Family Financial Stability Index

Summary Report and 2020 Neighborhood-Level Index Results for Orange County, California

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Introduction

The Family Financial Stability Index (FFSI) was developed in response to the needs of Orange County (California) United Way (OCUW) to measure progress on their FACE 2024 goals, which arose out of their strategic planning process and encompass the domains of Education, Income, Housing, and Health. The OCUW sought a tool that would help them track changes and inform policy relevant to the Income goal: "Reduce the percentage of financially unstable families by 25 percent." A composite metric summarizing multiple indicators of family financial stability was desired due to many perceived benefits, including the ability to synthesize many different data points and analyze correlates, the ease of communicating complex concepts to a broad range of stakeholders, and the ability to track progress over time. While there can be drawbacks to such composite indices, including potential oversimplification and the need to establish credibility for the methods employed, indices can be concise and useful tools for policymakers and practitioners.[1] Mindful of these positive and negative attributes, as well as the goal of measuring family financial stability, the authors sought a tool that would address several needs.

First, since the concept of "financial stability" is broader than a single variable, such as poverty status or income, the authors sought a multivariate metric that would reflect several influences on a family's financial stability. In the literature, there is a lack of consensus on what constitutes personal or family financial stability, or conversely, financial strain. Broadly speaking, families would be considered financially stable if their financial situation is stable, sustainable, and resilient to temporary shocks and setbacks.[2] But specific methods used to measure these characteristics vary. Measurement may include objective, quantifiable measures (such as income relative to the poverty line); incidence of protective characteristics (such as homeownership, health insurance, or dual-parent family); or psychosocial measures (such as level of stress or confidence in financial situation).

In part due to the research-supported link between increased earned wages and increases in reported financial stability, at a minimum, financial stability metrics tend to be measures of:

- income (such as income above 200% of the federal poverty line or per capita income), and/or
- employment status (such as being employed or employed at a defined living wage).[3]

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[1] Lorenz, J., Brauer, C., & Lorenz, D. (2016) Rank-Optimal Weighting or "How to be Best in the OECD Better Life Index?", *Social Indicators Research*, 134: 75

Booysen, F. (2002). An Overview and Evaluation of Composite Indices of Development, *Social Indicators Research*, *59(2), 115-151*

[2] Federal Reserve Bank of St. Louis, Annual Report 2012, After the Fall: Rebuilding Family Balance Sheets, Rebuilding the Economy. Retrieved April 6, 2018 at: https://fraser.stlouisfed.org/

[3] Coley, RL & Lombardi, CM. (2014). Low-Income Women's Employment Experiences and Their Financial, Personal, and Family Well-Being. *Journal of Family Psychology*, Vol. 28(1), pp. 88-97

National Child Youth and Wellbeing Index. (2013). Retrieved at https://www.fcd-us.org/assets/2016/04/Child-Well-Being-Index-2013-Final.pdf

Hosseini, M. (2011). A composite measurement of economic well-being in Iran. *Australian Journal of Basic & Applied Sciences*, *5(5), 1346-1355.* Retrieved at http://ajbasweb.com/old/ajbas/2011/1346-1355.pdf

Ray, A.K. (2008). Measurement of Social Development: An International Comparison, *Social Indicators Research*, 86(1), 1-46

In addition to these baseline measures of financial stability, a more detailed definition of economic security may include the following, although the research-supported link to financial stability may not be as strong:

- the ability to afford basic necessities,
- the ability to afford unexpected expenses,
- medical insurance coverage for the entire family,
- the ability to pay bills in the recent past and future,
- at least one month of cash reserve, and
- the ability to access traditional credit products to weather short-term financial setbacks.[4]

Educational attainment, homeownership, and family structures are additional variables that contribute to economic security or have been identified in the literature as risk factors for economic insecurity. Specifically, these include:

- whether the parent or parents have a high school diploma,
- renting a home (as opposed to owning their home),
- whether the family is led by a single parent, and
- whether there are more than three children in the family.[5]

Given the strong link between financial stability and more resilient interpersonal relationships, improved child development, and better mental and physical health, surveys attempting to measure financial strain may include psychosocial measures such as:

- experience of stress or disrupted sleep,
- relationship difficulties, and
- perceived level of confidence in understanding financial matters.[6]

Sánchez-Cantalejo, C., Ocana-Riola, R., and Fernández-Ajuria, A. (2008). Deprivation Index for Small Areas in Spain, *Social Indicators Research*, *89(2), 259-273*

Bobbitt, L., Green, S. , Candura, L. , and Morgan, G. (2005). The development of a county level index of well-being. *Social Indicators Research*, *73(1), 19-42*

Boelhouwer, J., and Stoop, I. (1999). Measuring well-being in the Netherlands: The SCP index from 1974 to 1997. *Social Indicators Research*, *48*(1), 51-75

[4] Coley, RL & Lombardi, CM. (2014). Low-Income Women's Employment Experiences and Their Financial, Personal, and Family Well-Being. *Journal of Family Psychology*, Vol. 28(1), pp. 88-97

Orthner, D.K., Jones-Sanpei, H., and Williamson, S. (2004). The Resilience and Strengths of Low-Income Families. *Family Relations, 53(2), 159-167*

Ratcliffe, C., Middlewood, B., Knoll, M., Davies, M., and Guillory, G. (2022). Emergency Savings and Financial Security: Insights from the Making Ends Meet Survey and Consumer Credit Panel. *Consumer Financial Protection Bureau,* March 2022

[5] Anderson Moore, K., Vandivere, S. and Redd, Z. (2006). A Sociodemographic Risk Index. *Social Indicators Research*, *75(1), 45-81*

[6] Aldana, S. & Liljenquist, W. (1998) Validity and Reliability of a Financial Strain Survey. *Journal of Financial Counseling and Planning*, Vol. 9(2), pp.11-19

Consumer Financial Protection Bureau, Financial Well-Being Scale, retrieved April 6, 2018 at: www.consumerfinance.gov/data-research/research-reports/financial-well-being-scale/

Selected citations demonstrating positive association of financial stability with relationship stability, physical and mental health, and child development: U.S. Dept of HHS, ASPE Issue Brief: Foundations for Strong Families 101: Healthy Relationships and Financial Stability (https://permanent.access.gpo.gov/gpo78276/report.pdf); Steffen, et. al., 2016;

The Living Standards domain of the Canadian Index of Well-being includes many of the metrics cited above plus the macroeconomic measure of income inequality (i.e., the Gini coefficient), citing literature that finds countries with large income inequality are at risk for a host of negative societal outcomes.[7]

Ultimately, researchers' choices of which variables to include in indices reflect the purpose of the index, the research that supports the use of the variable, the ease with which the variables can be understood by users, and data availability and cost. For this project, the authors sought measures that address the core definition of financial stability (by including a measure of income and employment status) and that also include variations in cost of living. While the Federal Poverty Level is uniform across the country, cost of living varies dramatically. Therefore, the authors used rent burden (defined here as the proportion of family income spent on rent) as a proxy for cost of living, since housing prices in many regions in the United States are the primary influences on cost of living. For example, in regions like Orange County, California, where the median housing value is more than three times higher than the national median, income alone is not a sufficient measure of financial stability.[8] Families that spend substantial portions of family income on rent, whether they are above or below the poverty line, may not be well insulated from crises that would jeopardize their stability.

Second, given the vulnerability of children and young families and the importance of financial stability to child development, the authors sought a measure of financial stability focused on families with children.[9] Research finds that low family income negatively affects children's social-emotional, cognitive, and academic outcomes, even after controlling for parental characteristics.[10] A growing body of research shows how wages are correlated with health and development outcomes in children. For instance, an annual $1 increase in the minimum wage over a child's life is associated with an approximate 10% increase in the probability that the child is in excellent health and a 25-40% decrease in missed school days due to illness. Notably, many of the benefits of a higher minimum wage are observed during the first five years of life, suggesting that resources during this period are particularly important for children's health and development.[11] Further, parental employment instability is correlated with negative academic and behavioral outcomes for children.[12] Consequently, the focus for the index is families with children under 18 years of age as defined by the U.S. Census Bureau.

Williamson, 2013; Shippee, Wilkinson, et. al., 2012; Selenko & Batinic, 2011; Falconier & Epstein, 2011; Szanton, Thorpe, et. al., 2010; Georgiades, Janszky, et. al., 2009

[7] Michalos, A., Smale, B., Labonté, R., et. al. (2001). Technical Paper: Canadian Index of Wellbeing 1.0. Retrieved from https://uwaterloo.ca/canadian-index-wellbeing/sites/ca.canadian-index-wellbeing/files/uploads/files/Canadian_Index_of_Wellbeing-TechnicalPaper-FINAL_0.pdf

[8] U.S. Census Bureau. American Community Survey, 5-Year Estimates, 2020, Table B25077

[9] See footnote 6

[10] Sandstrom, H. Huerta, S. (2013). The Negative Effects of Instability on Child Development: A Research Synthesis. *The Urban Institute, Low Income Working Families Discussion Paper 3*. Retrieved from www.urban.org/UploadedPDF/412899-The-Negative-Effects-of-Instability-on-Child-Development.pdf

[11] Wehby, G. Kaestner, R. Lyu, W. Dave, D. (2020) *Effects of Minimum Wage on Child Health.* National Bureau of Economic Research. Retrieved from www.nber.org on February 12, 2020.

[12] See footnote 10

Third, and finally, the authors sought the ability to analyze family financial stability at the neighborhood level so that Orange County stakeholders can identify high concentrations of struggling families and focus interventions to improve circumstances for families in those areas. The FFSI seeks to assess the extent of family financial stability in a region, identify which neighborhoods have recent or entrenched high levels of family financial instability, and identify neighborhoods where family financial stability is notably declining or rising. Specifically, the FFSI intends to answer the following questions:

- What proportion of neighborhoods in a region experience concentrated financial instability among families with children under 18 years of age?
- Where is family financial instability concentrated in a region?
- Which neighborhoods have a consistently high concentration of family financial instability (as measured by having a low FFSI score for several consecutive years)?
- Which neighborhoods have had declining levels of family financial stability?
- Which low scoring neighborhoods have shown improving family financial stability?

In the process of developing the FFSI, the researchers were interested in where there were any existing indices that may already answer these questions. The researchers examined several indices in use nationally and internationally for measuring economic security. Salient examples include the economic component of the Human Development Index, the Living Standards domain of the Canadian Index of Well-being, the Family Economic Wellbeing component of the Child Well-being Index, the Human Needs Index, the SocioNeeds Index, and the Child Opportunity Index.[13]

While these indices have utility for measuring economic security for certain purposes—such as tracking international, national or state-level trends; focusing on family income status or social determinants of health; or looking at the economic status of all households, not just families—none had all the analytical features that the authors sought:

- a cost of living variable, such as housing burden, which impacts cost of living differently from region to region and neighborhood to neighborhood,
- a focus on families with children under 18 years of age, and
- data available at the neighborhood level.

Therefore, the FFSI was developed to fill these gaps. The resulting index, which to date has been calculated only for neighborhoods in Orange County, California, provides a powerful tool for policymakers, service providers, foundations, and community advocates to identify areas where many children and families are experiencing financial instability, and importantly, provides a way for these stakeholders to assess geographic inequity in neighborhoods across Orange County. Pairing FFSI findings with local demographic data allows for an additional layer of analysis to assess disproportionate burden on marginalized communities and enhances the ability of stakeholders to target place-based initiatives to advance equity.

[13] Human Development Index (California: https://www.unitedwaysca.org/humandevelopment); SocioNeeds Index (https://healthycities.zendesk.com/hc/en-us/sections/204327068-SocioNeeds-Index); Child Well-being Index (https://www.fcd-us.org/2013-child-well-being-index-cwi/); Human Needs Index (http://humanneedsindex.org/), Child Opportunity Index (http://www.diversitydatakids.org/)

Measuring the effect of a specific initiative on a place requires a formal impact evaluation; in such studies, the FFSI may be used as an indicator of neighborhood financial stability. Used as a monitoring tool, the FFSI may enable researchers to identify potentially helpful factors in neighborhoods that are experiencing improvement, along with risk factors in neighborhoods that are experiencing stagnation or declining stability. For example, researchers in Orange County have explored overlaying data from the FFSI and the Early Development Index (EDI), which measures young children's readiness for school in five developmental domains. This approach highlights neighborhoods that demonstrate protective factors by focusing on areas with low family financial stability but higher than average EDI scores.[14]

The FFSI has been designed to transfer or scale up from the initial pilot region of Orange County, California to other regions, states, or the country as a whole.[15] Doing so will require modified scaling of the components of the FFSI, based on national averages or data from other specified regions (e.g., entire states, metro areas, or counties).

The following discussion reports on: components of the FFSI; the methods used to calculate the FFSI-OC; 2020 neighborhood-level results for the FFSI-OC; and an analysis of neighborhoods experiencing change over time on the FFSI-OC. The appendices provide additional technical details and FFSI-OC findings by component and for larger levels of geography (Orange County cities, the county overall, California and the U.S.). The appendices also include separate data and reference files to facilitate deeper analysis, including a spreadsheet of all FFSI-OC data to date and census tract reference maps to help locate neighborhoods of interest.

Annually, the FFSI-OC is summarized and published in the *Orange County Community Indicators Report*. This two-page synopsis is included as an appendix to this report. Previous versions of the *Indicators Report*, and FFSI-OC summary results, can be found at www.ocbc.org/research/community-indicators-project/.

[14] Zimskind, L. (2017). EDI/FFSI-OC Analysis for Children and Families Commission of Orange County

[15] In this document, the term "FFSI" refers to the composite index components, methodology and formula, which could be applied to any geographic entity. The term "FFSI-OC" refers to the specific application of the FFSI in the Orange County, California context, which includes cut points tailored to Orange County and detailed reporting of Orange County findings over the past four years.

Methods

Data Source

Data used in indices can come from a variety of primary or secondary sources, including surveys developed specifically for the product or publicly available data associated with the focus of the index. For the FFSI (and specifically for the FFSI-OC, the version of the FFSI optimized for Orange County), several key specifications guided the data source selected.[16] Data for the index should:

- ***Be available at the Census Tract level.*** The researchers sought to track family financial security status and changes at the neighborhood level. Assessing changes at this level requires data uniformly available at a more detailed level than the county or city, such as census tract (CT) or block group. As indicated by the U.S. Census Bureau, census tracts are designed to be relatively homogeneous with respect to population characteristics, economic status, and living conditions and generally have a population size between 1,200 and 8,000 people, with an optimum size of 4,000 people. This allows users to align CTs with neighborhoods for a more geographically precise picture of economic stability. Therefore, the researchers use the terms "census tract" (as defined by the U.S. Census Bureau) and "neighborhood" interchangeably.
- ***Be reliable and accessible.*** To replicate the index in future years and allow comparisons of financial stability over time, the data must be easily accessible with an acceptable level of resource burden, and reliable from year to year.
- ***Be appropriate for index focus.*** Proposed data must be appropriate for the focus of the index, in terms of variable content and population.

The American Community Survey (ACS) is an ongoing survey conducted by the U.S. Census Bureau that provides annual data for large geographic areas with a population of 65,000 or more and rolling 5-year estimates for smaller areas such as census tracts and block groups. The frequency and content of ACS data make it ideal to capture and track financial stability over time. Publicly available ACS tables offer relatively strong options for variables that align with the index intent and population of interest. Customized tabulations by the U.S. Census Bureau are also available for an additional fee when ACS ready-made tables need further refinement. For example, starting with the 2013 FFSI-OC and retroactively calculated for the 2012 FFSI-OC, customized tabulations for the housing component were purchased, since standard ACS tables report this variable for all households, not for the target population of families with children under 18.

Since the FFSI was designed to focus on census tracts, it is derived from the ACS five-year rolling estimates, enabling the reader to gauge the relative financial stability of various neighborhoods in the county. The FFSI-OC formula was also applied to Orange County as a whole, as well as California

[16] As noted earlier, the term "FFSI" refers to the composite index components, methodology and formula, which could be applied to any geographic entity. The term "FFSI-OC" refers to the specific application of the FFSI in the Orange County, California context, which includes cut points tailored to Orange County and detailed reporting of Orange County findings over the past four years.

and the U.S., to provide evidence for the validity of the scale and to provide context and comparative benchmarks. However, it is important to note that the FFSI-OC scores for the larger geographies are not averages of FFSI-OC scores from smaller geographic regions, such as census tracts. Census tracts do not necessarily align with city or place boundaries. For geographies larger than census tracts, the FFSI-OC was calculated directly on the ACS 5-year estimates for the geographic place, county, state or nation. Results by place, county, state and nation are provided in Appendices C & D.

Components of the Family Financial Stability Index (FFSI)

The indicators included in the FFSI were informed by academic literature and examples in the field, as well as responsiveness to contextual factors within Orange County, such as Orange County United Way priorities, intended index audience and purpose, and data availability. The indicators focus on families with children under 18, reflecting a cohort that is a policy focus for a wide range of stakeholders. The selected indicators align with index priorities and are available through ready-made summary tables or customized tabulations provided by the Census Bureau, enabling neighborhood-level analysis and geographic comparisons using existing data. Each of the indicators is weighted equally in the index, as is frequently supported within the literature.[17]

The FFSI includes three general domains:

- Income
- Employment
- Housing

The income and employment domain selections reflect the base definition of family financial stability.[18] The addition of housing, specifically housing burden, defined as the proportion of income that goes toward rent, is important in the context of highly variable regional housing costs. This metric acts as a proxy for cost of living, since housing costs are often the key driver for cost of living.[19] Including rent burden adds a critical factor to the measurement of family financial stability, particularly in high-cost regions, where income does not go as far. This selection is described in more detail below.

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[17] Lorenz, J., Brauer, C., & Lorenz, D. (2016) Rank-Optimal Weighting or "How to be Best in the OECD Better Life Index?", *Social Indicators Research*, 134: 75

Saltelli, A. (2007). Composite indicators between analysis and advocacy. *Social Indicators Research,* 81:65–77

Nardo, M., Saisana, M., Saltelli, A., Tarantola, S., Hoffman, A., & Giovannini, E. (2005). Handbook on constructing composite indicators. In OECD statistics working papers (2005/03)

Booysen, F. (2002) An Overview and Evaluation of Composite Indices of Development, *Social Indicators Research*, Vol. 59, No. 2, pp. 115-151

[18] See the Introduction for a discussion of defining financial stability.

[19] Sperling's Best Places

The indicators selected to represent each domain are as follows:

Income
The percentage of families (with children under 18 years of age) with incomes less than 185 percent of the federal poverty level.

Employment
The percentage of families (with children under 18 years of age) with one or more unemployed adults seeking employment.

Housing
The percentage of families (with children under 18 years of age) that are paying 50 percent or more of income on rent.

Income

The official poverty measure is perhaps the most standard gauge of economic stability used for policy decisions and programming. However, the methodology of the official poverty measure is dated and may not adequately represent economic stability in current policy and cultural contexts. Indeed, research suggests that the official poverty rate underestimates the number of families in economic hardship.[20] In recognition of the limitation of the federal poverty level as an appropriate representation of economic stability in today's economic context, income levels of 130 to 185 percent of poverty level are used as the eligibility thresholds for many public support services, such as free or reduced price school lunches, Medicaid, and Supplemental Nutrition Assistance Program (SNAP). Because Orange County was the pilot case for the FFSI, the higher end of that range was selected, given Orange County's higher than average cost of living and that 185 percent of poverty (roughly $48,600 for a family of four in 2020) is well below Orange County's median income for families with children under age 18 ($105,572 in 2020, where average family size is 3.5).[21] Compared to the poverty rate itself, 185 percent of the poverty level more accurately reflects conventional eligibility thresholds and economic stability in many regions nationwide, particularly those with a high cost of living.

Employment

This indicator was selected to represent the employment domain because research findings indicate higher ongoing financial insecurity among families when one or more caregivers is unemployed.[22] This indicator uses the conventional definition of unemployment, measuring whether a family views

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[20] Bohn, S. Danielson C. Levin M. Mattingly M. Wimer C. (2013) The California Poverty Measure: A New Look at the Social Safety Net, Public Policy Institute of California, retrieved at: www.ppic.org/content/pubs/report/R_1013SBR.pdf
Blank, RM. (2008) How to improve poverty measurement in the United States, *Journal of Policy Analysis and Management*, Vol. 27, Issue 2, pp. 233-254

[21] U.S. Census Bureau, Poverty Thresholds (www.census.gov) and 2020 American Community Survey, 5-Year Estimates, Table S1903 and S1101

[22] Coley, RL & Lombardi, CM. (2014). Low-Income Women's Employment Experiences and Their Financial, Personal, and Family Well-Being. *Journal of Family Psychology*, Vol. 28(1), pp. 88-97
McClelland, A. (2000) Effects of unemployment on the family, *The Economic and Labour Relations Review*, vol. 11, no. 2, pp. 198-212
Broman, CL. Hamilton VL. Hoffman WS. (1996) The impact of unemployment on families, *Michigan Family Review*, Volume 02, Issue 2, pp. 83-91

itself as fully or sufficiently employed; it does not count parents who choose to stay out of the labor force. Tracking changes in unemployment can measure the breadth and depth of employment-related issues in targeted areas to inform program implementation and policy and resource decisions.

Housing

The purpose of this indicator is to measure housing burden. The development of an affordability threshold to measure housing burden dates back to 1937 and the creation of the U.S. National Housing Act. The thresholds have evolved over the years, but a 30 percent benchmark has been the standard since 1981.[23] The convention is that housing expenditures that exceed 30 percent of household income leave a family less able to afford food, clothing, medical care, childcare, or other needs. However, in recent years, spending more than 30 percent of income on housing has become typical in many high-cost regions. For example, 41 percent of California children live in households spending more than 30 percent on housing, and 73 percent of California children in low-income households have a housing burden above 30 percent.[24] Nationwide, 30 percent of children live in households spending more than 30 percent of household income on housing, and 60 percent of U.S. children in low-income households have a high housing burden.[25] Thus, to provide a more meaningful measure of housing insecurity in a geographic area with housing costs so high that spending more than 30 percent of income on housing has become commonplace, a new standard seems warranted. The highest interval calculated by the data source is families or households spending over 50 percent of income on rent. In 2020, fully 30 percent of Orange County families with children under 18 – or 47,185 families – spend more than 50 percent of income on rent, arguably placing them in more precarious financial circumstances than those spending less. Given the fact that a large proportion of families (nearly a third of Orange County families and a quarter of families nationwide) are severely housing burdened and that this condition is widely understood to increase financial instability, spending 50 percent or more of income on housing costs was used as the threshold for housing burden in the FFSI.

For the housing indicator, the analysis uses custom tabulations from the Census Bureau that provide the data for families with children under 18. A custom tabulation is required since the Census Bureau only publishes a readily available table for all households, not just families with children. The housing measure focuses on renters, rather than homeowners. As noted on page 5, renter status has been considered in the literature as one risk factor for financial instability. This instability factor may be related to the likelihood that rents continue to rise with inflation or gentrification, unlike most home mortgages with fixed interest rates. Further, owners with mortgages may be able to use their home equity assets to buffer financial challenges in a way that renting households cannot. The housing indicator focuses on renters for these reasons, and because high-income families may choose to spend 50 percent or more of their income when purchasing a home and still have substantial resources that enable them to weather financial downturns.

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[23] Schwartz, M, Wilson, E. (2007) Who can afford to live in a home?: A look at data from the 2006 American Community Survey, U.S. Census Bureau

[24] Kids Count Data Book (datacenter.kidscount.org), based on 2019 American Community Survey. Low income in this context is defined by the data source as household income less than 200 percent of the federal poverty level.

[25] Ibid

Thresholds

Built into the index components of the FFSI are basic thresholds of financial stability, as described above, including spending 50 percent or more of income on rent, having an income of less than 185 percent of poverty, and having one or more unemployed adults in the family. The selected thresholds for each indicator are based on research, regional variation in cost of living (such as high relative housing prices), and commonly accepted measures of financial stability (such as income less than 185 percent of poverty). Families beyond these thresholds are considered to be at high risk of financial instability.

Aside from these basic thresholds of financial stability, the research does not speak to what constitutes relatively high or low concentrations of financial instability at the neighborhood level. For example, there is no research consensus that a neighborhood with 30 percent of families with incomes under 185 percent of poverty (vs. 20 or 40 percent) constitutes a neighborhood with high financial instability. Therefore, for the FFSI-OC, the observed distribution of the data from Orange County was used to provide a relative sense of the level of financial instability in each neighborhood within the county. Using the distribution of the data to set cut points is recommended in the literature as a methodology that minimizes subjective decision-making by using standard mathematical scaling.[26]

To arrive at distribution-based cut points for the Orange County Family Financial Stability Index, the 2012 FFSI-OC revised results were used as the baseline year to create thresholds that were then applied to all future years, allowing for analysis of change over time in comparison to the 2012 findings.[27] First, cut points were identified on each variable that would divide the 2012 census tract distributions into quartiles, and then these values were rounded to the nearest whole number for ease of communication and calculation. These rounded cut points resulted in distributions on each indicator that classified census tracts approximately into quartiles at the 2012 baseline measurement. For each component indicator, these rough quartiles were assigned an index score ranging from 0 to 3, where 0 represents the lowest concentration of financially stable families and 3 represents the highest concentration of financially stable families. Details of the FFSI-OC thresholds used to divide each indicator distribution into approximate quartiles are described below.[28]

Income

- Census tracts in which **fewer than 10 percent** of families with children under 18 had income of less than 185 percent of the poverty level were assigned the highest stability score (3).
- Census tracts in which **10 percent or more but fewer than 20 percent** of families with children under 18 had had income of less than 185 percent of the poverty level were assigned the second highest stability score (2).

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[26] Moore, KA, Vandivere S, Redd, Z. (2006) A Sociodemographic Risk Index, *Social Indicators Research*, Vol. 75, No. 1, pp. 45-81

[27] The initial Housing cut points released in the FFSI 2012 Results were based on the universe of households. Due to the acquisition of Housing data for the universe of families with children since the initial calculation of the 2012 cut points, the Housing cut points were modified retroactively to reflect the 2012 Housing data for families with children.

[28] The creation of a national FFSI would require setting cut points according to national distributions, rather than Orange County distributions, as done for the FFSI-OC.

- Census tracts in which **20 percent or more but fewer than 40 percent** of families with children under 18 had had income of less than 185 percent of the poverty level were assigned the second lowest stability score (1).
- The remaining census tracts, those in which **40 percent or more** of families with children under 18 had had income of less than 185 percent of the poverty level, were assigned the lowest stability value (0).

Employment

- Census tracts in which **fewer than 4 percent** of families with children under 18 had one or more unemployed adults were assigned the highest stability score (3).
- Census tracts in which **4 percent or more but fewer than 8 percent** of families with children under 18 had one or more unemployed adults were assigned the second highest stability score (2).
- Census tracts in which **8 percent or more but fewer than 12 percent** of families with children under 18 had one or more unemployed adults were assigned second lowest stability score (1).
- The remaining census tracts, those in which **12 percent or more** of families with children under 18 had one or more unemployed adults, were assigned the lowest stability value (0).

Housing

- Census tracts in which **fewer than 16 percent** of families with children under 18 were spending 50 percent or more of their income on rent were assigned the highest stability score (3).
- Census tracts in which **16 percent or more but fewer than 28 percent** of families with children under 18 were spending 50 percent or more of their income on rent were assigned the second highest stability score (2).
- Census tracts in which **28 percent or more but fewer than 40 percent** of families with children under 18 were spending 50 percent or more of their income on rent were assigned the second lowest stability score (1).
- The remaining census tracts, those in which **40 percent or more** of families with children under 18 were spending 50 percent or more of their income on rent, were assigned the lowest stability value (0).

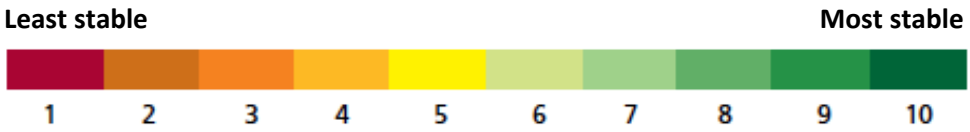
Composite Index Formula

Once indicator scores ranging from 0 to 3 were established for each of the index components (Income, Employment, and Housing) for each census tract, they were combined into one overall index score for each census tract. The **Family Financial Stability Index (FFSI)** is a sum of the three indicator scores for each census tract, plus one, to create an accessible 10-point scale easily communicated to index stakeholders.

FFSI = 1 + sum(*Income, Employment, Housing*)

The resulting index scores provide an intuitive, 10-point scale where "1" indicates a neighborhood with the lowest level of family financially stability and "10" indicates a neighborhood with the highest level of family financially stability.[29]

FFSI Score



Note that the FFSI composite index formula is the same for any region. The FFSI-OC is derived from this formula after optimizing the cut points for the underlying component indicators, based on the Orange County baseline distribution of those indicators in 2012. A similar procedure will be used to set appropriate cut points for these indicators in other geographic regions for specific periods of time, resulting in an FFSI that is optimized for those regions and time frames. A national FFSI, which would allow comparison across regions, would use cut points based on the national distributions for the underlying component indicators for specific periods of time.

[29] The terms "census tract" (as defined by the U.S. Census Bureau) and "neighborhood" are used interchangeably.

2020 FFSI-OC Findings

2020 Data Considerations

In July of 2021, the U.S. Census Bureau reported that they would not release 2020 1-Year American Community Survey (ACS) results due to the challenges associated with collecting data during the 2020 coronavirus pandemic, which started in earnest in the United States in March 2020. In the months from April 2020 through June 2020, the ACS experienced response rates that were a fraction of typical response rates, rendering the 1-Year results unreliable due to nonresponse bias.[30] Whether the 5-Year dataset, which is the ACS dataset underlying the FFSI, would be similarly impacted was unclear. Fortunately, in their delayed March 2022 release of the 5-Year dataset, the U.S. Census Bureau reported that after revising their methodology to reduce nonresponse bias in the full 2016-2020 5-Year dataset, the 5-Year data are now approved for public release and for government and business uses. Consequently, the pandemic did not have a significant impact on the reliability of the FFSI's underlying data.

The year 2020 was also a decennial Census year and, as is typical with the decennial Census, census tract boundaries were assessed and revised, as needed, to accommodate population expansion (or contraction). In Orange County, this led to a net 31 additional tracts, which was accomplished by splitting existing tracts into two or more tracts.[31] This change in census tract boundaries does not impact the ability to show change in the FFSI at the countywide level, nor the city, state, or national levels. It does, however, impact the ability to show change in the particular census tracts affected by the boundary changes. In light of these changes, the research team provided Orange County United Way leadership with several different analysis and reporting options. The option selected by OCUW leadership was to effectively continue using 2010 boundaries by recombining the data in the split census tracts, thereby extending the time series for all Orange County census tracts based on the 2010 boundaries, and to provide the 2020 FFSI scores for the new tracts in an appendix. This option provides maximum continuity by being able to document change as done in prior years, while also beginning to monitor outcomes in the new tracts created by the 2020 boundary changes. Therefore, the census tract-level displays of the 2020 FFSI-OC findings in this section, including the change analysis, are based on 2010 census tract boundaries. The 2020 FFSI-OC results for the new census tracts created in 2020 are available in Appendix A.

Index Score Distribution

Except for notable skewing, with higher stability scores now more prevalent than lower ones, the pattern of scores across Orange County census tracts in 2020 largely conformed to what statisticians refer to as a "normal" distribution, with most neighborhoods scoring in the middle portion of the FFSI-OC scale and fewer neighborhoods at the high and low ends of the scale, as displayed in Figure 1 and Figure 2.

- Approximately one-third (34.7 percent) of the census tracts in Orange County had FFSI-OC scores of 5 or lower, while the remainder (65.3 percent) had FFSI-OC scores of 6 or greater.

[30] U.S. Census Bureau, ACS Research and Evaluation Report Memorandum Series #ACS21-RER-04, retrieved on May 27, 2022 from https://www.census.gov/content/dam/Census/library/working-papers/2021/acs/2021_CensusBureau_01.pdf

[31] 55 new tracts - 24 retired tracts = 31 net additional tracts

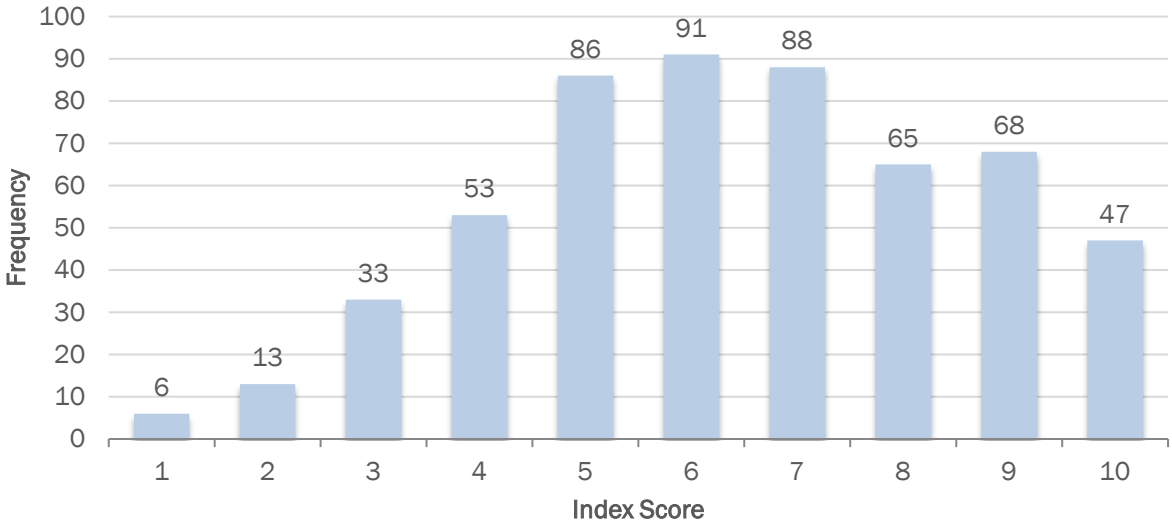
- Over three-quarters of the census tracts (75.5 percent) had FFSI-OC scores in the middle ranges, from 3 to 8.
- Just 3.5 percent of neighborhoods received a score of 1 or 2, indicating the lowest levels of family financial stability, while 20.9 percent of census tracts received a score of 9 or 10, the highest levels of family financial stability.

Figure 1: FFSI-OC Score Distribution by Census Tract, Orange County, 2020 (Table)

Family Financial Stability Index (FFSI) Score	Frequency (number of Orange County census tracts)	Percent (including only tracts without missing data)	Cumulative Percent (including only tracts without missing data)
1	6	1.1	1.1
2	13	2.4	3.5
3	33	6.0	9.5
4	53	9.6	19.1
5	86	15.6	34.7
6	91	16.5	51.3
7	88	16.0	67.3
8	65	11.8	79.1
9	68	12.4	91.5
10	47	8.5	100
Total	550	100	
Missing	33		
Total	583		

Note: Data for this table are derived from the U.S. Census Bureau, 2016-2020 American Community Survey 5-Year Estimates using 2010 census tract boundaries. Totals may not sum to 100 percent due to rounding. In 2016, the Census Bureau implemented stricter data suppression standards, which had the effect of increasing missing data from between six and 11 census tracts in previous years to 26 census tracts in 2016 and 33 in 2020. Data are suppressed to protect confidentiality in census tracts with few families with children.

Figure 2: FFSI-OC Score Distribution by Census Tract, Orange County, 2020 (Chart)



Note: Data for this table are derived from the U.S. Census Bureau, 2016-2020 American Community Survey 5-Year Estimates using 2010 census tract boundaries.

Geographic Distribution

The maps on the following pages (Figure 3 through Figure 6) show the geographic distribution of index results by census tract. Areas with low levels of financial stability tend to cluster in neighborhoods in the north-central part of Orange County, but there are also areas of financial instability in south county, both coastal and central.

Figure 3: Orange County Neighborhoods by 2020 FFSI-OC Score (Map)

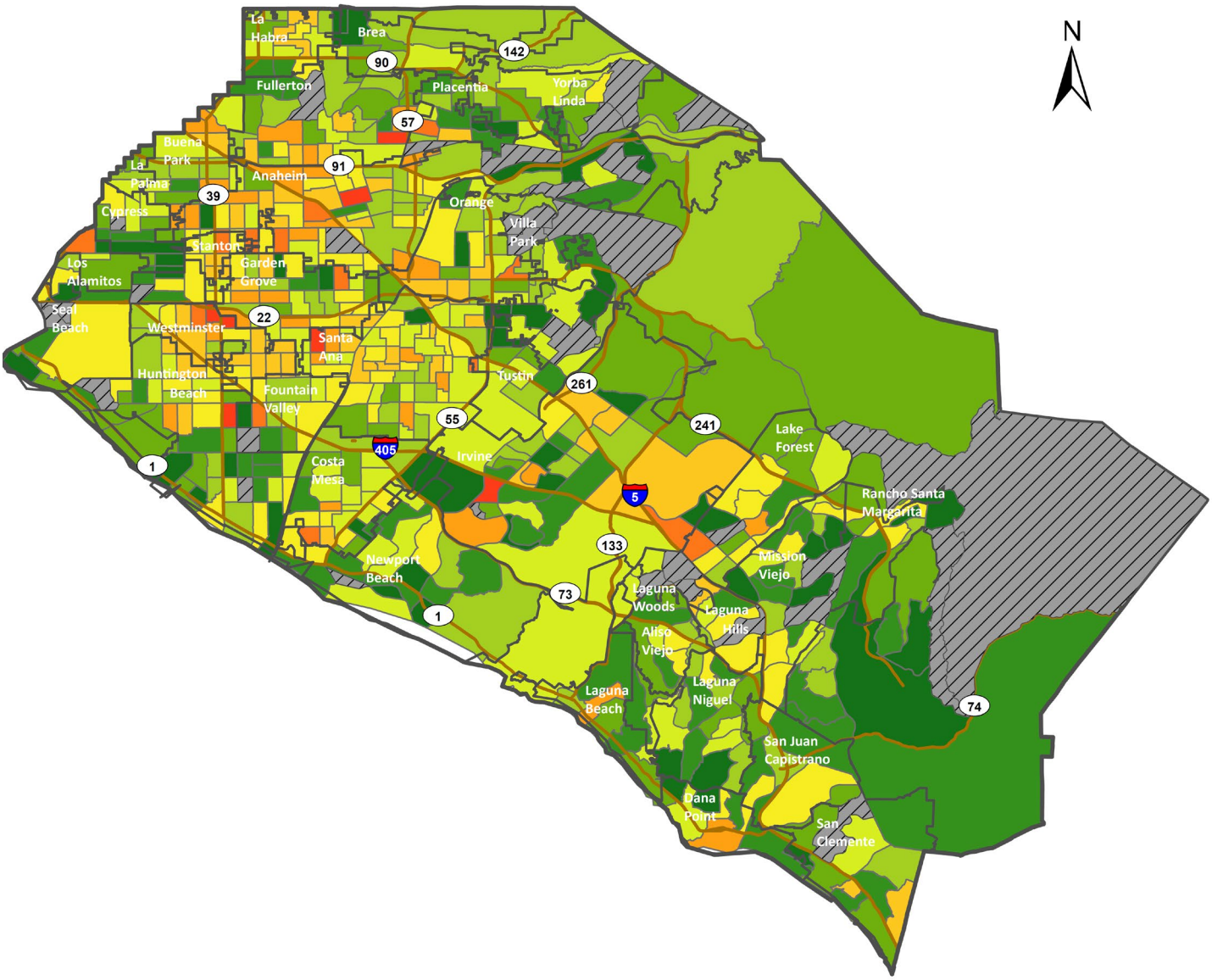


Figure 4: North Orange County Neighborhood Detail by 2020 FFSI-OC Score (Map)

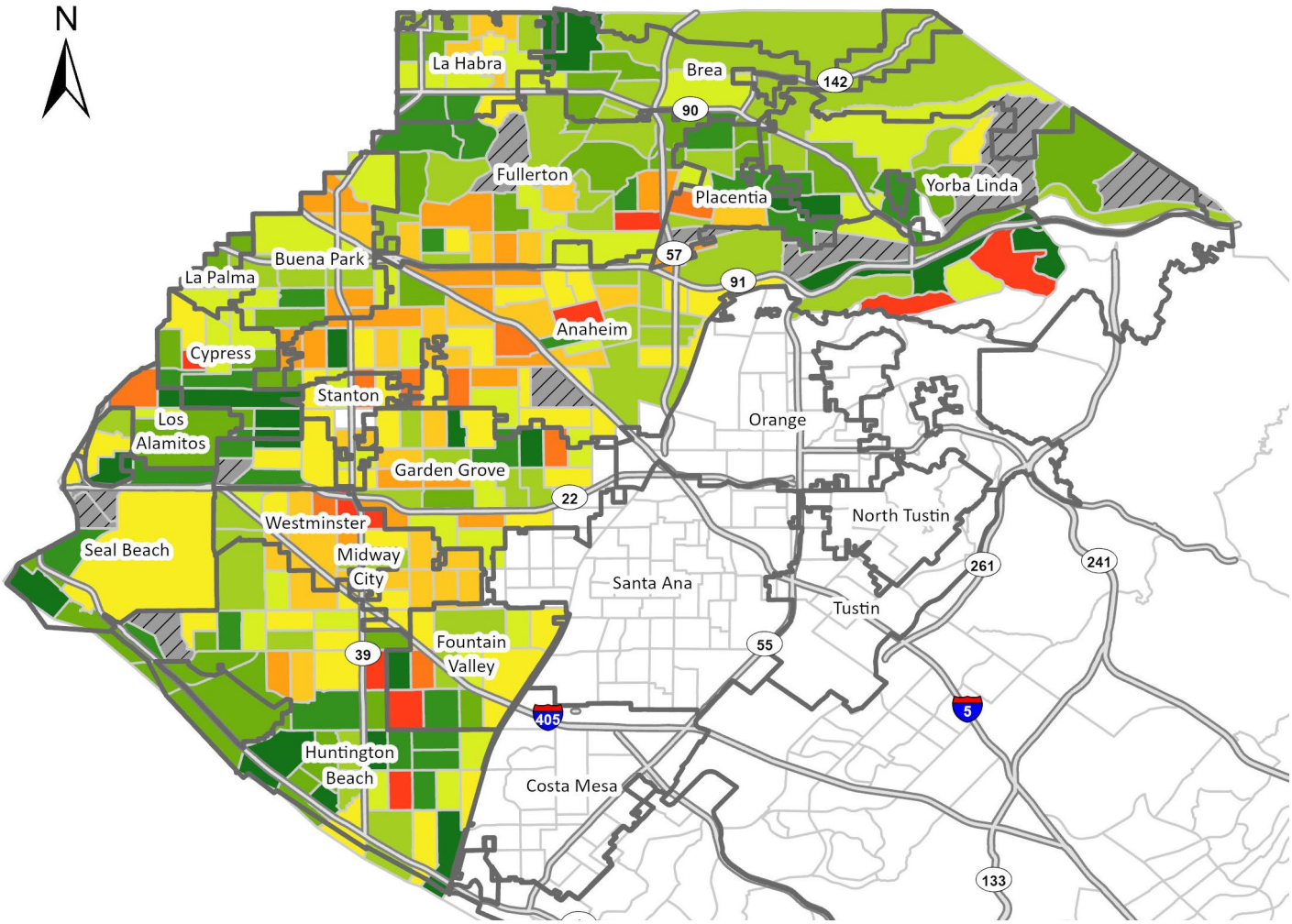


Figure 5: Central Orange County Neighborhood Detail by 2020 FFSI-OC Score (Map)

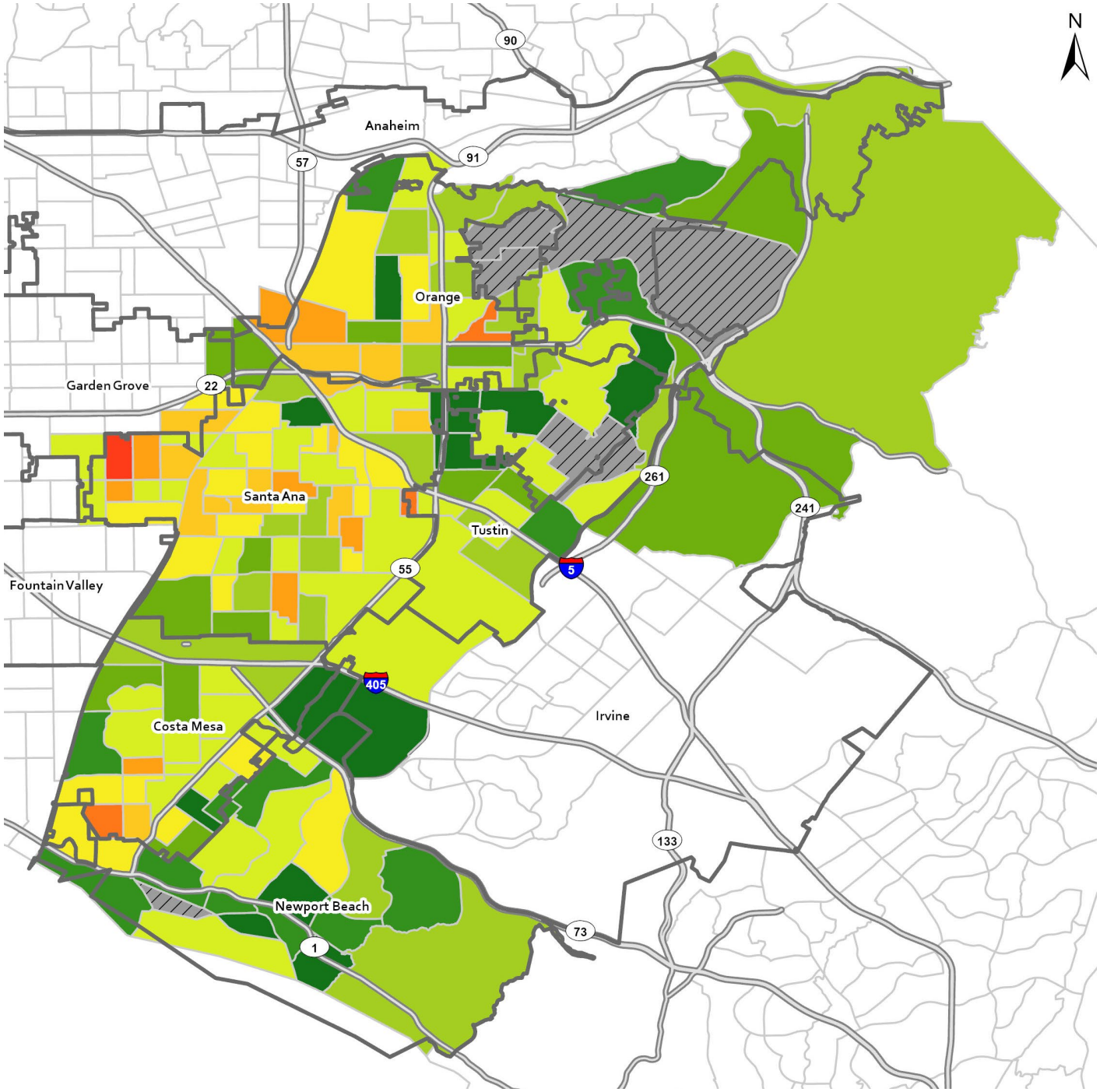
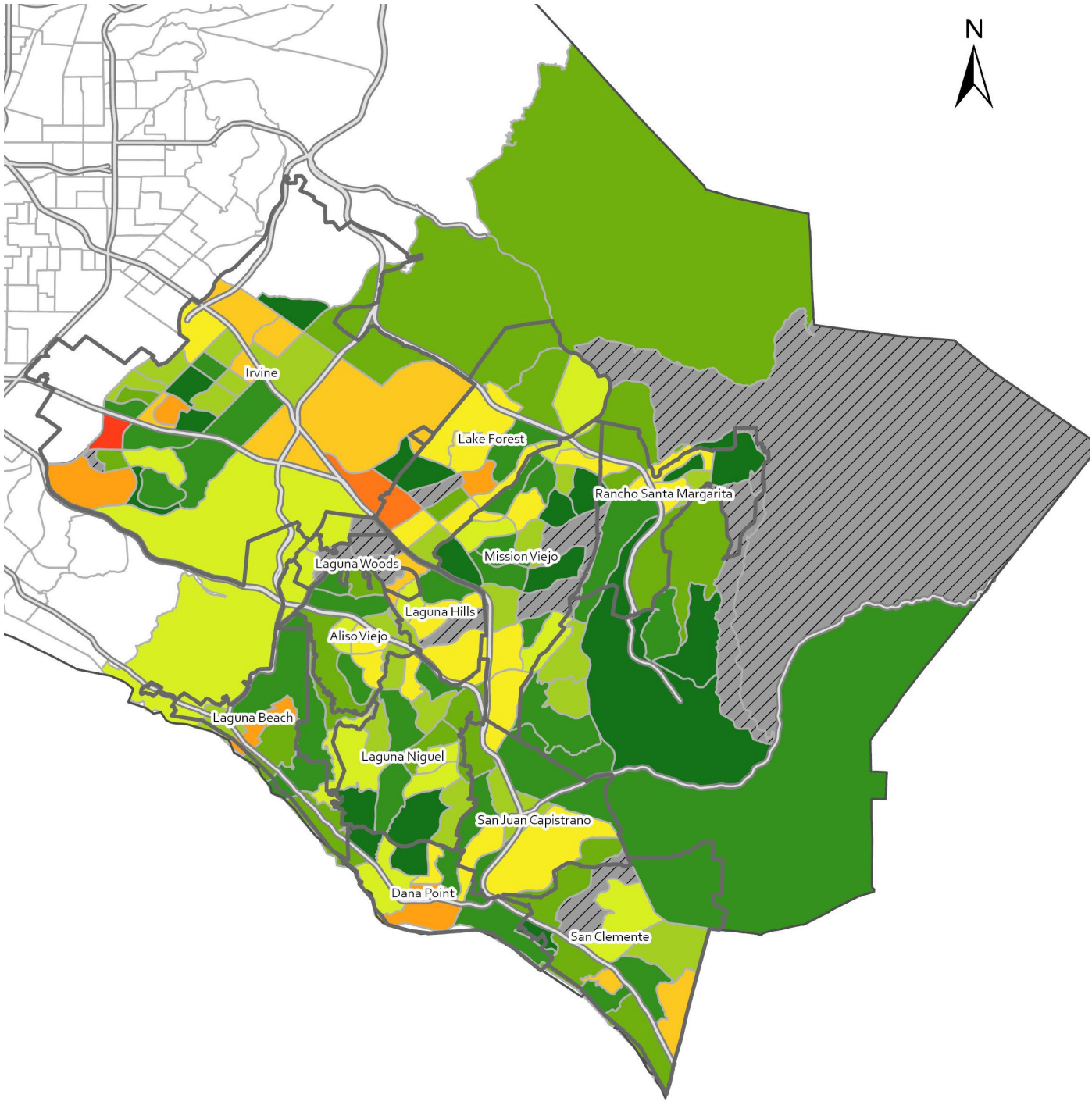


Figure 6: South Orange County Neighborhood Detail by 2020 FFSI-OC (Map)



Comparison to Previous FFSI-OC Findings

Year-to-Year Comparisons

After six consecutive years of gradually improving FFSI-OC scores, family financial stability worsened in 2020. The 2020 results show slightly more neighborhoods scoring at the lowest levels of stability (scores of 1 through 4) than the previous year of FFSI-OC results.[32] Meanwhile, changes in family financial stability in neighborhoods at the higher levels of stability (scores of 7 through 10) were mixed. Neighborhoods scoring at the highest levels of stability (scores of 9 and 10) reached the greatest proportion on record, while neighborhoods with scores of 7 and 8 fell somewhat. There was minimal change in the percentage of neighborhoods scoring in the moderately stable range (scores of 5 and 6).

The changes in 2020 were largely driven by opposing trends in employment and income, with lower levels of employment stability and higher levels of income stability. Rent burden (the proportion of income spent on rent) has been relatively stable over time.[33]

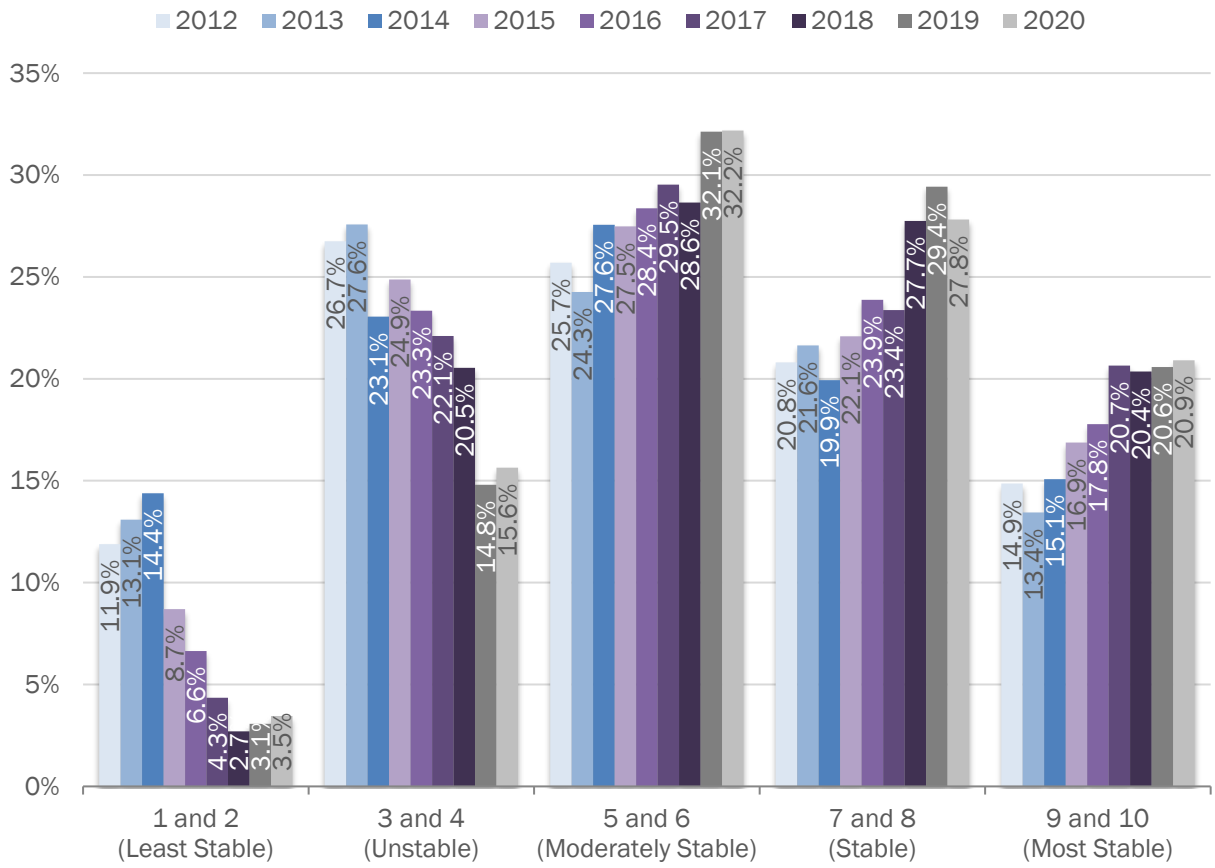
Until 2020, there had been a decline (improvement) in the percentage of neighborhoods scoring in the four lowest stability scores (1, 2, 3, or 4). This steady decline ended in 2020, but stability scores overall remain stronger than the early years of the FFSI-OC (2012-2017). The trends over the nine years of FFSI-OC results are as follows:

- The percentage of neighborhoods at the lowest end of the range (scores of 1 and 2) grew steadily for two years, from 11.9 percent in 2012 to 14.4 percent in 2014, then dropped substantially to 8.7 percent in 2015 and continued falling each year until reaching 2.7 percent in 2018. In 2019, the percentage of neighborhoods in this range grew slightly to 3.1 percent and rose again in 2020 to 3.5 percent.
- The percentage of neighborhoods in the "unstable" range of 3 and 4 declined from 26.7 percent in 2012 to 14.8 percent in 2019 but rose slightly in 2020 to 15.6 percent.
- Meanwhile, the percentage of neighborhoods in the "moderately stable" range of 5 and 6, grew from 25.7 percent of all neighborhoods in 2012 to 32.2 percent in 2020.
- The percentage of neighborhoods scoring in the "stable" range of 7 and 8 was 27.8 percent in 2020, which is a notable increase since 2012 when 20.8 percent of neighborhoods fell in this range.
- The percentage of neighborhoods at the top of the range (scores of 9 and 10) continued to increase, reaching the highest proportion recorded (20.9 percent) in 2020, up from 14.9 percent of neighborhoods in 2012.

Figure 7 and Figure 8 compare the FFSI-OC results for all nine years of available data by the selected score groupings described above. Figure 9 and Figure 10 provide the detailed FFSI-OC score distributions for all nine years.

[32] See Appendix B: Technical Notes for important considerations related to analysis of change over time.
[33] Appendix C contains additional results by component indicator scores.

Figure 7: Percentage of Orange County Neighborhoods in Selected FFSI-OC Score Groupings, Year-to-Year Comparison, 2012 – 2020 (Chart)



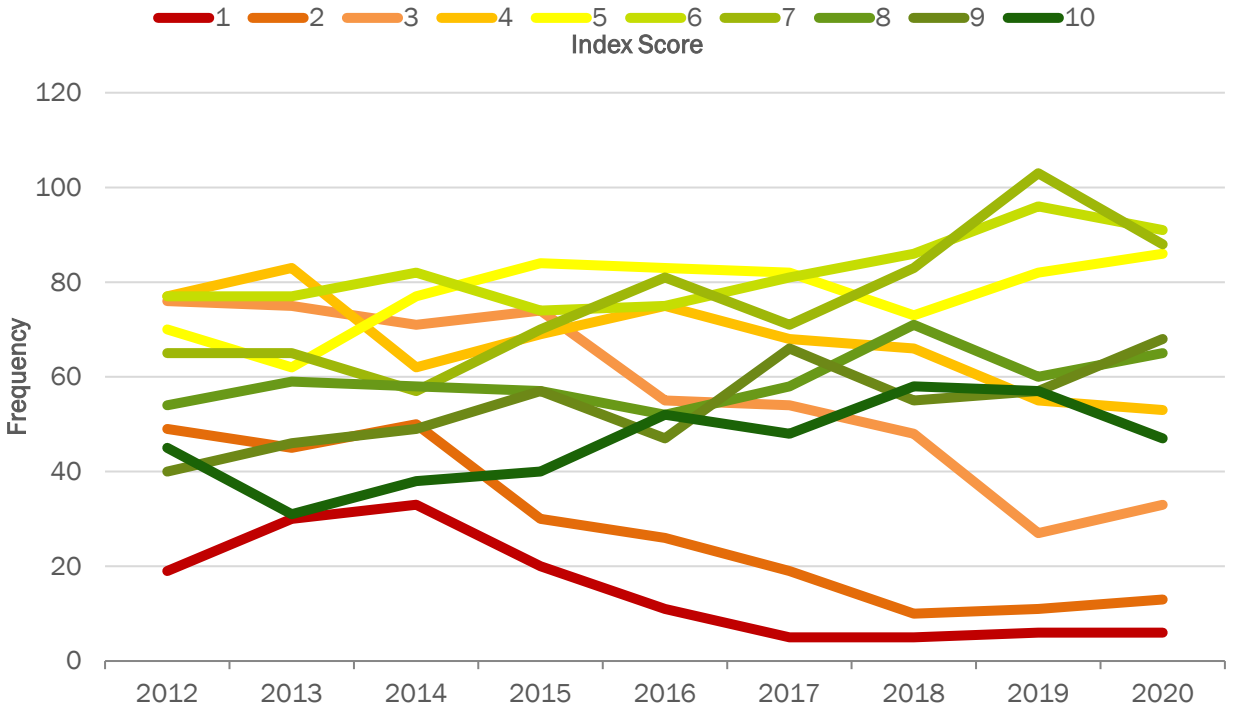
Note: Data for this figure are derived from the U.S. Census Bureau, 2008-2012, 2009-2013, 2010-2014, 2011-2015, 2012-2016, 2013-2017, 2014-2018, 2015-2019, and 2016-2020 American Community Survey 5-Year Estimates. All vintages use 2010 census tract boundaries, including 2016-2020, to facilitate year-over-year comparison.

Figure 8: Percentage of Orange County Neighborhoods in Selected FFSI-OC Score Groupings, Year-to-Year Comparison, 2012 – 2020 (Table)

	2012	2013	2014	2015	2016	2017	2018	2019	2020
1 and 2 (Least Stable)	11.9%	13.1%	14.4%	8.7%	6.6%	4.3%	2.7%	3.1%	3.5%
3 and 4 (Unstable)	26.7%	27.6%	23.1%	24.9%	23.3%	22.1%	20.5%	14.8%	15.6%
5 and 6 (Moderately Stable)	25.7%	24.3%	27.6%	27.5%	28.4%	29.5%	28.6%	32.1%	32.2%
7 and 8 (Stable)	20.8%	21.6%	19.9%	22.1%	23.9%	23.4%	27.7%	29.4%	27.8%
9 and 10 (Most Stable)	14.9%	13.4%	15.1%	16.9%	17.8%	20.7%	20.4%	20.6%	20.9%

Note: Data for this figure are derived from the U.S. Census Bureau, 2008-2012, 2009-2013, 2010-2014, 2011-2015, 2012-2016, 2013-2017, 2014-2018, 2015-2019, and 2016-2020 American Community Survey 5-Year Estimates. All vintages use 2010 census tract boundaries, including 2016-2020, to facilitate year-over-year comparison.

Figure 9: FFSI-OC Score Distribution by Orange County Neighborhood, 2012 – 2020 (Chart)



Note: Data for this figure are derived from the U.S. Census Bureau, 2008-2012, 2009-2013, 2010-2014, 2011-2015, 2012-2016, 2013-2017, 2014-2018, 2015-2019, and 2016-2020 American Community Survey 5-Year Estimates. All vintages use 2010 census tract boundaries, including 2016-2020, to facilitate year-over-year comparison.

Figure 10: FFSI-OC Score Distribution by Orange County Neighborhood, 2012 – 2020 (Table)

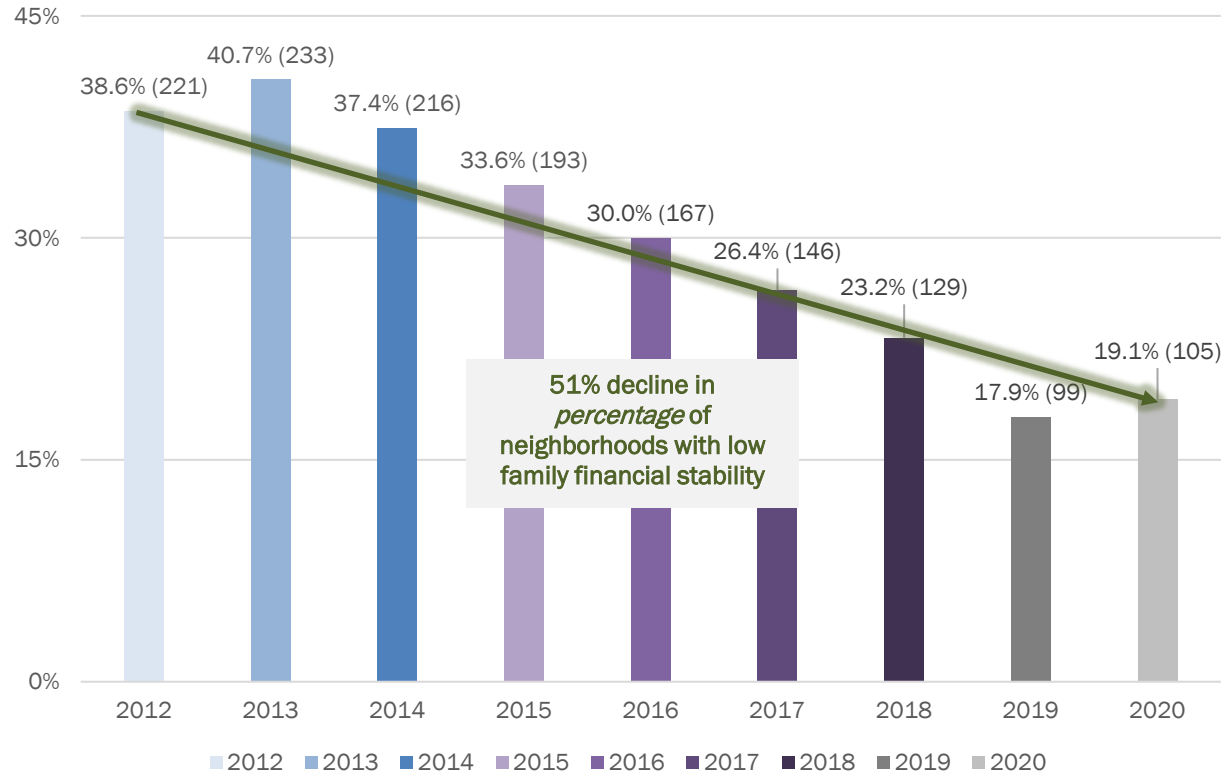
Family Financial Stability Index - Orange County (FFSI-OC) Score	2012	2013	2014	2015	2016	2017	2018	2019	2020
1	19	30	33	20	11	5	5	6	6
2	49	45	50	30	26	19	10	11	13
3	76	75	71	74	55	54	48	27	33
4	77	83	62	69	75	68	66	55	53
5	70	62	77	84	83	82	73	82	86
6	77	77	82	74	75	81	86	96	91
7	65	65	57	70	81	71	83	103	88
8	54	59	58	57	52	58	71	60	65
9	40	46	49	57	47	66	55	57	68
10	45	31	38	40	52	48	58	57	47
Missing Data	11	10	6	8	26	31	28	29	33
Census Tracts with Data	572	573	577	575	557	552	555	554	550

Note: Data for this figure are derived from the U.S. Census Bureau, 2008-2012, 2009-2013, 2010-2014, 2011-2015, 2012-2016, 2013-2017, 2014-2018, 2015-2019, and 2016-2020 American Community Survey 5-Year Estimates. All vintages use 2010 census tract boundaries, including 2016-2020, to facilitate year-over-year comparison.

Progress Toward 2024 FACE Income Goal

The FFSI-OC is used as a proxy to track Orange County United Way's progress toward their FACE 2024 goal to "reduce the percentage of financially unstable families by 25 percent."[34] For this purpose, "financially unstable" is defined as a FFSI-OC score of 4 or lower. Figure 11 provides the proportion of neighborhoods that scored a four or lower in each year for which the FFSI-OC has been available. In 2012, 38.6 percent of neighborhoods (or 221 neighborhoods) scored a 4 or lower; in 2020, 19.1 percent of neighborhoods (or 105 neighborhoods) scored a 4 or lower. This is equivalent to an improvement of 51 percent in the percentage of neighborhoods scoring as financially unstable.[35] While the 2020 results end a steadily improving trend, the percentage of neighborhoods with low levels of family financial stability remains low compared to historical FFSI-OC results.

Figure 11: Progress Toward Orange County United Way FACE 2024 Goal; Change in Percentage of Neighborhoods with FFSI-OC Scores of 1 through 4, 2012 – 2020



Note: Numbers of census tracts with FFSI-OC scores of 4 or less are displayed in parentheses. Data for this figure are derived from the U.S. Census Bureau, 2008-2012, 2009-2013, 2010-2014, 2011-2015, 2012-2016, 2013-2017, 2014-2018, 2015-2019, and 2016-2020 American Community Survey 5-Year Estimates. All vintages use 2010 census tract boundaries, including 2016-2020, to facilitate year-over-year comparison.

[34] The OCUW FACE 2024 goal aims to reduce the percentage of financially unstable *families,* while the FFSI-OC measures the percentage of *neighborhoods* that have high (or low) concentrations of families experiencing financial instability. The FFSI-OC does not provide a family count, so it cannot provide a precise calculation of change in the number of families that are financially unstable. However, the change in count and percentage of neighborhoods experiencing family financial instability acts as a proxy for a family count.

[35] Due to the variable number of census tracts with data in each year, and because the overall number of census tracts has declined over time due to data suppression on the part of the U.S. Census Bureau to protect privacy, change is calculated on the percentage of neighborhoods scoring 1-4 instead of the on the count of neighborhoods scoring 1-4.

Analysis of Five-Year Change Over Time

This section provides an analysis of FFSI-OC score change in Orange County neighborhoods using five years of FFSI-OC results, from 2016 through 2020.[36] Three categories of change identify neighborhoods in policy-relevant categories:

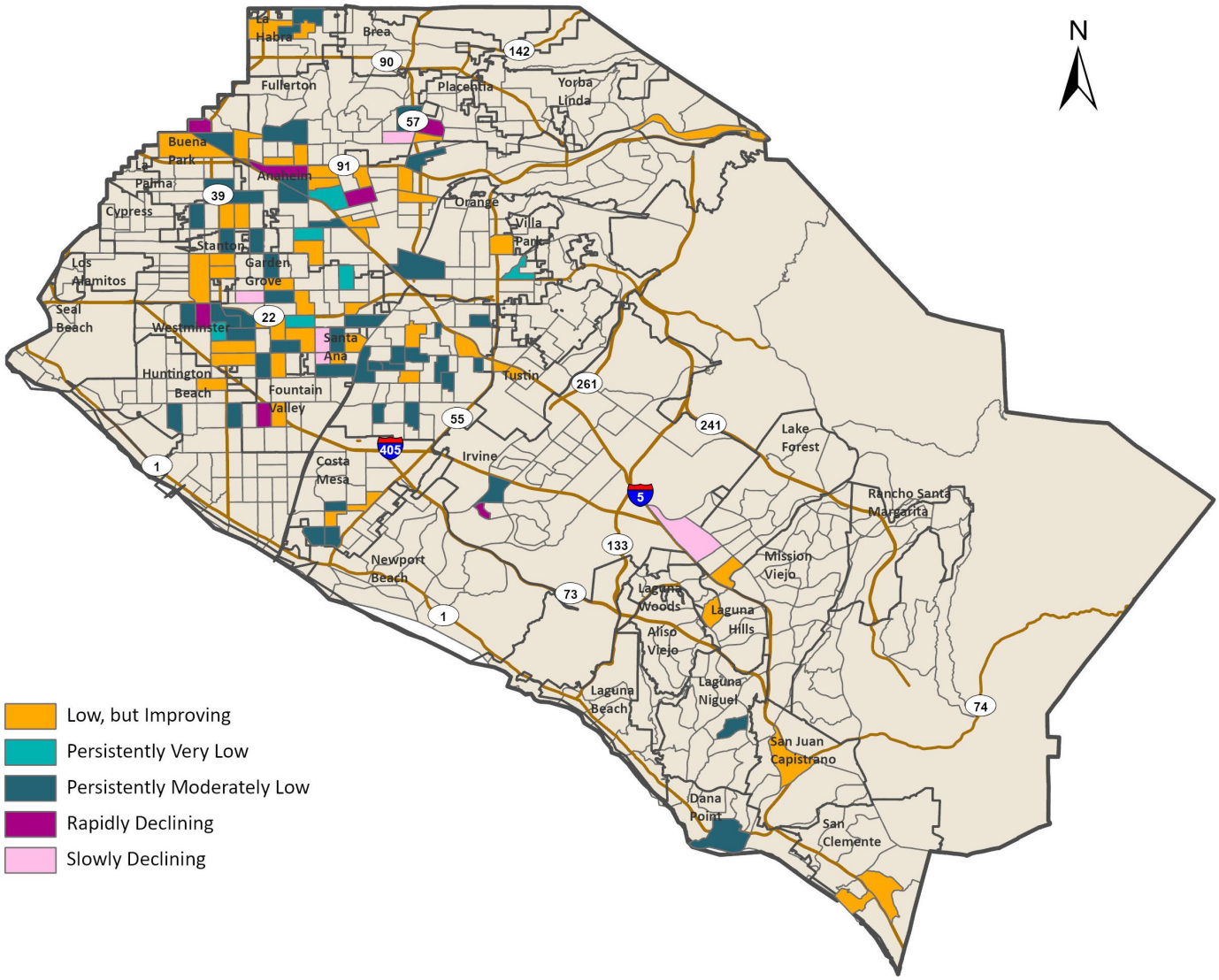
1. Persistently Low (moderately or very low)
2. Declining (rapidly or gradually declining)
3. Low, but Improving

These categories are defined by both the direction and rate of change over time in each census tract ("slope") and the average FFSI-OC score over the past five years or the most recent FFSI-OC score (2020). The "persistently low" category is further broken out into two subcategories: persistently moderately low and persistently very low. The "declining" category is also broken out into two subcategories: rapidly declining and gradually declining. The last category, "low, but improving" does not have subcategories.

The definitions and rationales for each category are described below. Maps provide the location of neighborhoods within the three categories and their subcategories (Figure 12 through Figure 15).

[36] See Appendix A for discussion of analysis constraints related to change over time. The five years of FFSI-OC scores analyzed for the change analysis encompass nine years of survey data, from 2012-2020, due to each vintage of the 5-Year ACS comprising five years of survey responses (e.g., the 2016 5-Year estimates includes survey responses gathered from 2012 through 2016).

Figure 12: Neighborhoods Identified as One of Five Categories of FFSI-OC Change, 2016-2020 (Map)



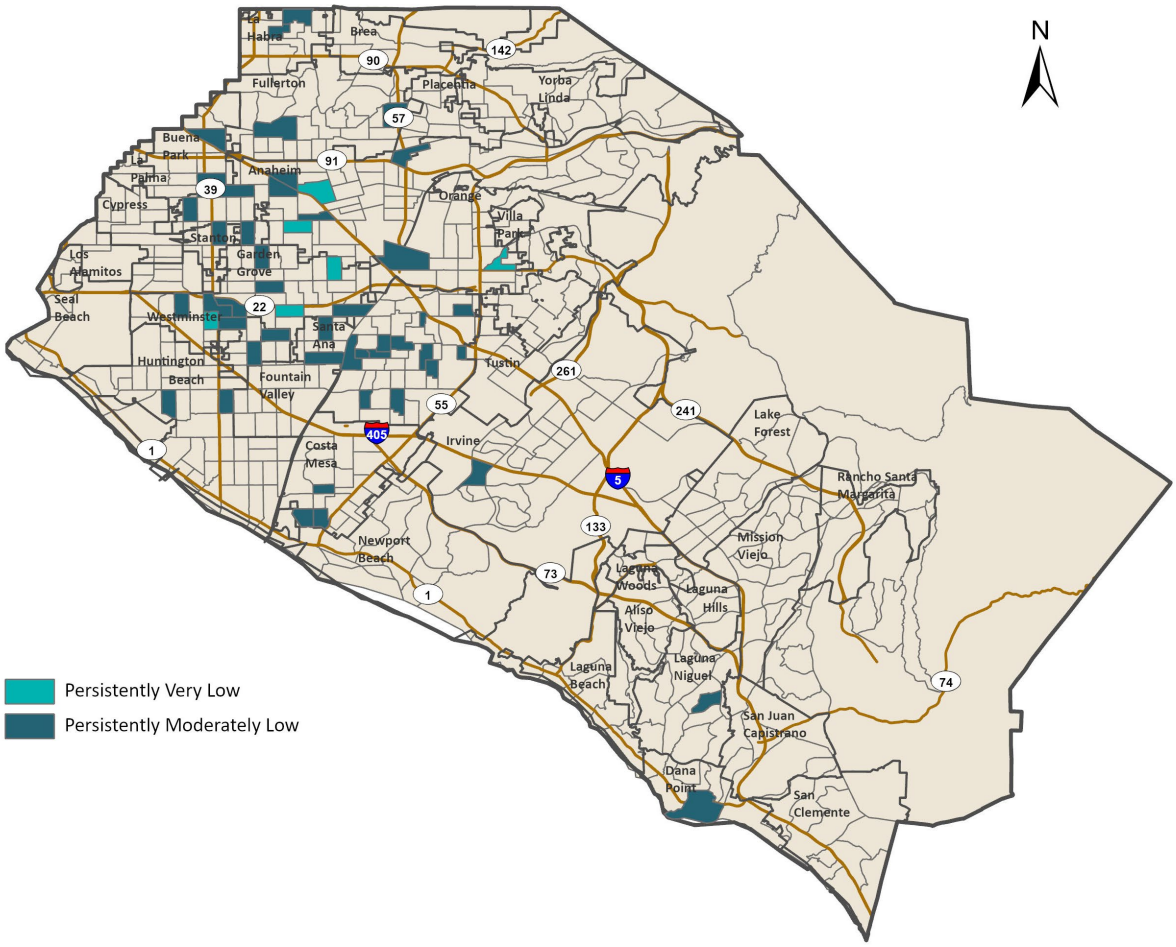
Note: Data for this figure are derived from the U.S. Census Bureau, 2012-2016, 2013-2017, 2014-2018, 2015-2019, and 2016-2020 American Community Survey 5-Year Estimates. All vintages use 2010 census tract boundaries, including 2016-2020, to facilitate year-over-year comparison.

"Persistently Low" Category

The "persistently low" category includes neighborhoods that have had a low level of family financial stability for the past five years of FFSI-OC results. These neighborhoods demonstrate entrenched family financial challenges, where there are many families with low levels of financial stability and this situation has not changed notably over the past five years. Two tiers within this overall category are defined as follows:

- Persistently Very Low:
  - Low level of change in score over the past five years (slope range: -0.5 to +0.5), and five-year average FFSI-OC score of 2.5 or under.
- Persistently Moderately Low:
  - Low level of change in score over the past five years (slope range: -0.5 to +0.5), and five-year average FFSI-OC score greater than 2.5 and up to 4.

Figure 13: Neighborhoods with Persistently Moderately Low or Very Low FFSI-OC Scores, 2016-2020 (Map)



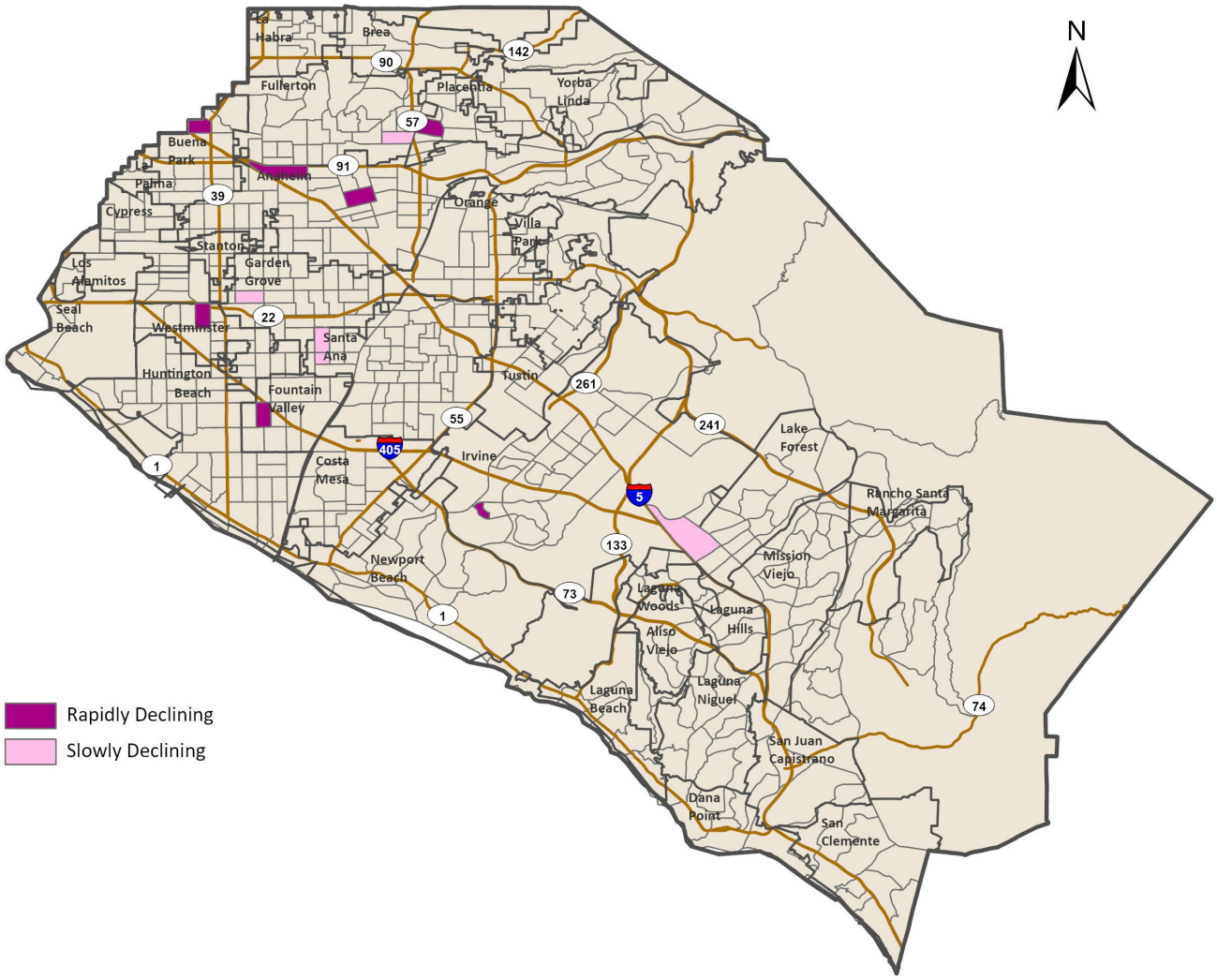
Note: Data for this figure are derived from the U.S. Census Bureau, 2012-2016, 2013-2017, 2014-2018, 2015-2019, and 2016-2020 American Community Survey 5-Year Estimates. All vintages use 2010 census tract boundaries, including 2016-2020, to facilitate year-over-year comparison.

"Declining" Category

The "declining" category includes neighborhoods that are either declining rapidly to a moderate or low level of stability, or declining at a more moderate rate, but to a low level of stability. This category enables stakeholders to identify neighborhoods that have seen family financial stability fall over the past five years.

- Rapidly Declining to moderate or low stability:
  - High level of negative change in score over the past five years (slope range: -0.8 or lower), and 2020 FFSI-OC score of 5 or under.
- Gradually Declining to low stability:
  - Moderate level of negative change in score over the past five years (slope range: -0.6 to -0.7), and 2020 FFSI-OC score of 4 and under.

Figure 14: Neighborhoods Rapidly or Gradually Declining in FFSI-OC Score, 2016-2020 (Map)



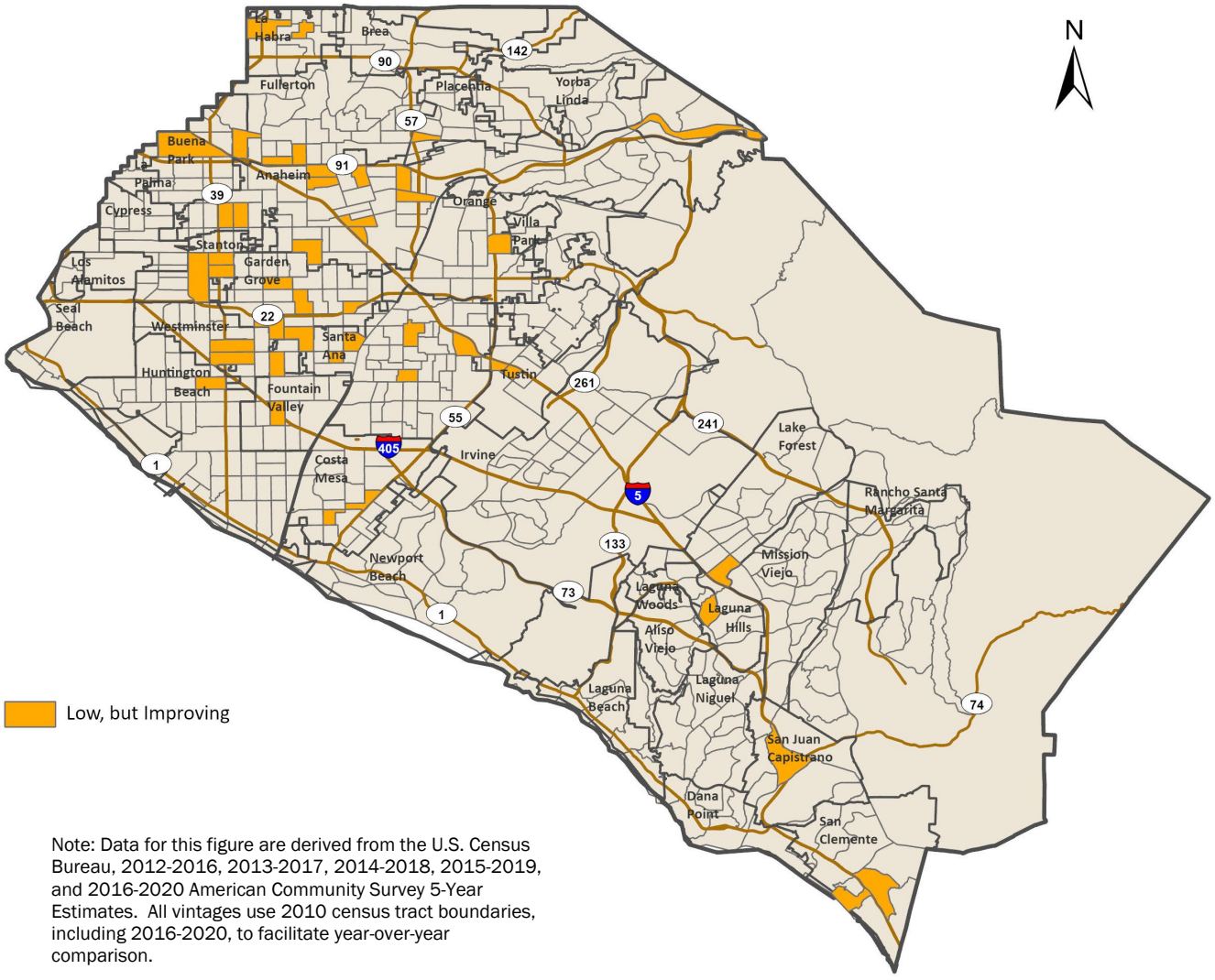
Note: Data for this figure are derived from the U.S. Census Bureau, 2012-2016, 2013-2017, 2014-2018, 2015-2019, and 2016-2020 American Community Survey 5-Year Estimates. All vintages use 2010 census tract boundaries, including 2016-2020, to facilitate year-over-year comparison.

"Low, but Improving" Category

The "low, but improving" category includes neighborhoods that have witnessed either slow or rapid increases in FFSI-OC scores, but remain at an average FFSI-OC score of 5 or under for the past five years.[37] This category enables stakeholders to identify struggling neighborhoods where conditions have improved, potentially allowing for identification of interventions or protective factors that may have contributed to improvement.

- Slope range: 0.6 and over, and
- FFSI 5-year average of 5 and under.

Figure 15: Neighborhoods with Low, but Improving FFSI-OC Scores, 2016-2020 (Map)



Note: Data for this figure are derived from the U.S. Census Bureau, 2012-2016, 2013-2017, 2014-2018, 2015-2019, and 2016-2020 American Community Survey 5-Year Estimates. All vintages use 2010 census tract boundaries, including 2016-2020, to facilitate year-over-year comparison.

[37] In the 2018 calculation of change, the slope parameter for the "low, but improving" category was changed from the previous "0.8 and over" to "0.6 and over." This change reduces the importance of the speed of change on a neighborhood's designation, capturing neighborhoods that are improving more slowly than under previous parameters. Additionally, by reducing the slope to 0.6, there is now a seamless progression from a "persistently low" designation, which has a slope range of -0.5 to +0.5, to a "low, but improving" designation for neighborhoods that are progressing slowly out of persistently low scores.

Appendix A: 2020 FFSI-OC Findings for New Census Tracts

Overview

As noted in the body of the report, the U.S. Census Bureau revised the boundaries of several Orange County census tracts in 2020, splitting them into two or more new tracts. This led to the creation of 55 new census tracts in 2020, while 24 of the 2010 tract numbers were retired, resulting a net addition of 31 new tracts. The analysis in the main body of the report recombined the data for these new tracts into the previous 2010 boundaries to provide continuity with previous vintages of FFSI-OC results. The supplementary analysis in this appendix displays the FFSI-OC scores for the 31 tracts created in 2020 and provides a comparison in scores between the 2010 and 2020 boundaries for these tracts. For reference, Figure A.4 displays the changes in boundaries from 2010 to 2020.

New Census Tract 2020 Scores

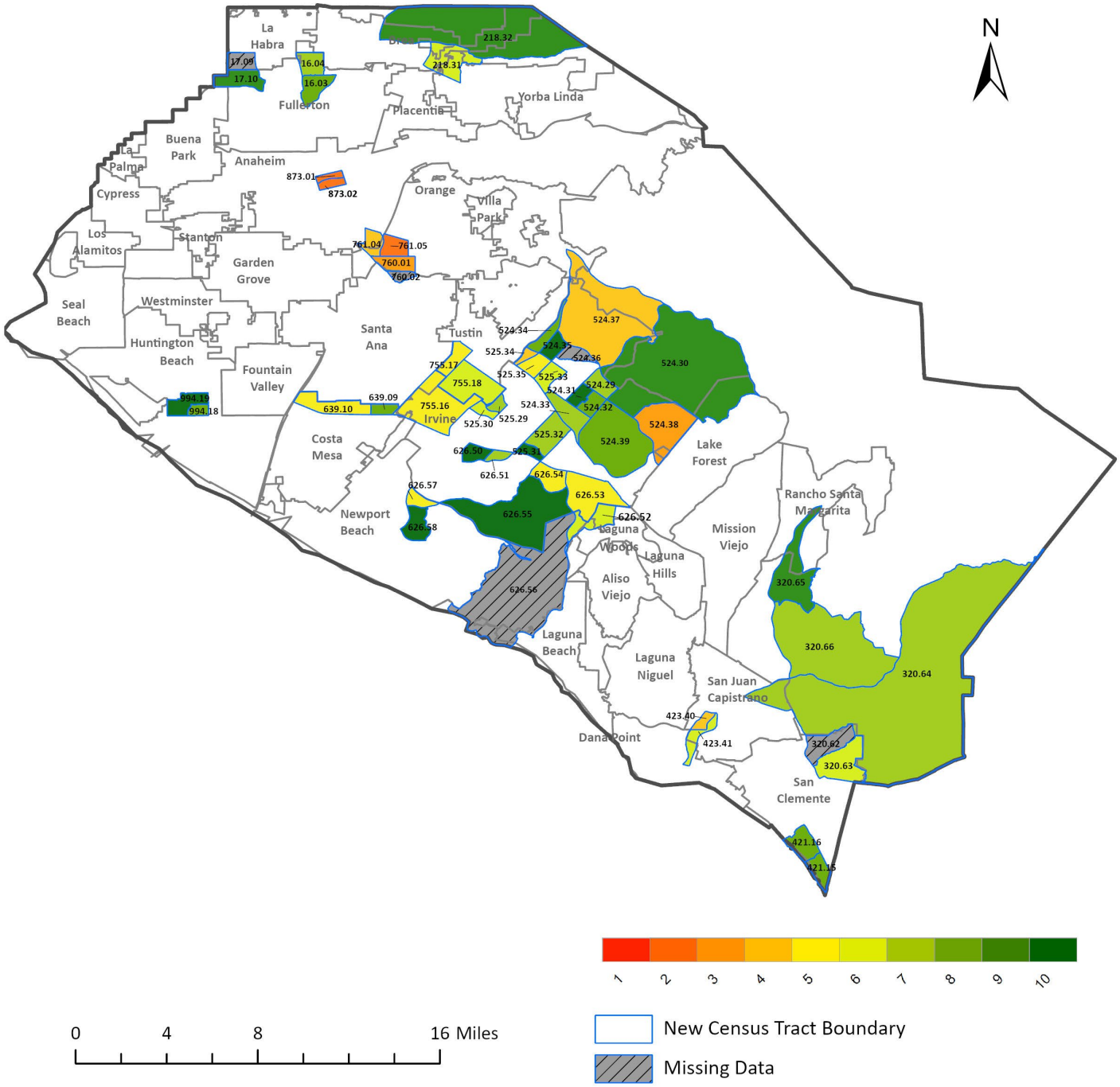
Most (27) of the new 2020 tracts scored in the stable range, with FFSI-OC scores ranging from 7 to 10. There were 14 new tracts that scored in the mid-range at 5 and 6, and nine tracts that scored in the lower stability range of 1-4. Figure A.1 provides the distribution of the scores among the new 2020 census tracts. Figure A.2 provides a map depicting the 2020 FFSI-OC scores for the new tracts.

Figure A.1: 2020 FFSI-OC Scores for New Orange County Census Tracts (Table)

Family Financial Stability Index (FFSI) Score	Frequency (number of new 2020 Orange County census tracts)	Percent (including only tracts without missing data)	Cumulative Percent (including only tracts without missing data)
1	0	0.0	0.0
2	3	6.0	6.0
3	2	4.0	10.0
4	4	8.0	18.0
5	7	14.0	32.0
6	7	14.0	46.0
7	8	16.0	62.0
8	8	16.0	78.0
9	4	8.0	86.0
10	7	14.0	100.0
Total	50	100.0	
Missing	5		
Total	55		

Note: Data for this figure are derived from the U.S. Census Bureau, 2016-2020 American Community Survey 5-Year Estimates.

Figure A.2: 2020 FFSI-OC Scores for New Orange County Census Tracts (Map)



Comparison Between Findings for Old (2010) and New (2020) Census Tracts

As displayed in Figure A.3, for many of the new tracts, the 2020 FFSI-OC scores are similar regardless of whether the 2020 or 2010 boundaries are used. In others, the creation of new tracts uncovered nuance that was masked when the data was pooled in a larger geography. For example,

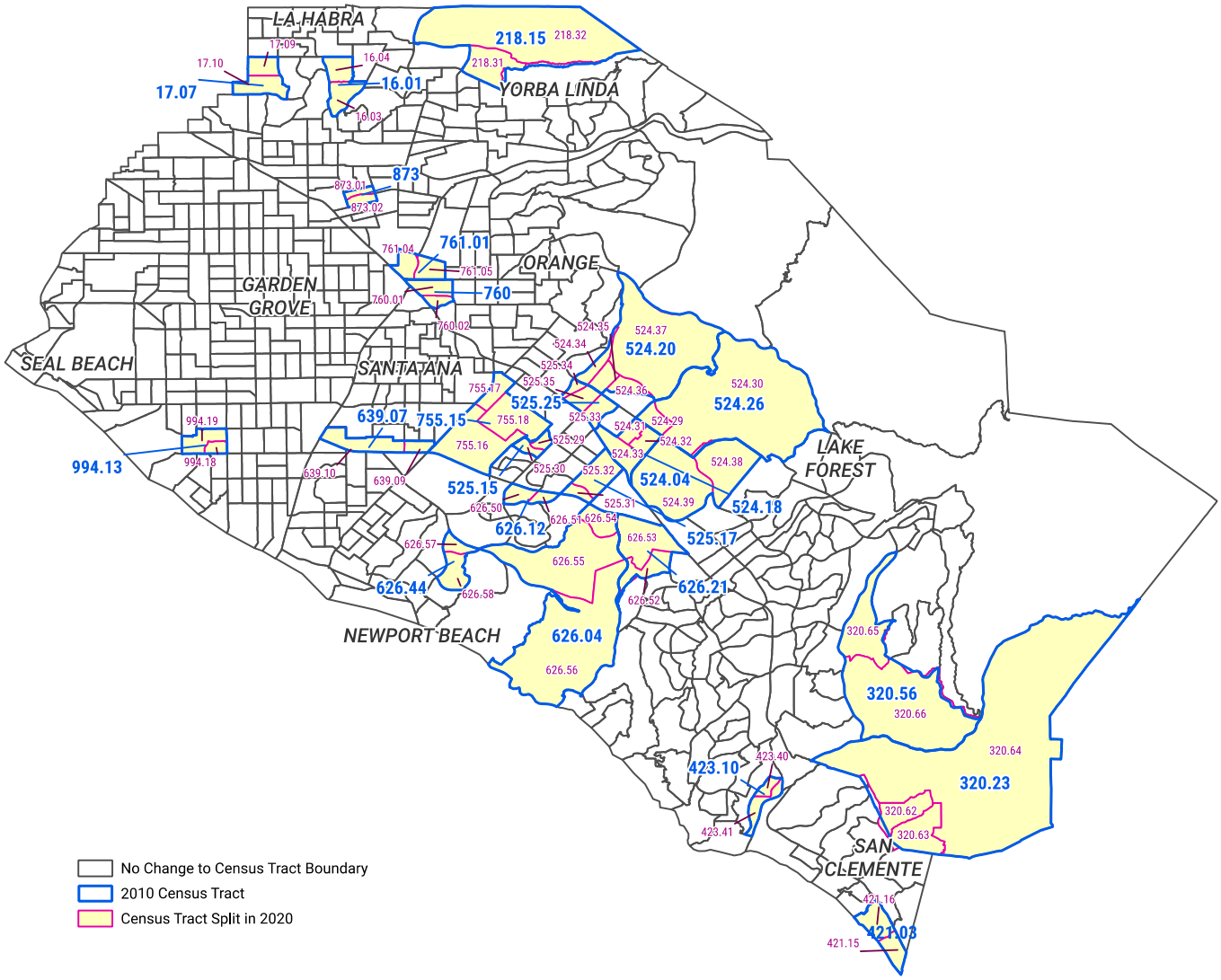
the 2020 FFSI-OC score for 2010-boundary tract number 524.04 (in Irvine) was a 4, which is in the less stable range of the FFSI continuum from 1 to 10. In 2020, Tract 524.04 was split into two tracts, becoming 524.38 and 524.39, which scored a 3 and 8, respectively. These findings reveal that the larger tract masked the presence of a financially stable neighborhood (8) and a less stable neighborhood scoring low (3). For some tracts, the split into more than one tract had unexpected results. For example, 2010-boundary tract number 320.56 (in Las Flores and Rancho Santa Margarita) had a 2020 FFSI-OC score of 10; however, in 2020 the new tracts designated as 320.65 and 320.66 scored a 9 and a 7, respectively. In this circumstance, the larger tract masked the variability within each of the new tracts. For example, tract 320.65, which scored a 9, had a somewhat higher unemployment rate, but no families that were rent burdened or low income. Tract 320.66, which scored a 7, had no unemployment, but many families rent burdened and a moderate proportion of low-income families. When recombined to calculate the 2020 FFSI-OC score using the 2010 boundaries, these variations in the FFSI-OC components offset each other, so that the resulting composite tract appears very financially stable, scoring a 10 on the continuum.

Figure A.3: Comparison of 2020 FFSI-OC Scores for Retired and New Census Tract Boundaries

Retired 2010 or New 2020 Boundary	Census Tract	FFSI-OC 2020
Retired	16.01	7
New	16.03	8
	16.04	7
Retired	17.07	9
New	17.09	*
	17.1	9
Retired	218.15	7
New	218.31	6
	218.32	9
Retired	320.23	9
New	320.62	*
	320.63	6
	320.64	7
Retired	320.56	10
New	320.65	9
	320.66	7
Retired	421.03	8
New	421.15	8
	421.16	8
Retired	423.10	5
New	423.40	4
	423.41	6
Retired	524.26	8
New	524.29	7
	524.30	9
Retired	524.18	7
New	524.31	10
	524.32	8
	524.33	7
Retired	524.20	8
New	524.34	8
	524.35	10
	524.36	*
	524.37	4
Retired	524.04	4
New	524.38	3
	524.39	8
Retired	525.15	7
New	525.29	7
	525.30	6
Retired	525.17	9
New	525.31	10
	525.32	7
Retired	525.25	4
New	525.33	6
	525.34	4
	525.35	5
Retired	626.12	9
New	626.50	10
	626.51	7
Retired	626.21	6
New	626.52	6
	626.53	5
Retired	626.04	6
New	626.54	5
	626.55	10
	626.56	*
Retired	626.44	7
New	626.57	5
	626.58	10
Retired	639.07	7
New	639.09	8
	639.10	5
Retired	755.15	6
New	755.16	5
	755.17	5
	755.18	6
Retired	760	4
New	760.01	3
	760.02	*
Retired	761.01	3
New	761.04	4
	761.05	2
Retired	873	1
New	873.01	2
	873.02	2
Retired	994.13	9
New	994.18	8
	994.19	10

Note: Data for this figure are derived from the U.S. Census Bureau, 2016-2020 American Community Survey 5-Year Estimates. *No data.

Figure A.4: Changes in Orange County Census Tracts Between 2010 and 2020



Appendix B: Technical Appendix

Discussion of Monitoring Change Over Time

Data Constraints

Changes in the FFSI for neighborhoods from one year to the next can be used to depict the estimated status of these areas each year with regard to family financial stability. However, due to the overlapping nature of ACS five-year estimate data, formal statistical trend analysis cannot be used to compare changes annually from one year to the next. For example, the 2020 FFSI-OC scores presented in this report are based on cumulative data gathered by the Census Bureau over the five-year period from 2016 to 2020. When FFSI-OC scores are calculated again next year, the underlying data will come from the five-year period from 2017 to 2021, meaning that the FFSI-OC scores from these two periods will be based on overlapping sets of data, violating the technical assumptions of a comparative statistical analysis.[38] Despite this constraint, the FFSI allows for monitoring change over time without the use of formal statistical trend analysis, while being mindful that these five-year estimates are not point estimates for specific years, but rather moving averages for all years included in the five-year interval. For example, now that multiple waves of FFSI-OC scores are available, for the past several years, this report has identified neighborhoods that show a trend of deteriorating, stable, or improving FFSI-OC scores (see the preceding section "Analysis of Five-Year Change Over Time").

Statistical Significance Testing of Non-Overlapping Datasets

The baseline FFSI-OC calculation used 2008-2012 data and the current calculation uses 2016-2020 data, therefore it is now possible to use non-overlapping five-year intervals to provide more formal statistical tests and trend analysis, comparing one five-year interval with the preceding five-year interval.[39] Since the FFSI is an index of calculated percentages composed of three separate indicators, each with internal cut points, the data would require substantial manipulation to enable reliable significance testing. To date, the research team has not conducted this analysis. It is unclear whether the analysis would add analytical or policy value beyond what the existing change analysis already provides.

Change Stability Test

During the development of the index, the stability of the measures over time was tested. Given that adjacent five-year estimates contain a large fraction of duplicate household data, and that family financial stability is not expected to change quickly for entire census tracts, a valid measure of family financial stability based on the five-year Census estimates was not expected to change dramatically from year-to-year for most neighborhoods. To check the performance of the FFSI-OC in this regard, component and overall index scores for each census tract were calculated using 2008-2012 and 2009-2013 ACS five-year estimates. Then variation in index scores was measured to gauge for wide

[38] https://www.census.gov/content/dam/Census/library/publications/2009/acs/ACSResearch.pdf

[39] https://www.census.gov/content/dam/Census/library/publications/2009/acs/ACSResearch.pdf; https://www.census.gov/programs-surveys/acs/guidance/statistical-testing-tool.html; https://www2.census.gov/programs-surveys/acs/tech_docs/statistical_testing/2016StatisticalTesting1year.pdf?

fluctuations or unexpected variance. Modest variation was found between these estimates, consistent with the intent of the index, i.e., to be sensitive to change over time but not overly sensitive to random noise or subject to dramatic, unrealistic fluctuations. Specifically, it was found that:

- Index scores of 39 percent of census tracts did not change at all between the 2008-2012 five-year estimates (referred to as 2012) and the 2009-2013 five-year estimates (referred to as 2013).
- Index scores of 81 percent of census tracts changed by one (1) point or not at all between the 2012 and 2013 results.
- Changes were close to normally distributed as pictured in Figure B.1.

Figure B.1: Change in FFSI-OC Score Between 2012 Results and 2013 Results (Chart)

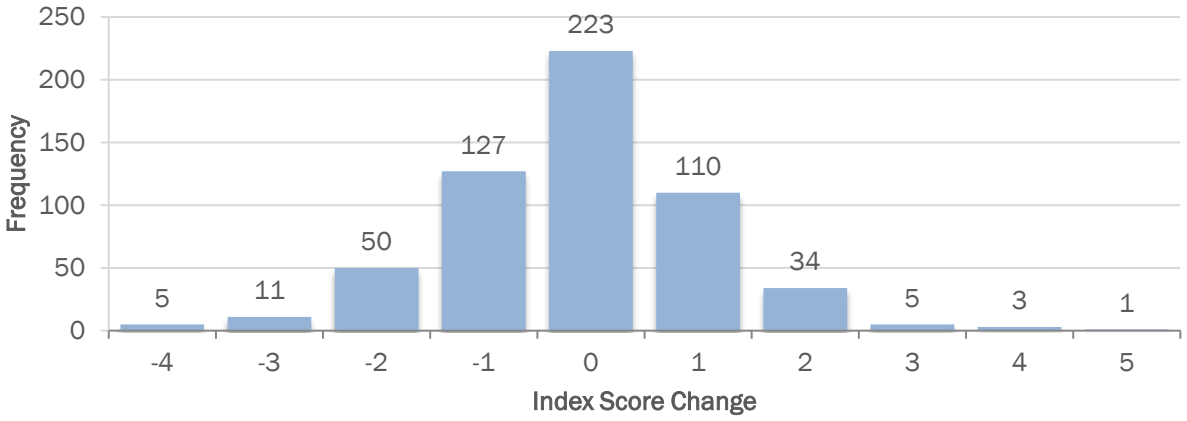


Figure B.2: Change in FFSI-OC Score Between 2012 Results and 2013 Results (Table)

Change, 2012 to 2013, FFSI-OC Score	Frequency (number of Orange County census tracts)	Percent (including only tracts without missing data)
-5	0	0.0%
-4	5	0.9%
-3	11	1.9%
-2	50	8.8%
-1	127	22.3%
0	223	39.2%
1	110	19.3%
2	34	6.0%
3	5	0.9%
4	3	0.5%
5	1	0.2%
Total	569	100.0%
Missing	10	
Total	579	

Missing Data

The neighborhood level analysis returned no data for one or all three of the index components for 29 out of the 583 Orange County census tracts in the 2019 analysis. In 2016, the Census Bureau implemented stricter data suppression standards for the Housing data, which is a custom tabulation. This had the effect of increasing missing data from between six and 11 census tracts prior to 2016 to 26 census tracts in 2016, 31 in 2017, 28 in 2018, 29 in 2019, and 22 in 2020. Data are suppressed to protect confidentiality in census tracts with few families with children.

The census tracts that have historically been suppressed have typically been areas that have few residential dwellings or few families with children, such as the former El Toro Marine Corps base, Disneyland, or Laguna Woods, which is a community for residents 55 years of age or older.

Further, with only minor exceptions, the newly suppressed census tracts have historically scored 5 or higher on the FFSI-OC. Since the policy focus of the FFSI-OC is family financial instability, the omission of data for these census tracts has little impact on the utility and function of the FFSI-OC.

Census Tract Boundary Changes

Every ten years, in anticipation of the decennial census, the U.S. Census Bureau reviews and, if necessary, revises the geographic boundaries it uses to summarize data, including census tracts. In 2020, the U.S. Census Bureau split several census tract boundaries in areas of Orange County that witnessed population increases, creating a net of 31 additional tracts (55 new tracts less 24 tracts retired).

The research team considered several alternative ways to analyze the data, with each presenting advantages and disadvantages. The first option considered was to wholly ignore the new boundaries and recombine the 2020 data into the 2010 boundaries for the affected tracts. This option had the advantage of providing continuity with previous FFSI-OC results, but it did not acknowledge the methodological rationale behind the splitting of the tracts. Combining the data might conceal policy relevant distinctions in neighborhoods. For example, a combined tract could have an FFSI-OC score of 5, but when split, one newly created tract might score a 3 while the other scored a 7 – two very different outcomes that would warrant different interventions.

The second option considered was to recombine the data into the 2010 boundaries, but also calculate the FFSI-OC score for the census tracts newly created in 2020. This option provided continuity like the first option, while also enabling stakeholders to uncover potential distinctions in financial stability within historically combined geographies that were separated beginning in the 2020 data. As noted within the 2020 FFSI-OC Findings section, this is the option that was selected by Orange County United Way leadership.

The third option considered was to transition the FFSI-OC to the 2020 boundaries but retain the 2010 boundaries for the five-year change analysis. This alternative harnesses the advantages of showing results for the newly split tracts cited in the second option and supports the Census Bureau's methodological rationale for splitting the tracts by using the new boundaries for the dominant display of the results. The disadvantage of this option is that year-over-year comparisons would restart in 2020 and would not be comparable to previous results, including the ability to track

consecutive progress toward the FACE 2024 goal. However, by combining the 2020 data into the 2010 boundaries for the purposes of the five-year change analysis, some level of trend analysis would still be possible.

The fourth option considered was to wholly transition to the 2020 boundaries. The advantages and disadvantages of proceeding with the 2020 boundaries cited in the third option would persist. In addition, the ability to show any change over time would be lost by starting trend analysis anew in 2020. The five-year change analysis would not be possible.

The census tract boundary changes only impact FFSI-OC results at the census tract level, which is the dominant display of the data and the level at which the FFSI methodology was optimized. The boundary changes do not impact the analysis of FFSI-OC data at the place, county, state, or national levels.

Appendix C: Census Tract Component Indicator Scores

Analysis of FFSI-OC indicator scores for each of the three FFSI components helps clarify the drivers behind overall score changes.[40] However, particularly when viewing FFSI results at the component indicator level, it is important to bear in mind that the data reflect overlapping five-year pooled estimates. This results in a lag effect in the data, since findings reported for a given year are a cumulative result from that year and the previous four years.

For example, 2020 FFSI-OC component indicator results contain the pooled data from the 2016, 2017, 2018, 2019, and 2020 American Community Survey, and therefore, contain the potential residual effects of earlier neighborhood conditions on the 2020 FFSI-OC indicator results.

An analysis of the trends observed in the 2012 through 2020 FFSI-OC indicator scores for Income and Employment can illustrate this residual effect. The nine years of FFSI-OC results from 2012 through 2020 reflect data collected in 2008 through 2020. This period overlaps with the 2007-2009 Great Recession and the recovery. When observing the proportion of neighborhoods that received an income indicator score of 0 (the lowest indicator score possible), we see that the proportion increases between 2012 and 2014 and then starts to decline in 2015. This worsening between 2012 and 2014, which includes data from 2008 through 2014, likely reflects the lagging effect of data from the recession years. The improvement seen in the 2015 results (which includes data from 2011 through 2015) and in later years reflects data collected after the recession and fully within the recovery period. It is notable that income scores continue to show improvement in the 2020 FFSI-OC results, which overlap with the first year of the coronavirus pandemic, when the federal government issued relief payments to buffer against the massive unemployment experienced due to the shutdown.

The employment indicator results show less of a residual effect of recession-years data. It may be intuitive to expect income to lag employment. Indeed, in the 2015 to 2019 period, which reflects data collected between 2011 and 2019 and corresponds with the recovery and beyond, we begin to see the improvement in family income indicator scores that one would anticipate with rising employment levels. As anticipated, the employment component score in the 2020 FFSI-OC showed the impact of unemployment owing to the pandemic-related shutdowns.

Rent burden varied somewhat over this period, but generally remained flat.

Figures C.1 through C.3 show the trend in indicator scores for the three FFSI-OC components: income, housing, and employment. As noted above, the data shown in the charts are based on the U.S. Census Bureau 2012 through 2020 American Community Survey 5-Year estimates, which are derived from data collected from 2008 through 2020, with the newly created 2020 census tracts reconfigured into their 2010 boundaries to allow for comparisons across time.

[40] Indicator scores are values of 0, 1, 2 or 3 assigned to each geography based on performance on each of the three index components. See Methodology section for a description of the cut points used to assign indicator scores and the composite index formula used to calculate the FFSI-OC score for each geography.

Figure C.1: FFSI-OC Income Indicator Scores: Percentage of families with children under age 18 with incomes under 185 percent of poverty, 2012-2020

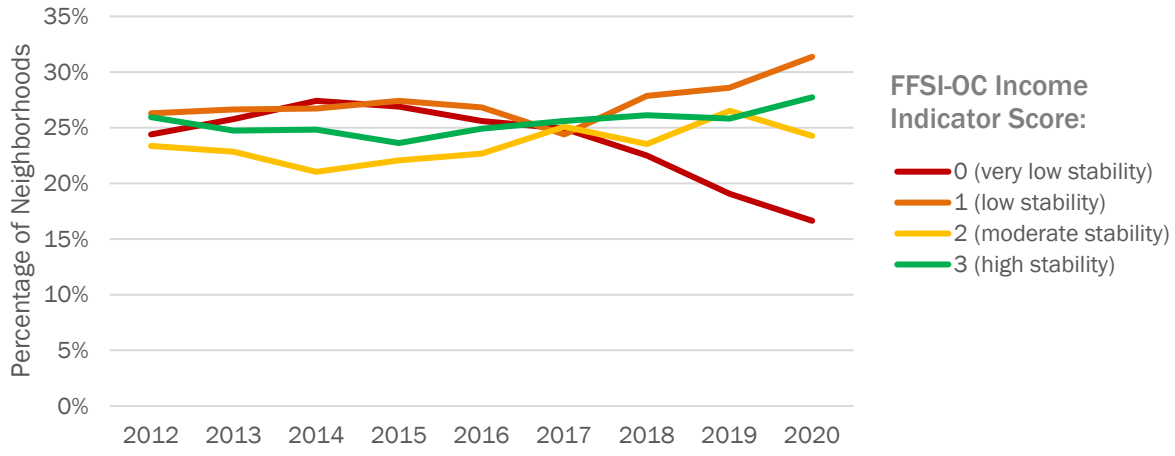


Figure C.2: FFSI-OC Housing Indicator Scores: Percentage of families with children under age 18 spending more than 50 percent of income on rent, 2012-2020

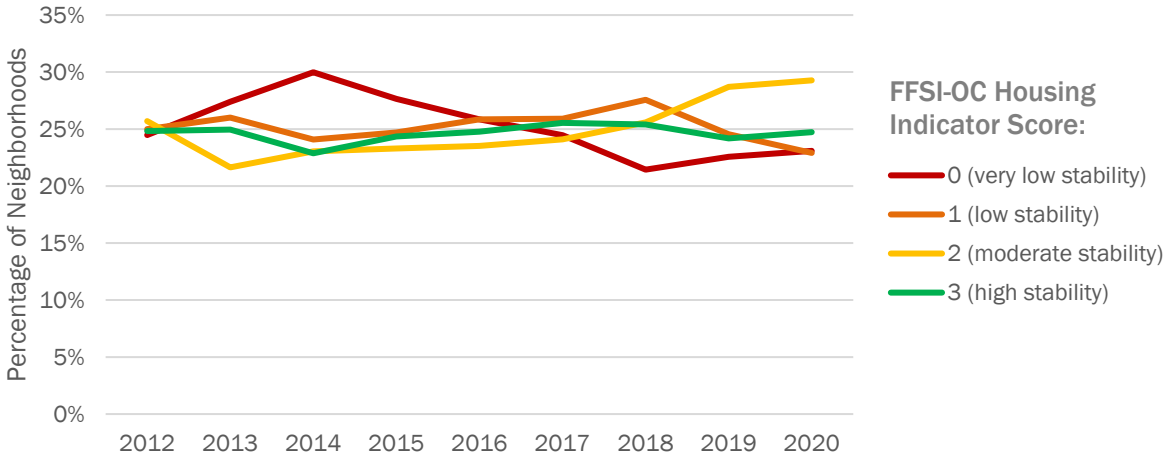
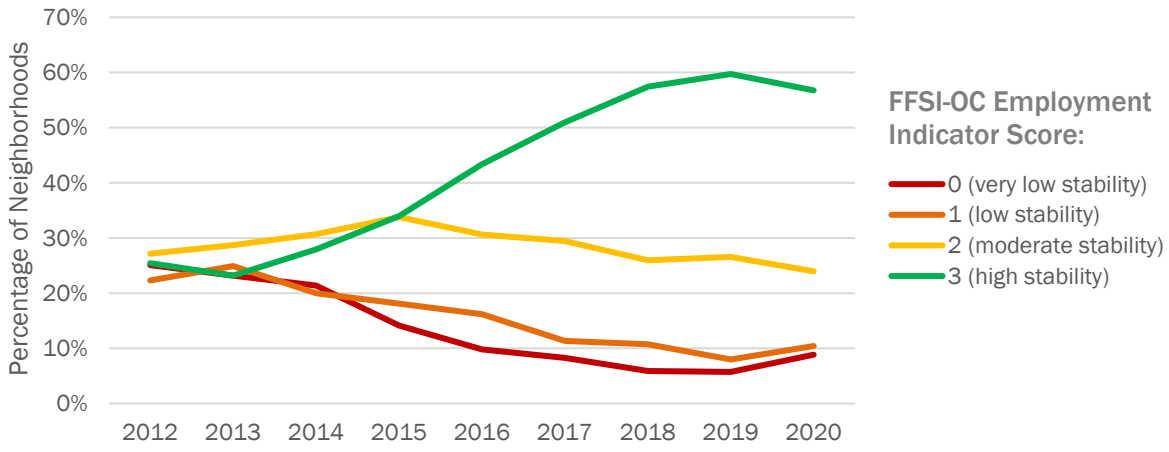


Figure C.3: FFSI-OC Employment Indicator Scores: Percentage of families with children under age 18 with one or more unemployed adults seeking employment, 2012-2020



Appendix D: Place-Level FFSI-OC Findings

At a less granular level of detail than census tracts, Orange County is divided into 40 geographic places, of which 38 could be scored in 2020 using the FFSI-OC methodology.[41] Geographic places include incorporated areas (cities) and unincorporated areas (census designated places, or CDPs), and are always within a single state or equivalent entity, but may extend across county and county subdivision boundaries.[42] The distribution of FFSI-OC scores across these geographic places is displayed in Figures D.1 and D.2.

- At the extreme ends of the FFSI-OC continuum, no place received a score of a 1, 2 or 3, while one Orange County place received a 10 (the unincorporated community of Coto de Caza) and three received a 9 (the unincorporated communities of North Tustin and Rossmoor, and the city of Rancho Santa Margarita) on the FFSI-OC for 2020.
- Three places received a score of 4 (the cities of Los Alamitos, Santa Ana, and Westminster).
- The most common score was 6, representing 13 places, followed by a score of 7, representing 12 places.

Census results and scores on the individual indicators, as well as the composite FFSI-OC scores for individual places are provided in Figure D.3 below. The percentages in the table represent the proportion of families with children in each city with: incomes below 185% of poverty (Income), at least one adult in the family unemployed (Employment), and rent costs of 50% or more of income (Housing). See page 10 for details on each indicator.

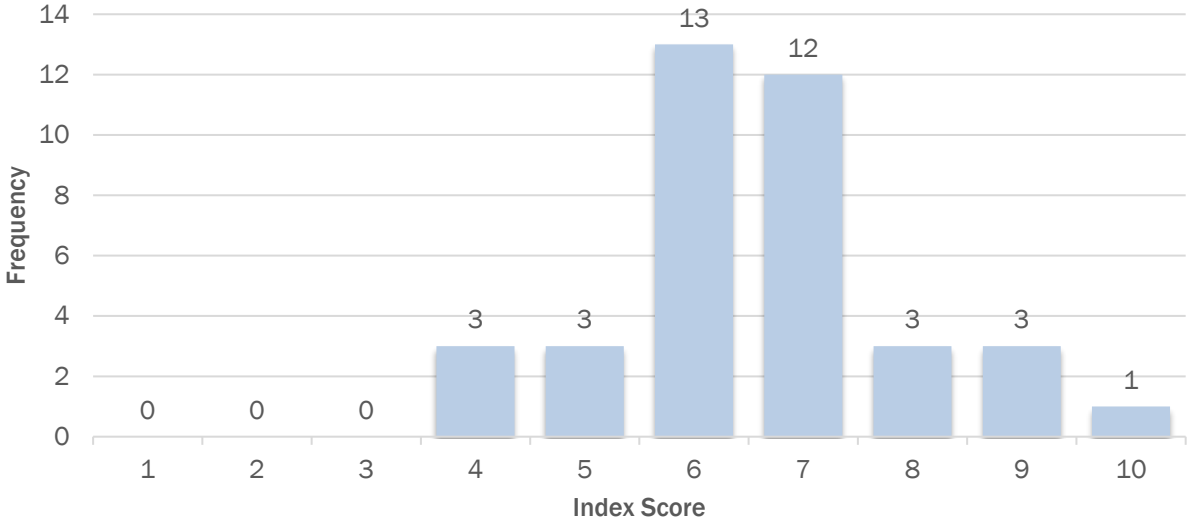
Figure D.1: FFSI-OC Distribution by Place, 2020 (Table)

Family Financial Stability Index - Orange County (FFSI-OC) Score	Frequency (number of Orange County geographic places)	Percent	Cumulative Percent
1	0	0.0%	0.0%
2	0	0.0%	0.0%
3	0	0.0%	0.0%
4	3	7.9%	7.9%
5	3	7.9%	15.8%
6	13	34.2%	50.0%
7	12	31.6%	81.6%
8	3	7.9%	89.5%
9	3	7.9%	97.4%
10	1	2.6%	100.0%
Total	38	100.0%	

[41] Due to data suppression criteria from the U.S. Census Bureau, since 2015 FFSI-OC scores were could not be calculated for Laguna Woods, which is a city for residents age 55 and over and has too few families with children to ensure confidentiality. Also due to data suppression criteria, in 2020, FFSI-OC scores cannot be calculated for Villa Park. Consequently, only 38 place-level geographies have FFSI-OC scores for 2020.

[42] According to the U.S. Census, incorporated places are recognized legally according to laws of their respective states, and generally have active, functioning governments providing a variety of services for their residents. CDPs represent unincorporated communities that typically do not have a legally specified boundary.

Figure D.2: FFSI-OC Distribution by Place, 2020 (Chart)



Note: Data for this figure are derived from the U.S. Census Bureau, 2016-2020 American Community Survey 5-Year Estimates.

Interpretation of Results at the Place-Level

The FFSI has its greatest utility at the census tract level since it was crafted for this level of geographic analysis. Moreover, composite results at the place level may benefit from an examination of individual component results, particularly when results are unexpected. For example, in relatively high-income cities or places, high housing prices may drive composite index scores on the lower half of the distribution. In such cases, the income and employment data inputs can illuminate whether the place is indeed in distress, or if most families have high incomes and low unemployment, and thus can afford to devote a substantial portion of household income to rent. Other unique attributes of a city may impact results. For example, in Orange County, the city of Laguna Woods restricts the age of residents to 55 and over, therefore it is rare for residents to have children under 18 living with them and residents are less likely to be in the labor force. In 2015, the U.S. Census Bureau began suppressing data from Laguna Woods that it previously provided in the custom tabulation for the Housing component. Consequently, beginning in 2015, the FFSI-OC is not calculated for Laguna Woods. Thus, given the various nuances, the place-level results are provided primarily for comparative purposes and not necessarily to inform policy decisions.

Figure D.3: FFSI-OC Results by Place, 2020

	Income	Employment	Housing	Income Indicator Score	Employment Indicator Score	Housing Indicator Score	Index Value
Aliso Viejo city	12.5%	4.5%	26.9%	2	2	2	7
Anaheim city	35.0%	4.8%	34.5%	1	2	1	5
Brea city	13.7%	3.8%	20.1%	2	3	2	8
Buena Park city	29.5%	4.1%	25.9%	1	2	2	6
Costa Mesa city	28.4%	3.7%	30.8%	1	3	1	6
Coto de Caza CDP	6.4%	2.6%	7.7%	3	3	3	10
Cypress city	14.1%	2.4%	28.3%	2	3	1	7
Dana Point city	12.3%	4.9%	24.8%	2	2	2	7
Fountain Valley city	16.3%	5.9%	31.7%	2	2	1	6
Fullerton city	27.4%	5.6%	30.9%	1	2	1	5
Garden Grove city	31.3%	5.4%	27.7%	1	2	2	6
Huntington Beach city	18.6%	4.6%	27.8%	2	2	2	7
Irvine city	12.8%	6.3%	25.1%	2	2	2	7
Ladera Ranch CDP	6.4%	3.7%	44.3%	3	3	0	7
Laguna Beach city	19.7%	3.2%	51.2%	2	3	0	6
Laguna Hills city	15.1%	2.4%	41.4%	2	3	0	6
Laguna Niguel city	15.6%	2.6%	28.3%	2	3	1	7
Laguna Woods city*	18.2%			2			
La Habra city	26.9%	5.4%	26.4%	1	2	2	6
Lake Forest city	17.1%	5.2%	33.0%	2	2	1	6
La Palma city	14.7%	0.0%	36.3%	2	3	1	7
Las Flores CDP	12.2%	4.4%	23.1%	2	2	2	7
Los Alamitos city	30.0%	9.7%	30.9%	1	1	1	4
Midway City CDP	56.7%	8.6%	11.8%	0	1	3	5
Mission Viejo city	10.4%	3.5%	28.2%	2	3	1	7
Newport Beach city	12.0%	2.9%	22.6%	2	3	2	8
North Tustin CDP	8.5%	3.1%	24.6%	3	3	2	9
Orange city	20.9%	3.0%	31.6%	1	3	1	6
Placentia city	19.0%	7.5%	26.0%	2	2	2	7
Rancho Santa Margarita city	9.5%	3.4%	24.7%	3	3	2	9
Rossmoor CDP	13.4%	3.4%	13.6%	2	3	3	9
San Clemente city	11.1%	6.0%	30.6%	2	2	1	6
San Juan Capistrano city	19.4%	4.4%	36.5%	2	2	1	6
Santa Ana city	43.1%	4.5%	29.1%	0	2	1	4
Seal Beach city	9.1%	4.4%	17.3%	3	2	2	8
Stanton city	39.3%	3.8%	31.1%	1	3	1	6
Tustin city	20.4%	4.5%	26.3%	1	2	2	6
Villa Park city*	12.6%	1.6%		2	3		
Westminster city	35.3%	6.5%	43.6%	1	2	0	4
Yorba Linda city	11.5%	4.0%	27.0%	2	2	2	7

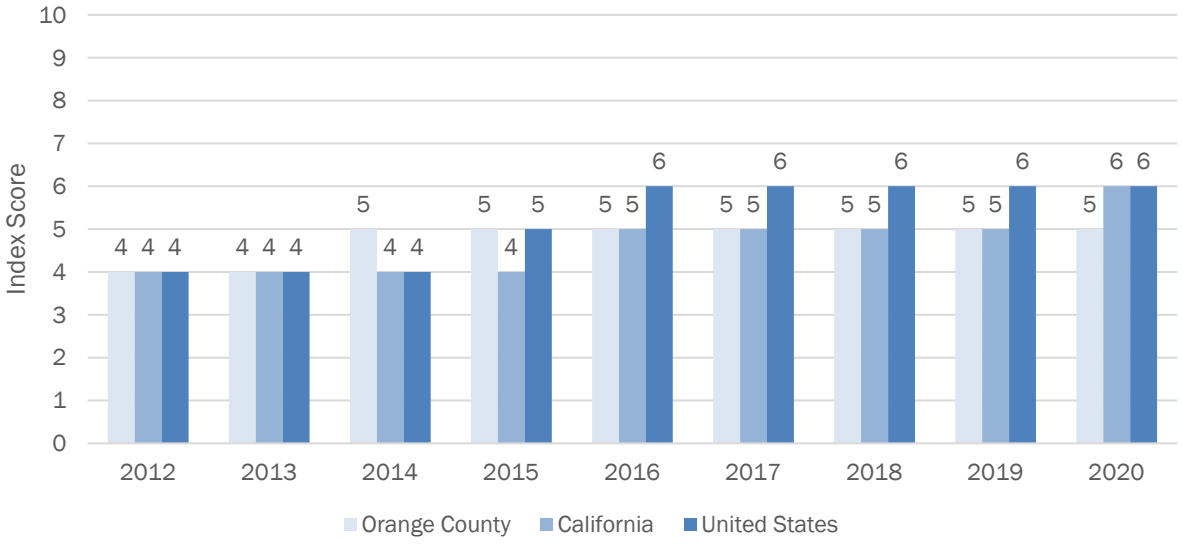
*Insufficient data to calculate values.

Appendix E: County, State, and National FFSI-OC Findings

Taken as a whole, Orange County received a score of 5 on the FFSI-OC for 2020. California and the United States received a 6.[43] As shown in Figure E.1, the county, state, and national rates have shown gradual improvement since 2012. Orange County has received a score of 5 since 2014, improving from a score of 4 in 2012 and 2013. In 2020, California's score improved to a 6 after four years at a score of 5 and, before that, four years at a score of 4. The United States score has been at 6 since 2016, an increase from a score of 5 in 2015 and a score of 4 in the years prior to that.

As shown in Figure E.2, Orange County's score improved in 2014 owing to an improvement in the employment score. Employment refers to the percentage of families with children under 18 with one or more unemployed adults looking for work, which applied to 4.7 percent of Orange County families in 2020. The U.S. score surpassed the Orange County score in 2016 due to improvement in the housing score, indicating that fewer families nationwide are spending 50 percent or more of their income on rent. In 2020, the California score also surpassed the Orange County score due to improvement in the housing score. The income score, which reflects the percentage of families with children under 18 with household income under 185 percent of the poverty level, has not changed for the county, state, or nation since 2012.

Figure E.1: FFSI-OC Results by County, State and Nation, 2012-2020 (Chart)



Note: Data for this figure are derived from the U.S. Census Bureau, 2008-2012, 2009-2013, 2010-2014, 2011-2015, 2012-2016, 2013-2017, 2014-2018, 2015-2019, and 2016-2020 American Community Survey 5-Year Estimates.

[43] The composite index formula sums each component indicator score and adds one to arrive at a 1-10 scale. See Methodology section for additional detail.

Figure E.2: FFSI-OC Results by County, State and Nation, 2012-2020 (Tables)

2020							
	Housing	Housing Score	Income	Income Score	Employment	Employment Score	**FFSI-OC Score**
Orange County	29.7%	1	23.5%	1	4.7%	2	**5**
California	27.7%	2	29.8%	1	5.3%	2	**6**
United States	24.9%	2	30.8%	1	4.6%	2	**6**

2019							
	Housing	Housing Score	Income	Income Score	Employment	Employment Score	**FFSI-OC Score**
Orange County	29.8%	1	25.0%	1	4.1%	2	**5**
California	28.2%	1	31.7%	1	5.2%	2	**5**
United States	25.3%	2	32.1%	1	4.5%	2	**6**

2018							
	Housing	Housing Score	Income	Income Score	Employment	Employment Score	**FFSI-OC Score**
Orange County	30.4%	1	26.4%	1	4.6%	2	**5**
California	29.0%	1	33.4%	1	5.8%	2	**5**
United States	26.2%	2	33.3%	1	5.0%	2	**6**

2017							
	Housing	Housing Score	Income	Income Score	Employment	Employment Score	**FFSI-OC Score**
Orange County	31.0%	1	27.7%	1	5.0%	2	**5**
California	29.8%	1	34.9%	1	6.7%	2	**5**
United States	26.8%	2	34.3%	1	5.7%	2	**6**

2016							
	Housing	Housing Score	Income	Income Score	Employment	Employment Score	**FFSI-OC Score**
Orange County	31.3%	1	28.5%	1	5.8%	2	**5**
California	30.6%	1	36.3%	1	7.7%	2	**5**
United States	27.5%	2	35.2%	1	6.4%	2	**6**

2015							
	Housing	Housing Score	Income	Income Score	Employment	Employment Score	**FFSI-OC Score**
Orange County	31.8%	1	29.3%	1	6.7%	2	**5**
California	31.3%	1	37.2%	1	8.9%	1	**4**
United States	28.4%	1	35.8%	1	7.3%	2	**5**

2014							
	Housing	Housing Score	Income	Income Score	Employment	Employment Score	**FFSI-OC Score**
Orange County	32.3%	1	29.5%	1	7.9%	2	**5**
California	31.8%	1	37.4%	1	10.1%	1	**4**
United States	29.1%	1	36.0%	1	8.3%	1	**4**

2013							
	Housing	Housing Score	Income	Income Score	Employment	Employment Score	**FFSI-OC Score**
Orange County	31.3%	1	29.0%	1	8.6%	1	**4**
California	31.8%	1	36.8%	1	10.8%	1	**4**
United States	29.4%	1	35.6%	1	8.9%	1	**4**

2012							
	Housing	Housing Score	Income	Income Score	Employment	Employment Score	**FFSI-OC Score**
Orange County	30.5%	1	27.8%	1	8.7%	1	**4**
California	31.5%	1	35.8%	1	10.4%	1	**4**
US	29.3%	1	34.8%	1	8.6%	1	**4**

Note: Data for this figure are derived from the U.S. Census Bureau, 2008-2012, 2009-2013, 2010-2014, 2011-2015, 2012-2016, 2013-2017, 2014-2018, 2015-2019, and 2016-2020 American Community Survey 5-Year Estimates.

Interpretation of Results at the County, State and National Level

The FFSI-OC was created for use at the census tract level, with baseline 2012 census tract results driving the cut points used in subsequent years. At the level of counties, states, and the nation, the thresholds are less sensitive and results tend to average out, limiting variability. Like the interpretation of the results at the place level, the county, state, and national FFSI-OC results may be useful for comparative purposes but do not provide enough specificity to inform policy decisions.

Appendix F: 2020 Summary Results

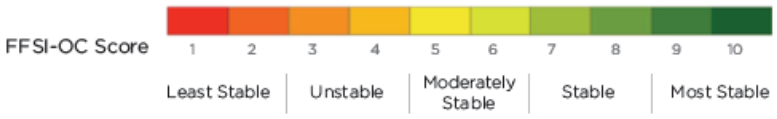
FAMILY FINANCIAL STABILITY

Family Financial Stability Declined Slightly in 2020

The 2020 Family Financial Stability Index for Orange County (FFSI-OC) shows that 19 percent of neighborhoods had high levels of family financial instability (scores of 1, 2, 3, and 4 out of a maximum score of 10). The FFSI-OC measures the financial stability of families with children under 18 by Orange County neighborhood and is a composite of three metrics: family income, employment status, and the proportion of household income spent on rent. FFSI-OC tracking began in 2012, when 39 percent of neighborhoods received "unstable" FFSI-OC scores of 4 or less. While this level of instability rose to include 41 percent of neighborhoods in 2013, family financial stability had steadily improved each year between 2013 through 2019, when 18 percent of neighborhoods had high levels of family financial stability.

Data from 2020 provides a first glimpse into the impact of the COVID-19 global pandemic disruptions. The 2020 data include results from Orange County residents surveyed in 2016 through 2020, therefore the 2020 data are only partly reflective of the pandemic. Still, these results halted the steady improvement in family financial stability, albeit only slightly.

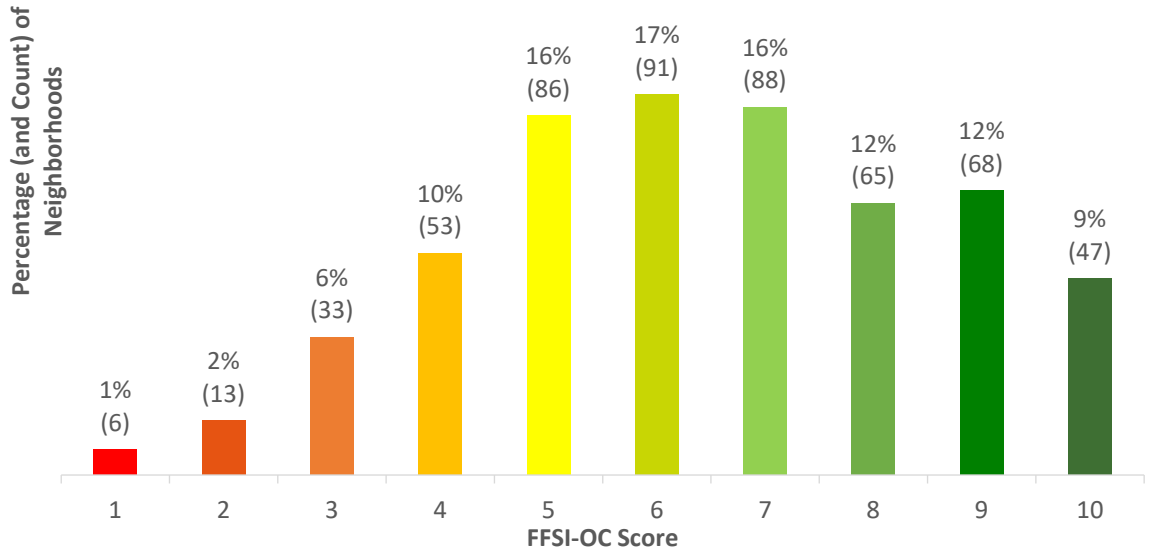
Three cities (Santa Ana, Los Alamitos, and Westminster) had the highest concentrations of family financial instability with scores of 4 on the 2020 FFSI-OC. No city or unincorporated area scored below a 4 in 2020.[44]



[44] Data are estimates based on samples of the Orange County population surveyed between 2016 and 2020. As with all sample data, results have a margin of error where the true result is assumed to be within the margin of error. Therefore, estimates should be interpreted accordingly.

MAJORITY OF NEIGHBORHOODS MODERATELY STABLE OR STABLE

FFSI-OC Scores: Percent (and Count) of Orange County Neighborhoods, 2020

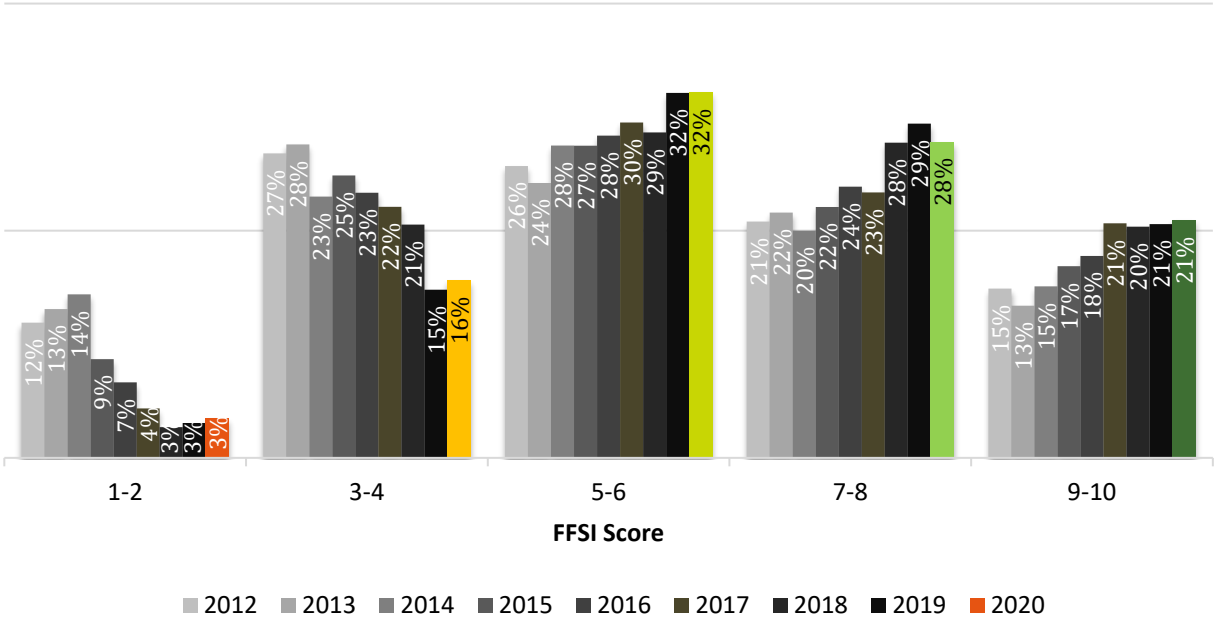


Note: Percentages have been rounded. The number of neighborhoods falling within each FFSI-OC index score is provided in the parentheses following the percentage.

Source: Parsons Consulting, Inc. for Orange County United Way based on data derived from American Community Survey 5-Year Estimates

MORE NEIGHBORHOODS HAVE LOW FAMILY FINANCIAL STABILITY IN 2020

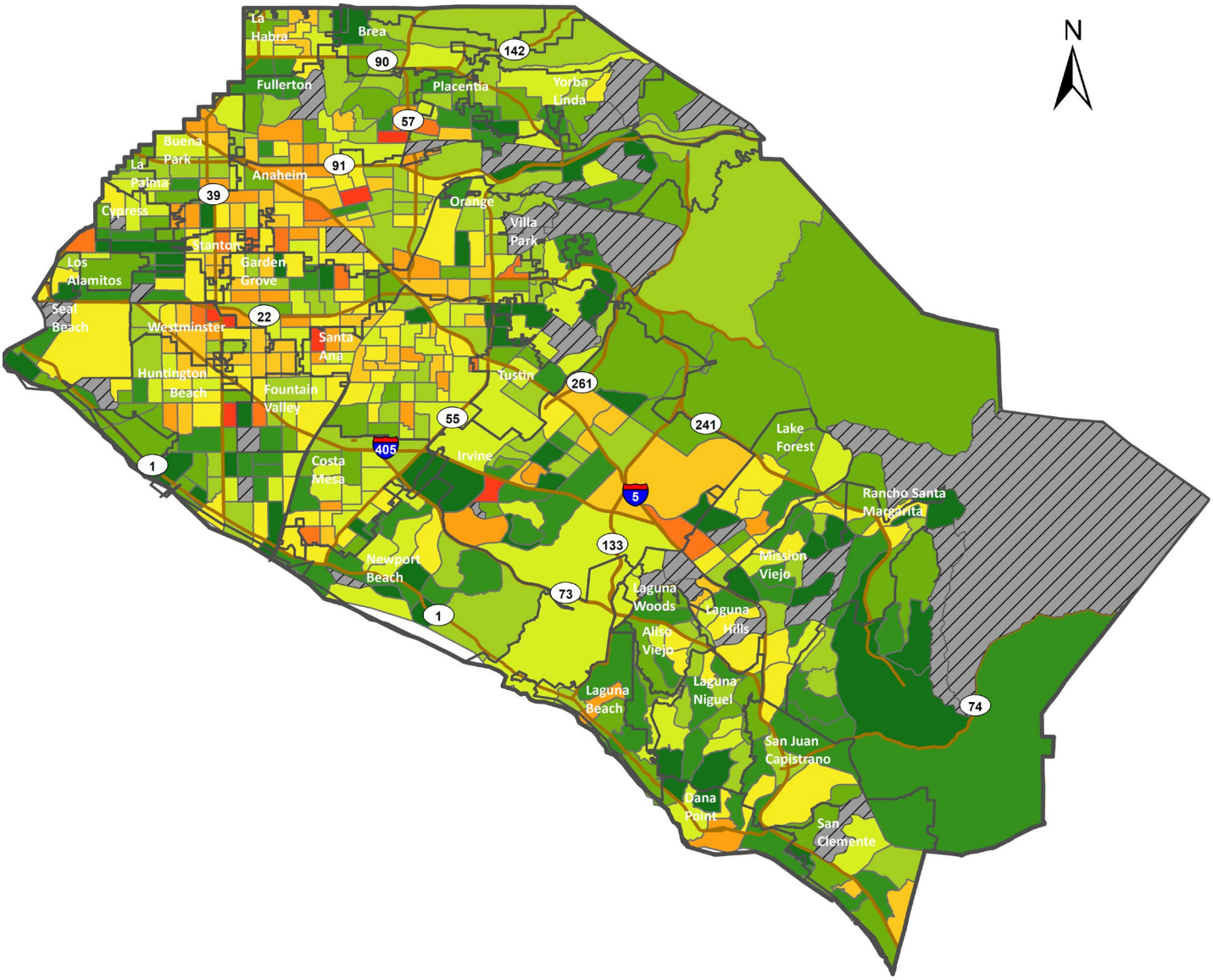
Percentage of Orange County Neighborhoods by FFSI-OC Score, 2012-2020



Source: Parsons Consulting, Inc. for Orange County United Way based on data derived from American Community Survey 5-Year Estimates

19% OF NEIGHBORHOODS HAVE LOW LEVELS OF FAMILY FINANCIAL STABILITY

Family Financial Stability Index – Orange County: 2020 Neighborhood-Level Results



Source: Parsons Consulting, Inc. for Orange County United Way based on data derived from American Community Survey 5-Year Estimates

Red or dark orange areas on the map represent neighborhoods with low levels of family financial stability. Families with children in these neighborhoods are more likely to have a low income (less than 185 percent of the poverty level), spend 50 percent or more of household income on rent, and/or have one or more unemployed adults seeking employment. Green areas, on the other hand, have a higher proportion of families that are financially stable. Gray hatch marked areas represent neighborhoods with no data available due to small numbers of families with children in those neighborhoods and thus data has been suppressed to protect privacy.

Appendix G: FFSI-OC Results and Change Analysis by Census Tract

Provided in electronic Excel format.

Appendix H: 2010 U.S. Census Bureau Census Tract Reference Maps

Map provided as a PDF or can be accessed at the following link:

https://www.census.gov/geographies/reference-maps/2010/geo/2010-census-tract-maps.html

Appendix I: 2020 U.S. Census Bureau Census Tract Reference Maps

Map provided as a PDF or can be accessed at the following link:

https://www.census.gov/geographies/reference-maps/2020/geo/2020pl-maps/2020-census-tract.html