Raleigh's Missing Middle & Homelessness

Intro

Our case study focuses on Raleigh's recent Missing Middle policy reform (enacted in 2021) – an initiative that relaxed zoning restrictions to permit duplexes, townhomes, and small-scale apartment developments – in an effort to boost affordable housing. We use this policy change as a lens to address the broader question of whether relaxing housing restrictions can improve housing affordability. Our underlying hypothesis is that easing these restrictions will enhance affordability by increasing the housing supply and, consequently, reducing homelessness and other negative shelter system outcomes.

The dataset leveraged in this analysis originates from a mandate established by the 2009 McKinney-Vento Homeless Assistance Act, which requires local jurisdictions to report detailed information on their shelter systems to the U.S. Department of Housing and Urban Development (HUD). Our study utilizes this dataset spanning 2015–2023, which includes key performance indicators such as median shelter stay, return rates, and the number of first-time homeless individuals.

To rigorously evaluate our hypothesis, we employ two complementary methods. First, we created a series of visualizations comparing key response variables across five outcomes – Median Stay (Days), Percent Returns in 6 months, Percent Returns in 12 months, Number of 1st Time Homeless, and Percent with Successful Exit – between Raleigh and Durham. Second, we conducted a difference-in-differences analysis using 2021 as the cutoff year, comparing not only Raleigh and Durham but also contrasting Raleigh with an aggregate measure derived from averaging each response variable across all North Carolina municipalities. Despite these methodological approaches, our empirical evidence did not support the hypothesis that the relaxation of zoning restrictions improved affordability. In fact, the DiD estimates indicated no significant improvements in homelessness-related outcomes for Raleigh relative to Durham or the broader NC benchmark, suggesting that Raleigh's Missing Middle policy reform did not yield benefits in reducing homelessness.

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Warning: package 'dplyr' was built under R version 4.3.3
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Attaching package: 'dplyr'

The following objects are masked from 'package:stats':

    filter, lag

The following objects are masked from 'package:base':

    intersect, setdiff, setequal, union

Warning: package 'ggplot2' was built under R version 4.3.3
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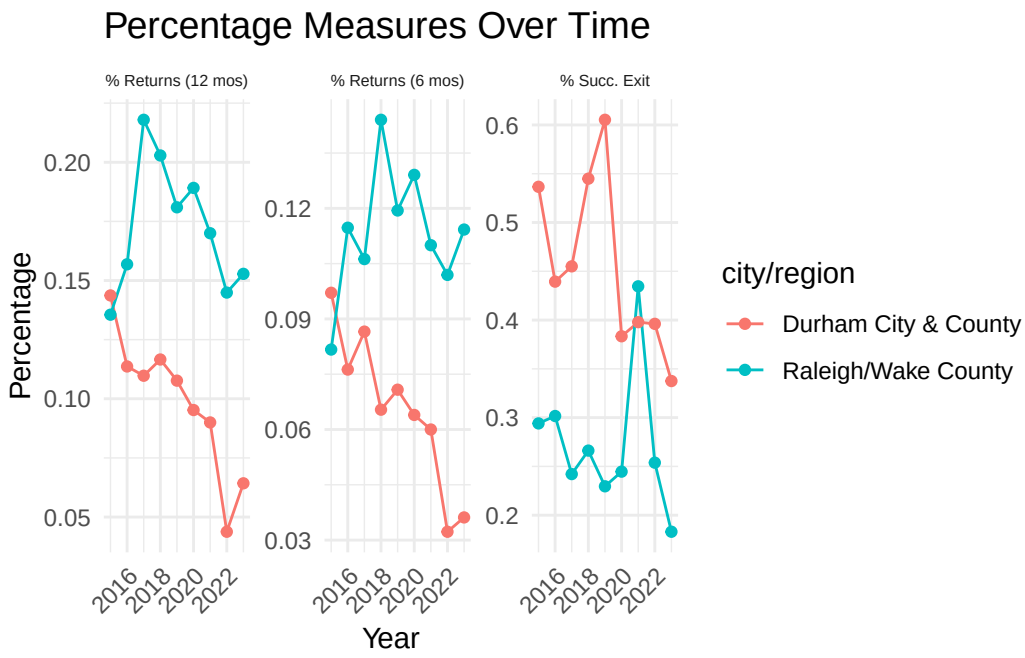
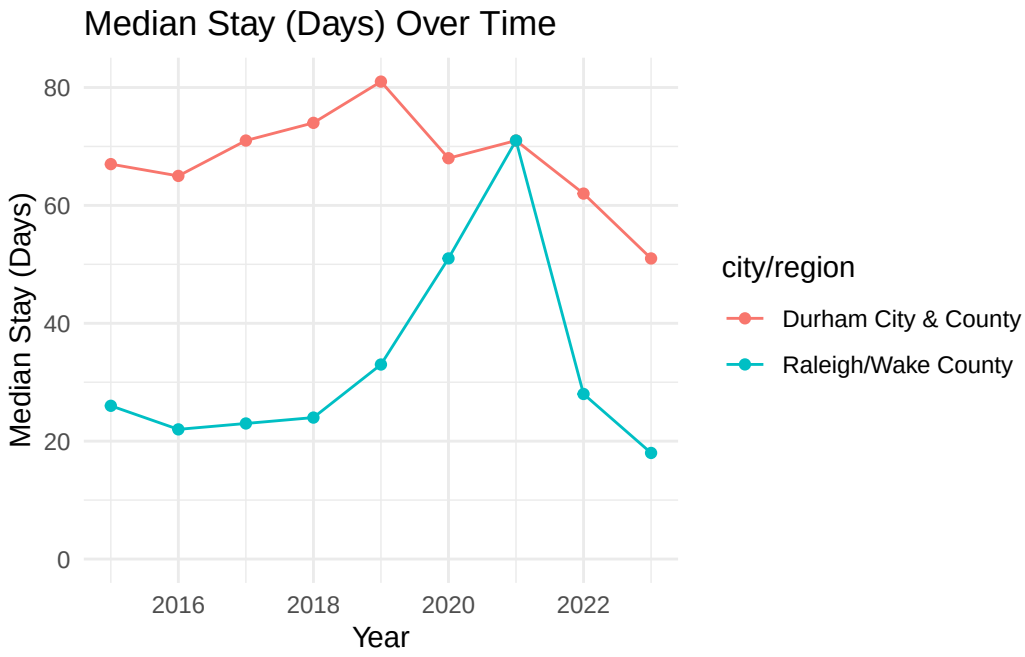
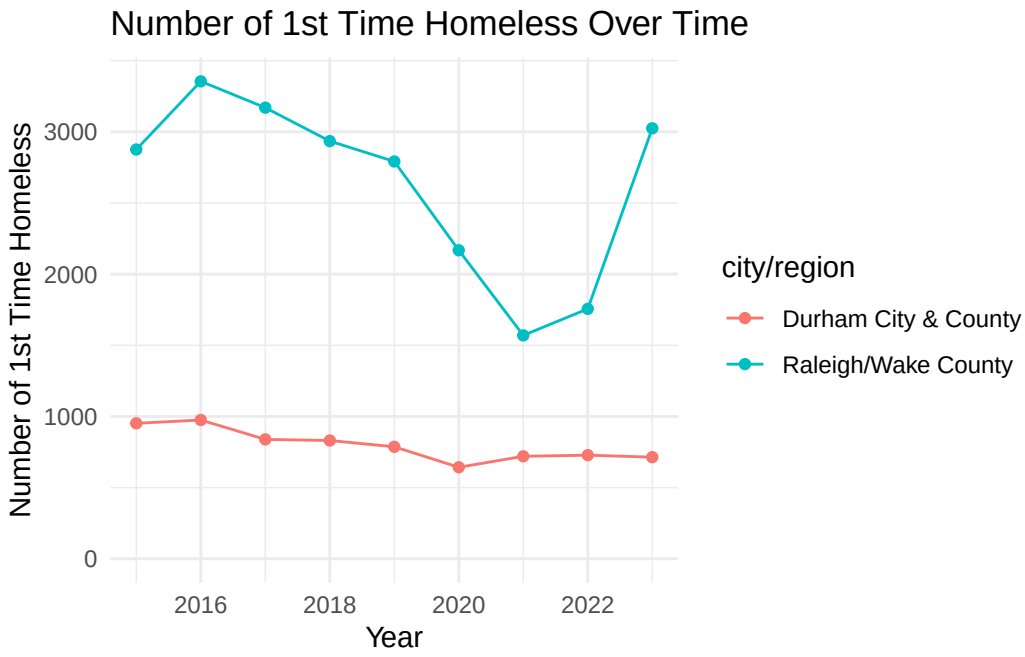
Durham vs Raleigh







Diff-in-Diff for Raleigh vs Average of other NC municipalities

```
# A tibble: 20 x 6
   term            estimate  std.error statistic  p.value outcome
```

```
   <chr>              <dbl>      <dbl>     <dbl>    <dbl> <chr>
 1 (Intercept)      62.3       5.59      11.2    1.76e-19 Median Stay (Days)
 2 treatment       -32.5      19.4       -1.68   9.60e- 2 Median Stay (Days)
 3 post              6.20      9.68       0.640  5.23e- 1 Median Stay (Days)
 4 treatment:post    2.97     33.5        0.0886 9.30e- 1 Median Stay (Days)
 5 (Intercept)       0.0903    0.00445   20.3    6.45e-38 Percent Returns in 6 ~
 6 treatment         0.0255    0.0154     1.66   1.01e- 1 Percent Returns in 6 ~
 7 post             -0.0241    0.00772   -3.13   2.29e- 3 Percent Returns in 6 ~
 8 treatment:post    0.0170    0.0267     0.636  5.26e- 1 Percent Returns in 6 ~
 9 (Intercept)       0.135     0.00607   22.3    2.24e-41 Percent Returns in 12~
10 treatment         0.0453    0.0210     2.15   3.35e- 2 Percent Returns in 12~
11 post             -0.0401    0.0105    -3.81   2.32e- 4 Percent Returns in 12~
12 treatment:post    0.0155    0.0364     0.424  6.72e- 1 Percent Returns in 12~
13 (Intercept)    1398.       188.        7.44   3.04e-11 Number of 1st Time Ho~
14 treatment      1485.       651.        2.28   2.46e- 2 Number of 1st Time Ho~
15 post            -95.6      326.       -0.294  7.70e- 1 Number of 1st Time Ho~
16 treatment:post -670.      1128.       -0.594  5.54e- 1 Number of 1st Time Ho~
17 (Intercept)      0.465     0.0142    32.7    1.39e-56 Percent with Successf~
18 treatment       -0.202     0.0492    -4.10   8.11e- 5 Percent with Successf~
19 post            -0.0815    0.0246    -3.31   1.27e- 3 Percent with Successf~
20 treatment:post   0.109     0.0852     1.28   2.04e- 1 Percent with Successf~
```

Diff-in-Diff for Durham vs Raleigh

```
# A tibble: 20 x 6
   term            estimate std.error statistic  p.value outcome
   <chr>              <dbl>     <dbl>     <dbl>    <dbl> <chr>
 1 (Intercept)      71        5.53       12.8   3.94e- 9 Median Stay (Days)
 2 treatment       -41.2      7.82       -5.26  1.20e- 4 Median Stay (Days)
 3 post             -9.67     9.58       -1.01  3.30e- 1 Median Stay (Days)
 4 treatment:post   18.8     13.6         1.39  1.86e- 1 Median Stay (Days)
 5 (Intercept)       0.0767   0.00656    11.7   1.30e- 8 Percent Returns in 6 m~
 6 treatment         0.0392   0.00927     4.23  8.44e- 4 Percent Returns in 6 m~
 7 post             -0.0339   0.0114     -2.98  9.89e- 3 Percent Returns in 6 m~
 8 treatment:post    0.0267   0.0161      1.66  1.18e- 1 Percent Returns in 6 m~
 9 (Intercept)       0.114    0.00930    12.3   6.73e- 9 Percent Returns in 12 ~
10 treatment         0.0661   0.0131      5.03  1.84e- 4 Percent Returns in 12 ~
11 post             -0.0484   0.0161     -3.01  9.41e- 3 Percent Returns in 12 ~
12 treatment:post    0.0238   0.0228      1.04  3.14e- 1 Percent Returns in 12 ~
13 (Intercept)     838.      160.         5.23  1.27e- 4 Number of 1st Time Hom~
14 treatment      2045.      226.         9.03  3.26e- 7 Number of 1st Time Hom~
15 post           -117.      277.        -0.422 6.79e- 1 Number of 1st Time Hom~
```

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16 treatment:post -648.     392.         -1.65  1.21e- 1 Number of 1st Time Hom~
17 (Intercept)       0.494    0.0297     16.7   1.26e-10 Percent with Successfu~
18 treatment        -0.231    0.0419     -5.51  7.71e- 5 Percent with Successfu~
19 post             -0.117    0.0514     -2.28  3.91e- 2 Percent with Successfu~
20 treatment:post    0.144    0.0727      1.99  6.68e- 2 Percent with Successfu~
```