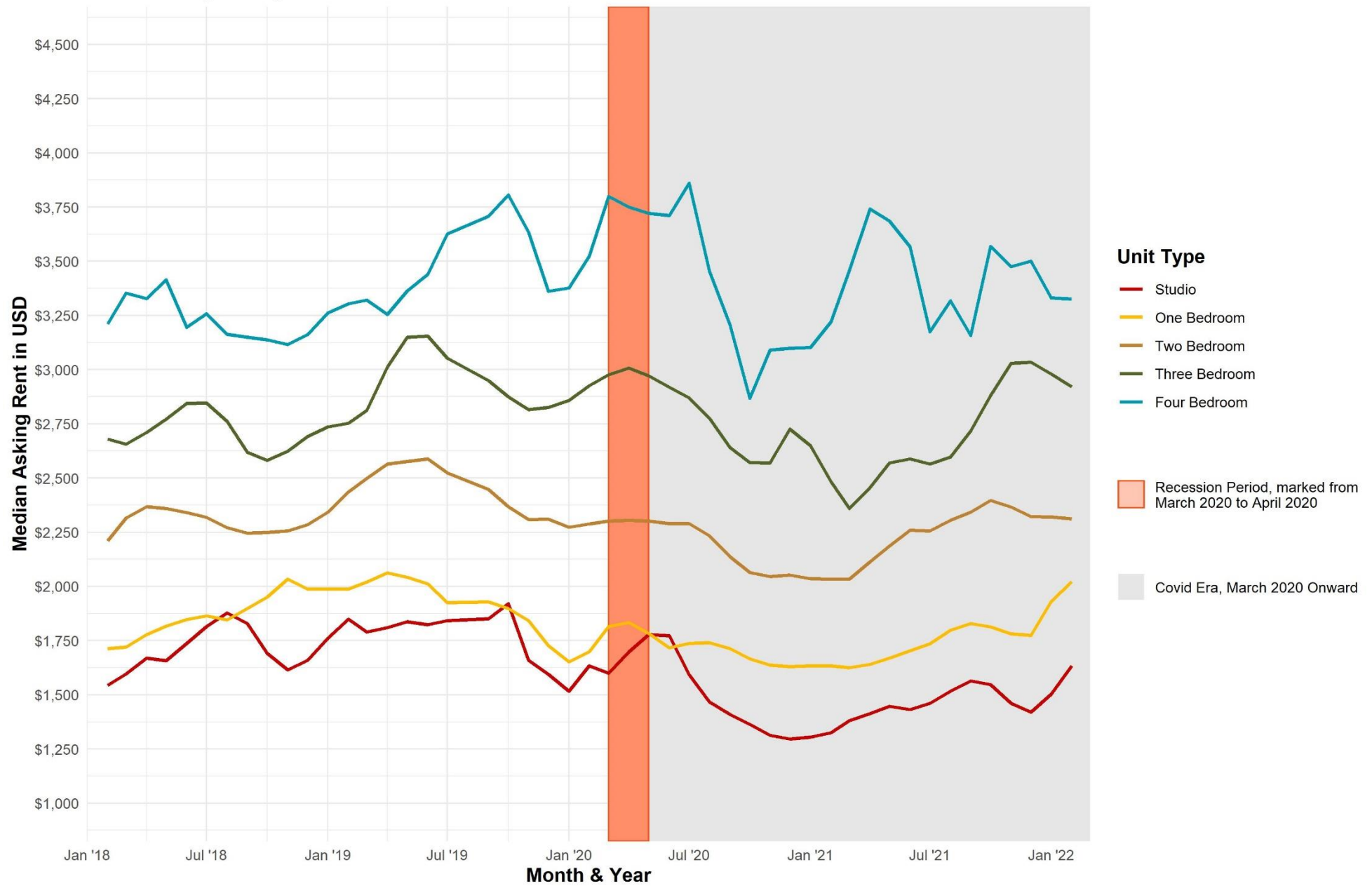
Original Title ▲	Ask Price	Bedrooms	Municipality	Neighborhood
!! NO FEE !! KILLER SPACE LOTS OF WINDOWS! - bright and top floor unit	\$2295	2	BOSTON	Allston/Brighton
!!!NO FEE!! - SEPT 2023 Awesome Packards Studio, H/HW inc	\$1875	0	BOSTON	Allston/Brighton
!!!Spacious 3 bed apartment close to Shawmut & Ashmont stations!!!	\$3200	3	BOSTON	Dorchester
!!!Spacious 3 bed apartment close to Shawmut & Ashmont stations!!!	\$3200	3	BOSTON	Dorchester
!!MUST SEE!! Apt at great location in Dorchester	\$3400	4	BOSTON	Dorchester
"2nd Flr Apartment for Rent" (apts by owner)	\$2500	3	BOSTON	Roslindale
"No Fee" Ink Block, Tufts Medical location one bedroom	\$2100	1	BOSTON	Central

Custom data query/filtering + download

Exploring the data:
price trends, affordability,
and recent applications of
the data

Arlington

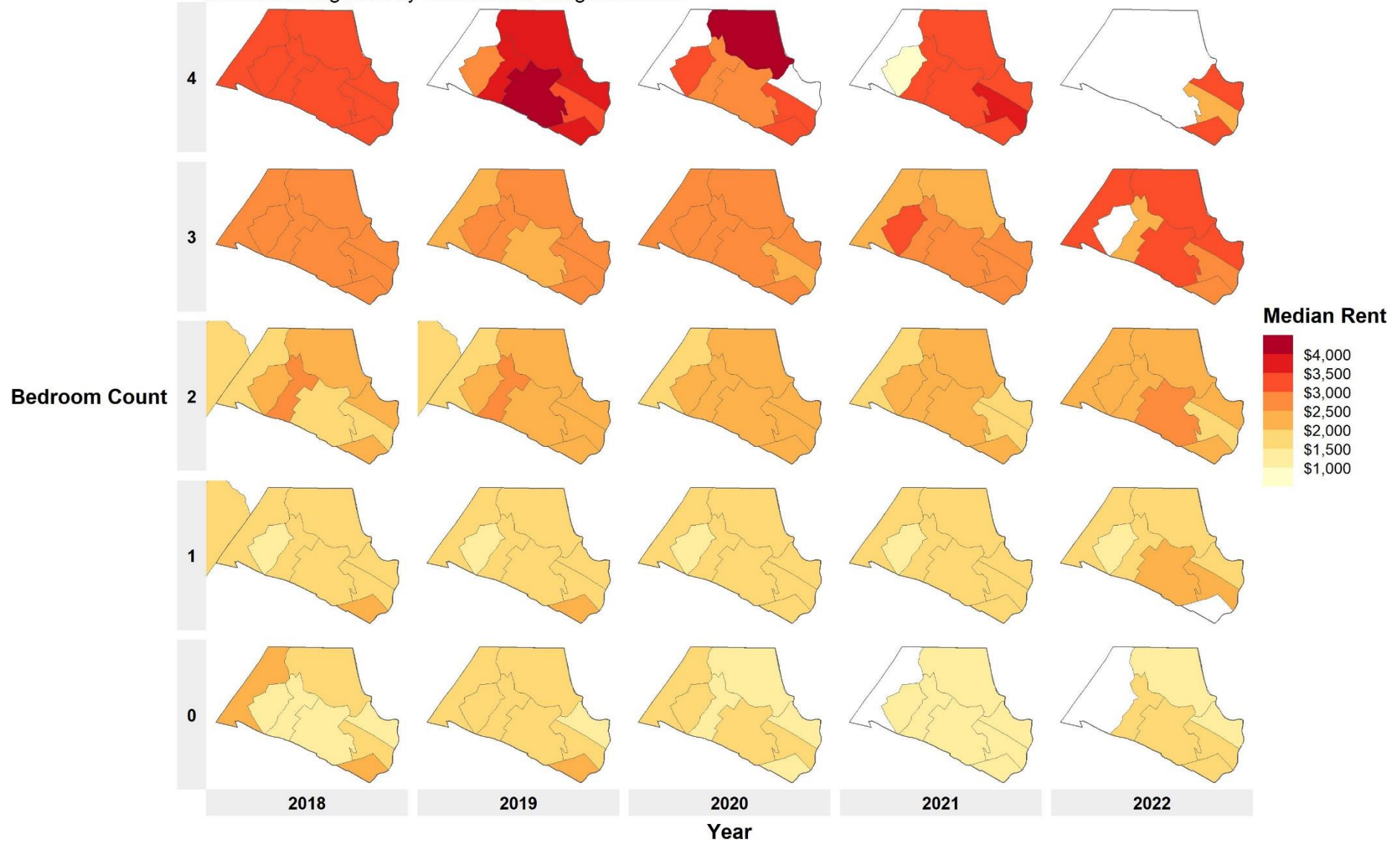
Median Asking Rent by Bedroom Count



3-month rolling average
COVID-19 Pandemic Era marked from March 2020 onward
Recession Period marked from March 2020 to April 2020

Arlington

Median Asking Rent by Bedroom for Neighborhoods



Applications of data

- **Knowledge:** understand trends in the rental market
- **Communication:** City Council/Town Meeting, press inquiries, broader constituent campaigns
- **Analysis:** use of the data to create custom analysis at the city, neighborhood, and sub-neighborhood scale
 - E.g. Rezoning, housing affordability gap, development RFPs, housing production plans, displacement risk
- **Policy development and evaluation:** help design policy that fits, and evaluate its impact
 - E.g. Small Area Fair Market Rents, Condo Conversion, Inclusionary Zoning, Rent Stabilization
- **Transparency and flexibility:** COVID-19 response

Example Applications

- Boston creates internal quarterly and annual reports to **stay apprised of market trends**, to **respond to City Council and press**, and to support analysis and policy development, **such as rent stabilization, displacement risk assessment, understanding affordability**
- Boston Housing Authority has used our listings to help develop criteria for new **Small Area Fair Market Rent (SAFMR) standards**, and to help **identify “opportunity” zip codes with available listings** at or below SAFMR
- Cambridge has built a **rental listings dashboard** to help municipal housing and planning keep track of rental trends and **evaluate housing policies and programs**
- Somerville has used data to **respond to legal challenges to their condo conversion ordinance** by validating relocation costs written into the ordinance
- Arlington has used the data to **support housing policy conversations** that to-date they have not had enough useful data to show in response to opposition
- **COVID-19 rental market trends** – during the pandemic member municipalities requested monthly (rather than quarterly) data reporting so they could watch trends more closely; **Cambridge used listing titles to examine prevalence of deals offered by landlords and expanded analysis to all five member municipalities**



2018-21 Count of Listings by Neighborhood

Adjust the slider and/or select one or more options from the following lists to filter the data in the chart:

Rental Asking Price

\$497

\$12,000



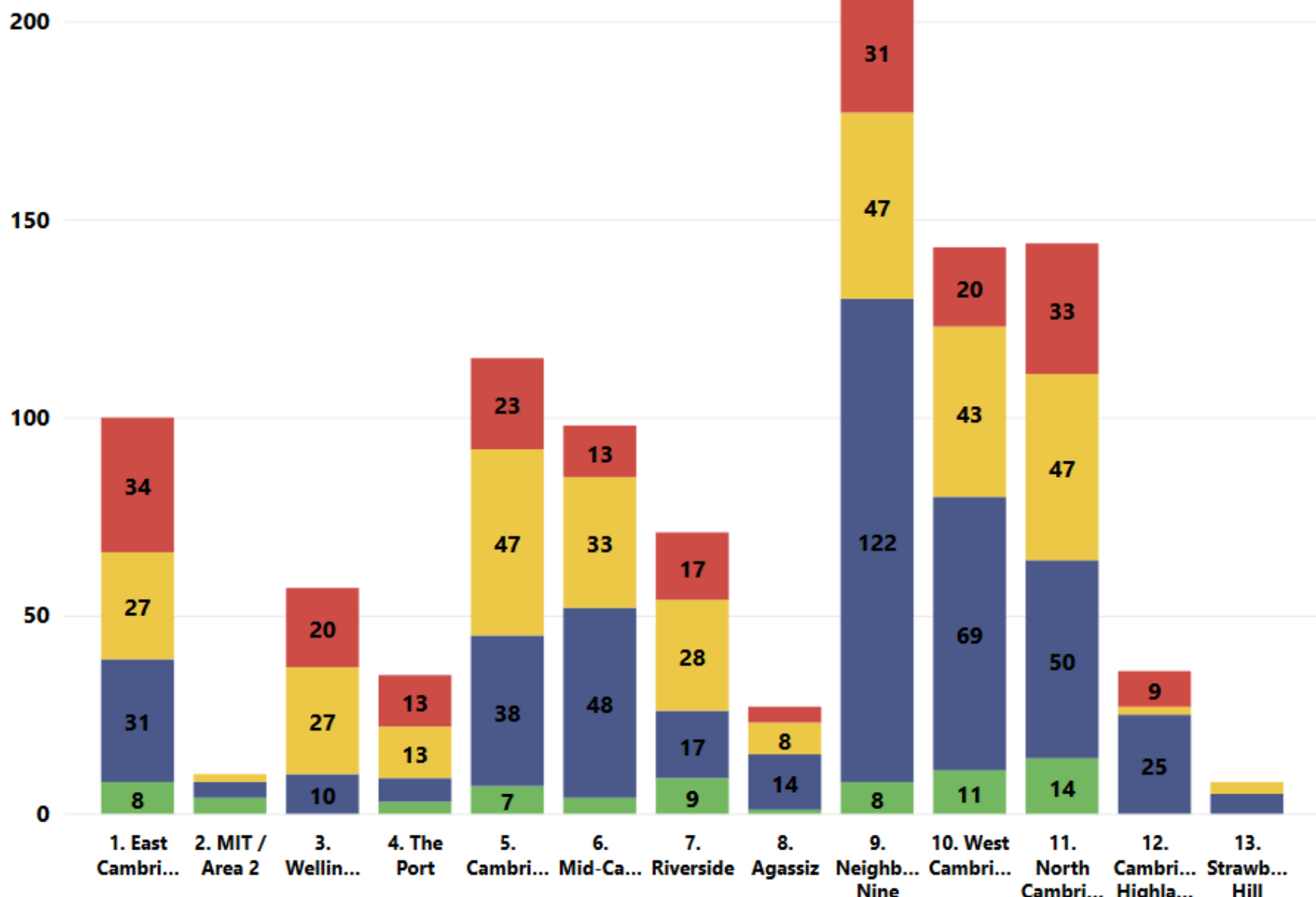
Quarter

- 2021 Q4
- 2021 Q3
- 2021 Q2
- 2021 Q1
- 2020 Q4
- 2020 Q3
- 2020 Q2
- 2020 Q1
- 2019 Q4
- 2019 Q3
- 2019 Q2
- 2019 Q1
- 2018 Q4

Number of Bedrooms

- Select all
- 0
- 1
- 2
- 3

Number of Bedrooms: ● 0 ● 1 ● 2 ● 3



Note: The y-axis of the chart at right is dynamic and adjusts according to the number of listings in the selected quarter.

Methods: collecting,
cleaning, categorizing,
summarizing, and
reporting

Data Approach

Automated Data Processing Steps


1. Scrape data from online sources
2. Clean, deduplicate, assess, and annotate
3. Summarize counts, mean, and median asking rents to municipal, neighborhood, zip code, and census tract levels
4. Visualize trends
5. Report cleaned records, summary information, spatial data, and visualizations to Collaboration members monthly, including quarter and annual summaries throughout the calendar year

Known Limitations

- Potential bias in data sources, consistent with observed biases in online rental platforms generally
- Address-level geocoding constraints due to lack of address information in Craigslist listings and small number of listings sourced from Padmapper
- API/data structure instability from listings sources can lead to gaps in data collection

Data dictionary


Rental Listings Database

Analyses Documentation Data 

Data Dictionary

State API

source_id	Rental listing source: 1=Craigslist, 2=Padmapper
survey_id	Scraping batch ID
post_date	Formatted posting date - Date listing posted
created_date	Formatted created date - Date listing first added to MAPC database
updated_date	Formatted updated date - Most recent date listing added to MAPC database
update_lag	Number of days between the data the posting was listed and the most recent date it was added to the database; postings with a lag 30 days or longer are removed
month	Year listing updated
year	Month listing updated
quarter	year and q1, q2, q3, or q4
latitude	For Padmapper listings, latitude of geocoded location; for Craigslist listings, latitude listed with original posting
longitude	For Padmapper listings, longitude of geocoded location; for Craigslist listings, longitude listed with original posting
repeated_location	Indicates that the latitude and longitude of this listing is repeated in another listing; this may be a zip code or other centroid
ct10_id	Full Census Tract ID; 11-digits; joined based on 'latitude' and 'longitude'
muni_ID	Municipal ID; joined based on 'latitude' and 'longitude'
muni	Municipality; joined based on 'latitude' and 'longitude'



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Pages:
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[Data](#) [Forgot Password](#)

Program improvements

Improvements in progress:

- **Deduplication:** Capture and remove more duplicate records through improvements to text analysis methods
- **Text processing:** Improve identification and flagging of special case listings (roommates, short-term rentals, sublets, single family homes, etc.) and validation of number of bedrooms through improved text analysis
- **Geolocation:** Develop methods for estimating location accuracy of Craigslist points

Areas for Expansion:

- **Additional web portal features:** develop improvements to the web interface for Consortium members to directly access quarterly and annual data products and to view visualizations of summary information.
- **Additional rental listings source(s):** potentially add new rental listings data sources that could improve biases in data or add address-level information, either through adding new sources to digital collection or by purchasing quarterly data.
- **Additional members!**

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