CHARLOTTE FUTURE | 2040 COMPREHENSIVE PLAN

April 2019

Charlotte Future 2040 Comprehensive Plan

Built City Equity Atlas

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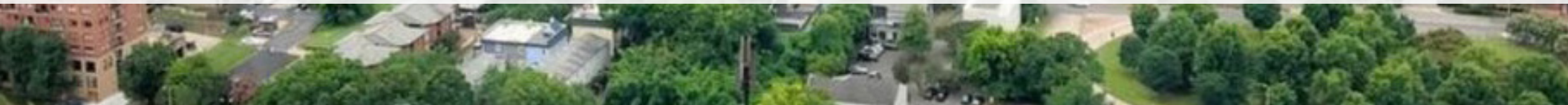
Introduction

The Charlotte Future 2040 Comprehensive Plan is an opportunity to target and harness growth, leverage investment, and help shape the development and evolution of our community. The Comprehensive Plan will work to balance the need for predictable city-wide policies with maintaining the unique identities and distinct experiences offered in our diverse neighborhoods. The City of Charlotte has also committed to developing a Comprehensive Plan that helps direct engagement, policy, planning and design efforts, and resources to enhance equitable access to environments that support upward economic mobility.

Advancing equity is necessary for Charlotte to be diverse, inclusive, livable, accessible, and economically sustainable. In many cities, decades of discriminatory policies and real estate practices contributed to creating cities that are fragmented along racial and social class lines. Charlotte has such a history, and also has well-documented, persistent barriers to social mobility. The Comprehensive Plan process and implementation alone will not solve these complex issues, but the Plan can significantly advance equity goals by setting policies to prioritize public investment and encourage private investment in neighborhoods where built elements are missing or inadequate. The Comprehensive Plan can also help to identify policies to mitigate unintended consequences of planning, such as gentrification and involuntary displacement. The built elements of Charlotte's neighborhoods vary greatly – such as the type and amount of housing, the number and types of jobs, sidewalks, parks, recreation, and the goods and services available.

This Built City Equity Atlas (the Atlas) looks at built aspects of the City of Charlotte through an equity lens to identify what may need to be added and where. This knowledge informs a fundamental and achievable goal of the Comprehensive Plan: to increase equitable access to goods, services and built amenities across neighborhoods. In doing so, the Comprehensive Plan and built environment will help foster upward economic mobility. As growth and change can price out existing small businesses and lower-income residents, the Comprehensive Plan will also need to consider how to mitigate displacement pressure placed on residents and businesses.



Planning for a More Equitable City

This Atlas directly links the broad topic of equity to a comprehensive land use planning process. It depicts existing built development patterns across the Neighborhood Profile Areas (NPAs)[1] of Charlotte. Four primary purposes are to:

1. Compare aspects of the built environment to the distinctive spatial patterns of income, race, and voter participation which are highly correlated to economic mobility.
2. Identify other informative spatial or historical patterns that emerge from the data analysis.
3. Depict assets and gaps in the built environment of individual NPAs, irrespective of other spatial patterns.
4. Inform Charlotte Future 2040 Comprehensive Plan of the most pronounced patterns of inequity in the built environment, in order to inform Plan policies and enhance equity through the built city in the future.

The Comprehensive Plan can promote equity and opportunity in the future growth and development of the city. Local government development policies and investments are important contributors to the equitability of the built environment. With that said, many other factors – most notably, private investment decisions – have and will continue to influence built outcomes.

It is important to note that limitations of this Atlas include:

- The Atlas shows existing conditions only, it does not show trends or include planned future investments – such as the Community Investment Program (CIP) – that will improve access to certain aspects of the built environment, and in doing so, enhance equity overall.
- The Atlas relies on readily available data as indicators and proxy measures.[2]
- The Atlas is non-comprehensive. It does not examine all the data sets that will need to be used in developing the full Comprehensive Plan; additional data and information will be examined to develop growth scenarios and Plan elements. The data in the Atlas helps inform which other data sets will need to be examined for inequities in the built environment.

1 NPAs are a geographic area comprised of one or more Census block groups that is used by the City for the analysis and reporting of neighborhood metrics.

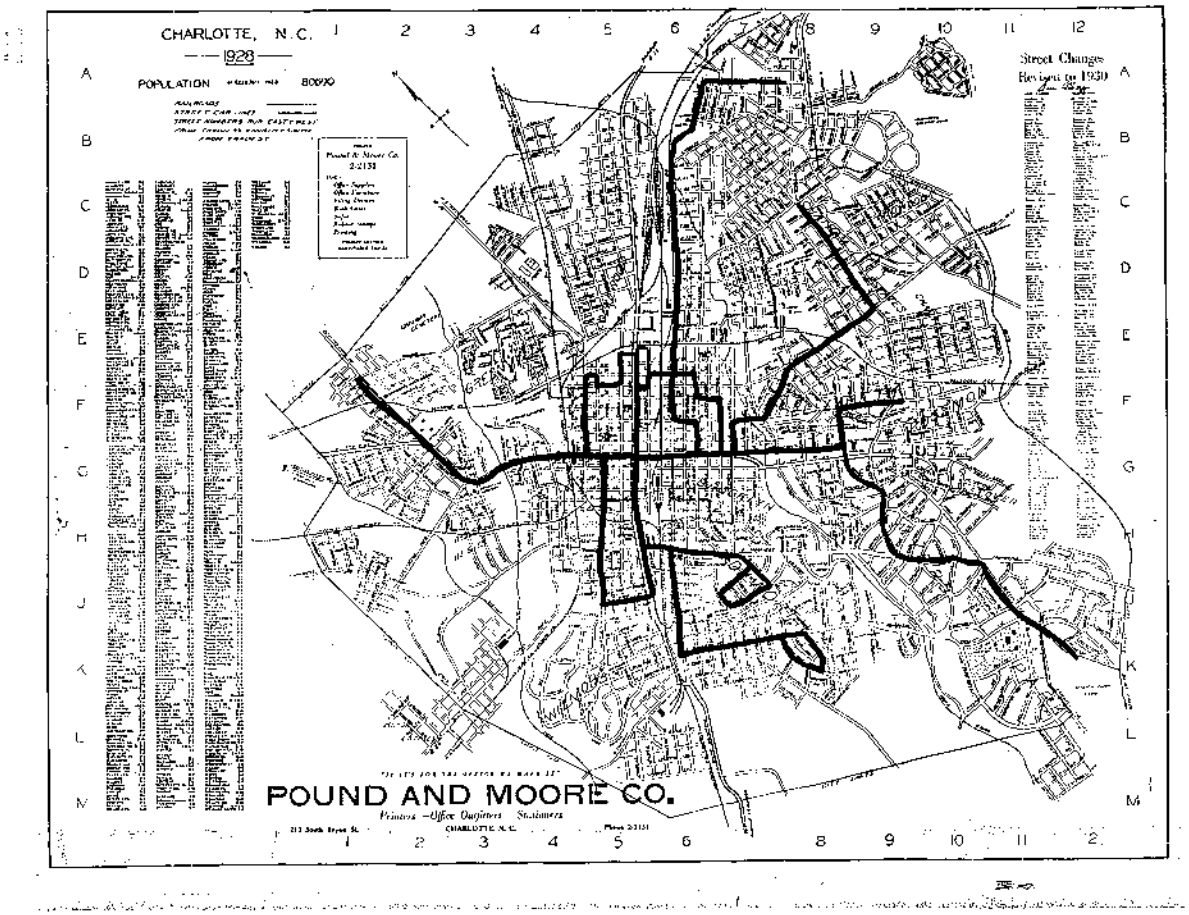
2 The equity and built city data referenced in this document are from the following sources: the Quality of Life Explorer; the Housing Framework Indices; the US Census; opportunityatlas.org; and policymap.com.

The Beginnings of Our City

Charlotte's transformation into a prominent urban center has taken 250 years but can largely be traced to the first half of the nineteenth century. The land in the area had limited utility for farming, but Charlotte was the location of America's first gold rush. This led to the establishment of a US branch mint, laying the groundwork for the city's position and profile as a center for banking.

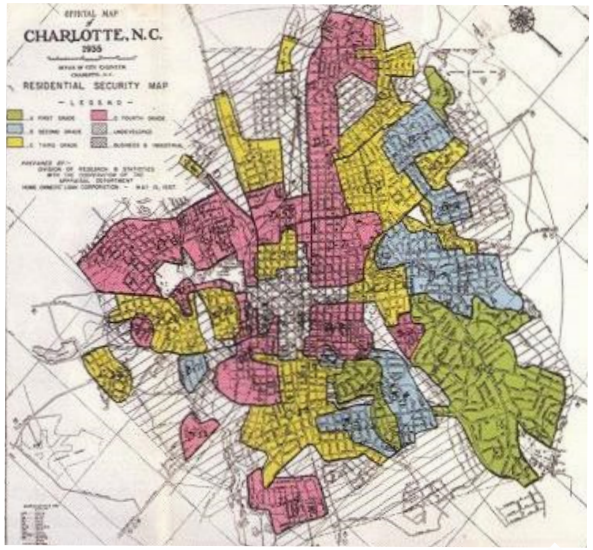
Charlotte was an early hub of transportation punctuated by the Catawba and other Native American tribes' trading paths that form modern day Trade and Tryon Streets. Successful railroad bids a few decades after the Gold Rush strengthened the city's prominence as a transportation hub. The railroad hub survived the Civil War, increasing its value to facilitate trade.

Well-established transportation infrastructure along with technological advancements and the Carolinas' cotton-based economy facilitated the growth of highly-profitable textile manufacturing and goods distribution. As the railroad and cotton industry grew attracting investors, innovators, and jobseekers, large landowners subdivided and sold their land around the growing urban center and rail corridors to mill companies that created mill villages. This urban footprint expansion started to segregate land uses, classes, and people. The streetcar also spurred residential developments adjacent to the urban core providing opportunities to live away from industrial uses and urban congestion. It was during this time of growth that the city became more divided. Political power struggles in the late 1800s led to wealth-driven divide of the working class and accelerated physical segregation of the growing community.



1929 Streetcar Map, Source: UNC-Charlotte Archives

Divisions and Inequity: How We Got Here



Redlining in Charlotte, 1935. Source: Mapping Inequality

Mill houses, 1920. Source: Robinson-Spangler Carolina Room, Charlotte Mecklenburg Library

The existing built environment is the result of Charlotte's history set within the history of the nation. Some key patterns and influences are noted in this document in order to provide context for the analysis and discussion that follows.[3]

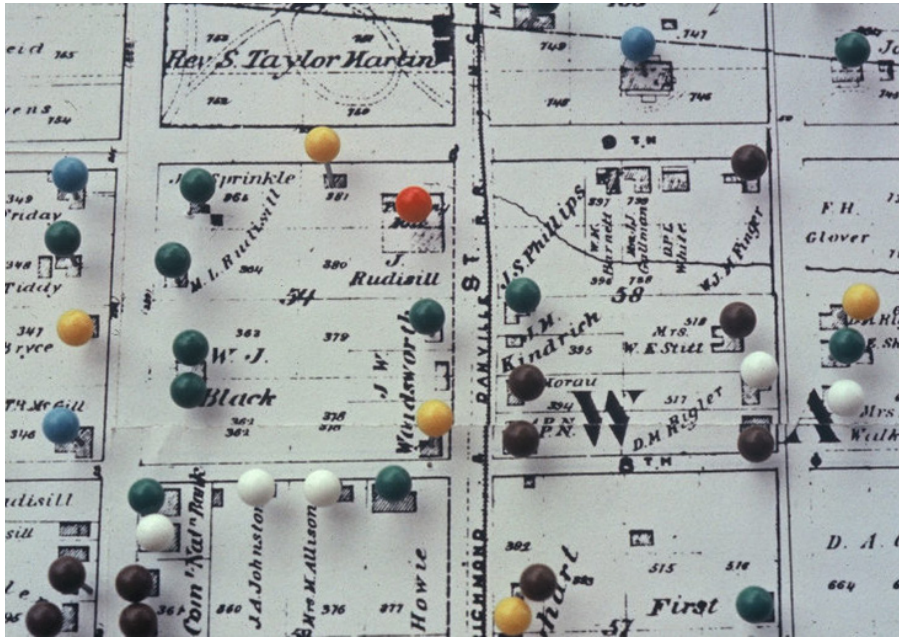
In the mid-1900s, Federal mortgage programs, the growing roadway network and affordability of the automobile, and a strong postwar economy created a suburban development boom across the country including in Charlotte. By this time, racial and class tensions were entrenched in America and it limited where People of Color (African Americans, Latinos, Asians, Native Americans) could live:

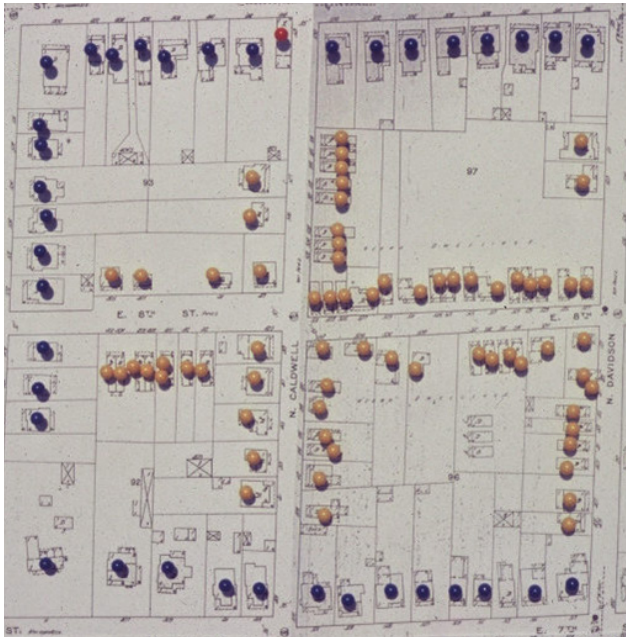
- Deed restrictions were common to allay homeowner fears and specifically targeted exclusion of individuals based on race and income. These practices were often seen in neighborhoods such as Elizabeth, Dilworth, Myers Park, Washington Heights and Villa Heights;
- New Deal construction investments were funneled in a way that 60% of standalone projects (e.g. Mint Museum of Art, Municipal Stadium, Memorial Hospital) served or aided southeast Charlotte;
- Federal financial assistance during the Great Depression and WWII were contingent on investment security and required maps that classified housing areas in the city based on racial, economic, and land use homogeneity (Home Owners' Loan Corporation maps, now typically called "redlining maps"). In 1935 Charlotte, that meant that higher income white neighborhoods like Myers Park, Country Club Heights, and part of Dilworth were deemed sure areas for mortgage loans. Meanwhile, neighborhoods that were predominately African American such as Second Ward/ Brooklyn, Biddleville, or predominately working class white neighborhoods like Optimist Park, North Davidson (NoDa), and Druid Hills were redlined (D grading) and regarded as high credit risks;
- Investments such as West Charlotte High School in 1938 , new suburban neighborhoods and new high quality rental opportunities were created to serve African American families. Additionally, new quality public housing such as Fairview Homes in 1940 drew families away from older traditionally African American uptown neighborhoods and further away from employment;

3 For a fuller historical description, two strong references are *Sorting out the New South* by Dr. Thomas Hanchett and *The Color of Law* by Richard Rothstein.

- The Federal Housing Assistance (FHA), made homeownership accessible to many for the first time. However, it was only guaranteed in areas designated as safe investments and a key determinant of that was race. People of Color were denied credit; and
- Federal financial assistance to cities also required the establishment of Planning Commissions. These commissions set citywide property laws including zoning to improve investment surety. In Charlotte, redlining was the guidance for the first zoning map of 1947. Most areas that had been graded C (yellow) or D (red) were zoned industrial with the remaining zoned as multifamily despite the predominance of existing single family housing. Single family zoning was a designation reserved for areas that had been rated A (green).

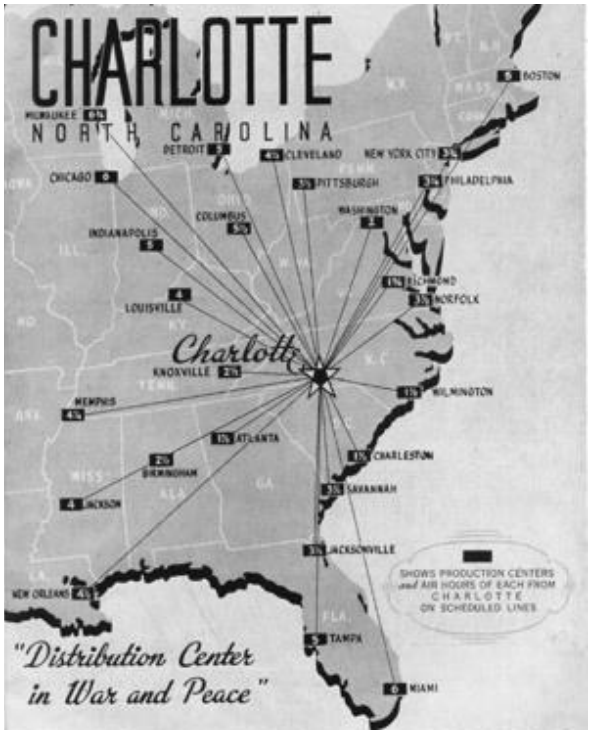
The events of the 1930s-40s hampered African American families' ability to build wealth during an important time of wealth building in America. Segregation limited choices. Disenfranchisement made African American neighborhoods and business centers vulnerable to change. The change came with investments of the modern era infrastructure, engineering, planning, and architecture aimed to improve efficiency,





Maps Key:
Light Blue=Business Owner
Green=Middle Class
Brown=Blue Collar
Yellow=African American
Dark Blue=White
Red=Business
White=Unknown

Socio-economic patterns of First Ward in Charlotte, 1875 & 1910: The colored pins represent different races and economic classes and illustrate that Charlotte was an integrated community at the time. Source: Dr. Tom Hanchett



convenience and clarity but at the cost of people, neighborhoods and social networks:

- Highway networks were created to facilitate automobile commuting and support suburban growth but in cities it meant bisecting neighborhoods. In Charlotte Brooklyn, Cherry, Chantilly and Elizabeth were split to create Independence Boulevard (late 1940s);
- Urban Renewal was a strategy to address areas that were defined by city leaders of the time as "blighted." The premise was to rebuild new and better homes and allow residents to return. The reality was the destruction of Second Ward in the 1960s. This ejected over 1000 families and 216 businesses from Uptown. Families relocated throughout the city to places like Optimist Park, Belmont, Villa Heights, Lockwood, Wesley Heights and Wilmore – working class neighborhoods with accessible rental rates; and
- When suburban shopping centers and malls took off with the help of tax breaks in the 1950s -1960s they located on farmland near areas with high disposable incomes. Charlotte Park Road Shopping Center was the first and opened in 1956, and in 1967 SouthPark Mall opened. These moved employment opportunities, goods, and services that had previously been centrally located in downtown further away from African American homes.

By the time the civil rights movement culminated in key milestones such as the 1965 Voting Rights Act, the 1968 Fair Housing Act and the 1971 Swann v. Charlotte-Mecklenburg Board of Education, the city was physically segregated by both race and income. This led to concentrated poverty and a need to develop new strategies for both affordable housing and economic investments around neighborhoods:

- Economic development planning strategies of the 1990s have been successful in Uptown. Uptown and its surrounding center city neighborhoods offer diversity, culture, choices, transportation alternatives, and jobs -- all of which are crucial to livability. However, its demand today has placed financial pressure on long time residents, particularly in what have been predominately African American communities for the past 30 years;
- By the early 2000s, some communities were able to band together under strong leadership and use opportunities such as Habitat for Humanity, Neighborhood

Matching Grants, and their organizing power to become more stable and influence built environment investment. However, their success in doing so was often dependent on residents' time, knowledge of system, professional experience, and ability to organize; and

- Today, changing neighborhoods, political polarization, social media, technology and population migration have an impact on local culture and relationships. It brings diversity, innovation, and opportunities as well as fear, tension, and violence. But they are playing out more regularly in what have been African American neighborhoods for the past 30-100 years. Even where intentional racism has been made illegal, unconscious racism has become stronger because of our historic segregation and the legacy of unfair policies and practices.

We have a legacy of a system that has stunted economic mobility for some, which impacts us all. Charlotte is well-documented as currently having the least amount of upward economic mobility of America's 50 largest cities[4]. This impacts the city's future as a livable, vibrant, attractive, and sustainable place to live and do business.

The City believes that, as it had a role in the past to create this system, there is also a role in the present to be accountable in its decisions around growth and to better understand the impact and consequences of those decisions.

4"Where is the Land of Opportunity" Chetty et al 2014 and "Leading on Opportunity Report" 2017.

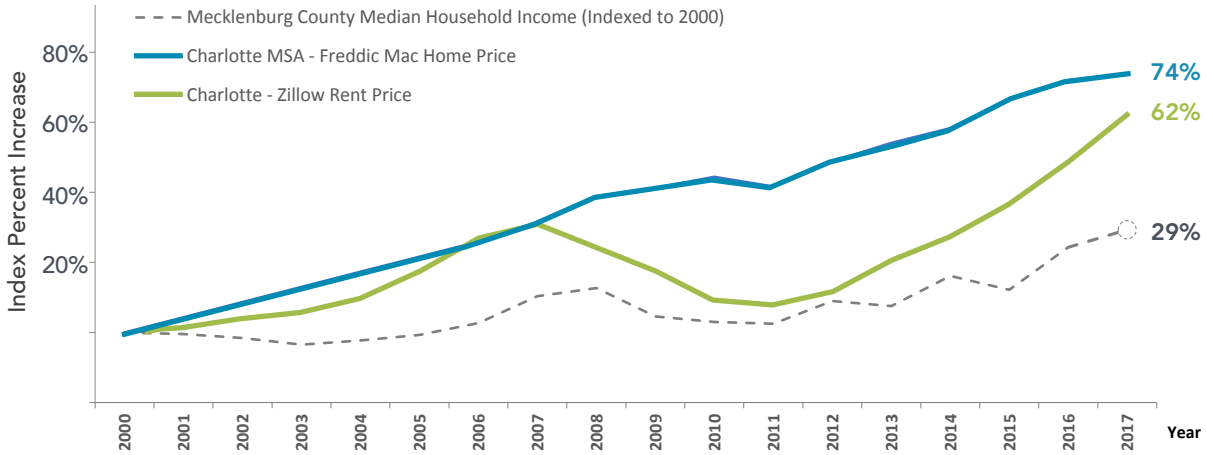
Strengthening Our City and Neighborhoods

Charlotte has attracted innovation for the last 130 years. Along with the innovation has come more investment and jobs attracting more people to the city. On a national level, Charlotte has historically offered a balanced quality of life with reasonably priced homes, diversity of job opportunities, access to nature, good regional transportation network, and a good climate. Yet, for those who were born into this city into a lower-income household, particularly African-American households and neighborhoods, the economic boon has largely been inaccessible. There are many aspects to this inequality. The Charlotte Future 2040 Comprehensive Plan will direct policies related mainly to the built environment, examining how these can help correct existing inequalities to create a stronger, fairer whole.

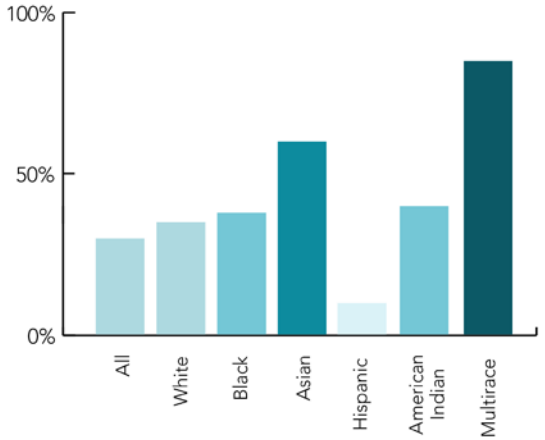
Charlotte is still defining itself as a city. At the same time, all people want a fulfilling career, fair wages, a happy family, a sense of belonging, housing security, a healthy and full life, and time to focus on things they value most. This Atlas examines the built environment factors that contribute to positive change for the city, communities, families and individuals in Charlotte. It will inform Charlotte Future 2040 policies and implementation strategies that direct public investment and leverage private development in a manner that strengthens our city and its residents. Charlotte Future 2040 will facilitate (among other things):

- Coordination of housing and office investments with investments for transportation improvements;
- Use of growth projections, accessibility, understanding the impacts of history, and spatial distribution to inform where and how investments in services and amenities such as health care, schools, healthy food, and access to nature should be made; and
- Inclusive social interactions not only in our engagement for community input but also in proposals for how we use city-owned property, development policies, and planning practices.

This Atlas provides a baseline to better understand some of the real world, on-the-ground results left by our inequitable system so that we can consider how this new plan for Charlotte can shape opportunities, so the impacts are equitable or, in plain terms, fair. Fair whereby all communities are provided with access to the specific services and amenities they need to be successful.



Charlotte Area Housing Cost and Income Index, 2000-2017. Data Source: Zillow, US Census, Freddie Mac, Economic and Planning Systems



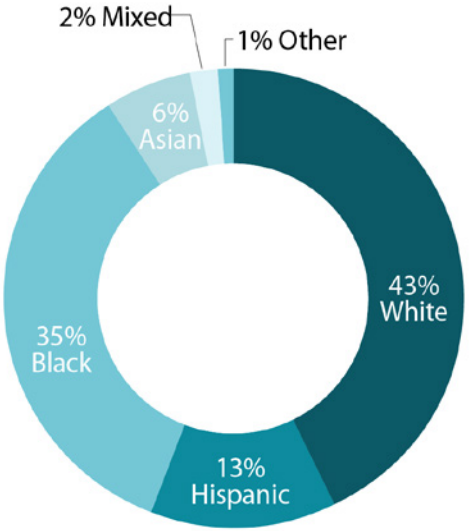
Change in median household income by race, 2000-2016. Data Source: US Census, 5-Year American Community Survey

Elements of a Complete Community

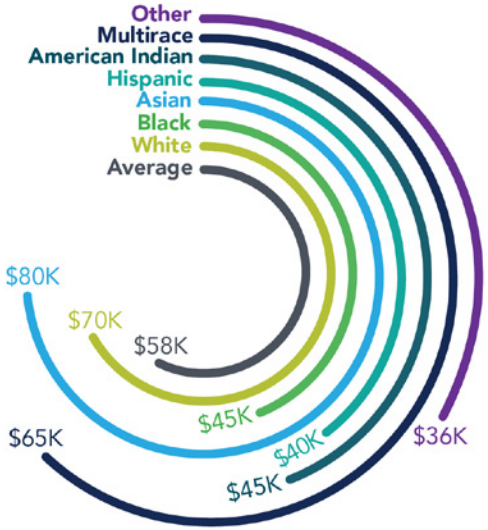
A complete community strengthens the city and helps with upward economic mobility by providing equitable access to built elements that support upward economic mobility.

Place Types are a tool that will be developed through the Comprehensive Plan to advance community completeness. Place Types will define different mixes of uses, building types, mobility options and amenities that can coexist and create distinctive places within our City.

Existing Racial and Economic Pattern



City wide race/ethnicity, 2016. Data Source: US Census, 5-Year American Community Survey

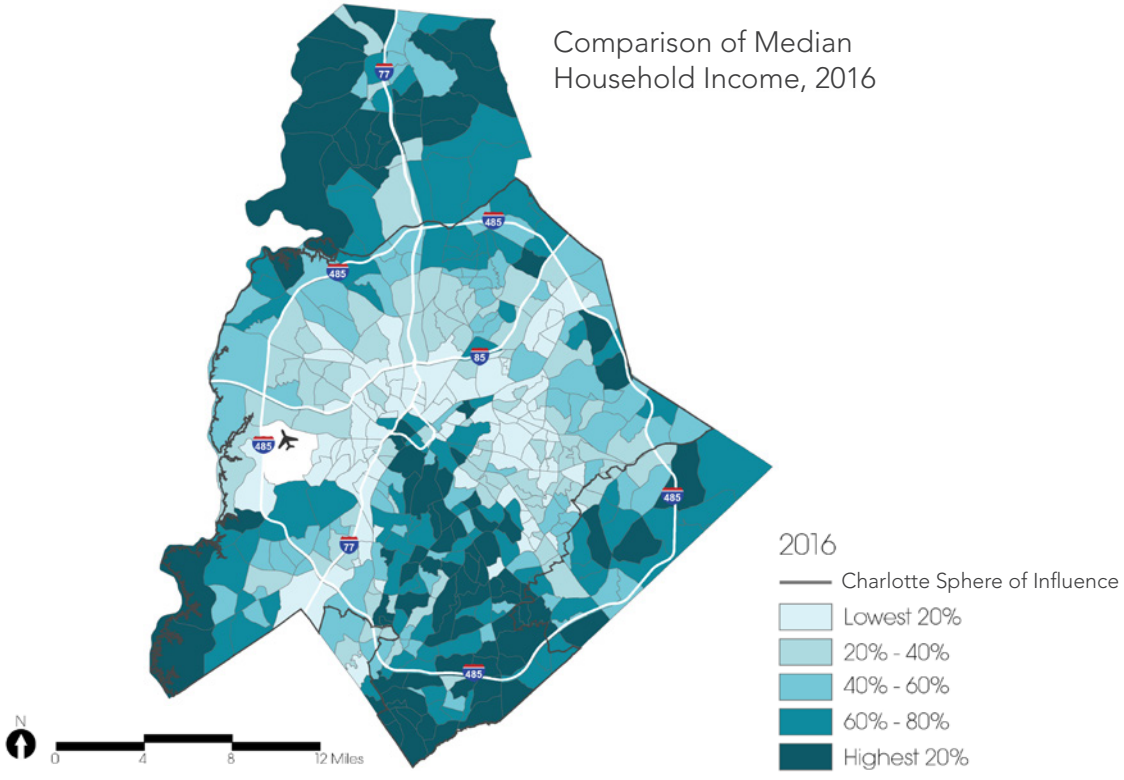


Median household income by race, 2016. Data Source: US Census, 5-Year American Community Survey

The Charlotte Future 2040 Comprehensive Plan is intended to guide built environment investments so that the impact is fair and fosters upward economic mobility in Charlotte. To begin the analysis of equity in the built environment of Charlotte, we have built upon the past work of the Opportunity Insights Team, the Leading on Opportunity Report, the Mecklenburg Quality of Life Explorer, and the Housing & Homelessness Dashboard. This data has been evaluated in light of our history to better understand how to increase equity of the built city, and in doing so facilitating upward economic mobility. Three primary statistics[5] are used to

5 Other indicators that factor into social status, such as gender or sexual orientation, for example, are not included here as their relationships to land use patterns are less clearly defined.

Comparison of Median Household Income, 2016

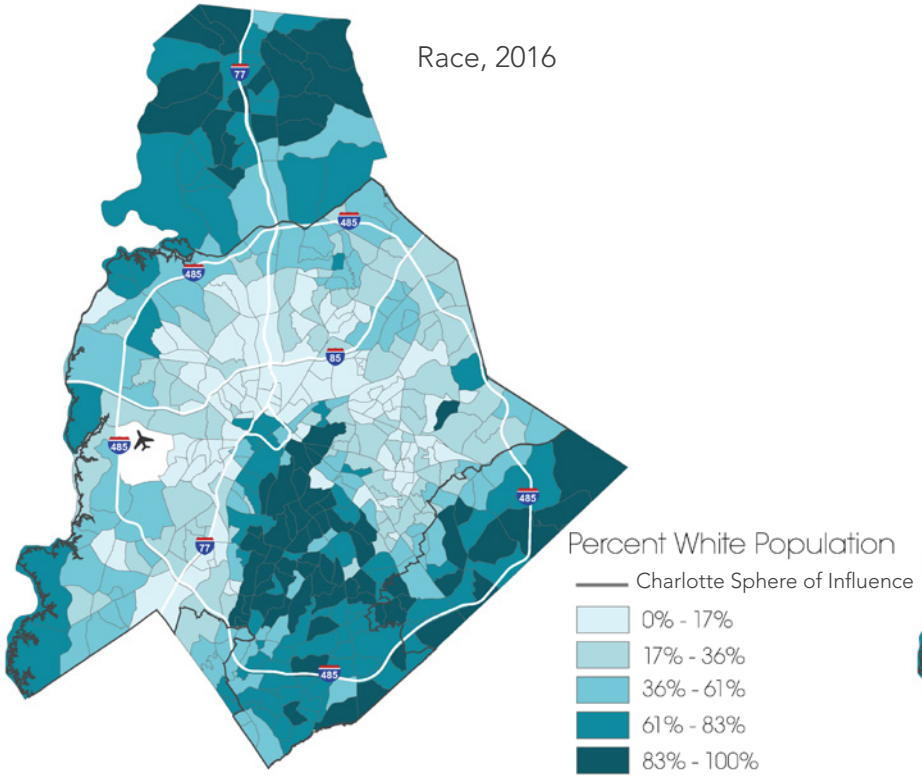


understand, in broad terms, the high-level socioeconomic geography:

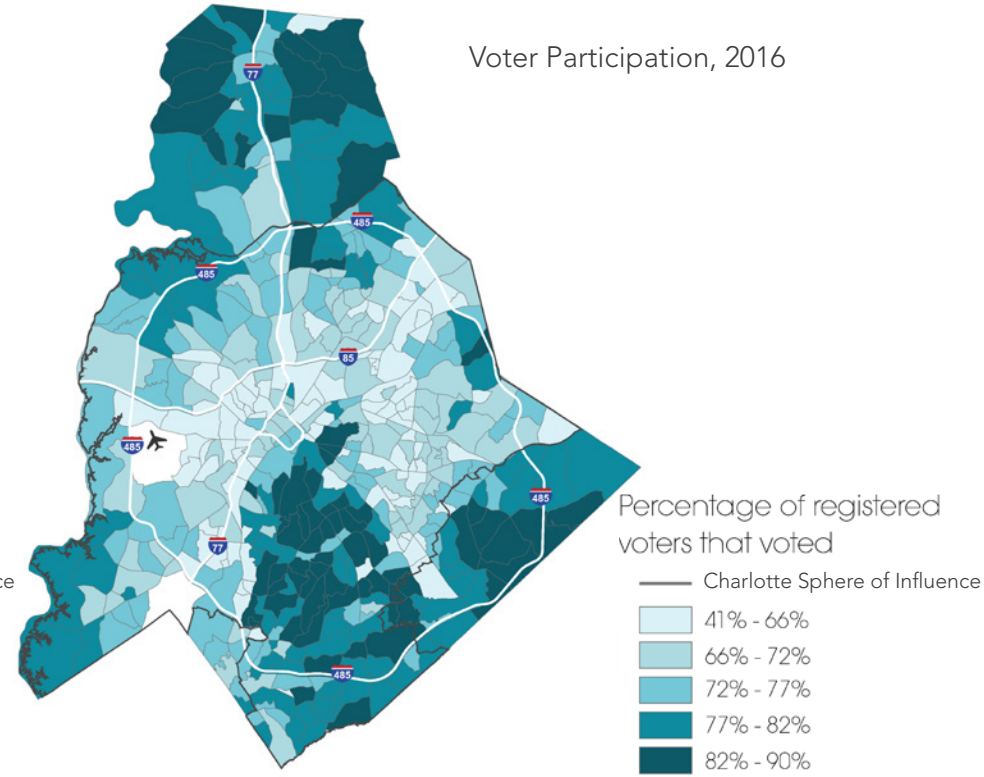
- *Household Income*, which helps to identify economically-disadvantaged communities with limited financial resources;
- *Race*, which identifies the percentage of communities of color because of history and its impact and relative diversity (or lack thereof); and
- *Voter Participation Rate*, which is an indicator of trust in government and agency - believing one's voice matters.

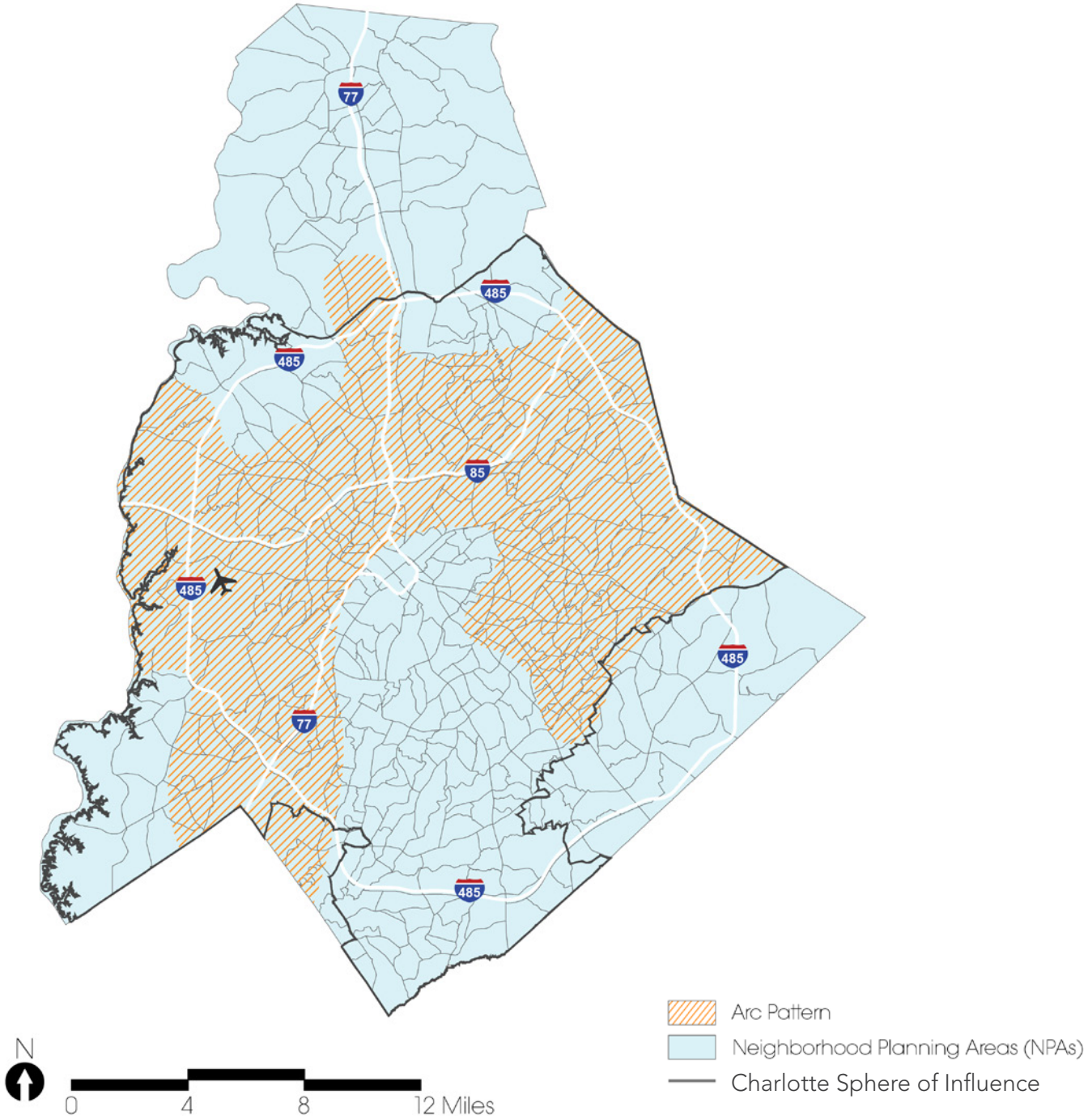
As the maps below indicate, there is a clear pattern in the spatial distribution of these statistics. Charlotte's NPA's with the lowest incomes, highest percentages of non-white residents, and those with the lowest voter participation are highly correlated. This pattern is inherited from redlining when prejudices guided law and held people back based on race.

Race, 2016



Voter Participation, 2016





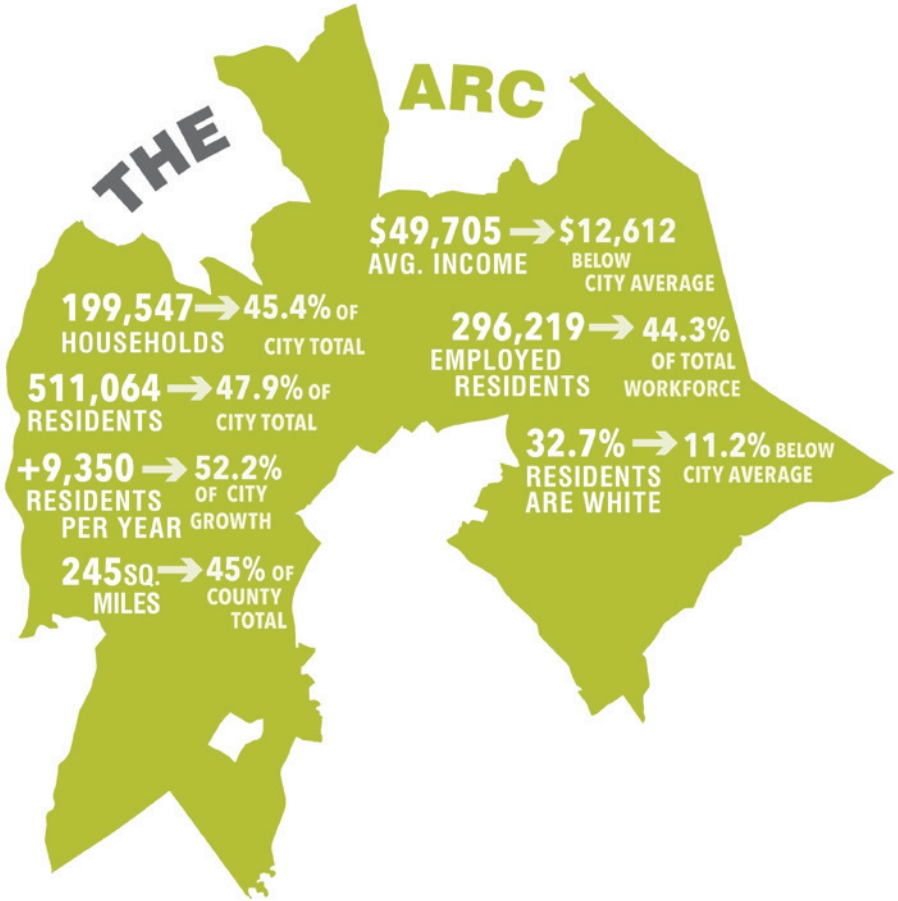
EQUITY INDICATORS DISTRIBUTION

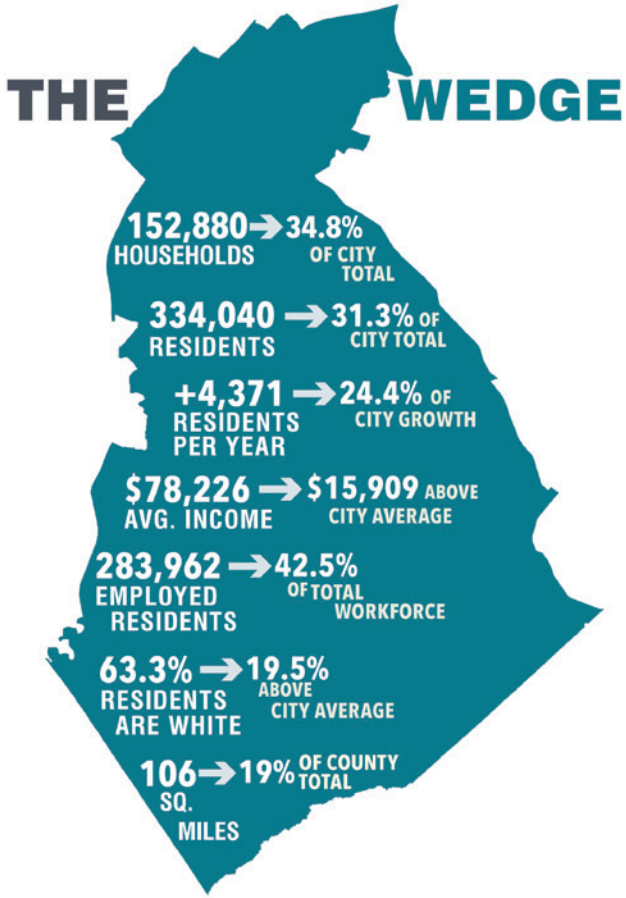
The spatial pattern, derived from the Household Income, Race, and Voter Participation Rate maps on the previous pages, can be described as an "arc" of Communities of Color and concentrated areas of poverty that extend broadly around Uptown from the east to the southwest. In contrast, a "wedge" stretching from Uptown and the center city down to the southwest contains many of the NPAs with the highest incomes, percentage of White residents, and voter participation. This pattern of racial and economic segregation is stylized and shown on the map at left.

THE "ARC" AND THE "WEDGE"

Comparisons between the arc and wedge geographies are shown below, and depicted for the data sets that follow. Average data for the arc and wedge can mask significant differences among NPAs within each of these larger geographies, as noted for several of the data sets.

Charlotte Douglas International Airport is included within the arc geography, however, because here are no residential units in that NPA, it is excluded from averages for data sets such as housing, voter participation, and household proximity to grocery.





Comprehensive Plan Themes

While the structure of the Comprehensive Plan will be determined through the planning process, it will address all of the five themes described on these pages.

The Atlas considers selected data within sections that correlate to the Inclusive, Livable and Connected, Healthy and Resilient, and Prosperous and Innovative themes. The included data sets are not comprehensive; rather, they are readily available data sets that can inform further inquiry and analysis throughout future phases and tasks in developing the Comprehensible Plan.

INCLUSIVE

An Inclusive City welcomes and accommodates people of all walks of life. It unpacks, measures, and mitigates displacement risk. It preserves and expands access to affordable housing. It provides useful support services and choices for daily goods and services for a variety of price points. It promotes environmental justice.

LIVABLE AND CONNECTED

A Livable and Connected City provides a strong level of public services and infrastructure to maintain an accessible and easily navigable environment for all, regardless of ability or location. Livability manifests in the built environment as complete neighborhoods that provide essential goods and services required in daily life, multimodal transportation networks that accommodate a variety of travel modes, a diverse array of public spaces, and a respect for neighborhood identity and character.

HEALTHY AND SUSTAINABLE

A Healthy and Sustainable City incorporates practices of environmental protection and sustainability to improve public health for all communities. It addresses access to healthy food, health care facilities and recreation to ensure that communities can lead healthy and robust lives. In the context of climate change, it also plans for adaptability and mitigation by enhancing stormwater and flood infrastructure, expanding waste diversion strategies, and implementing new regulations to improve energy efficiency in buildings.

PROSPEROUS AND INNOVATIVE

A Prosperous and Innovative City leverages growth and development to benefit the livelihoods and economic opportunities of all residents. It develops diverse employment opportunities that are well-matched to residents' skill levels, expanding access to higher education and job-training opportunities for all, and supporting innovative entrepreneurs and small businesses.

REGIONAL

The Regional City serves to improve linkages with the broader region at the political, social, and economic levels. Active participation in multi-jurisdictional planning efforts can contribute to large-scale improvements in transportation infrastructure which enhance physical and economic links between cities in the region. In this Atlas, we look at City data by neighborhood planning area and do not have a section for regional data. Subsequent studies and reports that are part of the Comprehensive Plan process, including the Growth Factors Report, will address the role of Charlotte within the region.

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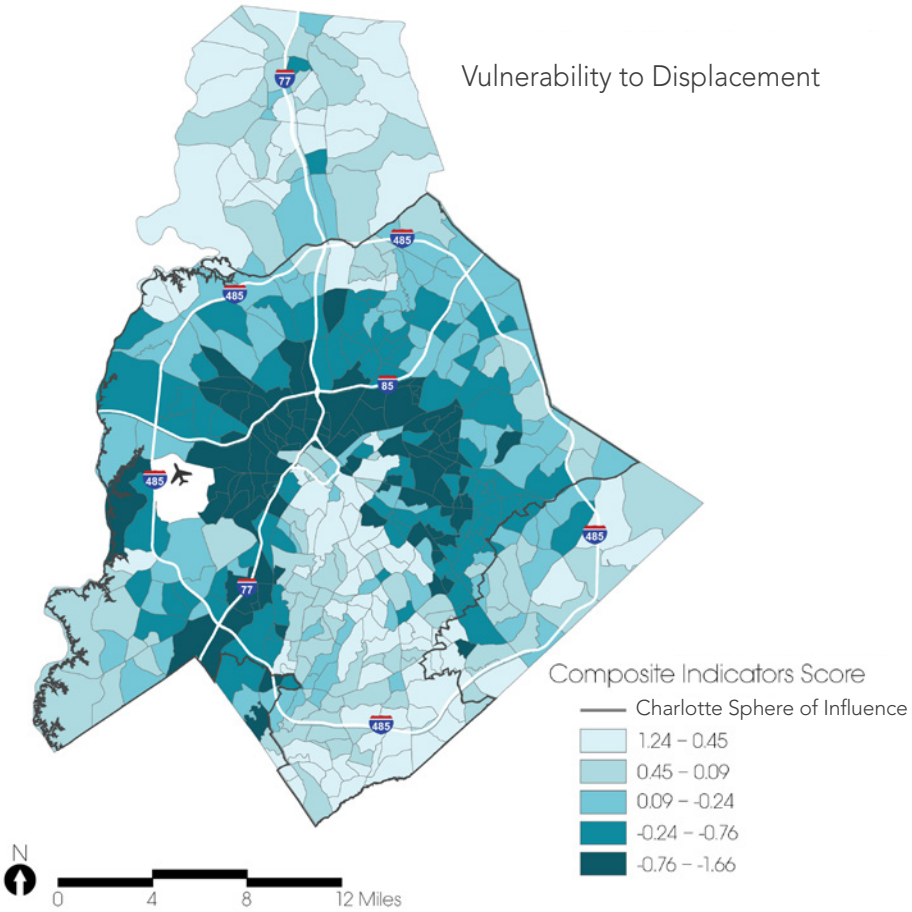
Inclusive

An Inclusive City is diverse, and is safe and welcoming to all residents. Housing affordability and inclusive engagement are topics related to creating an inclusive built city. This section analyzes built environment data related to housing development, as well as emergency response, and vulnerability displacement, which is closely tied to housing affordability. The following data sets are included:

See Also: A companion Growth Factors Report developed for the Comprehensive Plan identifies key trends and drivers of growth in Charlotte. It includes a Distressed Communities Index which has some similarities to the Vulnerability to Displacement Index.



Note: Negative numbers indicate a higher probability of displacement, while positive numbers suggest a low probability.

VULNERABILITY TO DISPLACEMENT

This Vulnerability to Displacement Index (VDI) is a composite data set that indicates the likelihood that current residents will be involuntarily displaced -- meaning priced out of their neighborhood.[6] It shows a major, negative impact that can accompany reinvestment in older neighborhoods. When an NPA's amenities, jobs, transportation, etc. improve, it becomes appealing to more people. Increased demand then increases housing prices and rents and puts pressure on existing residents and businesses to pay more or relocate.

Existing Patterns

The VDI map show two spatial patterns. NPAs in the arc have high vulnerability to displacement, in part because two of the index components are race and income. In addition, NPAs that are nearer to the center city face higher vulnerability to displacement than those further from the center. A relevant trend for the VDI is that center city neighborhoods, including the Historic West End, now appeal to professionals working in Charlotte's center city jobs. Increased development pressure in these neighborhoods, combined with low social mobility for the existing residents means they struggle to keep pace with increasing rents and are at risk of being displaced out of the neighborhood as it improves.

Implications for the Comprehensive Plan

The Comprehensive Plan will learn from other communities facing similar development pressures and include policies intended to combat displacement. Cities with similar concerns such as Seattle and Denver have established policy precedents that Charlotte can consider within the plan development process. The Comprehensive Plan policies can help link physical investments in NPAs with high

6 This index was created for Charlotte/Mecklenburg matching the methodology developed by Enterprise Community Partners. It includes five weighted factors form census data: renters, seniors, no higher education, low-income households, and People of Color.

See Also: The Housing Charlotte Framework, 2018, is a related plan with more information on housing types in Charlotte. The Plan can be found here: https://charlottenc.gov/HNS/Housing/Strategy

VDI.

HOUSING TYPES

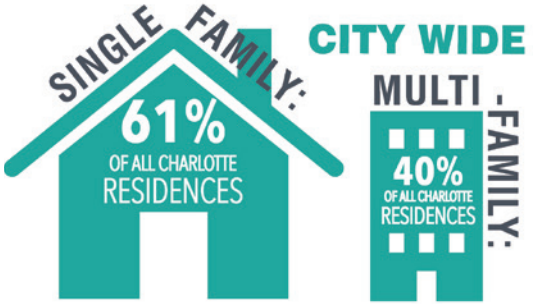
Housing types measure the proportion of homes that are single family versus multifamily (duplexes, apartments, townhomes, etc.). Diverse housing types allow residents to stay in an area throughout multiple phases of life where they may be single, share a home, raise children and age in place. In many cities, when housing types are more diverse, there tends to be less concentration of affluence, poverty and other socioeconomic characteristics.

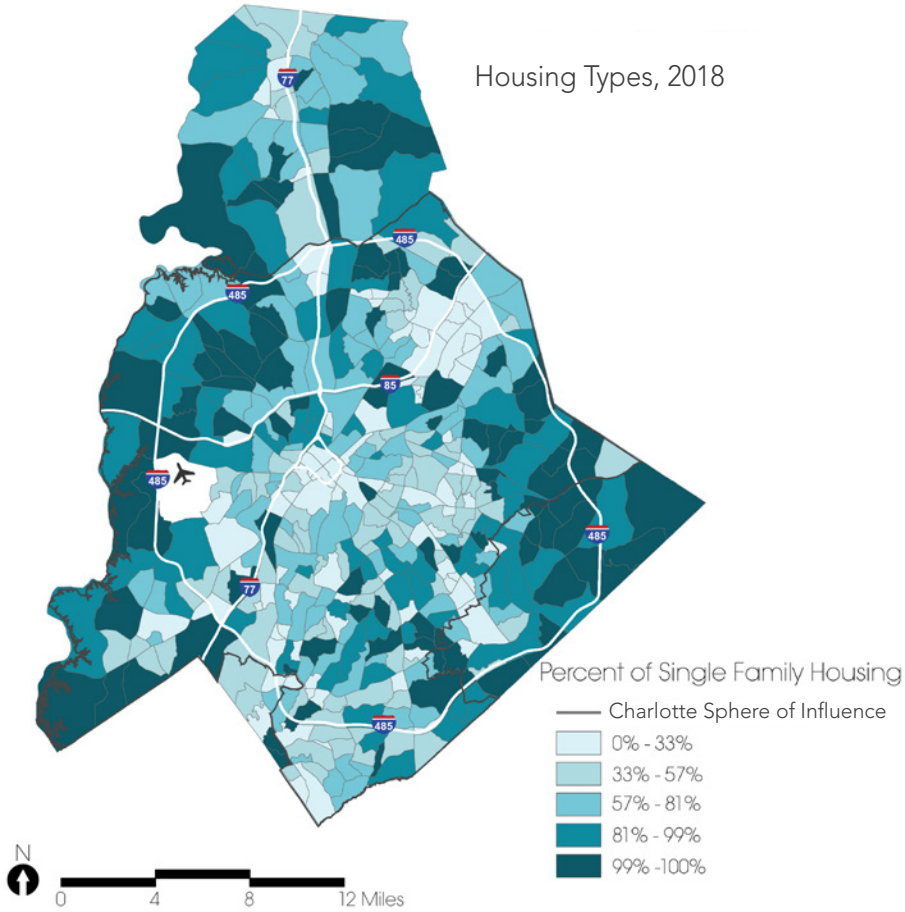
Existing Patterns

At the scale of the NPAs, the distribution of housing types across Charlotte does not appear strongly correlated to the wedge and arc patterns; some NPAs in both boast a more diverse mix of housing types, while others show less diversity. In general, NPAs further from the center city have less multifamily housing.

Implications for the Comprehensive Plan

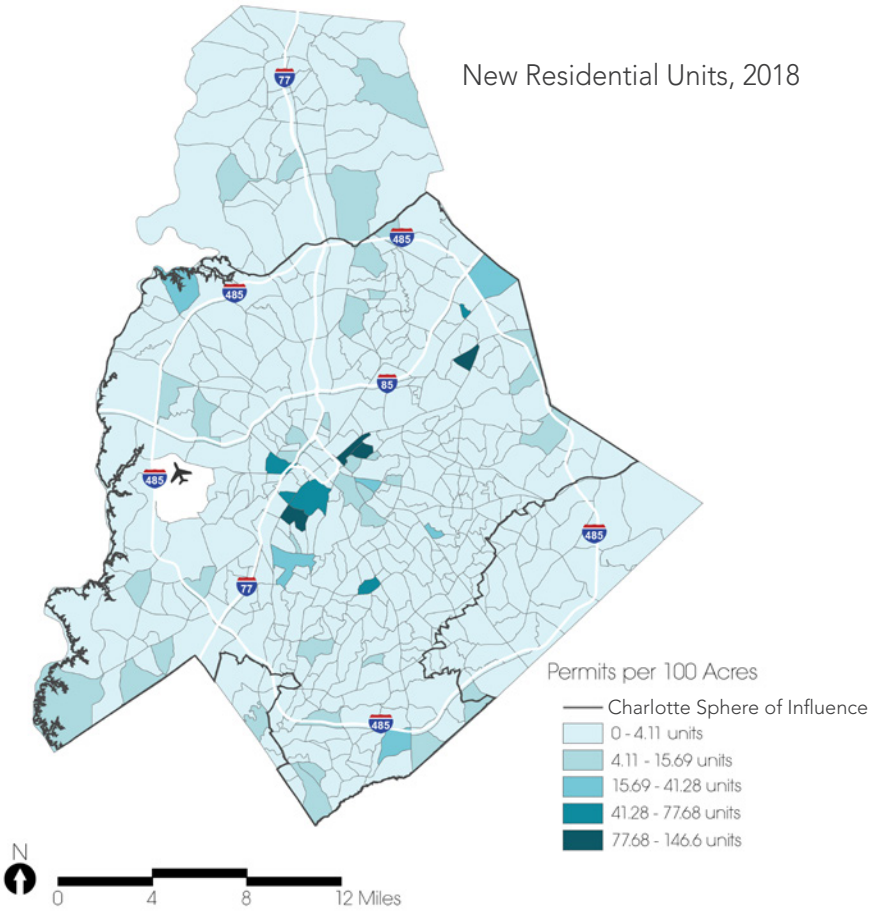
Citywide, three in five residences are single family. Going forward, there is still a need for more diverse housing within many areas of the city to accommodate a range of incomes and life stages. In future phases, the Comprehensive Plan will explore policies and land use-related regulations to continue to support a greater mix of housing types within single family zoned areas. If the process affirms that housing diversity is desirable across Charlotte, then the Plan can set policy to help ensure that new growth includes and enhances housing diversity. Guidance for land use and built form may add new housing options that are compatible with the existing character of neighborhoods, such as accessory dwelling units and attached single family units (e.g., townhomes). Defining Place Types within the Comprehensive Plan and identifying where they apply can help to designate appropriate areas for more varied and flexible housing formats within NPAs.





Housing Types, 2018

Charlotte Sphere of Influence



RESIDENTIAL NEW CONSTRUCTION

Residential construction measures the per-acre concentration of all new housing units permitted for development. Residential development can increase overall housing stock and diversity, respond to market demand, and replace aging or dilapidated units. Infill and redevelopment can lead to gentrification and displacement.

Existing Pattern

New residential construction is occurring primarily in a limited number of NPAs immediately surrounding Uptown. Most NPAs in the arc are not seeing reinvestment in the form of new housing; in those that are, residents may be at higher risk of displacement as housing costs and rents rise. The number of new homes is similar across the arc and wedge.

Implications for the Comprehensive Plan

While individual development decisions are nearly all made by land owners and developers, the Comprehensive Plan will explore policies intended to influence where new development occurs. Some tools include supporting investments in transportation infrastructure that increase housing demand and attract developers. Infill-friendly policies and infrastructure upgrades can make the costs of infill/redevelopment and greenfield development comparable. Defining and mapping Place Types in the next phase of the Comprehensive Plan process can signal opportunities for investment in new housing. The Growth Factors report, which is also a part of the Comprehensive Plan process, helps to determine what is driving growth in what locations of Charlotte, and provide an important backdrop for developing new policies and adjusting exiting policies.

RESIDENTIAL RENOVATION

Residential renovation measures the per-acre concentration of existing housing units that have received a permit for renovation. Renovation might be done by a home owner who plans to stay in their improved home, one who plans to sell it for a higher value or may be a "fix and flip" business investment. Renovation typically indicates reinvestment in NPAs with higher housing values. Conversely, in NPAs with lower housing values and household incomes, it may signal increased market speculation and transition. A lack of renovation may indicate that residents are unable to invest in their homes or pessimistic about the trend of value in their neighborhood.

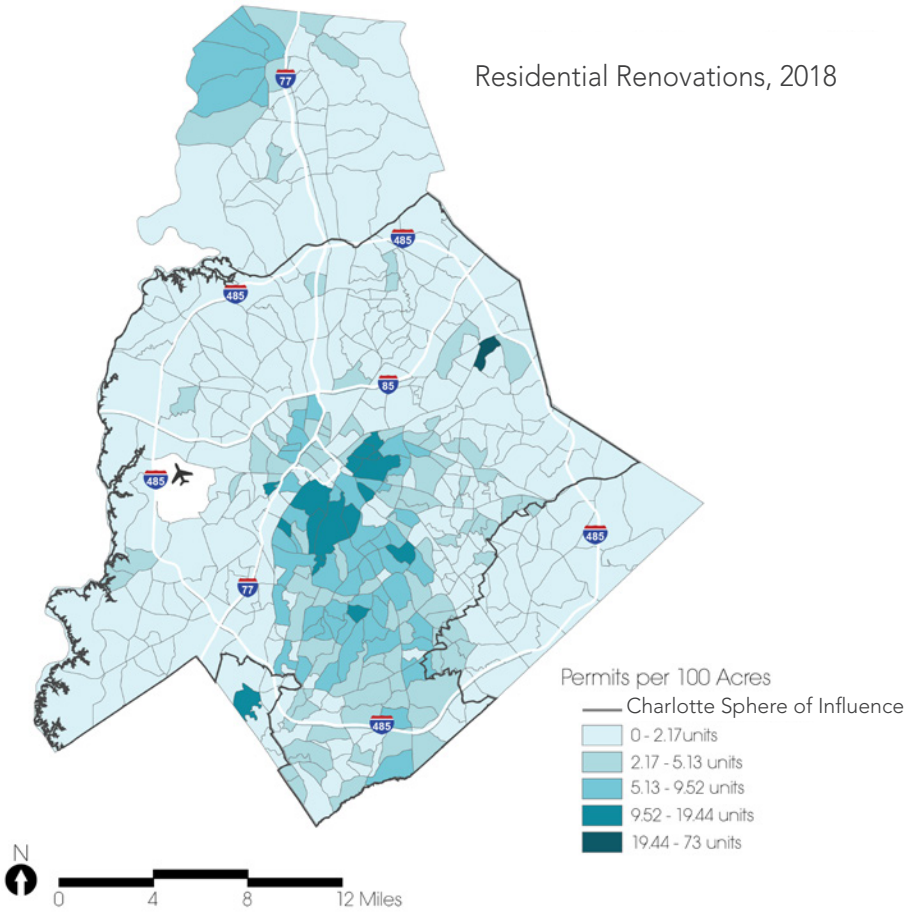
Existing Pattern

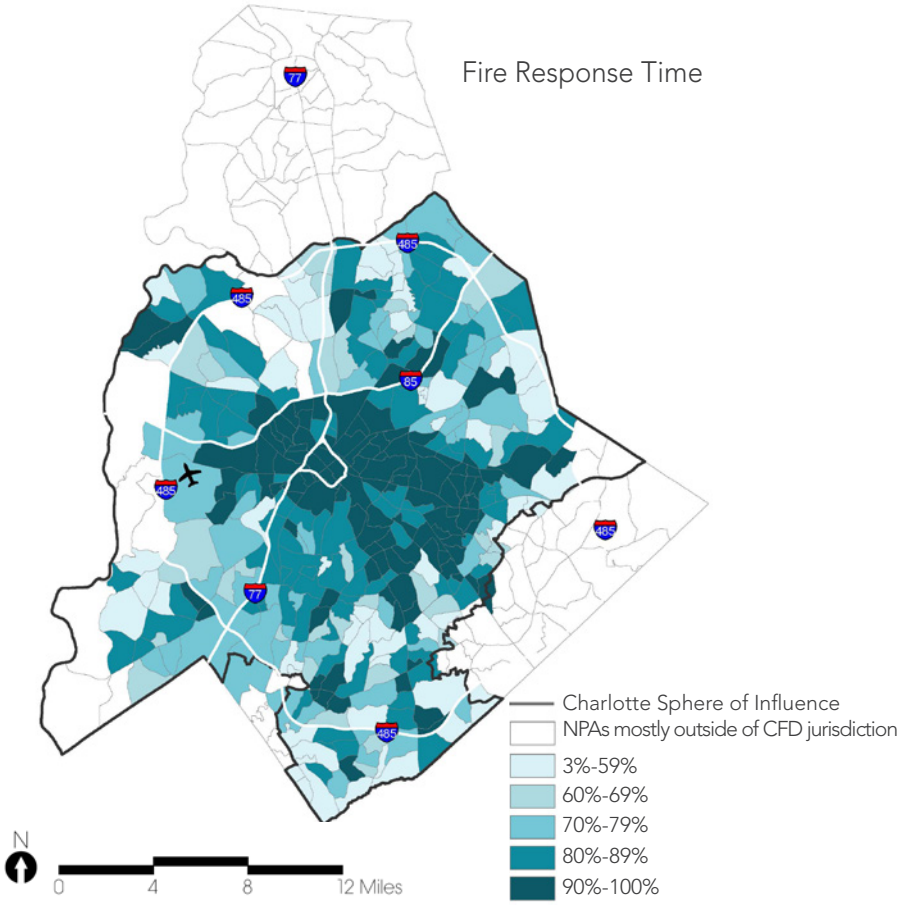
Moderate residential renovation is occurring across many NPAs in the wedge, while the arc has more extremes. There, many NPAs are adding few units while a limited number, such as the Historic West End, Smallwood, Five Points, Lincoln Heights, Washington Heights, and Oaklawn Park areas, are seeing strong renovation. The total number of renovations in the wedge is greater, within half the area.

Implications for the Comprehensive Plan

Overall, renovation is a positive trend and an indicator of confidence in a neighborhood's existing or future value. To spur this private reinvestment in more NPAs, the Comprehensive Plan will provide guidance to the City of Charlotte for investing in infrastructure, parks, transit, and other amenities to signal value and help ensure a high quality of life, and spur renovation. A major objective of the Comprehensive Plan is to strengthen neighborhoods and allow increased opportunity for those choosing to stay in place. In recent years, the Community Investment Program has placed greater emphasis on equity for deciding where to spend improvement dollars through the Comprehensive Neighborhood Improvement Program. The Comprehensive Plan policies can help to strengthen and institutionalize this practice so that funding approaches are truly equitable for the long-term.

Residential Renovations, 2018





FIRE DEPARTMENT EMERGENCY RESPONSE

In this report, Emergency Response is measured as the percent of emergency incidents that the Charlotte Fire Department (CFD) responds to within 6 minutes including Medical, Hazmat, Technical Rescue, Structure Fire, and Non-Structure Fire incidents. Emergency response times are affected by station locations, the location of populations relying on emergency services, road connectivity, road quality, and traffic calming devices. In alignment with national standards, the fire department aims to have the first unit on-scene within 6 minutes of phone pickup, 90% of the time.

Existing Pattern

The pattern of emergency response is not well-correlated to the arc and wedge. The fire department most frequently meets 6-minute response times in the center city NPAs and those to the southeast. Across the city, the fire department responded to over 123,000 incidents in FY19 and met the 6-minute goal 83.5% of the time, showing some room for improvement.

Implications for the Comprehensive Plan

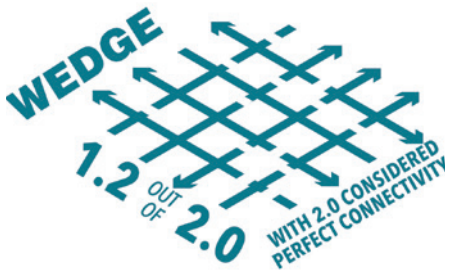
Responsive emergency services are a concern for all Charlotteans. The Comprehensive Plan can consider policies and goals related to where fire stations are located, and how roads are designed and connected. The Comprehensive Plan's alternative growth scenarios may also explore options whereby the location of new housing and employment is limited to areas that have existing or planned access to emergency services. In addition, reducing demand on emergency services through prevention, in conjunction with other trade-offs, helps to ensure the maximum benefit from existing emergency services resources.

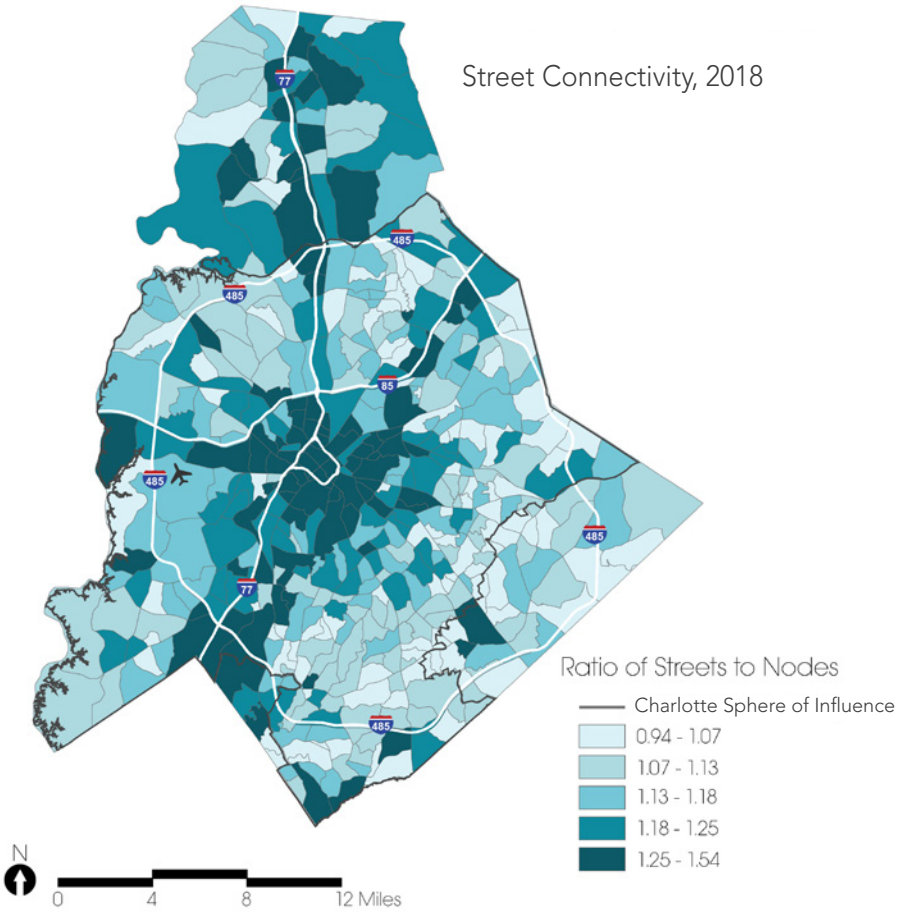
Note: Represents the % of incidents meeting the First-Unit Total Response Time goal of 6 minutes or less, from when the call is picked up, to when first CFD apparatus arrives on scene. CFD jurisdiction does fully not align with City boundaries. NPAs along interstates may have lower percentages due to high response times associated with interstate calls, where additional time may be required to circle around interchanges and navigate through traffic to get to the incident location.

Liveable and Connected

Transportation is fundamental to livable and connected places. This section examines the distribution of key indicators related to the streets and transit that have been developed in Charlotte. The following data sets have been examined:

- Street Connectivity
- Proximity to Public Transit
- Sidewalk Availability





Street Connectivity, 2018

See Also: Related regulations are found in the Street Development Standards in the City of Charlotte Land Development Manual.

STREET CONNECTIVITY

The street connectivity data set is an index that compared the number of street segments divided by the number of intersections. It represents the overall flexibility, navigability, and accessibility of an existing road network. Areas with higher connectivity can generally provide several safe and efficient route options to get to key services and destinations. Connectivity reduces traffic congestion and commute times and makes walking and biking easier.

Existing Pattern

Connectivity of existing street networks is lowest in Charlotte's peripheral NPAs, particularly in the eastern and southeastern areas. The arc and wedge have the same average connectivity, but significant variety among the NPAs of each. Poor connectivity which correlates with past suburban growth trends, can increase commute times through congestion, lack of support for other transportation options, and make it more challenging for residents to access needed jobs, services, and goods.

Implications for the Comprehensive Plan

The City of Charlotte has strong street connectivity standards for new development, but like most cities, has had limited resources and right-of-way space to retrofit older neighborhoods that developed before these standards were in place. Charlotte's pronounced topography further exacerbates the issue by forcing the development of curvilinear streets and fewer connections than desired in many parts of the city. As discussed above, equitable policies for use of resources will be important in the Comprehensive Plan. The Comprehensive Plan can consider whether infill policies can advance redevelopment to allow more urban forms and possibly reconnect the grid in strategic locations. Place Types that address retrofitting existing neighborhoods and districts can provide further guidance for redevelopment and reconnecting streets.

PROXIMITY TO PUBLIC TRANSIT

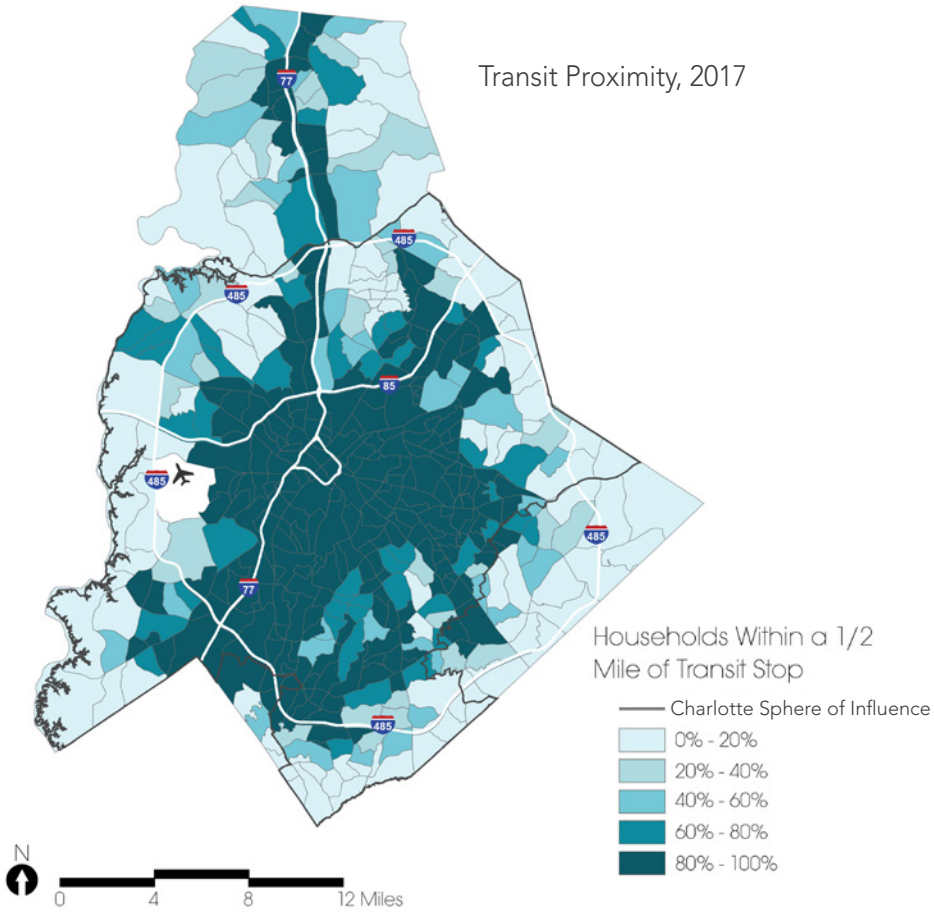
Transit proximity measures the percentage of residents in the NPA that are within ½ mile of a bus or train transit stop. Access to transit can provide access to jobs, services and goods needed for a productive and healthy life. In lower income areas where many residents do not own a vehicle, proximity to public transit can be critical to accessing jobs, education, shopping and services. Transit is also important to relieve and provide alternatives in areas with significant traffic congestion on roadways.

Existing Pattern

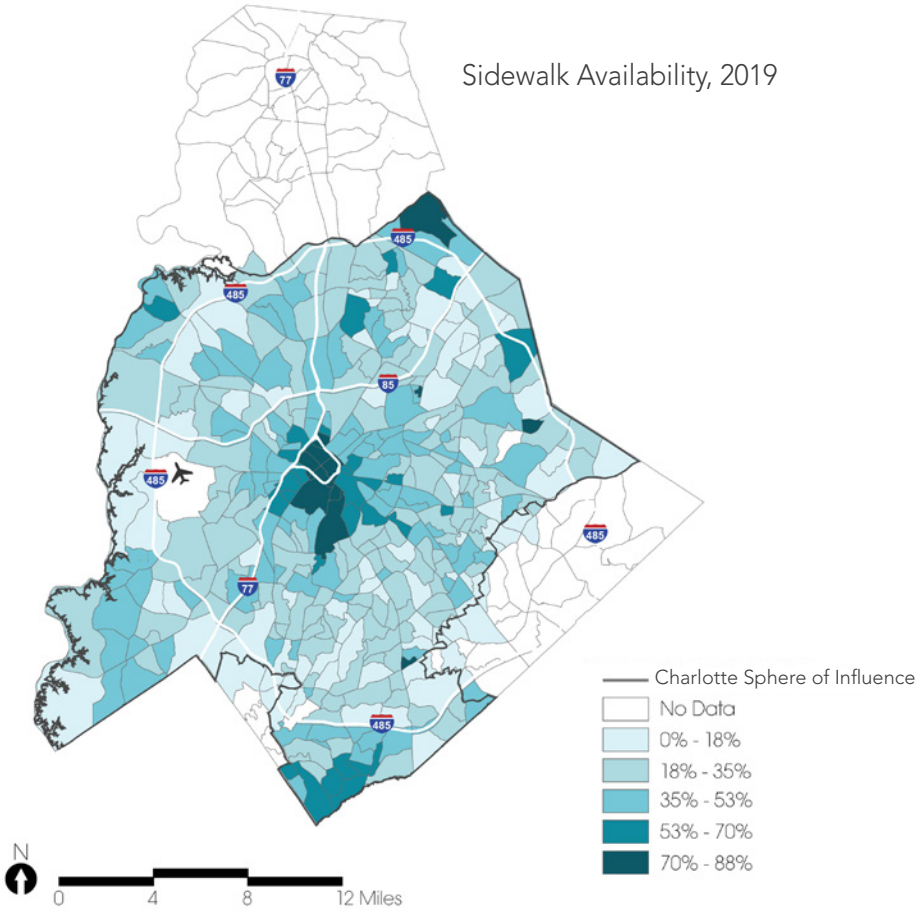
The pattern of public transit access varies primarily on proximity to the core, rather than being closely correlated to the prevalent arc and wedge pattern described earlier. There are many transit stops in central Charlotte and its inner-ring NPAs, while further away from the center, Charlotte's more suburban NPA residents have lower rates of transit access. While not fully equitable, this data set shows some consideration for equitable investment in that the wedge – where more affluent residents less frequently rely on transit – has more NPAs with lower transit access.

Implications for the Comprehensive Plan

The pattern of transit investments shows consideration for potential ridership density, which has created a more equitable pattern of investment than many other built environment components. An objective of the Comprehensive Plan process is to reinforce higher density developments near transit. The Comprehensive Plan process may reinforce this further with policies that support areas with lower car ownership rates be served at a ¼ mile or less – widely considered a more comfortable distance for most people to walk regularly. The Comprehensive Plan should also consider the quality and frequency of transit service in addition to proximity.



See Also: Related information can be found in the Charlotte Walks Pedestrian Plan, the Transportation Action Plan and the Urban Street Design Guidelines.



SIDEWALK AVAILABILITY

Sidewalk availability measures the percentage of paved streets that have a sidewalk on at least one side. Providing safe places to walk is critical in areas where many residents lack regular access to a car. Sidewalks also help support active transportation and healthy lifestyles. Sidewalk availability is just one indicator of a complete street network that can accommodates different kinds of travel (i.e., cars, bikes and walking) and different neighborhood settings.

Existing Pattern

Citywide, only 2 in 5 NPAs have sidewalks on more than half of street miles. NPAs around the center city, as well as a few outliers in other locations, have the highest percent of sidewalks. This data set shows modest correlation to the arc and wedge pattern; less central NPAs in the wedge, as well as in the southeast and north offer modestly more sidewalks than similar distance NPAs in the west, northwest and northeast parts of the arc. In many NPAs in the outer portions of the arc, especially on the west side, fewer than one-third of paved streets have sidewalks. In some of these outlying areas, lack of sidewalks is compatible with limited development and low residential populations.

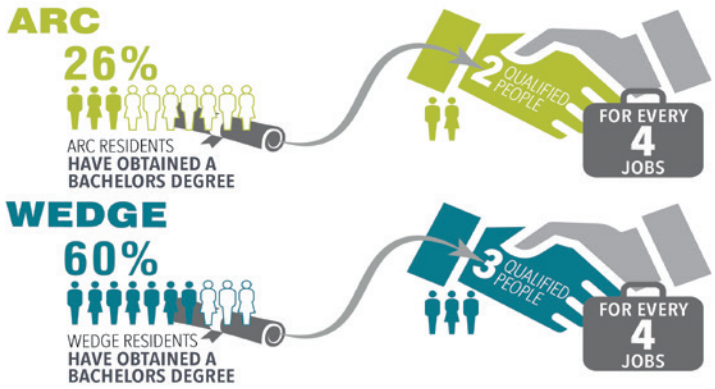
Implications for the Comprehensive Plan

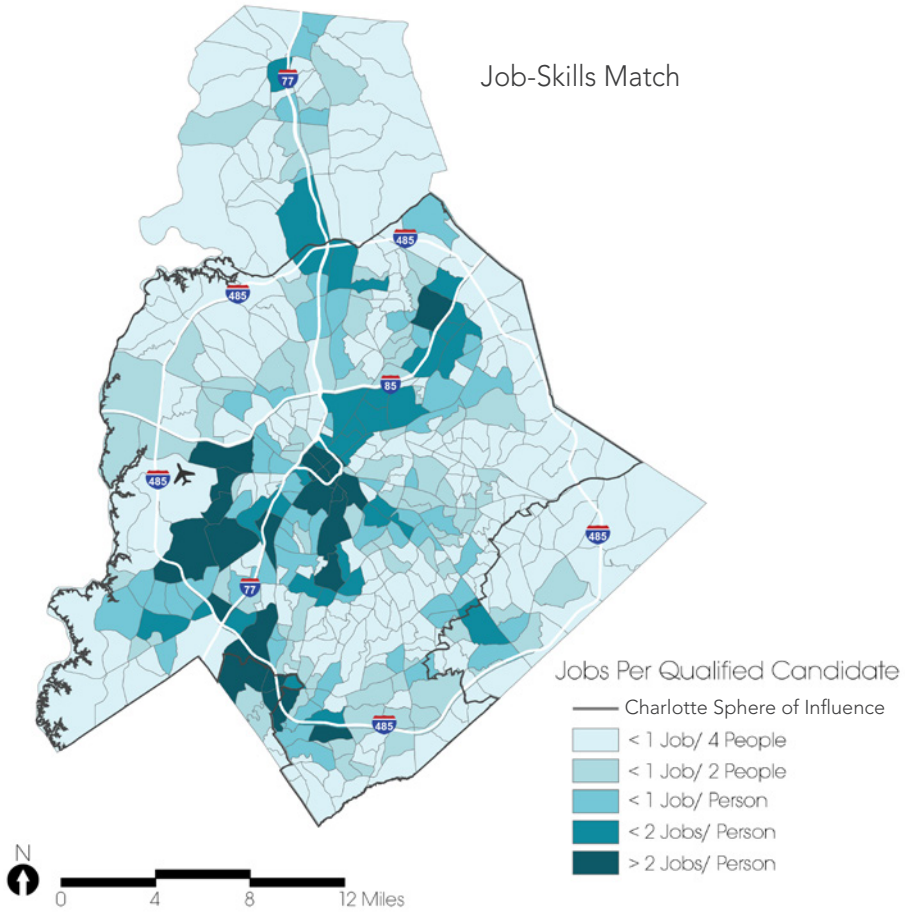
Similar to street connectivity, Charlotte has strong sidewalk standards for new development, but retains a legacy from a time when the City had lesser standards. A large portion of NPAs were originally developed before new standards were in place. Based upon input from the community, the Comprehensive Plan can work to integrate complete streets policy with more robust implementation strategies. Conversions can offer safer pedestrian walking routes, calm traffic, and save on maintenance costs over the course of decades. Still, conversions of existing roadways is costly. The Comprehensive Plan can advance safe and comfortable walking environments through the development of Place Types and may advance goals related to sidewalk availability and criteria for conversion, guiding change in older NPAs over time.

Prosperous and Innovative

Employment and education are key aspects of the economic landscape and the prosperity and opportunity of Charlotte residents. This section examines the distribution of data sets related to jobs, commercial construction, and financial services. The following indicators and data sets have been examined:

- Job/Skills Match
- Job Density
- Size of Commercial Space
- Commercial Construction
- Proximity to Financial Services





JOBS/SKILLS MATCH

Jobs/Skills Match compares the number of jobs available by educational attainment required to the education level of NPA residents. It provides insight into the economic opportunity that localized employers provide for residents nearby. When businesses with high-paying jobs locate in areas with lower land cost, they may contribute to displacement by attracting a more affluent workforce to locate nearby, which in turn leads to development pressure and increased traffic due to the majority of employees commuting from other areas. In areas of high commercial activity and development, leveraging local human capital is an essential component of inclusive growth that expands economic opportunity for all.

Existing Pattern

Jobs/skills match is strongest in the center city and nearby NPAs, as well as in the Westinghouse and University City areas. On average, the jobs-skills match of wedge residents is about double that of the arc residents. However, there is great diversity among NPAs in both the arc and wedge. Residents in NPAs with a low match commute further to a suitable job. When jobs are added that require more education than residents have, they may increase vulnerability to displacement as skilled workers seek to live near their jobs.

Implications for the Comprehensive Plan

When job/skills match is low, additional infrastructure and amenities can help mitigate the effects, while economic development programs can help combat displacement. The Comprehensive Plan can recommend improved transportation infrastructure for workers forced to commute to farther jobs. The Plan can also support social and economic mobility by linking residents with jobs and job training, allowing residents to continue to afford their improved neighborhood. Other economic development strategies should be used to support job growth such as land use regulations to allow new businesses and incentives for employers. A combination of improved transportation options and better employment, capacity, and skills could be recommended in the Plan.

JOB DENSITY

Job Density measures the average number of jobs on a per-acre basis, identifying vital employment districts that 1) can be leveraged to expand economic opportunity for lower-income households and 2) can be supplemented with new employment opportunities in areas with poor access.

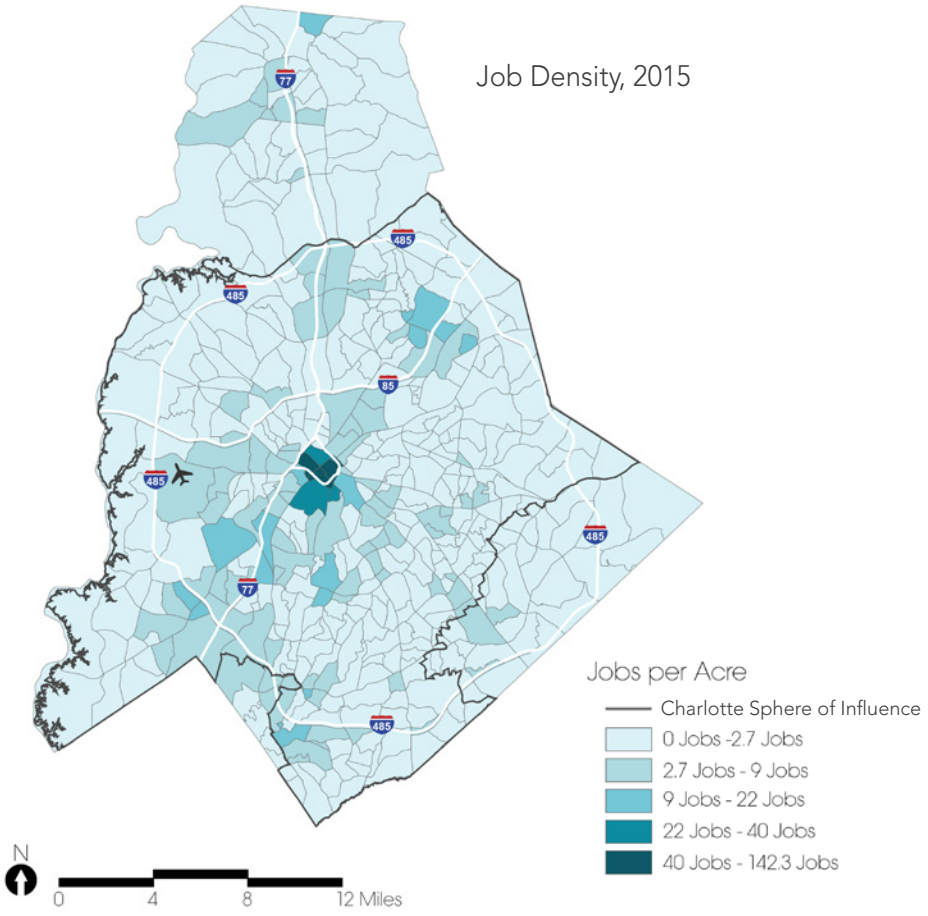
Existing Pattern

Job density is highly uneven across NPAs but does not closely follow the arc and wedge pattern. The average for the wedge is higher in large part because it includes the center city NPAs. Uptown is Charlotte's most robust and dynamic job center by a significant margin, with SouthPark, Westinghouse, and the University of North Carolina-Charlotte (UNCC) comprising the most prominent secondary nodes of economic activity.

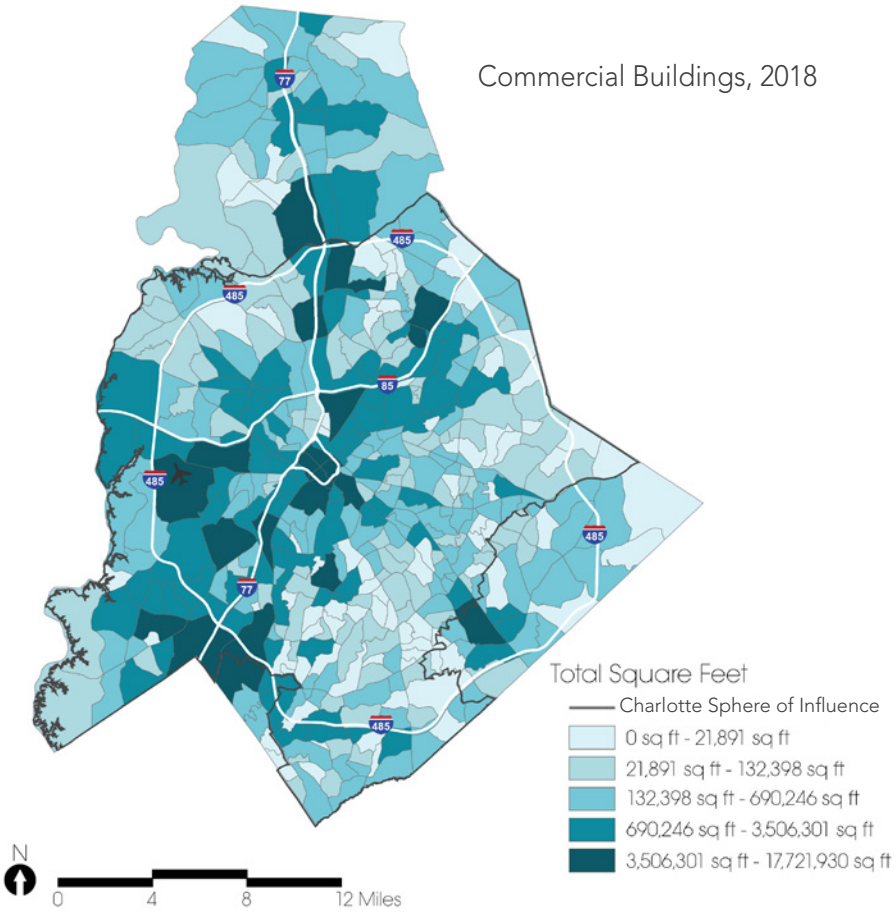
Implications for the Comprehensive Plan

Job centers have many positive contributions, including offering employment, property tax revenue, and helping with business attraction. However, with most jobs in a few large employment clusters that are separated from residential neighborhoods, Charlotteans have to commute and average of 25 minutes to work. When businesses and jobs are available nearer to home, residents may have an easier time accessing and keeping a job. In developing and mapping Place Types, the Comprehensive Plan can identify new locations in existing NPAs that can accommodate businesses and jobs, and where there may be opportunity to add attainable housing units near employment centers, which benefits businesses and workers alike. An important consideration will be to coordinate and assess how existing and new incentive programs may be deployed to match new jobs with job skills in the surrounding neighborhoods. It can also create opportunities to expand existing job skills through workforce development training tied to the criteria for new jobs relocating or expanding in the area.

Job Density, 2015



Commercial Buildings, 2018



SIZE OF COMMERCIAL SPACE

The size of commercial space (retail, office, industrial and institutional uses, not including religious institutions and schools) is measured by average square footage per parcel. This indicator helps convey both the intensity of commercial activity and the potential scale of economic output. It also indicates roughly where larger, often corporate development is located versus smaller businesses, which are more likely to be locally owned.

Existing Pattern

Commercial developments are of the greatest scale – that is, greatest average square footage per parcel – in Uptown, University City, Charlotte Douglas International Airport, SouthPark, Northlake, and Ballantyne. Because several of the NPAs in center city that are part of the wedge have very high commercial square footage, the wedge average is higher. Limited scale commercial business development in much of the wedge is related to historic patterns of primarily residential development. In some NPAs, small scale commercial development that serves primarily local residents' needs is most appropriate. In other NPAs, larger scale commercial development serves more workers and consumers.

Implications for the Comprehensive Plan

Every city needs a variety of businesses, and businesses of various scales have different needs related to transportation and utilities, customers/clients, and workers. The Comprehensive Plan will include defined Place Types that distinguish between different development characters, uses, and scales. In addition, the Planning Team will work with the community to map where these Place Types should be to ensure that they are compatible with existing and desired character.

COMMERCIAL CONSTRUCTION

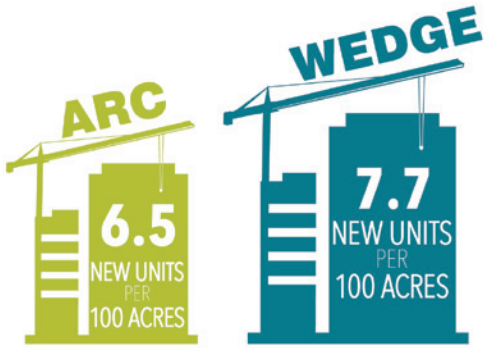
Commercial construction measures the per-acre concentration of new commercial buildings permitted for development. Similar to its residential counterpart, new commercial construction can have mixed impacts on NPAs with lower property values, rents and sales. Though business growth can provide new employment opportunities for local residents, it may also increase rent and competition, leading to displacement of locally-owned and small businesses. The resurgence in demand for urban living, as well as investments in transit infrastructure in the center city, both contribute to high-intensity commercial and mixed-use development in already-developed parts of the city.

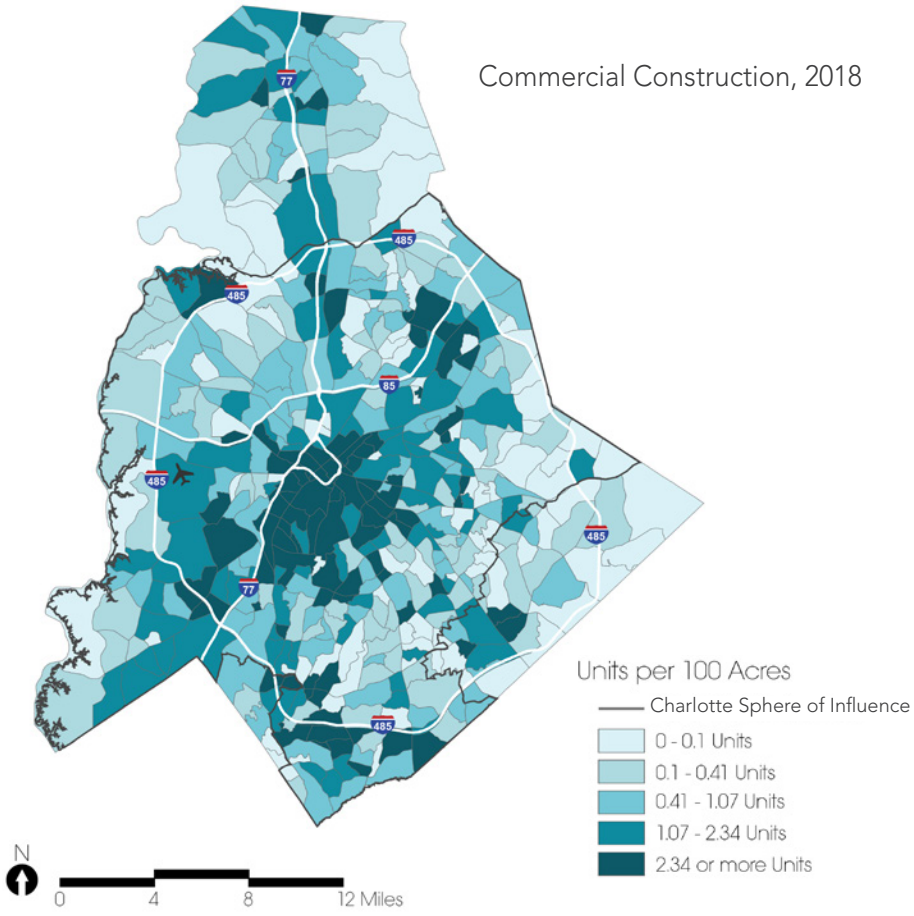
Existing Pattern

The pattern of commercial construction is moderately correlated with the arc and wedge pattern. Much of the construction is in and around the center city. There is little commercial development in the wedge NPAs and east Charlotte. The amount of commercial construction varies through the arc as well as in other parts of Charlotte. South End, Stonewall Street in Uptown, Optimist Park and NoDa are some of the neighborhoods undergoing the most rapid commercial development.

Implications for the Comprehensive Plan

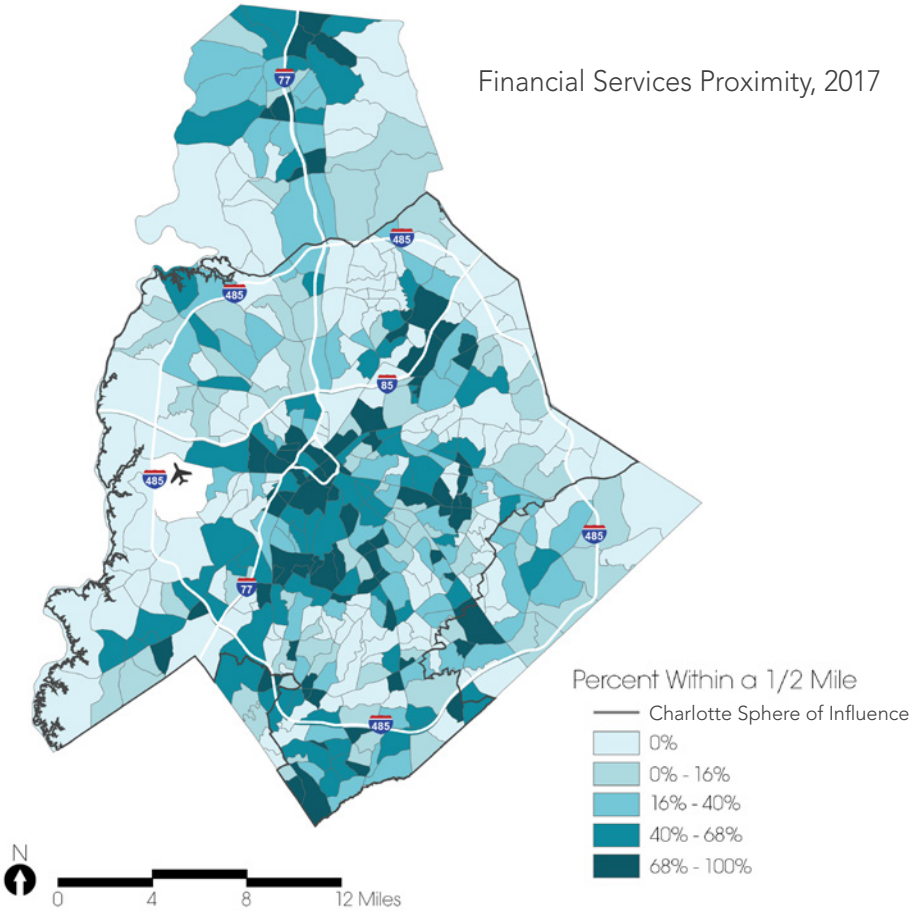
While the location of commercial construction is primarily decided by private land and business owners, the Comprehensive Plan can provide direction and invite commercial investment through the mapping of Future Place Types and the development of further land use and form guidance associated with each Place Type. Through the scenario planning and evaluation process, Place Types conducive to new commercial construction can be explored in NPA locations where new business are desirable to improve access to jobs, goods, and services. The Comprehensive Plan policies that will help direct investments in infrastructure can also influence businesses' decisions about where to locate and invest.





Commercial Construction, 2018

Financial Services Proximity, 2017



PROXIMITY TO FINANCIAL SERVICES

Proximity to financial services is defined by the percentage of housing units within ½ mile of a bank or credit union. These institutions provide individuals with access to personal accounts and loans with reasonable terms. Without them, households have more trouble building wealth and may rely excessively on poorly-regulated, predatory services such as payday lending and pawn shops. Local business owners, too, may suffer when it is more difficult to access capital for upgrades or expansion, or to weather through slow seasons. Financial institutions tend to locate based on residents' wealth.

Existing Pattern

The percentage of homes with proximity to financial services varies between the arc and the wedge. The wedge appears to have more NPAs with relatively high or low proximity, while many arc NPAs fall near the middle of the scale. The crescent has higher proximities with NPAs to the west and east of Uptown and around the University.

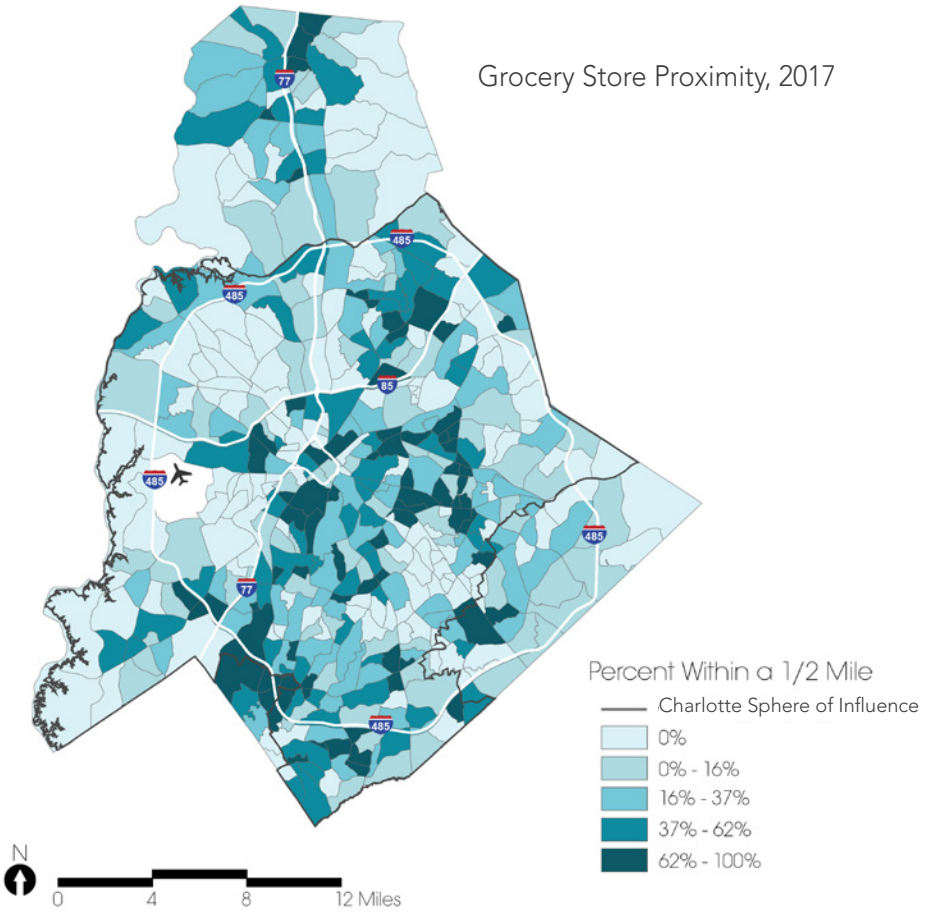
Implications for the Comprehensive Plan

As the Comprehensive Plan seeks to combat gentrification and displacement, it may be important to consider what policies or programs could bring access to capital to the residents and businesses in vulnerable NPAs. The plan can consider how to ensure that use regulations accommodate the needs of banking kiosks that can support a full-service banking experience without an on-site bank, as well as allow new development of banks in places where access is poor.

Healthy and Resilient

In a healthy, resilient city, residents have access to healthy food, clean air and water, health care and opportunities for active living and exercise. This section analyzes available data on the existing built city that provides health-supportive goods and services, and that contribute to stormwater resiliency. The following indicators and data sets have been examined:

- Proximity to a Grocery Store
- Full Service Medical Care Facilities
- Proximity to Public Outdoor Recreation
- Environmental Exposure



Grocery Store Proximity, 2017

PROXIMITY TO A GROCERY STORE

Proximity to a grocery store is measured by the percentage of housing units within ½ mile of a full-service grocery establishment. Access to grocery stores with healthy food options has been shown to contribute to positive health outcomes. The majority of grocers are for-profit businesses that seek out locations with high traffic volumes of middle- to high-income customers, despite federal nutrition subsidy programs that supplement food purchasing among low-income households.

Existing Pattern

Overall, NPAs in the wedge and northeast have better grocery proximity, the neighborhoods of Sheffield Park, Idlewild Farms are best served. In these areas, the vast majority of residents live within a ½ mile of full-service grocery chain locations. NPAs in the western and northwestern arc portions of the arc generally have the least convenient proximity to full-service grocery stores.

Implications for the Comprehensive Plan

Within the Comprehensive Plan process, Place Types can help establish new locations to add grocery stores that are closer to residents and scaled to neighborhood needs. Some cities also choose to set policy goals for grocery access within their Comprehensive Plans. Some of these focus on equal access, while others are more equitable, scaling the distance goal to the percent of residents who own a car. Even with supportive policies, where grocery stores locate remains a private development decision based on market considerations

FULL SERVICE MEDICAL CARE FACILITIES

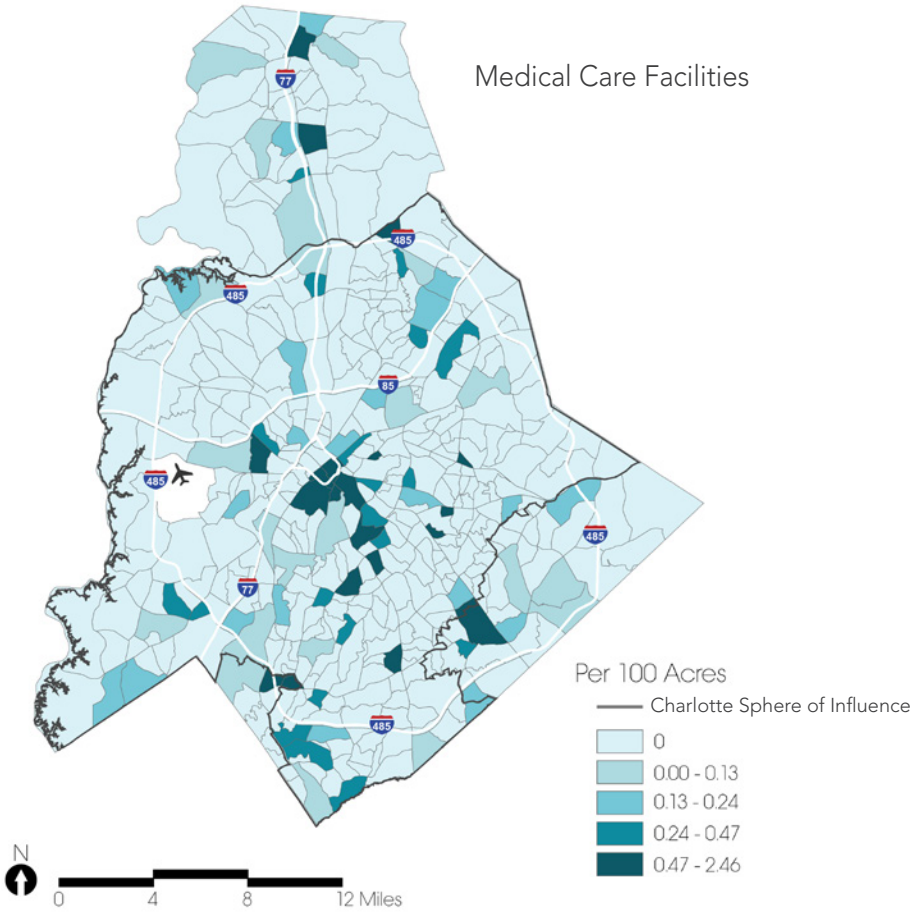
This data set shows the number of full service medical care facilities, such as hospitals and clinics, per 100 acres in each NPA. Convenient access to a full range of medical care services can improve health outcomes.

Existing Pattern

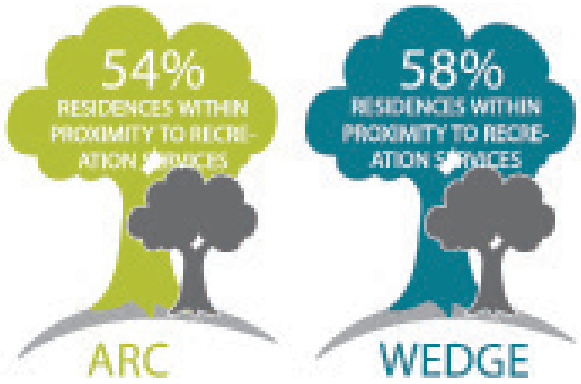
The 186 full service medical care facilities in Charlotte are unevenly distributed, with a concentration in the center city. Several others of the best-served NPAs are in the wedge, however the distribution is very dispersed, uneven, and not highly correlated to the overall arc or wedge patterns. Other Charlotte/ Mecklenburg Quality of Life Explorer data sets demonstrate the locations of limited services and low-cost health care facilities. These add to the availability of health care available in Charlotte.

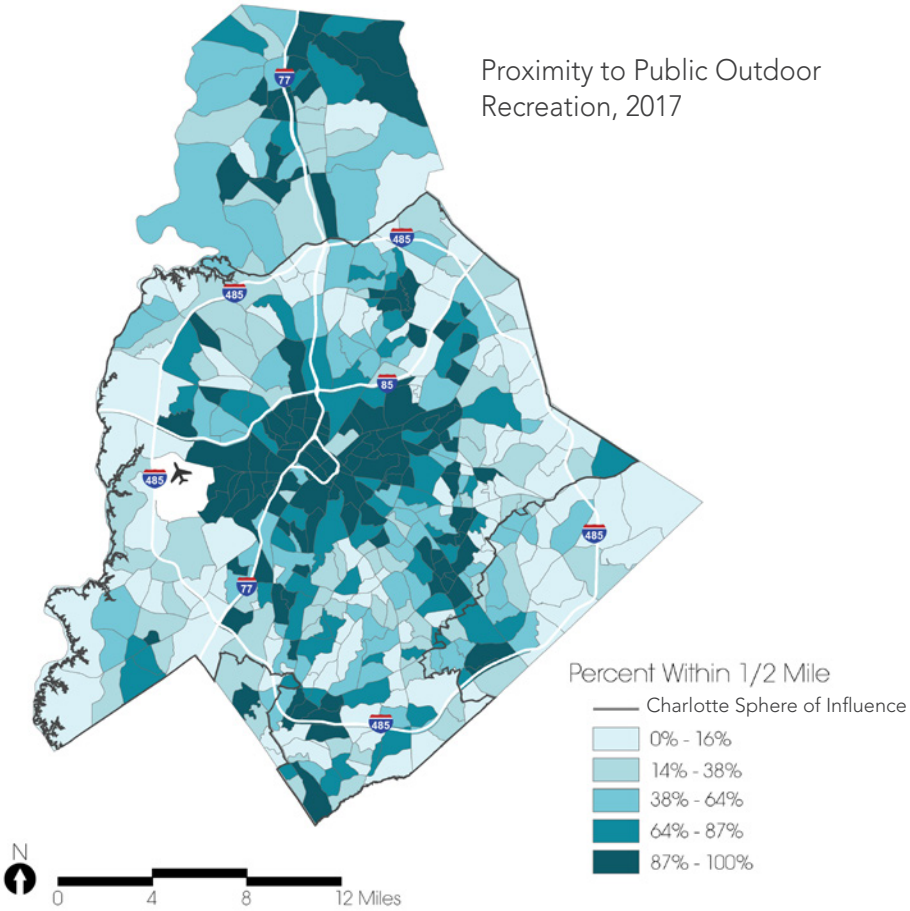
Implications for the Comprehensive Plan

Convenient access to health care can impact individual and community health outcomes. However, decisions about where to locate health services are made by providers. The Comprehensive Plan can set policy that encourages health care facilities in neighborhoods, determine the Place Types in which health care facilities are compatible, and inform the development of zoning districts that allow for health care facilities in appropriate locations.



Note: Medical facilities include all hospital, urgent care, internal medicine, general clinics, pediatric and orthopedic centers.





Proximity to Public Outdoor Recreation, 2017

PROXIMITY TO PUBLIC OUTDOOR RECREATION

Proximity to public outdoor recreation is measured by the percentage of housing units within ½ mile of public open space, including parks and developed trails. Outdoor recreation facilities provide opportunities to exercise, which improves health and lifespan.

Existing Pattern

There is an uneven distribution of recreational access across Charlotte's NPAs, which does not correlate to the arc and wedge pattern. The best access is found within the most central NPAs. On average, wedge NPAs have slightly better access, however, the arc also has many of the NPAs with both the best and worst access, while the wedge NPAs tend to be closer to average. While there is variation within Charlotte, the Trust for Public Land's ParkScore[7] measure indicates that overall, Charlotte has very low average parks access compared to other cities.

Implications for the Comprehensive Plan

Unlike many cities, Charlotte does not require new development to dedicate parkland or pay a fee-in-lieu. Developers determine whether to provide private open space and parks in subdivisions, but there is no established mechanism or funding stream to add parks in older NPAs. The Plan should consider a variety of potential funding options. County-wide there are bonds for funding parks and recreation facilities, including some parks within the city limits. The County is in the process of updating their Parks Master Plan. This presents an opportunity to coordinate and leverage the work of Comprehensive Plan.

7 parkscore.tpl.org

ENVIRONMENTAL EXPOSURE

Environmental exposure is a measure of pollutants in the air that can increase the risk of health problems such as respiratory disease and cancer. The exposure in a specific location depends on surrounding point sources and vehicle emissions, as well as micro-climates. Adding industrial uses with emissions can increase exposure. Poor transportation infrastructure and high congestion increase idling, emissions, and add to exposure as well.

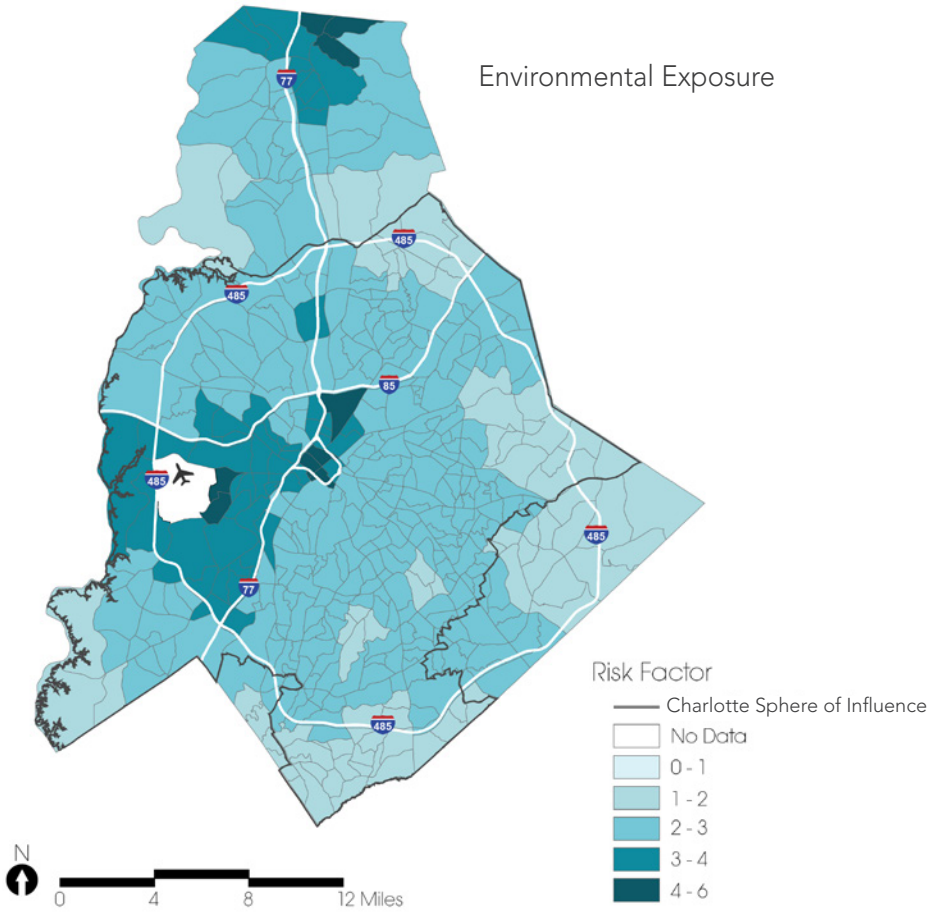
Existing Pattern

The environmental exposure data does not clearly follow the arc spatial pattern, instead showing highest exposures around employment and transportation centers, especially center city and the airport. Exposure levels are highest within the arc NPAs that are near these epicenters, resulting in higher average risk in the arc than in the wedge. There are no NPAs in Charlotte with exposure levels low enough (below 2.0) that they don't pose an elevated health risk to residents.

Implications for the Comprehensive Plan

Based on the data, health risks from environmental exposure affects all Charlotte residents, creating common ground for concern. Exposure risks are highest in west Charlotte. Scenario building and evaluation can consider the amount of existing environmental exposure and the proximity of existing and potential households when mapping new industrial uses, residential areas and major roadways. The Comprehensive Plan could consider whether to set policies around approving certain types of new land uses that would add additional exposure in areas that are already experiencing the highest exposure levels.

Environmental Exposure



Note: <1 is a normal, acceptable risk of non-cancer adverse health effects, >1 is likely to increase risk of non-cancer adverse health effects

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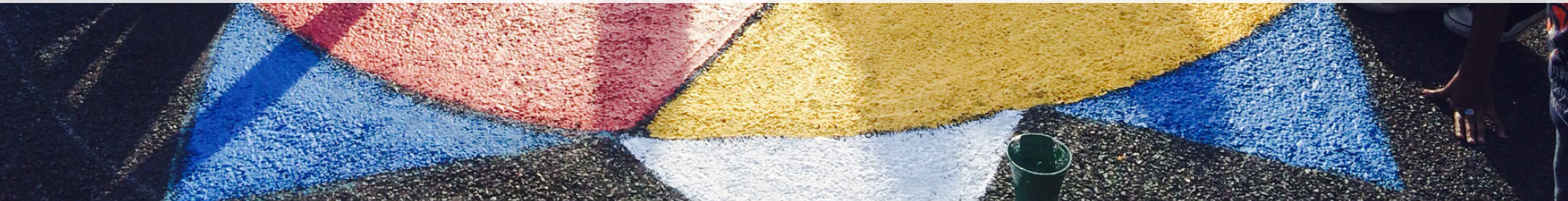
Neighborhood Completeness and Findings

A complete neighborhood provides residents safe and convenient access to housing, jobs, goods, services, and other essentials on a daily or regular basis. Looking at data sets related to the built environment across NPAs shows that an individual NPA may have both robust and weak elements. This knowledge helps to identify where to channel enhancements so that we have a fairer city.

Key findings from this report summarize the areas where the data shows the most disparity between the wedge and arc, and where other spatial patterns -- such as from central to outlying areas - are more dominant. These findings can help to define priority questions for the Comprehensive Plan to consider in developing policies for more equitable development.



Neighborhood Completeness

A complete neighborhood includes a range of housing options, grocery and other neighborhood-serving stores, banking, health care, quality public schools, and recreation. A complete neighborhood also includes clean air, clean water and other public utilities, and transportation options such as well-connected streets, access to frequent transit, sidewalks, trails, and bike lanes. While not all of these topics were discussed in this Atlas, they can be included in discussions and addressed in the development of the Comprehensive Plan.

Within the completeness concept, there is room for diversity and distinct neighborhood character: not every NPA has to physically contain all these elements in the same form or in great quantities to provide residents with equitable access. The look, scale and type of elements may vary according to neighborhood desire and demand -- small businesses versus large institutions, bocce courts versus playing fields, corner stores versus regional malls. Public and private transportation options, when widely available, can create access to key elements outside the neighborhood as well.

In recent years, communities have adopted a variety of approaches to ensure their neighborhoods are more complete. For example, the 20-minute neighborhood concept adopted by Portland, Oregon aims to ensure 90% of residents can easily walk or bicycle to meet all basic daily, non-work needs. At the highest level, attaining such a goal will include a combination of adding basic daily needs and amenities to areas where they are lacking today and improving access to basic daily needs and amenities where connectivity issues decrease or eliminate access.

As is partially demonstrated by the maps that appear throughout the Atlas, deficiencies and threats do exist in affluent neighborhoods and neighborhoods that have historically been passed over for new public and private investment sometimes enjoy tremendous access to certain amenities. Therefore, it will be essential that individual indicators be examined to understand the nuanced needs of all neighborhoods, as well as the pronounced needs of many of the city's underserved communities.

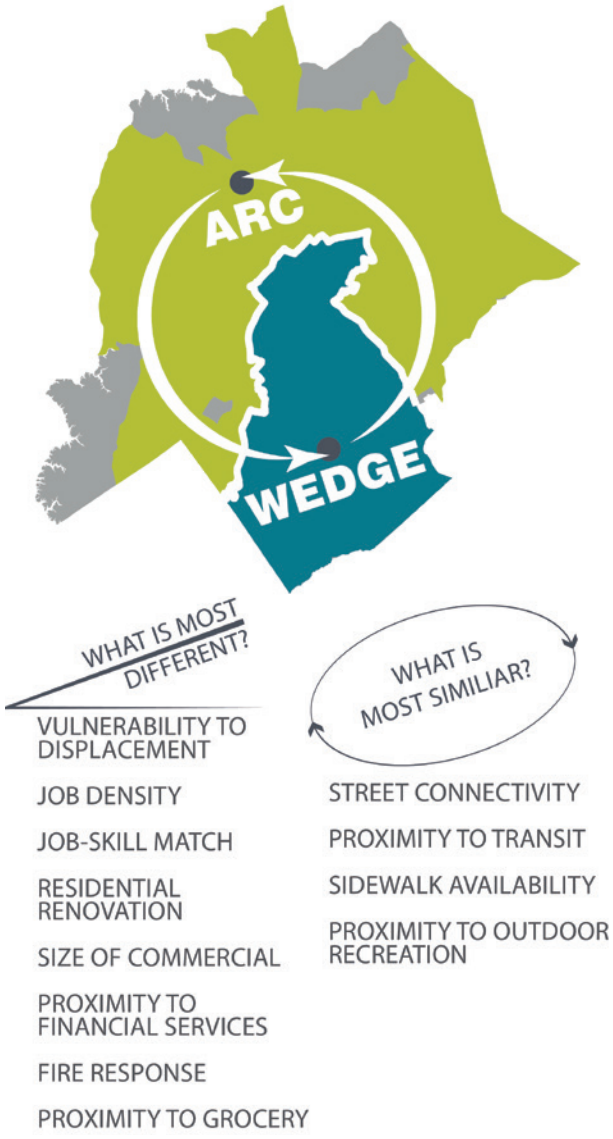
A table in the appendix summarizes the data sets in this Atlas for all City of Charlotte NPAs.

Key Findings and Policy Opportunities

There is a residual pattern of income inequality and segregation in the built environment that is the result of a long history of unequal treatment and investment. An arc and wedge pattern can be seen. Arc residents are more likely to be People of Color, have lower incomes, and vote less, while wedge residents are more likely to be White, have higher incomes, and vote more.

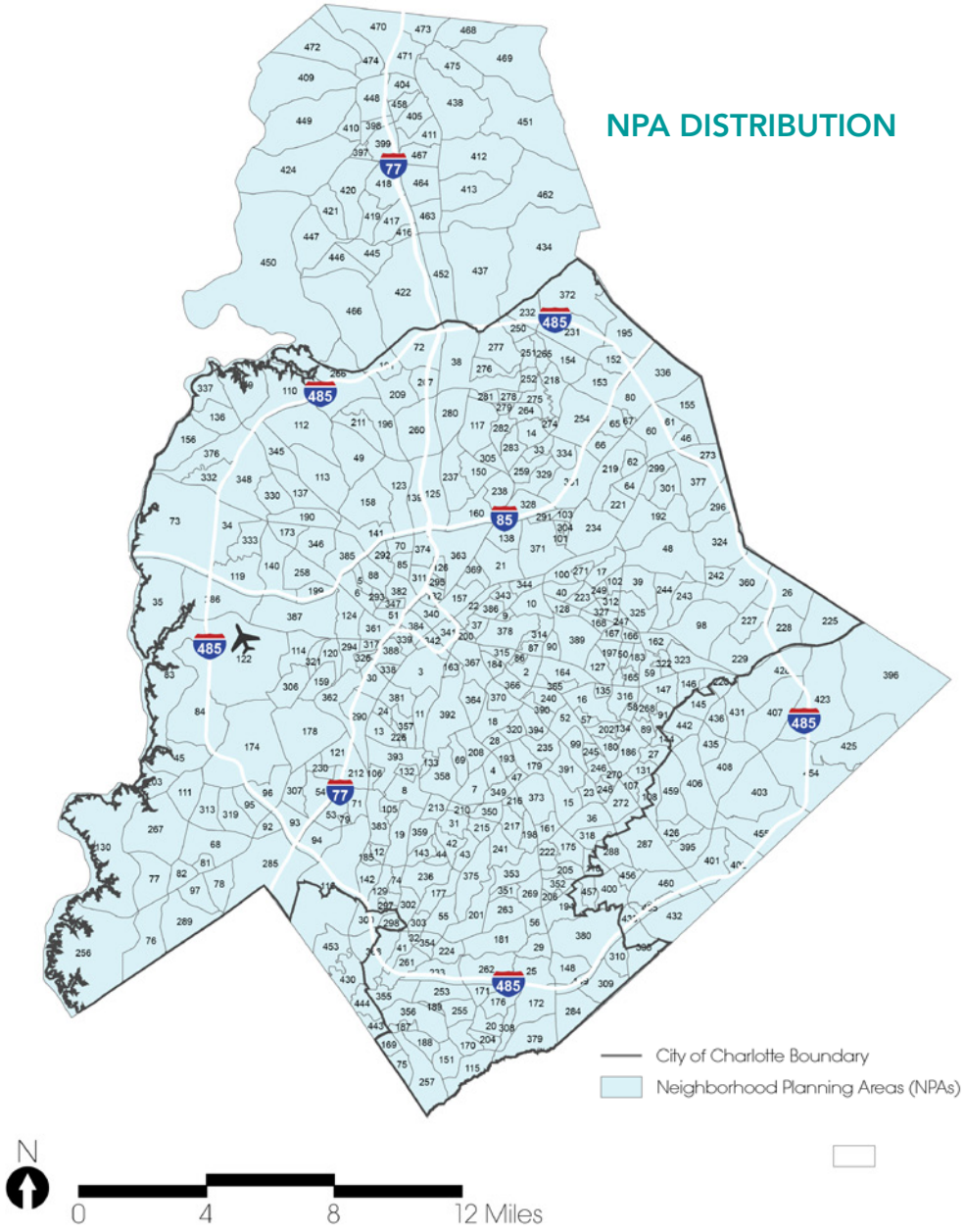
- An NPA or neighborhood is considered complete when residents have access to a wide range of goods, services, housing, amenities, and jobs.
- On average, the built environment of NPAs in the arc is somewhat less complete than NPAs in the wedge. Recent growth in jobs and housing have not significantly corrected this pattern.
- Mapped public investments are more equal or equitable than private investments.
- In many cases, variations among NPAs of the arc or wedge are more pronounced than variations between the arc and wedge. Some data sets show a pattern that varies most strongly based on distance from the center city.
- It is important to understand patterns of disparity, but also specific assets and vulnerabilities of individual NPAs so that Comprehensive Plan policies can be developed that will be corrective and help to create a more equitable future.
- Providing all missing amenities in all NPAs will likely be cost prohibitive and not appropriate give the variety of neighborhood contexts, so the Comprehensive Plan process should also attempt to identify ways to 1) help meet neighborhood and household needs in creative and innovative ways and 2) help improve connectivity and access to existing amenities nearby.
- The current patterns of inequity across the built form of Charlotte will need to be addressed through a strategic combination of new and enhanced policies, a selection of inclusive Place Types, and a preferred growth scenario that aims to address existing and anticipated needs of all NPAs.

The Comprehensive Plan's Place Type and land use framework can help to eliminate regulatory barriers to the development of services and amenities, but the City is not responsible for funding or developing many elements of a complete community; the Implementation section of the Comprehensive Plan may need to include recommendations for incentives and strategic partnerships to increase the likelihood that the private sector delivers in ways that are supportive of the community vision and goals.



Appendix

NPA DISTRIBUTION



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36.0	95.0	11.0	49.0	28.0	87.0	33.0	10.0	89.0	48.0	93.0	93.0	70.0	62.0	0.0	42.9	100.0
599.0	109722.0	25797.0	59884.0	61887.0	76500.0	43408.0	31315.0	60021.0	41402.0	93006.0	136955.0	78282.0	36092.0	15242.0	62911.9	226250.0
70.0	88.0	62.0	72.0	71.0	83.0	71.0	66.0	78.0	77.0	78.0	84.0	78.0	78.0	41.0	72.3	90.0
48.7	33.1	11.6	24.7	23.8	44.4	34.5	38.0	27.5	39.3	42.2	25.0	41.0	36.7	0.1	28.4	80.1
2.9	2.5	7.9	4.0	3.7	1.2	2.9	2.8	2.7	3.0	1.7	2.8	2.7	3.7	0.0	2.3	12.1
75.0	65.0	0.0	35.0	54.0	95.0	56.0	69.0	44.0	43.0	99.0	65.0	69.0	36.0	0.0	60.2	100.0
100.0	100.0	100.0	100.0	74.2	0.0	93.1	100.0	100.0	100.0	21.1	99.8	97.4	97.5	0.0	71.7	100.0
1.4	1.2	1.1	1.2	1.1	1.2	1.2	1.2	1.2	1.2	1.2	1.4	1.4	1.2	0.9	1.2	1.5
65.0	64.8	33.1	47.6	49.3	26.3	39.8	43.4	48.8	81.5	44.0	89.8	47.7	49.8	0.6	46.4	97.9
119.0	2378.0		1346.0	1883.0	2349.0	1475.0	1613.0	3130.0	1310.0	2317.0	3021.0	1589.0	1767.0	562.0	2001.3	5197.0
6.7	10.4	0.0	6.6	0.7	3.6	1.7	1.5	7.6	3.4	8.4	11.7	8.0	5.4	0.0	3.0	73.0
1.6	3.1	0.0	0.0	0.0	0.1	0.0	0.0	1.6	3.0	0.0	2.3	33.1	2.6	0.0	3.5	146.7
1.2	3.1	0.6	2.8	0.9	0.6	2.8	0.6	1.9	2.2	0.9	3.0	6.3	5.1	0.0	3.0	142.3
00693	507339	126534	1384752	91284	35747	534084	226245	414876	667291	2024	1421583	2301308	237081	462.0	862779.0	17721930.0
59.0	44.0	0.0	23.0	61.0	0.0	27.0	0.0	30.0	1.0	0.0	44.0	74.0	26.0	0.0	30.1	100.0
1.8	2.7	10.7	2.6	0.5	0.3	1.0	2.9	2.6	3.4	0.0	5.8	4.0	0.3	0.0	2.7	194.2
78.0	63.0	0.0	14.0	63.0	0.0	16.0	75.0	26.0	0.0	0.0	30.0	62.0	26.0	0.0	29.0	100.0
86.0	31.0	100.0	24.0	63.0	0.0	41.0	33.0	72.0	76.0	0.0	9.0	18.0	0.0	0.0	28.7	100.0
1.7	1.7	1.4	1.6	1.3	1.6	1.4	1.4	1.6	1.7	1.8	2.0	1.9	1.6	1.1	1.5	2.5
48.9	56.0	41.9	46.4	43.7	73.2	53.1	50.2	59.5	44.3	68.9	63.3	49.5	56.6	6.2	47.7	85.5
22.7	28.4	35.3	34.8	20.6	13.9	21.7	19.6	23.4	28.1	16.9	28.0	29.3	24.2	1.3	20.7	59.0
-0.8	0.8	-1.0	-0.3	-0.2	0.1	-0.6	-1.0	0.5	0.6	0.7	0.2	-0.3	0.0	-1.7	-0.2	1.2
2.3	2.5	2.6	2.4	2.1	2.0	2.4	2.1	2.2	2.3	2.0	2.5	2.4	2.1	0.0	2.4	5.7
0.2	0.5	0.3	0.6	0.5	0.2	0.6	0.3	0.5	1.1	0.2	3.7	0.9	0.5	0.0	0.6	15.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.1	0.1	0.0	0.0	0.1	2.5
97.3	82.3	76.0	89.0	49.5	68.9	91.8	72.5	94.7	96.1	59.6	85.6	85.5	87.8	3.1	77.4	98.5
100	100	59	69	86	59	47	89	79	71	87	64	48	77	0.0	52.3	100.0

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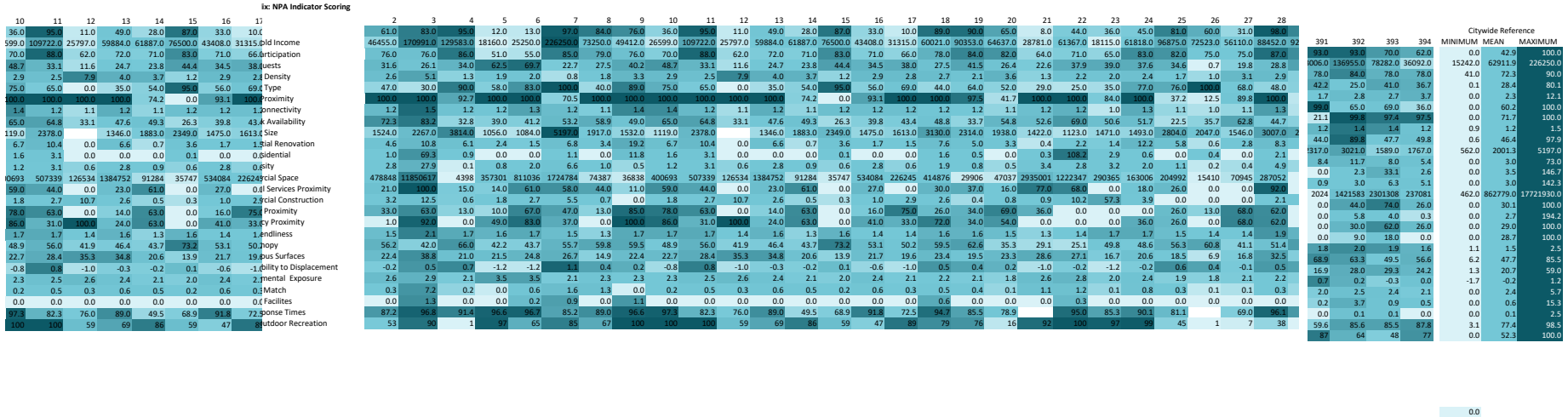
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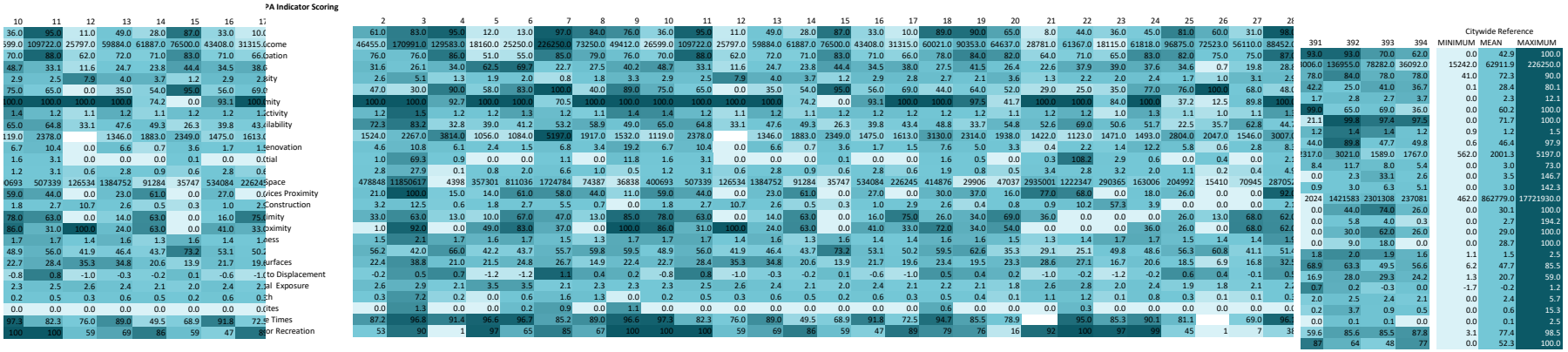
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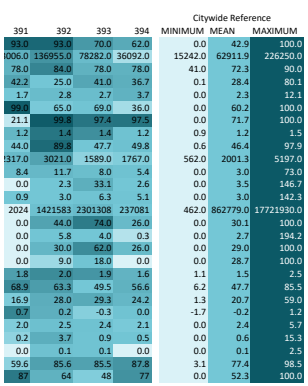

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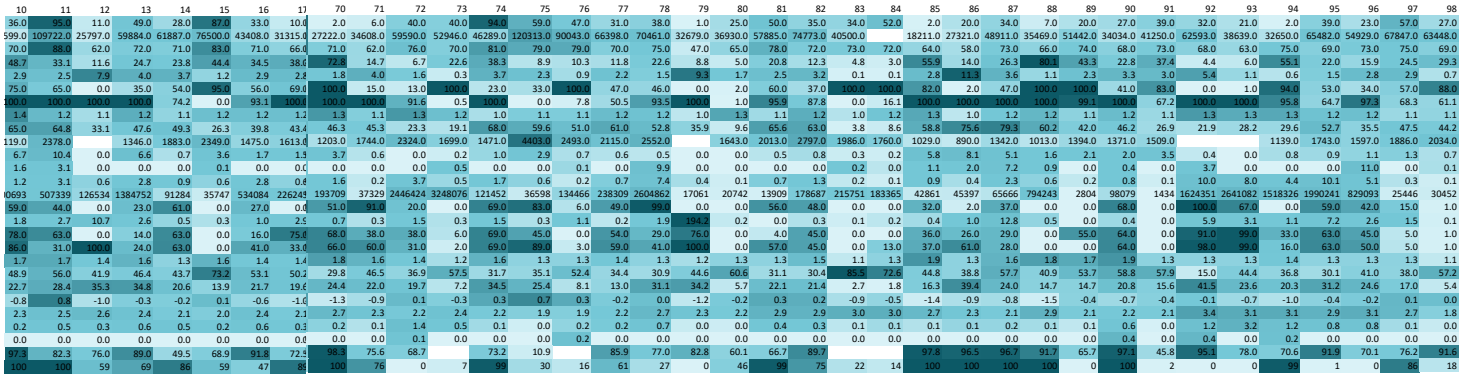

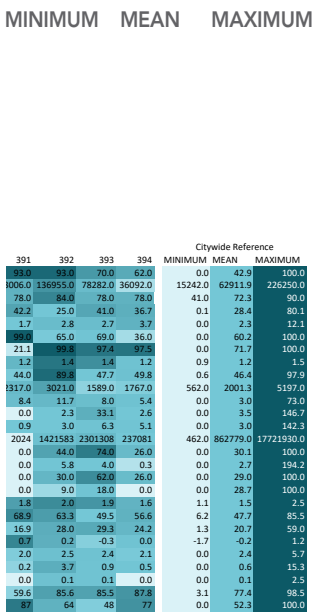
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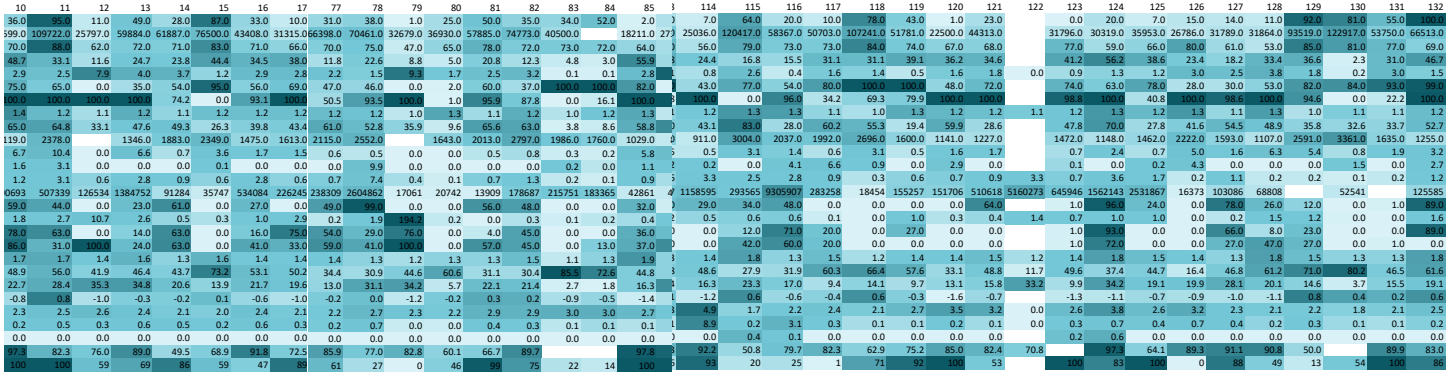
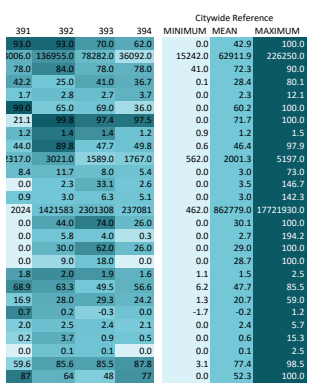
0.1	28.4	80.1
0.0	2.3	12.1
0.0	60.2	100.0
0.0	71.7	100.0
0.9	1.2	1.5
0.6	46.4	97.9
562.0	2001.3	5197.0
0.0	3.0	73.0
0.0	3.5	146.7
0.0	3.0	142.3
462.0	862779.0	17721930.0
0.0	30.1	100.0
0.0	2.7	194.2
0.0	29.0	100.0
0.0	28.7	100.0
1.1	1.5	2.5
6.2	47.7	85.5
1.3	20.7	59.0
-1.7	-0.2	1.2
0.0	2.4	5.7
0.0	0.6	15.3
0.0	0.1	2.5
3.1	77.4	98.5
0.0	52.3	100.0

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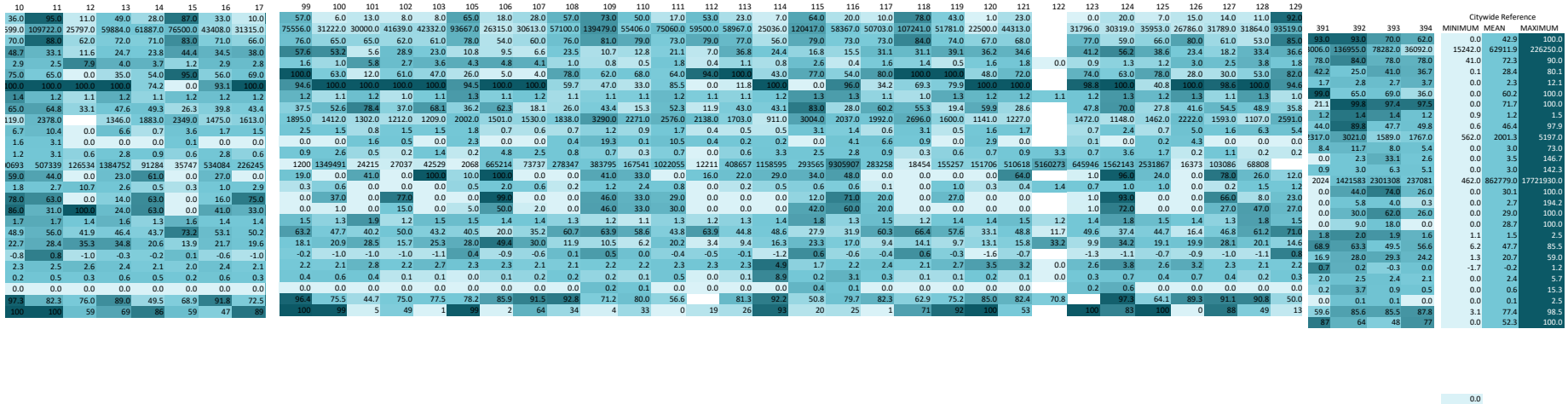
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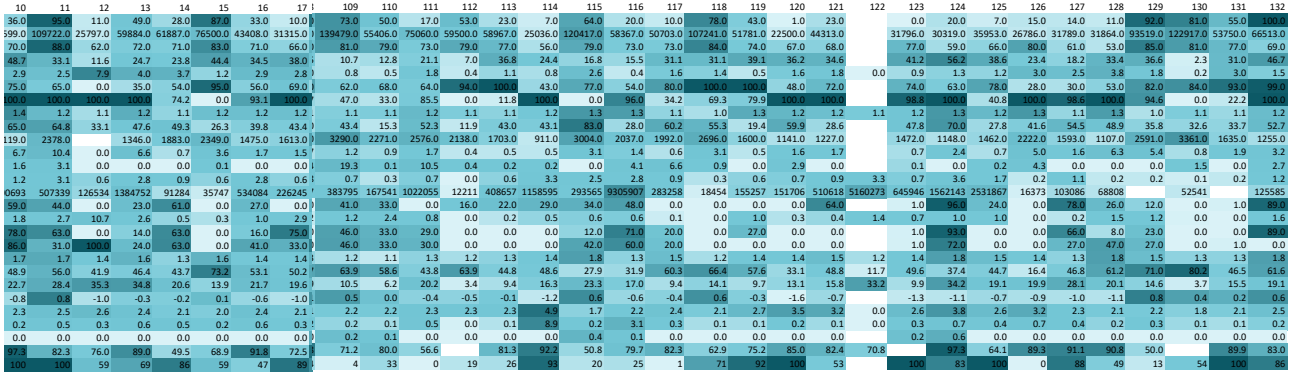

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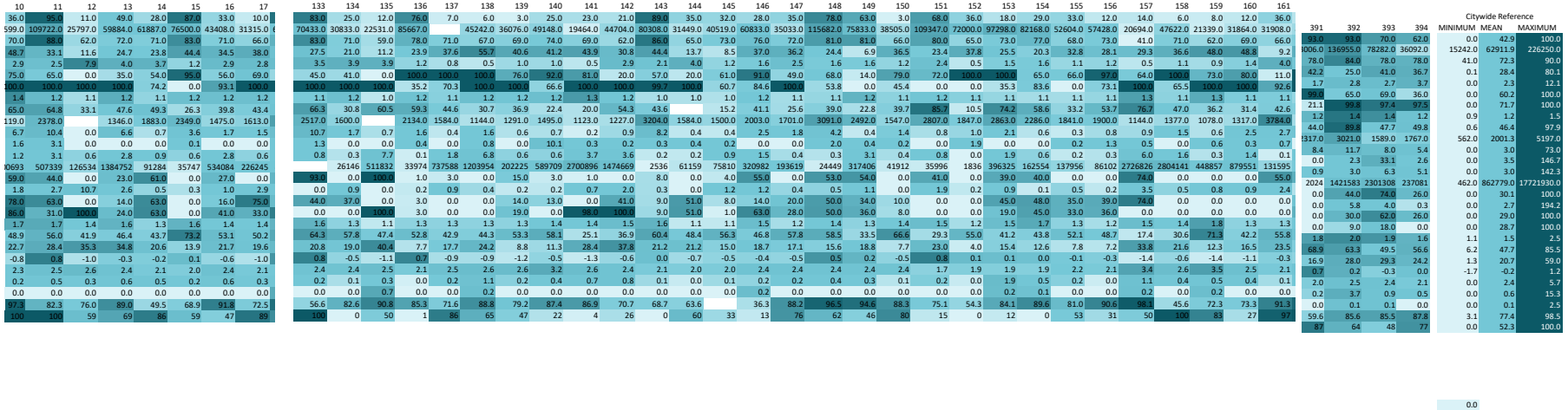
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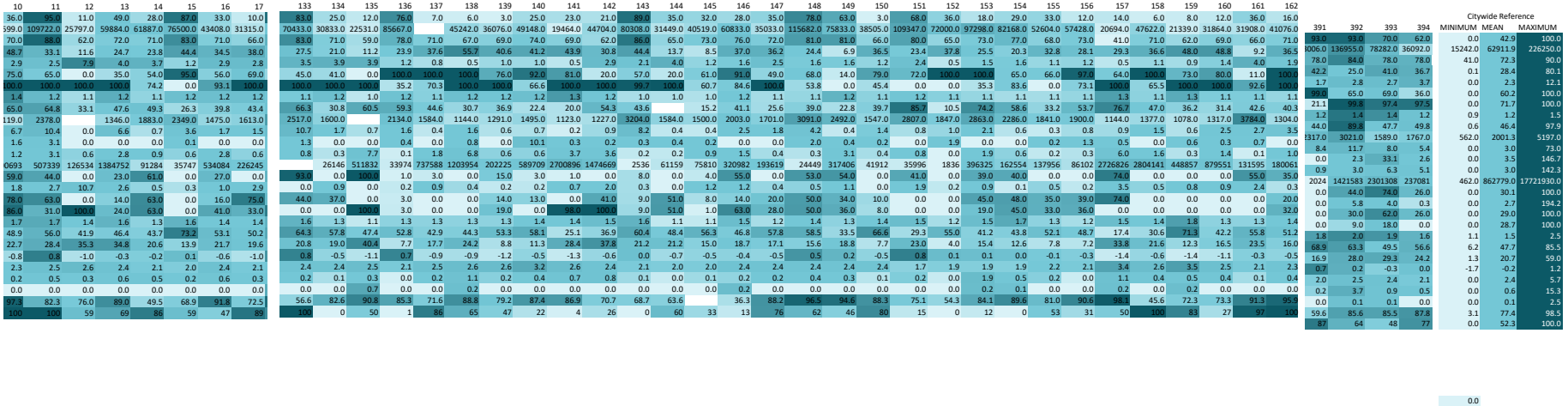
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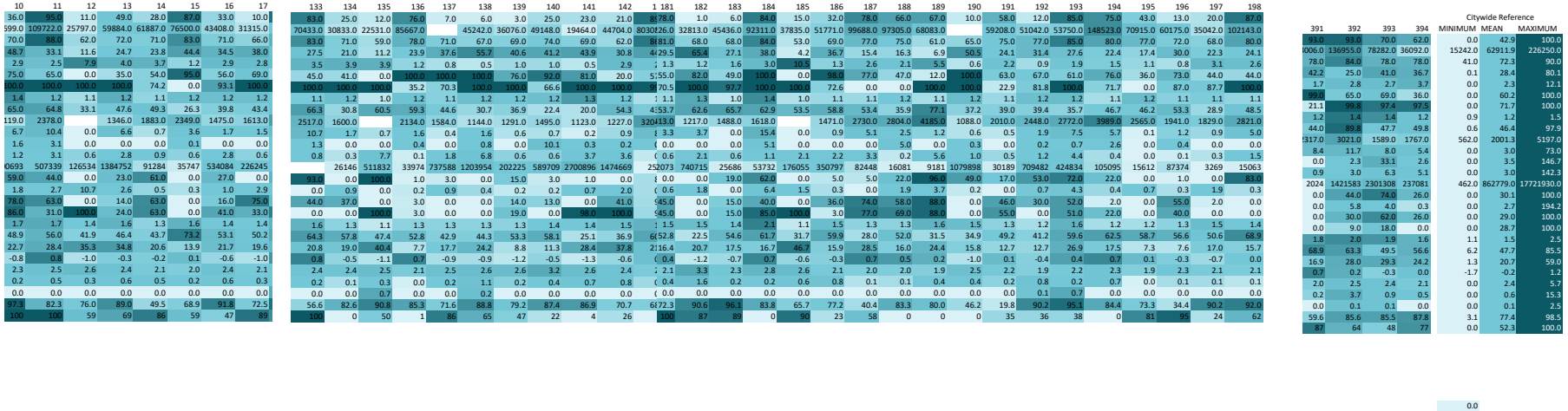
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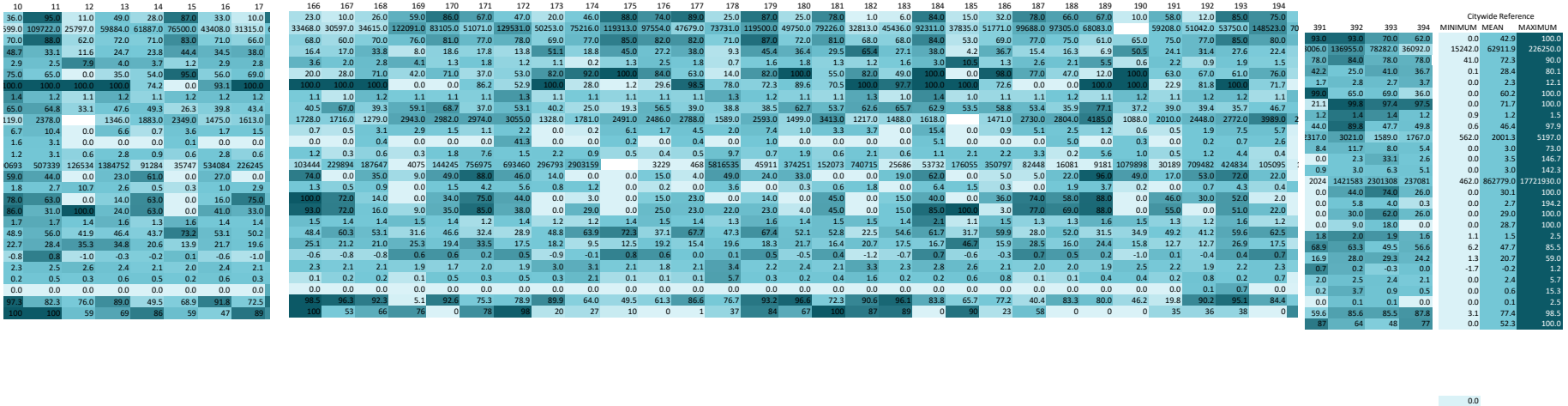
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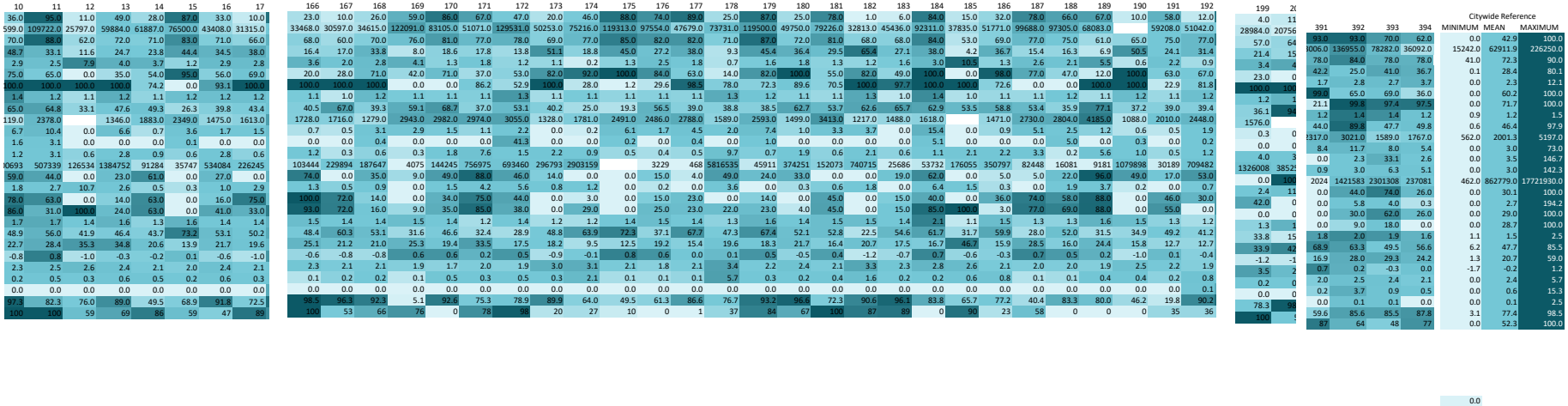
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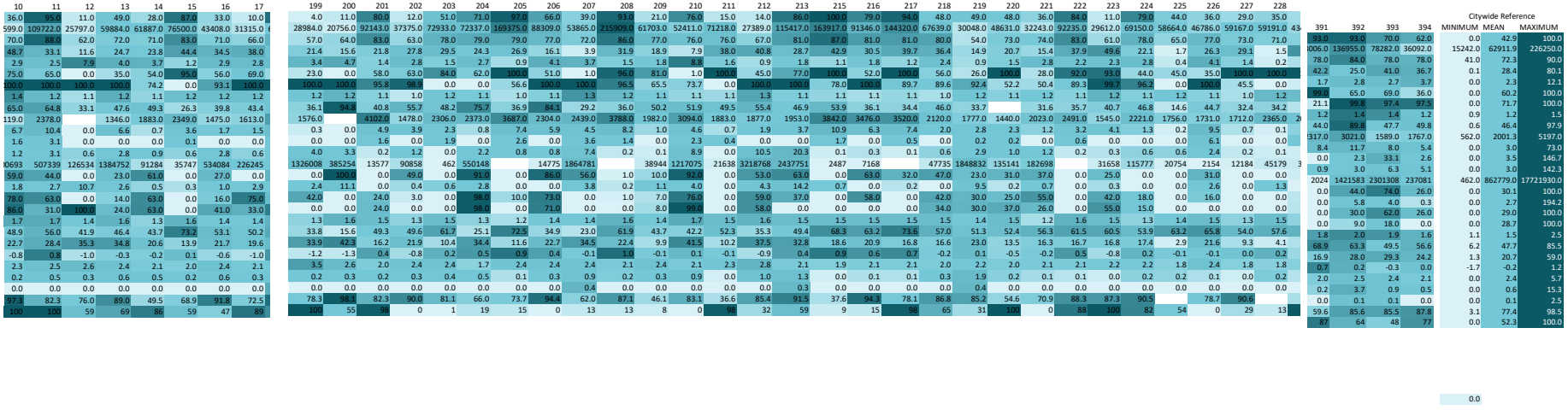
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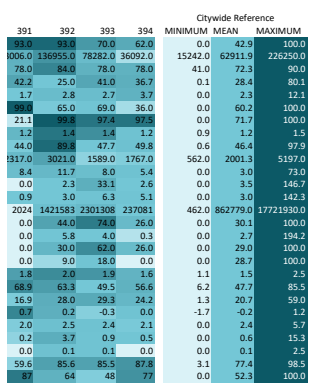
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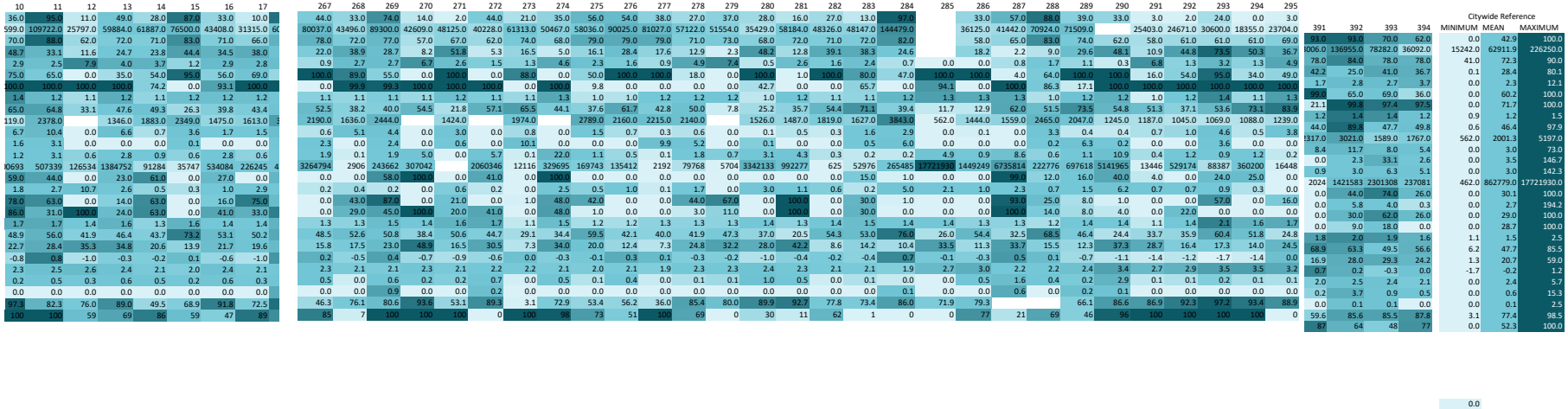
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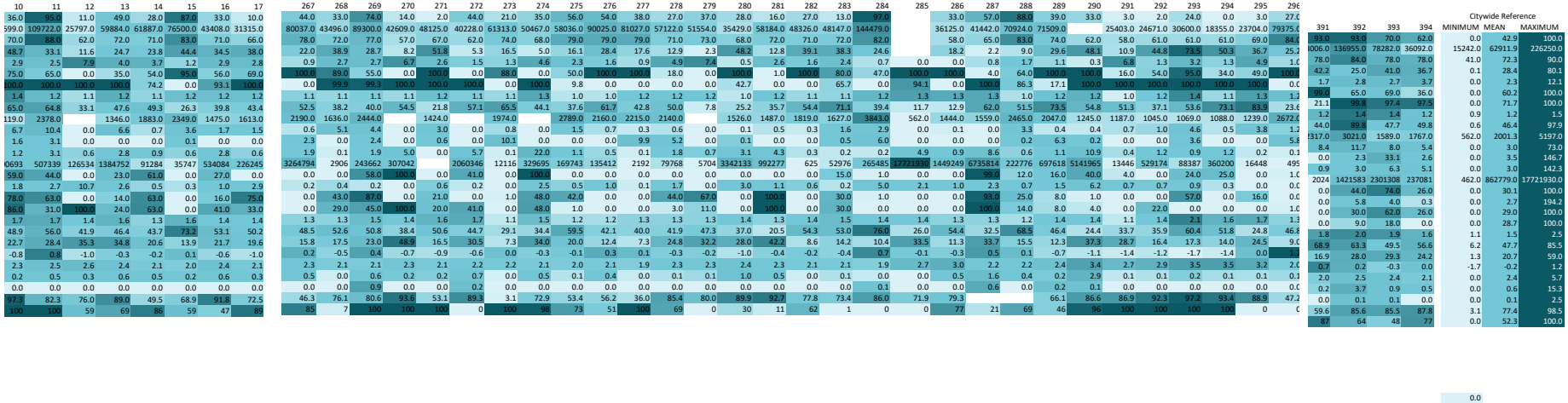
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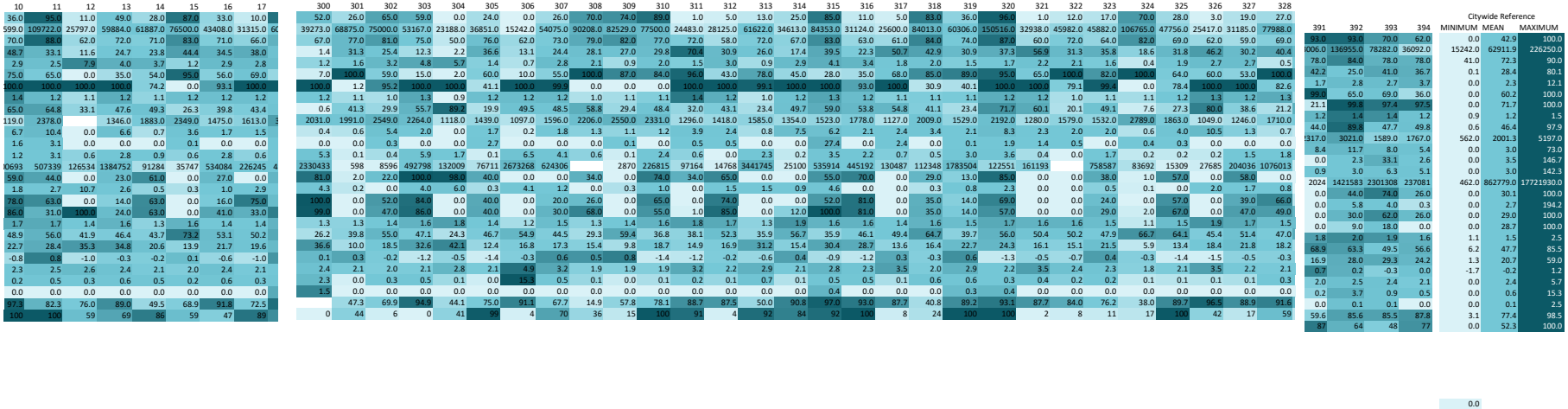
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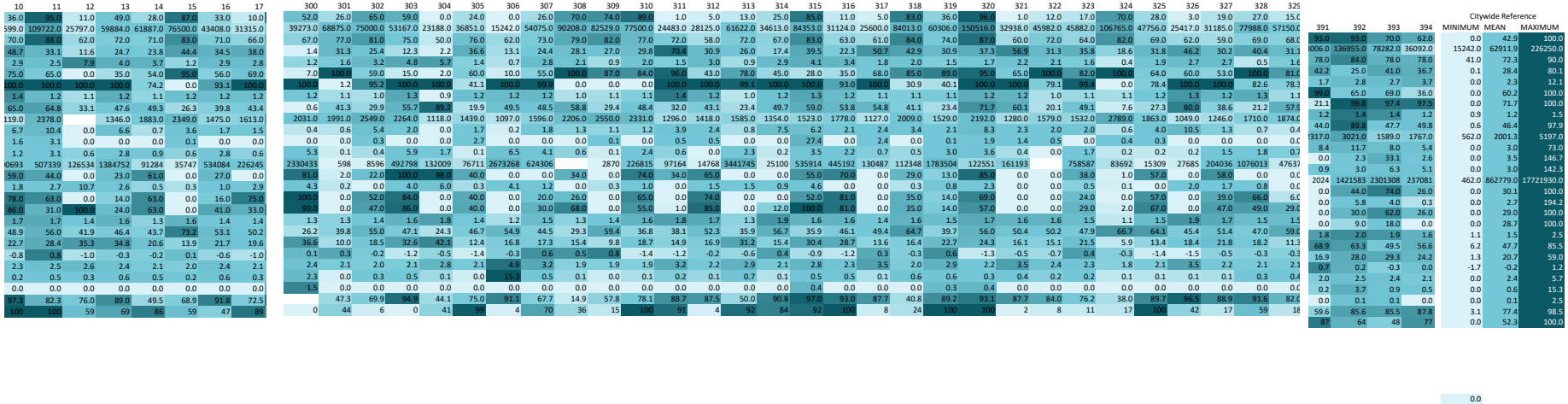
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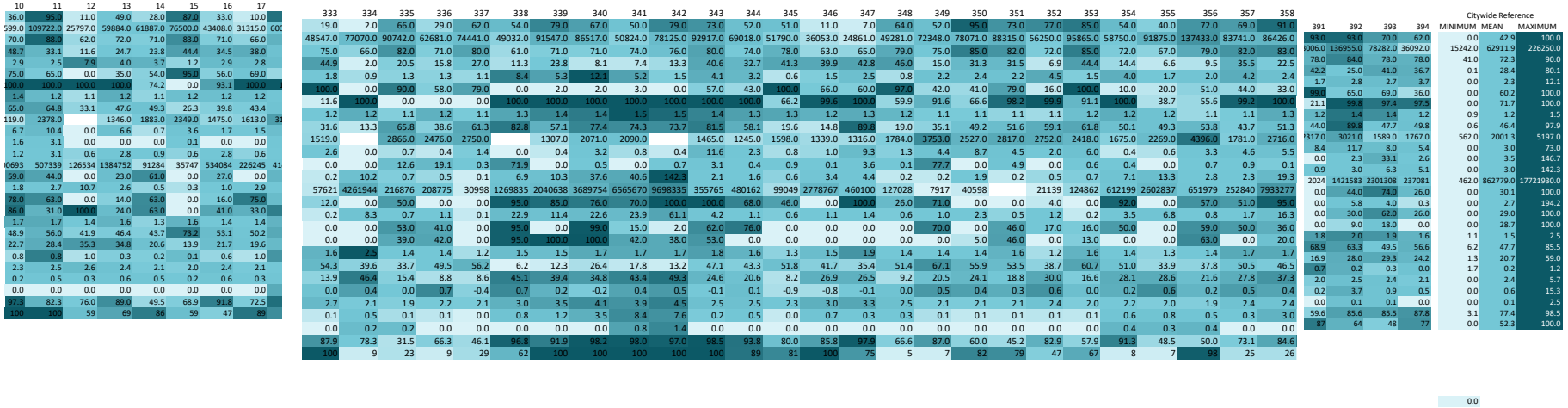
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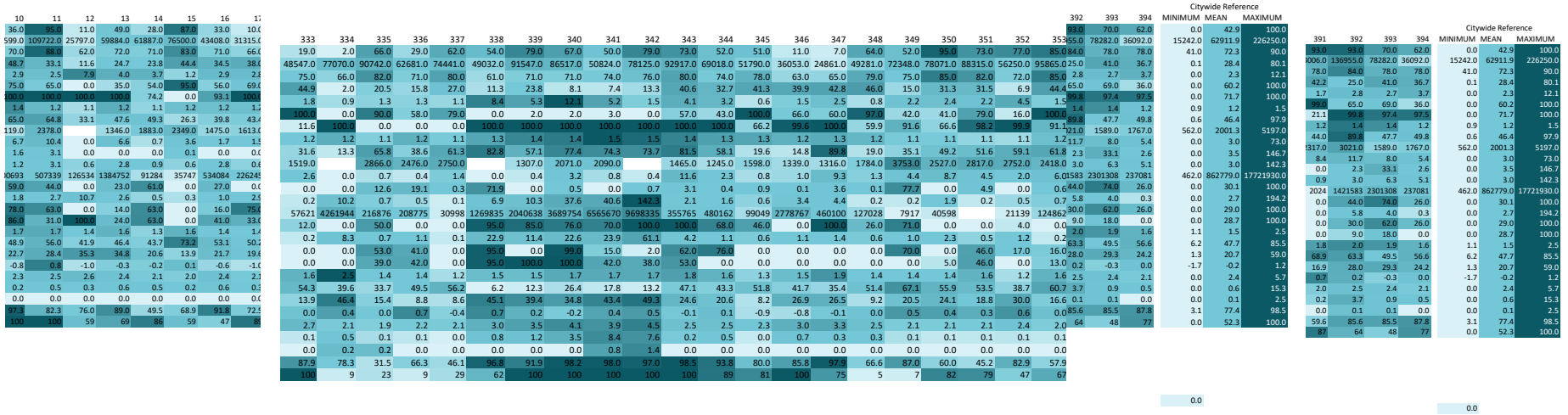
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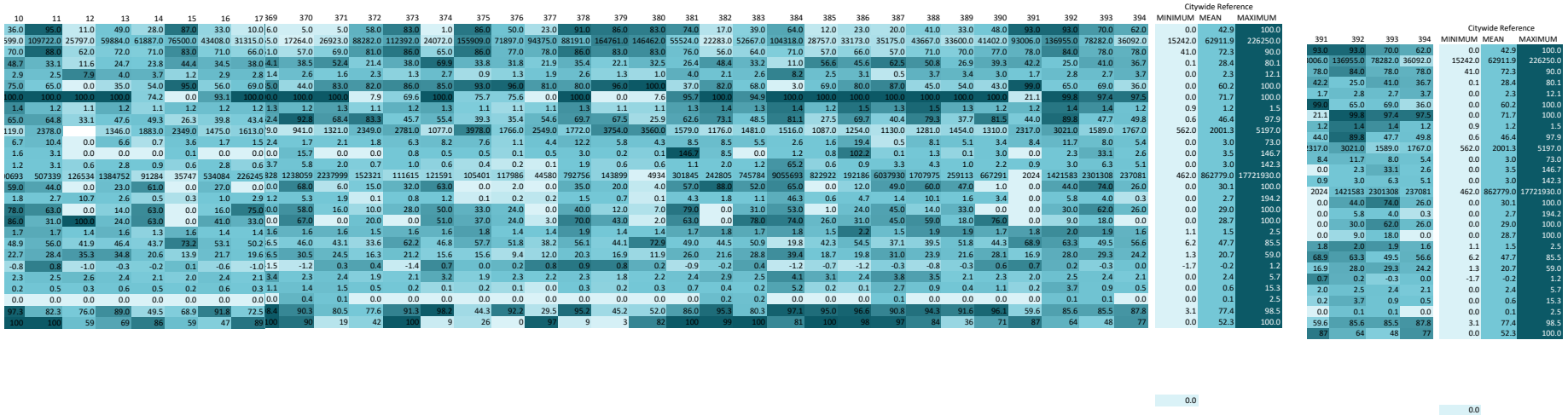
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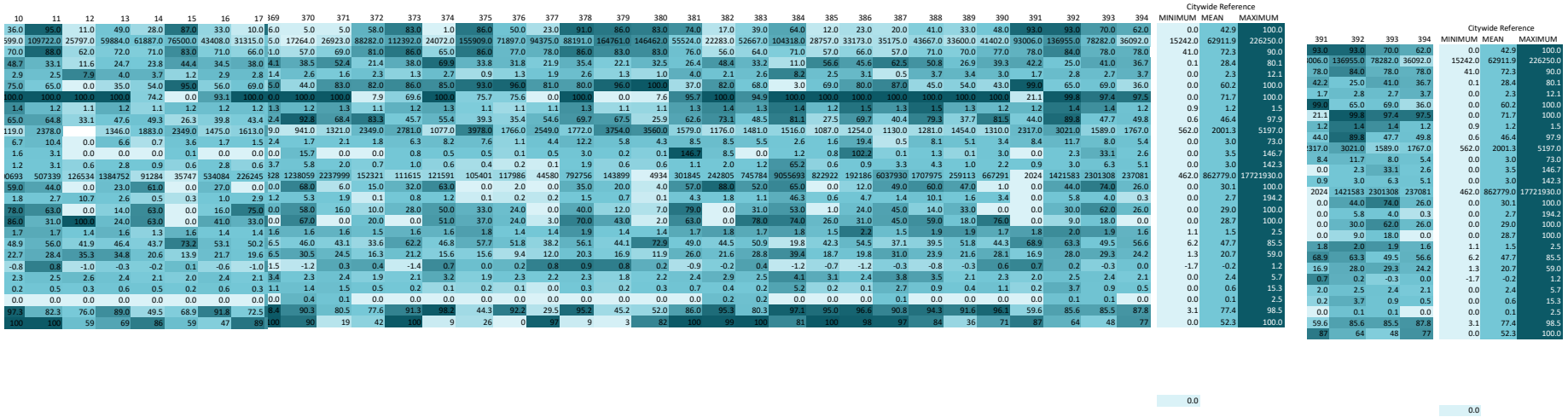
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