JERSEY CITY EQUITY PROFILE

With analysis to support outreach to reduce lead exposure

Prepared by Sustainable Jersey January 2022



This report presents an *equity profile* of Jersey City, as a preview of the *municipal equity self-assessment action* currently under development for the <u>Sustainable Jersey</u> program. It considers how the findings could contribute to understanding risks from lead exposure and how they are socially and spatially differentiated across Jersey City. The report concludes with a brief discussion of the ways in which an equity profile could be used to develop equitable and effective outreach and engagement strategies for the benefit and inclusion of diverse, marginalized, and vulnerable populations.

Municipal Equity Profile Action

This Sustainable Jersey action (or practical action guide and standard) will assist municipal governments in (i) characterizing the full diversity of their community, differentiating residents into social groups, and identifying those populations that may be marginalized, vulnerable or culturally and linguistically distinct; and (ii) identifying each group's networks and preferred modes of communication. This information provides a necessary foundation for the effective promotion of equitable, inclusive communication and engagement in municipal programs, outreach, and decision-making. This report presents data for part one (i) of this future two-part action.

The first step in the action is a demographic analysis of the population using existing data. Many municipalities, together with partners such as the county and local hospital system will have already gathered much relevant data in various accessible datasets (e.g., Local Health and Planning Departments) and documents (e.g., Master Plan, grant proposals, Community Health Needs Assessments). In addition, municipalities can obtain data from the U.S. Census and its American Community Survey (ACS). The ACS is the "premier source for detailed population and housing information" and for tracking changes over time. Municipal staff without a great deal of training can access U.S. Census and ACS data directly, or more readily via one of many publicly accessible online tools (see below).

Using these data, the municipal team determines the composition of the population in terms of key demographic variables that characterize or reflect residents' identities, advantages/disadvantages, and needs. A minimal dataset would include age, gender, race, ethnicity, income measure(s), and English language-proficiency. Municipalities are

encouraged to dig deeper as interest and capacity allow. Incorporating data on additional variables of interest at sub-municipal scales would better enable the delineation of vulnerable or marginalized populations, such as, households with children, single-parent households, renters, immigration status, length of residence in municipality, (dis)ability and car ownership.

Mapping this information is highly recommended and would merit extra points under the action. Simple low-tech mapping techniques based on local knowledge and employing participatory methods, can reveal a great deal. As illustrated in this report, there are also numerous publicly accessible mapping tools that the non-technical user can learn to use to create and download simple and powerful maps. Maps not only show the location of geographically concentrated social groups and neighborhoods, but they also allow for the layering of data, allowing municipalities to answer such queries such as, *where I can find:*

- households with members over 65 years, who do not own cars and who live in areas with high flood risk?
- households with high concentrations of children under age 5, housing stock built before 1970 and high poverty levels and/or immigrant members?

The equity profile action will encourage, but not require mapping. Some high-capacity planning departments and consultants will already have prepared municipal GIS systems, which they are encouraged to use to fulfill action requirements. The action will provide guidance, geared at smaller municipalities without planning departments, on how to use free, publicly available data tools to create simple maps (as illustrated in the Appendix).

Jersey City Diversity and Demographics

Jersey City is the second-most populous city in New Jersey and a major employment center in the heart of the New York City metropolitan area. A major port of entry for immigration to the United States, Jersey City is one of the most diverse cities in the world. The following demographic profile of Jersey City is derived from municipal-scale data readily accessed from publicly available data, primarily the <u>American Community Survey 2018 Data Profiles.</u>

Race and Ethnicity

At 35% of the total population, Whites make up the plurality, with Asians and Blacks constituting a nearly equal 25% and 24% respectively.¹ Latinos (or "Hispanics," US Census definition) of all races form nearly 30% of city residents. As in the rest of the US, race and ethnicity are highly relevant to social identity and networks and are therefore represented in the equity profile as key variables differentiating the population into distinct social groups. Race and ethnicity are strongly correlated with income, wealth, educational attainment, health outcomes, and political power, among many other of measures of advantage. As such, they are important variables in identifying marginalized and vulnerable groups and neighborhoods within city boundaries.

Age

Young children and elderly adults are both vulnerable segments of the population. Knowing the number and location of these groups is crucial information for planning, social service delivery and emergency management. The Jersey City population skews young, with a percentage of children under the age of five (7.8%) that exceeds the national average and a percentage of adults over 65 (10.8%) that is below the national average.

Table 1

Race			
Category	Percent	Value	
White	35.0%	91,597	
Asian	25.1%	65,602	
Black or African American	23.9%	62,591	
American Indian or Native Alaskan	0.5%	1,355	
2 or More Races	3.3%	8,710	

Gender			
Category Percent Value			
Male	50.6%	132,501	
Female	49.4%	129,245	

Ethnicity			
Category Percent Value			
Non-Hispanic	70.9%	185,643	
Hispanic or Latino	29.1%	76,103	

Age			
Category Percent Value			
Under 18 Years	20.8%	54,540	
Over 65 Years	10.6%	27,682	

¹ Unless otherwise specified, the data given are from the American Community Survey, 2018: ACS 5-Year Estimates Data Profiles, accessed in November 2021. See Appendix for a comprehensive table that includes the sources (urls) for each variable). Once the 2020 census data are fully released, these numbers should all be updated.

Income and Housing

The Census provides multiple measures of household and individual income, key indicators of social marginalization and vulnerability. Jersey City exceeds the national average in the percentage of families below the federal poverty level (14.1%), yet its median household income in 2018 (\$65,923) was above the national average, indicating a high level of income inequality. It is important when developing proposed policies and management actions to consider whether low-income populations could experience disproportionately adverse effects as a result.

Given the housing shortage and the high-cost of housing, another feature indicative of social vulnerability in Jersey City is the high percentage of renter-occupied housing (71%) coupled with the very high percentage of "cost-burdened" households (46%), defined as those who devote more than 30% of their monthly income to paying rent.

Table 2

Income			
Category	Percent	Value	
Households Below Federal Poverty Level	14.8%	132,501	
Median Household Income	-	\$65,923	

Housing Cost-Burdened Individuals			
Category	Percent	Value	
Persons Paying > 30% Monthly Household Income in Rent/Mortgage	45.8%	31,564	

Housing Characteristics (Owner-Occupied vs. Renter-Occupied)			
Category	Percent	Value	
Occupied Housing Units	-	101,007	
Renter-Occupied	71.3%	72,020	
Owner-Occupied	28.7%	28,987	

Place of Origin and English Proficiency

Jersey City is justly celebrated for its diversity, reflecting the high rates of immigration from around the globe. Consequently, Jersey City ranks high in forms of social differentiation often associated with vulnerability and marginalization. For example: individuals who are foreign-born comprise a remarkable 41% of the city's population, while a full 21.2% speak English less than "very well." The US Census also provides data on the languages spoken other than English. The implications of this information for equitable and effective community outreach and engagement are profound.

Table 3

English Proficiency			
Category	Percent	Value	
English-Only	46.6%	112,541	
Spanish	23.6%	56,864	
Other Indo-European	13.9%	33,479	
Asian and Pacific Islander	11.6%	27,992	
Other Languages	4.4%	10,533	
Speak English Less Than "Very Well"	21.2%	-	

Place of Origin & Immigration Status			
Category	Percent Value		
Foreign-Born	41% [41.39%]	108,318	
Non-US Citizen	20% [20.34%]	53,233	

Mobility and Access

Additional forms of social vulnerability include individuals experiencing constraints on mobility and access to health care due "disabilities" (10%) or lack of health insurance (13%).

Table 4

Persons With Health Insurance			
Category Percent Value			
Persons w/ Health Insurance	87.1%	226,785	
Persons Without Health Insurance	12.9%	33,678	

Persons With Disabilities			
Category Percent Value			
Persons w/ Disability	9.9%	25,860	

Sub-Municipal Scale Population Differentiation and Data Tools

The information above presents a high-level account of diversity and outlines the contours of social vulnerability in JC. Findings of this priority action can be used as a lens to develop and evaluate outreach and communication and public information and engagement actions (for example: how can outreach campaign [X] effectively target and include socially distinct and marginalized populations of the municipality?).

However, municipal-level data such as these are not particularly useful for planning purposes. Moreover, such data provide only a starting place for the second part of this action, namely the identification of social networks and channels of communication and civic engagement.

For both planning and communication, it is necessary to obtain disaggregated data at sub-divisions of the municipal scale. The U.S. Census makes all data available at the level of the *census tract*, and certain data available at the finer scale of the *census block group*.

Jersey City has 67 census tracts. It can be difficult to discern and depict patterns in this large number of units. Moreover, while many publicly available data tools make looking up Jersey City data at the municipal scale a snap, fewer present data at the census tract level. Data for each census tract in NJ can be found from several publicly accessible and easy to use tools. (Note that Jersey City itself has an open data portal with census tract level data.).

The tools used for this report, and recommended for municipal use are:

CityHealth Dashboard	NJ Adapt	<u>Headwaters</u> <u>Economics</u>	NJDEP Environmental Justice Mapping Tool	Policy Map
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⇒ Downloads of data tables and maps for Jersey City derived from these internet-based, free resources are supplied in the Appendix and attachments.

Maps provide a powerful way to depict patterns and relationships among demographic and other variables. They can be used to identify and depict the location of geographically concentrated social groups and neighborhoods, a major goal of the equity profile action. Furthermore, they enable the layering of data, allowing municipalities to evaluate specific forms of vulnerability resulting from compounding factors, such as exposure to lead poisoning or climate risk.

Several of these sites provide access to multiple tools. Tools within NJAdapt, Policy Map and Headwaters Economics allow the user to generate maps illustrating data, often at the census tract level, and download them at no cost.

NJ Adapt incorporates a suite of useful tools, including:

- <u>Municipal Snapshots</u> which provide data at the *municipal* scale, are focused on risks from climate impacts. Downloadable reports are available as pdfs covering built infrastructure, critical assets, natural and working lands, public health, and, notably, *vulnerable populations*.
- <u>NJ FloodMapper</u> which provides data at the census tract-level, "is an interactive mapping tool that allows users to conduct flood exposure analysis based on the best available science for sea-level rise and numerous other parameters..." Among the additional map layers provided is one that specifically depicts *social vulnerability*.

One of the Headwaters Economic tools presents census tract-level data in maps:

• <u>Neighborhoods at Risk</u> - is an "easy-to-use website with interactive maps, downloadable reports, and resources to help communities identify neighborhoods that may be more impacted by climate change."

<u>Policy Map</u> provides a limited but useful set of data and mapping tools for free. For a subscription fee, subscribers gain access to a much more powerful tool. However, as illustrated by the maps in the Appendix to this report, even the maps generated by the free tool can be very useful in analyzing social differentiation and vulnerability.

The <u>New Jersey Department of Environmental Protection's Office of Environmental Justice</u> has launched a <u>series of tools</u> designed to illustrate the presence of "overburdened communities" across the state. Although the intended purpose is to identify and evaluate the presence of disproportionate cumulative impacts of various forms of pollution and toxic exposure as mandated by the <u>Environmental Justice Law</u>, <u>N.J.S.A. 13:1D-157</u>, (<u>Law</u>), the definition of *Overburdened Community (OBC)* relies on demographic data exclusively.

[An OBC is] "any census block group, as determined in accordance with the most recent United States Census, in which:

- 1. at least 35 percent of the households qualify as low-income households (at or below twice the poverty threshold as determined by the United States Census Bureau);
- 2. at least 40 percent of the residents identify as minority or as members of a State recognized tribal community; or
- 3. at least 40 percent of the households have limited English proficiency (without an adult that speaks English "very well" according to the United States Census Bureau)."
- The <u>NJDEP tools</u> include an Arc-GIS based <u>NJ Environmental Justice Mapping Tool</u>, which takes some skill to manipulate, as well as simple downloadable pdfs maps and list of OBCs, among other technical resources.

Also, to be found in the Appendix are several reports from the <u>National Equity Atlas</u>, which describes itself as "America's most detailed report card on racial and economic equity. We equip movement leaders and policymakers with actionable data and strategies to advance racial equity and shared prosperity... [We provide] equity metrics that are deeply disaggregated by race/ethnicity, gender, nativity, ancestry, and income."

The National Equity Atlas and its tools are designed to enable the user to analyze social equity in the municipality by looking at indicators and indices in comparative terms (how Jersey City compares with the US as a whole) as well as to observe and track trends over time.

Drilling Down on Social Vulnerability in Jersey City

A series of maps of Jersey City derived from free online sources can be found in the appendices. As argued above, maps are very powerful analytical and management tools for analyzing social differentiation and vulnerability. Firstly, they allow municipalities to *locate* concentrations of populations with high markers of vulnerability. Secondly, they allow for combining (layering) data in order to analyze and depict the intersectionality or amplifying effect of multiple vulnerability factors affecting the same neighborhoods and populations.

The NJDEP *Overburdened Community (OBC)* definition and map overlays three key variables indicating social vulnerability: low income, low proficiency in English, and "minority" identity. As Map 1 in the Appendix illustrates, the entire city qualifies as overburdened, with respect to minority status, except for a district in the northwest corner (where limited English proficiency nonetheless prevails). However, households with low income are concentrated in distinct districts running more or less North to South down the center of the city. There are two census tracts in which all three factors are prevalent.

Jersey City municipal managers could use this information to target outreach to needy neighborhoods and to translate outreach materials and provide interpreters in districts with low English proficiency.

In order to identify *who* is socially vulnerable, if is first necessary to consider *vulnerable to what?* Some residents who are proficient in English and neither minority nor low income may nonetheless be vulnerable in emergencies due to age, disability or other factor. Other non-overburdened residents and neighborhoods may be at higher risk of exposure to lead due to the age of their housing.

Another lens on vulnerability is disproportionate exposure to the negative impacts of climate change. Map 2, created with Headwaters Economics' Neighborhoods at Risk tool, depicts the 15 census tracts in Jersey City where vulnerabilities to climate change exceed the community median on seven different factors, such as race/ethnicity, lack of tree canopy and flood risk.

NJ Floodmapper provides a powerful tool to undertake such complex, geographic analysis. Exposure to climate change risk is exacerbated by social vulnerability, and in turn vulnerable populations are being hit with the worst impacts of climate change. This sort of intersectional analysis and mapping is therefore crucial for municipal resiliency planning and program implementation. (However, this tool requires more expertise or a moderate amount of training to manipulate. It could be used for "extra points" on the equity profile action.)

Analyzing Lead Exposure Risk

Jersey City has one of the highest rates of children with elevated blood lead levels. Lead is a potent toxin which is still pervasive in the places where the people of New Jersey live, play, and work. This is especially true in Jersey City, with its legacy of housing stock, infrastructure, industry and traffic that date from an era before lead was banned from paint, gas, and plumbing sources. Exposure to this legacy of lead exerts the most severe and lasting effects on the most vulnerable, particularly children. Young children who absorb even small traces of lead from the environment suffer lifelong, pernicious effects — which are disproportionately experienced in communities of color and low-income communities.

Given the magnitude of the problem and limited resources, it therefore essential for municipalities to focus their efforts on the most vulnerable and target their outreach in a manner that is accessible and culturally appropriate to those groups.

Age of housing is a critical variable because lead paint was banned only in 1978. Exposure to lead chips and dust is a principal route to poisoning children. Generally, the older the housing, the higher the content of lead in the original paint. In addition, older plumbing is associated with lead in water. Peeling paint, lead dust and lead in pipes and fixtures are most prevalent in old and sub-standard housing, which in turn is more prevalent in (but not limited to) rental units for low-income tenants.

The City Health Dashboard dataset includes "Housing stock with potential elevated lead risk (%)" and "Lead Exposure Risk Index" a poverty-adjusted risk of housing-based lead exposure for every census

tract in the city. See the attachment for the City Health Dashboard data for Jersey City in spreadsheet form.

Policy Map defines a "lead exposure risk index" which is also calculated based on poverty and age of housing. See Map 3 in the appendix depicting Risk to Lead Exposure at the census tract level in Jersey City.

The NJDEP Overburdened Communities map depicts the neighborhoods associated with key socioeconomic variables associated with lead exposure risk: poverty, race/ethnicity, and lack of English proficiency (See Map 1 in the appendix). These factors are compounding. Non-English speakers, who are disproportionately low-income, persons of color, and/or with undocumented immigration status, are particularly vulnerable to exploitation by landlords and thus substandard housing and higher risk of lead exposure.

Since younger children are the most physiologically and behaviorally vulnerable to lead poisoning, the presence of children is also an important indicator of risk from lead exposure.

A series of maps, found in the appendix, were generated using the free version of Policy Map to demonstrate additional vulnerability and lead exposure risk factors by census tract, namely: presence of children, age of housing, and prevalence of foreign-born individuals. The neighborhoods with a large presence of foreign-born immigrants can be seen in:

• Percent Foreign Born_Census Tract (Map 4)

Note how the ability to represent data at the finer-grained census block group level reveals the presence of vulnerable residents hidden at the level of the census tract. These maps include:

- Estimated median year a housing unit was built_Census Block Group (Map 5)
- Estimated median year a housing unit was built Census Tract (Map 6)
- Estimated percent of all families that have children Census Block Group (Map 7)
- Estimated percent of all people under 18_Census Block Group. (Map 8)

Finally, it is important to note that largely independent of economic status, some immigrant populations may experience additional pathways to lead exposure based on particular cultural practices and use of lead-tainted imported products, such as spices, makeup, candies, pottery and toys. Moreover, understanding the languages and cultures of residents is necessary to design effective outreach for those populations. For effective and inclusive outreach, it is necessary for staff to develop cultural competency and to customize policy, programs and outreach and communications strategies to specific populations. Cultural pathways to lead exposure provide a key example and opportunity to take this approach.

The Jersey City Department of Health's lead team does exemplary work in this regard. Their work would be further strengthened by access to and use of these data, along with sufficient resources.

Discussion And Next Steps

If a municipality such as Jersey City were to conduct its own analysis as shown above, it would have successfully completed the first part of the future *equity profile* Sustainable Jersey action.

The next step is to undertake part two of the action: identifying *social networks and communication channels*. In order to realize the promise of improving community outreach and increasing effective, two-way communication with diverse, vulnerable and marginalized groups and neighborhoods, it is necessary not only to "identify" these groups, but to communicate with and engage them. For this the municipal team must seek to understand the trusted sources of information, preferred modes of communication (print, digital, auditory) and social networks both (institutional and informal) for marginalized and hard-to reach social groups.

How and from whom do these groups get information? How and with whom do they share information? What are the barriers they face in civic engagement (e.g., language, childcare, transportation) and how can the municipality lower or eliminate them?

To do this well requires not just research, but relationship-building. The municipal team and implementing staff must build trusting relationships with diverse members of the community, focusing on hard-to-reach or otherwise marginalized groups. One important way to do this is by working with community leaders, such as from religious institutions and neighborhood associations.

To sum up: the data presented in this report would qualify Jersey City for part one of the forthcoming "equity profile action." In the process of building this disaggregated and geographic (mapped) demographic data set and subsequently, it would be important to familiarize municipal staff across relevant departments with how to access and use it. These steps will go far towards municipal efforts to ensure effective and inclusive communication with the full diversity of residents and thereby lay the groundwork for full and meaningful community participation in municipal decision-making and civic life.

Appendix

Jersey City Data Tables with Sources

Variable 1: Race						
Category Percent Value Source						
White	35.0%	91,597	American Community Survey 2018 Data Profiles			
Asian	25.1%	65,602	American Community Survey 2018 Data Profiles			
Black or African- American	23.9%	62,591	American Community Survey 2018 Data Profiles			
American Indian or Native Alaskan	0.5%	1,355	American Community Survey 2018 Data Profiles			
2 or More Races	3.3%	8,710	American Community Survey 2018 Data Profiles			

Variable 2: Ethnicity						
Category Percent Value Source						
Non-Hispanic	70.9%	185,643	American Community Survey 2018 Data Profiles			
Hispanic or Latino	29.1%	76,103	American Community Survey 2018 Data Profiles			

Variable 3: Age						
Category Percent Value Source						
Under 18 years	20.8%	54,540	American Community Survey 2018 Data Profiles			
Over 65 years	10.6%	27,682	American Community Survey 2018 Data Profiles			

Variable 4: Gender						
Category Percent Value Source						
Female	50.6%	132,501	American Community Survey 2018 Data Profiles			
Male	49.4%	129,245	American Community Survey 2018 Data Profiles			

Variable 5: Housing Characteristics (Owner-Occupied vs. Renter Occupied)						
Category Percent Value Source						
Occupied Housing Units	-	101,007	American Community Survey 2018 Data Profiles			
Renter-Occupied	71.3%	72,020	American Community Survey 2018 Data Profiles			
Owner-Occupied	28.7%	28,987	American Community Survey 2018 Data Profiles			

Variable 6: English Proficiency						
Category Percent Value Source						
English Only	46.6%	112,541	American Community Survey 2018 Data Profiles			
Spanish	23.6%	56,864	American Community Survey 2018 Data Profiles			
Other Indo-European	13.9%	33,479	American Community Survey 2018 Data Profiles			
Asian and Pacific Islander 11.6% 27,992			American Community Survey 2018 Data Profiles			
Other Languages	4.4%	10,533	American Community Survey 2018 Data Profiles			

Variable 7: Place of Origin & Immigration Status						
Category Percent Value Source						
Foreign-Born	41% [41.39%]	108,318	American Community Survey 2018 Data Profiles			
Non-US Citizen	20% [20.34%]	53,233	American Community Survey 2018 Data Profiles			

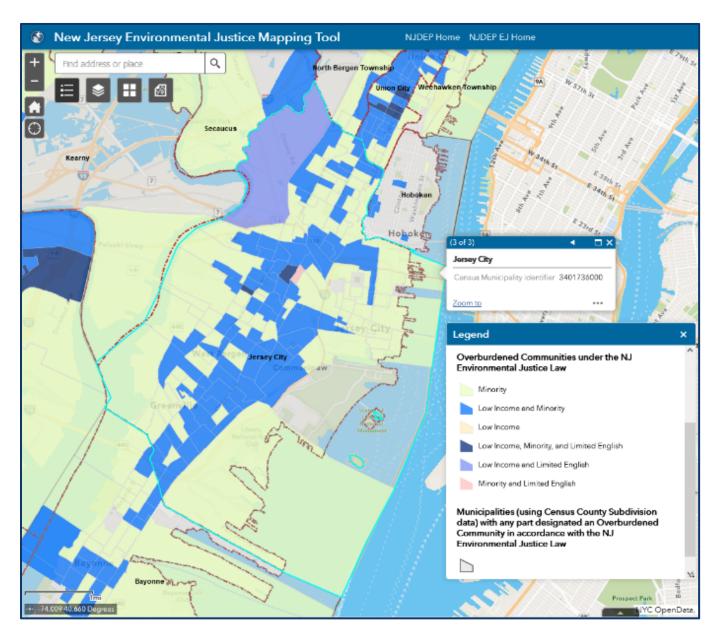
Variable 8: Persons With Disabilities						
Category Percent Value Source						
Persons With a Disability 9.9% 25,860 American Community Survey 2018 Data Profiles						

Variable 9: Persons with Health Insurance							
Category Percent Value Source							
Persons With Health Insurance	87.1%	226,785	American Community Survey 2018 Data Profiles				
Persons Without Health Insurance	12.9%	33,678	American Community Survey 2018 Data Profiles				

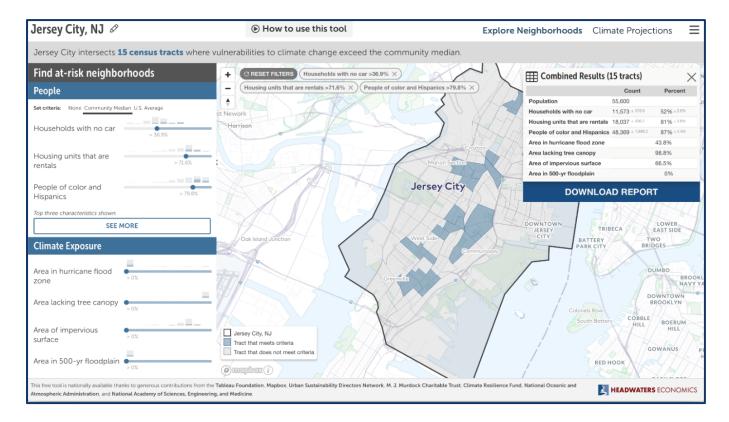
Variable 10: Housing Cost-Burdened Individuals						
Category Percent Value Source						
Persons Paying >30% Monthly Household Income in Rent/Mortgage	45.8%	31,564	American Community Survey 2018 Data Profiles			

Maps

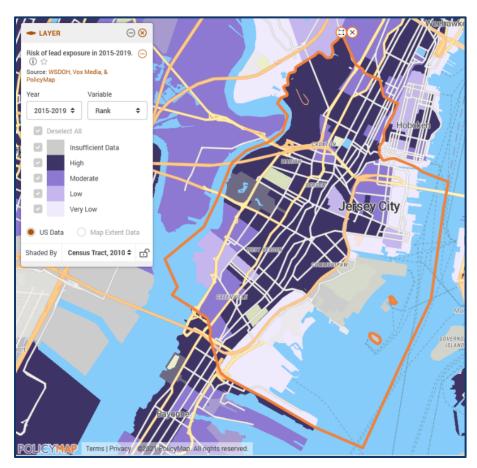
Map 1. Overburdened Communities Under the NJ Environmental Justice Law (NJDEP)



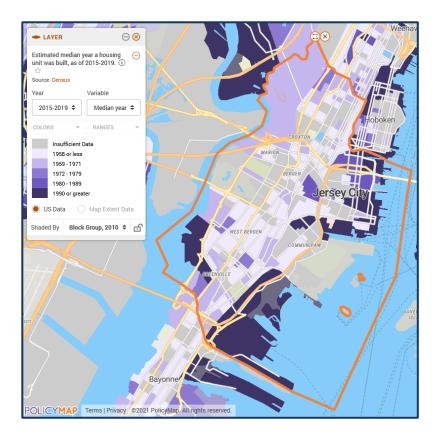
Map 2. Neighborhoods at Risk_JC (Headwaters Economics)



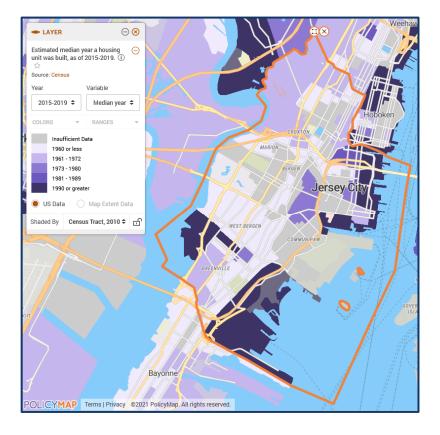
Map 3. Risk to Lead Exposure (Policy Map)



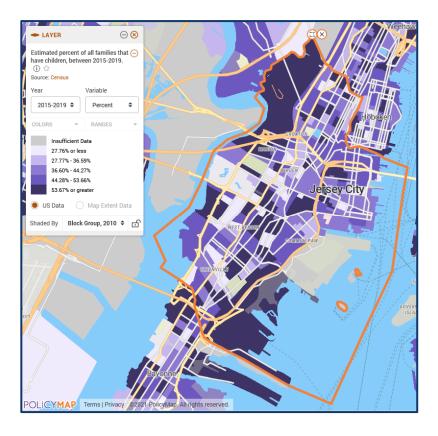
Map 4. Est. median year housing unit built_Census Block Group.png (Policy Map)



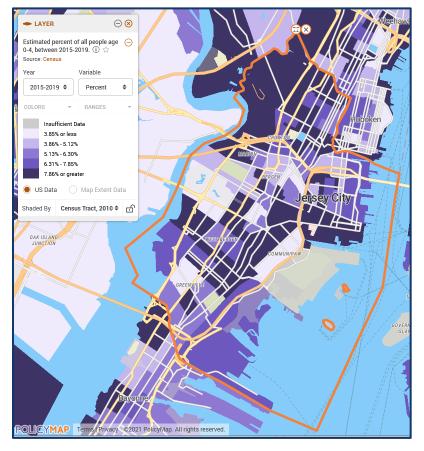
Map 5. Estimated median year a housing unit was built_Census Tract (Policy Map)



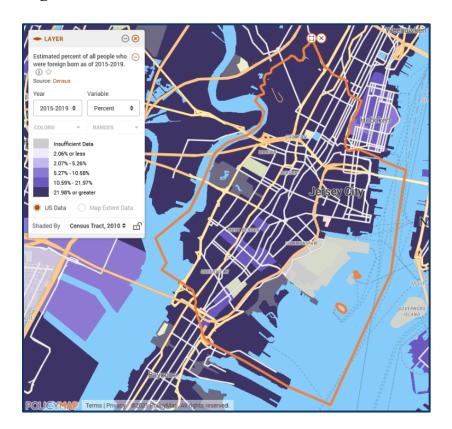
Map 6. Est. percent of all families with children_Census Block Group (Policy Map)



Map 7. Estimated percent of all people age 0-4_Census Tract (Policy Map)



Map. 8 Percent Foreign Born_Census Tract



Spreadsheets

See attached documents:

JC Health Data City Health Dashboard

JC_Lead Exposure Index + Housing Risk_ City Health Dashboard

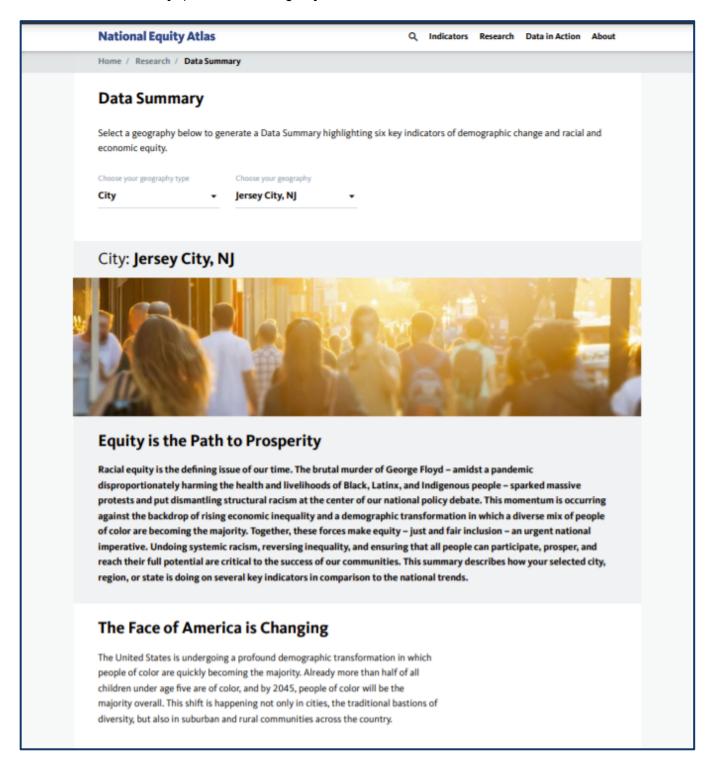
Demographic profile_JC (Headwaters)

Neighborhoods-at-risk_JC (Headwaters)

PopulationsAtRisk_JC Headwaters

PDF Documents

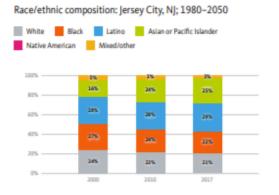
JC_Data Summary | National Equity Atlas



Diversity is increasing

America is becoming a true world nation that is increasingly multiracial and multicultural. In 1980, 80% of the population was White. By 2045, a majority of Americans will be people of color.

Jersey City, NJ: From 1980-2017, people of color went from 76% to 79% of the population.

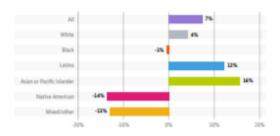


Data source: U.S. Census Bureau; Woods & Poole Economics, Inc. | National Equity

Communities of color are driving growth

Since 2010, almost all net population growth in the United States (96%) came from people of color, and in many places, growing communities of color prevented population decline. People with mixed racial backgrounds had the highest growth rate (24%), followed by Asian or Pacific Islanders, Latinos, and African Americans. The white population grew by less than one percent nationally, and declined in many communities.

Jersey City, NJ: From 2010-2017, the Asian or Pacific Islander population had the highest growth rate at 16% and the Native American population has the lowest at -14%. Percent change in population by race/ethnicity: Jersey City, NJ; 2010-2017



Data source: U.S. Census Bureau; Woods & Poole Economics, Inc. | National Equity



Inequity Threatens Economic Prosperity

The country's growing, diverse population is a tremendous economic asset in the global economy. But rising income inequality and persistent racial gaps in health, wealth, income, employment, education, and opportunity prevent low-income people and people of color from realizing their full economic potential. And as the nation becomes more diverse, the costs of inequity will grow. Here are some of the key challenges:

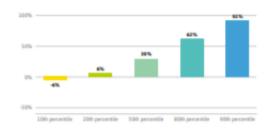
Income inequality continues to increase

Over the past few decades gains in income and wages have gone largely to the very top earners, while wages and incomes of working- and middle-class workers have declined or stagnated.

Nationally, since 1979, incomes of workers at the bottom fell by 12% while those at the top increased 20%.

Jersey City, NJ: Since 1979, income for full-time workers at the 10th percentile percentile changed -6% percent while income for those at the 90th percentile percentile changed 92% percent.

Earned income growth for full-time wage and salary workers: Jersey City, NJ; 1980-2017

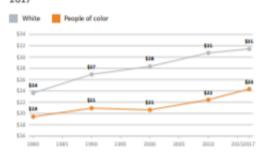


Data source: IPUMS USA | National Equity Atlas

Racial economic gaps are wide and persistent

Rising inequality disproportionately affects workers of color, who are concentrated in low-wage jobs that provide few opportunities for economic security or upward mobility. Workers of color consistently earn lower wages and are more likely to be jobless compared to their white counterparts, and racial gaps remain even among workers with similar education levels. Nationwide, full-time workers of color currently earn 22% less than their white counterparts—the gap is slightly more than in 1979, and is growing rather than shrinking.

Jersey City, NJ: In 2017, the median wage for workers of color was \$12 less than the median wage for white workers. Median hourly wage by race/ethnicity: Jersey City, NJ; 1980-2017



Data source: IPUMS USA | National Equity Atlas

A workforce unprepared for the jobs of the future

America's future jobs will require ever-higher levels of skills and education, but our education and job training systems are not adequately preparing Latinos, African Americans, and other workers of color who are growing as a share of the workforce to succeed in the knowledge-driven economy. Today, only 20% of U.S.-born Latinos, 20% of African Americans, and 12% of Latino immigrants, have a Bachelor's degree or higher.

Jersey City, NJ: In 2017, 76% of the Immigrant Asian or Pacific Islander population and 17% of the Immigrant Latino population had a Bachelor's degree or higher.

Current percent of population with a Bachelor's Degree or higher by race/ethnicity and nativity: Jersey City, NJ; 2017



Data source: IPUMS USA | National Equity Atlas



Equity is the Superior Growth Model

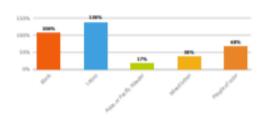
Economists, business leaders, and elected officials increasingly recognize that inequality is hindering economic growth, and that racial and economic inclusion are the drivers of robust economic growth. To build a strong next economy, leaders in the private and public sectors need to advance an equitable growth agenda: a strategy to create good jobs, increase human capabilities, and expand opportunities for everyone to participate and prosper. Equity will make America stronger.

The economic benefits of equity

Eliminating racial inequities in income would strengthen families, communities, and local economies. Wage and employment gaps by race (as well as gender) are not only bad for people of color -they hold back the entire economy. Rising wages and incomes, particularly for low-income households, leads to more consumer spending, which is a key driver of economic growth and job creation.

Jersey City, NJ: In 2017, the income for Latino residents would have increased the most among all racial/ethnic groups if racial gaps in income were eliminated.

Percent gain in income by race/ethnicity: Jersey City, NJ; 2017



Data source: IPUMS USA | National Equity Atlas

National Equity Atlas CONNECT WITH US

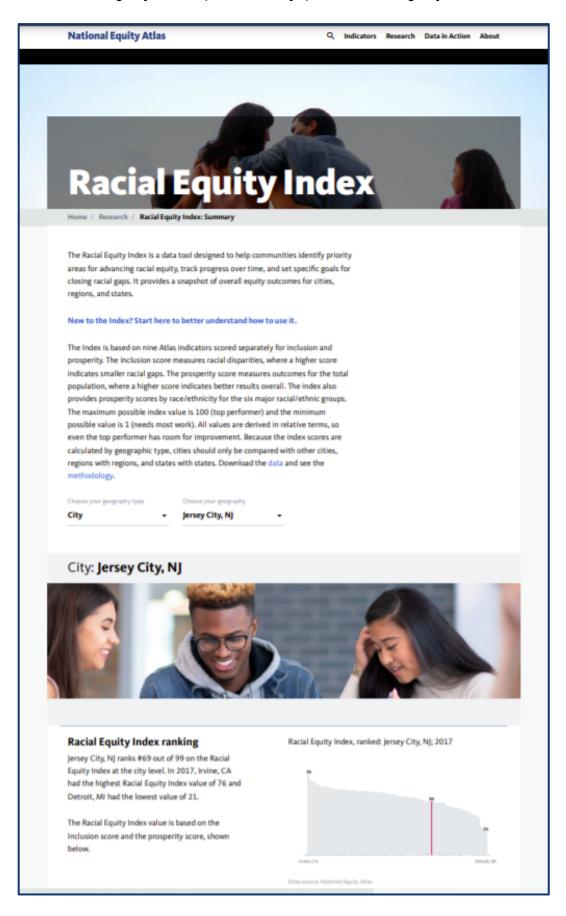
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JC Racial Equity Index/ Summary | National Equity Atlas



Racial Equity Index over time

The Racial Equity Index for Jersey City, NJ changed from 51 to 50 between 2000 and 2017. In 2017, Jersey City, NJ had an Inclusion score of 54 and a Prosperity score of 46.



Data source: National Equity Atlas



Inclusion score

The inclusion score measures how a given geography is doing compared with its peers (cities, regions, or states) in terms of racial gaps across all nine indicators included in the Racial Equity Index, considering six racial/ethnic groups: White, Black, Latino, Asian or Pacific Islander, Native American, and Mixed/other populations. The inclusion score provides a useful comparative overview of racial equity in a community; deeper disaggregation within these broad racial/ethnic categories can be found by viewing individual indicators in the National Equity Atlas. The minimum possible value is 1 (needs most work) while the highest is 100 (top performer). The inclusion score reflects only the relative magnitude of racial gaps across indicators, and not how the community is doing overall, which is measured by the prosperity score below.

Inclusion score ranking

In 2017, Garland, TX had the highest Inclusion score value of 80 and Scottsdale, AZ had the lowest value of 26.

The overall Inclusion score is based on racial gaps in equity indicators from three categories: Economic Vitality, Readiness and Connectedness. See where Jersey City, NJ ranks in the chart shown.





Data source: National Equity Atlas

Inclusion score by category over time

The overall Inclusion score for Jersey City, NJ changed from 82 to 54 between 2000 and 2017. In 2017, the Inclusion score for Readiness indicators was highest, on average, at 80 while the Inclusion score for Connectedness indicators was lowest, at 40.

The Inclusion score for each indicator category is based on the underlying indicator scores, shown below:



Data source: National Equity Atla

Inclusion score by indicator

In 2017, the indicator with the highest Inclusion score in Jersey City, NJ was connectedness, at 90 while the indicator with the lowest Inclusion score was connectedness, at 15.



Data source: National Equity Atlan



Prosperity score

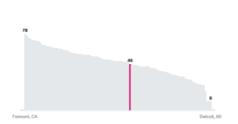
The prosperity score measures how a given geography is doing compared with its peers (cities, regions, or states) in terms of overall population outcomes for the nine indicators included in the equity index. The minimum possible value is 1 (needs most work) while the highest is 100 (top performer). The prosperity score for the overall population reflects the level of prosperity across indicators for a community as a whole, and not how the community is doing in terms of racial gaps.

Prosperity scores are also reported for each major racial/ethnic group, and are comparable to the overall prosperity score in the community and between communities. Examining the prosperity score by race illuminates how different groups are faring relative to the communities as a whole across a variety of indicators. For an overall measure of racial equity gaps in the community, see the inclusion score above.

Prosperity score ranking

In 2017, Fremont, CA had the highest Prosperity score value of 78 and Detroit, MI had the lowest value of 8. The overall Prosperity score is based on levels of equity indicators for the overall population from three categories: Economic Vitality, Readiness, and Connectedness.

See where Jersey City, NJ ranks in the chart shown.



Prosperity score, ranked: Jersey City, NJ; 2017

Data source: National Equity Atlas

Prosperity score by category over time

The overall Prosperity score for Jersey City, NJ changed from 32 to 32 between 2000 and 2017. In 2017, the Prosperity score for Economic Vitality indicators was highest, on average, at 64 while the Prosperity score for Connectedness indicators was lowest, at 29.

The Prosperity score for each indicator category is based on the underlying indicator scores, shown below.

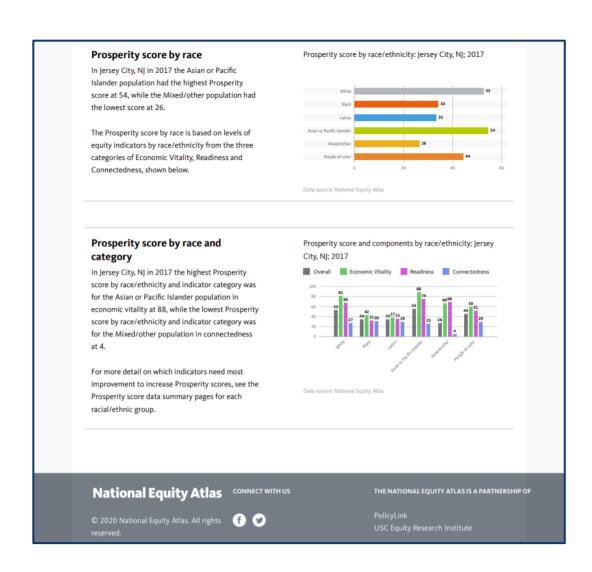


Data source: National Equity Atlas

Prosperity score by indicator

In 2017, the indicator with the highest Prosperity score in Jersey City, NJ was economic vitality, at 75 while the indicator with the lowest Prosperity score was connectedness, at 17.





JC MuniSnapshot_PubHealth_NJ Adapt

Jersey City: Public Health Exposure Snapshot

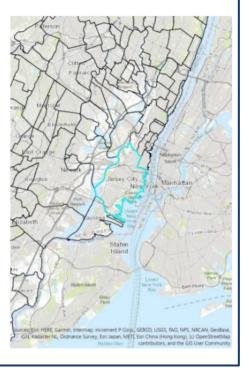
Introduction

Increasing temperatures, heavier rain events, and the increasing frequency and severity of flood events driven by sea-level rise present numerous impacts to public health that will continue to intensify, while new health threats are emerging.

Health impacts may include:

- · Increased respiratory disease,
- · Increased cardiovascular disease,
- Injuries,
- Premature deaths related to extreme weather events (i.e., heat, breathing, and drowning – related fatalities),
- Food- and waterborne illnesses, and
- Mental health impacts (i.e., stress, anxiety and fear).

This public health municipal snapshot is a focused area of development for the Rutgers team. An initial set of data is presented while the Rutgers team is currently actively seeking additional sets of data that can support efforts to advance climate change and public health efforts at the state, regional and local levels. The Appendix below provides additional background on sea-level rise and sea-level rise combined with storm events.



Projected Climate Data

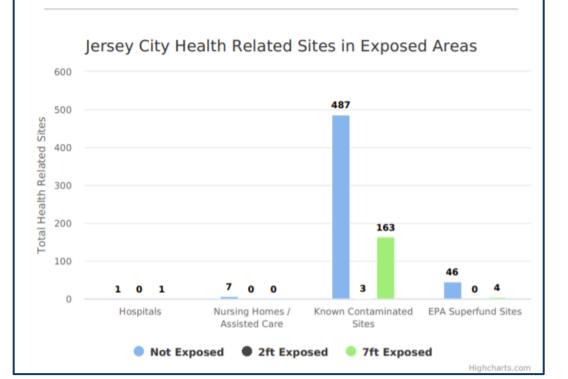
	Moderat	e Emissions	(RCP 4.5)	High Emissions (RCP 8.5)		
Year	2030	2060	2090	2030	2060	2090
Change in Days Above 95 Deg F (Days) ¹	+5 to	+11 to	+11 to	+5 to	+11 to	+31 to
	+10	+20	+20	+10	+30	+50
Change in Cooling Degree Days (Degree Days) ²	+200 to	+400 to	+600 to	+200 to	+800 to	+1400 to
	+400	+600	+800	+400	+1000	+1600
Change in Max Temp. July (° F) ³	+2° F to	+4° F to	+4° F to	+2° F to	+6° F to	+8° F to
	+3° F	+5° F	+6° F	+3° F	+8° F	+10° F
Average Max Temp In July (° F) ⁴	86° F to	86° F to	86° F to	86° F to	91° F to	91° F to
	90° F	95° F	95° F	90° F	95° F	100° F

- 1: The total number of days per year with maximum temperature above 95°F (35°C) is an indicator of how
 often very hot conditions occur. Depending upon humidity, wind, access to air-conditioning, humans may
 feel very uncomfortable or experience heat stress or illness on very hot days.
 - Hot days also stress plants and animals as well as infrastructure. Increased demand for cooling can stress energy infrastructure.
- 2: The number of cooling degree days per year reflects the amount of energy people use to cool buildings during the warm season.
 - For example, many people like to keep indoor temperatures at 65°F. On a day when the average outdoor temperature is 85°F, reducing the indoor temperature by 20 degrees over 1 day requires 20 degrees of cooling multiplied by 1 day, or 20 cooling degree days. Utility companies use cooling degree days to estimate the annual amount of energy people will use to cool buildings.
- ³ & ⁴: A day's highest (maximum) temperature usually occurs in the afternoon. Averaging the daily high temperatures over any period results in a mean maximum temperature for that period.
 Maximum temperature serves as one measure of comfort and safety for people and for the health of plants and animals. When maximum temperature exceeds particular thresholds, people can become ill and transportation and energy infrastructure may be stressed.

Climate observations and projection data provided by the Northeast Regional Climate Center at Cornell University through their Applied Climate Information System (ACIS, rcc-acis.org). The Localized Constructed Analog downscaling projections were obtained from the Scripps Institution of Oceanography (http://loca.ucsd.edu).

Jersey City: Public Health Exposure Snapshot Health Related Sites in Exposed Areas

Health Related Sites	Total Health Related Sites	# Exposed at 2ft TWL	# Exposed at 7ft TWL
Hospitals	2	0	1
Nursing Homes / Assisted Care	7	0	0
Known Contaminated Sites	650	3	163
EPA Superfund Sites	50	0	4

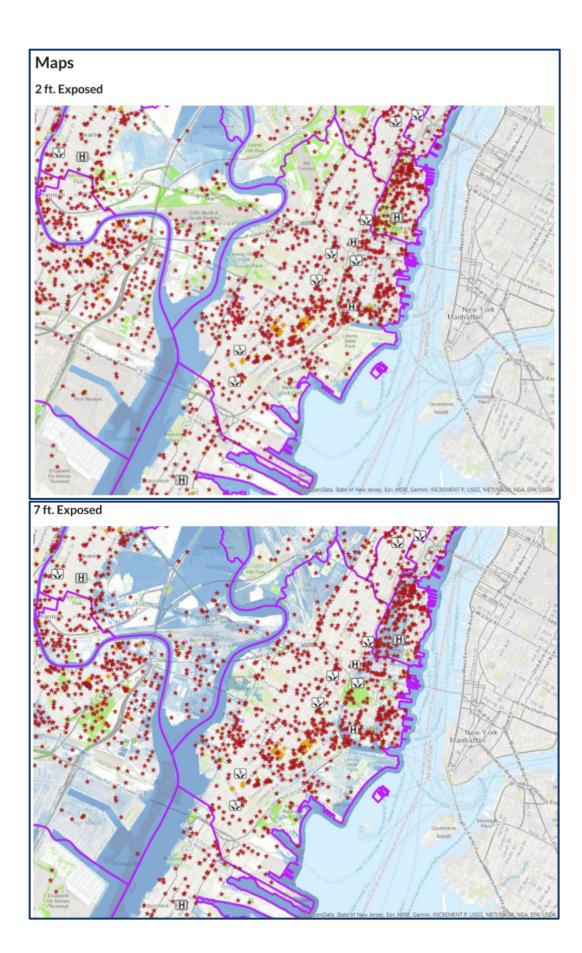


Jersey City: Public Health Exposure Snapshot

Vulnerable Population Report

While all people living in the United States are affected by climate change, some communities and some populations are more vulnerable to changing climate conditions than others. Extensive research here in the United States and across the world points to populations of concern including those that are low-income, communities of color, immigrant populations, people with limited English proficiency, Indigenous people, older and younger adults, people with disabilities and compromised health and mental health conditions, and others.

Link to Vulnerable Population Report



Appendix: Background Information Regarding the Total Water Level Approach

This Appendix provides additional background on sea-level rise and the Total Water Level approach for assessing vulnerability of people, places, and assets in New Jersey to sea-level rise and sea-level rise combined with storm events.

Sea level Rise and Total Water Level: From 1911 to 2019, the mean sea-level rose 1.5 feet along the New Jersey coast, compared to a 0.6 feet rise in the global mean sea-level. New Jersey coastal areas are likely to experience sea-level rise of 0.5 to 1.1 feet between 2000 and 2030, and 0.9 to 2.1 feet between 2000 and 2050.

The number of days that New Jersey residents have experienced high-tide floods has also increased. From 2007 through 2016, there was an average of 8 high-tide flood events in Atlantic City each year. Based on the likely range of sea-level rise projections, Atlantic City will experience 17-75 days of expected high-tide flooding per year in 2030, and 45-255 days per year of expected high-tide flooding in 2050.

For the purposes of the exposure snapshots, different flood events are defined by total water levels (TWLs). TWLs present a height above high tide (See Figure A-1) that reflects the combined inundation from future sea-level rise and current flood events projected into the future from the year 2000 (Kopp et al., 2019).

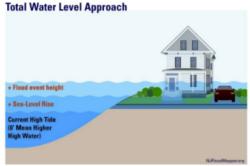
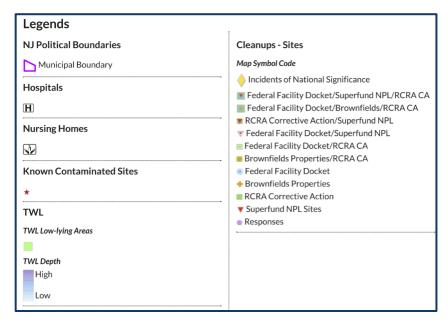


Figure A-1. Total Water Level reflecting combined inundation from future

Flood events ¹ can occur from surge created by a coastal storm (such as a hurricane or nor'easter) or from high tide each day as sea levels rise. For example, a 2-foot flood event along the New Jersey coast today can occur because of seasonal 'high-tide flood' conditions. By 2050, the same 2-foot flood events will become more frequent, occurring under normal high-tide conditions and inundating the affected areas². While flood events resulting from daily tides will result in permanent inundation (i.e., the water will not recede), coastal storm induced flood events last only for the duration of a storm. A 7-foot flood event along the New Jersey coast that approximates potential hurricane storm tides today will become more likely in the future as coastal storm surge occurs on top of an increased baseline of sealevel to create higher storm tides. You can use our tools at (NJADAPT / NJFLOODMAPPER) to develop custom water levels for your region.

¹Flood events referenced in this document as examples reflect 'total water level' heights above Year 2000 Mean Higher High Water, consistent with the sea-level baseline datum. See Kopp et al., 2019.

²See Kopp et al., 2019 Appendix B for region specific high-tide flood frequency projections.



JC MuniSnapshot_SocialVulnerability_NJ Adapt

Jersey City: Vulnerable Populations Exposure Snapshot

Introduction

While all people living in the United States are affected by climate change, some communities and some populations are more vulnerable. Some populations and communities are subject to multiple stressors, making them disproportionately affected by changing climate conditions. The Appendix below provides additional background on sea-level rise and sea-level rise combined with storm events.

Vulnerability may vary by several factors:

- Location such as living close to flood prone areas.
- Physical status such as age, pre-existing health conditions and/or physical disability.
- Social, economic and underlying community conditions

 such as the extent to which individuals have access to the services and results of long-standing societal factors (i.e., community underinvestment, racism, and poor representation in decision-making).

The United States Centers for Disease Control (CDC) and Prevention uses information from the U.S. Census to create an index (the Social Vulnerability Index) that ranks the social vulnerability of communities in the United States to hazardous events and disasters. The ability to recover from these events and disasters is much more difficult for socially

vulnerable populations. The CDC index, which helps identify these populations, is at a census tract level and is comprised of 15 social factors that are organized according to four themes. These four themes are: Socioeconomic Status, Household Composition and Disability; Minority Status and Language; and Housing and Transportation.



Jersey City: Vulnerable Populations Exposure Snapshot

Jersey City Demographics

Total Population: 261,746

Total Housing Units: 112,480

Total Municipality Acres: 10,155

Total Urban Area (Acres): 8,180

Urban Area Impacted by 2 Ft. TWL: 52 Acres (0.64%)
Urban Area Impacted by 7 Ft. TWL: 1,956 Acres (23.91%)

Impacted populations were calculated by determining the proportion of urban land use within a municipality impacted by 2ft/7ft Total Water Level and applying that proportion to the total value of the indicator variable for that municipality.

Population and Household values were retrieved from The U.S. Census Bureau, American Community Survey (2018 - ACS 5 Year) API

Exposure Based on Socioeconomic Status

Variable	Population Within Variable	% of Total Population	Population Exposed at 2ft TWL	Population Exposed at 7ft TWL
Below Poverty	47,408	18.11%	301	11,334
Unemployed	9,670	3.69%	61	2,312
No High School Diploma	24,395	9.32%	155	5,832

Average Household Income: \$38,477

Exposure Based on Household Composition & Disability

By Population

Variable	Population Within Variable	% of Total Population	Population Exposed at 2ft TWL	Population Exposed at 7ft TWL
Aged 65 or Over	27,682	10.58%	176	6,618
Aged 17 Or Younger	54,540	20.84%	347	13,040
Civilian with a Disability	25,860	9.88%	164	6,183

By Households

Variable	Households	% of Total	Households	Households
	Within Variable	Households	Exposed at 2ft TWL	Exposed at 7ft TWL
Single-Parent Households	10,267	9.13%	65	2,455

Minority Status & Language

Variable	Population Within Variable	% of Total Population	Population Exposed at 2ft TWL	Population Exposed at 7ft TWL
Minority	206,846	79.03%	1,315	49,453
Black or African American	57,302	21.89%	364	13,700
AIAN1	549	0.21%	3	131
Asian	65,157	24.89%	414	15,578
NHPI ²	136	0.05%	1	33
Other	1,799	0.69%	11	430
Two Or More Races	5,800	2.22%	37	1,387
Hispanic or Latino	76,103	29.08%	484	18,195
Speak English "Less than Well"	23,456	8.96%	149	5,608

¹ American Indian and Alaska Native

² Native Hawaiian and Other Pacific Islander

Housing & Transportation

By Households

Variable	Households Within Variable	% of Total Households	Households Exposed at 2ft TWL	Households Exposed at 7ft TWL
Multi-Unit Structures ¹	43,589	38.75%	277	10,421
Mobile Homes	115	0.10%	1	27
Crowding ²	7,835	6.97%	50	1,873
No Vehicle	38,776	34.47%	246	9,271

 $^{^{\}rm 1}\,{\rm Multi}\text{-unit}$ structures is defined here as 10 or more housing units in a structure.

By Population

Variable	Population Within Variable	% of Total Population	Population Exposed at 2ft TWL	Population Exposed at 7ft TWL
Group Quarters ³	2,665	1.02%	17	637

 $^{^3}$ Group Quarters is defined as persons who are in institutionalized group quarters (e.g., correctional institutions, nursing homes) and non-institutionalized group quarters (e.g., college dormitories, military quarters)

 $^{^2\,\}mbox{Crowding}$ is defined here as the number of households that have more people than rooms.

Jersey City: Vulnerable Populations Exposure Snapshot

In addition to the CDC SVI data, several other sets of data are available that can be used to reflect social vulnerability of populations and communities:

Municipal Revitalization Index

Managed by the state Department of Community Affairs, the Municipal Revitalization Index (MRI) serves as the State's official measure and ranking of municipal distress. This index is linked to economic, housing, and labor market data



Link to Municipal Revitalization Map

Asset Limited, Income Constrained, Employed

https://www.nj.gov/dca/home/MuniRevitIndex.html

ALICE, an acronym for Asset Limited, Income Constrained, Employed (ALICE), represents the growing number of individuals and families who are working, but are unable to afford the basic necessities of housing, child care, food, transportation, energy, and health care.



@ Link to ALICE Map

NJCounts Point-in-Time

The Federal Department of Housing and Urban Development (HUD) requires and each state conducts an assessment in January of each year to identify individuals residing in emergency shelters, transitional housing programs, safe havens and living on the streets or other locations not fit for dwelling. For NJ, this data is known as NJCounts.



Link to NJCounts Point-in-Time Map

The U.S. Census Bureau, American Community Survey maintains data regarding demographic, social and economic data on veterans.



Link to Veterans Map

Housing Stock Age

Maintained by the United States Census Bureau, American Community Survey, the Housing Stock Age reflects the number of housing units built in the municipality prior to 1970. These homes may be more vulnerable and less resilient to changing climate conditions.



Link to Housing Stock Age Map

Landscan

Landscan provides a relative assessment of population density measured on a "people per cell" indicator basis. While this is not a measure of social vulnerability, it is provided to better understand where populations reside.



S Link to Landscan Map

Jersey City: Vulnerable Populations Exposure Snapshot

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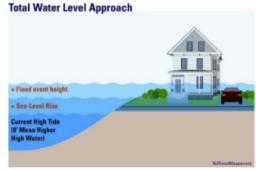


Figure A-1. Total Water Level reflecting combined inundation from future sea-level rise and flood events.

Flood events ¹ can occur from surge created by a coastal storm (such as a hurricane or nor'easter) or from high tide each day as sea levels rise. For example, a 2-foot flood event along the New Jersey coast today can occur because of seasonal 'high-tide flood' conditions. By 2050, the same 2-foot flood events will become more frequent, occurring under normal high-tide conditions and inundating the affected areas². While flood events resulting from daily tides will result in permanent inundation (i.e., the water will not recede), coastal storm induced flood events last only for the duration of a storm. A 7-foot flood event along the New Jersey coast that approximates potential hurricane storm tides today will become more likely in the future as coastal storm surge occurs on top of an increased baseline of sealevel to create higher storm tides. You can use our tools at (NJADAPT / NJFLOODMAPPER) to develop custom water levels for your region.

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