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PPUA 5262: Big Data for Cities

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City Walk Exploration 1: Living in the Central Planning District

Rationale

In trying to understand the patterns in residential parcel values in Boston, I have been looking for geographic patterns from 2015 assessed values in the Tax Assessor's longitudinal database. In all of the Boston planning districts (PDs), the majority of parcels are listed as for residential use (ranging from 76.2% of all parcels listed as "residential" in the Central PD to 92.5% in the Roslindale PD). The Central PD's residential values are also notable because they are the most skewed (Pearson's coefficient= 25.5). For these two reasons, the Central PD, from the data alone, appears to be unique from other Boston planning districts.

About the Central Planning District

The Central PD encompasses the neighborhoods (Inspectional Services Department Neighborhood Statistical Areas, or NSAs) of (1) Chinatown/ South Cove/ Bay Village, (2) Downtown/ Central/West End, and (3) North End/Waterfront and has, in 2015, 9,112 residential parcels. For the purposes of this walk, it became clear that I needed to hone in on a smaller subsection of this area than an NSA. The next smallest geographic sub-unit is the census tracts, which each have populations from 1,200 to 8,000 residents (Census.gov). Within the Central Planning district, there are 17 census tracts, 10 of which include more than 5 residential parcels

that are also in the Central PD. [Note: the boundaries of planning districts, NSAs, and census tracts do not always matchup.]

Census Tracts 203.01 and 203.03

Census tracts 203.01 and 203.03, both located in the West End, stand out within the Central PD because they have the two lowest median residential values and have the highest proportion of residential parcels with some type of condominium designation (98.0% and 97.5% respectively). Both census tracts have had modest growth in the number of condominium parcels since 2000 (203.01 had 2,939 parcels in 2000 and 3,259 in 2015; 203.03 had 2,931 parcels in 2000 and 3,043 in 2015) and both have seen significant increases in value since 2000 (165% and 228% increases in value respectively).

Interestingly, both tracts had relatively steady numbers of units for most of the 15 year period, with the growth in units happening over a one or two year period.

Goals for City Walk Exploration

From the data alone, a few questions that I hoped to answer from my walk were: (1) Is it obvious that almost all of the housing stock is condominiums? (2) Is there a unique "feeling" to these census tracts, in particular in relationship to the residential experience in these tracts? (3) Was there a building built in each tract explaining the singular upticks in the number of condominiums?

City Walk Impressions

Non-residential use

Initially, finding any type of residential parcel in Census Tract 203.01 and 203.03 is very difficult, which may be surprising since even these two census tracts in Central approximately 96% of the parcels are coded for residential use. Large portions of the land are owned by hospitals (Massachusetts General Hospital, Shriners Hospital for Children, Massachusetts Eye and Ear), are in public/government use (North Station, the Municipal Courthouse, Tip O'Neill Federal Building) or used as businesses or commercial shopping centers (Charles River Plaza Shopping Center).

This raises questions about the importance of the relative sizes of parcels; for example 255 Charles Street (Massachusetts General Hospital) and 2 Hawthorne Place #8-L both are exactly one parcel, yet they clearly would have different impact (by size alone) on the community. It also raises questions about how to take into account the availability of residential properties and population density. Before the City Walk, I would have thought that you could tell how "residential" an area is by looking at the proportion of parcels that are for residential use and compared to population density to get a more holistic view of concentrations of housing. But in the example of these two tracts, population density is not particularly high (because there are only a few blocks where people actually live) and the proportion of residential properties is high, indicating at first glance that the tracts are highly residential with a middling population density; it is just not the case in the slightest.

Residential Clusters

Eventually, you may come on to the small clusters of residential housing (perhaps not long after you read the set of billboards mocking commuters, "If you lived here... You'd be home by now"). In these tracts condominium complexes are high-rises clustered together (sometimes around a green space and sometimes not). The appearance of the complexes is varied



Figure 1: Indication that there must be some place to live



Figure 2: Cluster of Residential Buildings

and the perceived quality or “luxury”, as many of the complexes chose to advertise as, was strongly correlated with recent renovation.

Thoughts on Skewedness

In these census tracts, the limited amount of space keeps the number of residential parcels relatively constant and largely dependent on one or two buildings or complexes been built or renovated. My initial thought is that this is not a residential neighborhood, and it is a limited number of people who would be interested in actually living in these tracts (keeping median costs in check with the rest of Boston); however, for those who want the convenience of living in these commercially bustling neighborhood, condos can attract those who are willing to pay for the convenience by adding an element of luxury (and expense) skewing the data far to the right.

The BIG Lesson Learned to Bring Back to the Data

The proportion of the housing stock that is residential may not be any type of reflection of how residential a neighborhood is. In these tracts, this was brought to the forefront by the comparison of residential, singular condo parcels to much larger commercial and medical parcels; however, it is important to consider when thinking about other neighborhoods that have a mixture of multi-family homes, apartment buildings and single-family homes/condominiums. The relative size of these dwellings are not captured merely in their count and should further thought should be put into analysis of residential parcels.