

PROVIDENCE, RI

SOCIOECONOMICS OF SEA LEVEL RISE COASTAL FACTSHEET



PROJECT OVERVIEW

Rhode Island's municipalities are in the preliminary stages of integrating planning for sea level rise and climate change into their comprehensive planning process. To support these planning efforts of RI cities and towns, RISPP developed the Socioeconomics of Sea Level Rise project. The project aims to assist coastal municipalities in their long-term planning by attempting to identify population characteristics of the people located within sea level rise (SLR) inundation zones 1, 3, 5 and 7 FT. The data presented in this factsheet places a focus on Environmental Justice and Title VI populations.

METHODOLOGY

The RISPP utilized 2010 Decennial Census data and the latest American Community Survey (ACS) estimates to conduct an extensive data analysis. Staff also utilized CRMC's STORMTOOLS GIS shapefiles to identify the SLR inundation zones. In addition, RI Geographic Information Systems (RIGIS) e-911 data was utilized to identify single family, multi-family and mobile home residential points located within each SLR inundation zone. For more information on the methodology, please reference the full report on our website.

PROVIDENCE QUICK FACTS

2010 Census Population

2010 Census Median Age

2014 ACS Median Household Income

PROVIDENCE 'S OCCUPIED RESIDENTIAL UNITS & POPULATION **ESTIMATES**

Providence, the state's capitol, is one of Rhode Island's 21 coastal communities. Providence is situated south of Pawtucket and north of Cranston.

The City of Providence has an average household size of 2.69 (2010 Census). The average household size and the percentage of occupied housing units were used to calculate a population estimate. Approximately 85% of the residential units located within the 7 FT. SLR inundation zone are

SLR Inundation zone	Residential Units	Occupied Unit calculation (Total Units (x) Occ. Housing Unit Rate in SLR zone)	Population calculation (Occupied Units (x) Middletown Avg. HH Size)
1FT.	0	0	0
3FT.	0	0	0
5FT.	0	0	0
7FT.	2 MF	3 (85% occ. HU)	8

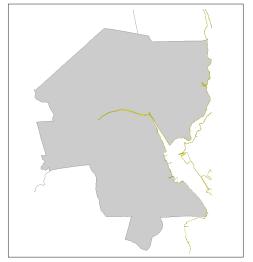
occupied units. Residential units were identified in GIS using the e-911 shapefile. Two multi-family residential units were identified in the 7 FT. inundation zone. Multifamily units were multiplied by 2 due to the presumption that there are a minimum of two units in each multifamily. Of the four total housing units, an estimated 3 are occupied with a population of 8 within the zone.



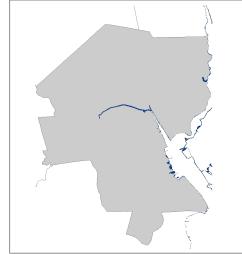
SLR INUNDATION ZONES

The maps above illustrate each of the SLR inundation zones. Single family units are represented by orange points in the SLR inundation zone maps, while multi-family units are represented by green points.

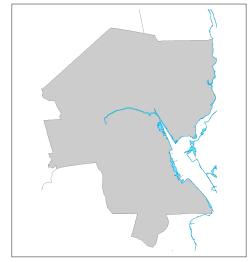
SLR 1 FT.



SLR 3 FT.



SLR 5 FT.







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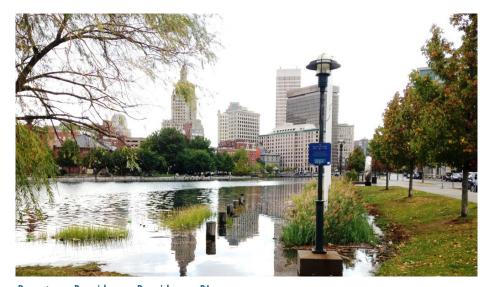
SLR 1, 3 & 5

EST. POPULATION: 0
EST. OCCUPIED HOUSEHOLDS: 0

There were zero residential units located within the e-911 shapefile in the 1, 3 and 5 FT. SLR inundation scenarios. Please note, a zero value does not imply that zero people or structures will be impacted in the aforementioned scenarios.



Fox Point, Providence, RI October 2015 King Tide, Photo Courtesy of Mycoast.org, submitted by Janet Freedman



Downtown Providence, Providence, RI October 2014 King Tide, Photo Courtesy of Mycoast.org, submitted by James Boyd



Downtown Providence - Waterplace Park, Providence, RI September 2015 King Tide, Photo Courtesy of Mycoast.org, submitted by Narragansett Bay Estuary Program

ACE 8 AGF

SOCIAL RACTERISTIC

USEHOLI NCOME

HOUSEHOLD CHARACTERISTIC

SLR 7

EST. POPULATION: 8
EST. OCCUPIED HOUSEHOLDS: 3

71% or 6 - White
10% or 1 - Black
1% or 0.05 - American
Indian/Alaska Native
10% or 1 - Asian
2% or 0.2 - Hispanic
7% or 1 - Minority

iii

8% or 1 - Age 75 or older

9% or 1 are Individuals with Disabilities

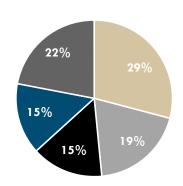
9% **or 0.3 are** *Limited English Proficiency Households*

9% or 1 are Unemployed

8% **or 1 are** Individuals Below Poverty Level

8% or 0.2 Households receive SSI

- In Estimated Occupied Housing Units



■ Less than 24,999K

■ 25,000 to 49,999

■ 50,000 to 74,999

■75,000 to 124,999

■ 125,000 and up

- Percent of Population in Housing Type

63% Renter Occupied

10% Owned Outright



Variable Name 8	Evel Rise (SLR) Count SLR 7 0 2*2=4 0 4 & Percentage SLR 7 % 100% 85% SLR 7 100% 3*2.69=8 SLR 7 % 100% 71% 10% 5% 2% 10% 5% 10% 5% 10% 5% 2% 10% 1% 10% 5% 2% 10% 1% 10% 5% 2%
Single Family (R1) Units with Calculation (*2) Mobile Home (R3) Units Tatel Units: Single Family (R1), Multifamily (R2), Mobile Home (R3) Note: Authlifamily poil totals are multiplied by 2 based on the presumption that there are a minimum of two units within each multifamily e911 point Versible Name 291 Occupied Heusing Unit Calculation Total Units: Single Family (R1), Multifamily (R2), Mobile Home (R3) 4 Strimated Occupied Units - Count and Percentage 2-population Calculation Estimated Occupied Units (x) Municipal Avg. Household Size (2.69) Total Population (in Occupied Housing Units) 8 Population Estimates - Occupied Housing Units) 8 Interest of Completed Housing Units (x) Municipal Avg. Household Size (2.69) Total Population (in Occupied Housing Units) 8 Interest of Completed Housing Units (x) Municipal Avg. Household Size (2.69) 8 Interest of Completed Housing Units (x) Municipal Avg. Household Size (2.69) 8 Interest of Completed Housing Units (x) Municipal Avg. Household Size (2.69) 8 Interest of Completed Housing Units (x) Municipal Avg. Household Size (2.69) 8 Interest of Completed Housing Units (x) Municipal Avg. Household Size (2.69) 8 Interest of Completed Housing Units (x) Municipal Avg. Household Size (2.69) 8 Interest of Completed Housing Units (x) Municipal Avg. Household Size (2.69) 8 Interest of Completed Housing Units (x) Municipal Household (x) Household (x) Municipal Household (x) Househo	2*2=4 0 4 8 Percentage SLR 7 % 100% 85% SLR 7 1009 3*2.69=8 SLR 7 % 100% 10% 10% 10% 10% 10% 10% 10% 10% 1
### Estimated Occupied Units (x) Municipal Avg. Household Size (2.69) ### Population Estimate — Occupied Units (x) Municipal Avg. Household Size (2.69) ### Regriffspanic Estimate Winite ### Regriffspanic Estimate ### Population Estimate — Occupied Housing Units) ### Regriffspanic Estimate ### White ### Black or African American ### Initial Compiled Housing Units ### Asian ### Some Other Race ### Outher Race ### Asian ### Some Other Race ### United Population ### Asian ### Asian ### Some Other Race ### United Population ### Total Population (Total Population minus Non-Hispanic, White Population) ### Asian ###	0 4 & Percentage SLR 7 % 100% 85% SLR 7 100% 3*2.69=8 SLR 7 % 100% 1% 10% 1% 10% 11% 10% 11% 10% 10% 5% 2% 93% 7% SLR 7 % 100% 11% 3% 63% 63% 15% 8%
### Estimated Occupied Units (x) Municipal Avg. Household Size (2.69) ### Population Estimate — Occupied Units (x) Municipal Avg. Household Size (2.69) ### Received Hispanic Estimate (x) ### Total Population (in Occupied Housing Units) ### White	8 Percentage SLR 7 % 100% 85% SLR 7 100% 3*2.69=8 SLR 7 % 100% 71% 10% 5% 2% 93% 7% SLR 7 % 100% 11% 63% 63% 63% 8%
### Estimated Occupied Units (x) Municipal Avg. Household Size (2.69) ### Population Estimate — Occupied Units (x) Municipal Avg. Household Size (2.69) ### Received Hispanic Estimate (x) ### Total Population (in Occupied Housing Units) ### White	SLR 7 % 100% 85% SLR 7 100% 3*2.69=8 SLR 7 % 100% 110% 10% 10% 5% 22% 93% 7% SLR 7 % 100% 11% 3% 63% 63% 15% 8%
Staffmorte Occupied Units Population Estimate	85% SLR 7 100% 3*2.69=8 SLR 7 7 100% 71% 10% 5% 2% 93% 7% SLR 7 % 100% 11% 3% 63% 15% 8%
Staffmorte Occupied Units Population Estimate	100% 3*2.69=8 SLR 7 % 100% 71% 10% 11% 2% 93% 7% SLR 7 % 100% 11% 3% 63% 63% 15% 8%
Note Population Coccess Coc	SLR 7 % 100% 71% 10% 5% 2% 93% 77% SLR 7 % 100% 11% 3% 63% 155% 8%
Age	100% 71% 10% 1% 10% 5% 2% 93% 7% SLR 7 % 100% 1% 3% 63% 63% 8%
Age	10% 11% 10% 5% 2% 93% 7% SLR 7 % 100% 11% 33% 63% 155% 8%
Age	10% 5% 2% 93% 7% SLR 7 % 100% 11% 33% 63% 15% 8%
Age	2% 93% 7% SLR 7 % 100% 1% 3% 63% 15% 8%
Age	7% SLR 7 % 100% 1% 3% 63% 15% 8%
Total Population (in Occupied Housing Units) S. Voung Children (<5) O.1	100% 1% 3% 63% 15% 8%
School-Age Children (5-17) 0.3	3% 63% 15% 8%
Age 25-44 Age 45-64 1 Age 65-74 0.2 Age ≥75 9 Population 16-64 (For Individuals with a disability variable)* 6 Population ≥25 (For educational attainment variable) 3 Population ≥16 (For employment variable)* 6 Population ≥65 (For age ≥65 in group quarters variable)* 0.8 Disability Total Population (in Occupied Housing Units, age 16-64) Individuals with Disabilities 1 Limited English Proficiency (LEP) SLR 7 Estimated Occupied Housing Units 3 Limited English Proficiency Households 3 Educational Attainment SLR 7	15% 8%
Age 45-64 Age 65-74 0.2 Age ≥75 1 Population 16-64 (For Individuals with a disability variable)* 6 Population ≥25 (For educational attainment variable) 3 Population ≥16 (For employment variable)* 6 Population ≥65 (For age ≥65 in group quarters variable)* 0.8 SLR7 Total Population (in Occupied Housing Units, age 16-64) Individuals with Disabilities 1 Limited English Proficiency (LEP) SLR7 Estimated Occupied Housing Units 3 Limited English Proficiency (Households 0.3 Educational Attainment SLR7	8%
Age ≥75 Population 16-64 (For Individuals with a disability variable)* Population ≥25 (For educational attainment variable) Population ≥25 (For employment variable)* Population ≥65 (For age ≥65 in group quarters variable)* Population ≥65 (For age ≥65 in group quarters variable)* Total Population (in Occupied Housing Units, age 16-64) Individuals with Disabilities Limited English Proficiency (LEP) Estimated Occupied Housing Units Limited English Proficiency Households Educational Attainment Age ≥75 Population 16-64 (For Individuals with a disability variable)* 3 Disability Total Population (in Occupied Housing Units, age 16-64) Individuals with Disabilities 3 Limited English Proficiency (LEP) Estimated Occupied Housing Units Limited English Proficiency Households Educational Attainment	
Population ≥25 (For educational attainment variable) Population ≥16 (For employment variable)* Population ≥65 (For age ≥65 in group quarters variable)* Disability Total Population (in Occupied Housing Units, age 16-64) Individuals with Disabilities Limited English Proficiency (LEP) Estimated Occupied Housing Units Limited English Proficiency Households Educational Attainment SLR 7 S	8% 72%
Population ≥65 (For age ≥65 in group quarters variable)* Disability Total Population (in Occupied Housing Units, age 16-64) Individuals with Disabilities Limited English Proficiency (LEP) Estimated Occupied Housing Units Limited English Proficiency Households Educational Attainment O.8 SLR 7 Solve Total Population (in Occupied Housing Units, age 16-64) Individuals with Disabilities 1 SLR 7 Strong Total Population (in Occupied Housing Units, age 16-64) Individuals with Disabilities 1 SLR 7 Strong Total Population (in Occupied Housing Units, age 16-64) Individuals with Disabilities 1 SLR 7 Strong Total Population (in Occupied Housing Units, age 16-64) Individuals with Disabilities 1 SLR 7 Strong Total Population (in Occupied Housing Units, age 16-64) Individuals with Disabilities 1 SLR 7 Strong Total Population (in Occupied Housing Units, age 16-64) Individuals with Disabilities 1 SLR 7 Strong Total Population (in Occupied Housing Units, age 16-64) Individuals with Disabilities 1 SLR 7 STR 7	32%
Total Population (in Occupied Housing Units, age 16-64) Individuals with Disabilities Limited English Proficiency (LEP) Estimated Occupied Housing Units Limited English Proficiency Households Educational Attainment Total Population (in Occupied Housing Units, age 16-64) 6 SLR 7	79% 10%
Estimated Occupied Housing Units Limited English Proficiency Households Educational Attainment SLR 7	SLR 7 % 100%
Estimated Occupied Housing Units Limited English Proficiency Households Educational Attainment SLR 7	9% SLR 7 %
	1 00 %
	SLR 7 %
Less than a High School Diploma or Equivalent High School Diploma or GED 0.2	10% 12%
Professional School 0.3	11% 32%
Master's/PhD 1	26%
Other (Some College) U to Employment SLR 7 Total Population (in Occupied Housing Units, age ≥16) 6	9% SLR 7 %
	100% 91%
Employed Unemployed 1 Job Industry ‡ Total Population (age ≥16 and employed) Agriculture, forestry, fishing & hunting, mining Construction Manufacturing Wholesale trade Retail trade Retail trade Transportation & warehousing, utilities 6 Agriculture, forestry, fishing & hunting, mining 1 Transportation & warehousing, utilities 6 Construction Monufacturing Wholesale trade Retail trade 1 Transportation & warehousing, utilities	9% SLR 7 %
Total Population (age ≥16 and employed) Agriculture, forestry, fishing & hunting, mining 0	100% 0%
Construction 0.2	4% 12%
Wholesale trade O.1 Retail trade	2% 11%
Transportation & warehousing, utilities Information 0.2	3% 2%
Finance & insurance, real estate, rental & leasing	4%
Professional, scientific, management, administrative, waste management services Educational services, health care, social assistance 2	10% 31%
Arts, entertainment, recreation, accommodation & food services Other services (except public administration) 0.3	13% 5%
Public administration 0.1 Income SLR 7	3% SLR 7 %
Estimated Occupied Housing Units Less than \$24,999K	1 00 %
\$25,000 to 49,999 1 \$50,000 to 74,999 0.4	19% 15%
\$75,000 to 124,999 0.4 \$125,000 and greater	15% 22%
Total Population (in Occupied Housing Units) Income Below Poverty Level	100%
Income Above Poverty Level 7	92%
Estimated Occupied Housing Units With Social Security Income (SSI) Households 0.2	100% 8%
Without Social Security Income (SSI) Households 3 Housing Occupancy SLR 7	92% SLR 7 %
Housing Occupancy Total Housing Units Occupied Housing Units Occupied Housing Units Occupied Housing Units Start Occupied Housing Units Owner-Occupied Housing Units Renter-Occupied Housing Units Renter-Occupied Housing Units Population (in Occupied Housing Units) Start Occupied Housing Units Start Occupie	100% 85%
Vacant Housing Units O g Estimated Occupied Housing Units 3	15% 100%
Owner-Occupied Housing Units Renter-Occupied Housing Units 2	34% 66%
Total Population (in Occupied Housing Units) 8 Population in Group Quarters 5	100% 63%
Total Population (age ≥65) Age ≥65 in Group Quarters ⁺ 0.1	100% 15%
Housing Tenure ⁺ SLR 7	SLR 7 %
Total Population (in Occupied Housing Units) Population in Property Owned with mortgage or loan 2	100% 26%
Population in Property Owned free and clear Population in Renter-Occupied Units 5	
Employment and Business Unit Data‡ Average Employment - Municipality	10% 63%
Number of Units (Business - Private and Government) Average Number of Workers per Unit (Business - Private and Government)	
Employment and Business Unit Data‡ Average Employment - Municipality Number of Units (Business - Private and Government) Average Number of Workers per Unit (Business - Private and Government) Workers Per Commercial Unit 8 SLR 1 8 SLR 3 8 SLR 5 e911 Commercial Unit Total	63% Count
Average Number of Workers/Jobs per Commercial Unit 20 20 381	63% Count 111809 5582