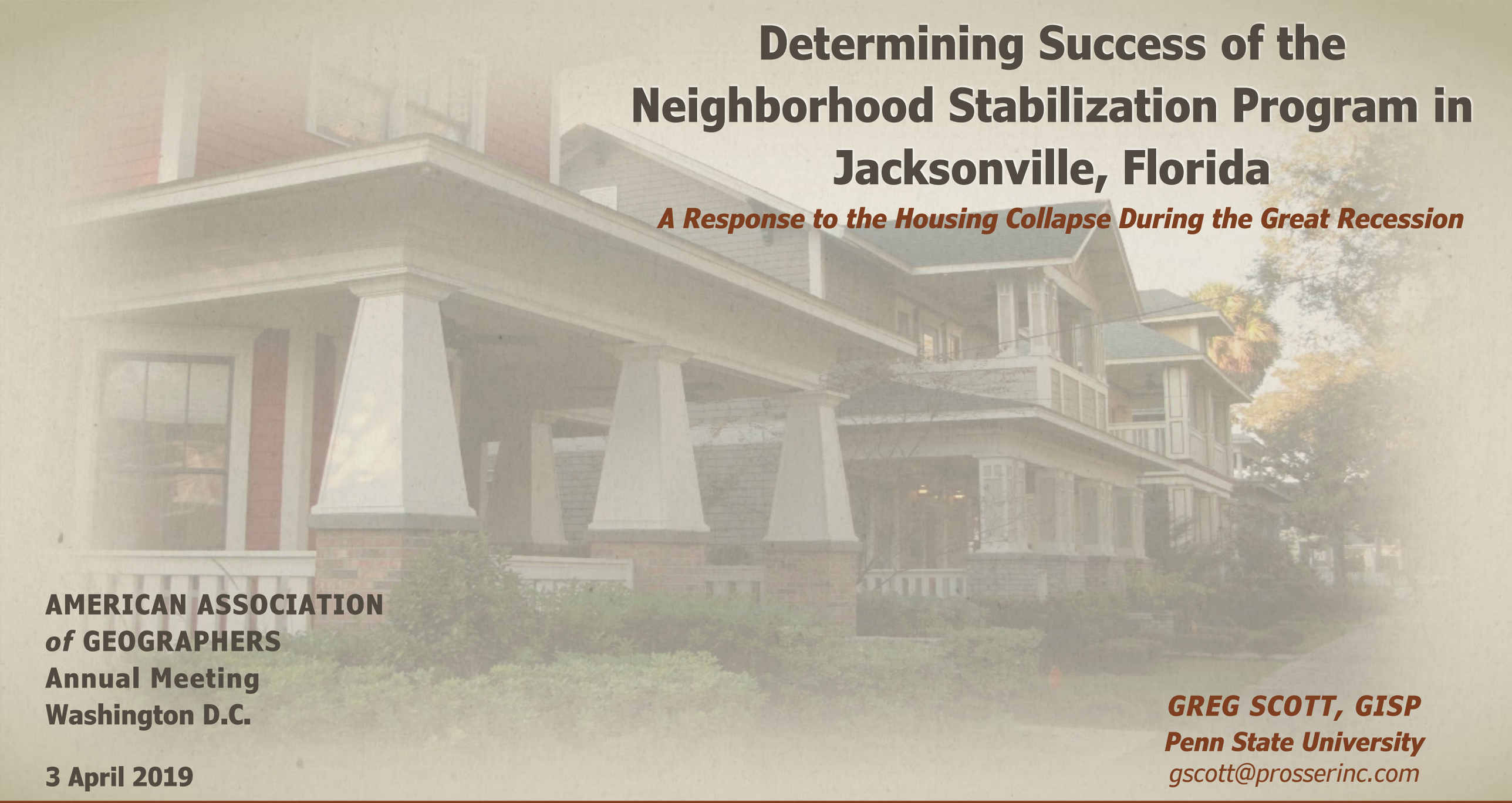
# Determining Success of the Neighborhood Stabilization Program in Jacksonville, Florida

***A Response to the Housing Collapse During the Great Recession***



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# Determining Success of the Neighborhood Stabilization Program in Jacksonville, FL

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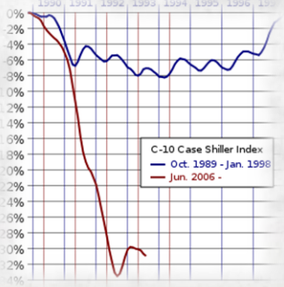
# Background to NSP

- Home values went down nationally by 31% from early 2006 to early 2009
- Part of the Housing and Economic Recovery Act (HERA) in 2008
- Goal - bring qualified buyers back to neighborhoods suffering from heavy foreclosure and associated blight, thus stopping the trend of decline
- U.S. Department of Housing and Urban Development (HUD) funded local governments nearly $7 billion to stabilize neighborhoods hit hardest by housing crisis.
- This funding occurred in three phases, referred to as NSP1, NSP2 & NSP3






# Jacksonville's Foreclosure Crisis and NSP Response

Jacksonville, Florida

- Received $22.4 million from HUD during NSP1
- Selected 5 target zip codes during NSP1

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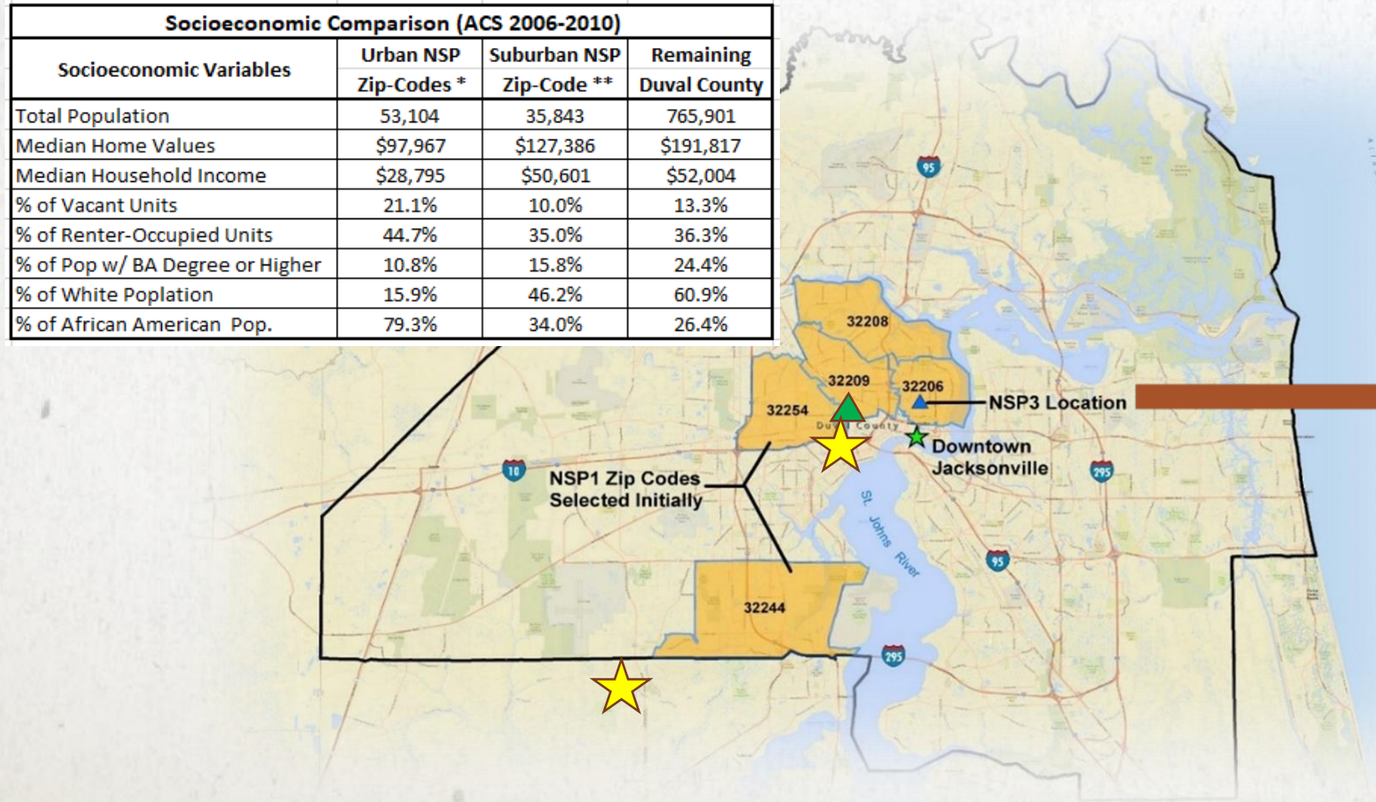
- City jumped to #17 in nation in foreclosures by 2010
- Received $4.75 million from HUD during NSP3
- Selected the East-Springfield neighborhood for NSP3

| Socioeconomic Comparison (ACS 2006-2010) | | | |
|---|---|---|---|
| Socioeconomic Variables | Urban NSP Zip-Codes * | Suburban NSP Zip-Code ** | Remaining Duval County |
| Total Population | 53,104 | 35,843 | 765,901 |
| Median Home Values | $97,967 | $127,386 | $191,817 |
| Median Household Income | $28,795 | $50,601 | $52,004 |
| % of Vacant Units | 21.1% | 10.0% | 13.3% |
| % of Renter-Occupied Units | 44.7% | 35.0% | 36.3% |
| % of Pop w/ BA Degree or Higher | 10.8% | 15.8% | 24.4% |
| % of White Poplation | 15.9% | 46.2% | 60.9% |
| % of African American Pop. | 79.3% | 34.0% | 26.4% |

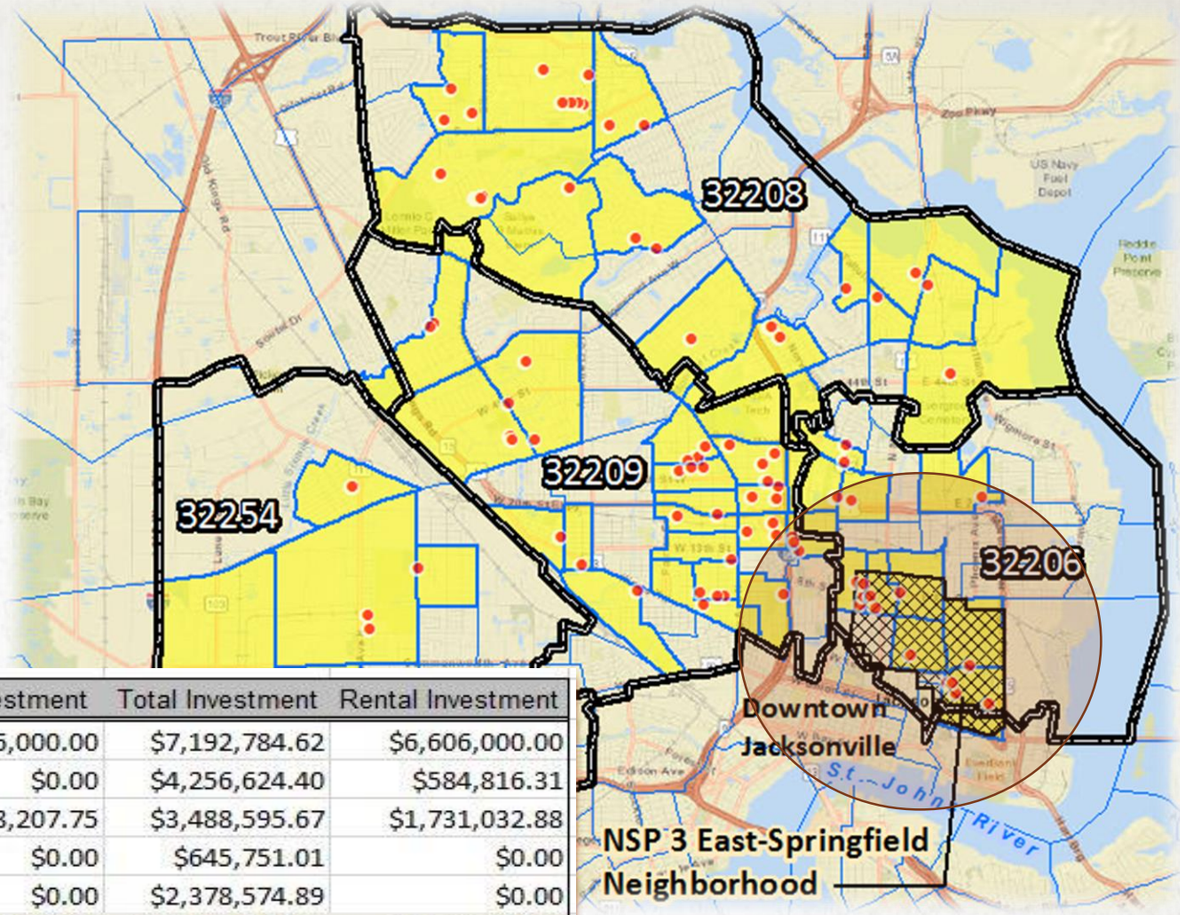



NSP1 zip-codes (orange) Downtown Jacksonville ▲ NSP3 location

- NSP3 within 32206 zip-code
- East-Springfield neighborhood

# Jacksonville's NSP Investments

- NSP1 funding more spread out based on reaction to foreclosures; HUD guidelines more loosely defined
- NSP3 funding more concentrated; goals more structured




| NSP1 | SF units | MF units | Total units | Rental units | SF Investment | MF Investment | Total Investment | Rental Investment |
|---|---|---|---|---|---|---|---|---|
| 32206 | 6 | 52 | 58 | 52 | $586,784.62 | $6,606,000.00 | $7,192,784.62 | $6,606,000.00 |
| 32208 | 30 | 0 | 33 | 3 | $3,671,808.09 | $0.00 | $4,256,624.40 | $584,816.31 |
| 32209 | 25 | 110 | 137 | 112 | $1,757,562.79 | $1,358,207.75 | $3,488,595.67 | $1,731,032.88 |
| 32254 | 7 | 0 | 7 | 0 | $645,751.01 | $0.00 | $645,751.01 | $0.00 |
| 32244 | 30 | 0 | 30 | 0 | $2,378,574.89 | $0.00 | $2,378,574.89 | $0.00 |
| Subtotal | 98 | 162 | 265 | 167 | $9,040,481.40 | $7,964,207.75 | $17,962,330.59 | $8,921,849.19 |
| | 37% | 61% | | 63% | 50% | 44% | | 50% |
| NSP3 | SF units | MF units | Total units | Rental units | SF Investment | MF Investment | Total Investment | Rental Investment |
| 32206 | 17 | 38 | 55 | 38 | $4,320,733.36 | $5,300,000.00 | $9,620,733.36 | $5,300,000.00 |
| Subtotal | 17 | 38 | 55 | 38 | $4,320,733.36 | $5,300,000.00 | $9,620,733.36 | $5,300,000.00 |
| | 31% | 69% | | 69% | 45% | 55% | | 55% |
| Total | 115 | 200 | 320 | 205 | $13,361,214.76 | $13,264,207.75 | $27,583,063.95 | $14,221,849.19 |
| | 36% | 63% | | 64% | 48% | 48% | | 52% |

Jacksonville's NSP investments, received from Dayatra Coles, 2018

## City's Goal

- City wanted to provide housing opportunities to a diversity of mixed-income families in the NSP 3 East-Springfield neighborhood without encouraging gentrification (Dayatra Coles, 2018)

## Project's Goals and Objectives

- Determine if target neighborhoods receiving NSP funding changed in comparison to similar neighborhoods not receiving NSP funding
- Look for trends in recovery to suggest change was a result of NSP policy
- Determine if types of investments or certain amounts had measurable or better results in neighborhoods receiving NSP funding
- Look for a correlation between the City's goal of providing housing to mixed-income populations to a recovery from the recession

## Project's Hypothesis

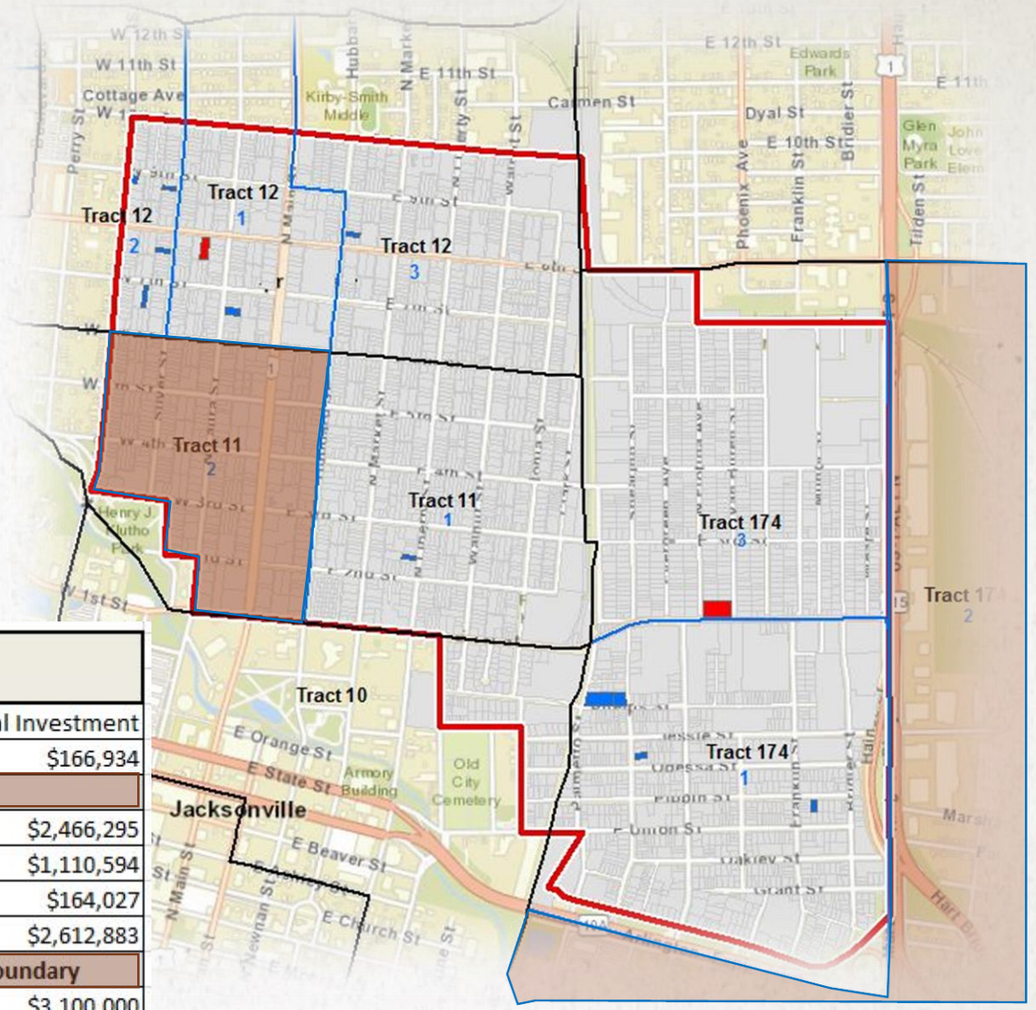
- **NSP neighborhoods with more diversified median incomes would have greater measurable success in recession recovery than other NSP neighborhoods**

# Methodology: Data & Analysis Time Periods

- **Primary spatial and tabular data source: U.S. Census Bureau** (Manson, et al, 2017)
  - Census 1990 & 2000
  - American Community Survey (5-year estimates) 2006-2010 & 2012-2016
- **Three time periods will be compared**
  - 1990 to 2000 (sets neighborhood baseline trends)
  - 2000 to 2010 (compares baseline trends to housing bubble and recession period)
  - 2010 to 2016 (look for change during post-recession recovery)
- **NSP1 & NSP3 property investment spreadsheet received from City of Jacksonville**

# Defining a NSP "Neighborhood"

- A NSP neighborhood = a census block group containing a NSP investment property
- Tract margins of error for American Community Survey data are normally less than block groups
- To find better comparable "neighborhoods", block groups may still be better to use for areas with more racial and economic diversity

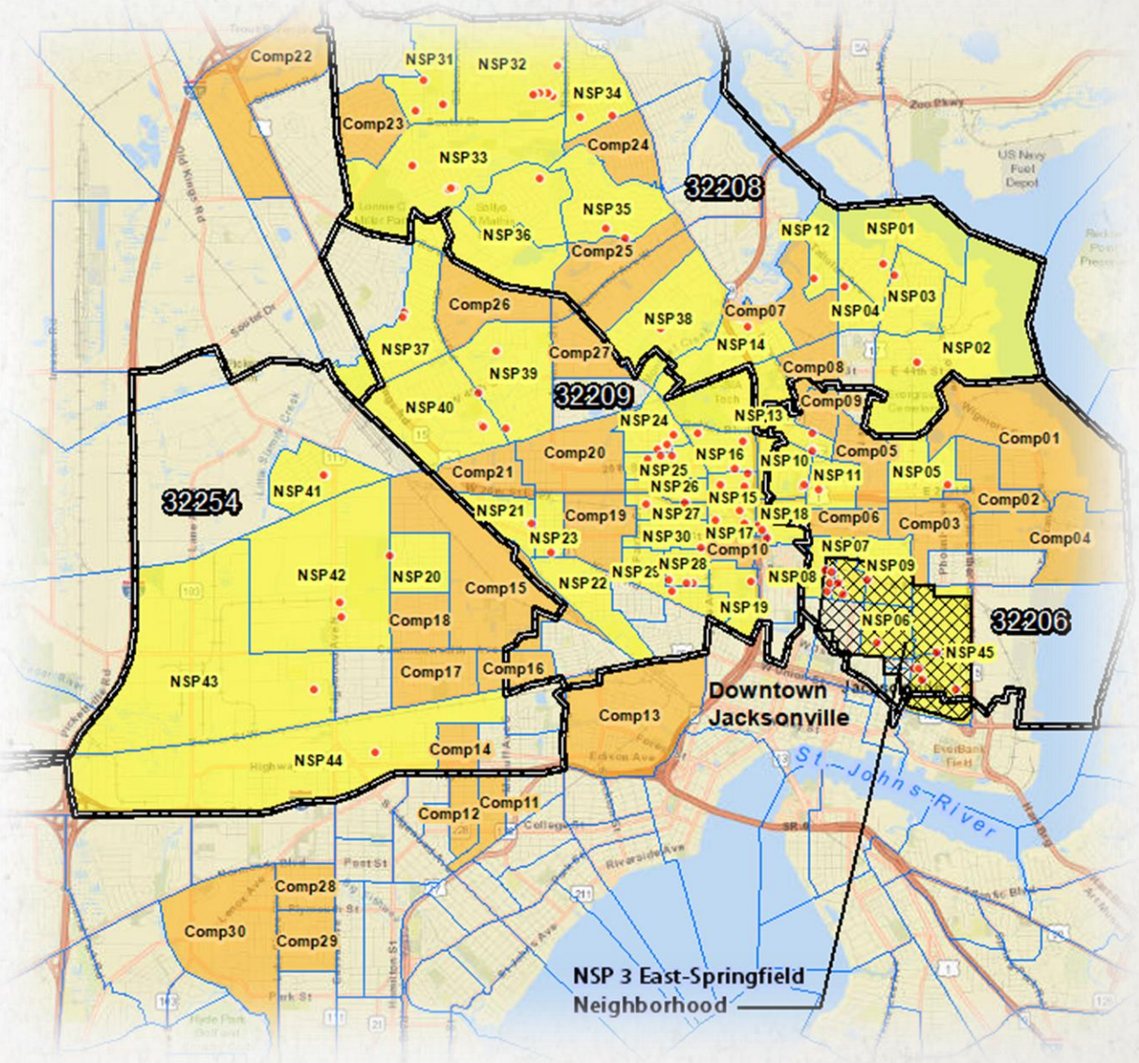



East-Springfield Neighborhood

| | NSP3 Comparison of Investment per Dwelling Unit (DU) type and Black/White Percentages at Block and Tract levels | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | WhitePop% | BlackPop% | SF DU | MF DU | Total DU | SF Investment | MF Investment | Total Investment |
| Census Tract 11, Block 1 | 25.7% | 53.7% | 1 | 0 | 1 | $166,934 | $0 | $166,934 |
| Census Tract 11, Block 2 | 70.6% | 29.4% | 0 | 0 | 0 | No Investment | | |
| Census Tract 12, Block 1 | 29.4% | 64.0% | 1 | 14 | 15 | 266,295 | 2,200,000 | $2,466,295 |
| Census Tract 12, Block 2 | 42.2% | 45.9% | 4 | 0 | 4 | 1,110,594 | 0 | $1,110,594 |
| Census Tract 12, Block 1 | 20.5% | 71.3% | 1 | 0 | 1 | 164,027 | 0 | $164,027 |
| Census Tract 174, Block 1 | 17.9% | 80.5% | 10 | 0 | 10 | $2,612,883 | $0 | $2,612,883 |
| Census Tract 174, Block 2 | 38.2% | 61.8% | 0 | 0 | 0 | No Investment - out of NSP3 boundary | | |
| Census Tract 174, Block 3 | 6.9% | 91.7% | 0 | 24 | 24 | $0 | $3,100,000 | $3,100,000 |
| | | | | | | | | |
| Census Tract 11 | 34.0% | 42.9% | 1 | 0 | 1 | $166,934 | $0 | $166,934 |
| Census Tract 12 | 29.5% | 61.1% | 6 | 14 | 20 | $1,540,916 | $2,200,000 | $3,740,916 |
| Census Tract 174 | 15.4% | 81.9% | 10 | 24 | 34 | $2,612,883 | $3,100,000 | $5,712,883 |

# Finding Comparable (Non-NSP) Neighborhoods

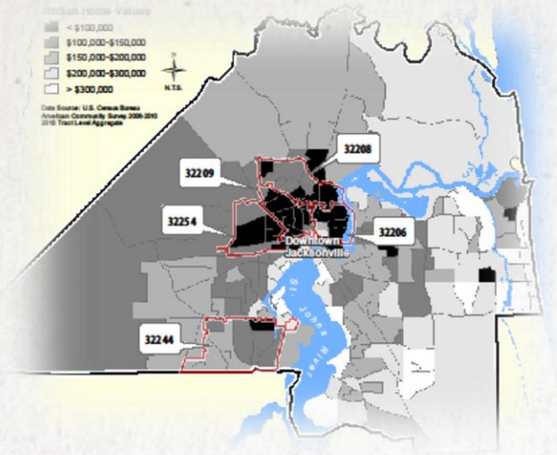
- Used a **Socioeconomic Index** formula that produced similar standardized values for all NSP block group neighborhoods; created a composite index value
- **Neighborhood index components**: Median housing value, Median Income, Race/Ethnicity, Tenure (renter-occupied), Education Attainment & Vacant Housing
- Located census block groups with comparable index values to NSP composite index value
- Used ACS 2006-2010 estimated data for finding comparable block groups



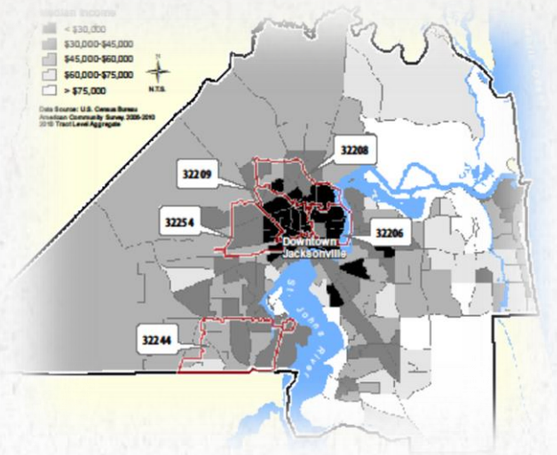

**NSP Composite Socioeconomic Index** =

Median Housing Value + Median Income + Vacant Housing % + African American Population % + Renter-Occupied Housing % + Population with College Degree % / 6

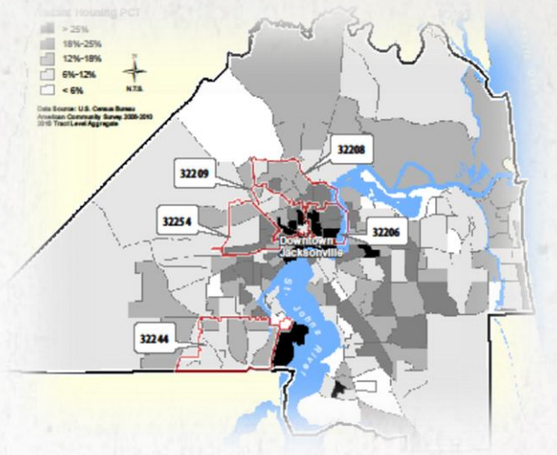
# A Socioeconomic Thumbnail-View of Jacksonville



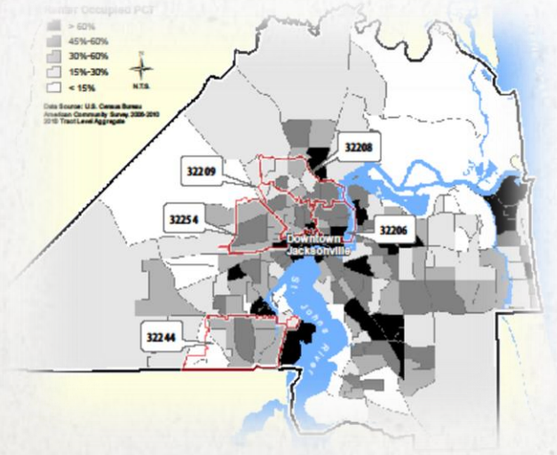

Median Home Values %



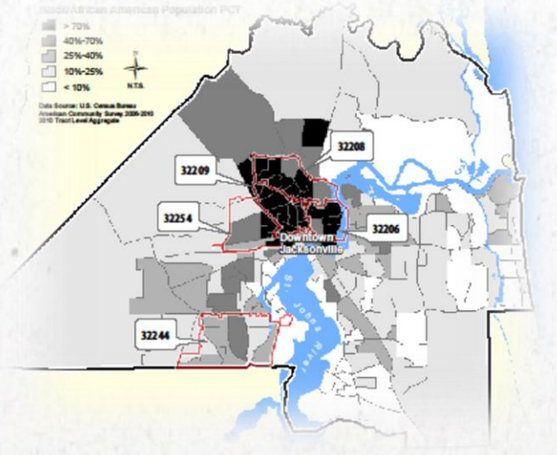

Median Income %



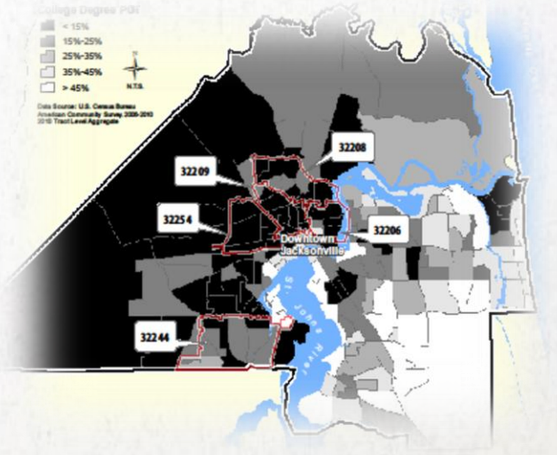

Vacant Housing %




Renter Occupied Housing %




African American Pop %




College Degree Attainment %

Source Data: American Community Survey 2006-2010, (Manson, et al, 2017)

# Methodology for Detecting Neighborhood Change

**% Vacant Housing Units change**

Anova: Single Factor

SUMMARY

| *Groups* | *Count* | *Sum* | *Average* | *Variance* |
|---|---|---|---|---|
| Non-NSP | 30 | 0.073787249 | 0.00246 | 0.02398 |
| NSP | 47 | 2.114910369 | 0.045 | 0.01125 |

ANOVA

| *Source of Variation* | *SS* | *df* | *MS* | *F* | *P-value* | *F crit* |
|---|---|---|---|---|---|---|
| Between Groups | 0.03314 | 1 | 0.03314 | 2.04871 | 0.15649 | 3.96847 |
| Within Groups | 1.21304 | 75 | 0.01617 | | | |
| Total | 1.24617 | 76 | | | | |

2010-2016 Pct vacant housing units: no statistically significant difference between the means of NSP vs non-NSP change

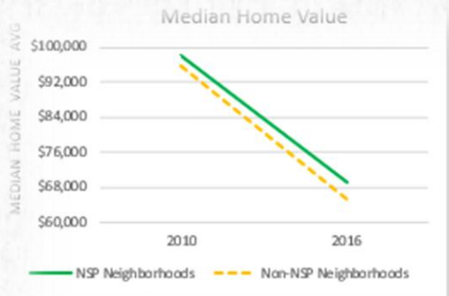
- Created **trend line graphs** and used **analysis of variance** (ANOVAR) on each socioeconomic index variable to determine statistically significant change between NSP & non-NSP areas
- Utilized **descriptive mean statistics** for visual and comparative analysis of change
- Analyzed neighborhood distributions using **box and whisker plots**

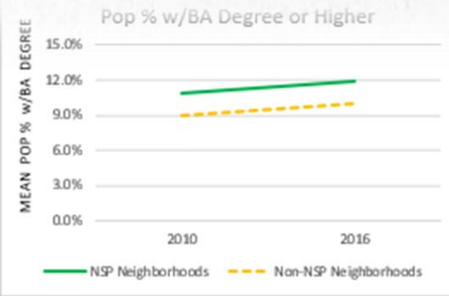
| | City-Selected NSP Neighborhoods | | | Comparative Study-Selected Non-NSP Neighborhoods | | | No NSP or Comparative BG's The rest of Duval County | | |
|---|---|---|---|---|---|---|---|---|---|
| Indicators | 2010* | 2016** | % Change | 2010* | 2016** | % Change | 2010* | 2016** | % Change |
| Total Population | 1165 | 1116 | -4.2% | 1163 | 1105 | -5.0% | 1866 | 1984 | 6.3% |
| % white | 15.6% | 15.8% | 1.6% | 18.4% | 19.3% | 4.8% | 63.7% | 61.2% | -4.0% |
| % African American | 79.6% | 79.2% | -0.5% | 76.3% | 75.1% | -1.5% | 23.0% | 23.4% | 2.0% |
| % Hispanic | 2.8% | 2.3% | -19.4% | 3.1% | 3.1% | -0.5% | 7.1% | 8.5% | 20.0% |
| Educational attainment: | | | | | | | | | |
| % with BA degree or higher | 10.8% | 11.9% | 9.5% | 9.0% | 10.0% | 10.3% | 25.3% | 27.7% | 9.3% |
| Median household income | $28,454 | $28,717 | 0.9% | $28,110 | $26,722 | -4.9% | $53,800 | $54,391 | 1.1% |
| % Vacant housing units | 21.2% | 25.7% | 21.3% | 20.1% | 20.4% | 1.2% | 12.7% | 13.0% | 2.1% |
| Median home value | $97,966 | $69,220 | -29.3% | $95,733 | $65,173 | -31.9% | $197,029 | $164,957 | -16.3% |
| Tenure occupancy: | | | | | | | | | |
| % renter-occupied | 45.4% | 49.5% | 9.1% | 43.7% | 51.4% | 17.6% | 35.8% | 40.4% | 12.8% |
| % owner-occupied | 54.6% | 50.5% | -7.5% | 56.3% | 48.6% | -13.7% | 64.2% | 59.6% | -7.1% |

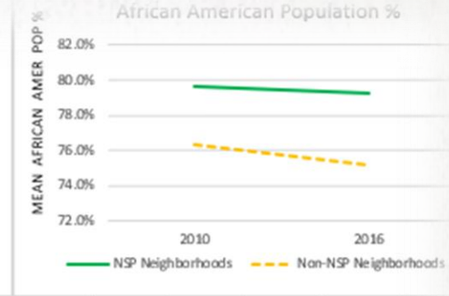
Socio-economic variables used in index to select comparable (non-NSP) neighborhoods to NSP neighborhoods using 2010 Census Bureau block group data

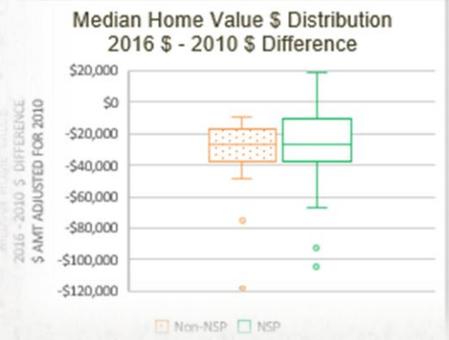
* 2010 data derived from ACS 5-year range 2006-2010 estimated block group Census Bureau data

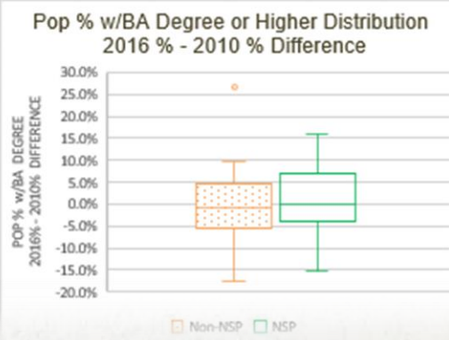
** 2016 data derived from ACS 5-year range 2012-2016 estimated block group Census Bureau data

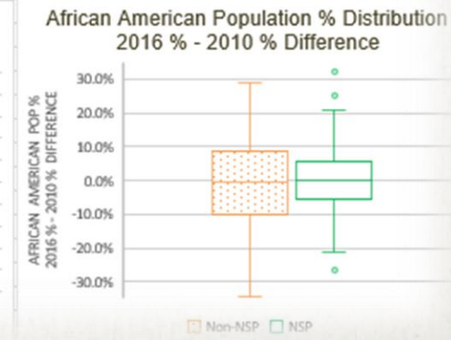


# Methodology for Detecting NSP Change as a Function of Investment

- No literature found analyzing effect caused by NSP investment size or type
- Classified all NSP block group neighborhoods into **six investment groups** based on amounts or types of investment
- Utilized analysis of various (ANOVAR) on each socioeconomic component to determine for statistical significance within each investment group
- Utilized descriptive mean statistics, trend line graphs & box and whisker plots for further visual analysis

| 1a. Total Investment Size Groups | |
|---|---|
| <= $75k | Very Low (VLI) |
| >$75k - $150k | Low (LI) |
| >$150k - $200k | Moderately Low (MLI) |
| >$200k - $400k | Moderately High (MHI) |
| >$400k - $800k | High (HI) |
| >$800k | Very High (VHI) |

| 1b. Minimum Investment Size Groups | |
|---|---|
| <= $30k | Very Low (VLI) |
| >$30k - $60k | Low (LI) |
| >$60k - $90k | Moderately Low (MLI) |
| >$90k - $120k | Moderately High (MHI) |
| >$120k - $180k | High (HI) |
| >$180k | Very High (VHI) |

| 1c. Maximum Investment Size Groups | |
|---|---|
| <= $100k | Very Low (VLI) |
| >$100k - $200k | Low (LI) |
| >$200k - $500k | Moderately Low (MLI) |
| >$500k - $1m | Moderately High (MHI) |
| >$1m - $3m | High (HI) |
| >$3m | Very High (VHI) |

| 2. Land Use Type Investment % Groups | |
|---|---|
| 100% SF | All Single Family (SF) Units |
| Mix of SF and MF | Mix of SF and MF Units |
| 100% MF | All Multi-Family (MF) Units |

| 3. Dwelling Units (du) # Investment Groups | |
|---|---|
| 1 du | Very Low (VLdu) |
| 2 du | Low (Ldu) |
| 3 du - 4 du | Moderately Low (MLdu) |
| 5 du - 7 du | Moderately High (MHdu) |
| 8 du-15 du | High (Hdu) |
| > 15 du | Very High (VHdu) |

| 4. Tenure Type Investment % Groups | |
|---|---|
| 100% owner | All Owner-Occupied Units |
| Mix of owner/renter | Mix of Owner and Renter-Occupied |
| 100% renter | All Renter-Occupied Units |

# Methodology for Testing Neighborhood Income Diversity

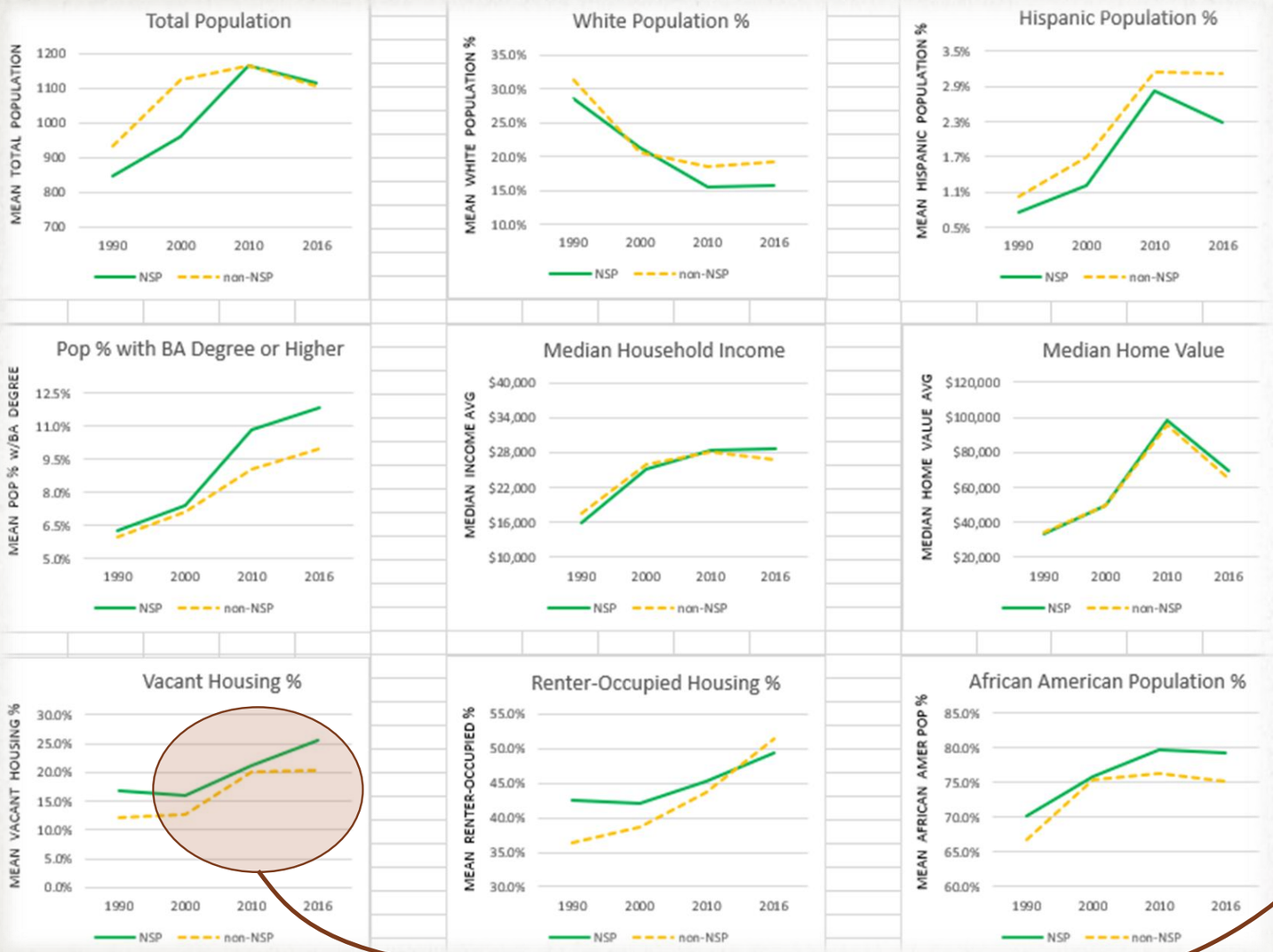
- Socioeconomic change in a neighborhood may facilitate recovery from recession (Hyra & Rugh, 2016)
- **Assign each tract a household income group** (based on HUD's income groupings)
  - **Extremely Low-Income:** households earning income not more than 30% of AMI (≤30%)
  - **Very Low-Income:** households earning income not more than 50 percent of AMI (31%-50%)
  - **Low-Income:** Households earning income not more than 80 percent of AMI (51%-80%)
  - **Moderate Income:** Households earning income now more than 120 percent of AMI (81%-120%)
  - **Middle Income:** Households earning income not more than 165 percent of AMI (121%-165%)
  - **High Income:** Households earning income above 165 percent of AMI (>165%)
- **Create income diversity groups from household income groups**

| Diversity Group | If maximum group percentage of a household income group in zip-code was |
|---|---|
| - High Diversity | < 40% |
| - Moderate Diversity | < 55% |
| - Low Diversity | < 70% |
| - Very Low Diversity | > 70% |

| | | | # of Neighborhoods within ACS 2006-2010 Household Income Groups | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Zipcode | Income Diversity Group | Max Group % | ELow-I | VLow-I | Low-I | Mod-I | Mid-I | High-I | Total |
| 32206 | Low Income Diversity | 60% | 0 | 3 | 6 | 1 | 0 | 0 | 10 |
| 32208 | High Income Diversity | 38% | 0 | 3 | 5 | 5 | 0 | 0 | 13 |
| 32209 | Moderate Income Diversity | 50% | 3 | 9 | 6 | 0 | 0 | 0 | 18 |
| 32254 | Very Low Income Diversity | 80% | 0 | 0 | 4 | 1 | 0 | 0 | 5 |

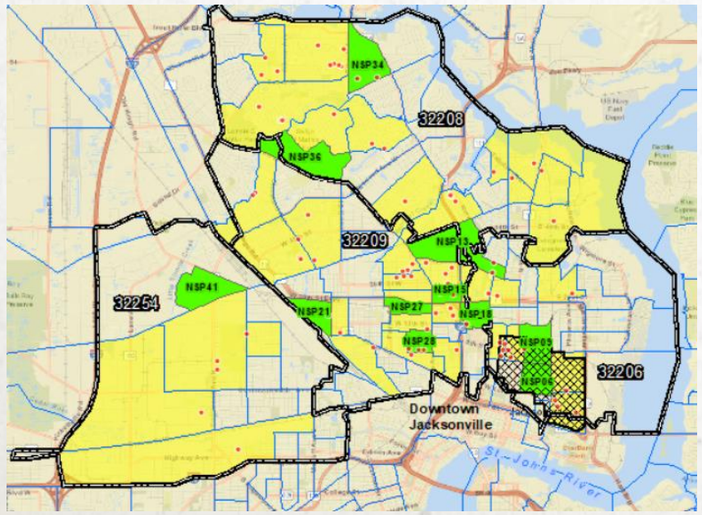
Adapted from methodology in "Income Diversity Within Neighborhoods and Very Low-Income" (Galster, et al., 2008)

# Results for NSP and Comparable Neighborhood Change

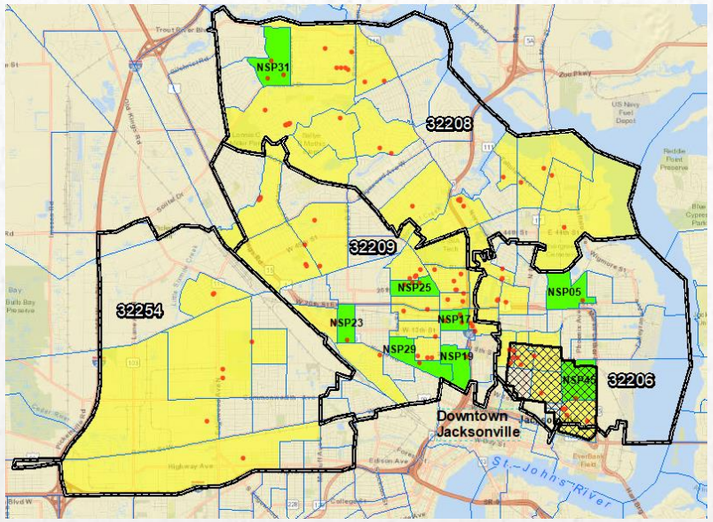



- NSP and non-NSP neighborhood index components only had subtle differences (change) over each period of a 26-year timespan from 1990 to 2016
- There was *no statistically significant change* between NSP & non-NSP neighborhoods for any index component percentage difference during
  -- 1990-2000 (historical to pre-recession)
  -- 2000-2010 (pre-recession/recession)
  -- 2010-2016 (post-recession)
- This suggests NSP had no composite impact on neighborhoods as a whole
- Most surprising post-recession change variable was *vacant housing percentage*

- Analysis of investment size and type allowed comparison of NSP neighborhoods during recession recovery period
- The majority of NSP neighborhoods with highest vacant housing % (34%-54%) had investments in owner-occupied, single-family land use with low (2.6) dwelling unit avg per neighborhood and with a *total investment* under $200k (left map)
- Where City invested 100% in renter-occupied housing with a high (22) dwelling unit avg per neighborhood, vacant housing % was 58% lower (middle map)
- 2010-2016 vacant housing % differences declined when min starting investment was greater than $120k (right map and top right graph)



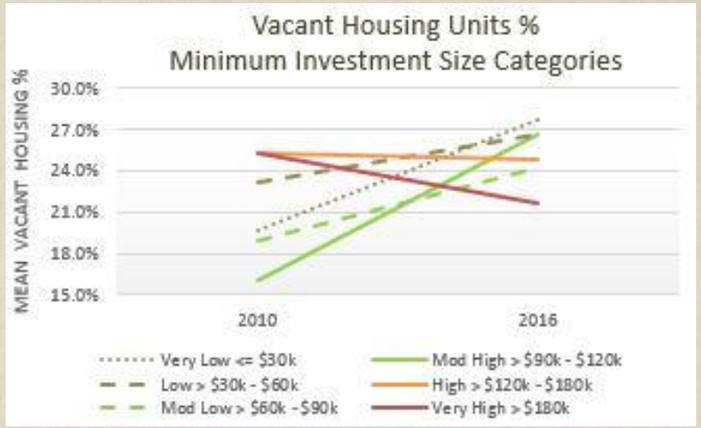

Highest NSP vacant housing percentages

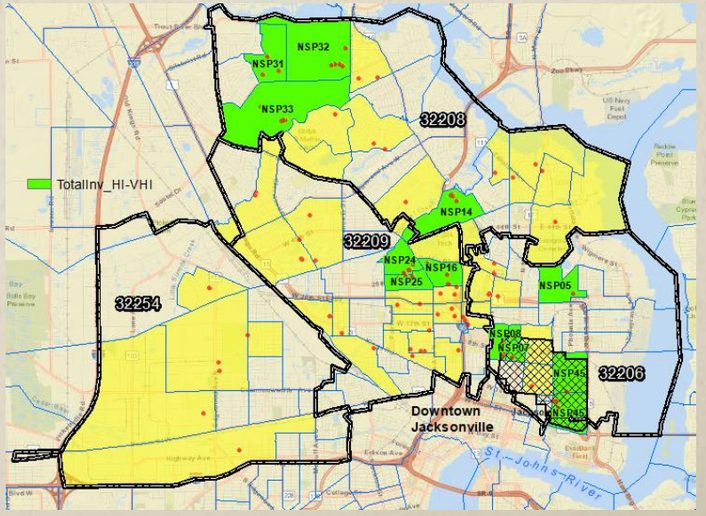



100% renter-occupied NSP investments had much lower vacant housing percentages

# Results for NSP Change as a Function of Investment

## Vacant Housing Percentage Analysis

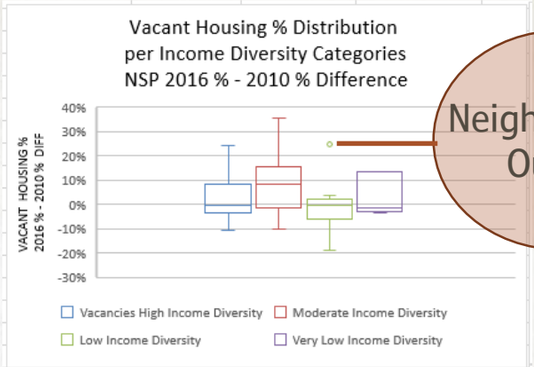


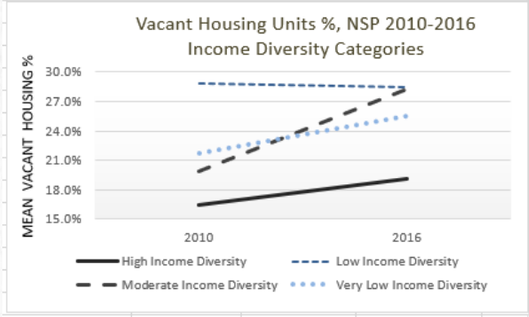




Minimum starting neighborhood investments > $120k had declining vacant housing percentages

# Results for Neighborhood Income Diversity

- Recovery from recession may depend on how a neighborhood's income diversity is trending
- Influencing neighborhood income diversity did not appear to depend on the size of the NSP investment, but how it was allocated
- The City had success where they followed their stated mixed-income investment strategy
- The 32206 zip-code increased from 'Low' to 'Moderate' income diversity and was only zip-code to decline in vacant housing % change, one outlier neighborhood from having statistically significant difference
- The 32208 zip-code fell from 'High' to 'Low' income diversity, which reflected City's lower density, owner-occupied investment strategy
- The 32209 moderate income diversity zip-code had highest vacancy % increases but performed much better where neighborhood household incomes increased, which was primarily where the City invested in rental housing




| | | | # of Neighborhoods within ACS 2006-2010 Household Income Groups | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Zipcode | Income Diversity Group | Max Group % | ELow-I | VLow-I | Low-I | Mod-I | Mid-I | High-I | Total |
| 32206 | Low Income Diversity | 60% | 0 | 3 | 6 | 1 | 0 | 0 | 10 |
| 32208 | High Income Diversity | 38% | 0 | 3 | 5 | 5 | 0 | 0 | 13 |
| 32209 | Moderate Income Diversity | 50% | 3 | 9 | 6 | 0 | 0 | 0 | 18 |
| 32254 | Very Low Income Diversity | 80% | 0 | 0 | 4 | 1 | 0 | 0 | 5 |

| | | | # of Neighborhoods within ACS 2012-2016 Household Income Groups | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Zipcode | Income Diversity Group | Max Group % | ELow-I | VLow-I | Low-I | Mod-I | Mid-I | High-I | Total |
| 32206 | Moderate Income Diversity | 50% | 1 | 3 | 5 | 1 | 0 | 0 | 10 |
| 32208 | Moderate Income Diversity | 46% | 0 | 3 | 6 | 4 | 0 | 0 | 13 |
| 32209 | Moderate Income Diversity | 50% | 1 | 5 | 8 | 2 | 0 | 0 | 16 |
| 32254 | Very Low Income Diversity | 80% | 0 | 0 | 4 | 1 | 0 | 0 | 5 |

32209 zip-code had 2 null block group's for median income value

# Conclusion

- Finding success of the Neighborhood Stabilization Program was not at the composite level, comparing it as a whole to non-NSP neighborhoods, but upon analyzing NSP investments inside of individual investment categories

- Potential successes of the NSP were found by searching for reasons why its vacant housing percentage change was higher than comparable neighborhoods

  - inevitability of the Great Recession after early NSP investments had success
  - best results where City invested in higher density, multi-family land use providing rental-occupied housing
  - best results where City's minimum neighborhood investment > $120k and total investments > $200k
  - neighborhoods with increasing income diversity appeared to be more stable

- **This research deemed the City of Jacksonville most successful in stabilizing neighborhoods where they followed their own renter-occupied housing and mixed-income investment strategy, then *allocated larger investments to affect greater number of units in fewer neighborhoods***

# QUESTIONS?

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# Determining Success of the Neighborhood Stabilization Program in Jacksonville, Florida

***A Response to the Housing Collapse During the Great Recession***

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